

Harpoon V Errata

Page 3-1, add this text to the end of 3.1.1.

"Speed changes ordered in the Plotting Phase of a Tactical Turn happen immediately. For example, if a Fast A-sized ship at 20 knots is ordered to increase speed to 30, its acceleration of 6 knots means that it will move at a speed of 26 knots in the upcoming Movement Phase.

Players can ignore acceleration and deceleration in movement for Intermediate Turns."

Page 4-2, section 4.5.2 Very Low Flight, in the fifth paragraph, change "This must be rolled each Tactical Turn." to "This must be rolled each Movement Increment. The player must plot which Move Increments during a Tactical Turn an aircraft will use VLow flight. The chance is shown on the Very Low/NOE Crash table."

Page 4-5, the example in section 4.7.6 is incorrect. Please change it to:

"Example: A jet fighter will fly 200 nmi to its target. It will fly 150 nmi cruising at High altitude, then 25 nmi at Low altitude to avoid radar and then the last 25 nmi at full power because it can't avoid that part of the radar coverage. It will return at cruise speed at High altitude.

It's best to break up the route into legs:

Leg 1: Fly 150 nmi High@cruise = 150 nmi

Leg 2: Fly 25 nmi Low@cruise = x2 (altitude) = 50 nmi

Leg 3: Fly 25 nmi Low@FMP = x2 (alt), x3 (FMP) = 150 nmi

Leg 4: Fly 200 nmi back High@cruise = 200 nmi

Mission range: $150 + 50 + 150 + 200 = 550$ nmi is required, although the distance there and back is only 400 nmi.

The plane has a Cruise range of 400 nmi, but it can carry two drop tanks, which add 100 nmi each, which means it can now fly the mission."

If read quickly, the example could mean the low leg of 50 nmi was followed by a low, fast leg of 25 nm. This is not correct.

Page 5-4, section 5.2.8 Radar Line of Sight, in the second paragraph, on the next to last line, change "65 nmi" to "60 nmi."

Pg 5-5, right column, 1st para, 2nd line

Replace: Wind speeds greater than 20 knots are too...

With: Wind speeds greater than 30 knots are too...

Pg 5-5, right column, Modifiers

Add: Wind speeds ≤ 10 knots: -20

Pg 5-6, left colum, Surface Duct Probability Table

Change: Summer probability from 30% to 20%

Pg 5-6, left column, Surface Duct Probability Table modifiers

Change: Hot climate locations: +20% to Hot climate locations: +10%

Change: Cold climate locations: -20% to Cold climate locations: -10%

Pg 5-6, right column, 7th para

Replace paragraph with:

Russian targeting complexes (“SS-T” type systems) have very fine bearing resolution that improves their ability to detect radar emitters from further away. Their ES multipliers against different radar types are increased by the following modifiers.

Long Range AS radars (150 nmi or more): +0.7

Medium Range AS radars (<150 nmi): +0.4

LAS/Surface Search radars: +0.3

All radars are more detectable in a ducted environment as at least some of the RF energy gets trapped in a duct. Thus, atmospheric ducting effects will also apply to ES system ranges (see 5.2.9.5).

Page 5-8, in the sidebar on sonar frequency bands in Harpoon, In the third paragraph, the frequency band used by a sonar for active search will not be bolded, but marked with a superscript “a.” For example, For example, an LM-Fa-MF sonar can listen in the LMF and MF frequency bands but transmits only in the LMF band.

Page 5-8, in the section on 5.4.2 towed arrays, in the fifth paragraph (active towed arrays), on the fifth line, change “5.2.4.1” to “5.4.2.1.”

Page 5-13 and 14, section 5.4.6.2 Passive sonar detection. Change the last sentence in the first paragraph (on 5-14) from "The maximum modified probability of detection is 95%." to "The maximum modified probability of detection is 90%."

Page 5-25, in section 5.8 Visual detection, delete the last paragraph, beginning with “Formations of aircraft...”

Page 6-1, section 6.1 Combat systems. In the second line, change "ship" to “platform.” In the fourth line, change “ship” to "unit." The kill chain applies to aircraft launching missiles, as well as ships and subs.

Page 6-2 Fire Control Solutions Tables, in the section for RF Solution Modifiers (on the right), under the lines for Passive Mod and Active mod, add a line: “Combat aircraft have a combat system modifier of zero.”

In the same section, add the modifier “Information passed by a data link: +1”

Pg 6-5, left column, 6.3.3 Cross-fix, 1st para

Add at the end: A cross-fix requires participating ships to have at least near-real time data links.

