BUILD THE
GHOSTBUSTERS™
ECTO-1

BUILD THE
GHOSTBUSTERS
ECTO-1

CONTENTS

CAR PARTS STAGE 115

With this issue, you receive parts for the front and rear deck lights,
as well as the windshield wipers.

115A x4

115B x4

115C (R)   115D (R)   115E (R)

115F (L)   115G (L)   115H (L)   AP x6   RP x2
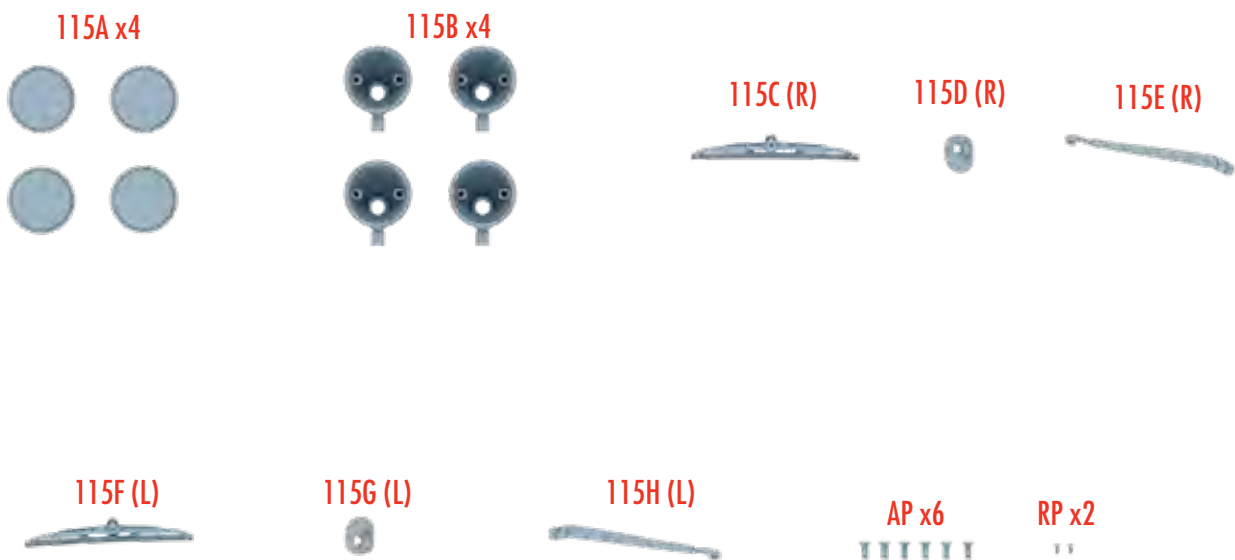
PART NUMBER	DESCRIPTION	QUANTITY
115A	UNITY 46 DECK LIGHT	4
115B	UNITY 46 DECK LIGHT BASE	4
115C	RIGHT WINDSHIELD WIPER BLADE	1
115D	RIGHT WINDSHIELD WIPER BASE	1
115E	RIGHT WINDSHIELD WIPER ARM	1
115F	LEFT WINDSHIELD WIPER BLADE	1
115G	LEFT WINDSHIELD WIPER BASE	1
115H	LEFT WINDSHIELD WIPER ARM	1
AP	1.7x5MM	6 (+2 SPARES)
RP	1.2x3MM	2 (+1 SPARE)

CAR PARTS STAGE 116

In this issue, you receive the first part of the interior ceiling of your model as well as the secondary sun visors.

116A

116B (L)

116C (L)

116D

116E X2

116F (R)

116G (R)

