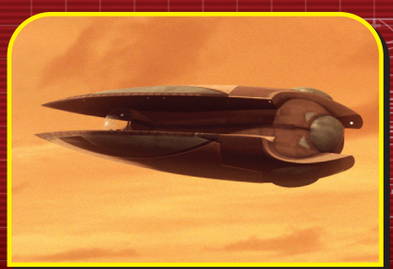
STAR WARS MILLENNIUM FALCON

BUILD THE MODEL – EXPLORE THE GALAXY



COUNT DOOKU'S SOLAR SAILER

F219FSC032

FANHOME

DeAgostini COLLECTIBLES

Disney · LUCASFILM
© & ™ 2024 LUCASFILM LTD.

STAR WARS MILLENNIUM FALCON

USA Published by De Agostini
Publishing USA, Inc.
299 Park Avenue, New York,
New York 10171

UK Published by De Agostini UK Ltd
c/o Royds Withy King, 69 Carter Lane,
London EC4V 5EQ

DE, AT, NL, PL, CZ, SK, LT, SE
Published by De Agostini
Publishing, S.p.A, Via G. da Verrazano 15,
28100 Novara,
Italy

All Rights Reserved.

Printed in Italy

ISSN: 2976-6990 (Print)
ISBN EE Countries: 979-12-209-0809-2

Pictures and © & TM 2024 LUCASFILM LTD.

© & ™ 2024 LUCASFILM LTD.

The price of this issue includes the magazine and the attached assembly parts.

TO OUR READERS
The publisher reserves the right to modify any components as required during the course of the collection. Not suitable for children under the age of 14 (12 for USA). This product is not a toy and is not designed or intended for use in play. The model is complete in 100 issues.

CUSTOMER SERVICES

USA
email: support@usa.fanhome.com

UNITED KINGDOM
email: support@uk.fanhome.com

DEUTSCHLAND
email: support@de.fanhome.com

AUSTRIA
email: support@at.fanhome.com

NETHERLANDS
email: support@nl.fanhome.com

POLAND
Kontakt z biurem obsługi klienta:
tel: 22 307 64 59
e-mail: bok@deagostini.pl

CZECH REPUBLIC
Kontakt na zákaznické centrum ČR:
tel: 246 017 120
e-mail: zakaznicke.centrum@deagostini.cz

SLOVAKIA
Kontakt na zákaznické centrum SR:
tel: 0220 839 090
e-mail: zakaznicke.centrum@deagostini.sk

WARNING
Any reproduction, even partial, of the contents of the magazine is prohibited without permission from the Publisher. The assembly parts and the magazine that accompanies it are strictly for private use, and within the family, in accordance with Article L122–5 10 of the Code of Intellectual Property. Any reproduction other than that provided for in Article L122–5 20 of the Intellectual Property Code is prohibited. The magazine and/or elements of the collection may not be distributed, loaned, resold, rented or exploited for commercial purposes.

FANHOME

DeAgostini COLLECTIBLES

More information at
fanhome.com
deagostini.com

COUNT DOOKU'S SOLAR SAILER

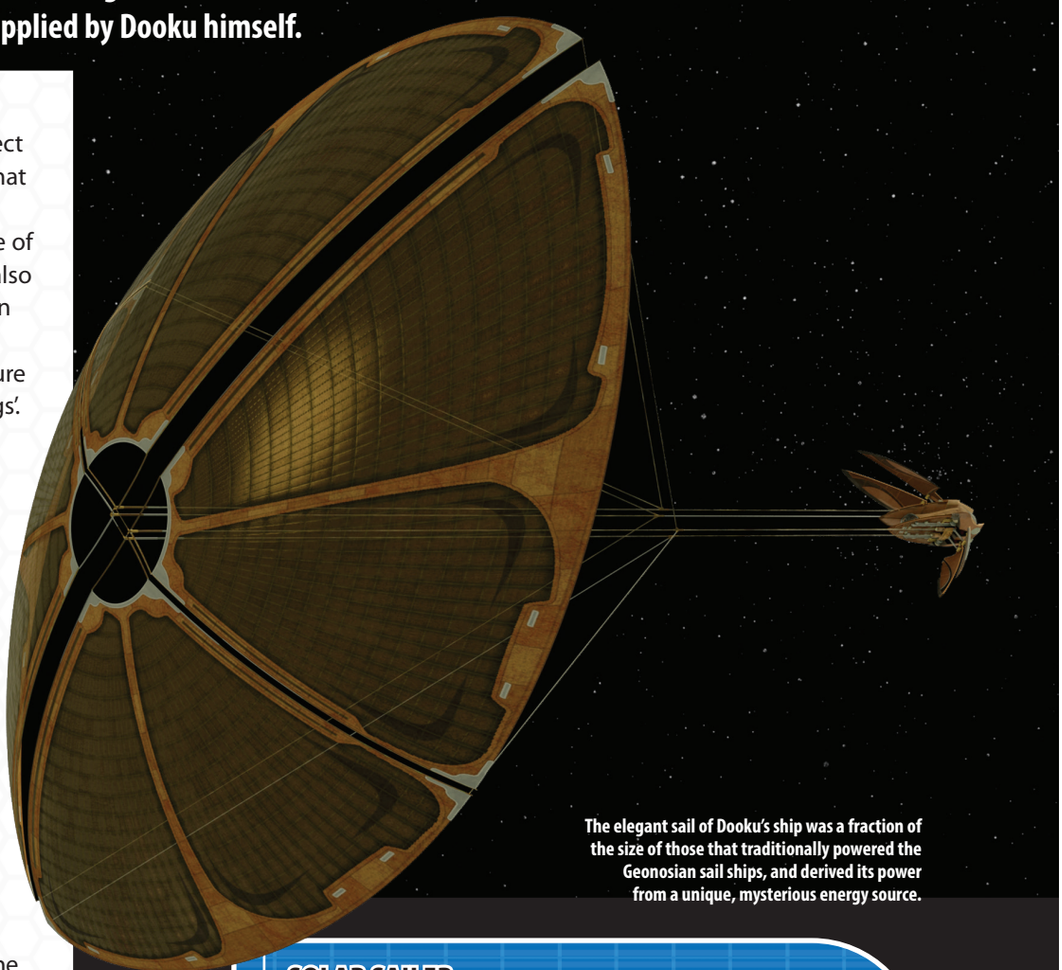
MODIFIED PUNWORCCA 116-CLASS SLOOP

Count Dooku's solar sailer was a gift from his Geonosian colleagues, and was a unique melding of a *Punworcca 116*-class sloop with an elegant sail supplied by Dooku himself.

