STAR WARS MILLENNIUM FALCON

BUILD THE MODEL – EXPLORE THE GALAXY





THE *FALCON'S* IGNITION AND TAKE-OFF

F219FSC011

FANHOME

DeAgostini COLLECTIBLES

Disney · LUCASFILM

© & ™ 2023 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)

Pictures and © & TM 2023 LUCASFILM LTD.

© & ™ 2023 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

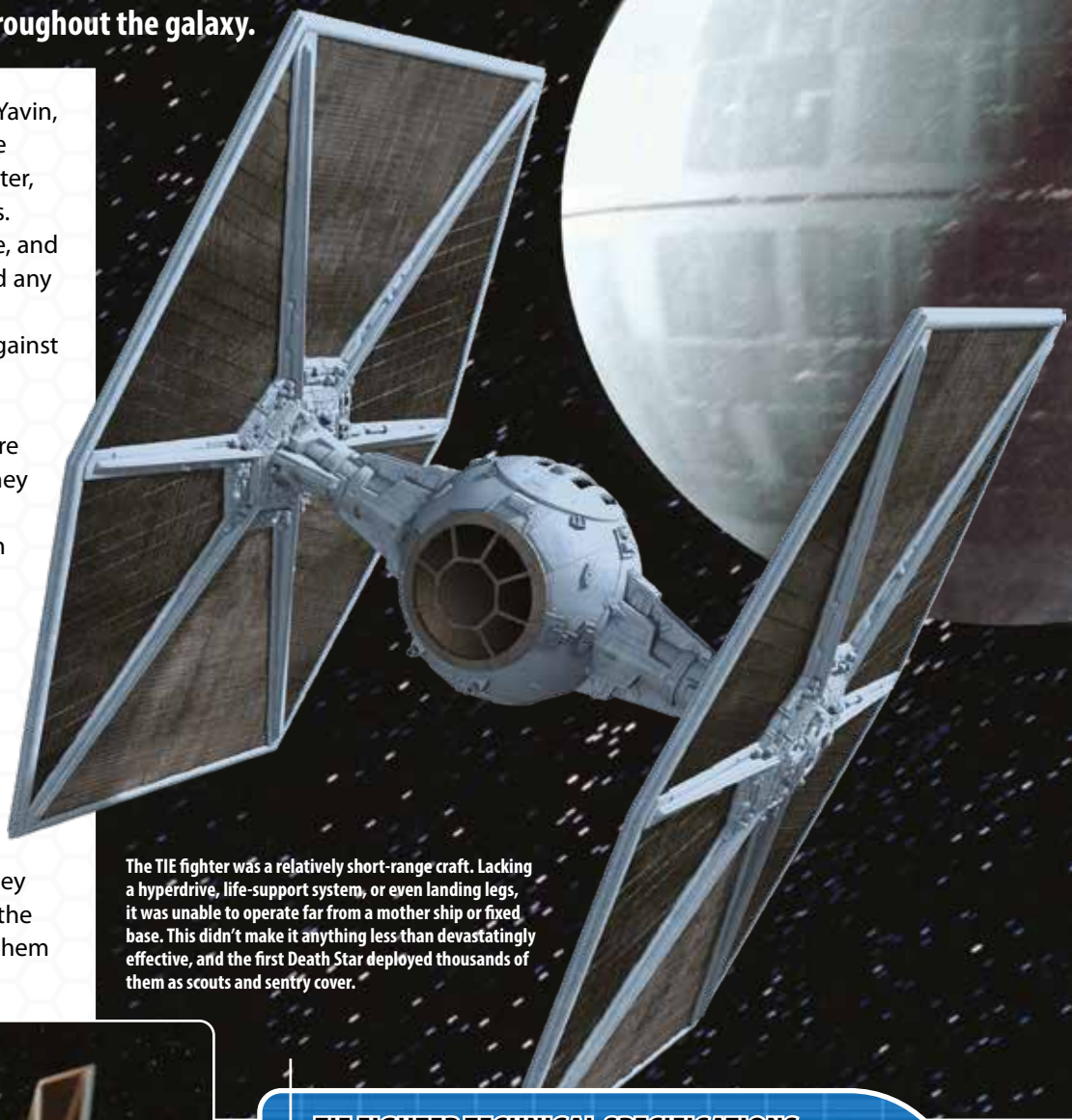
SPACE SUPERIORITY FIGHTER

IMPERIAL TIE/LN STARFIGHTER

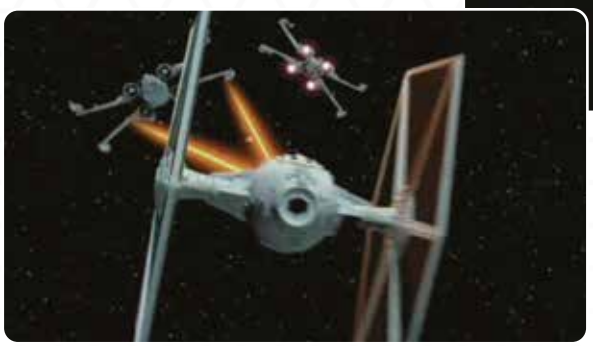
Highly visible symbols of Imperial oppression, Sienar Fleet Systems' small, agile TIE/Ln starfighters were built and deployed in massive numbers to enforce the rule of the Emperor throughout the galaxy.

By the time of the Battle of Yavin, the TIE/Ln had become the Empire's standard line fighter, mass-produced in huge numbers. They were deployed far and wide, and despite Han Solo's desire to avoid any Imperial entanglements, the *Millennium Falcon* was pitched against the Empire's deadly attack ships several times in her career.