116H

GPx2

RP x6

TP x1
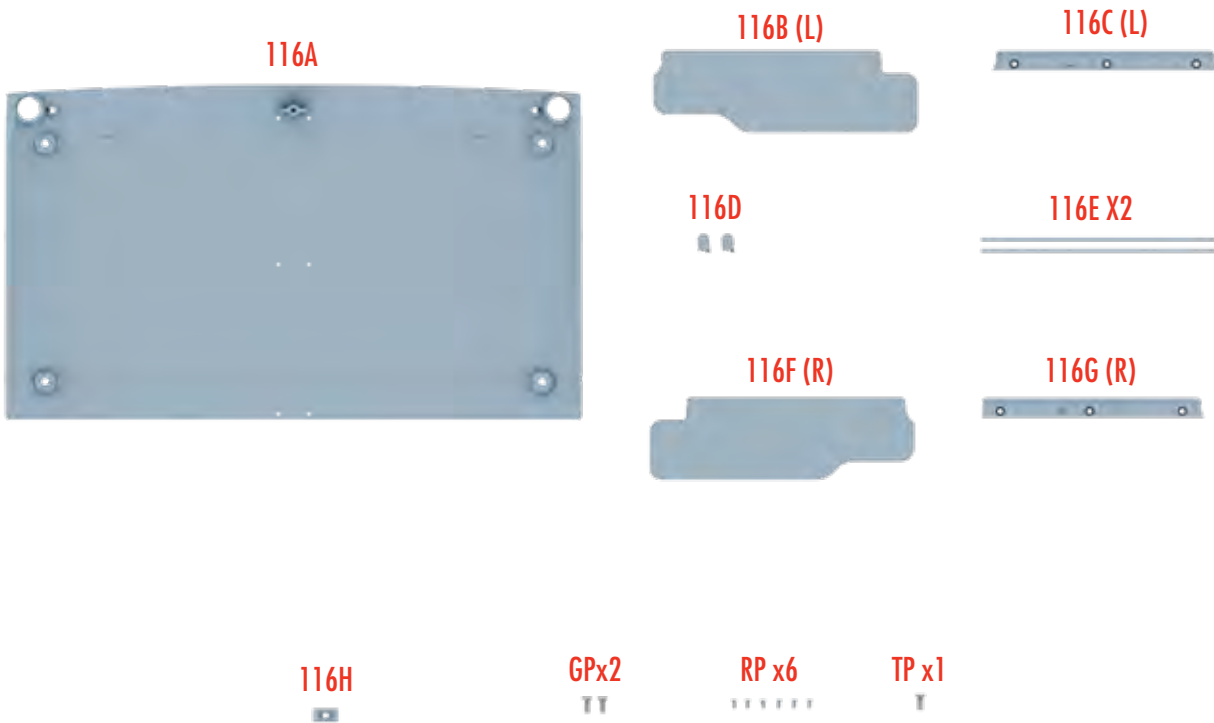
PART NUMBER	DESCRIPTION	QUANTITY
116A	COCKPIT CEILING PANEL	1
116B	LEFT SUN VISOR	1
116C	LEFT SUN VISOR PANEL	1
116D	SUN VISOR STALK RETAINER	2
116E	SUN VISOR STALK	2
116F	RIGHT SUN VISOR	1
116G	RIGHT SUN VISOR PANEL	1
116H	SUN VISOR RETAINER	1
GP	1.5x3MM	2 (+1 SPARE)
RP	1.2x3MM	6 (+2 SPARES)
TP	1.5x5MM	1 (+1 SPARE)

CAR PARTS STAGE 117

With this issue, you receive the parts to build your
Ecto-1's Midland 77-859 CB radio.

117A

117B

117C

117D

117E

117F

117G

117H

KP x2

RP x6

EM x4
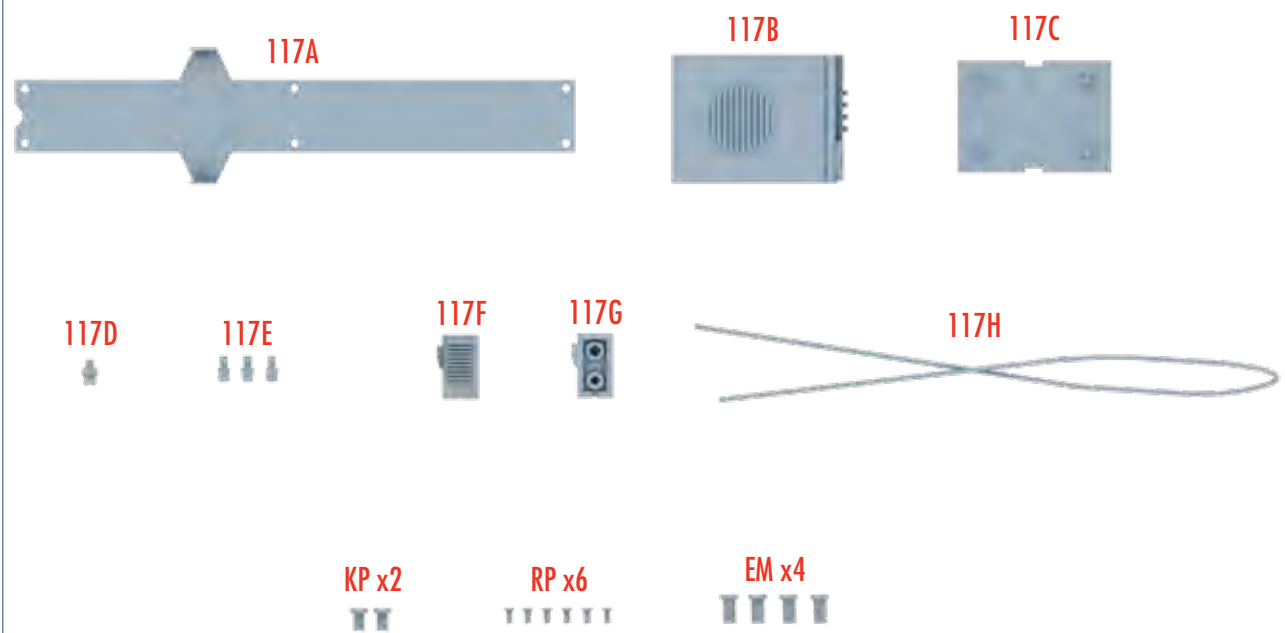
PART NUMBER	DESCRIPTION	QUANTITY
117A	CB RADIO FRAME	1
117B	MIDLAND 77-859 CB RADIO BOTTOM	1
117C	MIDLAND 77-859 CB RADIO TOP	1
117D	BUTTON A	1
117E	BUTTON B	3
117F	MICROPHONE FILTER	1
117G	MICROPHONE BODY	1
117H	WIRE	1
KP	1.7x3MM	2 (+1 SPARE)
RP	1.2x3MM	6 (+2 SPARES)
EM	2x4MM	4 (+1 SPARE)

CAR PARTS STAGE 118

With this issue, you receive the parts needed for fitting
the interior ceiling lights to your model.