Dooku's personal ship relied on a retractable sail to collect stray interstellar energies that powered the craft's engines and provided an almost limitless source of power. Its built-in hyperdrive was also charged by these energies between jumps to and from hyperspace.

Geonosian starships typically feature two or more multi-functional 'prongs'. Along these projections, rows of narrow tractor/repulsor beam emitters act as steering aids when there is any surrounding matter to pull and push against. They also double as offensive grapples, while the spread of ray-shield engines around the prongs of the starship can be individually selected to aid the ship's maneuverability.

In some designs of the *Punworcca 116*-class sloop, the spherical cockpit module could be replaced by a weapons or a sensor orb, in which case the piloting controls were routed to the main hold. Dooku's solar sailer retained the



The elegant sail of Dooku's ship was a fraction of the size of those that traditionally powered the Geonosian sail ships, and derived its power from a unique, mysterious energy source.



The compact, organically shaped command/passenger pod of the solar sailer was pulled by its solar sail until it could engage its hyperdrive.

SOLAR SAILER TECHNICAL SPECIFICATIONS

DESIGN	Huppla Pasa Tisc Shipwrights' Collective
TYPE	*Punworcca 116*-class interstellar sloop (modified)
LENGTH	16.8m (55 ft 1 in)
WIDTH	4.6m (15 ft 1 in)
DEPTH	4.8m (15 ft 1 in)
ACCELERATION	Sail approximately 1000G, thrusters 30G
MAXIMUM SPEED	1,600 km/h (5,249 mph) with Class 1.5 hyperdrive
WEAPONS	84 x narrow tractor/repulsor beams
CREW/PASSENGERS:	1 x droid pilot with optional living co-pilot and space for 1 x passenger in cabin and standing room for 10

MF_32_2ED_SFF_US.indd 1 30/10/2023 10:31



ORGANIC DESIGN

The *Punworcca 116*-class sloop was an interstellar solar sailer designed by the Huppla Pasa Tisc Shipwrights' Collective of Geonosis. The seed-shaped body of the vessel resembled the smaller Geonosian starfighter, but the sloop had room inside for two pilots, cargo space and a bunk. Although the solar-powered sloop was unarmed, its upper and lower forward 'prongs' featured 84 small tractor beam projectors that acted both as steering aids and as emergency grappling weapons.

cockpit module and was piloted by an FA-4 droid that handled take-offs and landings. Dooku fitted his own seat, which rose from a longitudinal access shaft to sit alongside the droid pilot in the cockpit module.

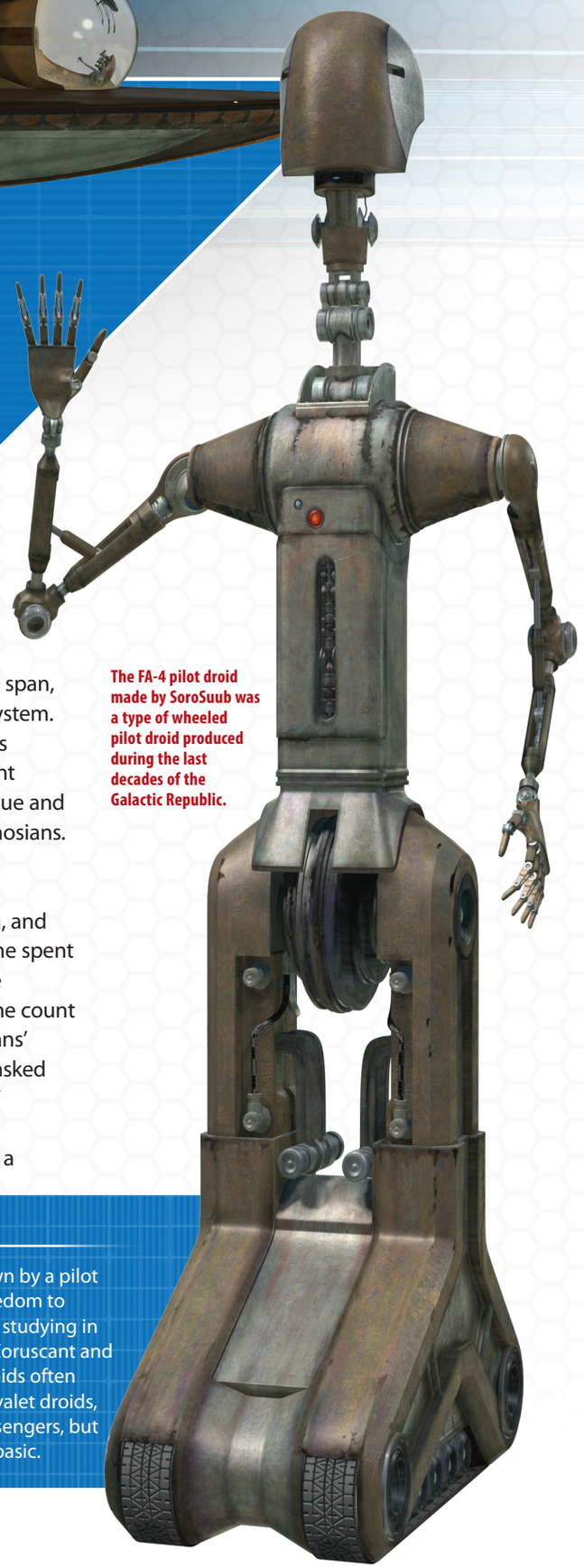
GEONOSIAN SAILING HERITAGE

Early in their history, the insectoid engineers of Geonosis made cargo kites that were able to fly in their low-gravity world by using huge gossamer-thin sheets which 'sailed' on the feeble power of the limited sunshine. The kites operated under robotic control, and were followed by more hefty craft that were pushed by intense laser beams. However, when the Geonosians discovered modern fusion technology, the use of traditional sail ships declined.

