

mega.txt
MEGAFORTRESS MANUAL

These are the IFF codes that the manual will refer to.

10-(06) 34-(64) 58-(46) 82-(42)
11-(56) 35-(50) 59-(78) 83-(10)
12-(66) 36-(26) 60-(00) 84-(08)
13-(46) 37-(42) 61-(62) 85-(06)
14-(28) 38-(60) 62-(26) 86-(06)
15-(50) 39-(58) 63-(70) 87-(16)
16-(62) 40-(06) 64-(64) 88-(46)
17-(76) 41-(56) 65-(50) 89-(78)
18-(20) 42-(66) 66-(26) 90-(00)
19-(64) 43-(46) 67-(42) 91-(62)
20-(00) 44-(28) 68-(60) 92-(26)
21-(76) 45-(50) 69-(58) 93-(70)
22-(42) 46-(62) 70-(06) 94-(64)
23-(10) 47-(76) 71-(56) 95-(50)
24-(08) 48-(20) 72-(66) 96-(26)
25-(06) 49-(64) 73-(46) 97-(42)
26-(06) 50-(00) 74-(28) 98-(60)
27-(16) 51-(76) 75-(50) 99-(58)
28-(46) 52-(42) 76-(62)
29-(78) 53-(10) 77-(76)
30-(00) 54-(08) 78-(20)
31-(62) 55-(06) 79-(64)
32-(26) 56-(06) 80-(00)
33-(70) 57-(16) 81-(76)

QUICK START

For those few novice mission commanders who are impatient with more prudent approaches to learning, we offer the following step-by-step directions for getting the EB-52 Megafortress off the ground as quickly as possible, and an invitation to return to this manual if and when frustration finally overcomes impatience.

Note

By flying each of the Red Flag training missions and reading the accompanying descriptions in "Red Flag", crews will practice every maneuver necessary to the successful completion of the Persian Gulf and Old Dog missions.

This "quick start" mission is divided into four parts: Starting the game, taking off, flying to each of the waypoints of the mission, and landing. If along the way the crew manages to hit a few targets-that's a bonus. Survival equals success under these circumstances.

But while it may be possible to explain such a simplified process, there is no guarantee that an inexperienced crew will be able to accomplish it because the actions of any enemy encountered along the way may serve to bring such a "quick start" to a quick finish.

STARTING MEGAFORTRESS

- 1) Install the program on a hard disk, following the directions provided in the separate piece.
- 2) Load the program, again following the directions provided.
- 3) Take time to learn how to make selections by via mouse or keyboard. (It is highly recommended that a mouse be used to operate the EB-52 Megafortress.).
- 4) Register for your mission in one of the following ways:
 - a) Select an active pilot in the registration screen and choose SELECT.
 - b) Select the name of a pilot you want to replace, select REPLACE, and type in the name of your pilot. Tap <Return>.
- 5) Select MISSIONS on the Main Menu.
- 6) Choose SELECT on the Mission Selection pop-up menu.
- 7) Select the geographic area in which you want to fly your mission-Red Flag (Nevada) Persian Gulf, or Flight of the Old Dog-and then choose SELECT. (It is highly recommended that new crew members begin with the Red Flag missions.)
- 8) Select a mission on the scrolling list (scroll the list with the up or down arrows on the side of the list) and choose SELECT.
- 9) If you select a Red Flag training mission, make sure that the aircraft is filled to capacity with fuel by checking the Weight panel in the Loadout screen. Fuel plus any ordnance loaded should total 192,000 lbs. If total weight is less, add fuel by selecting the "+" symbol next to the FUEL readout until the total stops increasing.
- 10) Select DONE of the MODE menu in the Loadout screen.

TAKEOFF

- 1) Go to the copilot station by selecting the COPLT light in the interphone panel at the lower left corner of the pilot station.
- 2) Turn on the two battery switches (the engines will not start without battery power).
- 3) Return to the pilot station by selecting the PLT light in the interphone panel. .

- 4) Select PRKNG BRAKE to set the parking brake. Its light will illuminate.
- 5) Select the FLAPS 1 to extend flaps for takeoff. The percentage-extended hand will begin to move, extending the flaps in approximately 23 seconds.
- 6) Switch the TAXI/LAND ratio switch at the bottom of the screen to LAND.
- 7) Select ALL, on the right side of the Pilot's instrument panel to turn on the engine-ready switches. All eight engine lights will illuminate.
- 8) Switch the ENGINE START switch to C to ignite the starter cartridges. The engine will start, and the PWR display will show 1%.
- 9) Switch the ENGINE START back to F, to channel electrical power to the aircraft's systems during flight.
- 10) Increase power in all engines to 100% by selecting "+," to the right of the PWR display.
- 11) Select PRKNG BRAKE to release the parking brake.
- 12) When the speed indicator to the left of the Pilot's EVS reads 200 kts, lift off by using the down arrow on the keyboard to pitch the nose of the aircraft up at an angle of 5%. The current pitch angle is displayed in the Artificial Horizon indicator, to the left of the Pilot's EVS.
- 13) Select "UP" on the GEAR panel to raise the landing gear. (Gear will be damaged if extended at speeds exceeding 375 kts.)
- 14) Select the FLAPS indicator dial to retract the flaps. (Flaps will be damaged if extended at speeds exceeding 450 kts.)
- 15) When the aircraft reaches an altitude of 1000 feet, select the AP or autopilot light in the warning panel at the far left side of the pilot station. The automatic flight control system (FCS) will take control of the aircraft and direct it toward the first mission waypoint. (You can override the FCS at any time by steering manually. Use the left-and right-arrow keys to turn the aircraft left or right; use the down-and up-arrow keys to climb or descend. When you release the keys, the FCS will reassume control.)
- 16) Decrease power to 85% by selecting "-", to the left of the PWR display.

THE MISSION

After you are airborne and en route to the first

waypoint, you will have to deal with four types of events (aside from the final challenge of landing): inflight refueling (Persian Gulf and Flight of the Old Dog only), identification, enemy attack, and target destruction.

INFLATE REFUELING

In the Persian Gulf and Flight of the Old Dog missions, you will always need to replace the fuel use during take off in order to complete the mission. Please take a moment to refer to "Flight Procedures: Inflight Refueling."

Note

If you select one of the Red Flag training missions, you must add additional fuel during Loadout selection to complete the mission. Red Flag mission #4 is designed purely as an exercise in inflight refueling.

IDENTIFICATION

At some point during each mission, the aircraft will be contacted by friendly Air Traffic Control (ATC) and asked to identify itself. The message will appear in the Message Display Line at the bottom of the screen. Identification is accomplished from the Copilot station as follows:

- 1) Switch the Transponder switch to STBY. .
- 2) The first two digits on the transponder are automatically adjusted to match the 2-digit code transmitted by ground control.
- 3) The numbers transmitted to the EB-52 correspond to one of the 2-digit page numbers in this manual. Locate that page and note the 2-digit code in parentheses to the right of the page number.
- 4) Enter the 2-digit code into the last two numbers of the transponder by selecting the arrows to the left of each number.
- 5) Switch the transponder switch from STDBY to ON.
- 6) Select the IDENT button. When the REPLY light flashes, identification has been correctly made.

WARNING

Failure to identify correctly will result in the destruction of the aircraft by friendly fire.

CAUTION

The transponder should remain on as long as the aircraft remains in friendly airspace, but be turned OFF before entering enemy territory. The set transmits UHF radio waves and will attract

immediate attention from enemy ground installations. The UHF warning light on the pilot's screen illuminates when the transponder is on.

ENEMY ATTACK

Enemy attacks come either from the ground or air, and you have three options in dealing with them:

- 1) Fly as low as possible, using features in the terrain to evade the pursuer.
- 2) Evade or disrupt attacks using countermeasures available at the EW station. These include active jamming of enemy radars and infrared tracking systems, dispensing chaff and flares to confuse enemy missiles, and disrupting enemy communications.

Complete information on the use of these defensive systems is included in "Electron Warfare Station."

- 3) Counterattack using weapons available at the OW station. Enemy aircraft can be attacked, ground-based radars and missile installations eliminated, enemy airfields rendered unusable, and so on using the OW systems.

Complete information on the use of these offensive systems is included in "Offensive Weapons Station."

TARGET DESTRUCTION

Mission targets can include anything from buildings and bridges to enemy radars and airfield. Review the targets at any time by going to the navigator station and changing the Mode Select Switch to NAV>

The preprogramming waypoints of each mission are located at or near the mission targets. As you approach each waypoint, go to the OW station and search for the target by using the OW monitor either in SCAN (for radar-emitting targets) or CAMERA (for buildings, bridges, etc.) mode.

As described in "Enemy Attack" above, different targets require different weapons and delivery techniques.

LANDING

For a complete description of landing procedures, please refer to "Flight Procedures: Landing."

STATIONS

There are five crew stations and one external camera observation station in the aircraft, each with its own special instrument, displays, and functions. In addition, five common, or "multi-station" instruments are located at every station.

MULTI-STATION INSTRUMENTS

Clock

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- 1) GMT is Greenwich Mean Time.
- 2) ETA is the aircraft's estimated time of arrival at the next waypoint at the current speed.
- 3) START/RESET operated a stopwatch. This instrument can be particularly useful during bombing runs.

Compass

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The compass displays magnetic direction and cannot be damaged.

Message Display Line

The bottom margin of the screen displays all messages transmitted by interphone between crew members, and all communication to the aircraft from ground controllers and airborne surveillance systems.

Interphone Panel

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Click any light on the Interphone Panel to go to one of the Megafortress stations.

- 1) If a light is on and steady, it indicates the station currently show.
- 2) If a light is flashing, its corresponding station requires attention.
- 3) If the INTERPHONE switch at the copilot's station (please see "Copilot Station,") is turned off, the panel will not operate.

Warning Panel

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The warning panel is make up of four lights-one selector light and three warning lights.

- 1) AP (autopilot): When the autopilot selector light is selected, the aircraft's digital automatic Flight Control System (FCS) automatically flies the aircraft along the programmed course of waypoints, Temporary waypoints, and altitudes set at the navigator's station (please see "Navigator Station: MAP Panel,"). The FCS can be overridden manually at any time, but reassumes command immediately when manual control is relinquished.

2) LA (low altitude): The LA warning light flashes when the airplane descends below the altitude set on the terrain avoidance computer (TAC), even if the TAC is not on. (Please see "Pilot Station".)

