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ISSUE 8

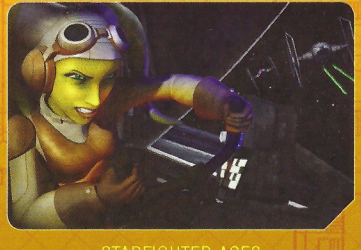
STAR WARS™

# BUILD YOUR OWN X-WING

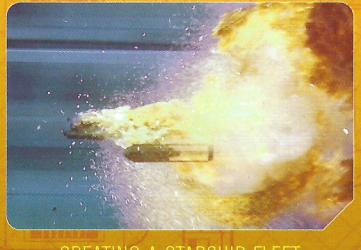


## A SUPERB MODEL OF LUKE SKYWALKER'S 'RED FIVE' STARFIGHTER

ALSO INSIDE



STARFIGHTER ACES
**HERA SYNDULLA**



CREATING A STARSHIP FLEET
**MOVIE MAGIC**

DeAGOSTINI

# CONTENTS ISSUE 8

STAR WARS™
BUILD YOUR OWN
X-WING


## CREATING A STARSHIP FLEET 2
MOVIE MAGIC – EDITING THE TRENCH RUN

The climactic attack on the Death Star would take a quarter of an hour of screen time, with hundreds of edits and a host of visual effects.

## STARFIGHTER ACES 6
HERA SYNDULLA – REBEL CELL LEADER

Born on Ryloth during the Clone Wars, expert pilot Hera Syndulla went on to lead her own group of rebels aboard her starship, the *Ghost*.

## BUILD THE X-WING 12
UPPER STARBOARD WING

Continue assembling the first of the X-wing's S-foils by adding a metal frame and more details to the upper wing panel.



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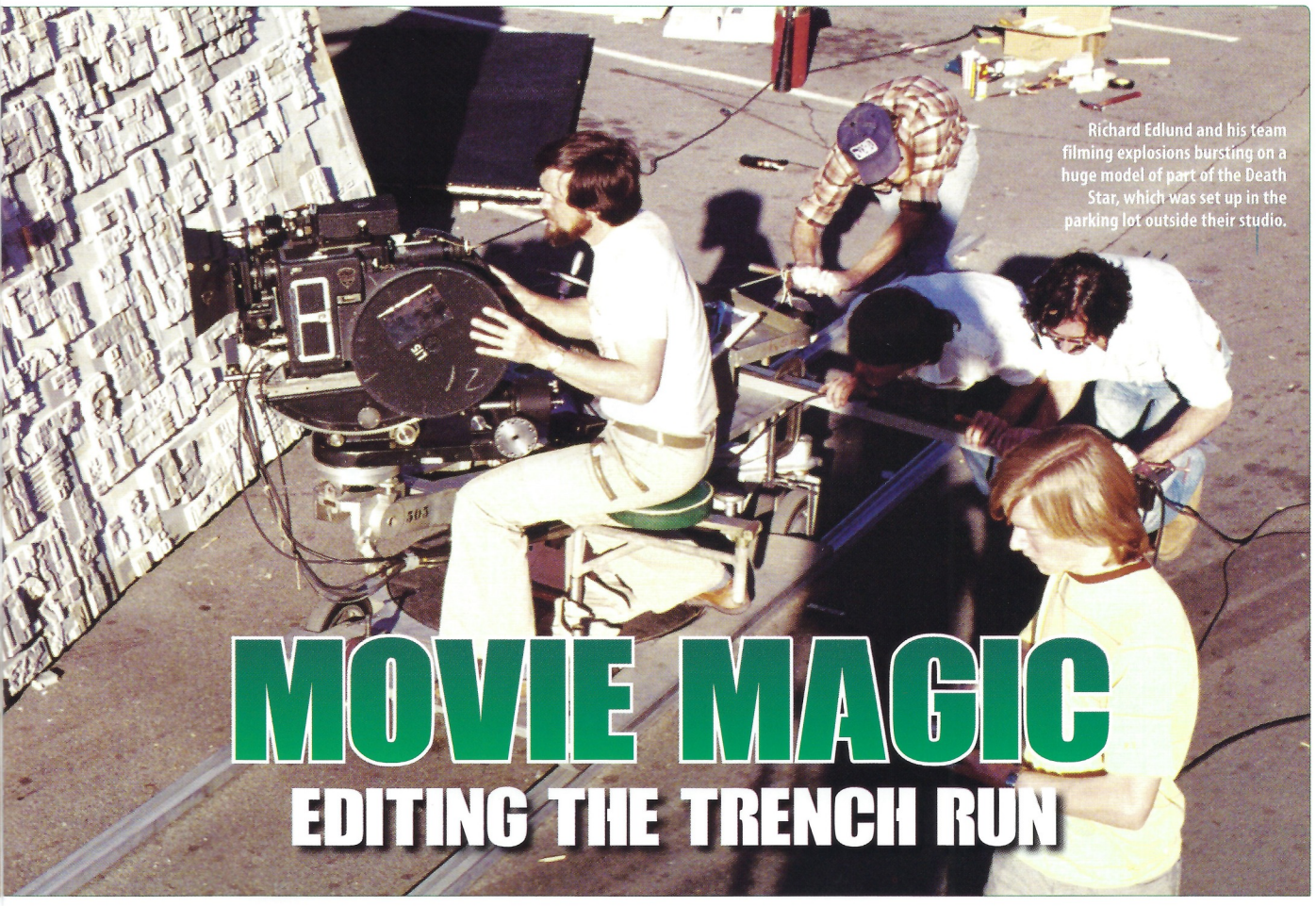


The climactic attack on the Death Star would take roughly as long as the 'estimated time to firing range, 15 minutes' heard in the Rebel command centre. That intense quarter of an hour of screen time would involve hundreds of edits, quickly cutting from scenes of the ships in flight to close-ups of the pilots and back again.

The live-action footage from Elstree and Shepperton was in the can, while ILM's motion-control rig had shown it was capable of rendering convincing sequences of X-wings and TIE fighters wheeling through space. What was still to come were the visual effects that would add the excitement, the danger, and the tragedy of the battle. Those were the responsibility of Industrial Light & Magic – and George Lucas's new hirings were under enormous pressure of time and budget.

### A BIGGER BANG

ILM's screen tests of small-scale explosions using models had been disappointing, so in



Richard Edlund and his team filming explosions bursting on a huge model of part of the Death Star, which was set up in the parking lot outside their studio.

# MOVIE MAGIC

## EDITING THE TRENCH RUN

September 1976, pyrotechnics experts Joe Viskocil and Bruce Logan and half a dozen specialists were brought in and set up in a larger stage. There they could safely set off the kind of slowly growing fireball followed by a big bang that Lucas wanted.

For the shots of X-wings and Y-wings blowing up, eight or nine miniatures were covered in an inflammable paste that would create a flare, augmented by sparks of magnesium, before the ship was finally destroyed by an electronically detonated squib. Preparing each model took some time, as the ships were 'pre-broken' to create weak points where they were guaranteed to come apart. Then they were rigged with explosives and wired up.