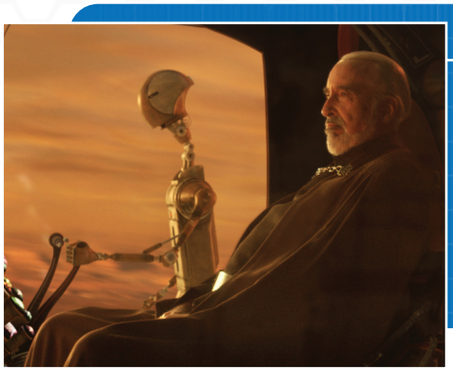
Most solar sails needed to unfurl to the diameter of a small moon to allow the ship to be pushed by a tachyon stream or ultraviolet laser. However, Dooku's solar sailer relied on sunlight. The unique sail, provided by Dooku himself, was able to achieve an impressive performance despite its comparatively small span, and had no obvious support system. The unexplained mobility of his solar sailer meant that the count commanded additional mystique and respect in the eyes of the Geonosians.

MYSTERY POWER SOURCE

Dooku was a very learned man, and before leaving the Jedi Order, he spent much of his time in the Temple studying in their vast library. The count became aware of the Geonosians' ancient sailing traditions, and asked Poggle the Lesser, Archduke of Geonosis, for help to use their traditional technology to meld a



The FA-4 pilot droid made by SoroSuub was a type of wheeled pilot droid produced during the last decades of the Galactic Republic.



PILOT DROID

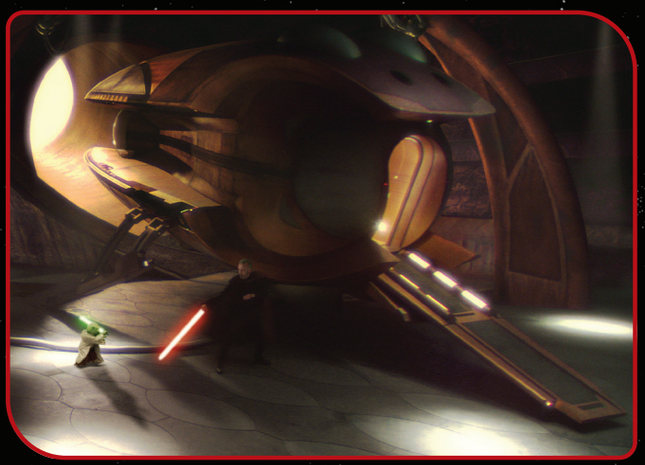
Count Dooku preferred to be flown by a pilot droid, as this allowed him the freedom to spend much of his time on board studying in his vessel's databook library. On Coruscant and other developed worlds, pilot droids often worked in partnership with FA-5 valet droids, which provided an escort for passengers, but Dooku's needs were much more basic.

MF_32_2ED_SFF_US.indd 2 30/10/2023 10:31

BATTLE OF GEONOSIS

ESCAPE FROM THE SECRET HANGAR

Following the battle in the Petranaki arena on Geonosis, and after having been beaten back by Master Yoda in a lightsaber duel in his hidden base on the planet, Count Dooku fled to continue his mission. As soon as he left Geonosis aboard the solar sailer, a secure Holonet transceiver allowed him to communicate directly with his Master, the Sith Lord Darth Sidious, as they determined their next move. The revelation of the secret of the clone army – which could be exploited as evidence of the Republic's commitment to use military force – meant that Dooku's propaganda victory outweighed his material loss. The solar sailer was used by the count throughout the Clone Wars, taking him to visit significant locations around the galaxy.



After fleeing the execution arena, Dooku confronted Obi-Wan Kenobi, Anakin Skywalker, and Master Yoda in his secret base, but managed to board his ship and escape.



After escaping from the First Battle of Geonosis, Dooku set his course for Coruscant to meet his Master Darth Sidious, landing in the Republic capital without his solar sailer being detected.

Punworcca 116-class sloop with an elegant sail. Poggle was more than happy to accommodate an esteemed ally, and went out of his way to ensure the project worked as Dooku wanted.

After leaving the Jedi Order, Dooku had developed a taste for rare, pre-Republic artifacts and antiques, so the sail used on the solar sailer was sold to him by an antiques dealer near the Gree Enclave. It demonstrated unique and startling properties that baffled the Geonosian engineers, generating power from an unknown and undetectable energy field. Whatever its mysterious power source, the sail gave Dooku's custom ship an independence and style unknown in any other space-faring vehicle anywhere in the galaxy.

Count Dooku was meticulous in the design of the interior of the solar sailer and had many antiques on board, including his own databook library. A retracting ramp led to an airlock at the rear of the solar sailer, providing access to her owner's personal quarters.

A concept painting from *Attack of the Clones*, showing an early arrangement which has the cockpit bubble standing free of the rear compartment in the hull.



BEHIND THE SCENES

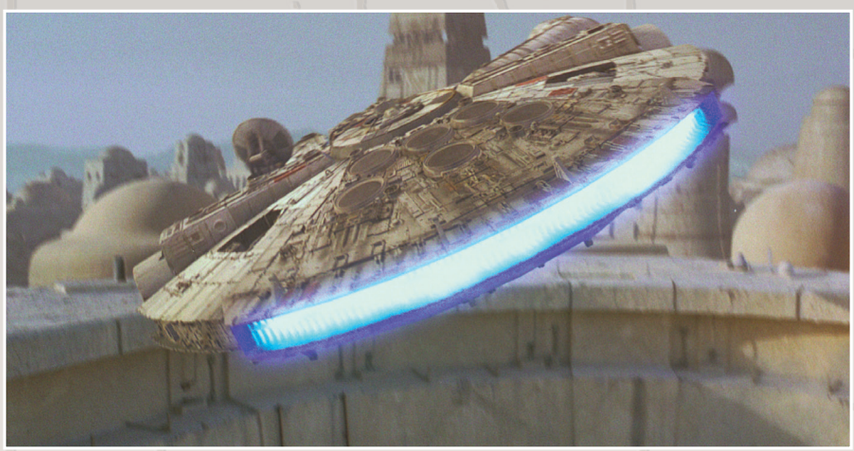
DESIGN CHANGE

During the making of *Attack of the Clones*, the art department (based in Sydney, Australia) switched to using digital technology. After it became clear that Computer Aided Design (CAD) software had advanced to the point where it offered solutions to some problems raised by the design process, Obi-Wan's Jedi starfighter was one of the last things to be drawn by hand. The solar sailer was the next job for the artists, so it was developed as a digital drawing by Jacinta Leong, one of Australia's top draftswomen. A full-size mock-up of Dooku's ship was part of the set built on Stage 6 at Fox Studios, and filmed in August 2000. Rather remarkably, the ship was altered in post-production, after it was realized that it looked as if Dooku would have needed to crawl through an impossibly narrow space to get to the cockpit after boarding from the rear. The solar sailer was digitally retouched to make the cockpit bubble join onto the main part of the hull.