While individual TIE fighters were effective and deadly weapons, they were designed to have tactical strength in numbers, attacking in swarms to overwhelm any opposition. With an advanced, sophisticated engine and no shields, hyperdrive, or even life-support systems to increase the mass, the TIE fighter was built to have speed and maneuverability at the expense of everything else, including the pilot's comfort. As a result, they were cheap to produce, helping the Empire to flood the galaxy with them at the height of its power.



The TIE fighter was a relatively short-range craft. Lacking a hyperdrive, life-support system, or even landing legs, it was unable to operate far from a mother ship or fixed base. This didn't make it anything less than devastatingly effective, and the first Death Star deployed thousands of them as scouts and sentry cover.

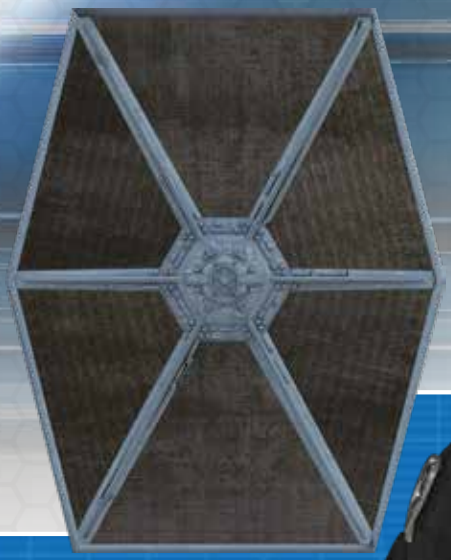


Small, lightweight, supremely agile, and equipped with a pair of laser cannons, the Imperial TIE fighter was a deadly match for the best ships and pilots which the Rebel Alliance could deploy.

TIE FIGHTER TECHNICAL SPECIFICATIONS

LENGTH	9.2 meters (30 ft, 2 in)
MGLT	105 MGLT
MAXIMUM SPEED	1,200 km/h (745 mph) in atmosphere
ENGINE UNIT(S)	SFS P-s4 twin ion engines
HYPERDRIVE RATING	None fitted
POWER PLANT	SFS I-a2b solar ionization reactor Secondary generator for cannons





THE TIE SERIES

The twin ion engine system was a radical invention from Raith Sienar, whose family company Sienar Fleet Systems designed and built the original T.I.E. starfighter, the forerunner of the Imperial TIE starfighter and its variants, which collectively became known as the TIE series. All TIE-series fighters have solar array wings and a solar ionisation reactor with two or more ion engine outlets. Later models included Darth Vader's TIE Advanced x1, the TIE/sa bomber, TIE/D Defender, TIE/IN interceptor, and TIE shuttle.

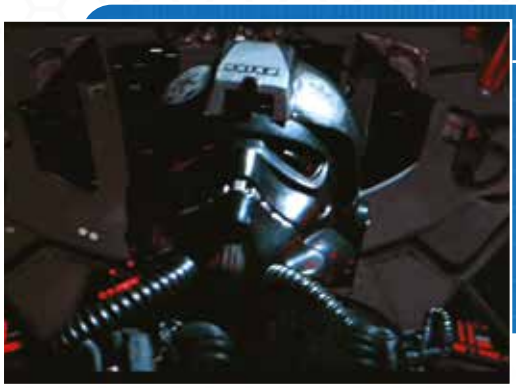
FUNCTIONAL DESIGN

The name TIE is an acronym for Twin Ion Engine. Together with the solar panels that form the fighter's wings, the ion drive is part of a complete propulsion system that works by accelerating gases to a very high speed and expelling them on a variable vector, which gives the fighter tremendous speed and maneuverability. Manufactured to very precise tolerances, the ion drive unit has no moving parts, so requires very little maintenance.

These distinctive craft have a near-spherical central cockpit, which was sometimes dubbed the 'eyeball' at the center of two flat, vertical hexagonal wings. The design was intended to reduce their frontal area to a minimum, making them hard to hit in a direct head-on attack. Conversely, enemy pilots learned that the large solar panels were vulnerable from the sides, and any damage affected the fighter's maneuverability in planetary atmospheres.

Because of the lack of life-support systems, Imperial pilots wore hermetically sealed flight suits and helmets, equipped with their own air supply and heating. Ultimately, however, the Empire viewed both the fighters and their pilots as expendable.

The TIE fighter's main armament is a pair of L-s1 laser cannons, controlled with the aid of a powerful suite of sensors and targeting computer. While



TIE PILOT

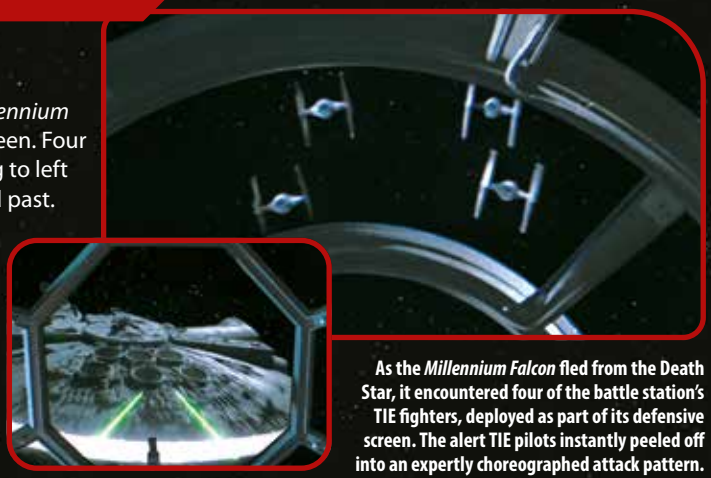
TIE pilots were the elite of the Imperial Navy. Only 10 per cent of candidates passed the tough physical and psychological training to join their ranks, although they were viewed as expendable, and their mortality rate was high. Former TIE pilots who were forced out of the ranks, or defected, included no less than Han Solo and Luke's friend Biggs Darklighter.