3) ML (missile launch): the ML warning light flashes when an infrared or radar-guided missile tracks the aircraft. The ML warning light is saved to the EW Officer's Missile Launch warning light. (Please see "EW Station").

4) RO (radar on): The RO warning light illuminates whenever the airplane's AN/APQ-166 active ("attack") radar is on the OW Officer's station.

CAUTION

The active radar dramatically increases the radar cross section (RCS) of the aircraft (Please see "Stealth Modification").

PILOT STATION

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The pilot is the aircraft commander, and is responsible for the issuance of instructions governing all phases of flight operation, especially including takeoff, flying the aircraft, inflight refueling, damage control, and landing.

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CHAFF Button

Select the CHAFF button to eject two chaff bundles—one from each wing. (Please see "Electronic Warfare Station.")

FUEL Light

The fuel light flashes when the aircraft has enough fuel remaining for 10 minutes of flight at the maximum power setting; the light stops flashing and burns steadily when there is enough fuel remaining for 5 minutes of flight. (Please see "Fuel" under "Copilot Station".)

DRS Light

The DRS light illuminates when the bomb bay doors are opened. Flying with the bomb bay doors open increases RCS and slows the airplane. (Please see "OW Station: Master Bomb Control," this chapter, and "Stealth Modifications".)

UHF Light

The UHF light illuminates when UHF signals are being generated by the aircraft. Such signals generally come from the Copilot's transponder.

OIL Light

The oil warning light illuminates when one or more of the engines is low on oil. The oil light generally indicates that engine trouble is about to occur, or is occurring.

AIR REFUEL Panel (Please see "Inflight Refueling")

C Light

Select the "C" contact light to lock onto a refueling tanker's radar signal. The signal must be selected in the pilot EVS radar (please see "EVS," below) and the FCS (please see "Warning Pane: AP," above) must be on for the EB-52 to automatically redirect its flight path toward the tanker in preparation for rendezvous. (Please see "Inflight Refueling," and try Red Flag training mission #4)

RDY Light

The ready light illuminates when the EB-52 has successfully rendezvoused with a refueling tanker. Fueling can begin.

DRS Light

Select the refueling DRS light to open the slipway doors and begin inflight refueling.

System Alert Panel

H

The hydraulic system warning light flashes when the aircraft hydraulic system is malfunctioning. (Please see "Copilot Station," this chapter, and "Damage Control".)

E

The electrical system warning light flashes when the aircraft electrical system is malfunctioning. (Please see "Copilot Station," this chapter, and "Damage Control".)

F

The flight systems warning light flashes in response to a variety of flight-oriented problems. (Please see "TAXI/LAND Ratio Switch," this chapter, and "Damage Control")

Digital Altimeter

The digital indicator monitors the AN/APN-224 radar altimeter and registers altitude above ground level (AGL) in feet.

Analog Altimeter

The analog altitude indicator registers altitude above sea level. The black hand indicates 100s of feet; the red hand indicates 1000s of feet.

WARNING

It is important to note the difference between the two altitude indicators. Generally the digital altimeter is the more important instrument of the two to the pilot, as it records the current distance between the aircraft and the ground. The analog indicator is useful in its graphic representation of changes in altitude.

Artificial Horizon Indicator

The lines on the Artificial Horizon indicate the degree of roll, from side to side' the numbers indicate the degree of pitch, forward and back.

EVS OFF/ON Switch

The EVS OFF/ON switch must be turned on for any of the electro-optical viewing system (EVS) functions to operate.

EVS RANGE/RDR mode switch

1) In RDR mode, the pilot's EVS monitor displays information from either the EW station's passive radar, or the OW station active radar if the OW radar is operating in "attack" mode. (Please see EW and OW stations.)

2) In RANGE mode, the EVS presents a low-resolution display of the world ahead of Megafortress. Features include: .

A) Low-resolution profile of the terrain between the aircraft and a line 10, 20, or 40 miles distant- depending on the range currently set in the Radar panel at the Navigator's station.

B) "Batwing" symbol representing the EB-52, showing its altitude relative to the horizon line.

C) Two short lines on the right-hand margin of the monitor, indication the lowest and highest levels of terrain between airplane and the horizon line. (These are often together at the bottom of the EVS, indication flat, featureless terrain.)

D) Terrain Avoidance Computer (TAC) interface. The TAC can be turned on and off (by selecting the word ON or OFF) and set to any altitude between 108 and 1085 feet (by selecting the + or - sign). When the TAC is turned on, the aircraft will maintain the selected altitude AGL, overriding the programmed waypoint altitude if the autopilot is on, or automatically whenever manual control of the airplane is relinquished. (Please see "Terrain

Referenced Navigation, ".)

NOTE

Whether or not the TAC is turned on, when something in the approaching terrain is less than 15 miles away and higher than the altitude selected on the TAC, the Low Altitude (LA) warning light flashes.

If the TAC is turned on, the airplane will fly up and over the obstruction unless overridden manually.

WARNING

The TAC, when presented with an abrupt vertical obstruction, will attempt to maintain the programmed altitude by putting the aircraft into a steep climb. Without sufficient power to maintain the climb, the aircraft will stall. At the low altitudes maintained by the TAC, this would be extremely hazardous.

PRKNG BRKE selector

1) If the parking brake is on while the airplane is on the ground, the plane will not move.

2) If the parking brake is on while the plane is airborne with landing gear down, the F (flight systems) warning light will flash.

TAXI/LAND ratio switch

The steering ratio selector mechanically limits ground-based steering angles for two conditions: a taxi ratio allows the forward gear to be turned to a maximum angle of 55 degrees right or left of center during ground-based maneuvering; the second ratio is used for takeoff and landing, restricting the turning angle to approximately 12 degrees left or right of center.

1) If the switch is set to TAXI and speed is less than 20 kts while the plane is on the ground, the plane can be steered with the same controls used to fly the plane in the air.

2) If the switch is set to TAXI and speed exceeds 20 kts while the plane is on the ground, the F (flight systems) warning light will flash and the course of the plane will be extremely difficult to control.

3) If the switch is set to LAND and speed is less than 20 kts while the plane is on the ground, the F (flight systems) warning light will flash and the plane will not turn.

In short, the TAXI/LAND ratio switch should be set to LAND when taking off and landing, and to TAXI when the ground-based speed drops below 20 kts and maneuvering is necessary.

GEAR UP/DN selector

The GEAR UP/DN selector raises and lowers the landing gear.

- 1) If any engine drops to 10% power or less and the fuel flow is NOT down, the engine's trouble light will flash until the engine is turned off.
- 2) If the gear is down while the plane is in the air, the plane's speed will be reduced and its RCS will be increased.
- 3) If speed exceeds 400 kts with the landing gear down, the gear will be damaged.

Engine Panel (right of EVS)

The engine panel has controls for starting and stopping the engines, as well as increasing and decreasing their power. Lights corresponding to each engine indicate whether the engine is on, whether it is on fire, or whether some other trouble is affecting its performance. (Please also see "Damage Control".)

For a complete description of the engine start procedure, please see "Flight Procedures".

ENGINE START C/F

- 1) To turn the engines on, either as a group or individually, the START switch must be in the F (flight) position.
 - A) When the START switch is in the F (flight) position, the engines' electrical systems are turned on either as a group by selecting ALL, or individually by selecting each engine's light.
- 2) After the engines (or engine) have been turned on, the START switch must be moved to the C (cartridge) position in order to ignite the engines. Then the start switch should be returned to the F (flight) position.
- 3) To restart an engine (or engines) in flight, the above sequence must be repeated, but only for those particular engines. Do not use the ALL button except when all engines need to be started at the same time.
- 4) When the start sequence is complete, the engines can be controlled individually by selecting one of the throttle handles at the bottom right corner of the instrument panel, or as a group by selecting either the plus or minus sign alongside the digital PWR display.

CAUTION

Selecting ALL switches all the engines to the state opposite the current state of engine 1. That is, if engine 1 is off, selecting ALL turns all of the engines on and vice versa.

FIRE Lights

The engine fire lights flash if one or more of the engines is on fire, and stay lit if an engine is burnt out.

WARNING

Fire in one engine will spread to the other engine in the same nacelle, and to the next nacelle and so on if the engine is not turned off. For example, fire in engine 2 will spread to engine 1, and on to engines 3 and 4 if not stopped. (Please see "Damage Control".)

TROUBLE Lights

Trouble lights correspond to each engine. A flashing trouble light can indicate any number of problems, including oil leaks and damage beyond the diagnostic powers of the aircraft computers. Please see "Damage Control".

FLAPS

- 1) Flaps are extended by selecting the FLAPS indicator.
- 2) It takes 21 seconds for the flaps to extend or be retracted.
- 3) If the aircraft is on the ground and power exceeds 75% with the flaps RETRACTED, the F(flight systems) and engine trouble warning lights flash.
- 4) If the aircraft attempts to take off without the flaps fully extended, takeoff requires a longer run and higher speed.

AIR BRAKE

- 1) When the airplane is in flight, selecting the air brake raises the wing spoilers on both wings, causing a dramatic decrease in speed.

COPILOT STATION

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The Copilot is the deputy aircraft commander and assists the pilot in the proper flight of the aircraft. Inasmuch as fuel, electrical, hydraulic, pressurization, communications, and other systems are controlled by the copilot, he also acts as flight engineer.

HYDRAULIC CONTROL Panel

Note

Many of the EB-52's mechanical systems are operated hydraulically, including the landing gear, brakes, ground steering, flaps, spoilers, CSRL, rudders, bomb bay doors, and inflight refueling

doors. For a detailed description of the hydraulic system, please see "Megafortress Briefing: Hydraulic System,".

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If engines 1,3,4,5,6 or 7 is off, its hydraulic pump is also off (engines 2 and 8 do not have hydraulic pumps.) this results in the following conditions:

- 1) The PUMP OUT light goes ON.
- 2) The COPLT light on the Interphone Panel flashes at all other stations.
- 3) The "H" warning light flashes at the pilot's station.
- 4) If an engines 1,4,5, or 7 cannot be restarted, their electric standby pumps can be turned on by selecting the corresponding STDBY switch.
- 5) Pumps for engines 3 and 6 operate the inboard spoilers. If 3 and 6 are out, plane loses longitudinal roll capability. i.e.-it won't turn as fast.
- 6) Pumps for engines 1 and 7 operate the outboard spoilers. If 1 and 7 are out, the plane loses more longitudinal roll capability.
- 7) Pumps for engines 4 and 5 operate the landing gear and ground brakes. If 4 and 5 are out and their standby pumps cannot be turned on, emergency electrical backup power for the standby pumps may be available through the copilot's EVS operating in INT mode (see below). If supplying emergency power does not work, the pumps are damaged beyond repair.