118A

118B (R)

118C

118D (L)

118E

EM x4
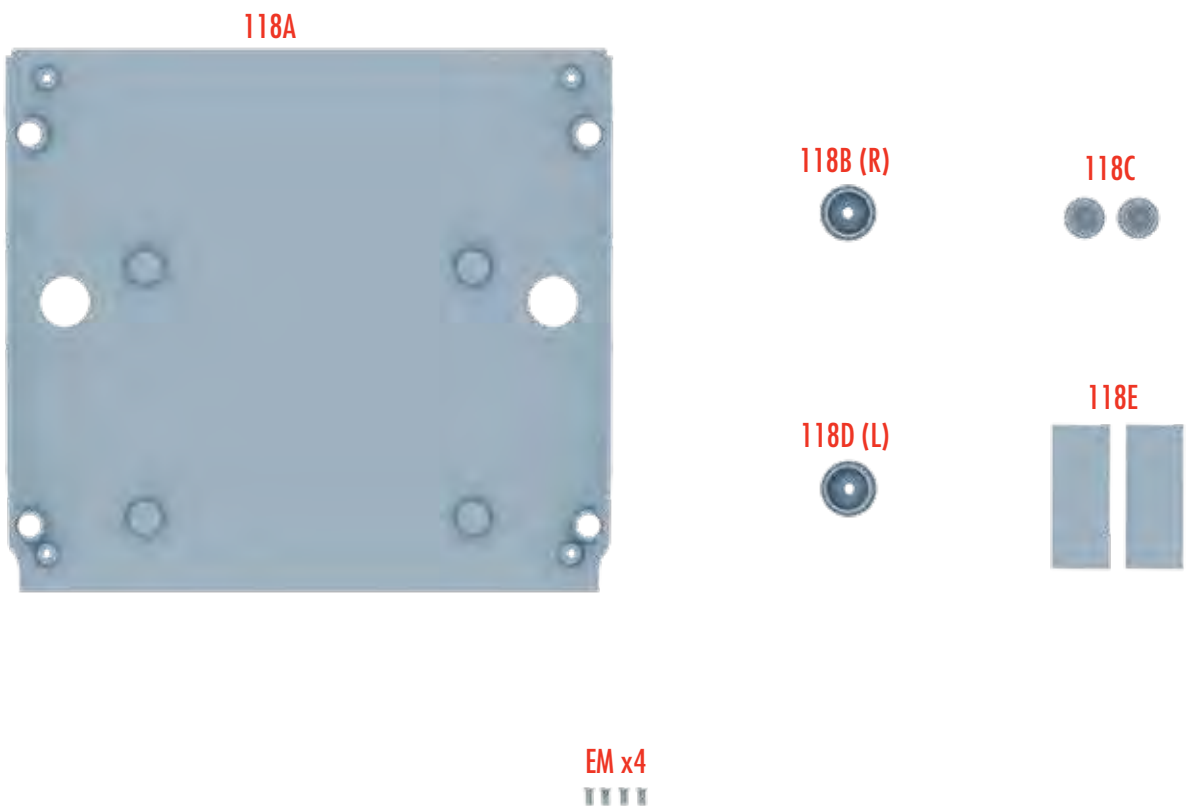
PART NUMBER	DESCRIPTION	QUANTITY
118A	CENTRAL CEILING PANEL	1
118B	INTERIOR LIGHT BASE RIGHT	1
118C	INTERIOR LIGHT LENS	2
118D	INTERIOR LIGHT BASE LEFT	1
118E	STICKER	2
EM	2x4MM	4 (+1 SPARE)

STAGE 115
DECK LIGHTS AND WINDSHIELD WIPERS

In this stage, you assemble the deck lights, fitting them to the roof of your model, as well as fitting the windshield wipers.