With no cockpit life support, TIE pilots depended on their bulky, fully enclosed helmets with integral breathing systems, plus hermetically sealed pressure suits.

ESCAPE FROM THE DEATH STAR

FOUR-TO-ONE ODDS

After they had freed Princess Leia from the Death Star, the *Millennium Falcon* still had to break through the battle station's fighter screen. Four of the TIE sentries assumed a standard attack pattern, breaking to left and right of the freighter, firing their laser cannon as they sped past. Even though Han had angled the shields to compensate, the concerted fire took out the lateral controls, and started a small fire in the instrument panels. Weaving around to make themselves as difficult to hit as possible, the Imperial fighters' shots struck home and it was only with difficulty that Han and Luke each picked off two opponents, using the *Falcon*'s quad lasers. Solo was far from pleased when Leia suggested (correctly, as it turned out) that the Imperials had let them escape in order to track them to the rebel base.



As the *Millennium Falcon* fled from the Death Star, it encountered four of the battle station's TIE fighters, deployed as part of its defensive screen. The alert TIE pilots instantly peeled off into an expertly choreographed attack pattern.

these packed enough energy to damage or destroy even a larger opponent with a well-placed shot, Imperial tactics favored the massed attack over individual effort and could almost always rely on wearing down an enemy's defenses. The standard attack squadron consisted of 12 fighters, which were formed up into combat wings made up of six squadrons, 72 fighters in all.

Lacking a hyperdrive meant that TIEs were short-range fighters, dependent on a base from which they could be deployed, or a larger mother ship that could carry them into action. They also lacked any landing gear, so were launched from special racks in their hangars, although they could, in an emergency, land on the flat lower edges of their wings.

The *Millennium Falcon* had several skirmishes with TIE fighters. During the escape from Hoth, Han Solo skimmed the planet's asteroids, forcing the pursuing fighters to crash into the surface of a moon-sized body of rock.



BEHIND THE SCENES

SOUND AND FURY

Lucasfilm's model makers produced large numbers of miniature TIE fighters for the sequences that showed the Empire's massed attacks. The filming miniatures were small enough to be handled by one animator, making the action sequences relatively simple to shoot. Unlike the *Falcon* and rebel ships, the Imperial craft appeared quite pristine, with no wear or surface markings. ILM's Lorne Peterson said that these small, clean-looking ships didn't appear particularly aggressive in the original edit, but that the sound effects brought them to life. Joe Johnston, visual arts director, compared their wailing roar to the Stuka dive-bombers of World War II, which were fitted with sirens purely to create a noise that would terrify those under attack.

The sound effect used for the TIE fighters came about almost by accident. George Lucas had liked the noise of some World War II rockets, thinking that it would be good for the sound of laser cannons. While sound designer Ben Burtt was researching original recordings of the rockets, he came across a tape of an elephant stampede that had been recorded for the 1958 adventure movie *The Roots of Heaven*. He had the idea of playing this back at slower speed, and this produced something that sounded very similar to the rockets. However, to add depth, Burtt taped the noise of a car whooshing past on a wet road and combined this with the elephants' trumpeting screams.

This effect was still intended to be used for the laser cannon, but during a test screening of a battle sequence that was shown to the crew, Burtt dropped in a selection of random sounds as the TIE fighters went zooming past. He chose to add the elephant noise purely because he had it to hand. However, after the screening, the studio audience raved about how perfectly the effect fitted what they imagined the Imperial ships would sound like – and the TIE fighter menace was born.

ILM even modeled damaged TIE fighters for filming. The ships were meant to be a uniform light blue, but this was scrapped because they did not show up in blue-screen filming. The TIE/Ln fighters of *A New Hope* were still relatively light in color, painted with Pactra Stormy Sea Blue made by Testors (actually more of a light gray). This shade was discontinued in the early 1980s, so the TIEs of *The Empire Strikes Back* and *Return of the Jedi* were darker, with a bluish hue added during post-production.



START-UP AND TAKE-OFF



The first challenge for any novice pilot is achieving a successful take-off. Once a ship reaches open space, even the most unwieldy craft becomes so much simpler to fly that the crudest of autopilots can manage it with ease.

Luke Skywalker was unimpressed with his first sight of the *Millennium Falcon*, but when the fugitives were forced to make a hasty exit from the docking bay, the ship was able to do so in a fraction of the time that a normal YT-1300 would have required.