Pg 6-5, left column, 6.3.3 Cross-fix, 2nd – 4th paras

Replace paragraphs with:

- 1st and 2nd Gen ES system have poor bearing resolution and passive cross-fixes are less accurate. Ships attempting a cross-fix use the Active RF Table (pg 6-3) but reduce the solution quality by one level.
- 3rd and 4th Gen ES system bearing resolution while better than earlier ES systems are still wide and the information is not automatically integrated. Ships attempting a cross-fix use the Active RF Table solution without modification.
- 5th and 6th Gen ES system bearing resolution have narrower beam widths but information is not automatically integrated. Ships attempting a cross-fix use the Active RF Table but increase the solution quality by one level.

Pg 6-5, right column, 1st para, 3rd line

Change: ...very fine bearing resolution (less than 0.5°) and the ...

To: ...very fine bearing resolution ($\approx 0.5^\circ$) and the ...

Page 6-6, Rules change; replace section 6.3.10 Sharing Contact Information Without Data Links, including the example, with “Active sensor (usually radar) contact data can be shared by an aircraft or ship by means of voice, teletype, or other form of radio transmission to another platform. As this is raw location data only, and not a fire control solution, the best solution quality that can be obtained by the receiving unit, based on the sent information is Poor.”

Page 7-1, section 7.4. At the end of the third paragraph, add “The defensive decoys deployed by ships include both radar and IR decoys.”

Page 8-3, section 8.1.3 The Three-Second rule. In the table, on the line for 66mm or more, change the value for 751 - 1525 knots from 20% to 10%, and the value for 1526 knots from 10% to 20%. The chance to hit should be higher as speed increases.

Page 8-4, there are several changes to the tables on this page.

- On the Target Size Modifier Table, change the modifier for Large aircraft from +1 to 0.
- The Combat System Modifier Table now has separate columns for aircraft and missiles.
- On the Target Modifiers table, delete the :Manned Aircraft +3.0” modifier.
- The Antiair Missile Countermeasures table has been replaced by a new one, with adjusted values and a new row for 5th Generation missile seekers.

A new page 8-4, with the revised sections marked in red, is included on the last page

Page 8-12, clarification: At the end of the third full paragraph, just before the Gun Damage Multiplier table, add the following sentence: “Rotary guns (listed as “(R)”) are counted as single barrels. Their rate of fire is already included in their damage values.”

Pg 9-5, right column, 9.7.3 Air Attack Procedure., 3rd para

Add at the end of the para:

Unguided ordnance attacks are then resolved.

Page 9-5, section 9.7.4, in the Lob-Toss Bombing section, at the end of the second paragraph, add “Conventional unitary unguided ordnance cannot be lob-tossed against moving targets.”

Pg 9-6 Unguided Ordnance Attack Tables, Lob-Tossing Column

Change A-size Base Ph from 24% to 12%

Change B-size Base Ph from 14% to 10%

Page 14-4, section 14.1.6 Effects of Armor. In the bullet point for bombs, at the end of the second paragraph, add: “Lob-toss attacks are treated as Medium-altitude glide bombing for penetration.”

Page 14-4, section 14.1.7 Armor and Underwater Attacks. In the first bullet point, change “Torpedoes can be set to run ...” to “Contact-fuzed torpedoes can be set to run ...”

Page 14-5, still section 14.1.7, in the torpedo protection bullet point, change “contact-fuzed torpedoes” to “contact-fuzed torpedoes set to run deep.”

Thanks to Stephane Abs, Norm Lunde, Francis Marliere, M.G. Park, and William Seney.

SAM & AAM Missile Attacks

Antiair Missile Attack Table

<i>Missile Index</i>	<i>One Msl Pk</i>	<i>Two Msl Pk</i>
-4.5	01%	02%
-4.0	02%	04%
-3.5	04%	08%
-3.0	06%	12%
-2.5	08%	15%
-2.0	10%	19%
-1.5	15%	28%
-1.0	20%	36%
-0.5	25%	44%
-0.0	30%	51%
+0.5	35%	58%
+1.0	40%	64%
+1.5	45%	70%
+2.0	50%	75%
+2.5	55%	80%
+3.0	60%	84%
+3.5	65%	88%
+4.0	70%	91%
+4.5	75%	94%
+5.0	80%	95%
+5.5	85%	95%

