U.S.S. DISCOVERY
NCC-1031-A
SPECIAL ISSUE

TYPE: CROSSFIELD CLASS
LENGTH: 753.98 METERS
IN USE: 32ND-CENTURY REFIT
CAPTAIN: MICHAEL BURNHAM
U.S.S. DISCOVERY

SPECIFICATION

CLASS: CROSSFIELD REFIT
CONSTRUCTED: SAN FRANCISCO, EARTH, 2245
REFIT: STARFLEET HEADQUARTERS, 3189
CAPTAINS: SARU, MICHAEL BURNHAM
TECHNOLOGY: SPORE DRIVE, PROGRAMMABLE MATTER
In 3189, Starfleet gave the time-traveling \textit{U.S.S. Discovery} a major refit that brought it up to 32nd-century standards.
After the Crossfield-class U.S.S. Discovery NCC-1031 defeated the artificial intelligence known as Control, it traveled into the future, arriving in the year 3189. At this point in history, Starfleet and the Federation had extremely limited resources. 120 years earlier they had suffered the effects of the burn, which destroyed most of the Galaxy’s dilithium, and made it difficult to maintain an interstellar alliance. Starfleet was happy to accept the Discovery into the fleet, not least because it had an experimental spore drive that meant it could travel vast distances instantaneously. Even though Discovery was more than 900 years old, the technology was unknown and hadn’t been surpassed. However, the rest of Discovery’s systems were outdated.

Starfleet upgraded the ship, fitting it with new systems, integrating programmable matter with her 23rd-century framework and refitting the nacelles so they were detachable, making the ship more maneuverable and efficient. Among other things the programmable matter revolutionized the control interfaces. They could now read the user’s bio signs and create an interface that was unique to them.
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Designing the

**DISCOVERY-A**

When the *U.S.S. Discovery* arrived in the future, Ryan Dening was tasked with giving it a new look for a new century.

It made sense that when the *U.S.S. Discovery* reached the 32nd century, it would be in a bad way. The ship had taken massive damage in the battle with Control and it seemed likely that the journey through the wormhole would cause even more harm, so the first thing the producers asked concept artist Ryan Dening to look at was how the ship could be restored to normal. “In the beginning,” he remembers, “we weren’t going to redesign the ship. It was just going to be repaired. They knew it was damaged in the battle and going through the wormhole. So most of the options we looked at were about repairing it before it went back to the way it looked before, but,” he adds, “I think that even at this point they were toying with the idea of it having a new look.”

Looking through his files, Dening say that work on the repair process began in March 2020. This was before the art department started to look at anything else needed for the season, including Book’s ship. Dening had a new boss, production designer Phillip Barker,
who asked him to look at futuristic-looking technology that could grow over the ship, repairing it as it went, but the first thing they had to do was work out what the ship should look like at the start of the season. “It comes through the portal damaged,” Dening explains, “So what did it look like when it came into the dock? I took some of the original sketches and worked on top of that.”

It was clear that they didn’t want to have crews of people working on the ship. Because Discovery was now in the distant future the team wanted to come up with a new look and new technology that we hadn’t seen before. “They would have repaired it and augmented it with this technology,” Dening says. “There was this idea that it had almost kind of bandages on it. One idea was that there was a weird texture that went over it and repaired it. The intention was that the ship was the same but all the damaged parts were filled with this stuff. The concept was that when it was healed it ended up looking the same, but
now it had new tech inside, and the ship had more systems."

Dening produced several alternative designs for the ‘bandages’ which ranged from a kind of healing paint to more substantial almost skeletal elements. Even at this early stage, the idea came up that the healing process could transform the Discovery, making it look like a new ship. “We were exploring different configurations,” Dening remembers, “We had it going all over the map. We had some ideas about parts and changes to the ship. We were exploring a whole range of them. “

One of the ideas was that the ship would be compressed so that in its resting state, only the saucer would be visible. Then, as it was ready to go into action, the original components would slide out giving the ship a more familiar shape. “What can it do?” Dening asks. “Maybe it does this transforming thing where it can shift parts – like they separated part of it. Then there was the idea of merging that with the bandages idea so it had this skeletal thing.”

At this point work started on the other elements that needed to be designed for the show. Dening and Barker put the work on Discovery to one side and concentrated on designing the rest of the future. By the time they returned to Discovery they would have new ideas that would have a profound effect on the look of the redesigned ship.

One of the most important ideas was that in the 32nd century, things wouldn’t always be physically connected; instead they would ‘float’ near one another. “To my knowledge,” Dening recalls, “the floating thing was a visual element that they thought was really awesome. I think it probably started with the mercantile exchange from episode one. I don’t know if it was exactly the first time it turned up, but I remember working on it.”
These early sketches show how the ship could be disassembled as it was being repaired. The structures around the ship were meant to be part of the repair process rather than permanent new additions.
One of the ideas that Dening looked at was that the ship could be compressed into the saucer and a truncated version of the secondary hull. Parts would then extend from within, returning it to its original configuration when it was ready to go into action.
As this series of drawings shows, the original idea was to show the ship in different states as it was heated. The idea was that it would be restored to its original state, albeit with upgraded systems.