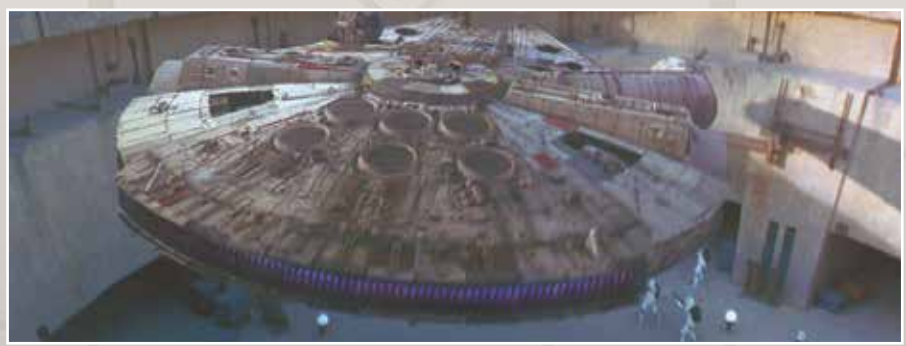
Since the introduction of the original YT-1200, pilots who have not flown one of the Corellian Engineering Corporation's YT series ships before have often wondered how difficult it is to adjust to flying a wide-bodied freighter with an offset cockpit.

When CEC decided to launch the YT-1300, the company played on this natural concern with a clever double game. The corporate publicity machine suggested that before purchasing a new ship, potential customers should book a trial session with an authorized dealership or reseller equipped with an on-site flight simulator.

On the face of it, this advice seemed to acknowledge that the ship was somehow difficult to fly. This might have been expected to harm its prospects, but in fact, by suggesting that the YT-1300 was difficult to handle, experienced pilots reacted by taking up CEC's offer as something of a challenge. Large numbers of them booked test flights, and discovered that the YT-1300 was not only simpler to handle than they had expected, but that the ship handled like more like a fighter than a freighter – precise, agile, and responsive.

EASY TO HANDLE

The difficulty of controlling the vessel from a point far out to starboard proved to be no greater than operating



The YT-1300 is a wide ship at 25.61m and often leaves limited clearance in a landing bay. The offset cockpit means that much of the vessel is not in a direct line of sight, which can prove a little intimidating to new pilots.

FLIGHT CONTROL: PART 1

Some of those who have only driven a land- or water-based craft find it difficult to adjust to the idea of flying an aircraft or starship that is capable of moving freely in three dimensions, so this guide starts from first principles.

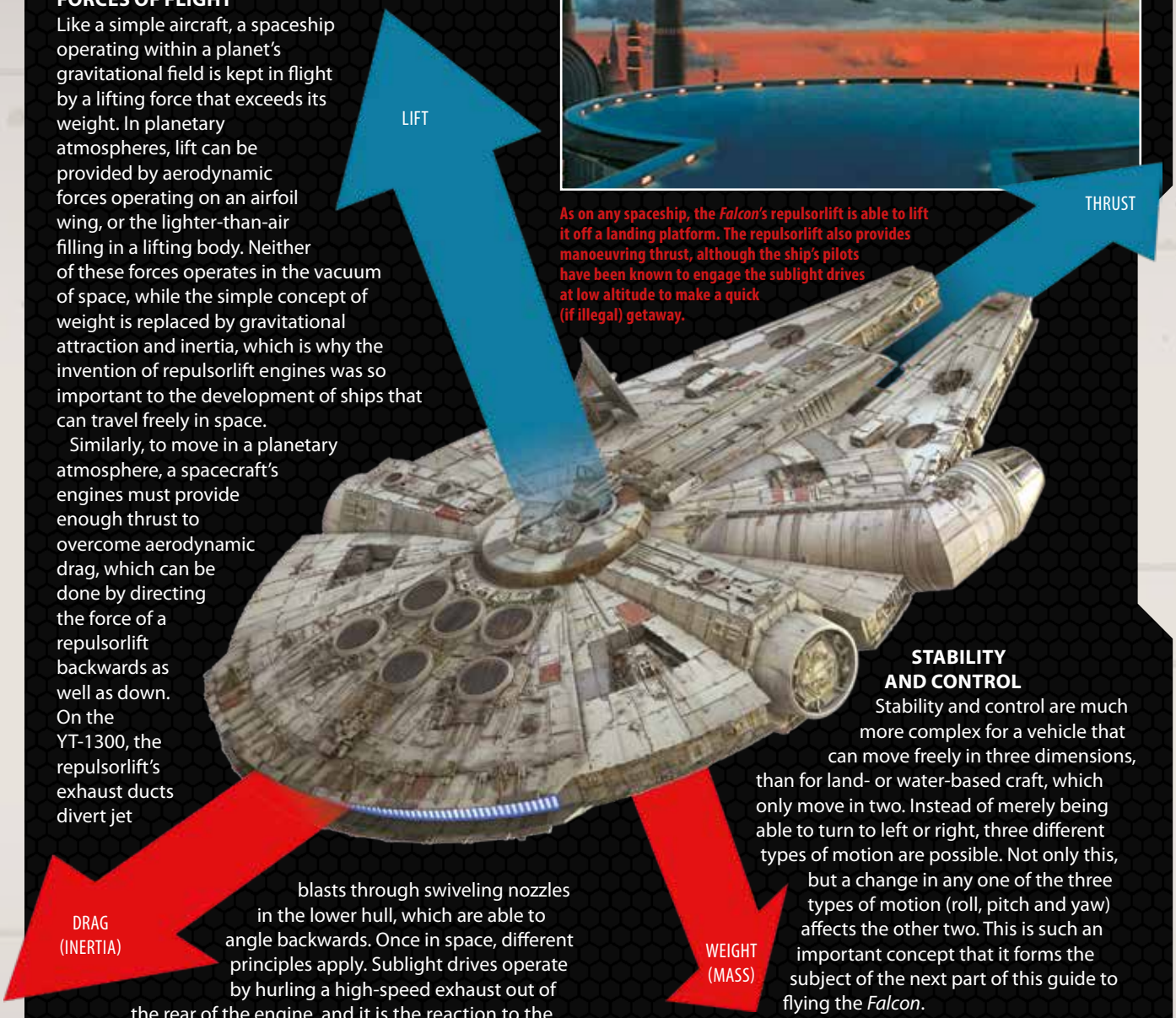


As on any spaceship, the *Falcon's* repulsorlift is able to lift it off a landing platform. The repulsorlift also provides manoeuvring thrust, although the ship's pilots have been known to engage the sublight drives at low altitude to make a quick (if illegal) getaway.

