

STARFLEET

DEPARTMENT OF TECHNICAL SERVICES INFORMATIONAL PAMPHLET

SO YOU WANT TO DESIGN A STARSHIP?

BY CHRIS WALLACE AND ALEX ROSENZWEIG

Starfleet members are very creative! Many groups and individuals have approached DTS, expressing interest in creating their own starship designs for use by their Starfleet chapters. Given the number and variety of designs we've received, and in order to make the process of getting a new design developed and approved as clear as possible, the Department of Technical Services has developed this pamphlet which we hope will be of use to prospective starship design engineers.

What We Look For

When a new starship design is submitted to the Advanced Starship Design Bureau, the first thing that's looked at is the ship's overall design. Is it feasible? Will it be easy or difficult to build and maintain? Is it based on an existing design, or is it entirely new? Fictionally, in what era was the design created: 22nd Century, 23rd Century Pre-TOS, TOS, "Classic" Movies, early-to-mid 24th Century, TNG, DS9/Voyager/TNG Movies, late 24th Century, or beyond 24th Century?

The next thing we look at is the primary mission of the vessel. Exploration? Combat/defense? Transport? Why was the design created? What will the ship do?

After that, we look at the ship's equipment. What type of warp drive? How many engines/nacelles? What weapons/tactical equipment? What is the ship's crew complement? What small craft does it carry?

After reviewing all those things, ASDB compares the design to others that might already fill some (or all) of the roles of the newly-proposed vessel. We then provide recommendations, comments, and critiques to the design and, if need be, return it to the submitter for additional work.

The following are some things to think about when preparing a design:

Check To See If It Already Exists

Believe it or not, the Office of Technical Information currently has over 4,000 starships in its listings, covering almost every conceivable mission role over a slightly more than a hundred year span from TOS through DS9/VOY/TNG features. And there are a few ships, even, from the time from ENT to TOS, and after the TNG-era films. ASDB is not really interested in "copy-cat" ships that fill roles or perform missions already taken care of by existing designs. Starfleet's budget, while large, is not nearly so much that it can afford to build a dozen different classes that all do the same thing. It didn't work for General Motors, and it won't work for Starfleet. We strongly recommend that you use already-established designs wherever possible. You can save yourself a great deal of time by asking ahead of time if there already is a starship class that fills the role you're envisioning for your design. Most of the time, the answer will be "yes", and often, the designs are themselves quite interesting. On the other side, finding out what does exist may give you ideas about the kinds of ships we *don't* have that you could work on. If you have an idea about what type of ship you would like, contact OTI for information on ship classes that might match your idea.

Is It All-New or Just Improved?

The ASDB looks *favorably* on designs that are based on existing classes. It appears that many Star-fleet ships share common components, like engines or hulls, but put them into different configurations. Having common types of components reduces development and construction costs.

And again, always think about whether you're creating a design for which a ship already exists to fill its mission role.

We also look favorably on peaceful modifications to warships. Past such modifications have included refits for *Federation* or *Ascension*-class dreadnoughts that allowed them to be better used as exploratory ships, so those chapters who are sitting at a starbase waiting for a war to break out have something to keep them occupied between military crises.

On the other hand, we *do not* look favorably upon taking peaceful designs and converting them into warships.

Purpose

What's this starship for? Is its design to be a supplement to an existing ship class, or to fill a role that no other class does? What makes it so special? In designing a new type of ship, you need to come up with a reason for Starfleet to spend its limited ship-building budget on such a vessel. It doesn't need to be long or involved, but the more complete you are, the better.

Remember Starfleet's Charter

While some may think Gene Roddenberry's view of the human future overly optimistic, this is the view that drives the Star Trek Universe, and thus is the one we ascribe to when we play in that universe. Thus, Starfleet is not an instrument to impose Federation policy on other worlds. Rather, Starfleet's charter is to protect the Federation from threat forces both outside and within its borders.

There has been a trend in recent years toward building "battlewagons", i.e., super-powerful starships bristling with weaponry. While there are a number of threats to the Federation, from Klingons to Jem'Hadar, these types of vessels, especially in the numbers we've been seeing, are simply unnecessary, as well as being counter to the Starfleet charter. The ASDB is not impressed by these starship concepts, and takes an equally dim view of ideas for taking existing starship classes and just packing more weapons onto them. Let's face it: a scoutship with four photon torpedo launchers, two megaphasers, and twelve standard phaser emplacements is an oxymoron. If you're interested in a powerful starship, contact us. We have a number already in existence for you to choose from.