MF_32_2ED_SFF_US.indd 3 30/10/2023 10:31

SUBLIGHT DRIVES

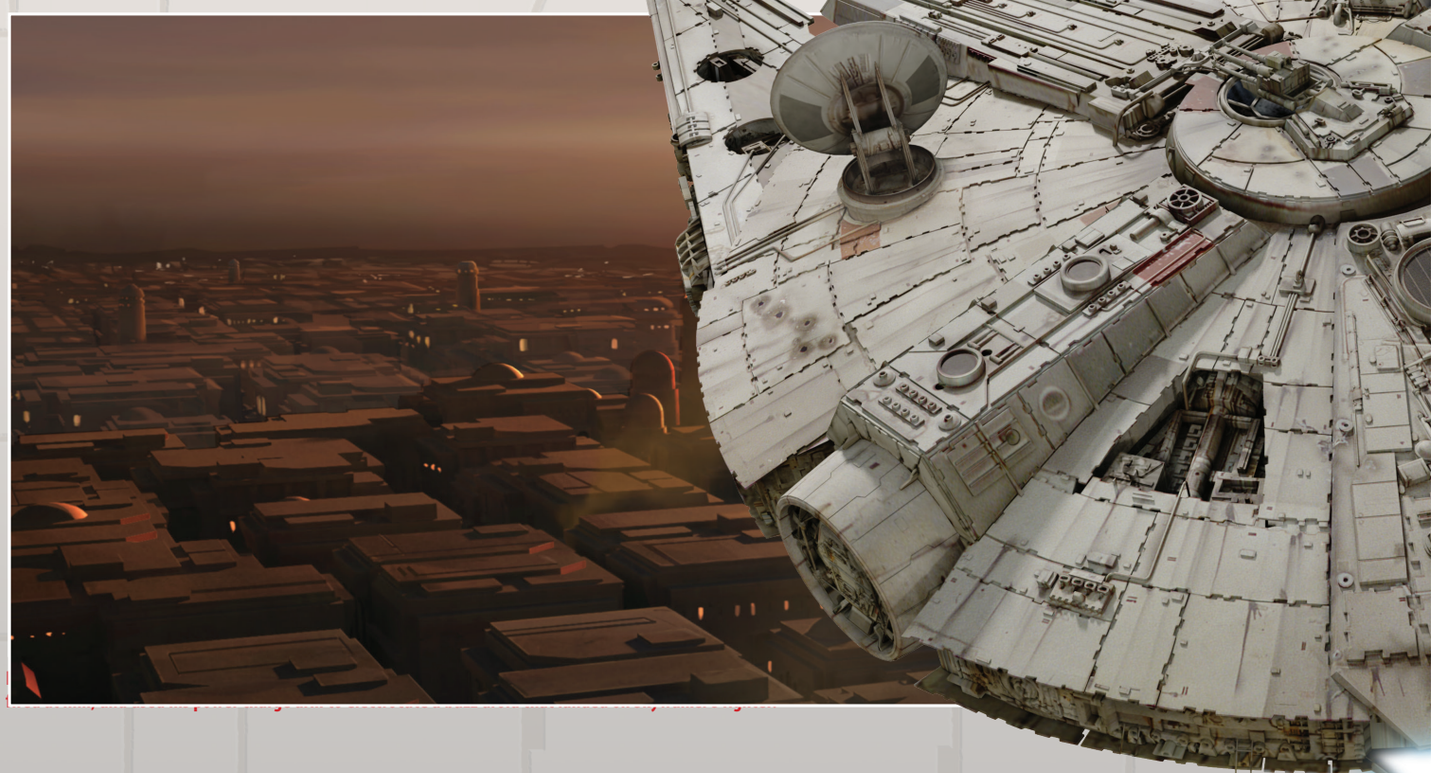
Before the invention of the hyperdrive, sublight engines were the only starship-propulsion system available, limiting spacefarers to traveling between planets in the same system. Nowadays, they are still vital for local operations in realspace, and for travel to and from hyperspace coordinates.



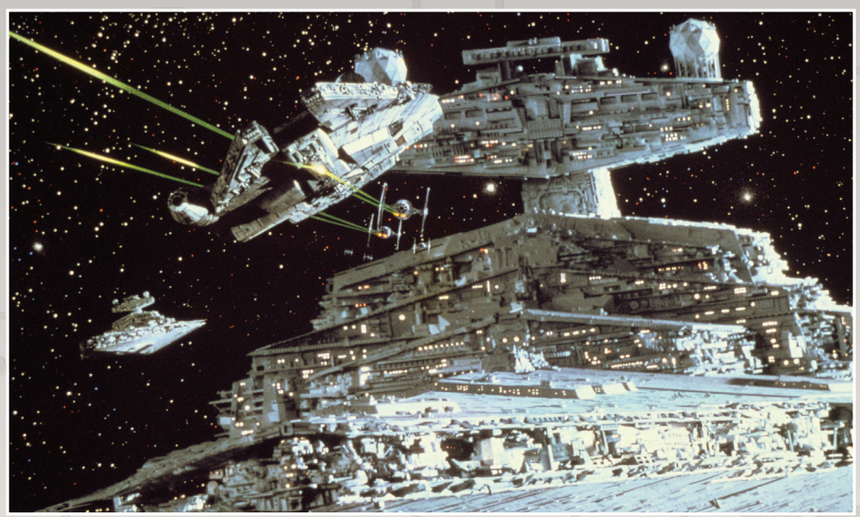
The *Millennium Falcon* makes a quick getaway from Docking Bay 94 of Mos Eisley Spaceport with its sublight drive on full thrust. However, the use of engines such as its Girodyne SRB42s in inhabited areas is technically illegal because the exhaust is mildly radioactive.