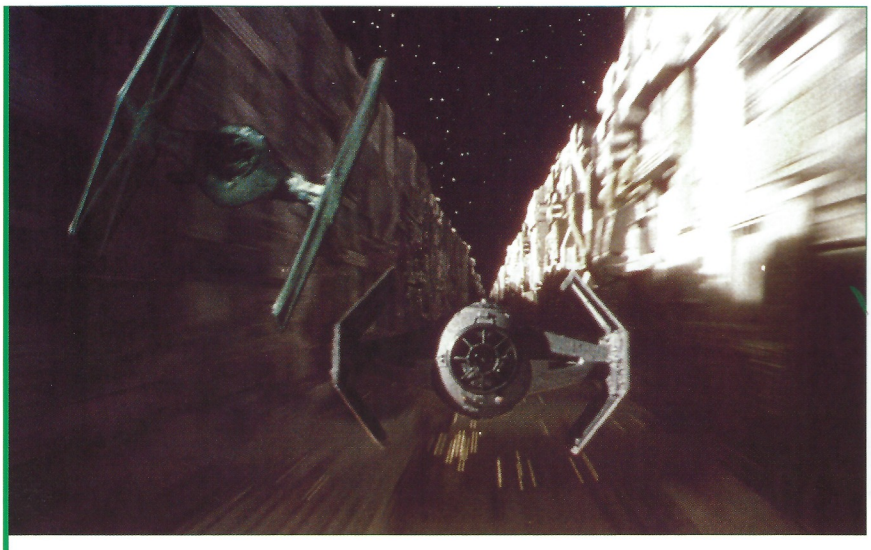
Other specialists were brought in to help add the laser cannon blasts that ripped across the screen, while another effects house based in the USA was given the technical job of blending the widescreen 'anamorphic' footage shot in England with the film shot on ILM's Vistavision cameras. Under pressure of time, the visual effects people worked shifts long into the night when it was quiet and the neighbouring factories weren't competing for the limited electrical power on the local grid.



**Filming an X-wing blowing up at the special effects house Nine-Ten, set up by pyrotechnics experts Joe Viskocil and Bruce Logan who were brought in to create the kind of dramatic explosions that George Lucas wanted.**

### BLUESCREEN EFFECTS

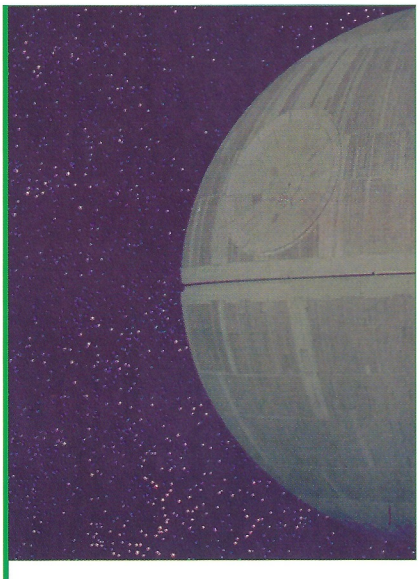
Controlling the lighting for the bluescreen work proved demanding,



Motion-control filming was used to capture the miniature ships speeding along the model of the Death Star's trench. The star field in the background was laid in over areas that were originally bluescreen.

but the technique delivered the hoped-for results. A convincing star field was created by ILM's Joe Johnston, who had two eight-by-four-foot sheets of perspex set into a kind of curved 'light box' measuring 16ft long. The surface was painted silver, then black, to make it opaque – after which Johnston poked holes to simulate stars when lit from behind.

To create the battle action, the two principal special effects photographers, Richard Edlund and Denis Muren, divided up the shots and sequences between them. Edlund shot the scenes of the Death Star trench and defences, while Muren filmed the X-wing squadron's approach and departure. Both were learning on the job, adapting to the way of working enforced by the use of the motion-control camera, coming to realise its advantages, and improvising when things weren't looking as good as they should.



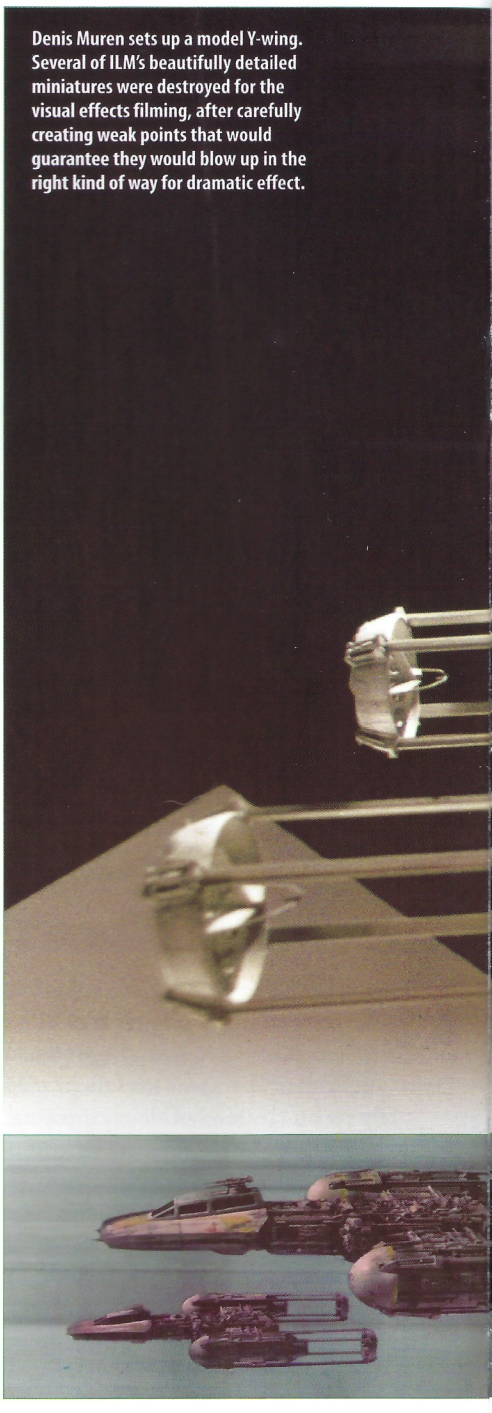
The 'star field' that appeared as the background to many scenes was a giant model that Joe Johnston made from painted Plexiglas on a huge 'lightbox'.

The trench was a huge structure, around 90cm wide and 60cm deep, and some 20m long. Edlund recalled that despite the sophistication of the motion-control rig, there was still a need for old-school skills, using tools as mundane as cardboard and tape to control the lighting on the models. Many shots were taken more than once, with Joe Johnston drawing up story boards as George Lucas realised that some of the ships needed to change their angles.

## DRAMATIC EFFECTS

There was also a need to adapt the storytelling. As the footage was roughly edited, it became clear where elements weren't working – and nowhere was this more obvious than in the end battle. The original version of the script that had been filmed in the studio had Luke making not one but two trench runs, but after the rough edit was reviewed, the decision was taken to combine both runs into one to tighten the action. This put a lot more pressure on the edit, as the short span of the single dash along the trench had to be extended with cuts to other pilots coming to grief; Luke's decision to use the Force after hearing Obi-Wan; R2-D2 being hit; Han joining the action; and Luke's shot.