PART LOCATOR

DECK LIGHT

DECK LIGHT

DECK LIGHT

WINDSHIELD WIPERS
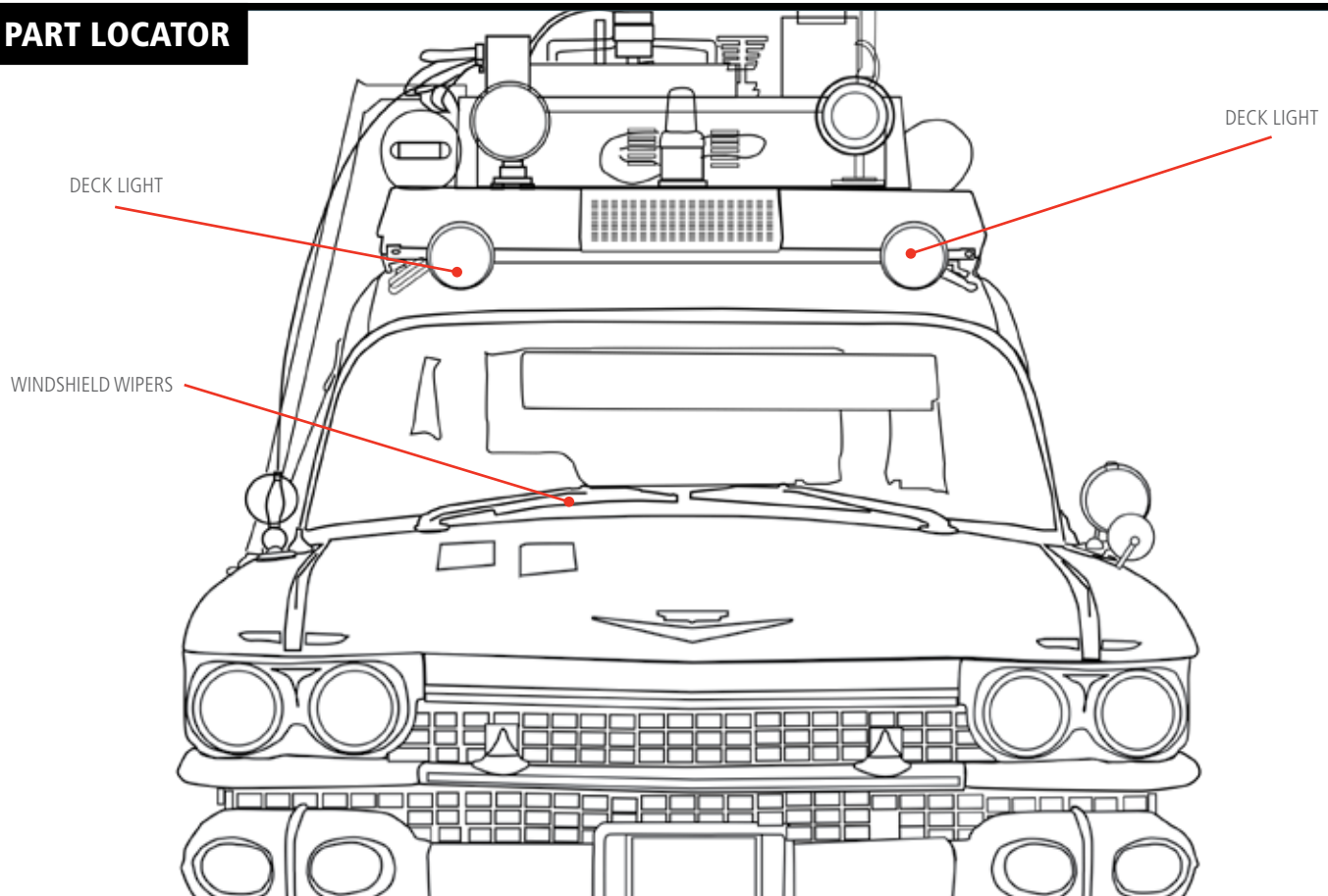
TIP: FITTING THE BULBS

When assembling the deck lights, bend the casing of the LEDs so that the bulb fits into the back of the light, and the end of the casing can sit in the hole at the back of the light base.

KEY: The illustrations are color-coded to help you identify which parts are being assembled.

RED Highlights where the new part/s fit and screw in

YELLOW Identifies the new part/s

GRAY–BLUE Indicates the previous assembly on to which the new part is fitted.

01 **ASSEMBLING THE FRONT DECK LIGHTS:** Begin by unplugging the front deck light LEDs (67C marked with an "L") from the front deck light wire (65H) (figure A). Then, slot the bulbs through the holes in the rear of the two deck light bases (115B) (figure B). You will need to bend the bulb casing so it fits through the holes in the back of the deck light bases.

Next, push the deck lights (115A) into the deck light bases (115B). The deck lights have two posts, one larger than the other. Make sure each goes into the hole in the light base with the matching size hole (figure C).