Rudder/Elevator Hydraulics

Each of the two rudders on the plane's V-tail has its own system and backup.

- 1) At least one must be turned on for the plane to turn or pitch up or down.
- 2) If one rudder goes out due to excessive damage or the copilot turning it off, the plane gets harder to control.
- 3) If both rudders are out-best of luck.

Batteries

Note

Two electrical distribution buses supply power to the left and right sides of the aircraft. Primary power is supplied by four engine-driven generators and constant-speed drives mounted on engines 1,3,5 and

7. for a detailed description of the electrical system, please see "EVS: ELEC Button," below, and "Megafortress Briefing: Electrical System,".

- 1) Both battery switches must be ON to start engines.
- 2) After the engines have been started, battery switches should be turned OFF.
- 3) If engines 1,3,5,and 7 begin to go out the load placed on the system may start to exceed available power, causing other systems to down in turn. Batteries must be turned ON to handle emergency-priority circuits only, but every effort must be make to conserve power; battery capacity is limited to 20 minutes of emergency power.
- 4) If engines 1,3,5, and 7 all are out, batteries must be turned ON to supply dc to essential emergency systems (please see "Damage Control,").

LIGHT CONTROL Panel

There are three exterior and one interior light switch on the LIGHT CONTROL panel.

- 1) When the mission begins the interior DOME light is always ON. Turning off the DOME light turns the crew compartment lights out.
- 2) There are three LDNG/TAXI lights mounted on the plane: one halfway down each wing, and the third on the right forward landing gear. These light up the runway ahead of the plane during landing and ground operations and aid air traffic control (ATC) in tracking the plane visually during takeoff and landing procedures.
- 3) The plane's NAV lights consist of four red and green beacons on the plane's left and right wingtips and two rudders, and three white beacons: one on top of the fuselage and one to either side of the bomb bay doors. They are visible from a great distance in clear weather and should be turned off in enemy airspace.
- 4) Three ANTI-COLLISION lights, one on each side of the fuselage and one on the bottom of the fuselage, are used to safeguard against inflight collision. They are visible from a great distance in clear weather and should be turned off in enemy airspace.

CABIN PRESSURE

A wing leading-edge manifold is the source for the airplane's bleed aircsystem, which collects and routes high pressure hot air. This bleed air is the power source for inflight engine starting and the air source for heating, cooling, and pressurizing the crew compartment. A retractable ram aircscoop located on the left side of the fuselage provides an emergency

source of ram air for cooling and ventilation the crew compartment.

1) At altitudes above 9,000 feet, cabin pressure switch must be turned to standard 7.45 PSI, or to 4.50 PSI combat setting if severe changes in altitude are expected during rapid maneuvering.

2) If the cabin pressure system is damaged or turned off at altitudes above 9,000 feet, complaints from the crew are broadcast on the interphone.

3) Emergency cooling and ventilation can be provided by turning CABIN PRESSURE switch to RAM.

INTERPHONE

Interphone messages are broadcast via the Interphone panel at each station, and along the bottom edge of the display. Messages from the AFSACOM system (please see "MF Briefing,"), the command radio and liaison radio systems, and crew members, are routed through the interphone to every station in the message display line. A flashing light in the Interphone Panel (please see "Multi-station Instruments,") indicates that its corresponding station requires attention.

1) The interphone switch must be ON for the message traffic to be routed to the Interphone panel, or to the bottom of the display.

TRANSPONDER

The AN/APX-64 IFF transponder is the airborne portion of a two-way link between the aircraft and ground radar installations. The ground radar station sends an interrogation signal which is received by the aircraft; the aircraft transponder (reply system) replies with coded signals that are received on the ground and displayed on the radar scope as unique identification and altitude signals. In addition the transponder contains provisions for transmission of an "identification of position" (IDENT) signal.

WARNING

Failure to identify the aircraft correctly when contacted by air traffic controllers will result in the destruction of the aircraft by friendly fire.

In the vicinity of the first waypoint or any other friendly radar site, the aircraft may be contacted by friendly ATC and identification requested.

1) Switch the Transponder switch to STBY.

2) The first two digits on the transponder are automatically adjusted to match the 2-digit code

transmitted by ground control.

3) The numbers transmitted to the EB-52 correspond to one of the 2-digit page numbers in this manual. Locate that page and note the 2-digit code in parentheses to the right of the page number.

5) Switch the transponder switch from STDBY to ON.

6) Select the IDENT button. when the REPLY light flashes, identification has been correctly made.

WARNING

The transponder should remain on as long as the aircraft remains in friendly airspace, but be turned OFF before entering enemy territory. The set transmits UHF radio waves and will attract immediate attention from enemy ground installations. The UHF warning light on the pilot's screen illuminates when the transponder is on.

EVS

The copilot's EVS operates in any of three modes:

RDR Mode: In RDR mode, the copilot's EVS monitor displays information from either the EW station's passive radar, or the OW station active radar if the OW radar is operating in "attack" mode. (Please see "EW" and "OW" stations, this chapter.)

RNGE Mode: When the copilot EVS is in RNGE mode, it is saved to the pilot's EVS in RANGE mode.

INT Mode: When the copilot EVS is in INT mode, it provides control over the internal electrical and fuel systems. In emergencies it is used to reset electrical and fuel systems. In emergencies it is used to reset electrical circuits and transfer fuel. (Please see "Damage Control,")

ELEC button

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When the ELEC button at the bottom of the EVS is selected, the screen allows control of each main ac generator, the left and right bus circuits, and the emergency dc power supply.

1) If any of the circuits or generators needs to be reset for any reason, the COPLT lights on the Interphone Panel flashes at all other stations.

2) If any of the circuits or generators needs to be reset for any reason, the "E" warning light flashes at the pilot's station.

- 3) If any of the main generator engines (1,3,5, or 7) is turned off, the corresponding status light in the second row of the EVS reads "BKUP", and backup electrical power is supplied automatically.
- 4) If any of the main generators' engines (1,3,5, or 7) is damaged, the corresponding status light in the second row of the EVS reads "OUT" and the generator must be RESET manually by selecting the appropriate engine number in the third row of the EVS.
- 5) If engines 1 and 3 are damaged together, then
 - A) Reset the LEFT BUS by selecting RESET in the fourth row of the EVS.
 - B) Reset the generators by selecting the appropriate engine numbers in the third row of the EVS.
- 6) If engines 5 and 7 are damaged together, then
 - A) Reset the RIGHT BUS by selecting RESET in the fifth row of the EVS.
 - B) Reset the generators by selecting the appropriate engine numbers in the third row of the EVS.
- 7) If the electrical system fails and cannot be reset, the EMERG DC system should be turned ON by selecting EMERG from the sixth row of the EVS. (This procedure is especially important in supplying the hydraulic system backup pumps with power. Please see "Hydraulic control Panel," above, and "Damage Control,")

WARNING

Emergency power will be exhausted in approximately 20 minutes.

FUEL button

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When the FUEL button at the bottom of the copilot's EVS is selected, the screen permits control of the aircraft's four main fuel tanks, two mounted outboard at each wingtip, and two internal wing tanks.

Each of the four main tanks supplies the two engines closest to it: L TIP supplies engines 1 and 2, MID 1 supplies engines 3 and 4, MID 2 supplies engines 5 and 6, and R TIP supplies engines 7 and 8.

- 1) If any of the fuel tanks is damaged and requires attention, the COPLT light on the Interphone Panel flashes at all other stations.
- 2) If any of the fuel tanks is damaged, its STAT light

turns from green to red.

3) A damaged fuel tank leaks fuel at double the rate of normal fuel consumption. To avoid losing the fuel in a damaged tank, it is necessary to transfer its remaining fuel to the other, undamaged tanks. To transfer fuel:

i) Select the XFER switch (the word OFF) next to the damaged tank, The fuel will be transferred automatically.

PROCEDURAL buttons

When either of the two PROCEDURAL arrow buttons at the bottom of the copilot's EVS is selected in turn, the screen displays checklists of procedures regarding operation of the aircraft.

NAVIGATOR STATION

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The Navigator must work continuously in insure successful completion of the mission. His duties include:

- 1) complete route planing and plotting.
- 2) Waypoint and temporary waypoint navigation.
- 3) Preplanning of ordnance delivery action points and activity areas.
- 4) Active flight direction during low-level combat maneuvering.

Monitors

The navigator's station has two EVS monitors - one large and one small - and operates in five modes: MAP, NAV, RADAR, TER, and STV. The aircraft's current altitude and speed are always displayed at the top of the navigator's large monitor.

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Coordinate System

Locations on the EB-52 maps are charted according to a system of coordinates that can be used in a variety of applications, including navigation, bombing runs, escape, and evasion. Whenever reference is made in this manual to a location's coordinates, this is the system being used.

The coordinate system follows a basic 2-axis structure. The X-axis runs horizontally (east-west), and the Y-axis runs vertically (north-south). Each map is permanently marked with a small white cross,

representing the point at which the two axes intersect, or "coordinate 0,0". (The location of 0,0 varies from map to map).

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- o Positive Y-numbers represent miles north of coordinate 0,0.
- o Negative Y-numbers represent miles south of coordinate 0,0.
- o Positive X-numbers represent miles east of coordinate 0,0.
- o Negative x-numbers represent miles west of coordinate 0,0.
- o Coordinates are always given in the form X,Y.

For example, on the Nevada map the city of Las Vegas has the coordinates +2,-139. This means that Las Vegas is 2 miles east and 139 miles south of coordinate 0,0.

MAP Panel

The MAP mode provides information about civilian and military features of the territory where the mission takes place, and allows editing of the mission flight plan.

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1) Map mode is entered by selecting any item in the MAP panel in the upper right corner of the screen, or by changing the Mode Select switch to MAP.

2) The CIV/MIL switch toggles the large display between maps of civilian and military locations.

3) When the OFF/ON WAYPOINT switch is OFF, the CIV/MIL switch toggles the small monitor between databases of information about the civilian and military locations shown on the large display.

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A) Databases displayed in the small monitor relate to the location currently selected in the large monitor.

B) When CIV is selected the database provides political, population, and transportation information about selected locations on the map. Selecting BORDERS highlights the word and prints information about the currently selected border; selecting CITIES highlights the word and prints information about the currently selected city; selecting HIGHWAYS highlights the word and prints information about the currently selected road.

