



AIR-TO-AIR MISSILE SUMMARY (B5.6)

| MISSILE TYPE | MISSILE BASE TO HIT & RANGES (MIN - MAX) | | | MAL-FUNCTION d10 | DMG DICE d10 | NOTES |
|-------------------------------|--|-------------|--------------|------------------|--------------|--|
| | REAR TARGET | SIDE TARGET | FRONT TARGET | | | |
| AIM-9B Sidewinder, AA-2 Atoll | 7+ 3 - 10 | No | No | 1-3 | 3 / 5 | No launch after Ext. Turn, any Split-S or Immelman |
| AIM-9D Sidewinder | 6+ 3 - 12 | No | No | 1-2 | 4 / 6 | No launch after Ext. Turn, any Split-S or Immelman |
| AIM-9E Sidewinder | 7+ 3 - 10 | No | No | 1-2 | 3 / 5 | No launch after Ext. Turn, any Split-S or Immelman |
| AIM-9G/H Sidewinder | 6+ 3 - 12 | 9+ 5 - 24 | No | 1-2 | 4 / 6 | |
| AIM-9P, AA-8, R.550 Magic | 6+ 2* - 12 | 9+ 5 - 24 | No | 1-2 | 3 / 5 | *AIM-9P has minimum range 3 vs. Rear Tgt |
| AA-6B | 6+ 6 - 15 | No | No | 1-2 | 5 / 8 | |
| AA-7B Apex | 6+ 6 - 15 | 10+ 9 - 30 | 12+ 18 - 60 | 1-2 | 4 / 7 | |
| AIM-9J, AA-2D, Shafrir 2 | 6+ 2 - 10 | No | No | 1-2 | 3 / 5 | |
| AIM-9L/M, AA-8B, Python 3 | 5+ 2 - 18 | 8+ 3 - 36 | 10+ 6 - 72 | 1 | 4 / 6 | |
| AIM-7D Sparrow, R530A | 9+ 6 - 15 | 12+ 9 - 30 | 11+ 18 - 60 | 1-4 | 5 / 7 | No launch after Ext. Turn, any Split-S or Immelman |
| AIM-7E Spar., AA-7A Apex | 8+ 4 - 20 | 11+ 6 - 40 | 10+ 12 - 80 | 1-3 | 5 / 7 | No launch after Ext. Turn, any Split-S or Immelman |
| AA-6A | 9+ 4 - 30 | 12+ 6 - 60 | 11+ 12 - 120 | 1-3 | 5 / 8 | |
| AIM-7E2, AA-10A, Super R530F | 8+ 3 - 20 | 10+ 5 - 40 | 10+ 12 - 80 | 1-3 | 5 / 7 | |
| AIM-7F Sparrow, | 8+ 4 - 40 | 10+ 6 - 80 | 9+ 12 - 160 | 1-2 | 5 / 7 | |
| AIM-7M Sparrow | 7+ 4 - 40 | 10+ 6 - 80 | 9+ 12 - 160 | 1 | 6 / 8 | |

MODIFIERS

| GENERAL MODIFIERS | SPECIFIC IRM MODIFIERS | SPECIFIC RHM MODIFIERS |
|---|--|---|
| +/- n Crew Skill Difference -1 Target Taking Evasive Action -1 Target at Lower Altitude | +2 Target Used Afterburner this Turn -4 Target Up Sun from Attacker -1 / -2 Target at Maximum / Min Range +1 Lock-on with Dogfight Avionics | -n Target ECM Rating -1 Target < 11 Hex Range -1 Target Lower at TAL 3 or TAL 2 SURFACE LOW CAB -2 Target Lower at TAL 1 SURFACE LOW CAB |

AIR-TO-AIR and SURFACE-TO-AIR MISSILE RULES

Direct Hit: If modified die roll is 2+ more than the to-hit "n" number then use damage dice to the right of slash.

Evasive Action: Target must pass an Awareness Check upon missile launch to identify threat. If successful, the target may elect to execute evasive action and use the defensive modifier (-1) against the incoming missile(s) but then must commit to making an Extreme Turn or Special Maneuver in the next move bringing its nose closer (both in alt and distance) to the firing platform. If there is *more than one attacking missile*, resolve each attack separately including evasive action threat identification; take evasive action based on the last missile attack resolved (from the greater distance). *Half or Full-Load* aircraft must immediately drop ordnance to execute. Aircraft that have declared firing at the start of the Air-to-Air Fire Segment may not take evasive action.

Missile Vertical Envelope: TAL up/down envelope = Hex Range / 2, round up.