FIGURE A

115B

FIGURE B

115B

67C

BEND DOWN

67C

115B

115A

FIGURE C

115B

115A
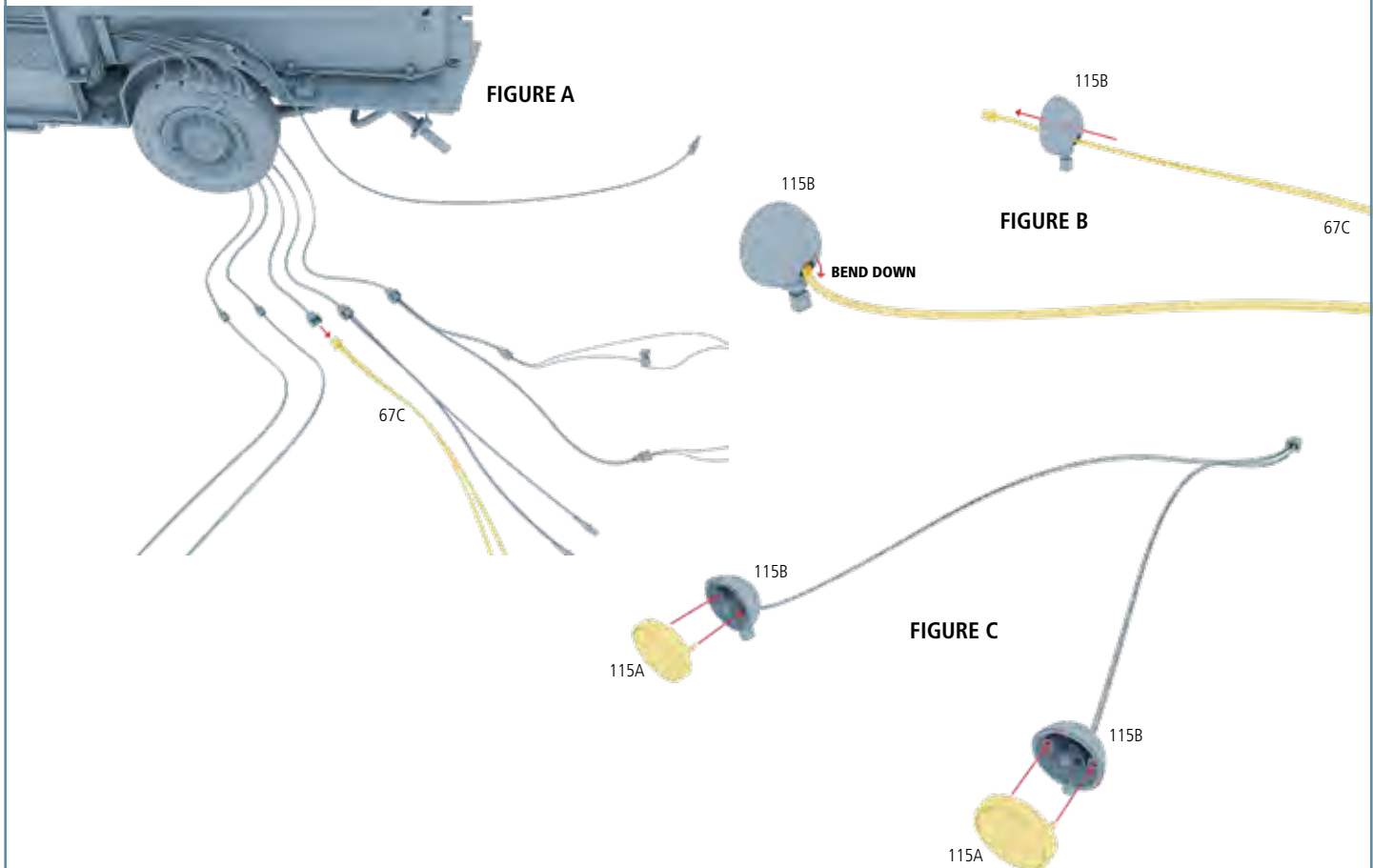
02 **ASSEMBLING THE REAR DECK LIGHTS:** Unplug the rear deck light LEDs (67D, marked with an "E") from the rear deck light wire (65I) and, using the same technique as in step 1, push the bulbs through the deck light bases (115B) (figure A). Combine the front and back parts of the deck lights (figure B).

FIGURE A

FIGURE B

115B

115B

BEND DOWN
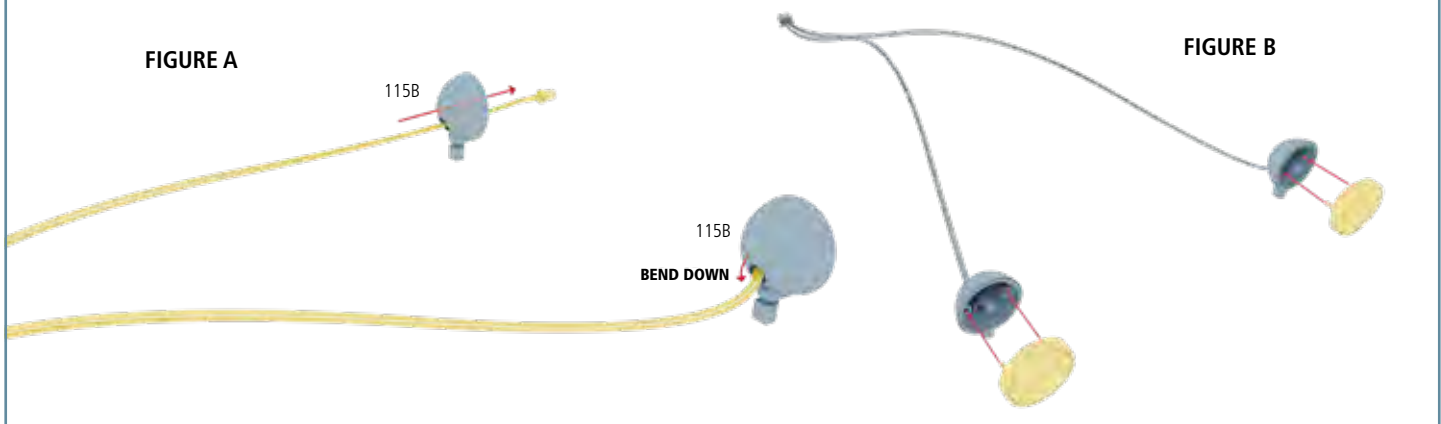
03 **BUILDING THE WINDSHIELD WIPERS:** Locate the right windshield wiper blade (115C) and arm (115E), and combine with one RP screw (figure A). Slot the arm into the right windshield wiper base (115D) (figure B). Then repeat this with the left windshield wiper parts, securing the blade (115F) and arm (115H) together with one RP and pushing the arm into the base (115G) (figure C).