FORCES OF FLIGHT

Like a simple aircraft, a spaceship operating within a planet's gravitational field is kept in flight by a lifting force that exceeds its weight. In planetary atmospheres, lift can be provided by aerodynamic forces operating on an airfoil wing, or the lighter-than-air filling in a lifting body. Neither of these forces operates in the vacuum of space, while the simple concept of weight is replaced by gravitational attraction and inertia, which is why the invention of repulsorlift engines was so important to the development of ships that can travel freely in space.

Similarly, to move in a planetary atmosphere, a spacecraft's engines must provide enough thrust to overcome aerodynamic drag, which can be done by directing the force of a repulsorlift backwards as well as down. On the YT-1300, the repulsorlift's exhaust ducts divert jet blasts through swiveling nozzles in the lower hull, which are able to angle backwards. Once in space, different principles apply. Sublight drives operate by hurling a high-speed exhaust out of the rear of the engine, and it is the reaction to the force of this that pushes the ship in the opposite direction. Although this works just as well in a planetary atmosphere, using a sublight drive near to most planets is illegal because of the pollution caused by the hot, mildly reactive exhaust gas.



Like any vehicle which is able to fly, the *Falcon* has to overcome the natural forces (shown in red) that prevent it moving upwards and forwards. To take off, its engines need to generate enough lift to overcome its mass, while forward motion depends on overcoming the natural drag or inertia.

STABILITY AND CONTROL

Stability and control are much more complex for a vehicle that can move freely in three dimensions, than for land- or water-based craft, which only move in two. Instead of merely being able to turn to left or right, three different types of motion are possible. Not only this, but a change in any one of the three types of motion (roll, pitch and yaw) affects the other two. This is such an important concept that it forms the subject of the next part of this guide to flying the *Falcon*.

any ship with areas outside the pilot's line of sight – which included anything larger than the skyhopper or snub fighter. Pleasantly surprised, thousands of newbies to the model left the simulator and signed straight up to purchase a new YT-1300, which was exactly what CEC had intended.

Like any awkwardly large ship, the only time that the vessel's configuration really matters to the pilot is when maneuvering in a confined space, particularly during take-off and landing, when, of course, the pilot has the assistance of a whole bank of sensors that will detect the location of any obstacles around the ship. As with any spacecraft, low-speed control of the YT-1300 is assisted by fully integrated repulsorlift 'anti-grav' engines and landing jets.

Starting is the first thing that new pilots are shown on the simulator. CEC insists that the engine should be run for a three-minute warm-up period before engaging the repulsorlift drive for lift-off. This is important to prevent damage to the engines themselves or other systems, but doesn't always suit those who may have to make a quick getaway. Smuggler Han Solo extensively modified the *Millennium Falcon* so that he was able to launch it within 20 seconds, but it would be disastrous to attempt this in a standard YT-1300. Similarly, the stock ship's sublight engines also need a three-minute warm-up, while the hyperdrive demands even more.

MOVING OFF

With the engines warm, the ship is ready to move off. The controls (which are duplicated for the pilot on the left and co-pilot on the right) are similar to those on most starships. The throttle controls the speed: push forward to go faster, pull back to decelerate. Deceleration operates together with the ship's thrust-regulating alluvial dampers, and is linked to the attitude and braking thrusters for accurate low-speed maneuvering.

Once the ship is under way, it is flown using the dual control yokes, which operate in much the same way as on any starship: to ascend, pull back on the yoke; to go down, push it forward. Rotate the yoke to control pitch and roll, and use the auxiliary side-stick for tight turns and rolls. This should be second nature to any experienced pilot.



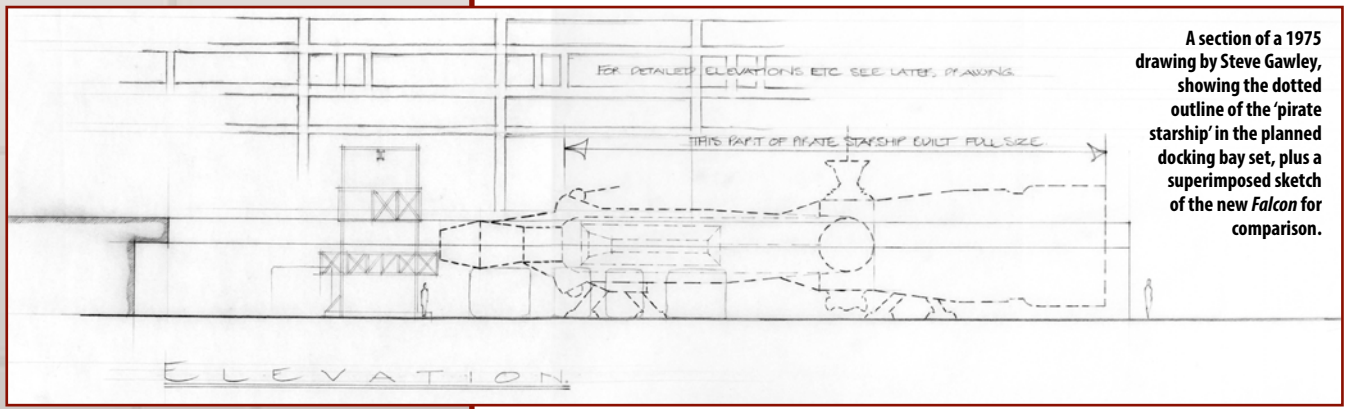
Han Solo was skilled at getting his ship out of tight spots. Not only did he sometimes flout the ban on using sublight engines within a planetary atmosphere to assist a high-speed getaway, but he had also modified the *Falcon's* power systems so he could safely ignore the dire warnings about taking off in a YT-1300 without a three-minute warm-up.