IR Missile Close Targeting: If other aircraft are within 3-hexes of the target of an IR Missile, within missile envelope (alt and range), and present the same or better target profile to the shooter (rear is best - front is worst) randomly select actual target.

ECM Limits: ECM is effective against all attacking RHM and RHS unless otherwise noted in the scenario.

GUNS AIR-TO-AIR FIRE SUMMARY (B5.7)

| RANGE & BASE TO-HIT (2d6) | MODIFIERS |
|---------------------------------|--|
| 1 hex = 5+ (POINT BLANK) | +/- n: Crew Skill Difference +/- n: Agility Difference -2*: Head-to-head or Deflection Shot -1: Extreme Shot (+/-2 TAL) +2: Target Speed Zero (0) -1 / -2 / -3: Low / V. Low / Ex. Low ROF Cannon *-1 Adv. Gunsight w/ Deflection shot *+0 Dogfight Avi. w/ Deflection shot |
| 2 hexes = 6+ (CLOSE) | |
| 3 hexes = 7+ (SHORT) | |
| 4-6 hexes = 9+ (MEDIUM) | |
| 7-10 hexes = 11+ (LONG) | |

CHECK AMMUNITION: If DOUBLES rolled to-hit, consult the **AMMUNITION DEPLETION TABLE**

AMMUNITION DEPLETION TABLE (B5.7)

| | ALL | RC/CANNON | HVY CANON |
|--------------|-----|-----------|-----------|
| ACE (+3) | 6 | 4+ | 3+ |
| VETERAN (+2) | 5+ | 3+ | 2+ |
| SKILLED (+1) | 4+ | 2+ | auto |
| GREEN (+0) | 3+ | auto | auto |

■ aircraft out of ammunition type if DOUBLES of noted number rolled in To-Hit roll
 ■ auto = automatically out of ammunition for weapon

GUN FIREPOWER & RANGE SUMMARY

| WEAPON | DMG DIE | MAX RNG | NOTES |
|--------------------|---------|---------|--|
| LMG | d4 | 6 | |
| HMG | d6 | 10 | |
| LVC | d10 | 6 | -2 at Medium Range |
| MC | d10 | 10 | |
| LVHC | d20 | 6 | -2 at Medium Range Some Low / VL / EL ROF |
| LRHC | d20 | 10 | Some Low / VL / EL ROF |
| Rotary Cannon (RC) | 2x d20 | 10 | As Cannon for ammo depletion |

ROBUSTNESS TABLE (B6.2)

| | | ATTACKING FIREPOWER (TOTAL) | | | | | | | | |
|--------|----|-----------------------------|-----|-----|------|-------|-------|-------|-------|-----|
| | | <1 | 1-2 | 3-5 | 6-10 | 11-15 | 16-20 | 21-25 | 26-30 | 31+ |
| TARGET | R0 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 12 |
| | R1 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| | R2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
| | R3 | - | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| | R4 | - | - | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

MODIFIERS

(GUNS ONLY) COLUMN SHIFT
Right - ≤3 hex Range, Special Weapon (cumulative)
Left - ≥7 hex Range, Special Armor (cumulative)

CRITICAL DAMAGE: robustness roll critically failed
LMG: 5+ lower than "n" factor destroyed
HMG, Light AA, IRS-MP: 4+ lower than "n" factor destroyed
IRM & RHM, LVC, MC, RC, IRS/OGS or M/H AA: 3+ lower than "n" factor destroyed
RHS, LVHC, LRHC: 2+ lower than "n" factor destroyed

DAMAGE NUMBER: # or > on 2d6 to prevent damage

DAMAGE EFFECT

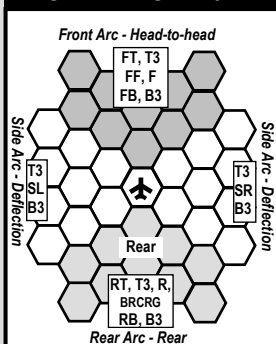
ENGINE DAMAGE (Even) JET // PROP

- 4 // -2 to Max Speed (min 1); No ABurner
- Crew Check to Climb: *failure* = OOC
- Climb Factor reduced to 1/4 // 1/2
- 1 to all Checks

AIRFRAME DAMAGE (Odd)

- 1 Agility
- Crew Check to Special Maneuver or Extreme Turn: *failure* = Destroyed
- 1 to all Checks

AIRCRAFT ARC DIAGRAM





PLAY SEQUENCE (B Intro)

TAILING DECLARATION PHASE (simultaneous)

MOVE PLOTTING PHASE (simultaneous)

- **Formation Status Segment:** Break-up/Drop-out of formation

MOVEMENT PHASE (in Move Group order)