<i>Target Size</i>	<i>Msl ATA Mod</i>
<i>Target Size</i>	
Large, Medium, Small	0
VSmall	-1
Stealthy	-2

<i>Combat System Modifier</i>			
<i>Ship CS</i>	<i>AI Radar</i>	<i>Missile Tgt</i>	<i>Aircraft Tgt</i>
<i>Gen</i>	<i>Gen</i>	<i>ATA Mod</i>	<i>ATA Mod</i>
2	1-2	-1.0	0.0
3	3	0.0	1.0
4	4	0.5	2.0
5/6H	5	1.0	2.5
5/6A	6	1.5	3.0

Target Modifiers (Modifies Missile ATA Rating)

Non-maneuvering aircraft ATA	0.0
Manned Aircraft	+3.0
Terminal Maneuvers	-1.0
Seaskimmer Capable?	
Full Capability (min altitude VLow)	0
Partial Capability (min altitude PVLow)	-2
Not Capable (min altitude Low)	-4

Target Speed Modifiers

<i>(kts)</i>	<i>Mach</i>	<i>Descriptor</i>	<i>ATA Mod</i>
500 or less	0.8	Subsonic	1
501-750	0.9-1.2	Transonic	0
751-1525	1.3-2.5	Low Supers.	-1
1526-2300	2.6-3.8	Med Supers.	-2
2301-3075	3.9-5.0	High Supers.	-3
3076-4100	5.1-6.7	Low Hypers.	-4
4101-5125	6.7-8.3	Med Hypers.	-5
5126+	8.4+	High Hypers.	-6

Bearing Rate

<i>Description</i>	<i>Tac Turn Bearing Shift</i>	<i>Msl ATA Mod</i>
Closing	0 - 20°	0
Divergent	21 - 45°	-2.0
Crossing	45+°	-4.0
High Diving*		-2.0

*Short Range and Point Defense engagements for 1st - 3rd Gen Combat Systems only.

Range Band Modifiers

<i>Range Band</i>	<i>Range (nmi)</i>	<i>Msl ATA Mod</i>
Point Defense	≤4.0	0
Short	4.1 - 15.0	0
Medium 1	15.1 - 30.0	0
Medium 2	30.1 - 45.0	-0.5
Long 1	45.1 - 60.0	-0.5
Long 2	60.1 - 90.0	-1.0
Very Long	90.1 - 135.0	-1.5
Extreme	135.1+	-2.0

AAMs using HOJ mode have their ATA rating halved before applying modifiers.

- SAMs with a minimum range greater than 2.5 nmi cannot fire into the Point Defense Range Band
- If there is more than one engagement within the Long or Medium range bands, the first one uses the outer band, the rest use the inner band.

Antiair Missile Countermeasures Table

<i>Msl</i>	<i>1st Gen</i>	<i>2nd Gen</i>	<i>3rd Gen</i>	<i>4th Gen</i>	<i>1st Decoy</i>	<i>2nd Decoy</i>	<i>3rd Decoy</i>	<i>4th Decoy</i>	<i>1st J&D</i>	<i>2nd J&D</i>	<i>3rd J&D</i>	<i>4th J&D</i>
Seeker	Gen	Gen	Gen	Gen	Gen	Gen	Gen	Gen	Gen	Gen	Gen	Gen
<i>Gen</i>	<i>Jam</i>	<i>Jam</i>	<i>Jam</i>	<i>Jam</i>	<i>Decoy</i>	<i>Decoy</i>	<i>Decoy</i>	<i>Decoy</i>	<i>J&D</i>	<i>J&D</i>	<i>J&D</i>	<i>J&D</i>
1	-1.5	-2.0	-2.5	-3.5	-1.0	-1.5	-2.0	-3.0	-2.5	-3.5	-4.5	-5.5
2	-1.0	-1.5	-2.0	-3.0	-0.5	-1.0	-1.5	-2.5	-2.0	-3.0	-3.5	-5.0
3	-0.5	-1.0	-1.5	-2.5	-0.5	-0.5	-1.0	-2.0	-1.0	-2.0	-3.0	-4.5
4	--	-0.5	-1.0	-2.0	--	-0.5	-0.5	-1.5	-0.5	-1.0	-2.0	-3.5
5	--	--	-0.5	-1.5	--	--	-0.5	-1.0	--	-0.5	-1.0	-2.5

Note: If the defending aircraft cannot or chooses not to maneuver, then halve the countermeasure modifier before applying it to the Missile Index. Its Maneuver Rating is also reduced to 0.0.