C) When MIL is selected, the database provides information on military installations, including radar and missile sites and airbases. Selecting RADAR

highlights the work and prints information about the currently selected radar station; selecting MISSILES highlights the word and prints information about the currently selected missile installation; selecting BASES highlights the work and prints information about the currently selected airbase.

Click the right mouse button to cycle through the currently highlighted list (Borders, Cities, Roads, Radar, Missiles, or Bases) in the small monitor (the OFF/ON WAYPOINT switch must be off). Highlight a new feature type by clicking on it in the small monitor with the left mouse button.

CAUTION

The information presents information available to friendly intelligence sources. Undocumented installations and threats are likely to appear during missions.

4) The OFF/ON WAYPOINT switch displays the flightplan currently programmed into the aircraft's Flight Control System (FCS). The large monitor show the waypoints and light plan graphically on the map. The small monitor is used to compute distances, ETA and fuel requirements between waypoints, and to relocate waypoints if desired.

A) When the OFF/ON WAYPOINT switch is ON, FCS flightplan information is available in either DISPLAY or EDIT mode.

5) The DISPLAY/EDIT FCS switch toggles the FCS between DISPLAY and EDIT modes.

B) When the DISPLAY/EDIT FCS switch is set to DISPLAY and the WAYPOINT switch is ON:

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i) The flight plan cannot be altered.

ii) Distance and ETA from the aircraft's present position to any waypoint, or from any waypoint to another can be computed in the small monitor by changing the waypoint number in the "TO" box, and either selecting PRESENT POSITION or changing the waypoint number in the FROM box.

C) When the DISPLAY/EDIT FCS switch is set to EDIT and the WAYPOINT switch is ON:

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i) Flight plan waypoints can be reset by selecting and dragging them on the large monitor.

ii) The coordinates of the currently selected waypoint are displayed between the EDIT WAYPOINT and EDIT ALTITUDES

boxes. These coordinated change as the waypoint is moved on the large monitor.

iii) Waypoint altitudes can be adjusted in the small monitor by adding to or subtracting from the selected waypoint' assigned altitude in the EDIT ALTITUDE box.

iv) The original waypoint positions can be restored by selecting RESTORE WAYPOINTS.

NAV Mode

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When the Mode Select switch is set to NAV, the large monitor displays a list showing the coordinate locations of both of the EB-52 and its targets for the current mission.

RADAR Panel

The RADAR mode display a high-resolution radar image of the landscape ahead of the aircraft in the large monitor, and saves the small monitor to the pilot's EVS display in RANGE mode.

1) Radar mode is entered by selecting the 10, 20, or 40 mile range button in the RADAR panel in the upper right corner of the screen, or by changing the Mode Select switch to RADAR.

2) Current altitude is displayed at the base of the large monitor along with a cross-shaped marker representing the aircraft.

3) The direction of the next waypoint is identified by a single vertical white hashmark at the top of the large monitor, alongside the number of the waypoint. When the waypoint comes within range of the radar the symbol changes to a cross-shaped marker representing the waypoint, with the waypoint's programmed altitude displayed alongside.

4) If the AP (autopilot) light is selected in the warning panel, temporary waypoints can be set by selecting a point representing the desired new direction in the large monitor.

A) Altitude for the temporary waypoint can be adjusted by holding down the mouse button as the selection is made and moving the mouse up and down.

B) When the selection is made, a single green vertical hashmark appears on the screen with the new altitude alongside, and the FCS steers the aircraft toward the temporary waypoint.

C) When the waypoint is reached, the FCS steers the aircraft back onto its programmed flightplan toward the next waypoint.

5) In RADAR mode, the radar display in the small monitor operation is identical to pilot EVS in RANGE mode.

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A) The TAC can be adjusted and turned on or off in the small monitor. Please see "Pilot Station," above, for a description of the TAC.

TER Mode

Enter TER mode with the Mode Select switch. The large monitor displays a white, fan-shaped graphic representation of the radar scanning pattern ahead of the aircraft.

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1) The scale of the scanned area represented increases as the range currently set in the RADAR panel - 10, 20, or 40 miles - is increased.

STV Panel

The STV mode displays an image generated by the aircraft's AN/ASQ-151 steerable low-light level television (STV) unit. The STV provides a visual presentation of the area ahead of the aircraft for low-level penetration during both day and night missions.

1) STV mode is entered by selecting any item in the STV panel to the right of the large monitor, or by changing the Mode Select switch to STV.

2) Brightness of the image is adjusted by switching the BRIGHT selector knob.

3) Azimuth and elevation of the view is controlled with the 4-way ADJUST switch. When both digital POSITION displays in the STV panel read zero, the STV is oriented dead-ahead (this can be accomplished quickly by tapping "Z" on the keyboard.)

TIME Compression Panel

Time warp is activated by selecting any of the compression-factor buttons in the TIME panel above the right-hand corner of the small monitor, or by tapping keys 1-5. Each level of compression accelerates the speed of events at the factor selected. For example, selecting a compression factor of 5 makes all mission events occur at five times the normal rate of speed.

1) Time compression will deactivate automatically if any external event (such as an attack) occurs, or if any internal emergency causes the interphone or warning panel to flash.

ELECTRONIC WARFARE STATION

The primary responsibility of the EW officer is the utilization of the aircraft's advanced AN/ALQ-172 and AN.ALQ-12 defensive systems to provide an active defense for the aircraft. He maintains a constant radar search for enemy aircraft and ground based-threats, employing electronic countermeasures, chaff, and flares to the optimum extent in defending the aircraft against ground-based or airborne electronic devices that pose a threat to the safety of the aircraft and the completion of its mission.

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RADAR Panel

The EW radar panel includes a small radar scope, four warning lights, and two range selector buttons bracketing a digital readout.

1) The SEARCH warning light illuminates when the aircraft senses an enemy radar searching for possible intruders - such as the EB -52.

2) The TRACK warning light illuminates when an enemy radar is tracking the EB-52 and is trying to lock on.

3) The LAUNCH warning light illuminates when an enemy radar has a lock on the EB-52 or launches a missile.

4) The PROXIMITY warning light illuminates when a missile is within immediate striking distance of the aircraft.

5) The two RANGE buttons and digital readout below the radar scope are used to set the range at which the AN/ALQ-172 searches. (please see "Stealth Modifications: Passive & Active Radar," Chapter 4, for a general explanation of the two types of radar used in the EB-52).

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A) The small cross in the center of the radar scope marks the location of the EB-52 Megafortress. Quadrants above, to the left and right of , and below the center cross represent the areas in front of, to the left and right of, and behind the aircraft.

B) Selecting any object on the radar scope highlights it and prints a text identification of it, along with its range from the EB-52 Megafortress.

- i) Circle represents a search radar.
- ii) Diamond represents a SAM radar.
- iii) Inverted V (or "batwing") represents an airborne enemy fighter radar.
- iv) "A" represents anti-aircraft artillery.
- v) Dot represents anything else, including buildings, control towers, unidentified radar sources, etc.
- vi) Green circle surrounding a radar-emitting object represents the radar's range.

C) four other monitors throughout the aircraft are saved to the EW passive radar unless the OW station "attack" radar is operating:

- i) Large radar scope at this (EW) station, when operating in the RADAR DISPLAY MODE.
- ii) Pilot's EVS monitor, when operating in RDR mode.
- iii) Copilot's EVS monitor, when operating in RDR mode.
- iv) OW station EVS monitor, when operating in SCAN mode.

Large Radar Scope

The large scope operates either in SIGNAL or RADAR display mode.

- 1) Turn SIGNAL mode on by switching the DISPLAY MODE switch to SIGNAL.

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A) SIGNAL mode displays three signal lines on the large scope:

- i) The top line represents the signal being generated by the radar-emitting object currently selected in the small radar scope, or by the closest radar-emitting source. (An object can be selected by clicking directly on it in the small monitor.)
- ii) The middle line represents the signal being generated by the infrared-seeking object currently selected in the small radar scope.
- iii) The bottom line represents any general communication (radio) signals detected by the radar. These include radio communications between enemy stations, and between the EB-52 and friendly stations.

- 2) Turn RADAR mode on by switching the DISPLAY MODE switch to RADAR.

A) The large CRT is saved to the EW's small radar scope when the DISPLAY switch is set to RADAR.

JAMMING Panel

The JAMMING panel allows automatic and manual

jamming of radar signals, and automatic jamming of infrared and general communications signals.

1) To jam a radar signal in AUTO mode:

A) Select the target radar source in the small radar scope.

B) Select and hold the JAM SIGNAL button in the JAMMING panel until the TOP signal flattens into a straight line.

2) To jam a radar signal in MANUAL mode:

A) Set the DISPLAY MODE switch at the bottom right corner of the station display to SIGNAL.

B) Select the target radar source in the small radar scope.

C) Adjust the two frequency readouts until the TOP line in the large scope flattens into a straight line.

3) To jam an infrared signal:

A) Select the target infrared source in the small radar scope.

B) Select the JAM IR button in the JAMMING panel until the MIDDLE signal flattens into a straight line.

4) To jam general communications (radio) signals:

A) Select the JAM COMM button in the JAMMING panel.

CAUTION

The radar jammer emits electromagnetic radiation, and the IR jammer emits laser radiation.

Both are easily detected by the enemy. Use then carefully to avoid revealing the location of the EB-52. Please see "Strategy & Tactics: Defensive Tactics,".

RLIR Panel

The RLIR Panel controls the signals and automatic countermeasures programs generated by the aircraft's AN/AA-12 Rear Looking Infrared (RLIR) system.

The RLIR locates and identifies any IR-producing threat approaching from the rear quadrant of the aircraft. Its range is 30 miles.

1) Turn the RLIR switch ON to operate RLIR in search mode.

2) WARNING light flashes when RLIR detects a heat-generating threat approaching the aircraft from the rear quadrant.

3) Turn AUTO CHAFF switch ON to turn on RLIR and program an AN/ALQ-12 to deploy chaff bundles automatically when a radar-seeking missile is detected in the rear quadrant.

4) Turn AUTO FLARE switch ON to turn on RLIR and program AN/ALQ-12 computer to deploy flare bundles automatically when an infrared-seeking missile is detected in the rear quadrant.

CHAFF/FLARE Manual Dispenser panel

Four Lundy AN/AL-24 chaff dispensing systems are located in each wing of the EB-52, with each dispenser holding 40 chaff packages. 6 AN/ALE-20 Dynalelectron-designed flare ejectors are located on each side of the aft fuselage of the EB-52, with each ejector holding 16 AN/ALA-17 flares.

