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

<table>
<thead>
<tr>
<th>MISSILE TYPE</th>
<th>REAR TARGET</th>
<th>SIDE TARGET</th>
<th>FRONT TARGET</th>
<th>MAL-FUNCTION d10</th>
<th>Dmg Dice d10</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>AIM-9B Sidewinder, AA-2 Atoll</td>
<td>7+ 3 – 10</td>
<td>No</td>
<td>No</td>
<td>1-3</td>
<td>3 / 5</td>
<td>No launch after Ext. Turn, any Split-S or Immelman</td>
</tr>
<tr>
<td>AIM-9D Sidewinder</td>
<td>6+ 3 – 12</td>
<td>No</td>
<td>No</td>
<td>1-2</td>
<td>4 / 6</td>
<td>No launch after Ext. Turn, any Split-S or Immelman</td>
</tr>
<tr>
<td>AIM-9E Sidewinder</td>
<td>7+ 3 – 10</td>
<td>No</td>
<td>No</td>
<td>1-2</td>
<td>3 / 5</td>
<td>No launch after Ext. Turn, any Split-S or Immelman</td>
</tr>
<tr>
<td>AIM-9G/H Sidewinder</td>
<td>6+ 3 – 12</td>
<td>9+ 5 – 24</td>
<td>No</td>
<td>1-2</td>
<td>4 / 6</td>
<td>*AIM-9P has minimum range 3 vs. Rear Tgt</td>
</tr>
<tr>
<td>AIM-9P, AA-8, R.550 Magic</td>
<td>6+ 2* – 12</td>
<td>9+ 5 – 24</td>
<td>No</td>
<td>1-2</td>
<td>3 / 5</td>
<td>*AIM-9P has minimum range 3 vs. Rear Tgt</td>
</tr>
<tr>
<td>AA-6B</td>
<td>6+ 6 – 15</td>
<td>No</td>
<td>No</td>
<td>1-2</td>
<td>5 / 8</td>
<td></td>
</tr>
<tr>
<td>AA-7B Apex</td>
<td>6+ 6 – 15</td>
<td>10+ 9 – 30</td>
<td>No</td>
<td>1-2</td>
<td>4 / 7</td>
<td></td>
</tr>
<tr>
<td>AIM-5J, AA-2D, Shafrir 2</td>
<td>6+ 2 – 10</td>
<td>No</td>
<td>No</td>
<td>1-2</td>
<td>3 / 5</td>
<td></td>
</tr>
<tr>
<td>AIM-5L/M, AA-6B, Python 3</td>
<td>5+ 2 – 18</td>
<td>8+ 3 – 36</td>
<td>10+ 6 – 72</td>
<td>1</td>
<td>4 / 6</td>
<td></td>
</tr>
<tr>
<td>AIM-7D Sparrow, R530A</td>
<td>9+ 6 – 15</td>
<td>12+ 9 – 30</td>
<td>11+ 18 – 60</td>
<td>1-4</td>
<td>5 / 7</td>
<td>No launch after Ext. Turn, any Split-S or Immelman</td>
</tr>
<tr>
<td>AIM-TE Spar., AA-7A Apex</td>
<td>8+ 4 – 20</td>
<td>11+ 6 – 40</td>
<td>10+ 12 – 80</td>
<td>1-3</td>
<td>5 / 7</td>
<td>No launch after Ext. Turn, any Split-S or Immelman</td>
</tr>
<tr>
<td>AA-6A</td>
<td>9+ 4 – 30</td>
<td>12+ 6 – 60</td>
<td>11+ 12 – 120</td>
<td>1-3</td>
<td>5 / 8</td>
<td></td>
</tr>
<tr>
<td>AIM-7E2, AA-10H, Super R530F</td>
<td>9+ 3 – 20</td>
<td>10+ 5 – 40</td>
<td>10+ 12 – 80</td>
<td>1-3</td>
<td>5 / 7</td>
<td></td>
</tr>
<tr>
<td>AIM-7F Sparrow</td>
<td>8+ 4 – 40</td>
<td>10+ 6 – 80</td>
<td>9+ 12 – 160</td>
<td>1-2</td>
<td>5 / 7</td>
<td></td>
</tr>
<tr>
<td>AIM-7M Sparrow</td>
<td>7+ 4 – 40</td>
<td>10+ 6 – 80</td>
<td>9+ 12 – 160</td>
<td>1</td>
<td>6 / 8</td>
<td></td>
</tr>
</tbody>
</table>