FIGURE A

RP

115E

115C

FIGURE B

115D

FIGURE C

RP

115H

115F

115G
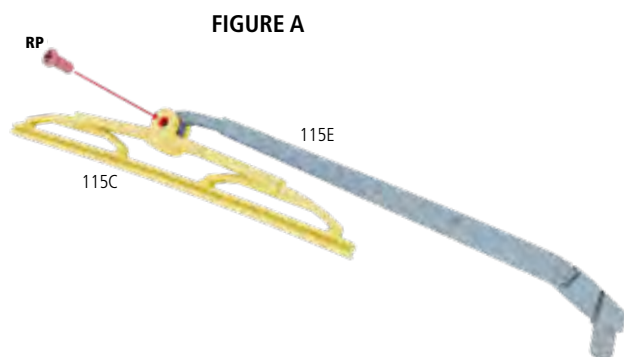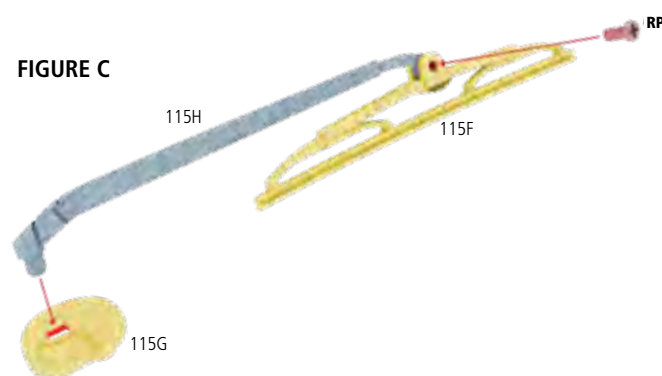
04 **INSTALLING THE WIPERS:** Slot the right windshield wiper base (115D) into the front upper intake (77E), securing from beneath with one AP screw (figure A). Repeat this on the left side with one more AP screw (figure B).

FIGURE A

77E

AP

FIGURE B

AP
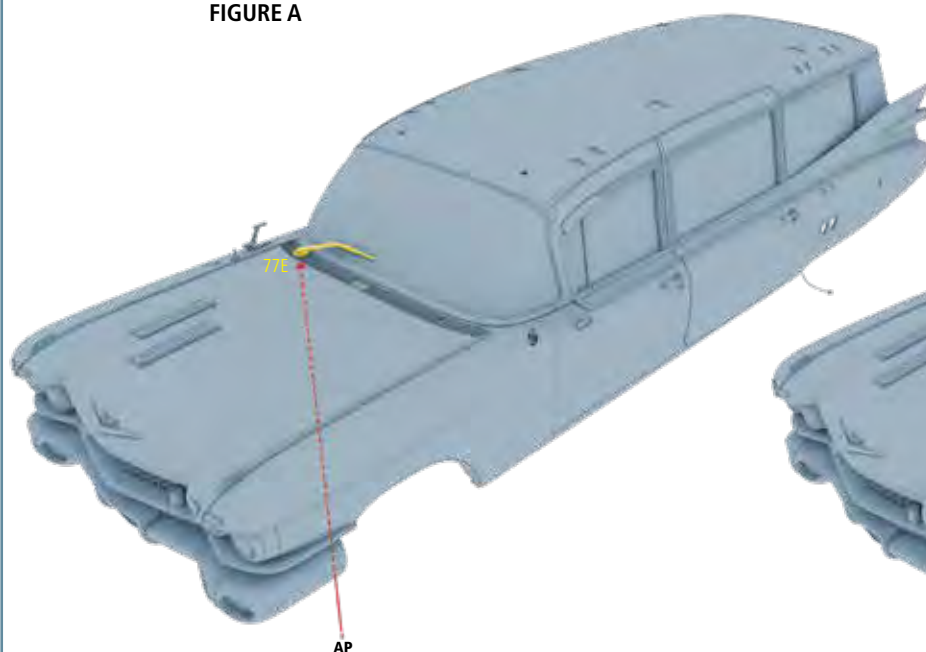
05 **FITTING THE DECK LIGHTS:** Take the front deck lights you put together in step 1 and place them on the roof of your model, fixing with two AP screws (figure A). Then fit the rear deck lights to the rear of the roof using two more AP screws (figure B).