1) Select L-CHAFF or R-CHAFF to manually dispense chaff packages from the left or right wings of the aircraft.

2) Select L-FLARE or R-FLARE to manually dispense flares from the left or aft fuselage of the aircraft.

The number of chaff bundles and flares remaining is indicated below the CHAFF and FLARE buttons.

OFFENSIVE WEAPONS STATION

The OW Officer is responsible for using the fire control system to deliver air-to-ground ordnance and defend the aircraft against enemy fighters.

The heart of the OW station fire control system is the AN/APQ-166 Offensive Avionics System (OAS). Its computers have been modified in the EB-52 to interface with the FCS, the EW station's AN/ALQ-172, the AN/ASQ-151 STV, the aircraft's radar altimeter, and electrical, bleed air, and body hydraulic systems.

EVS

The OW EVS operates in four modes.

1) SCAN uses the aircraft's passive radar to scan for radar-emitting sources. Refer to the EW Station description for details on the operation of this mode

2) CAMERA uses the EVS as a viewing screen for TV images controlled by the CAMERA MODE Panel (see CAMERA MODE Panel, this section).

3) ATTACK activates the aircraft's active search radar and displays it on all radar screens in the aircraft (pilot, copilot, EW, and OW).

A) The ATTACK active search radar signal is highly detectable by enemy radar stations.

B) When the ATTACK radar is on, the "RO"

warning light illuminates at all stations.

C) The ATTACK radar returns signals from any imageable source (except terrain) within the range set in the RANGE readout at the bottom of the EVS.

4) Select CONTROL to view a description of the weapon currently selected in the WEAPON SELECT/LAUNCH panel.

A) Some weapons can be armed in different modes by clicking directly on the mode names while the EVS is in CONTROL mode.

CAMERA MODE Panel

The CAMERA panel controls the various cameras that send TV images to the EVS.

1) The CAMERA button above the EVS must be selected for the CAMERA MODE panel controls to work.

2) Turn the CAMERA mode selector switch to STV to show the picture currently being generated by the AN/ASQ-151 STV system.

A) Azimuth and elevation of the view is controlled with the 4-way CAMERA switch. When both digital displays to the right of the read zero, the STV is oriented dead-ahead. (This can be accomplished quickly by tapping "Z" on the keyboard.)

B) Select the ZOOM increase/decrease buttons to zoom in or out with the STV.

C) The camera in STV mode is used to target ordnance.

3) Turn the CAMERA mode selector switch to GUIDANCE to see the missile camera view.

A) A TV-guided weapon - such as the AGM-142 - must be selected for the GUIDANCE mode to operated with any other type of weapon selected, the camera in GUIDANCE mode will display only static.

MASTER BOMB CONTROL Panel

The aircraft bomb bay doors operate as a single unit and can be opened and closed manually or automatically. While open, the aircraft's speed is reduced and RCS is increased.

1) Set the AUTO/MNL switch to MNL to operate the doors manually.

A) When the bomb bay doors are operating manually, the correct sequence must be observed in order to release ordnance effectively and minimize

RCS.

i) Select and prepare ordnance (see WEAPON SELECT/LAUNCH Panel section)

ii) Set UNLTCH/LATCH switch to UNLTCH>

iii) Set OPEN/CLOSE switch to OPEN.

The doors take 5 seconds to open, at which point the OPEN indicator light illuminates. Note also that the DRS light on the Pilot's eyebrow panel illuminates while the doors are open.

iv) Launch weapon(s).

v) Set OPEN/CLOSE switch to CLOSE.

The doors take 5 seconds to close, at which point the OPEN indicator light goes off. Note also that the DRS light on the Pilot's eyebrow panel goes off when the doors close.

vi) Set UNLTCH/LATCH switch to LATCH.

2) Set the AUTO/MNL switch to AUTO to operate the doors automatically.

A) Select and prepare ordnance (see "WEAPON SELECT/LAUNCH Panel" below).

B) Press LAUNCH button.

i) The UNLTCH light comes on

ii) The OPEN light illuminates after five seconds.

iii) Weapon(s) launch.

iv) The doors close automatically.

v) The doors are latched automatically.

WEAPON SELECT/LAUNCH Panel

The WEAPON SELECT/LAUNCH panel includes a diagram of the EB-52's four main weapon loading areas, a listing of weapons currently loaded into the currently selected weapon loading area, and a LAUNCH button. Three steps must be complete in order to successfully strike a target: lock onto a target, select a weapon, and launch in order to strike their targets.

Lock Onto Target

Select a target using the SCAN, ATTACK or CAMERA mode of the EVS. The fire control computer will attempt to lock onto any object selected in the EVS in any of these modes. Targets that do not generate a heat or radar signature - such as runaways, bridges, and hardened shelters - must be targeted using the CAMERA mode.

CAUTION

The lock must be maintained for the weapon to locate its target. If the lock is lost, it must be reestablished before the weapon is launched.

Select Weapon

- 1) Select the pylon or bomb bay containing the weapon to be launched from the EB-52 diagram.
- 2) Select the weapon to be launched from the list below the diagram.
 - A) Weapons in red are not appropriate for the currently selected target.
 - B) Weapons in dark green are appropriate for the currently selected target. ("Appropriate" means only that it is theoretically possible to hit the selected target with this weapon. Ordinary iron bombs - such as the MK-84- are always "appropriate" in theory, even though the likelihood of hitting a target such as a MiG with one is highly questionable.)
 - C) Weapon in bright green is the currently selected weapon.
 - D) Weapons in gray have been used.
- 3) Make any arming-mode changes necessary using the CONTROL mode of the EVS. If the ordnance is free-fall weapon, note the recommended STV vertical coordinate listed with the weapon information in CONTROL mode (the horizontal coordinate is always 0 (zero)). Please also see the targeting information for each weapon in Chapter 5, "Ordnance".)
- 4) If the weapon is stored in one of the bomb bays, make sure the bomb bay doors are opened correctly during the launch sequence, either through manual or automatic operation (refer to "MASTER BOMB CONTROL Panel," above).
- 5) Use the "/" (backslash) key to make the computer choose the next appropriate weapon.

Launch Weapon

Before launching a weapon, make sure that the target is within the selected weapon's range, as specified in the CONTROL mode EVS, or in Chapter 5, "Ordnance".

Radar and infrared guided missiles (AIM-9R, AIM-120C, AGM-65G, AGM-136A, AGM-88A, AGM-84A, AGM-84E):

- 1) Select LAUNCH>
- 2) If not operating in AUTO mode and weapon was stored in bomb bay, close bomb bay doors.

TV guided missiles (AGM-130, AGM-142):

- 1) Select LAUNCH.
- 2) Switch CAMERA MODE from STV to GUIDANCE.
- 3) After the missile is launched, use the EVS as the missile's "EYE" to pilot the weapon to its target, flying the weapon to its target by clicking on the camera direction arrows (use of the autopilot or TAC during this time is highly recommended).
- 4) IF not operating in AUTO mode and weapon was stored in bomb bay, close bomb bay doors.

Laser-guided glide bomb (Rockeye II):

- 1) With the target selected in CAMERA mode, steer the aircraft so that the horizontal POSITION coordinate in the CAMERA panel reaches zero (0). This means that the aircraft is on course directly toward the target.
- 2) Select LAUNCH. When the vertical coordinate reaches 12, the weapon's laser guidance system will launch the weapon automatically.
- 3) If not operating in AUTO mode and weapon was stored in bomb bay, close bay doors.

Free-fall ordnance (Dirandal, DAACM, MK-84):

CAUTION

To protect the aircraft from ground-blast, free-fall ordnance should not be released below 500 ft.

- 1) With the target selected in CAMERA mode, steer the aircraft so that the horizontal POSITION coordinate in the CAMERA panel reaches zero (0). This means that the aircraft is on course directly toward the target.
- 2) Adjust the aircraft's altitude in accordance with the weapon's delivery requirements. (Any altitude above 1000ft for the MK-84; 500 to 1000 ft for the Durandal and DAACM.)
- 3) Wait for the vertical POSITION coordinate in the CAMERA panel to reach the number recommended for the weapon in the CONTROL mode of the EVS.
- 4) Select LAUNCH>
- 5) If not operating in AUTO mode and weapon was stored in bomb bay, close bomb bay doors.

AFT MINES Control Panel

The tail of the EB-52 is equipped with an enclosed

cannon that fires 12-inch flak canister rockets. These are used to attack enemy fighters approaching from the rear quarter.

Through its interface with the AN/ALQ-153 aft fire-control radar, the AN/APQ-166 tracks both rocket and enemy fighter and transmits steering signals to the rockets. When the distance between the fighter and the rocket decreases to less than 200 yards, the fire-control computer detonates the rocket.

Maximum range is two miles.

1) Select the LAUNCH button in the AFT MINES panel to launch and air mine.

The EB-52 carries a maximum of 30 air mine rockets. The number remaining is listed in the AFT MINES control panel.

JETTISON CONTROL Panel

Should the aircraft be damaged yet still manage to return to home base, it is extremely unwise to continue carrying any left-over ordnance during landing approach and touchdown. At a safe distance from the airbase, excess ordnance should be jettisoned.

1) Select the JETTISON button twice with a one-second interval to deactivate and jettison all ordnance.

EXTERNAL CAMERA

The external camera station displays a view of the EB-52 in the upper 3/4 of the display. The EB-52 is always in the center of the camera's view, except when the "Nose" or "Target" view buttons are selected.

In addition to the multi-station instruments, the External Camera station has the following controls:

4-Way switch

Select the 4-way switch to the external camera in 360_ arcs around the aircraft both horizontally and vertically.

ZOOM IN/ZOOM OUT

Select the ZOOM IN/ZOOM OUT buttons to move the camera closer to or farther away from the aircraft.

REMOTE view button

Select the REMOTE button to allow the camera to move with complete freedom in observing the aircraft.

SLOT view button

Select the SLOT button to restrict the camera to a cone-shaped area immediately behind the aircraft. The camera can travel only 45 degrees to either side of, or above or below the aircraft tail section.

TARGET view button

Select the TARGET button for a reverse-angle view from behind the currently selected target toward the EB-52.

NOSE view button

Select the NOSE button for a view of a cone-shaped area immediately ahead of the aircraft. In this view, the camera is mounted to the nose of the aircraft and can travel only 45 degrees to either side of, or above or below the aircraft nose section.