**MODIFIERS**

**GENERAL 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

**SPECIFIC IRM MODIFIERS**

- +/– n: Agility Difference
- -1: Head-to-head or Deception Shot
- +1: Extreme Shot (+2 TAL)
- +2: Target Speed Zero (0)
- -1 / -2 / -3: Low / V. Low / Ex. Low ROF Cannon

**SPECIFIC RHM MODIFIERS**

- -1: 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 altitude 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 ordinance 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 upright 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.

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

**MODIFIERS**

- +/- n: Crew Skill Difference
- +/- n: Agility Difference
- -2*: Head-to-head or Deflection Shot
- +1: External Gunpod(s)
- +2: Low Velocity Weapon at 4+ hexes.
- -1 / -2 / -3: Low / V. Low / Ex. Low ROF Cannon

**AMMUNITION DEPLETION TABLE** (B5.7)

**ROBUSTNESS TABLE** (B6.2)

**ATTACKING FIREPOWER (TOTAL)**

- **(GUNS ONLY) COLUMN SHIFT**
  - Right: 5+ hex Range, Special Weapon (cumulative)
  - Left: 1/2 hex Range, Special Armor (cumulative)

**FIREPOWER (TOTAL)**

- **Engine Damage (Even) / Jet/Prop**
  - +4 / +2 to Max Speed (min 1); No ABurner
  - Crew Check to Climb: failure = OOC
  - Climb Factor reduced to ⅔ // ⅓
  - +1 to all Checks

**CRITICAL DAMAGE:** robustness roll critically failed

- LMG: ≤ 5+ lower than “n” factor destroyed
- IRM & RHM, LVC, MC, RC, IRS/OGS or MH AA: < 3+ lower than “n” factor destroyed
- RHS, LVHC, LRHC: > 2+ lower than “n” factor destroyed

**DAMAGE NUMBER:** # or > on 20d6 to prevent damage

---

**ROBUSTNESS TABLE** (B6.2)

<table>
<thead>
<tr>
<th>TARGET</th>
<th>-1</th>
<th>-2</th>
<th>3-5</th>
<th>6-10</th>
<th>11-15</th>
<th>16-20</th>
<th>21-25</th>
<th>26-30</th>
<th>31+</th>
</tr>
</thead>
<tbody>
<tr>
<td>R0</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>R1</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>R2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>10</td>
<td>11</td>
</tr>
<tr>
<td>R3</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>R4</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
</tr>
</tbody>
</table>

**DAMAGE EFFECT**

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

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**MISSILES**

- AIM-9B Sidewinder, AA-2 Atoll
- AIM-9D Sidewinder
- AIM-9E Sidewinder
- AIM-9G/H Sidewinder
- AIM-9P, AA-8, R.550 Magic
- AA-6B
- AA-7B Apex
- AIM-5J, AA-2D, Shafrir 2
- AIM-5L/M, AA-6B, Python 3
- AIM-7D Sparrow, R530A
- AIM-TE Spar., AA-7A Apex
- AA-6A
- AIM-7E2, AA-10H, Super R530F
- AIM-7F Sparrow
- AIM-7M Sparrow
PLAY SEQUENCE (B Intro)

TAILING DECLARATION 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, Bombs, Helos, Green (+6)
  - Move Group 2: Skilled (+1) crew
  - Move Group 3: Veteran (+2) crew
  - Move Group 4: Ace (+3) crew