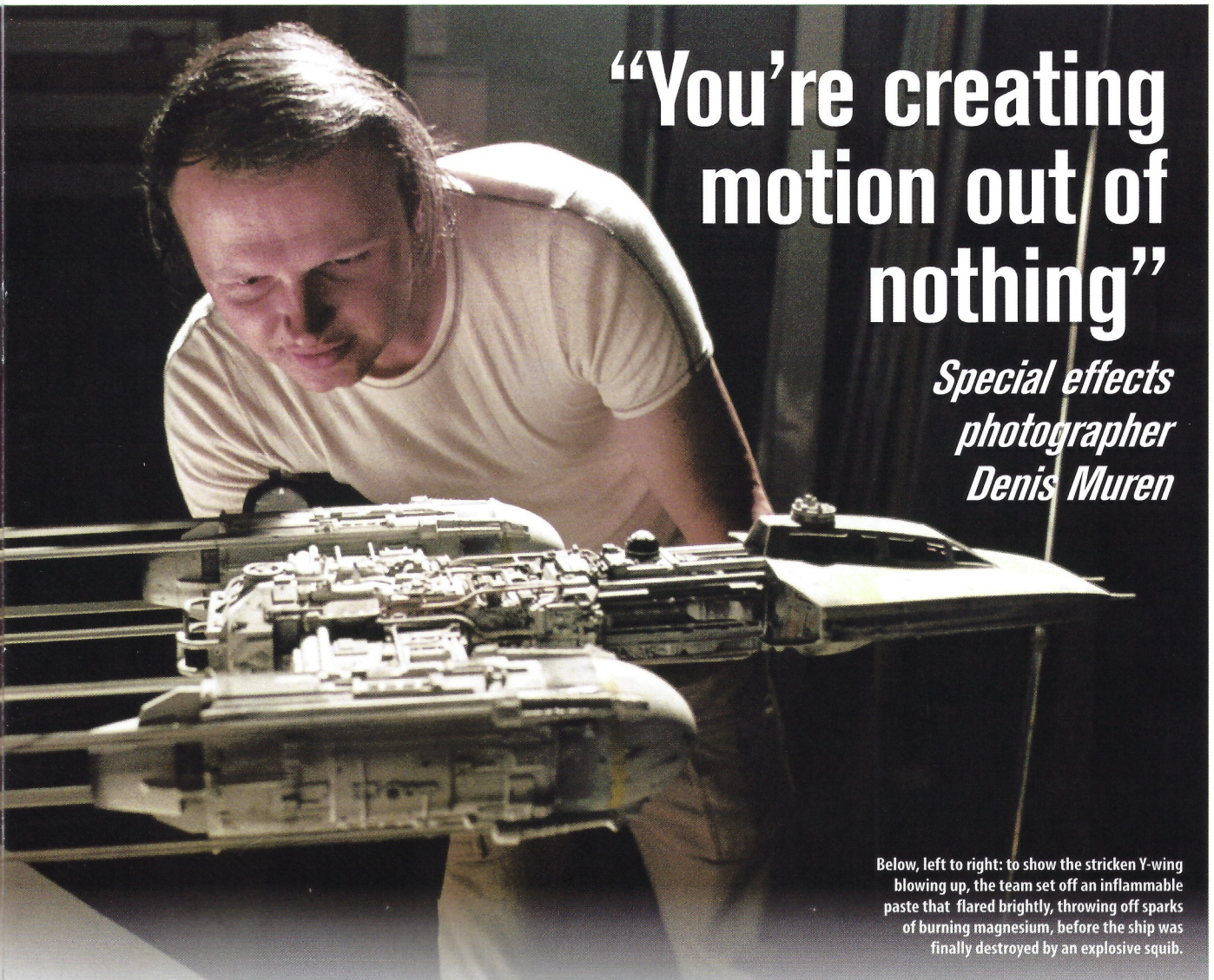
Sections of the end battle began coming together in December 1976,



Denis Muren sets up a model Y-wing. Several of ILM's beautifully detailed miniatures were destroyed for the visual effects filming, after carefully creating weak points that would guarantee they would blow up in the right kind of way for dramatic effect.

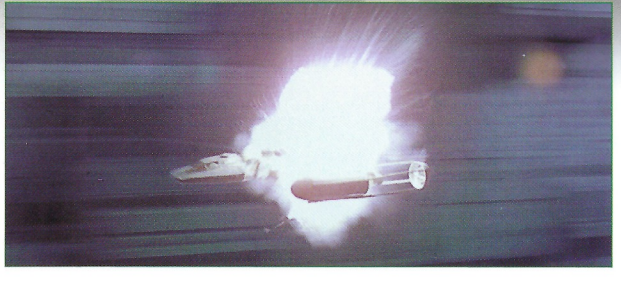
# "You're creating motion out of nothing"

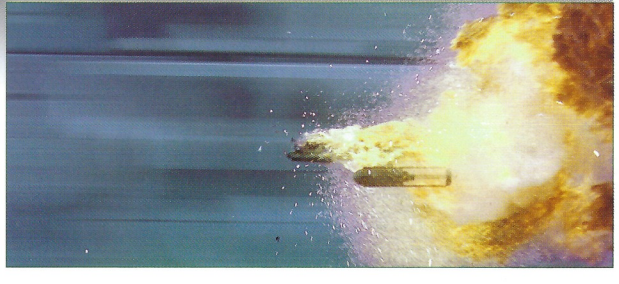
## *Special effects photographer Denis Muren*



Below, left to right: to show the stricken Y-wing blowing up, the team set off an inflammable paste that flared brightly, throwing off sparks of burning magnesium, before the ship was finally destroyed by an explosive squib.







but the huge number of complex shots meant that ILM was still working on them until the middle of April the next year. At the end of the month, the battle sequence was turned over to Sam Shaw, who worked with Lucas to mix the sound effects created by Ben Burtt, and dub them onto the footage.

Final pickups and reshoots were edited in to clean up other aspects of the action, while some scenes had to be composited with the matte paintings that would add the enormous vistas of space, interiors of the Death Star and the backgrounds of Tatooine and Yavin. One of the last things to be added was the visual effect for Luke's proton torpedo going into the exhaust port, where it will set off the chain reaction that blows up the Death Star.

After an immense final push, the preview was ready to be shown on the first day of May 1977. It had been a four-year struggle to deliver George Lucas's vision, but on the 25th of the month, *Star Wars* began its theatrical run, changing movie-making forever. And it wasn't long before there was talk of whether the smash hit of the summer would spawn a sequel…

# HERA SYNDULLA

## REBEL CELL LEADER

Born on Ryloth during the Clone Wars, Hera's father was Cham Syndulla, who led the Twi'lek people to victory against the Separatists, only to see their world taken over by the Empire. For Hera, rebellion was in her blood.

Being brought up on a violently occupied world was impossibly hard on Hera Syndulla. While Cham led his resistance fighters, his wife and daughter were often forced to hide underground to avoid the droid soldiers of the Separatist invaders. On one such occasion, Hera looked up and saw Republic starfighters and other craft battling for her planet's future. In an instant, Hera knew she wanted to fly.