2 FLIGHT PROCEDURES

CAUTION

These procedures are for a crew inexperienced in the operating of this aircraft. This manual provides the best possible operating instructions under most circumstances, but is a poor excuse for sound judgment. Multiple emergencies, adverse weather, terrain, etc., will require modification of the procedures.

MISSION ASSIGNMENT

1) Register for a mission in one of the following ways:

a) Click on an active pilot in the registration panel monitor and click SELECT.

b) Click the name of a pilot you want to replace, click REPLACE, and type in the new pilot's name. Tap the RETURN key to enter the new pilot's name.

2) Click MISSIONS on the Main Menu panel.

3) Click ASSIGN or SELECT on the Mission Selection pop-up menu.

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SELECT gives the crew direct control of mission selection, including theater, objectives and flight plan, and loadout.

ASSIGN presents a mission chosen for the crew by Mission Control. Accept or reject the assigned mission by clicking ACCEPT or REJECT. If a mission is rejected, a new one is assigned, and so on. Choosing ACCEPT bypasses steps 4 and 5 below and

takes you directly to the Loadout Screen.

4) When the Mission Select panel and monitors appear, the small monitor shows a list of three theaters of operation - Red Flag (Nevada), Persian Gulf, and Flight of the Old Dog (Kamchatka Peninsula) - while the large monitor shows a map of the currently selected region. (Note: the switches at the top of the panel will not work until a theater is selected.)

Click the geographic area in which you want to fly your mission and then click SELECT.

Mission Select Panel

Three mode switches control the Mission Select panel:

INFO/SELECT switches the small monitor between a database of information about the region and a listing of all missions available in that region.

CIV/MIL switches the monitors between displays of civilian and military features and threats in the region.

OFF/ON WAYPOINT shows you the flight plan and waypoints for the mission on the large monitor. (Waypoints cannot be changed at this point.)

CAUTION

Clicking SELECT at the bottom right corner of the Mission Select panel selects the mission currently highlighted in the small monitor, WHETHER OR NOT the INFO/SELECT switch is set to SELECT.

Click the right mouse button to cycle through the currently highlighted list (Borders, Cities, Roads, Radar, Missiles, or Bases) in the small monitor (the OFF/ON WAYPOINT switch must be off). Highlight a new feature type by clicking on it in the small monitor with the left mouse button.

Note

If the INFO/SELECT switch is set to INFO while the WAYPOINT switch is ON, the distance in miles between waypoints can be computed in the small monitor by changing the way point number computed in the small monitor by changing the waypoint number in the "TO" box, and the "FROM" box if PRESENT POS is not clicked, click on the "+" or "-" signs alongside each box to increase or decrease a waypoint number.

Orders for the currently selected mission are printed below the Mission Select panel and monitors; scroll through them by clicking the arrows below the small monitor. Read the mission orders carefully, then use

the Mission Select panel databases and waypoint distance calculators to learn as much as possible about a mission before finally selecting it. This information will be of critical value during execution of the mission.

5) If your mission will be either in the Red Flag of Persian Gulf regions, select a mission on the scrolling list (scroll the list by clicking the up or down arrows to the right of the list) and click SELECT.

If you select Flight of the Old Dog, take time to read about the mission in Chapter 6. Even if you decide not to do so, you may be able to complete the mission by reading Dale "Bear" Brown's novel Flight of the Old Dog, the original story of this extraordinary adventure.

Loadout Screen

Take time to read "Offensive Strategy," before preparing the mission loadout.

The Loadout screen operates in four modes, and includes four panels and a pylon/bomb bay-selection diagram of the aircraft.

Weight Panel

The Weight panel always lists the weight of all ordnance currently loaded into the aircraft's two bomb bays and onto its two wing pylons, and the weight of fuel in the aircraft's four main fuel tanks. Ordnance weight is adjusted by altering the weapons loadout and fuel weight is adjusted by clicking the "+" and "-" signs to either side of the readout. The aircraft is always preloaded with 50,000 lbs of fuel.

Total fuel and ordnance loadout for the EB-52 cannot exceed 192,000 lbs.

Mode Panel

Click on a mode to select it.

LIST MISSILES AVAILABLE changes the Ordnance panel to a listing of all available ordnance, and the Weapons Select panel to a database of information about the weapon currently selected in the Ordnance panel.

Click on the arrow in the right margin of the Ordnance panel to scroll through the weapons; click on a weapon to select it and change the information in the Weapons Select panel.

DISPLAY ORDNANCE LOADED changes the Ordnance panel to a listing of weapons loaded at the currently selected location on the pylon/bomb bay-selection diagram. The Weapons Select panel now

gives information only about weapons loaded at that location, and lists the total quantity of the currently selected weapon on board the aircraft.

Click on a bomb bay or pylon in the pylon/bomb bay selection diagram to list the weapons for that location; click on a weapon to select it and change the information in the Weapons Select panel.

REMOVE A MISSILE also changes the Ordnance panel to a listing of weapons loaded at the currently selected location on the pylon bomb bay selection diagram. The Weapons Select panel now has a "YES" button that is used to remove the weapon currently selected in the Ordnance panel.

Click "YES:" in the Weapons Select panel to remove the currently selected weapon.

LOAD A MISSILE also changes the Ordnance panel to a listing of weapons loaded at the currently selected location on the pylon/bomb bay-selection diagram. The Weapons Select panel "YES" button is used to load the currently selected weapon.

Click on the arrows in the right margin of the Weapons Select screen to review the information about each weapon; click "YES" to load the weapon currently listed in the Weapons Select panel.

Note

There must be a position available at the chosen location for the new weapon to load. Depending on the size of the weapon chosen, some empty positions may not accept it. For example, the AIM-120C is too long for all nine positions on a pylon to accept it. In its case, only six positions on each plan are available.

RESTORE DEFAULT ORDNANCE resets the ordnance and fuel loadout to their original conditions.

1) Adjust both the fuel and weapons loadouts for the mission in the Loadout screen (please also see "Fuel Management" and "Ordnance").

CAUTION

Missions in the Persian Gulf require at least 40,000 lbs of fuel to make it to waypoint 1 - the inflight refueling rendezvous point.

Additional fuel beyond the preloaded amount must be loaded for each Red Flay mission; inflight refueling is available only in the Inflight Refueling training mission.

2) Click DONE on the MODE menu to accept the current loadout and begin the mission.

PROCEDURES

Caution

These procedure are provided for crew reference only. It is highly recommended that crews take full advantage of the Red Flag training missions to practice fundamental operational procedures before attempting either the Persian Gulf or Flight of the Old Dog Missions.

Note

The use of keyboard "hot keys" can be extremely useful in these procedures. Please see the separate "Installation & Reference" guide accompanying this manual for a complete list of available "hot keys".

Note

Basic startup procedures are also available from the copilot EVS. Select the PROCEDURAL button and scroll through the screens by selecting the <and> buttons.

Preflight

Copilot Checklist

- 1) Batteries on.
- 2) Rudder/Elevator Hydraulic switches ON.
- 3) Landing/Taxi lights ON.
- 4) Nav lights ON.
- 5) Anti-collision lights ON.
- 6) Interphone ON (default).
- 7) Cabin pressure 7.45 psi

Pilot Checklist

- 1) Parking Brake ON (unless the aircraft must first taxi to the end of the runway).
- 2) Taxi/Land Ratio switch set to Land (unless the aircraft must first taxi to position).
- 3) Flaps extended.

Starting Engines

Pilot Checklist

(This procedure is also followed when restarting an individual engine in flight.)

- 1) Engines ON. (Click the individual engine lights, or click ALL, on the right side of the Pilot's instrument panel, to turn on the engine switches on. The engine lights will illuminate.)
- 2) ENGINE START switch to C. (Click the ENGINE START switch to C to ignite the started cartridges. The engines will start, and the PWR display will show 1%)

3) ENGINE START switch to F. (Click the ENGINE START switch back to F to channel electrical power to the aircraft's systems during flight.)

Copilot's Checklist

1) (After engine start) Battery switch OFF.

Taxi and Takeoff

Pilot Checklist

1) Increase power in all engines to 100% (15% to taxi only) by clicking "+," to the right of the PWR display.

2) Parking Brake OFF (or as speed control while taxiing).

3) At 170 knots, pull back on control column (press down-arrow key) until the artificial horizon indicator reads 6%.

4) Retract landing gear immediately after takeoff. (Gear will be damaged if extended at speeds exceeding 375 kts.)

5) RETRACT flaps when speed exceeds 200 kts. (Flaps will be damaged if extended at speeds exceeding 450 kts.)

6) Decrease power to 80%.

Flight Control

1) To turn the aircraft to the left, press the left-arrow key to raise the left wing spoiler and elevate the right rear stabilator.

2) To turn the aircraft to the right, press the right-arrow key to raise the right wing spoiler and elevate the left rear stabilator.

3) To make the aircraft climb, or pitch up, press the down-arrow key to elevate both stabilators.

4) To make the aircraft descend, or pitch down, press the up-arrow key to lower the stabilators.

5) To slow the aircraft down quickly, turn AIRBKE switch ON in flight to raise both sets of wing spoilers.

6) Extend FLAPS if airspeed drops below 200 kts.

Navigation

Please see "Multi-Station Instruments" and "Navigator Station" and "Navigation" in for a complete description of the EB-52 navigation systems and controls.

IFF Identification

At some point during each mission-generally in the vicinity of the first waypoint, though it may occur near any friendly radar site-the aircraft will be contacted by ground control and identification requested via IFF (Identification Friend or Foe) Transponder.

WARNING

Failure to correctly identify the aircraft will result in the destruction of the aircraft by friendly fire.

WARNING

Turn off the transponder in enemy territory to avoid unwanted attention.

The copilot is responsible for the identification procedure. To identify:

- 1) Switch the Transponder switch to STBY.
- 2) The first two digits on the transponder are automatically adjusted to match the 2-digit code transmitted by ground control.
- 3) The numbers transmitted to the EB-52 correspond to one of the 2-digit page numbers in this manual. Locate that page and note the 2-digit code in parentheses to the right of the page number.
- 4) Enter the 2-digit code into the last two numbers of the transponder by selecting the arrows to the left of each number.
- 5) Switch the transponder switch from STDBY to ON>
- 6) Select the IDENT button. When the REPLU light flashes, identification has been correctly made.

WARNING

The transponder should remain on as long as the aircraft remains in friendly airspace, but be turned OFF before entering enemy territory. The set transmits UHF radio waves and will attract immediate attention from enemy ground installations, The UHF warning light on the pilot's screen illuminates when the transponder is on.

