

Harpoon Form Instructions v1.1 27JUL2020

General

The Harpoon editable .pdf forms are designed to aid you in organizing the information needed to play *Harpoon* without having to constantly refer back to the Annexes and rulebooks during play. While they take some time to set up, once they are completed, they can be saved and reused as needed.

Local Use

Many browsers do not allow you to fill out editable .pdfs directly. Instead, you must download the form to your own computer and modify it there. Usually there is a “download” option on the browser .pdf display, or you can right-click on the link and use the “save as” or “save link as”. Once you have saved the form locally, the ubiquitous Adobe Acrobat Reader should work fine. Also, make sure that your security software does not disable scripts, or the forms will not work correctly.

Prefilled Examples

To demonstrate the use of the forms, we have filled them with examples from the various Harpoon Annexes. Just overwrite this information with what you need for your games.

Calculations

Most of the fields on the form are “information only.” However, entering data in some fields will cause other information to be calculated and filled according to the Harpoon V rules, so you don’t need to remember all of the details.

Using Tab to traverse the form - committing the changes

While entering information that is used in calculations, it will occasionally seem that what you enter does not have an immediate effect. Sometimes this happens because the form does not register the changed data (called “committing the change”). It will not invoke any associated code unless you move to another field after you have finished entering the information (called “changing focus”). The easiest way to ensure that you change focus and your information is “committed” to use the “tab” key to move to the next field. Selecting a different field with the mouse will also work

Air Mission Form (Harpoon V Form 2)

This form assists you in planning your Harpoon V air missions, by setting up the information for a single aircraft type. The information comes primarily from Annex B of the air supplements and annexes. Note that this called an Air "Mission" form rather than an Air "Data" form because the configuration of the external stores and ordnance of an aircraft can change based on what its role is for that mission, Examples include Strike or Combat Air Patrol.

Calculations

Ceiling + Engine Type -> Available Throttle Speed Settings. You will only be able to enter throttle speeds for altitudes that the aircraft can reach.

Weight(s) -> Load. The Load of the aircraft is calculated by adding up the weight of additional fuel, external pods, weapons, etc. As you add more ordnance, the load will go up and the Load % will be increased. Note that for most weapons, the weight is the number of weapons x the weight of a single weapon. No edits are done to see if the total weight exceeds the maximum load, so be sure to check that your plane can get off the ground.

Maximum Load + Load -> Load %-> Mod Range. If Load % ≥ 80 then the range is decreased.

Internal Crs (Cruise) Rng + Additional Fuel Range -> Mod Range. The modified range is first calculated by adding the internal fuel and additional fuel (from drop tanks, conformal packs, etc.). Range is measured in nautical miles (nmi)

Form Description and Comments

With the exception of the fields used in calculations most of the data is "free form" entry, the best way to see how the form works is to follow through the example that we used in the form, a "P3C Orion Update I" on a Patrol mission. For your own aircraft, just overwrite this information with the plane and configuration you are using,

The top of the form is mostly copied directly from Annex B.

Mission/Mission ID - You can choose from a variety of missions, and the Mission ID is an optional field that allows you to identify the specific mission.

From Annex B, we find that the Orion has a Turbo-prop engine (TP) and a Ceiling of 8625 meters. Entering these two values has several effects:

- a) A TP engine has no afterburner setting, so the afterburner speeds disappear.
- b) A ceiling of 8625 meters is in the High altitude band, so the Very High speeds disappear.

Various altitude bands can be found in the "Altitude Bands" table in chapter 4 of the Harpoon V rules, but these are incorporated into the form calculations, so you don't

need to know them. For fuel calculations, aircraft and missiles in NOE and Very Low (VLow) flight are contained in the Low band and the "Real High" band is not used , except by missiles.

Cruise Range and Additional Range

Cruise Range comes directly from Annex B. In the case of the Orion, it is 4105 nmi. Other planes may have additional fuel sources that are added to the cruise range to give the modified range "Mod. Rng". The Orion has no drop tanks or additional sources of fuel, so its modified range starts out as 4105 nmi.

The Orion has no guns, so the gun rating and type are blank

The Orion has an APS-115 radar so the stats for this radar are entered in this section.

Next comes a line that can best be called "Miscellaneous Sensors". The Annex B entry shows that the Orion has a Low Light TV (LLTV) and Magnetic Anomaly Detector (MAD) so these checkboxes are set. Later updates of the Orion have a FLIR, but not the one we are using.

Next come sonars. One of the primary functions of the Orion is ASW, but the Orion has no built-in sonar and uses sonobuoys instead. Annex B says that it carries 84 sonobuoys and also gives a typical load of 3 of the available types from Annex K2 which are entered here.

The next section is the acoustic processor. Annex B lists an AQA-7(V) 1 processor, so its stats are entered.

Up to this point we have been dealing with the standard configuration of the Orion, but now we look at the equipment specific to its Patrol mission. Annex B lists nine(!) different loadouts for the Orion, but we need to choose only one. In this case, we are doing a "Patrol" mission, so the most relevant seems to be the "Patrol & Escort" mission (the 5th one in the list) of 4 x Mk46 torpedoes, 4 x Harpoon missiles, and 1 ALQ-76 ES electronics pod. The data for these is entered in the appropriate section. Note that each of these has a "Hang Weight" associated with it. The total hang weight is recalculated as new ordnance is added. This is added to the weight of any additional fuel to give the "Load" and "Load %". Adding together the weight of 4 Harpoons (526 kg each), 4 Mk46 torpedoes (292 kg each), and the electronics pod (500 kg) gives us a total weight of 3772 kg, which shows up in the Load field. If the weight exceeds 80% of the maximum load, the Modified Range is decreased. Standard equipment (such as the radar and sonar processor) and weight of the internal fuel of the Orion is not counted in this total load.

Our Orion is now set up to go on patrol. This form is used along with the Air Mission Planning Form (Form 5) that helps calculate fuel usage.