### THE WIDER PERSPECTIVE

If the Republic victory over the Separatists brought the Twi'leks hope, it was soon dashed. At the end of the Clone Wars, Empire replaced Republic, and Ryloth was occupied again. Cham stepped up to battle the Empire, his focus becoming more blinkered after the

**"We'll only get one shot at this!"**

*Hera Syndulla*

**Hera Syndulla became an expert pilot and left her homeworld aboard her starship, the *Ghost*, from which she would lead her own group of freedom fighters against the Empire.**

### C1-10P (CHOPPER)

#### A LIFELONG FRIEND

During the Battle of Ryloth, a Republic Y-wing fighter/bomber crashed in the courtyard of the Syndulla household. Its pilot was dead, but a young Hera managed rescue the starfighter's astromech droid. The C-series droid was old even then, but the otherwise obsolete astromech had been heavily modified and added to. C1-10P preferred to be called Chopper. Irascible but with a heart of gold, Chop became Hera's first true friend, and shared her ship and her adventures from then on.



FLIGHT TRAINING




## THE *GHOST*

Beginning life as a Corellian VCX-100 light freighter, the version of the ship flown by Hera was significantly modified beyond specs that were already more than respectable. Hera named it the *Ghost* because of its sensor-baffling equipment that allowed it to evade even Imperial scans – assuming they weren't on high alert. Hera's ship was well armed and well shielded, with a sublight speed that could almost match an Imperial TIE fighter. More than just a fighting freighter, it was also a home to the rebel crew.

| | |
|---|---|
| DESIGN | Corellian Engineering Corporation |
| LENGTH | 43.9 metres |
| SPEED | 1,025km/h |
| AFFILIATION | Rebel Alliance |
| WEAPONS | 1x dorsal laser cannon, 1x nose laser cannon, 2x proton torpedo launcher |



**The *Ghost* had a shuttle craft, dubbed the *Phantom*, that docked in a special port just above the engines. The shuttle's guns then became a rear-firing surprise for any enemy craft attacking the *Ghost*.**

death of his wife. Hera felt abandoned, and this alienation pushed the young woman to look beyond Ryloth. Realising that the Empire needed to be stopped all across the galaxy, Hera left her planet, acquired an old freighter known as the *Ghost*, and became an agent for the fledgling rebellion. It would be many years before she and her father were reconciled.

Making contact with Senator Bail Organa of Alderaan and the other leaders of what would become the Rebel Alliance, Hera became a valued agent. The one constant in an often turbulent and dangerous life was her love of flying – something that would sustain her when all else looked bleak.

### REBEL CREW

Hera and Chopper were not alone in their efforts to thwart the Empire. Over time, Hera recruited a crew of unique individuals. She met Kanan Jarrus on Gorse. He saved her life during that mission, revealing that he had Force powers. The former Jedi Padawan joined her crew, and the two eventually fell in love. Mandalorian artist and explosives expert Sabine Wren had fled her homeworld after the Empire used the weapons she designed against her own people. Garazeb Orrelios's people, the Lasat, were all but wiped out in an Imperial invasion. Last to join them was Ezra Bridger. He was discovered on Lothal, where Hera had been instructed to monitor and disrupt Imperial activities. Also Force-sensitive, he became Kanan's Padawan.

### UNWANTED ATTENTION

Although Hera was an exceptional field agent and a deadly shot with her



**An expert and instinctive pilot, Hera used the *Ghost* or its two shuttles (the *Phantom* and *Phantom II*) to support her rebel cell's many missions against the Empire.**

Blurrg-1120 blaster pistol, she most often remained aboard the *Ghost* or its shuttle – be that the *Phantom,* or its eventual replacement, the *Phantom II*. She was the captain of the *Ghost*, and the one who called the shots there. However, Kanan took the role of group leader, partly to draw unwanted Imperial attention away from Hera who knew far more of the rebellion's secrets. Although Hera often waited some distance from the action during a mission, ready to swoop in for a

## RESCUE MISSION

### NOT THAT KIND OF FEMALE

During the attempt to rescue a captive Jedi Master from the Spire prison on Stygeon Prime, Hera clamped the *Phantom* to the side of the prison. The signal used to confuse Imperial scans drew the attention of male tibidees, who mistook the *Phantom* for a female of their species, forcing Hera to draw them away from the prison to avoid detection.



**Tibidees were flying creatures native to Stygeon Prime, which confused the *Phantom*'s signals with their species's mating call.**

***"Trying to concentrate!"***
***Hera Syndulla***



pick-up, this didn't mean she missed out. She regularly had to dodge or fight through Imperial patrols to reach her friends and extract them from whatever danger they'd landed themselves in.

### ENEMY TECH

It wasn't just aboard the *Ghost* or its shuttle that Hera excelled as a pilot. She was also adept at flying Imperial craft. When Kanan was imprisoned aboard an Imperial Star Destroyer over Mustafar, Hera flew a stolen *Gozanti*-class freighter to the location, acting exactly as an Imperial pilot would to avoid raising suspicion. During the later escape from the area, Hera piloted a stolen TIE fighter and managed to avoid being shot down by dozens of enemy starfighters. Eventually, her group was picked up by a small rebel fleet group called in by Chopper for the rescue mission.

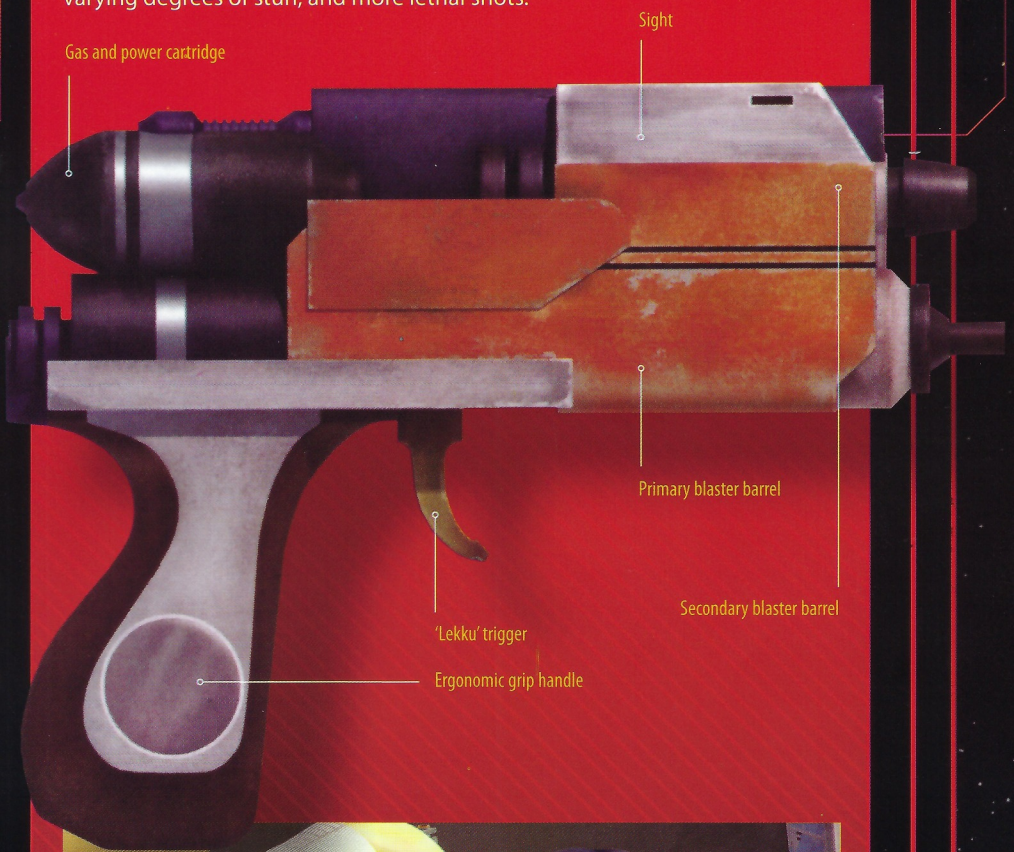


**When presented with the chance to steal a TIE fighter, Hera had no doubts of her ability to use it to escape the Imperial pursuit.**

## TECH / EQUIPMENT

### BLURRG-1120 HOLDOUT BLASTER PISTOL

Named after the creature native to Ryloth – the solid, reliable reptilian mount used by Twi'leks for generations – the small, light-but-powerful pistol was designed by Eirriss Ryloth Defence Tech. The company had long been associated with the Free Ryloth movement championed by Hera's father, Cham Syndulla. The Blurrg-1120 had nine different firing modes, including varying degrees of stun, and more lethal shots.






