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Harpoon$^{4.1}$ Rules Errata

Page 2-9. 2.3 (Size Classes). H4.1 size classification rules create a ship size class of very small, but the various line of sight rules (radar 4.2.2.2, ESM 4.3, and visual 4.5.1) do not allow for the Very Small size class.

For simplicity, use the small size line. We'll add lines for Very Small sizes in the next revision.

Page 3-7. On the Altitude Table, change the boundary between High and Very High altitude from 10500 to 13500 meters. The upper edge of High altitude is 44620 feet/13600 meters. The lower edge of Very High altitude is 44621 feet/13501 meters

Page 3-12: In section 3.3.6.5 Mission Planning, the formulas in Step 4 for Combat margin are incorrect. Instead of using cruise speed, they should use speed at Full Military Power and Afterburner, as shown below:

(Minutes at FMP/60) * FMP Speed (knots) * FMP Endurance Modifier = Cruise range needed
(Minutes at Afterburner/60) * Afterburner (knots) * Afterburner Endurance modifier = Cruise range needed

The idea is to see how much distance is covered at that speed in the time chosen, then use the modifier to see how much cruise range is used. Example 2 on page 3-13 must be changed to account for this. The new values are **bolded**.

Example 2: An F/A-18E Hornet will escort an A-6E strike to a target 500 nm away. The mission range is 1000 nm. It is loaded with 4 AIM-120 AMRAAM (152 kg each) and 2 AIM-9M Sidewinder (85 kg each). This totals 778 kg, or 10% of its maximum payload. (Steps 1 and 2).

The entire mission will be flown at high altitude, so the endurance modifier for turbofan aircraft with a "clean" load (0-15% max) at high altitude is 1.0, or no reduction (Step 3).

Since the purpose of an escort mission is to engage the bad guys, the planners want to assume 10 minutes at full military power and 2 minutes at afterburner, all at high altitude. Its cruise speed at high altitude is 490 knots. The formulas are:

(10/60) * **720** * 4.0 = **480** nm for 10 minutes at full military power.
(2/60) ***1032** * 24 = **826** nm for 2 minutes on afterburner

Added to the initial range of 1000 nm, this is a total required mission range of **2306** nm (Step 4). Including a 10% reserve brings this up to **2537** nm.

Compared to the F/A-18E's range on internal fuel (1600 nm) this is **937** nm short, but the plane still has enough pylons free to carry **3** 330 USG drop tanks, each adding **365** nm of range. The resulting total of **2695** nm meets the requirements.

Page 4-12, Rule 4.4.5.1.1, Cavitation, 2nd paragraph: "...higherr water pressure." Should be "higher."

Page 5-5. On the Baffles diagram at the top of the page, the labels for the port and starboard flank-mounted sonar arrays are reversed. The starboard baffles should be on the left, and the port baffles on the right.

Page 5-6. On the Antiship Missile Seeker Acquisition Cone Table, add a new line for Non-radar/3rd Generation seekers. They have a Bearing Limit of ±45°, and an acquisition range of 10 nm against Large, Medium, and Small targets, and 5.0 nm against VSmall and Stealthy targets.

Page 7-1. Rule 7.2.1, Computing Hits. Last sentence: "...kill the aircraft on inflict enough damage" should be "...or inflict enough damage."

Page 7.2. Rule 7.2.3, Speed Loss. Last sentence: “it is dead in the water (speed 0) at 152 damage points taken. It sinks at 152 damage points taken.” It should be it “sinks at 169 damage points taken.”

Page 7-2, Rule 7.3.1.2. Change the second sentence from “These include SAMs used in an SSM role, ARMs, and cluster bombs.” to “These include SAMs used in an SSM role and ARMs.”

Page 7-3, section 7.3.2.2 Bridge/CIC. Change “...and thereafter takes one Tactical Turn to change course...” to “...and thereafter takes two Tactical Turns to change course...” This makes it consistent with the explanation in parentheses.

Page 7-4, Section 7.3.2.7 Flooding. Delete the entire paragraph that begins, "If a submarine suffers a flooding critical, it is automatically severe." It contradicts the following paragraph, and is kinda harsh.

Page 7-5. On the Armor Effects Table, light armor stops fragments. Treat airbursting shells of any caliber as fragments.

Page 7-6, section 7.4 Repairs. In the second paragraph, change “A D100 roll less than or equal to the Repair Roll on the Breakdown Repair Table indicates the ...” to “A D100 roll less than or equal to the Repair Roll indicates the...” You don’t need to refer to the Breakdown Repair Table to see if the repairs are successful, just meet or beat the Repair Roll.

Page 7-6, section 7.4.6 Bridge/CIC. Change “Degraded operations are allowed automatically 1 hour after the critical hit was taken. Two Tactical Turns are needed to change course, and the aircraft land/launch rate is halved.” To Change “Degraded air operations are allowed automatically 1 hour after the critical hit was taken. The aircraft land/launch rate is halved”

Page 7-6, section 7.5, Equipment Serviceability. The breakdown repair table referred to in the first paragraph is missing.

Breakdown Repair Table	Ship Undamaged	Ship Damaged
Western Crew	80%	DP%
Soviet and Second-line countries	60%	DP%-20%
Third-rate countries	40%	DP%-40%

The Repair Roll can never be lower than 10% and never higher than 80%.

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