Although hyperdrives are vital for long-distance travel, they cannot be used close to a planet or star's gravity well. This means that all starships have to have an alternative propulsion system for travelling at below the speed of light. And in the case of ships that aren't designed for interstellar operations (such as the TIE fighter or T-16 skyhopper), a sublight propulsion system is all they need. Although they operate below the speed of light, sublight drives can still propel starships at a substantial velocity. The TIE fighter uses a pair of most common form, the ion engine, to achieve a maximum speed of some 1200km/h. Even a lumbering freighter's sublight drive allows it to clear the atmosphere of a planet and its gravity well in a matter of minutes.

Some freighters have a much higher performance than that. The Corellian Engineering Corporation YT-1300 freighter is fitted with a pair of Girodyne SRB42 sublight engines, giving it a maximum speed in atmosphere of 800km/h. (In the case of the heavily modified *Millennium Falcon*, these engines can achieve a speed of some 1,050km/h.)



MF_32_2ED_SOS_US.indd 4 26/10/2023 08:33

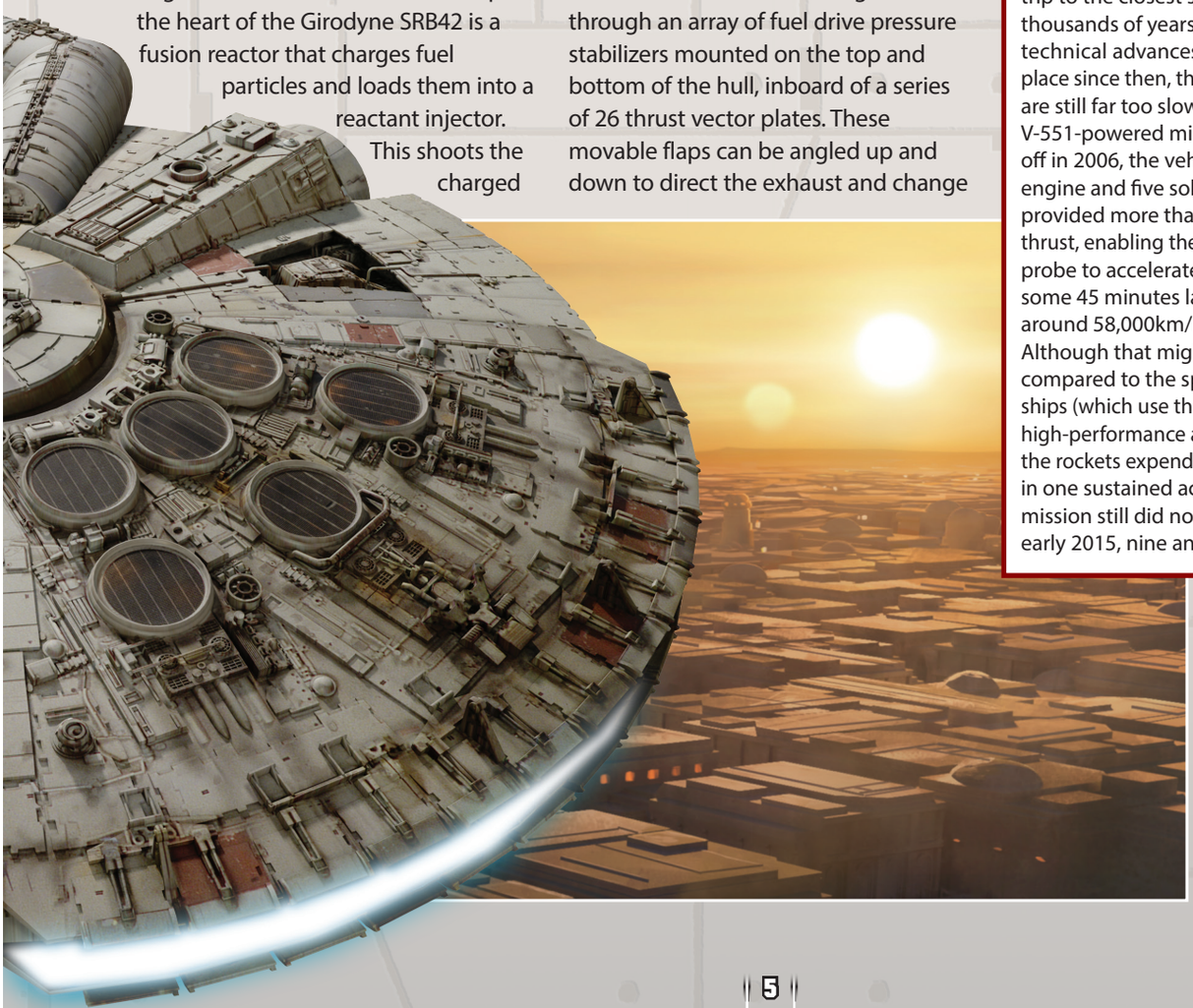


TIE fighters are optimized for local operations, with two powerful sublight ion engines and no hyperdrive, giving them a maximum speed of 1200km/h – even more than the *Millennium Falcon*'s impressive 1050km/h.

HOW THE SUBLIGHT DRIVE WORKS

The Corellian Engineering Corporation's clever installation of the Girodyne SRB42 helped to contribute to the popularity of the YT-1300. The freighter's engines are mounted on the reinforced framework of the hull in the engine room at the stern of the ship. At the heart of the Girodyne SRB42 is a fusion reactor that charges fuel particles and loads them into a reactant injector. This shoots the charged particles through a gas exhaust pre-stabilizer screen and then projects them out of the starship's exhaust manifolds at ultra high speed. This action, which happens in a fraction of a second, creates the thrust that propels the starship across the parsecs of space.

The force of the thrust is regulated through an array of fuel drive pressure stabilizers mounted on the top and bottom of the hull, inboard of a series of 26 thrust vector plates. These movable flaps can be angled up and down to direct the exhaust and change



Like other YT-1300s, the *Falcon* is powered by Girodyne SRB42 sublight engines of the type installed by the Corellian Engineering Corporation, but its drives were uprated to give it a speed of over a thousand kilometers per hour in a planetary atmosphere.