DETECTION PHASE (simultaneous)
- Radar Search & Visual Spotting Segment: attempt to detect hidden aircraft and set up visual spotting

FIREFIGHT (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
  - Air-to-Air Firing & Targets
    - Missile Fire: resolve missile fire
    - Air-to-Air Gunfire: resolve air-to-air gunfire
- Surface Attack Segment: resolve surface attacks

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

<table>
<thead>
<tr>
<th>AA Type</th>
<th>To-Hit</th>
<th>MAX RANGE</th>
<th>Dmg Dice</th>
<th>Cab Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIGHT</td>
<td>11&quot; / 12 5 hexes</td>
<td>5d6</td>
<td>S LOW</td>
<td></td>
</tr>
<tr>
<td>MEDIUM</td>
<td>10&quot; / 11 10 hexes</td>
<td>4d10</td>
<td>S LOW &amp; LOW</td>
<td></td>
</tr>
<tr>
<td>HEAVY</td>
<td>11&quot; / 12 (1 hex blast) Unlimited</td>
<td>2d20</td>
<td>LOW – V HIGH</td>
<td></td>
</tr>
</tbody>
</table>

MODIFIERS
- *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

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

Lucky Hit Table (B6.3)

<table>
<thead>
<tr>
<th>Dice Roll</th>
<th>LMG / HMG / IRS-MP</th>
<th>CANNON / IRM / RHM / SAM / AAA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pilot Killed – Plane Crashes</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Pilot Wounded– Crew Check to save aircraft; pass plane must abort, fail and crashes</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Missed Fire - All occupants of aircraft weapons are injured for the rest of game</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Rudder Jam + E – SAM must do right turn next turn; check for OUT-OF-CONTROL</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Elevator Damaged + D – Aircraft may not fly in follow-up turn</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Fire/Air on fire, take crew Check at start of next move to stop fire. If stopped aircraft is damaged roll randomly to determine type</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Engine Problems + D – Aircraft may only move at half speed (round down) for remainder of mission</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Wing Problems + O – No special maneuvers for remainder of mission; check for OUT-OF-CONTROL</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Fuel Leak + D – Aircraft must fly toward until Crew Check passed on subsequent move</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Serious Fuel Leak + P – Roll Crew Check to prevent tank leak; if failed, next hit destroys aircraft</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Fuel Tank Explos + D – Plane destroyed</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Fuel Tank Explos + D – Plane destroyed</td>
<td></td>
</tr>
</tbody>
</table>

Quick Reference Chart (ORC) Page 2

SAM MISSILE SUMMARY (C4.0)

<table>
<thead>
<tr>
<th>MISSILE TYPE</th>
<th>REAR TARGET</th>
<th>SIDE TARGET</th>
<th>FRONT TARGET</th>
<th>Dmg Dice</th>
<th>RADAR DIE</th>
<th>CAB LIMIT</th>
</tr>
</thead>
<tbody>
<tr>
<td>SA-7 (MP)</td>
<td>8+ – 2</td>
<td>11+ – 20</td>
<td>12+ – 30</td>
<td>3 / 4</td>
<td>n/a</td>
<td>S. LOW only</td>
</tr>
<tr>
<td>SA-14/Sinter (MP)</td>
<td>8+ – 10</td>
<td>11+ – 20</td>
<td>12+ – 30</td>
<td>3 / 4</td>
<td>n/a</td>
<td>S. LOW only</td>
</tr>
<tr>
<td>Rapier</td>
<td>8+ – 1 – 12</td>
<td>11+ – 2 – 24</td>
<td>10+ – 3 – 48</td>
<td>4 / 5</td>
<td>n/a</td>
<td>&lt; MEDIUM</td>
</tr>
<tr>
<td>SA-2 (OG)</td>
<td>10+ – 12</td>
<td>12+ – 18</td>
<td>10+ – 28</td>
<td>4 / 6</td>
<td>n/a</td>
<td>&lt; MEDIUM</td>
</tr>
<tr>
<td>Tiger/Seadragon</td>
<td>12+ – 22</td>
<td>11+ – 3 – 24</td>
<td>10+ – 4 – 48</td>
<td>3 / 4</td>
<td>n/a</td>
<td>&lt; MEDIUM</td>
</tr>
<tr>
<td>SA-2D</td>
<td>12+ – 50</td>
<td>11+ – 18</td>
<td>10+ – 36</td>
<td>4 / 6</td>
<td>d6</td>
<td>TAB 3+L+B+</td>
</tr>
<tr>
<td>SA-2F</td>
<td>12+ – 50</td>
<td>11+ – 18</td>
<td>10+ – 36</td>
<td>5 / 8</td>
<td>d5</td>
<td>TAB 3+L+B+</td>
</tr>
<tr>
<td>SA-3B</td>
<td>10+ – 35</td>
<td>11+ – 17</td>
<td>10+ – 30</td>
<td>4 / 7</td>
<td>d7</td>
<td>all</td>
</tr>
<tr>
<td>SA-6-Hawk</td>
<td>11+ – 5</td>
<td>10+ – 5</td>
<td>9+ – 15</td>
<td>6 / 7</td>
<td>d8</td>
<td>all</td>
</tr>
</tbody>
</table>