Inflight Refueling

- 1) With the Pilot EVS in RADAR mode and the autopilot ON, fly toward the first waypoint.
- 2) When the refueling tanker is detected by the EB-

52's passive radar (the tanker appears on the monitor as a circle surrounding a large red block letter "T"), click on the tanker symbol to select it.

3) Select the "C" light in the AIR REFUEL panel to lock onto the tanker.

When the autopilot locks onto the tanker's location, the aircraft will automatically fly toward the rendezvous.

Note

Refueling tankers generally operate between 9,000 and 10,000 ft.

WARNING

A power setting of at least 85% should be maintained during closure to make sure that the EB-52 can overtake the tanker. Slower speeds may result in exhaustion of fuel supplies before rendezvous.

WARNING

Upon overtaking the tanker, the autopilot will automatically lower the engine power setting to 40% to prevent collision. After refueling, the pilot must reapply power. Reapplication of power is NOT an automatic function of the autopilot.

4) When the RDY light in the AIR REFUEL panel illuminates, click the DRS light to open the refueling slipway doors. Refueling will begin immediately.

5) When refueling is complete, separation will occur automatically and the EB-52 will resume its course toward the next waypoint.

6) Reapply power to at least 75% (see warning, above).

Landing Approach

Note

Runways for all EB-52 operations are oriented north/south, and approaches should be made from the south in a northerly direction, except under emergency conditions.

If possible, a standard military approach should be executed.

1) Heading north on the upwind leg of the landing pattern, pass directly over the airbase at an altitude of 2,000 to 5,000ft.

2) At a distance of 1-5 miles past the runway, execute a 90_ turn onto the crosswind leg.

- 3) Fly 2-3 miles on the crosswind leg.
- 4) Execute a 90_ turn onto the downwind leg.
- 5) With a lateral distance of 2 miles between the aircraft and the runway, fly at least 3 miles to the south past the runway.
- 6) During the downwind leg of the pattern, cut back on throttles and use the airbrakes to decrease speed to 300 kts.
- 7) During the downwind leg of the pattern, descend to 1000 ft.
- 8) Execute a 90_ turn onto the base leg of the landing pattern.
- 9) Fly the same distance flown on the crosswind leg.
- 10) Execute a 90_ turn and enter the approach leg toward the runway.

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Landing

During the approach leg of the landing pattern, the aircraft would be lined up with the runway at a distance of 2-5 miles, at an elevation of approximately 1000 ft. Speed should be no greater than 300 kts.

- 1) Using throttles and airbrakes, decrease speed to 250 kts.
- 2) Extend flaps.
- 3) Lower landing gear.
- 4) Switch TAXI/LAND switch to LAND.
- 5) With the runway in view, begin descending, slowly decreasing power and speed so that final touchdown will be accomplished at no greater than 250 kts. Use the airbrakes to reduce speed quickly.

WARNING

During landing, aircraft can have no more than 11 degrees of pitch, or 5 degrees of roll. To maintain these parameters, please refer to the pilot's artificial horizon indicator frequently during landing.

- 6) Touch down within the first third of the runway.
- 7) If touchdown cannot be accomplished safely in the first third of the runway, immediately apply full power, climb away from the runway, and repeat the

approach and landing procedures.

- 8) If touchdown is successfully accomplished, immediately select ALL, to the right of the PWR percentage display, to cut power to all engines.
- 9) Select PRKNG BRKE to bring the aircraft to a complete stop.

Emergency Landings

It is possible to execute a no-gear belly landing in the EB-52, given the following conditions:

- 1) Final landing speed cannot exceed 130 kts.
- 2) All remaining ordnance should be jettisoned before the attempt is made.

Damage Control

Damage results from incorrect operation of the aircraft or from attack by enemy/friendly fire.

In the first instance, either the aircraft is flown into an obstruction (such as the ground or a mountain), or is flown at an airspeed unsuitable for the deployment of flaps (maximum speed 450 kts) or landing gear (maximum speed 375 kts.) In either case, the crew is strongly directed to spend a few extra moments in the early sections of this chapter learning about the overall operation of the aircraft.

However, damage resulting from weapons fire may be correctable by resetting specific systems or by using applicable backup systems. In the case of engine damage, the engine must be shut down to prevent the start of fire, or, if a fire has already begun, to keep it from spreading. If a fuel tank is damaged and begins to leak, its remaining fuel can be saved by transferring it to another tank.

These options are available at the pilot and copilot stations. In particular, the electrical, hydraulic, and fuel systems have specific emergency repair and backup features designed to help the EB-52 survive a massive degree of damage and still accomplish its mission.

WARNING

If systems are damaged repeatedly, repairs may not be possible.

Engine Damage

A damaged engine may leak oil, sustain unspecified damage, or catch fire.

Oil Leaks: If an engine begins to leak oil, the OIL

warning light in the pilot's eyebrows panel illuminates, If the engine sustains further damage, the engine's trouble light will illuminate.

Unspecified Damage: If an engine suffers damage beyond the normal diagnostic capabilities of the aircraft computers, the afflicted engine's TROUBLE light illuminates. Remedy: Turn off the engine before fire develops.

Fire: If an engine catches fire, its FIRE light will illuminate at the pilot station and a warning claxon will sound. Remedy: It is imperative that an engine on fire be turned off immediately, otherwise the fire will spread.

Fuel Tank Damage

If one of the aircraft's four main fuel tanks is damaged, the copilot interphone light flashes. Primary concern should be given to saving the fuel supply in the damaged tank. Using the fuel system EVS at the copilot station transfer the remaining fuel to the other, undamaged tanks.

Electrical System Damage

If a component of the electric system is damaged, the copilot interphone light and the pilot "E" warning light flash. Three possible courses of action are available using the copilot's EVS:

- 1) Check to see if one or more of the four main ac generators is out, and reset it by clicking its number.
- 2) If a generator won't reset, reset its bus first and then attempt to reset the generator. Generators 1 and 2 operate via the left bus, and generators 3 and 4 via the right bus.
- 3) If a bus cannot be reset, permanently disabling its generators, turn on the battery switches and then turn on the EMERG DC power backup system.

6 MISSIONS

There are 31 mission flight plans on file in Megafortress' memory banks. Three geographic theaters are involved: the Red Flag training area north of Las Vegas, Nevada; the countries northwest of the Persian Gulf; and the Kamchatka peninsula of the eastern Soviet Union. A map of each plan is included in a separate booklet accompanying this manual.

Red Flag

In order to train crews to handle the EB-52 Megafortress successfully in combat, provision has been made to use the Nellis AFB bombing ranges in

southern Nevada. These are the ranges used during the "Red Flag" training exercises conducted by the 4440th Tactical Fighter Training Group of the USAF.

It is highly recommended that crews take the time to fly each Red Flag training mission before venturing into the Persian Gulf or "Flight of the Old Dog" scenarios. The skills developed here will spare you hours of frustration later.

The TFTG has no aircraft of its own, no ranges, and few personnel. The TFTG is one small part of the Tactical Fighter Weapons Center (TFWC), located at Nellis.

The TFTG develops and schedules five "Red Flag" air combat support exercises per year, involving a number of Tactical Fighter Weapons Center (TFWC) units in each exercise. Although it is a small group in and of itself, the 4440th has operational control of a tremendous number of resources when there's a Red Flag going on. These resources include:

The 554th Operations Support Wing: To Red Flag, the most important section of the 554th is the Range Group, charged with maintaining and operating the vast bombing ranges north of Nellis.

The Adversary Threat Training Group: The 4513th is the intelligence unit of the 57th Fighter Weapons Wing (FWW). The Aggressors get most their up to date tactics and briefing information from the 4513th. The ATTG also helps develop the Red Flag scenarios.

Red Flag Missions

1 Flight Procedures

This mission exercises the crew's ability to handle some of the basic procedures outline in Chapter 2: takeoff, aircraft identification, flight control, and landing. No ordnance is loaded, and more than enough fuel is provided for the entire mission.

The mission begins at the pilot station, with the aircraft positioned at the end of the runway. Follow the takeoff procedures detailed to get the aircraft up and flying, and turn on the autopilot when the aircraft reaches an altitude of 1000+ feet.

The aircraft flies to the first waypoint, where Air Traffic Control (ATC) requests identification. The aircraft then proceeds to the second waypoint.

During the remainder of the flight, controls in the pilot and copilot stations should be explored. The following are suggested exercises:

- o Use the clock "ETA" function to check time to

next waypoint.

- o Override the autopilot by using the keyboard.
- o Fly without using the autopilot.
- o Fly using the TAC. Experiment with different height settings.
- o Override the TAC using the keyboard.
- o Change the power setting if individual engine throttles and observe the effect on aircraft performance.
- o Turn off an engine and restart it in flight.
- o Test the airbrakes and landing gear as speed controls.
- o Compare fuel consumption at very high and very low altitudes.
- o Experiment with the external camera. Check the condition of navigation lights and landing gear compared to their controlling switches at the copilot and pilot stations.
- o Practice using the keyboard "Hot Keys."

Finally, with the autopilot turned on, the aircraft returns to the third waypoint (Nellis AFB) and is cleared to land.

2 Navigation

This mission will familiarize the crew with the navigation systems aboard the EB-52. The mission begins in the same way at Mission 1 above with the standard takeoff and identification procedures. After identification is made, make sure that the autopilot is turned on and proceed to the navigator's station.

The Navigator Station has five modes. Read "Navigator Station" carefully, and then experiment with each mode in the following ways:

Map Mode

- o With the FCS set to DISPLAY, use the small monitor to find information about time and distance to various waypoints.
- o With the FCS set to EDIT, use the small and large monitors to edit and restore waypoints.
- o With the WAYPOINT switch turned OFF, use the small monitor to display data about selected points on the large monitor.

Radar Mode

- o Experiment with the range settings.
- o Compare the high-resolution radar image in the large monitor with the low-resolution "TAC" image in the small monitor.
- o Experiment with temporary waypoints following the directions in "Navigator Station. It is possible to fly the aircraft exclusively from the Nav station

at low altitudes, through mountains, etc.-by using temporary waypoints.

STV Mode

- o Use the ADJUST switch to practice looking in one direction while flying in another.

3 Radar Evasion

The goal of this mission is simply to fly from the first to the third waypoint without allowing the search radars to track you.

Although it is possible to move the waypoints and avoid the radars altogether, or to jam every radar encountered, the idea is to learn how to evade radars when necessary.