- **Move Segment:** execute move in Move Group order with Pilot Reaction; then make final speed & altitude adjustments
 - **Move Group 1:** OOC, Bmbrs, Helos, Green (+0)
 - **Move Group 2:** Skilled (+1) crew
 - **Move Group 3:** Veteran (+2) crew
 - **Move Group 4:** Ace (+3) crew

| Group Priority | |
|--------------------|--|
| A) Tailed Aircraft | |
| B) "Up Sun" | |
| C) Lower Altitude | |
| D) National Order | |

DETECTION PHASE (simultaneous)

- **Radar Search & Visual Spotting Segment:** attempt to detect hidden aircraft using *radar search* and *visual spotting*

FIRE PHASE (simultaneous within each segment)

- **Anti-Aircraft Fire Segment:** fire SAMs, AAA batteries
 - **Lock-on:** resolve SAM lock-on
 - **SAM Fire:** resolve SAM missile fire
 - **Anti-Aircraft Artillery (AAA) Gunfire:** resolve surface-to-air gunfire
- **Air-to-Air Fire Segment**
 - **Lock-on:** resolve air-to-air lock-on
 - **Declare Firing and Targets**
 - **Missile Fire:** resolve missile fire
 - **Air-to-Air Gunfire:** resolve air-to-air gunfire
- **Surface Attack Segment:** resolve surface attacks

SAM MISSILE SUMMARY (C4.0)

| MISSILE TYPE | MISSILE BASE TO HIT AND MIN/MAX RANGE | | | DMG DICE | RADAR DIE | CAB LIMIT |
|--------------------|---------------------------------------|--------------|--------------|----------|-----------|--------------|
| | REAR TRGT | SIDE TARGET | FRONT TARGET | | | |
| SA-7 (MP) | 9+ 2 - 8 | No | No | 2 / 3 | n/a | S.LOW only |
| SA-14/Stinger (MP) | 8+ 1 - 10 | 11+ 2 - 20 | 12+ 3 - 40 | 3 / 4 | n/a | S.LOW only |
| SA-9 | 8+ 3 - 15 | 10+ 5 - 30 | 11+ 9 - 60 | 3 / 4 | n/a | < MEDIUM |
| Rapier | 8+ 1 - 12 | 11+ 2 - 24 | 10+ 3 - 48 | 4 / 5 | n/a | < MEDIUM |
| SA-2 (OG) | 10+ 12 - 50 | 12+ 18 - 80 | 11+ 36 - 80 | 4 / 8 | n/a | < MEDIUM |
| Tiger/Sea Cat | 9+ 2 - 12 | 11+ 3 - 24 | 10+ 4 - 48 | 3 / 4 | n/a | < MEDIUM |
| SA-2 B/C | 9+ 14 - 38 | 11+ 22 - 75 | 10+ 44 - 150 | 4 / 8 | d6 | TAL 4 S.LOW+ |
| SA-2D | 9+ 12 - 50 | 11+ 18 - 100 | 10+ 36 - 200 | 4 / 8 | d6 | TAL 3 S.LOW+ |
| SA-2F | 9+ 12 - 50 | 11+ 18 - 100 | 10+ 36 - 200 | 5 / 8 | d6 | TAL 3 S.LOW+ |
| SA-3B | 9+ 10 - 35 | 11+ 15 - 70 | 10+ 30 - 140 | 4 / 7 | d6 | all |
| SA-8A | 8+ 5 - 25 | 10+ 8 - 50 | 9+ 15 - 100 | 4 / 5 | d8 | < MEDIUM |
| SA-6, Hawk | 8+ 5 - 35 | 10+ 7 - 70 | 9+ 15 - 140 | 6 / 7 | d8 | all |

MODIFIERS

| GENERAL MODS | SPECIFIC IRS / OGS MODS | SPECIFIC RHS MODIFIERS |
|-----------------------------|--------------------------------------|------------------------------------|
| +/- n Crew Skill Difference | +2 Target Used Afterburner this Turn | -n Target ECM Rating |
| -1 Tgt Evasive Action | -4 Target Up Sun from Attacker | -1 Target TAL3 or TAL 2 S. LOW CAB |
| | -1 / -2 Target at Max / Min Range | -2 Target at TAL1 S. LOW CAB |
| | -1 Target Spd ≥ 6 (OG/IRS-MP only) | |

IRS/OGS Procedure: Fire in *Anti-Aircraft Fire Segment* of same turn for any non-hidden aircraft.
RHS Procedure: Lock-on to target, fire next turn if still locked -or- Lock-on and Fire fires in same turn.
Direct Hit: If modified die roll is 2+ more than the to-hit "n" number then use damage dice to the right of slash.
Low Alt: Max range is 3 hexes if the target is at TAL 1 in S. LOW CAB over rough/uneven land.
Malfunction: SAMs always malfunction on a roll of "1".