MODIFIERS

GENERAL MODS
- +/- n Crew Skill Difference
- -1 Tgt Evasive Action

SPECIFIC IRS / OGS MODS
- +2 Target Used Aftbreaker this Turn
- -4 Target Up Sun from Attacker
- -1 / -2 Target at Max / Min Range
- -1 Target Spd 6 (OG/IRS-MP only)

SPECIFIC OGS MODS
- -n ECM Rating

VISUAL/RADAR SEARCH, LOCK-ON & AWARENESS

<table>
<thead>
<tr>
<th>ACTION</th>
<th>TARGET ALTITUDE</th>
<th>DIE ROLL TOTAL</th>
</tr>
</thead>
</table>
| Visual | 8 – 9 | \( \Delta = - F + S \)
| Search | \( \nabla = F + S + R \)
| Lock-on | \( \nabla = - F + S + R \)
| Radar | \( \nabla = - F + S + R \)
| Lock & Fire | \( \nabla = - F + S + R \)

Awareness Check
- Detect* (none if PVA rear arc)
- Detect
- Detect

LOADED AIRCRAFT RULES (B.31)

- Half-Load: -1 Agility, -1 off Maximum Speed, ½ Climb Factor. Aircraft moderately laden with weapons and/or drop-tanks.
- Full-Load: +0 Agility, + Alex acceleration, -2 off Maximum Speed, ½ Climb Factor. Aircraft heavily laden with weapons and/or drop-tanks.

Lucky Hit Additional Damage

- * = Attacker Damaged – the aircraft may not use afterburner for the remainder of the mission.
- # = Pilot Blackout – The aircraft must make random movements until Crew Check passed (check at start of subsequent moves). Roll d6 for aircraft move where 1s is the current aircraft speed; on 1-2 aircraft executes an L2 turn, on 3-4 an L3; 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.
- - = Debris – The nearest aircraft within 3 hexes (if any) in the target's tail arc 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.
- @ = Possible Ordinance Explosion – Roll d10 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.
- = 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.
- % = Crew Panic – No firing until Crew Check passed at start of subsequent move.
- = Radar, Defensive Systems and WVR Destroyed – Aircraft’s Radar, Defensive Systems and Radar Warning Receiver are destroyed. Aircraft may not launch RH missiles.

* SPECIFIC IRS / OGS MODS
* PLAY SEQUENCE
* MOVEMENT PHASE
* DETECTION PHASE
* FIRE PHASE
* ANTI-AIRCRAFT ARTILLERY (AAA) SUMMARY
* MODIFIERS
* QUICK REFERENCE CHART (ORC)
* SAM MISSILE SUMMARY
* RADAR RULES
* VISUAL SPOTTING RULES
* LOADED AIRCRAFT RULES

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