As he goes on to explain, the idea was originally developed for buildings rather than starships. “We were told they wanted big floating buildings. There might have been some reference they put together that had big, impossible floating structures.”

The producers liked the look of the floating buildings and decided to incorporate it into all the new designs the art department and VFX teams were working on. It had the advantage of retaining the shapes we were used to seeing on STAR TREK ships, while also introducing something new. “It developed into a thing that they worked it into everything,” Dening says. “The idea was that it was this ubiquitous technology that everybody has and nobody really thinks about. It’s just there. From a production point of view I think it was a way to show the same thing but to show that this was the 32nd century version of STAR TREK – this is the look for the new season.”
From July to September, Dening and his team of concept artists at North Front Studios – Frank Yang, Lee Fitzgerald and Tracy Généraux – worked on different ideas for Starfleet vessels, all of which featured separated elements that floated near one another. So when Dening returned to design the *Discovery-A* he was armed with a library of new ideas. By this point, he explains, the producers had decided they didn’t just want to repair *Discovery*, they wanted to give the ship a major upgrade that involved redesigning it. “When we came back in September, there was no repair. It’s just this magical refit. In the future they can do things super fast.”

So Dening set about designing variants of the ship that retained the same basic shape, but had radically different surface detailing. As he recalls, he was given the chance to look at some radical ideas. “We were experimenting. What could the *Discovery*
look like for the new century? Philip wanted me to experiment with things that weren’t panels. I think I updated my model a bit. Then I started doing some ideas for refit designs. I did ones where I made it chrome, some were more extreme, some were more subtle.”

One design in particular got a positive response. In it, Dening had reduced the design of Discovery to a series of very simple shapes. He eliminated the donut in the middle of the saucer, smoothed out all the surface textures, removing all the panels and Aztec patterns, simplified the secondary hull to a triangle and had very simple smooth nacelles floating alongside it. “Everyone thought that was kind of cool,” Dening recalls, “and they said ‘Let’s work with that.’”

As Dening explains, Discovery’s co-creator and executive producer, Alex Kurtzman, provided some important directions. “Alex wanted it to feel a lot more sleek, so it started to get some of its shape back. They didn’t
Some of the designs Dening experimented with had a very skeletal quality with a framework ‘growing’ around the ship. Some of these shapes provided inspiration for the design of new Starfleet ships.

As Dening reworked the ship, he took the opportunity to tweak some elements of the design. “I tried to address a few things that I never liked in the original version. I was trying to respect all the cool things about the design – it still has to be the Discovery – but I was trying to find ways to make improvements. There was a stripe at the back of the neck that bugged me. I never really liked the neck because I felt it was so solid. So I did something different there. I was never a big fan of the bottom of the ship. I felt it almost looked like a forgotten part of the design that hadn’t been developed so I did something there.”

Dening knew that the series’ major interior sets weren’t going to be rebuilt so he couldn’t make radical changes to the way they looked from the outside. “I knew there
Denning was given the go-ahead to overhaul the design of the ship, and produced a series of alternatives showing how the shapes and surface details could be reworked without losing the basic architecture of the design. The design in the bottom right was the basis for the next round of designs.
DESIGNING THE SHIP

[Image of a futuristic spacecraft with the inscription "NCC-1031"
and "NCC-1033A" on its hull.]
This version shows the ship with a separate neck and nacelles. Dening liked the idea that the neck could be shown attaching or separating from the rest of the ship.

Dening added more detail to the design, but he had eliminated whole areas of the saucer and the producers asked him to restore them because they didn’t want to lose decks.
The redesigned 
Discovery flies out of 
Federation headquarters. 
The VFX team finished 
off the design, working 
from Dening’s concepts 
but adding their own 
ideas as they worked 
with the producers.

In the final version of the design, only the nacelles were floating. The rest of the ship looks much the same until you examine it closely and can see how much the design has been changed.

were parts of the ship that we were going to keep. I knew the shuttlebay was going to stay the same and the bridge was going to stay the same.” He remembers that in one of his favorite concepts the saucer was a separate floating piece that wasn’t connected to the rest of the ship, much as it was on his design for the Voyager-J. He suggested that there could even be a sequence where we saw it itself, but in the end only the nacelles were separated from the rest of the ship. Many of the surface details were reinvented, including the way the inner section of the saucer was connected, the cutouts were retained and the surface textures were reworked. “We worked on the surface. It changed in VFX but my idea was that there were different materials.”

The reworked Discovery made its debut in the sixth episode of the season, giving the ship a serious upgrade that made it look at home in the 32nd century.

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