ANTI-AIRCRAFT ARTILLERY (AAA) SUMMARY (C3.0)

| AA TYPE | TO-HIT | MAX RANGE | DMG DICE | CAB LIMITS |
|------------------|---------------------------|-----------|----------|--------------|
| LIGHT (to 37mm) | 11* / 12 | 5 hexes | 6d6 | S LOW |
| MEDIUM (38-70mm) | 10* / 11+ | 10 hexes | 4d10 | S LOW & LOW |
| HEAVY (71mm+) | 11* / 12 (1 hex blast) | Unlimited | 2d20 | LOW - V HIGH |

MODIFIERS

+1 Radar Directed Guns (scenario specified)

*NEAR-MISS: half number of Damage Dice, optional Extreme Turn

Low Alt: Max range is 3 hexes if the target is at TAL 1 in S. LOW CAB over rough/uneven land
LIGHT & MEDIUM AAA:

- Pick a target, roll to-hit per battery firing, roll for damage and robustness as normal

HEAVY AAA:

- Heavy AA at MED-V.HIGH CAB must pick **Target Hex** in advance; 1 turns for MEDIUM CAB, 2 turns for HIGH CAB, 3 turns for VERY HIGH CAB and above

- **Blast** affects all aircraft in Target Hex and one hex adjacent to Target Hex

AAA MISDIRECTION

If double "1" or double "2" rolled to-hit, fire directed at closest friendly aircraft in range of AA Battery

VISUAL/RADAR SEARCH, LOCK-ON & AWARENESS

| ACTION | TARGET ALTITUDE | DIE ROLL TOTAL | | |
|--|-----------------|-------------------------|-------------|-------------|
| | | 8 - 9 | 10 - 11 | 12+ |
| Visual Search <i>2d6+skill</i> | ▲ / = | F + S | F + S + R | F + S + R |
| | ▼ | F | F + S | F + S + R |
| Radar Search <i>d6+dRad+skill</i> | ▲ / = | F | F + S | F + S |
| | ▼ | none | F | F + S |
| Lock-on <i>d6+dRad+skill</i> | ▲ / = | Lock-on | Lock & Fire | Lock & Fire |
| | ▼ / FT | none | Lock-on | Lock & Fire |
| Awareness Check <i>d6+dDefSys+skill</i> | | Detect* | Detect | Detect |
| | | (*none if PVA rear arc) | | |

▼=TARGET BELOW; ▲=TARGET ABOVE FT= FRIENDLY AC W/IN 6 HEXES OF TARGET
 none = NO DETECTION (roll total <8 = "none") F=FRONT ARC; S= SIDE ARC; R=REAR ARC

RADAR RULES

- **RADAR SEARCH:** Radar detects Hidden Aircraft in *Radar Search & Visual Spotting Segment*.
- **RADAR ARCS:** Aircraft use arcs specified above for Radar Searches; Lock-on is only possible in the front arc. Each radar has a maximum detection distance (in hexes) listed in the Aircraft stats or scenario. Aircraft radars detect TAL up/down = ½ hex range (round up).
- **LOCK-ON:** Spotting platform must "Lock-on" to one target in its front arc prior to launch of RH Missiles. The target is Locked-on until it flies off the board or flies out of the locking platform's front arc. Lock-on is also lost if the locking aircraft executes an extreme turn/special maneuver, is out of control, or the locking platform is damaged. While Locked-on a target the spotter may not attempt *Radar Searches*.
- **LOCK-ON AND FIRE:** The locking aircraft has SAM or may fire RH missiles immediately.
- **GROUND RADARS:** Ground radars have 360° arcs and are assumed to be at TAL 1.
- **RWR:** Target is informed of radar Lock-on if it has a RWR.

VISUAL SPOTTING RULES

- ½ **SPOTTING RANGE:** target in spotter rear arc and/or target at TAL 1-3 SURFACE LOW CAB and below spotter or at the same altitude.
- ¼ **SPOTTING RANGE:** targets below and in spotter rear arc.
- **POOR VISIBILITY AIRCRAFT (PVA):** ½ spotting range for targets in spotter rear arc; targets in rear arc and below may not be spotted. Awareness check passed on 10+ in rear arc.
- **Radar Malfunction (Radar Search Check only):** if double 1s are rolled.