FIGURE A

AP

AP

FIGURE B

AP

AP
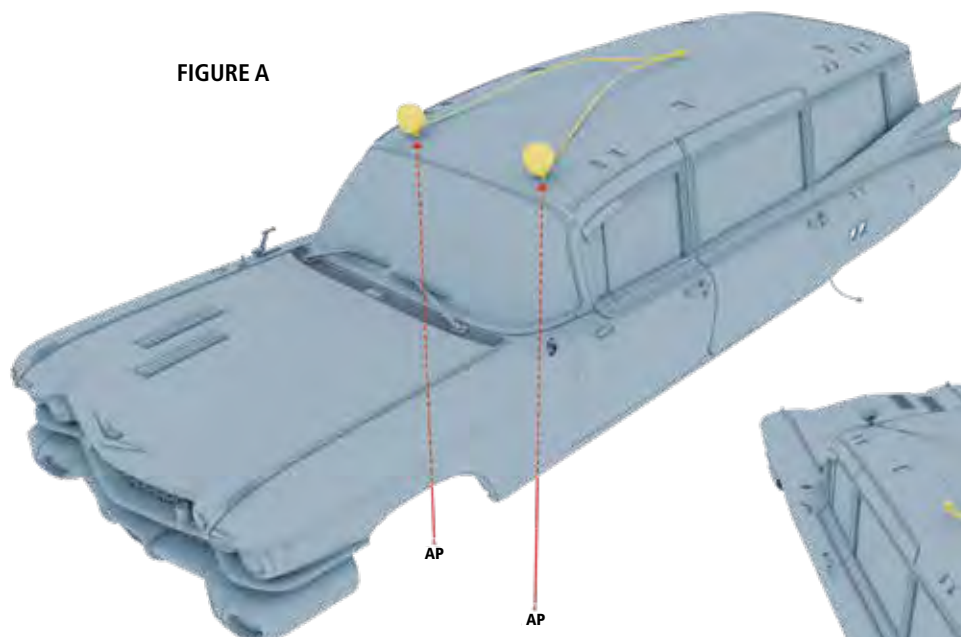
STAGE 115 BUILD

This is what the assembled pieces should look like.
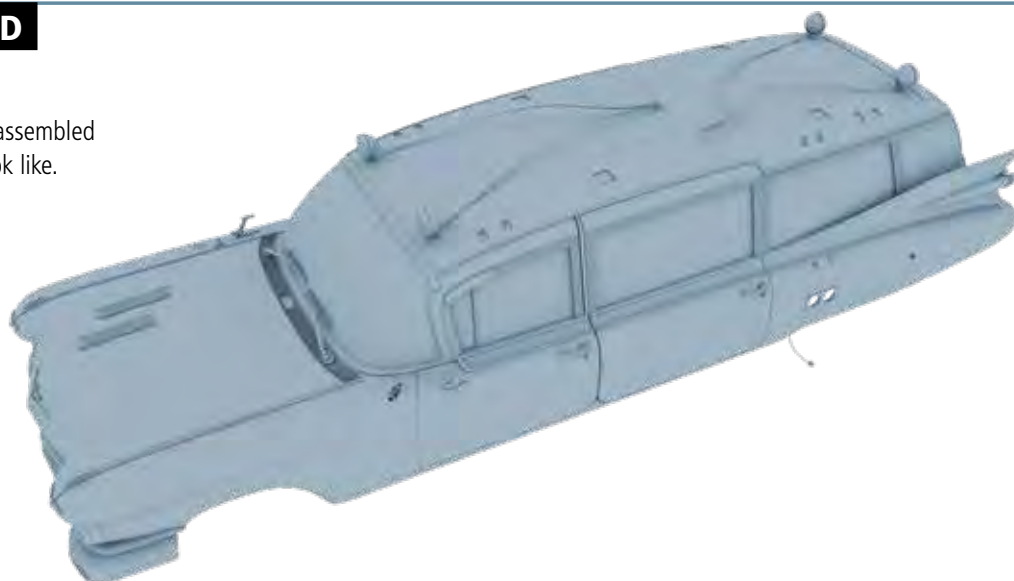
STAGE 116
COCKPIT CEILING AND SUN VISORS

In this stage, you fit the left and right sun visors to the cockpit ceiling of your Ecto-1.