BEHIND THE SCENES

ROCKETS

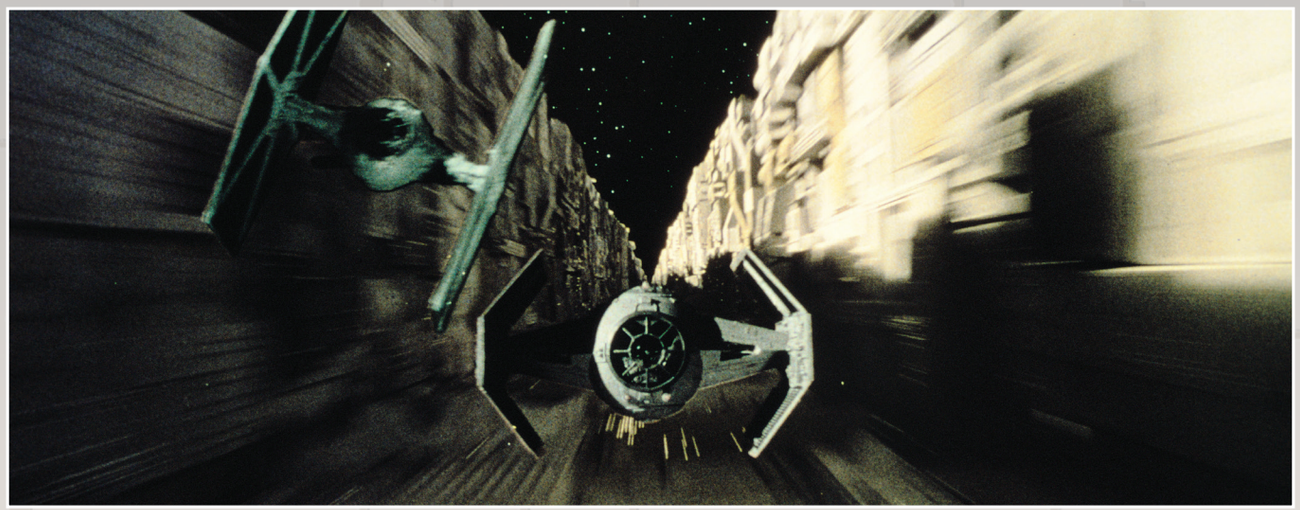


Courtesy NASA/MSFC/NASA/David Olive

During a NASA hot-fire test in 2013, a rocket containing 3D-printed parts blazes to life to explore how well such engine components withstand extreme temperatures and pressures.

Just as in the *Star Wars* universe, until a hyperdrive equivalent is invented, real-world spaceships are confined to sublight speeds, and the rocket motors of the early 21st century are the Earthly counterparts of sublight engines. However, engines based on technology such as the liquid-hydrogen designs that powered the *Apollo* spacecraft which flew astronauts to the moon at 40,250km/h (25,010 mph) can never take us to the stars. At that speed, as the 1979 *Star Wars Question and Answer Book About Space* revealed, a trip to the closest star would take thousands of years. Even with the technical advances that have taken place since then, the best rocket motors are still far too slow. When the Atlas V-551-powered mission to Pluto lifted off in 2006, the vehicle's RD-180 main engine and five solid rocket boosters provided more than 900 tonnes of thrust, enabling the *New Horizons* space probe to accelerate out of Earth orbit some 45 minutes later at a speed of around 58,000km/h (36,040 mph) Although that might seem impressive compared to the speeds of *Star Wars* ships (which use their engines more like high-performance aircraft do on Earth), the rockets expended all their energy in one sustained acceleration, and the mission still did not near Pluto until early 2015, nine and a half years later.

MF_32_2ED_SOS_US.indd 5 26/10/2023 08:33



The rebel attack on the first Death Star took place at sublight speeds, when the Alliance X-wings found themselves outclassed by the superior speed of Darth Vader's prototype TIE fighter, with its twin ion engines.

the ship's trajectory. Different combinations of the upper and lower, port and starboard plates can be used to make the ship pitch up and down or roll left and right, and in skilled hands, make the ship extremely maneuverable.

Ion drives (such as the popular Hoersch-Kessel) are another type of sublight engine, which work differently to the Girodyne model. They use a fusion reaction to produce a stream of high-energy charged particles.

The use of sublight engines in or near the atmosphere of inhabited worlds is prohibited because the hot exhaust they expel is mildly radioactive. If such drives were used regularly, the inhabited worlds on galactic trade routes would become heavily polluted.

A QUICK GETAWAY

To avoid pollution, it is common protocol to use a repulsorlift for propulsion in atmospheric flight and reserve use of the more powerful sublight drives for orbital navigation. Repulsorlift engines, widely found on air speeders, land speeders, and speeder bikes, work by producing a field that pushes against a planet's gravity, producing thrust without expelling any pollutants.

However, breaking the law was the last thing on Han Solo and Chewbacca's minds when they illegally engaged the *Millennium Falcon*'s sublight engines as the best way of putting some distance between themselves and the Imperial stormtroopers who entered Docking Bay 94 of Mos Eisley Spaceport on Tatooine with their blasters blazing.





Flying at sublight speeds with all her legendary agility, the *Millennium Falcon* was able to lead the decisive rebel attack that penetrated the second Death Star and destroyed the battle station from inside.

HEAVILY MODIFIED

Like nearly every other system aboard the *Millennium Falcon*, her sublight engines were heavily modified with the sole purpose of getting more power and speed out of them. It is not certain who modified the *Falcon*'s Girodyne SRB42s, but some unknown technician added a SubLight Acceleration Motor – or SLAM. This system puts the starship in 'overdrive' by drawing power from unused shipboard systems to give her additional speed.