LOADED AIRCRAFT RULES (B3.11)

- **HALF-LOAD:** -1 Agility, -1 off Maximum Speed, ½ Climb Factor. Aircraft moderately laden with weapons and/or drop-tanks.
- **FULL-LOAD:** +0 Agility, Lx acceleration, -2 off Maximum Speed, ½ Climb Factor. Aircraft heavily laden with weapons and/or drop-tanks.

LUCKY HIT TABLE (B6.3)

| DICE ROLL | LMG / HMG / IRS-MP | CANNON / IRM / RHM / SAM / AAA |
|-----------|---|--|
| 2 | Pilot Killed - Plane Crashes | Pilot Killed-Aircraft Crashes |
| 3 | Pilot Wounded-Crew Check to save aircraft; pass plane must abort, fail and plane crashes | Pilot Killed-Aircraft Crashes |
| 4 | Missile/Gun Damaged + *B + *R -Half (random) of aircraft weapons are inoperable for the rest of game | Targeting Damaged + *O + *B-Aircraft must fire with a -2 to-hit modifier for remainder of the game |
| 5 | Rudder Jam + *E + *R-Aircraft must do right turn next turn; check for OUT-OF-CONTROL | Rudder Jam + *E + *R + *A-Aircraft must do right turn next turn; check for OUT-OF-CONTROL |
| 6 | Elevator Damaged + *D + *A-Aircraft must Steep Dive in following turn and may not Special Maneuver, or extreme turn for rest of mission | Elevator Damaged + *D + *A -Aircraft must Steep Dive in following turn and may not Special Maneuver, or extreme turn for rest of mission. |
| 7 | Fire-Aircraft on fire, take Crew Check at start of next move to stop fire. If not stopped aircraft is damaged (roll randomly to determine type) | Heavy Fire + *P-Aircraft on fire, take CC with -1 at start of next move to stop fire. If not stopped aircraft is damaged (roll randomly to determine type) |
| 8 | Engine Problems + *D + *H-Aircraft may only move at half speed (round down) for remainder of mission | Engine Problems + *H + *R-Aircraft may only move at half speed (round down) for remainder of mission |
| 9 | Wing Problems + *O-No special maneuvers for remainder of mission; check for OUT-OF-CONTROL | Fuel Leak + *D + *R- Aircraft must fly forward until Crew Check passed on a subsequent move |
| 10 | Fuel Leak + *P + *R-Must fly forward until Crew Check passed. Next hit destroys aircraft. | Engine Critical + *A-Aircraft may only move at speed 1 for rest of mission. Next hit destroys AC. |
| 11 | Serious Fuel Leak + *P + *A -Roll Crew Check to prevent tank leak. If failed, next hit destroys aircraft. | Wing Problems-No special maneuvers for remainder of mission; check for OUT-OF-CONTROL |
| 12 | Fuel Tank Explodes + *D + *E-Plane destroyed | Fuel Tank Explodes + *D + *E-Plane destroyed |

LUCKY HIT ADDITIONAL DAMAGE

- *A = Afterburner Damaged - The aircraft may not use afterburner for the remainder of the mission.
- *B = Pilot Blackout - The aircraft must make random movements until Crew Check passed (check at start of subsequent moves). Roll d6 for aircraft move where "x" is the current aircraft speed: on 1-2 aircraft executes an Lx2 turn, on 3-4 an Rx2 turn, on 5-6 it moves directly forward. Aircraft flies Level Flight Maneuver on odd roll and Dive Maneuver on even roll. If Dive, the aircraft must increase all speed possible.
- *D = Debris - The nearest aircraft within 3 hexes (if any) in the target's tail arc and at the same TAL or 1 TAL lower immediately suffers a hit with firepower of 2d6 (as if from HMG fire) due to debris from weapons impact.
- *E = Possible Ordnance Explosion - Roll a d6 if loaded with heavy weapons (bombs, rockets, torpedoes); on 1-3 the weapons explode. If an explosion occurs, any aircraft within 2 hexes must roll on the Lucky Hit table Cannon column.
- *H = Crew Heroic - Take a Crew Check; if passed the aircrew has been inspired by events in the battle, from this point forward firing is one Crew Skill level better and Ammunition Depletion is one level worse.
- *O = Oxygen System Hit - Roll a d6 if flying at MEDIUM-TOP CAB or above; on 1-3 the oxygen system malfunctions. The aircraft must immediately attempt to exit the board by dive no matter if it is a friendly edge or not.
- *P = Crew Panic - No firing until Crew Check passed at start of a subsequent move.
- *R = Radar, Defensive Systems and RWR Destroyed - Aircraft's Radar, Defensive Systems and Radar Warning Receiver are destroyed. Aircraft may not launch RH missiles.