**Although she preferred to concentrate on her role as the rebels' pilot, Hera was an exceptional field agent and a deadly shot with her Blurrg-1120 blaster pistol.**

# STEALTH FIGHTER

From the early days of the rebellion against the forces of the Empire, and the numerous missions and skirmishes that followed, Hera Syndulla prided herself on her ability to outwit the opposition – and on her ship's ability to outfly the best fighters the enemy could throw against the rebel cell.



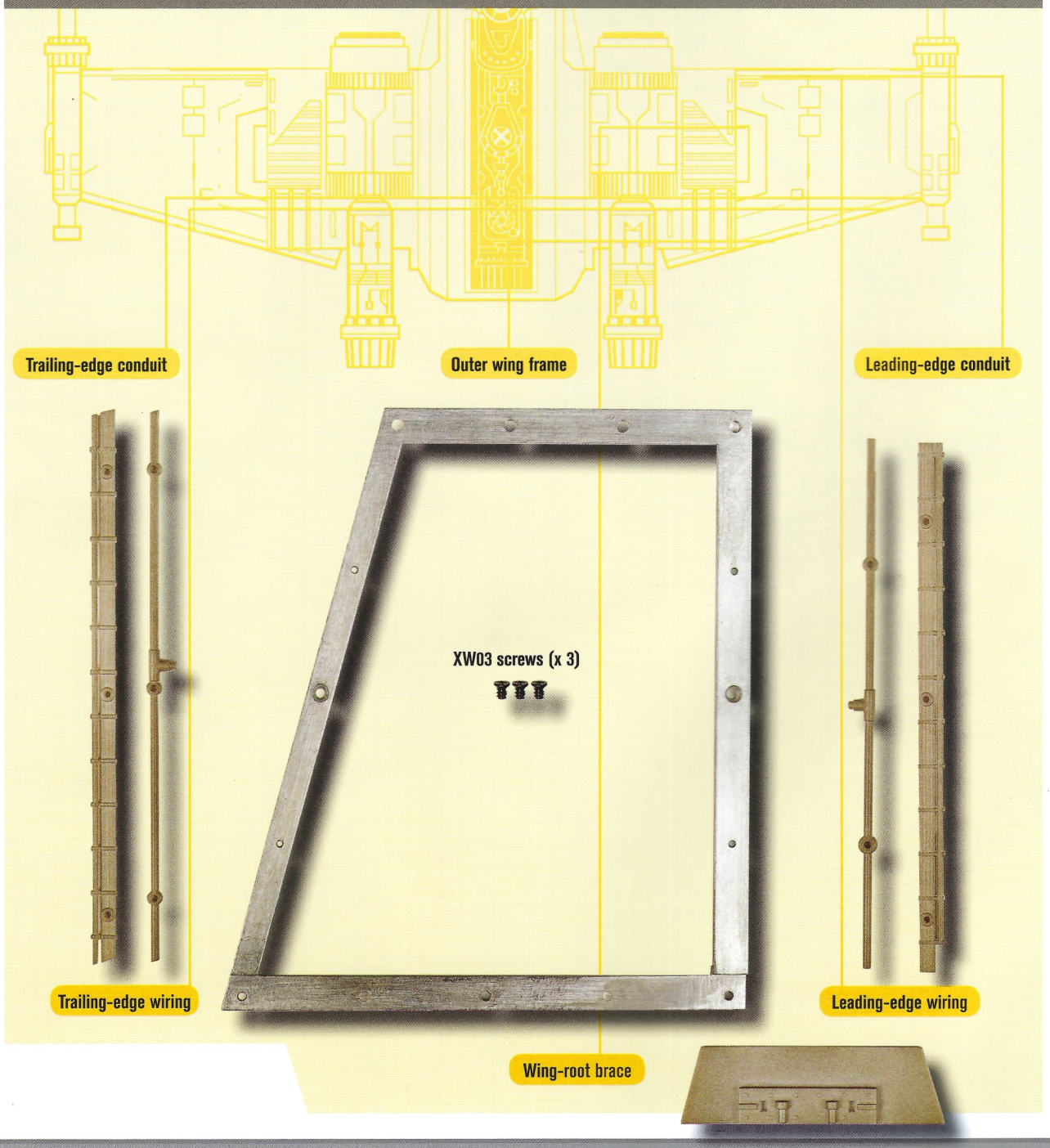


# Upper starboard wing

**This issue's main component is the outer section of the metal frame that braces the wing you started assembling in Stage 7. You have also received the screws which hold the frame in place, and some more internal details to add to the underside of the top skin.**

## COMPONENTS CHECKLIST

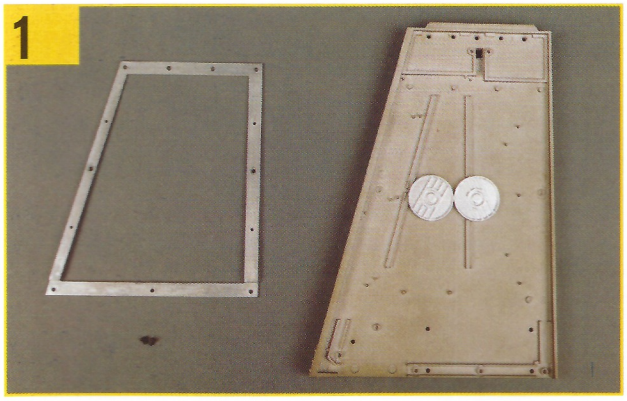
Use this guide to check what parts you have received and where they fit on the model



# ASSEMBLING THE WING

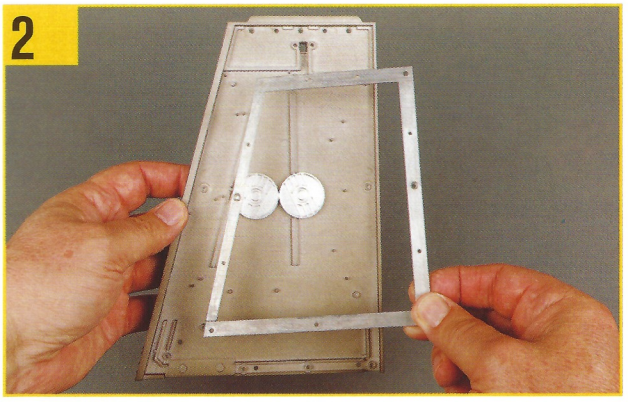
**All six small parts provided are added in this stage. The frame is screwed to the wing assembly, while the other details are simply push-fitted, with no glue needed, and include some internal details that will be hidden when the wing's lower skin is added later on.**