HALF A FALCON

The first time the *Millennium Falcon* appeared was when Luke Skywalker encounters it parked in Docking Bay 94 in Mos Eisley, just before Han's desperate shoot-out with the stormtroopers and hasty take-off. This sequence caused several headaches for the Elstree art department when George Lucas threw out the original 'pirate starship' design. Late in 1975, ILM's Steve Gawley sketched out comparisons between the old and the new ship, showing how much of the new *Millennium Falcon* would fit on the set that was already planned, while Ralph McQuarrie updated his production painting to show the new ship in January 1976. The extra width of the *Falcon* meant that only half of it could actually be built on the set. As this already took up most of Elstree's Stage 3, clever perspective had to be used to make the docking bay look much larger than it was, especially during the shoot-out with the stormtroopers, who were really only meters away from Han.



Lining up a shot with Harrison Ford under the 'half *Falcon*' constructed in the tight confines of Stage 3 at Elstree.



A section of a 1975 drawing by Steve Gawley, showing the dotted outline of the 'pirate starship' in the planned docking bay set, plus a superimposed sketch of the new *Falcon* for comparison.

YOUR NEXT PARTS

This issue includes another wall for the hold, as well as more parts for the bottom of the hull, which you will be assembling soon. The following pages show you how to add the tangle of pipework that completes the starboard wall.

Stage 11 of the assembly continues fitting out the hold. To do this, you will need some of the small components provided with Issue 8, which you started fitting in Stage 10. For now, keep the hold wall and pieces for the bottom of the hull safe in the parts bag until it is time to assemble them.

COMPONENTS CHECKLIST

1. Hold rear wall
2. Hull frame BF-14
3. Radial stiffening rib
4. Radial stiffening rib
5. Rib connector
6. Fixing screws (x 2, plus spare)
7. Fixing screws (x 6, plus spare)
8. Fixing screws (x 12, plus spare)
9. Fixing screws (x 4, plus spare)
10. Hull plating BP-11

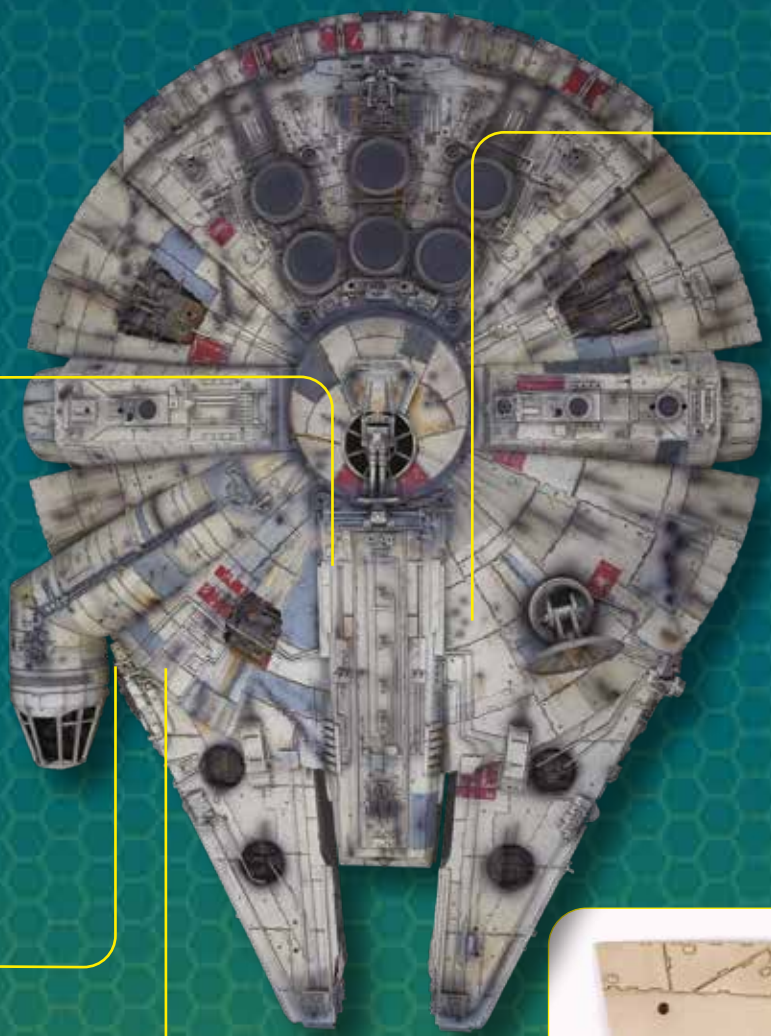
WHERE THE PARTS FIT

INTERNAL DETAILS



HULL FRAMES







HULL EXTERIOR



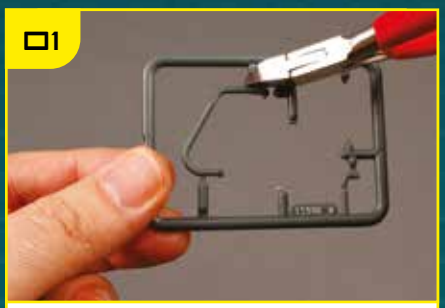
Parts 2, 6, 7 and 8 are for the **underside** of the hull.