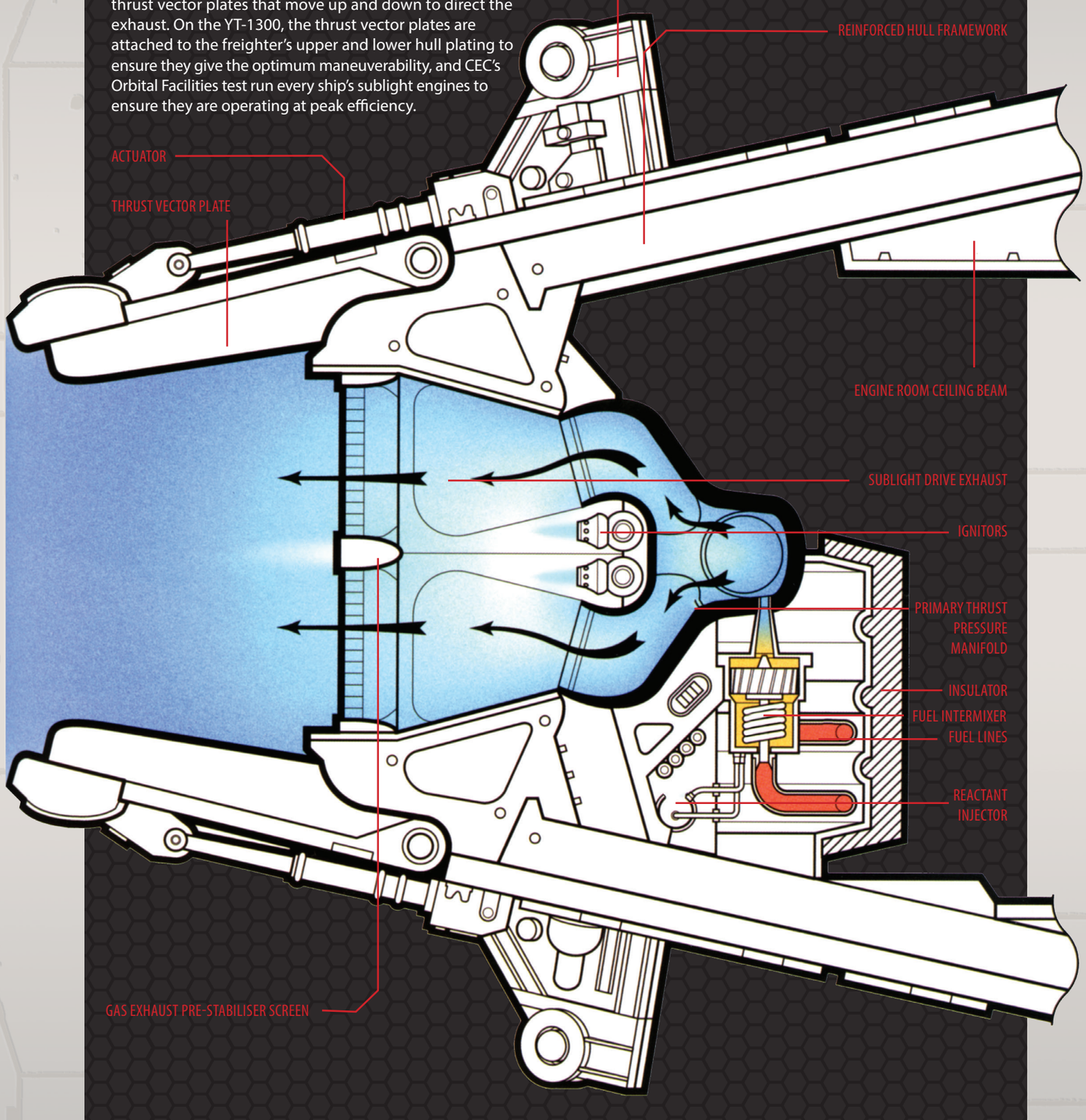
Han Solo and Chewbacca were forced to use all the power they could muster to dodge Tatooine's blockade of Imperial Star Destroyers and their TIE fighter screen. Were it not for the speed of her modified sublight engines, the *Millennium Falcon* might never have got the Death Star plans to the Rebel Alliance. The *Falcon*'s Girodyne SRB42s were also crucial in the Battle of Yavin, when Solo and Chewbacca knocked Darth Vader's prototype TIE fighter out of the battle over the first Death Star.

The engines were stretched to their limits again in the Battle of Hoth, when the *Falcon*'s crew just managed to evade an Imperial armada after the ship's hyperdrive was damaged. The legendary speed of the Girodyne SRB42s was also behind the *Falcon*'s designation as Gold Leader in the Battle of Endor, when former owner Lando Calrissian and his co-pilot Nien Nunb led the Rebel Alliance's successful offensive on the second Death Star.

MF_32_2ED_SOS_US.indd 6 26/10/2023 08:33

GIRODYNE SRB42 SUBLIGHT ENGINE

Like many sublight engines, the Girodyne uses a fusion reaction to break down the fuel into charged particles. The force of the thrust is regulated through several fuel drive pressure stabilizers mounted above and below the ship, and a series of movable thrust vector plates that move up and down to direct the exhaust. On the YT-1300, the thrust vector plates are attached to the freighter's upper and lower hull plating to ensure they give the optimum maneuverability, and CEC's Orbital Facilities test run every ship's sublight engines to ensure they are operating at peak efficiency.



MF_32_2ED_SOS_US.indd 7 26/10/2023 08:33

YOUR NEXT PARTS

COMPONENTS CHECKLIST

1. Hull frame BF-39
2. Thrust vector plates BP-23
3. Hull plating BP-20
4. Actuators (x 4)

In addition to another hull frame and more plating, you have received the first of the thrust vector plates and their external actuators.

In this stage, you'll see how the thrust vector plates come together, although it's not yet time to fix them permanently. Keep these and the other parts safely until later on, when you put together more of the underside of the hull.

WHERE THE PARTS FIT

HULL FRAME





HULL PLATING



All parts are for the **underside** of the hull.

PLANT-ON DETAILS

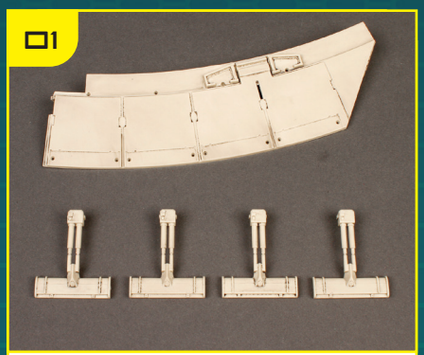


MF_32_2ED_BTF_US.indd 8 26/10/2023 08:31

THRUST VECTOR PLATES ASSEMBLY

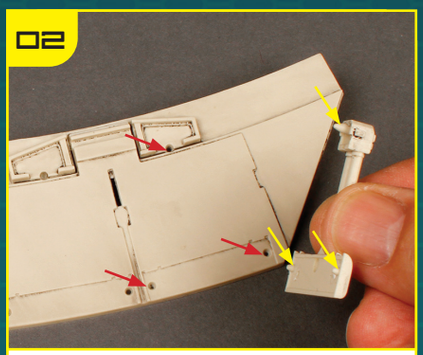
One of the most distinctive features of the rear of the *Falcon* is the sweep of thrust vector plates above and below the glowing sublight engines. Each of the 26 plates has its own hydraulic actuator, and here you see how the first four of these will be attached. But unless you have no plans to enhance the finish with paint, **we strongly recommend that you do not glue these permanently yet**, as the patchwork of colors extends under the actuator pistons and will need to be applied later on in the build.