1



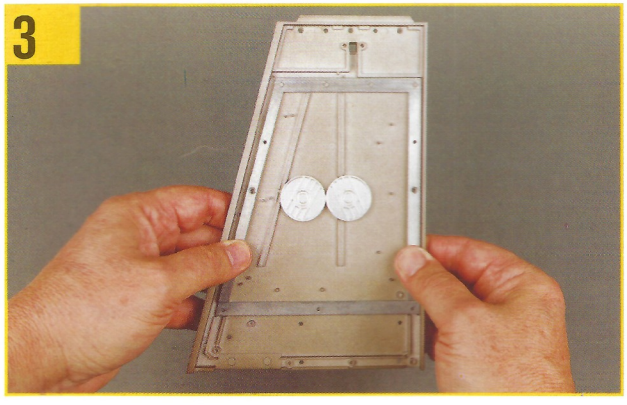
Start by taking the metal frame, two of the XW03 screws, and the wing assembly from Stage 7.

2



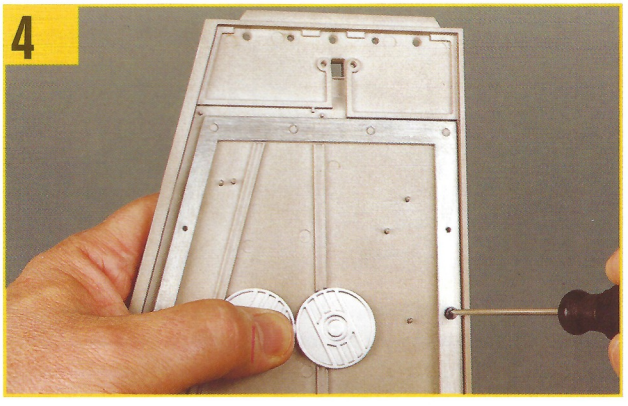
Line up the metal frame this way round, matching the holes with the pins moulded into the wing.

3



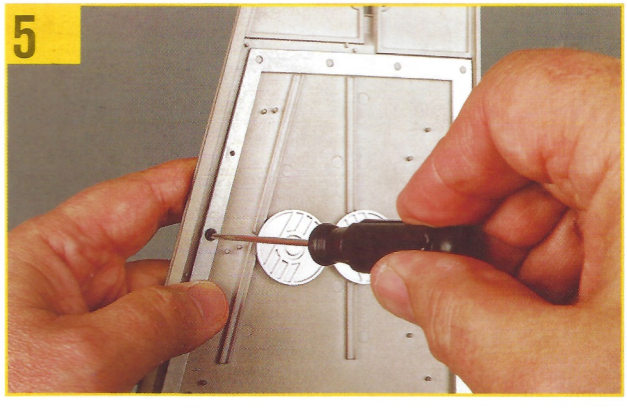
Press the frame firmly into place.

4



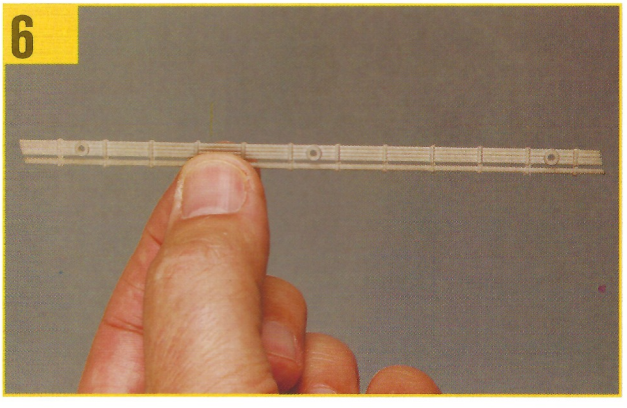
Screw one of the XW03 screws into this hole to hold the frame in place.

5



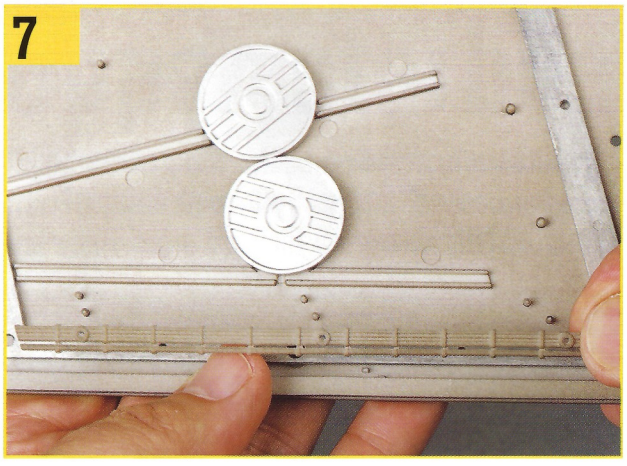
Screw the second XW03 screw into this hole.

6



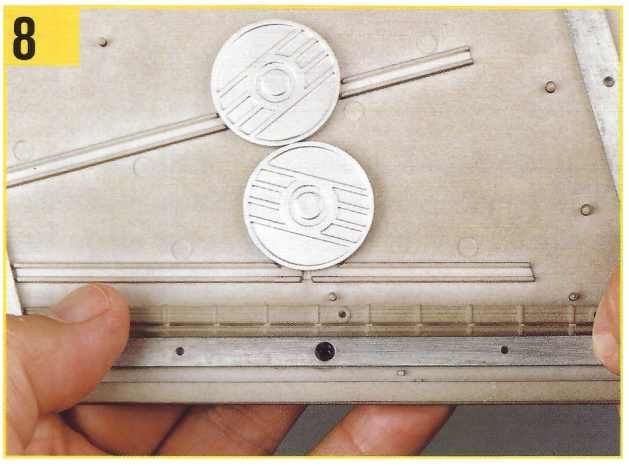
Take the trailing-edge wiring, which has angled ends.

**7**



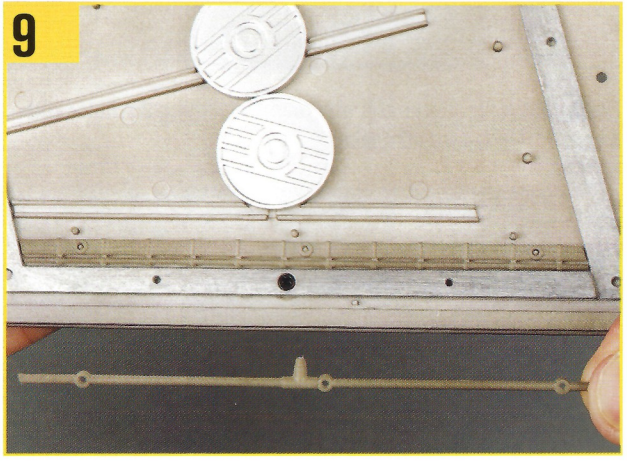
Holding the wiring this way round, line up the three holes in the strip with the matching pins on the wing.