We do understand that Starfleet ships need to be able to defend themselves and the Federation. Just don't overdo it. Consider the U.S. Navy. Most U.S. Naval vessels, compared to their Russian counterparts, look seriously "undergunned". Russian vessels bristle with weapons mounts, while most U.S. ships have two missile launchers and a few Phalanx PDS emplacements. But the U.S. ships have vast weapons storage bays that allow them to maintain combat operations much longer than a Russian ship, which has weapons usually de-signed for single-shot salvos. A U.S. ship also carries a much more advanced tactical suite that allows its weapons to arrive on target with a better chance of hitting that target. In the Star Trek Universe, Federation starships are also often more maneuverable and have better shielding than their threat counterparts, allowing them to deliver more licks than they take.

Thus, just because your starship has six phaser emplacements and two photon torpedo tubes doesn't mean you can't hold your own against a Rihannsu (Romulan) or Klingon vessel with ten disruptors and three photon torpedo tubes.

And, finally, consider this. From a storytelling or role-playing point of view, often it can be every bit as interesting to see how one uses a less-powerful starship. Creativity and crew competence can often be as important in a combat situation as any number of weapons.

Equipment Lists

This relates directly to what we've already discussed. When you're designing a ship, take the time to really *look* at it. If you have a ship festooned with weapons pods and hangar bays, it probably won't be very warp dynamic. Who needs a battlewagon that would get to the front only *after* the war is over. Or a scoutship or exploratory cruiser that is so slow it would take weeks to map an area that a less-

cluttered ship could survey in days? Federation starships are clean and sleek. Think old Jaguar or modern sports car.

Also, consider what types of warp drives and com-puters your ship would have, among other things. While it is nice to give your ship the biggest and best of everything, Starfleet can't afford to equip every ship this way. And don't think that because your ship is assigned to the Rihannsu Neutral Zone that it will automatically be equipped with the latest stuff. The latest stuff is not always reliable, and Starfleet cannot afford to have such ships go down for service. Consider the number of older classes still in Starfleet service, because they work. Well-designed vessel series, like the *Excelsior*, *Avenger/Miranda*, and *Oberth*-classes, "though "outdated" technologically, still play an important role in Starfleet decades after many of their contemporary designs have been scrapped.

Many systems are still in the research-and-development stage and are not yet designated as available for general Fleet use. You might observe unique designs that, while interesting and fun to think about, will not be available as chapter options. DTS uses an equipment/systems outline based on the one included in *Ships of the Star Fleet*. Using this format, we can readily compare the available information on each class of ship, whether established or newly-proposed.

Finally, consider how large a crew and how many small craft your ship will carry. In the 2360s, the *Galaxy*-class has approximately the same complement of operational crew as the *Enterprise*-subclass in the 2270s-90s, even though the *Galaxy*-class has eight times the internal volume of the *Enterprise*. This is because the ship's systems can now automatically handle tasks that once required human intervention. As for small craft, most Federation starships are designed to carry in the vicinity of a dozen shuttlecraft. If you want to carry more, you'll need to sacrifice space for crew and other equipment. Unless you're planning to operate a purpose-built shuttlecarrier, Starfleet may have little use for a "stripped ship".

Performance

The top sustainable speed for most Federation star-ships is Warp 17.5 (ENT/"Classic Trek" Scale, equivalent to Warp 9.9 on the TNG/DS9/VOY scale). This represents the upper limit of Federation starship structural design and the ability of the structural integrity and inertial dampening fields to counter warp velocity forces. Thus, simply adding nacelles will not yield incredible velocity results. Four nacelles is the practical maximum, and even four-nacelled ships are often not appreciably faster than their counterparts with two or even one nacelle. They can sometimes yield higher burst-speeds, or greater endurance at lower speeds, but are not necessarily as efficient as a dual or single-nacelle design.

In Conclusion

This pamphlet is designed to assist prospective starship designers in the creation of new designs and their submission to ASDB. It is not designed to be an exhaustive source of information on this topic, but rather just a broad introduction and set of things to think about. If you have questions, don't hesitate to contact DTS, ASDB, or OTI. We're more than happy to offer assistance, suggestions, and any additional information you might need.

ADM Alex Rosenzweig
Director, Department of Technical Services
Director, Office of Technical Information

ADM Chris Wallace
Chairman, Advanced Starship Design Bureau (Ret.)