01



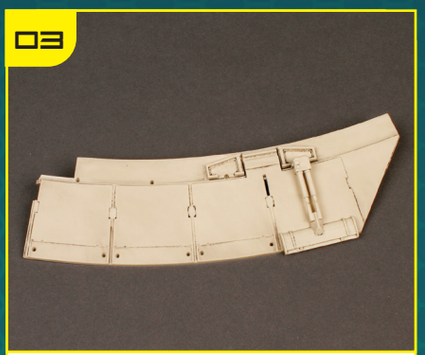
Take the bank of four thrust vector plates (Part 2) and the four actuators.

02



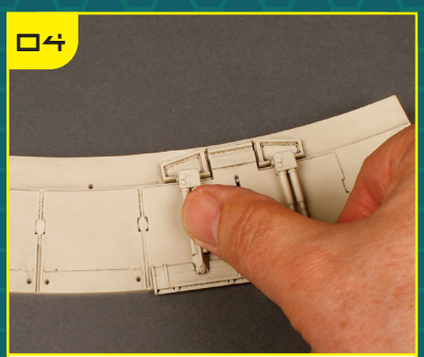
Each actuator has three small pins that fit into three matching holes in the plates.

03



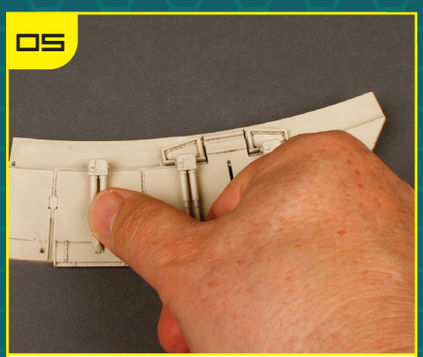
Test-fit the first actuator as shown, without glue.

04



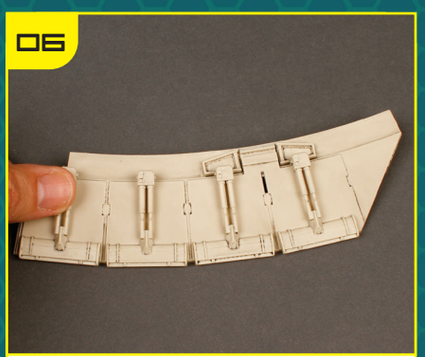
Test-fit the second actuator to the next thrust vector plate, as shown.

05



Work along the thrust vector plates, adding the third actuator.

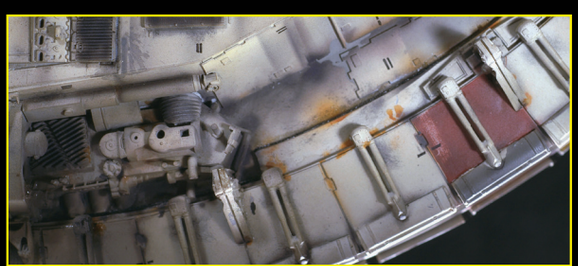
06



Finally, test-fit the fourth actuator to the last thrust vector plate.

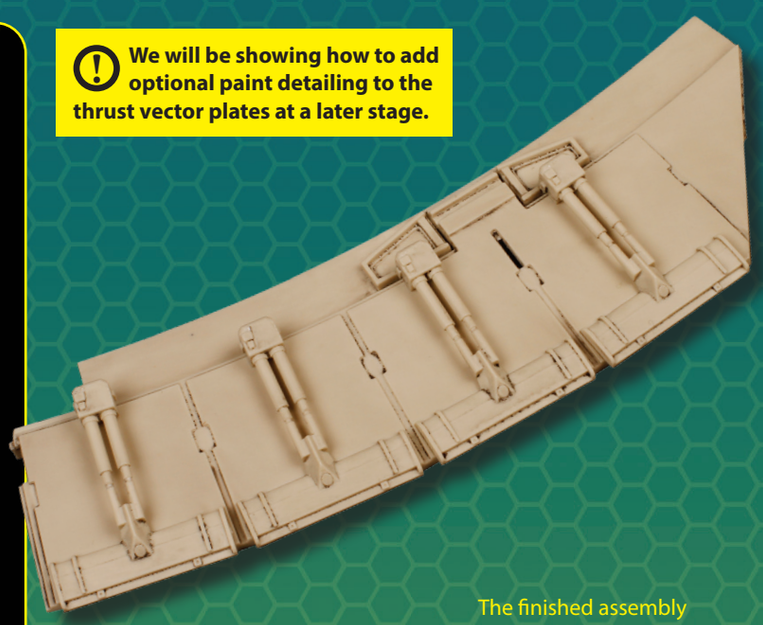
AUTHENTIC DETAILS

The thrust vector plates are part of the hull's patchwork of battered, mismatched components. If you do not wish to paint your model, you can choose to assemble it using the parts as they are supplied, but if you would prefer to get a completely authentic effect, the thrust vector plates will need to be painted **together with the rest of the underside**, but **before** the actuators are glued in place.



A detail of the thrust vector plates on the original filming miniature held in the Lucasfilm archive, showing the different colors applied to this area.

We will be showing how to add optional paint detailing to the thrust vector plates at a later stage.



The finished assembly should look like this.

MF_32_2ED_BTF_US.indd 9 26/10/2023 08:31

STAR WARS MILLENNIUM FALCON

FANHOME

DeAgostini COLLECTIBLES

MF_14_2ED_BC_US.indd 10 31/07/2023 19:25