The mission begins in the same way as Mission 1 above with the standard takeoff and identification procedures. After identification is made, try these techniques:

- o Determine the effects of altitude on detection. Remember, the EB-52 can "see" a search radar long before being seen, or tracked, itself.
- o Attempt to thread the aircraft flight path through the radars, skimming the ranges at which it is likely to be detected.
- o When evasion fails, jam the search radar signal from the EW station.

These skills are required for successful completion of any mission. Remember: The name of the game is EVASION.

- o During inflight refueling, use the external camera to observe the rendezvous. Use the TARGET view to watch from the tanker aircraft's point of view.

5 1 MiG Evasion

Evading a MiG requires different tactics from those employed in shooting one down. Because MiGs are usually directed, or vectored to locations by Ground Control Intercept (GCI) facilities (enemy radar stations), the best way to evade them is to evade enemy radars. In this mission, the goal is to lose a MiG that has been vectored to the EB-52's location.

The difficult part of the task is knowing when the MiG is out there. Since, like the EB-52, they generally fly with their passive radars running so as to avoid announcing their presence, it is necessary to turn the ATTACK active radar at the OW station on for brief periods to try to "paint" any enemy fighter that might be nearby. To lose an enemy fighter there

are only a few things a bomber can do.

- o Fly low and toward mountain or some other part of the terrain, trying to lose the aircraft's radar image against the larger object.
- o Turn off all external lights.
- o Make sure ATTACK radar is OFF.
- o Turn and try to lose him.

A few observations:

All enemy fighters use the same general techniques: they pull in above and behind the EB-52, about 25 miles out. then they fire a pair of radar-guided missiles. If those miss they move in closer and fire a couple of IR-guided missiles. If they miss again they probably will have enough fuel left to try a pass with their guns. If they still have fuel they may make a circle and one more gun pass before giving up and heading back to base.

Enemy fighter prefer visual sightings, avoiding use of their attack radars unless absolutely necessary. But if they lose visual contact they may be forced to turn on their radars and reveal their locations.

If the EB-52 is being tailed by MiG, make sure the EW station's rear-looking infrared (RLIR) scanner is ON, and the AUTO CHAFF and AUTO FLARES switches turned ON.

If the EW Officer is fast and manages to pick up an enemy missile on the radar, it is possible to jam its guidance system with either the JAM SIGNAL or JAM IR buttons, depending on the type of missile fired. Of course, this makes it easier for the MiG to locate the aircraft.

Finally, it is possible to turn out of the missile's way - depending on the speed and maneuverability of the missile.

6 2 MiG Evasion

If one enemy fighter is easy to evade, try two.

7 2 MiG Defense

If it becomes impossible to evade an enemy fighter, the crew will need to blow him out of the sky. But remember: the ultimate mission is one in which the enemy never sees the EB-52-just a trail of wrecked installations and equipment. This mission lets the crew practice mounting an active defense against two MiGs, using air-to-air missiles, air mines, chaff, and flares.

- o Load the EB-52 with AIM-120C and AIM-9R missiles
- o Use the same tactics described in "1 MiG Evasion: above to counter the fighters' moves.
- o See "OW Station" to learn how to launch missiles and air mines against the enemy.

8 3 MiG Defense

If two enemy fighters are easy to shoot down, try three.

9 Unopposed Bombing - 1

This mission provides the crew with an opportunity to practice bombing runs, without any interference from the enemy. The aircraft is pre-loaded with an assortment of ordnance, but requires fueling before takeoff.

Read "OW Station" and "Bombing Run" to prepare for this mission.

10 Unopposed Bombing - 2

This mission provides the crew with an opportunity to practice bombing runs, without being intercepted by MiGs, surface-to air missiles (SAMs), or anti-aircraft artillery (AAA). Enemy search radars will be on the lookout for the EB-52.

The aircraft is pre-loaded with an assortment of ordnance, but requires fueling before takeoff (see "Loadout Screen," "Loadout," and "Ordnance".)

Read "OW Station", and "Bombing Run", and practice radar evasion to prepare for this mission.

11 Unopposed Bombing - 3

This mission provides the crew with an opportunity to practice bombing runs, without being intercepted by MiGs, surface-to-air missiles (AMSS), or anti-aircraft artillery (AAA). Enemy search and SAM radars will be on the lookout for the EB-52.

The aircraft is pre-loaded with an assortment of ordnance, but requires fueling before takeoff.

12 Bombing - 1

This mission provides the crew with an opportunity to practice bombing runs, without being intercepted by surface-to-air missiles (SAMs), or anti-aircraft artillery (AAA). Enemy MiGs will be on the lookout for the EB-52.

The aircraft is pre-loaded with an assortment of ordnance, but requires fueling before takeoff (see "Loadout Screen").

13 Bombing - 2

This mission provides the crew with an opportunity to practice bombing runs under fire. Enemy MiGs, search radars, and SAM sites will be on the lookout for the EB-52.

The aircraft is pre-loaded with an assortment of ordnance, but requires fueling before takeoff (see "Loadout Screen", "Loadout" and "Ordnance".)

14 Full Bombing - 1

This mission provides the crew with an opportunity to practice bombing runs fully armed and under fire. enemy MiGs, search radars, and SAM sites will be on the lookout for the EB-52. The target runaway is located at the 2nd waypoint.

15 Full Bombing - 2

This mission provides the crew with an opportunity to practice bombing runs fully armed and under fire. Enemy MiGs, search radars, and SAM sites will be on the lookout for the EB-52. The target runaway is located at the 3rd waypoint, requiring more evasion along the way than in Full Bombing -1.

16 Multiple Targets

This mission provides three targets instead of one, as in the other practice bombing runs. The EB-52 is fully armed and under fire. Enemy MiGs, search radars, and SAM sites will be on the lookout for the EB-52.

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PERSIAN GULF

By 1990, Iraq had the sixth largest military force in the whole world, with a reported 750,000 soldiers, 1,400 combat aircraft, 3,000 anti-aircraft weapons, and 6,000 armored combat vehicles. Iraq also commanded a very sophisticated command and control network that tied all of these weapons together over an expanse of territory roughly the size of California.

The 14 missions in Iraq and Kuwait follow Megafortress on a step-by-step campaign designed to neutralize the Iraqi war machine.

The Megafortress arrived secretly by ship in the region shortly after Christmas, 1990. With the B-1B bombers grounded due to congressional inquiries and debates over safety, cost-cutting, military spending and

payload size make it a logical candidate to follow the F-117As into Iraq.

Megafortress begins working for the coalition by destroying a key fighter air base in northwest Iraq, and eliminating key command and communication centers. The Iraqis, trained by their eastern-bloc arms dealers, rely on the Soviet system of early warning-ground control intercept (EW-GCI) targeting. Ground based radar controllers provide fighters with the coordinates of intruders, "vectoring" the fighters to locations "of interest". Pilots are not trained to work independently of the system, as are the coalition pilots trained at Red Flag. When the centralized control centers for this GCI system are destroyed, the Iraqi Air Defense Network is effectively blinded.

Next, munitions supply facilities and a chemical weapons plant must be destroyed to prevent resupply of the Iraqi army in Kuwait. Mobile SCUD launchers located near the chemical plant are also hit by the Megafortress.

The war broadens, and coalition F-16s and Tornados begin to raid southern Iraq. But crews are forced by cautious commanders to dodge a critical Iraqi air base. Megafortress is detailed to deliver a single devastating strike and eliminate the distraction. Iraq's primary communications center, the International Communications Center (ICC) in Baghdad, is hammered next by the big bomber, along with the main power source for the capital city. The Iraqis are cut off from the rest of the world.

The Republican Guard forces in Kuwait are the finest troops in Iraq's army and must be neutralized before the country can be retaken. With its command center in southern Iraq shut down, the Guard itself can be attacked without an unreasonable loss of life. Power generating facilities and transportation systems in the area are also destroyed.

The southeastern approaches to Baghdad are heavily guarded by enemy fighter aircraft, and must be dealt with in order to reach the industrial areas housing Iraqi biological weapons production.

Although the exact biological agents being produced are unknown, their potential as weapons of war is far more diabolical even than that of chemical weapons.

With Iraqi command and control centers, communications systems, power sources, munitions supply centers and central air defense bases under control in central Iraq, the Megafortress turns its attention southward, toward Kuwait. A major Kuwaiti air base captured by the invading Iraqis is hit, and the Iraqi stronghold surrounding Basrah begins to feel the big bomber's iron fist pounding at the door. Basrah is the main Iraqi citadel on Kuwait's

borders, and holds many of the keys to unlocking Iraq's stranglehold on its rich southern neighbor. Air bases and the main supply routes into Kuwait are hit, and Iraq's budding nuclear weapons capability is damaged.

Coalition commanders follow through on the nuclear plant attack by using the Megafortress to strike north again, smashing an enriched uranium production facility outside of Baghdad.

As the Iraqi leaders face the truth - in private - about their situation, the Megafortress strikes north again, smashing an enriched uranium production facility outside of Baghdad.

As the Iraqi leaders face the truth - in private - about their situation, the Megafortress is detailed to destroy the primary transportation facility in Baghdad. Saddam/Baghdad International airport and its support facilities are leveled. The military leadership is denied all but the most primitive means of escape.

Megafortress is now sent to destroy the Iraq army's heavily-fortified central command complex in Baghdad. With its central command structure smashed, the remaining Iraqi forces in Kuwait are completely cut off.

In its final missions, Megafortress destroys the remnants of Iraq's once-proud air force, and closes the enemy's remaining supply routes into Kuwait in preparation for the ground assault. Finally, it shuts down Kuwait International Airport. The Iraqis are defeated, and the Megafortress once again slips away into the shadows of the USAF's top secret weapons programs.

Mission details for the Persian Gulf and Flight of the Old Dog are classified, and will be available only during mission assignment of the mission itself.

Megafortress Extra Mission "Escape from Seattle"

- 1) The scenario starts out at 31,000 ft heading East.
- 2) Turn due West.
- 3) Report in with the Transponder once, then turn it off.
- 4) Turn off all lights, both internal and external.
- 5) Put your radar in scan mode.
- 6) Point nose at a -60 degree angle.
- 7) Cut engines to 55%
- 8) Set TAC at 108 ft, but don't turn it on yet.
- 9) When altitude reaches 200 ft you'll get a message, "They've lost us on radar" then turn on the TAC.

Refueling from the tanker:

- 1) Find the tanker on radar.
- 2) Set altitude to 10,000 ft.

- 3) Close the range as fast as possible.
- 4) Do not report in with the transponder, instead lock an AMRAM onto the tanker.

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