FITTING THE FIRST PIPE

The *Falcon's* hold is full of untidy pipes and ducts. The first of these (which hooks around the doorway) is supplied in two parts on the dark gray sprue that came with Issue 8 (Part 5).

01



Carefully clip the longer piece of pipe off the sprue, and remove surplus flash.

02



Clip the short 'J'-shaped piece off the sprue. Be careful not to lose it, as it can easily fly off when it breaks free.

03



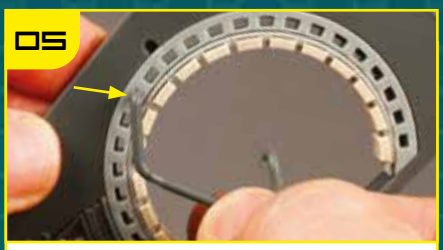
There is a small pin on one end of the pipe, and a matching socket in the 'J'. Test-assemble the pipe without glue to make sure it is correctly aligned.

04

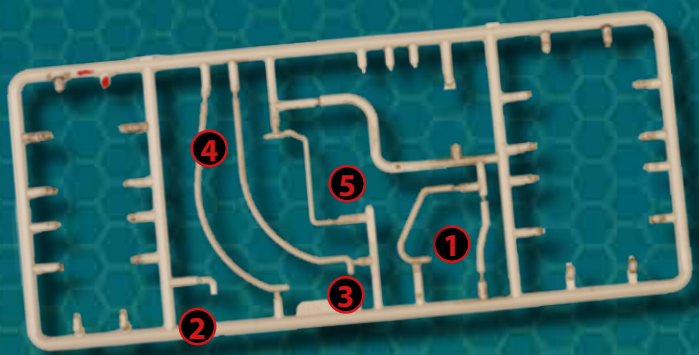


The pipe should look like this. Check that it fits as in Step 5 and the completion picture, then glue the parts together with a drop of superglue.

05



Fit end A into the arrowed hole in the door liner and hook end B around the liner as seen below. When it fits correctly, secure the ends with drops of glue.



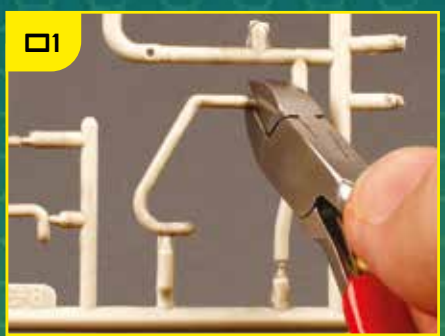


COMPLETING THE PIPEWORK

The remaining pipes were supplied on the light gray sprue from Issue 8 (Part 6). Use the numbered diagram above to help you see which one goes where.

You will find it helpful to do a dry run of the assembly before gluing the pipes in place. Note that pipes 3 and 4 are only glued at the top. This allows them to spring into place as shown in Step 4 on page 10.

01



Carefully clip pipe piece 1 off the sprue, and remove surplus flash.

02



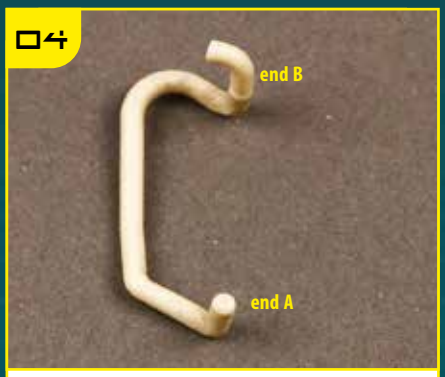
Clip the short 'J'-shaped piece 2 off the sprue. Be careful not to lose it, as it can easily fly off when it breaks free.

03



There is a small pin on one end of pipe 1, and a matching socket in the 'J'. Test-assemble the pipe without glue to make sure it is correctly aligned.

04



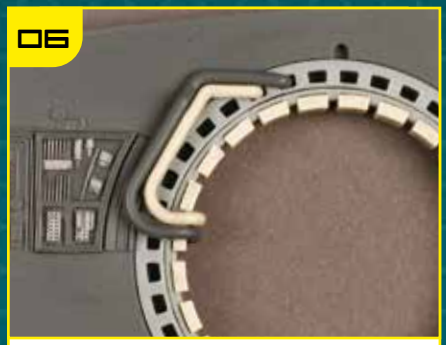
The pipe should look like this. Check it fits as in Steps 5 and 6, then glue the joint.

05



Fit end A into the hole in the door liner next to the first pipe, and swing the pipe down into position as in Step 6.

06



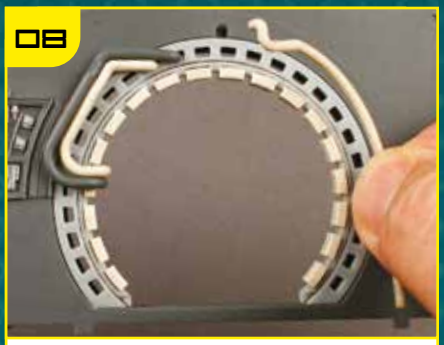
Hook end B around the liner above the first pipe. When it fits correctly, secure the ends with drops of glue.

