mega.txt
MEGAFORTRESS MANUAL

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

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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)
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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 l 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 fro 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

.   .

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

.   .

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
fight 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 in 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 fear down, the F (flight
systems) warning light will flash.

TAXI/LAND ratio switch

The steering ration 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 ration 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 ration 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 of less and he
fear 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 reduce 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 STAT switch must be moved to the C (cartridge)
position in order to ignite the engines. Then the start
switch should be returned to he 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 compete, 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 airsystem, 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 airscoop 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 make 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
Ls Vegas is 2 miles east and 139 mils 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
y 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 work 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:

.

        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:

.

        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 is
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 tot he EW's small radar
scope when the DISPLY 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
Dynalectron-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 i 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
it 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 is 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 that 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 be 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 b e 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 is 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. t 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 tot he 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 n
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 make 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 lading
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.

.

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
fist 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 of 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 make 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
the their up to date tactics and briefing information
form 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 lading 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 t
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 then 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, cot-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 then 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 it 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 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 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 light, 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.