**8**



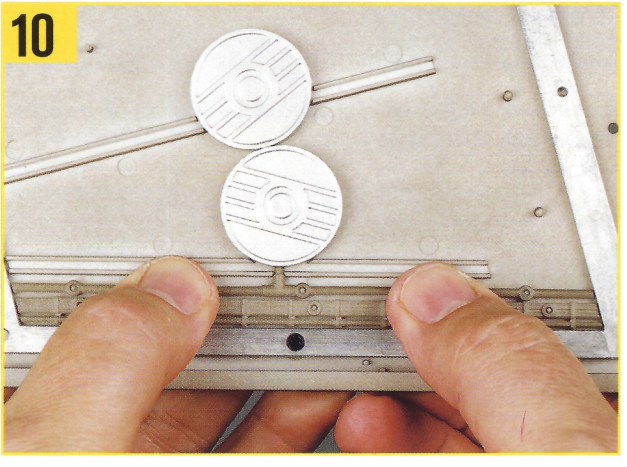
Press the wiring onto the pins.

**9**



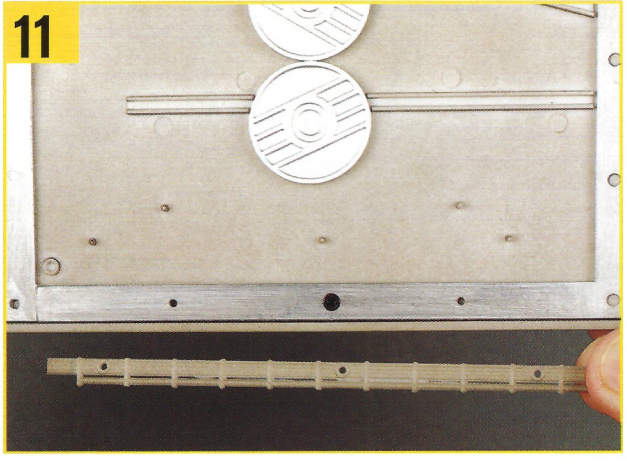
Take the trailing-edge conduit this way round, and line up the three holes in the pipe with the matching pins on the wing.

**10**



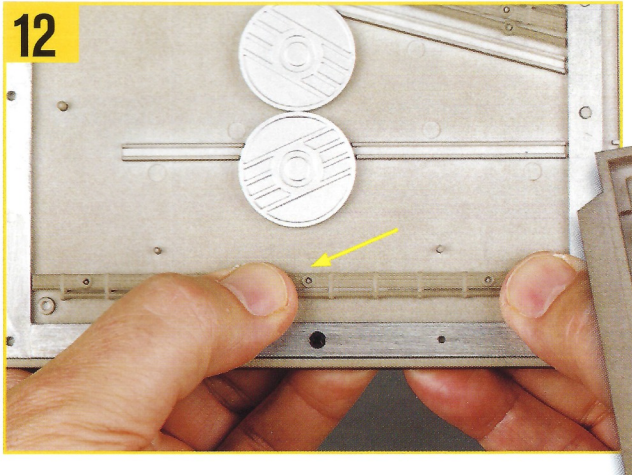
Press the conduit onto the pins.

**11**



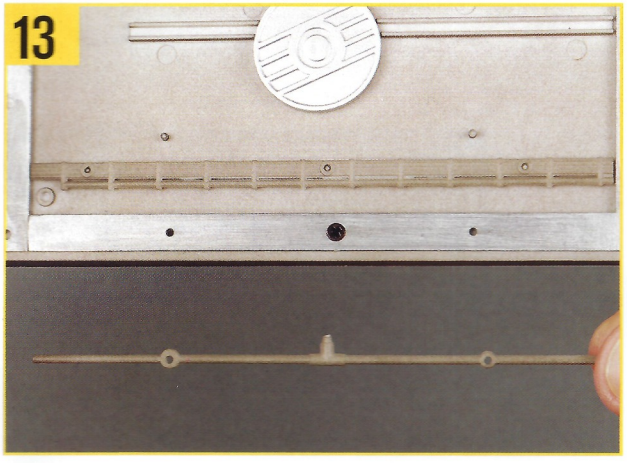
Take the leading-edge wiring this way round, and line up the three holes on the strip with the matching pins on the wing.

**12**



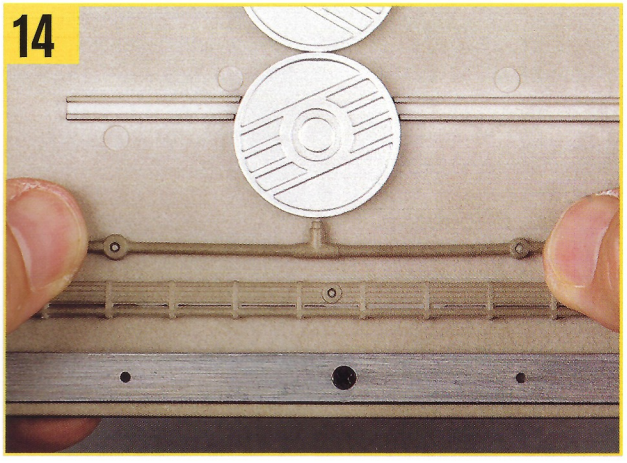
Press the wiring onto the pins.

13



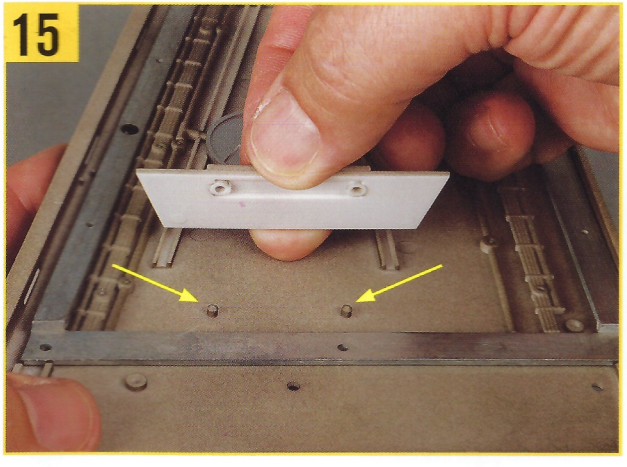
**Holding the leading-edge conduit this way round, line up the two holes on the pipe with the matching pins on the wing.**