07



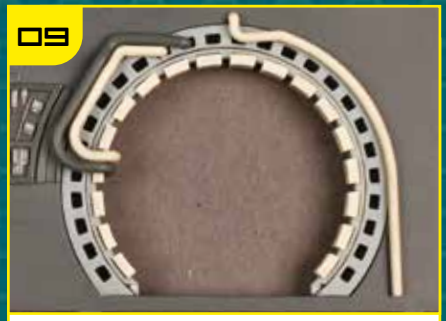
Clip pipe 3 off the sprue, and remove surplus flash. Handle the part carefully, as it is quite thin.

08



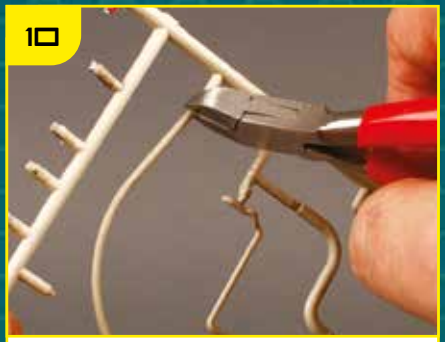
Fit the hooked end into the central hole above the door. Make sure it fits as in Step 9, before gluing it in place.

09



Align pipe 3 with the line where the door liner is fitted into the hold wall. When you are sure it fits, **secure the top end only** with a drop of superglue.

10



Clip pipe 4 off the sprue, and remove surplus flash. Handle the part carefully, as it is a thin molding.

11



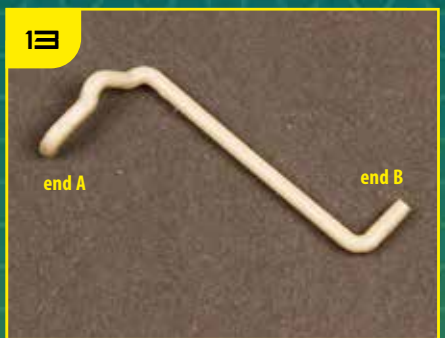
Test-fit pipe 4 following the curve of pipe 3. When you are sure it fits, **secure the top end only** with a little superglue.

12



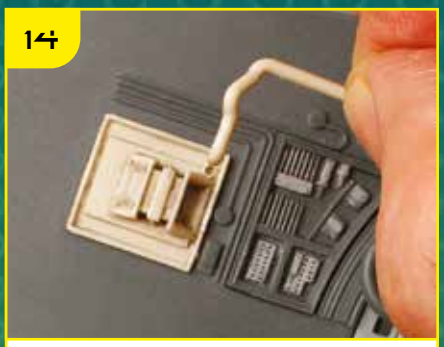
Clip the final pipe section 5 off the sprue and remove any surplus flash.

13



The pipe looks like this: there is a more complicated kink at end A, which also has a small locating pin.

14



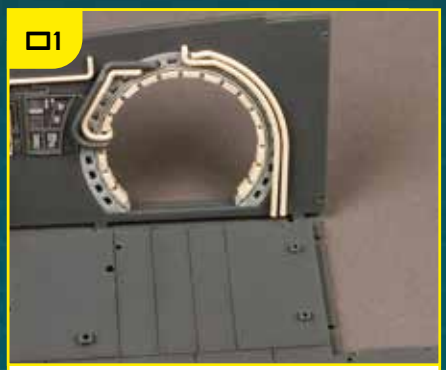
Fit the pin on end A into the small hole in the light gray instrument panel that you fitted at Stage 10.

HOLD ASSEMBLY

Although you aren't ready to assemble the *Falcon*'s hold permanently just yet, you can test-fit the starboard wall to the floor to see the effect of the pipework.



01



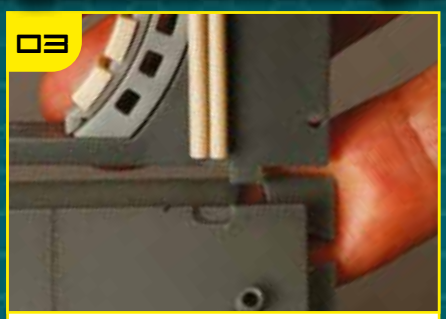
Take the assembled hold wall and align it with the hold floor, as shown.

02



There is a recess running all around the edge of the hold floor. This has dovetail sockets, as arrowed, at intervals.

03



Fit the three dovetails on the bottom of the hold wall into the matching sockets in the floor. You have to push the wall downwards to lock it into position.

04



Make sure that the ends of the two light grey pipes locate in the oval socket in the hold floor. (This is the reason you only glued the tops of these pipes.)

BEHIND THE SCENES

IN THE PIPEWORK

The Elstree designers sketched only the basic structure of the *Falcon*'s hold, leaving Roger Christian's set dressers to add a complex web of unruly external ducts, pipework and wiring that would suggest the years of modification and fixing-up which a real ship might undergo. Christian later explained that a convincing result depends on starting with the basic pipes and larger pieces, gradually adding details with a logic that suggests a real function. His success with the *Falcon* was developed even further in 1978 on the much larger *Nostromo* sets in *Alien*, for which production buyer Jill Quertier sourced many sizes of the same pipes used on *Star Wars*. For a time, similar designs became almost a sci-fi cliché – to the point that ducts were a central plot feature of Terry Gilliam's dystopian fantasy *Brazil* (1985), in which a whole industry exists around supplying and servicing them.



The entrance to the *Falcon*'s hold was festooned with a variety of ducts, pipework and wiring scavenged from sources as diverse as air conditioning systems, scientific equipment and scrap from airplanes, telephone exchanges, and office machinery.