14



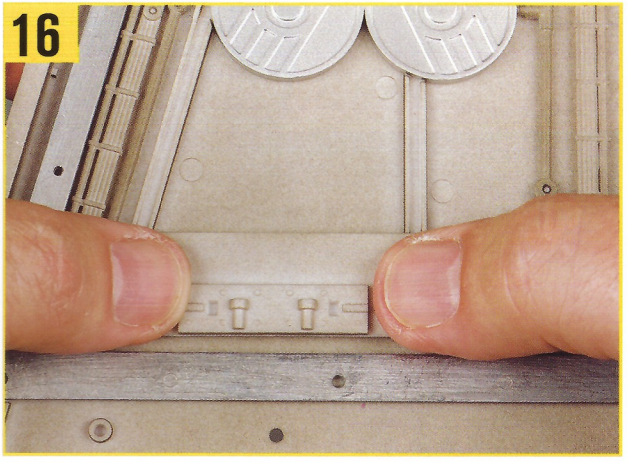
**Press the conduit onto the pins.**

15



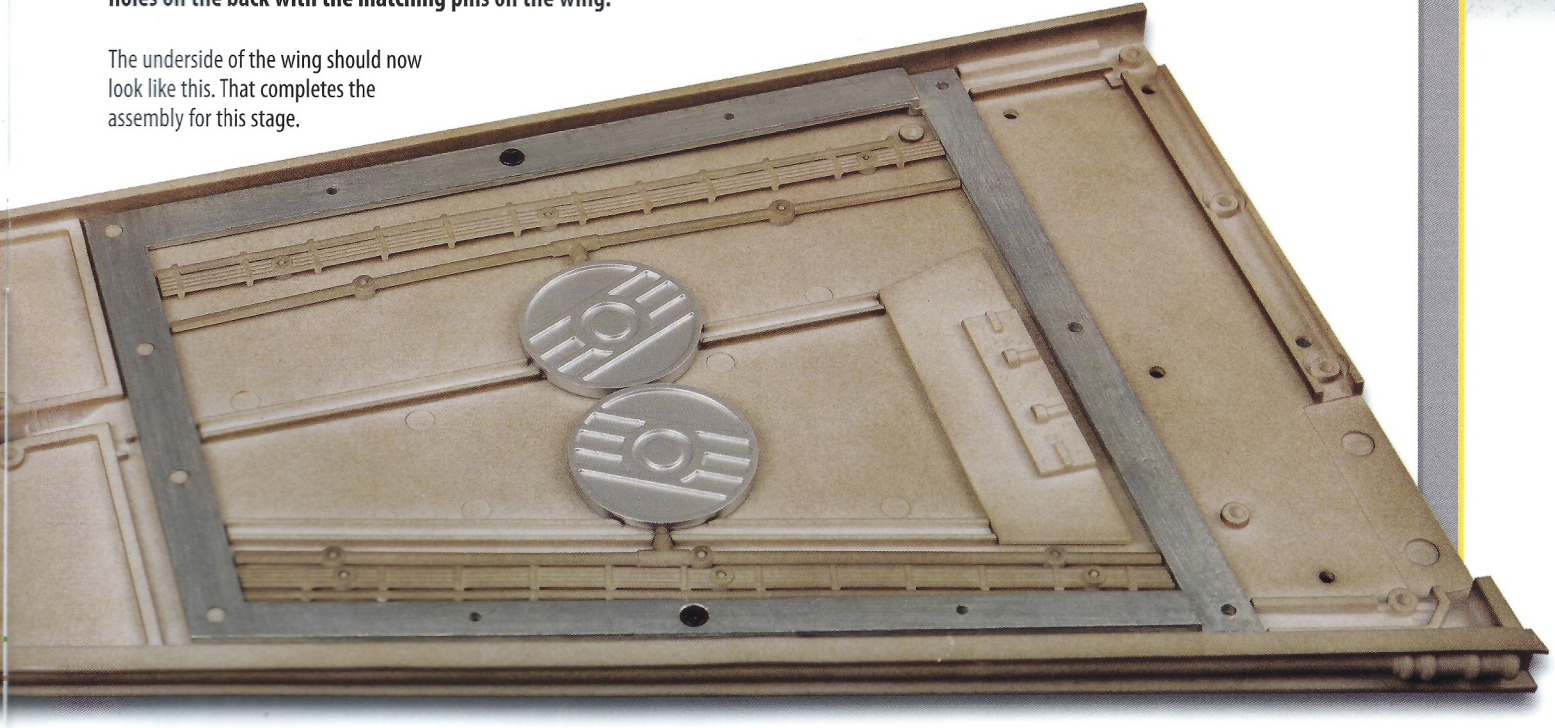
**Take the wing-root brace this way round, and line up the two holes on the back with the matching pins on the wing.**

16



**Press the brace firmly into place.**

The underside of the wing should now look like this. That completes the assembly for this stage.



# DON'T MISS OUT!

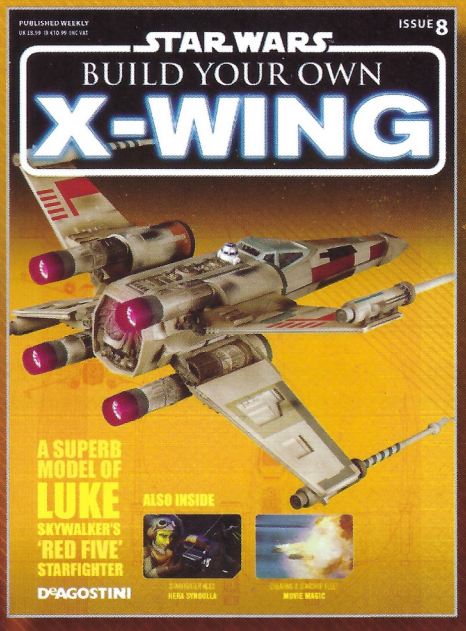
## ISSUE 8

Creating a Starship Fleet
Movie Magic

Starfighter Aces
Hera Syndulla

Internal wing frame
External and internal wing details



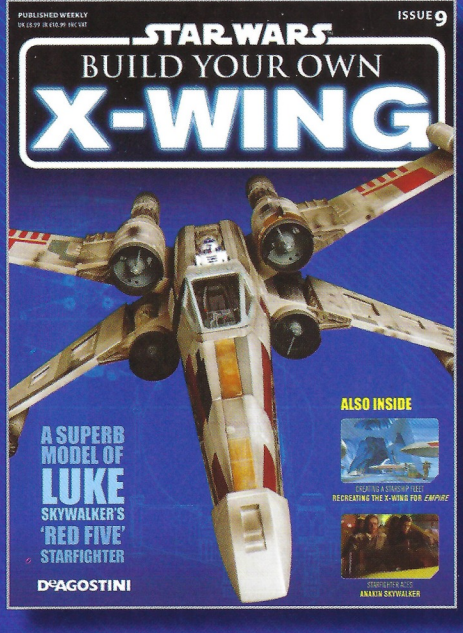


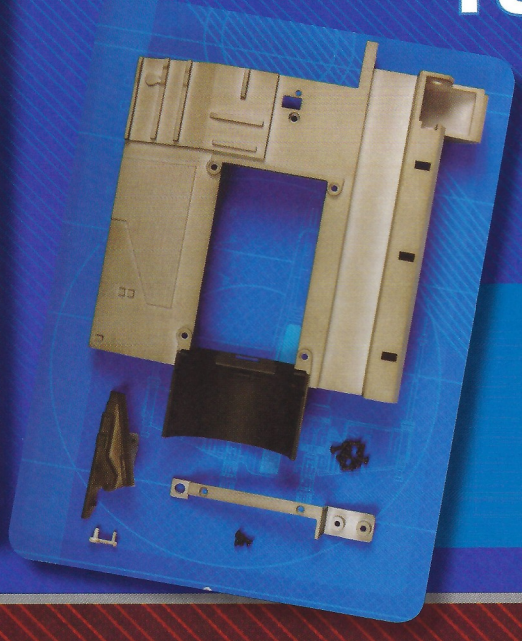

## ISSUE 9

Creating a Starship Fleet
Recreating the X-wing for *Empire*

Starfighter Aces
Anakin Skywalker

Sublight engine mounting and details



Items may differ from those shown.

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