PART LOCATOR

RIGHT SUN VISOR

LEFT SUN VISOR

COCKPIT CEILING
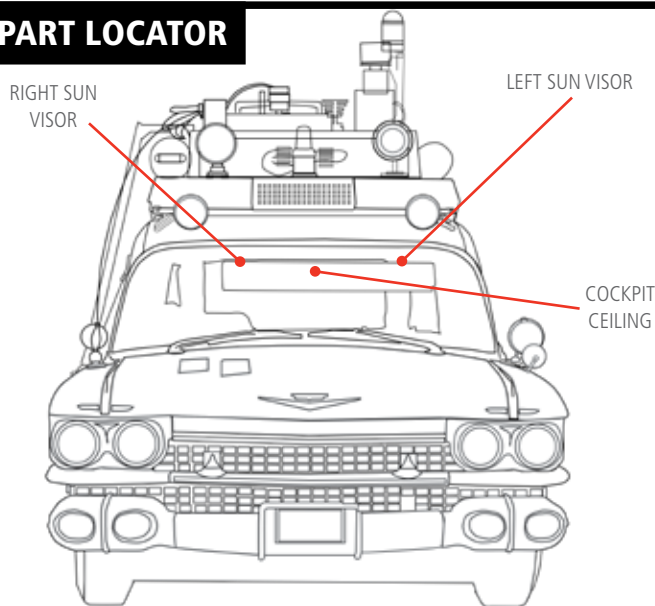
TIP: TIGHTENING THE SCREWS

Screws with codes ending in the letter M (such as BM and CM) drive into metal; those ending in the letter P (such as BP and CP) drive into plastic.

Self-tapping screws for metal cut their own thread in the pre-drilled socket. To prevent the screw from jamming before it is fully tightened, drive the screw only half way in at first. Then unscrew it to release the shavings (swarf) created as the screw cuts its thread. Finally, drive the screw fully into the socket.

Do not over-tighten screws into plastic. Ensure that screws for metal are tightened securely so that the head makes firm contact with the fixing surface.

KEY: The illustrations are color-coded to help you identify which parts are being assembled. **RED** Highlights where the new part/s fit and screw in **YELLOW** Identifies the new part/s. **GRAY–BLUE** Indicates the previous assembly on to which the new part is fitted.

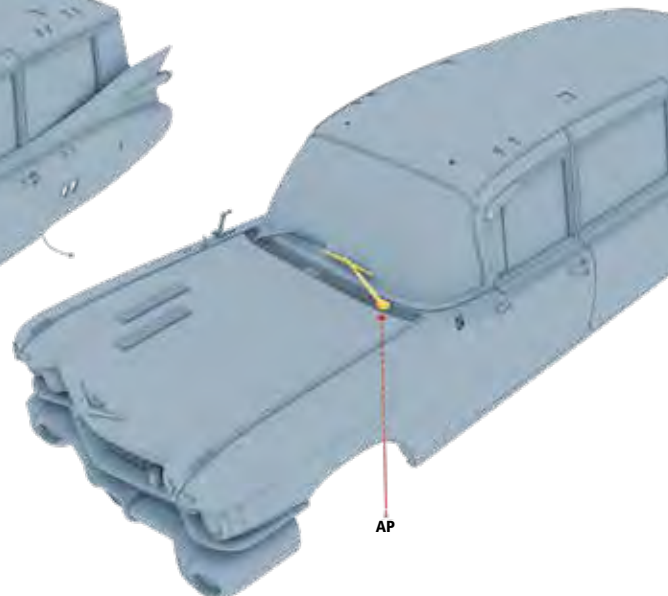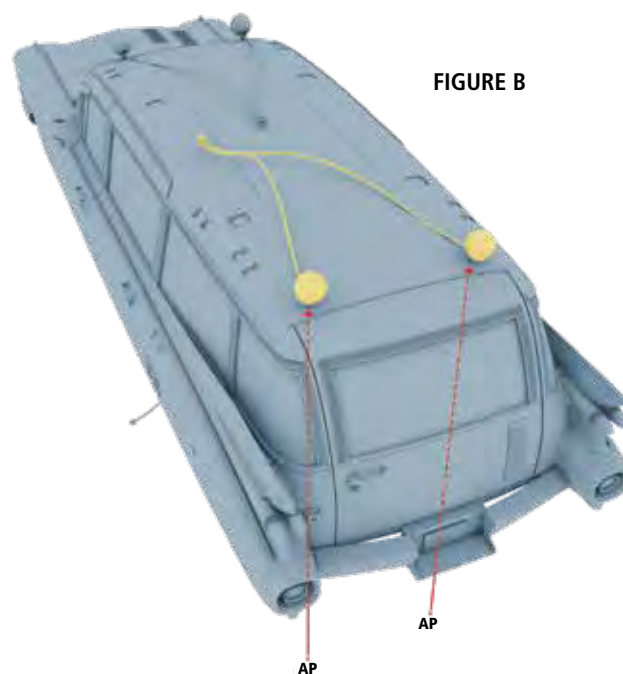**01** **FITTING THE RIGHT VISOR:** Take the right sun visor (116F) and secure the right sun visor panel (116G) to it using three RP screws (figure A). Then, push one end of each of the sun visor stalks (116E) into the hole in the side of the sun visor stalk retainers (116D) (figure B).

Slide the stalk through the slot through the top of the sun visor (figure C). Finally, secure the visor to the cockpit ceiling panel (116A) using a GP screw (figure D).

FIGURE A

RP
RP
RP
116G
116F

FIGURE B

116D
116E

FIGURE C

116F
116E

FIGURE D

116A
116F
GP
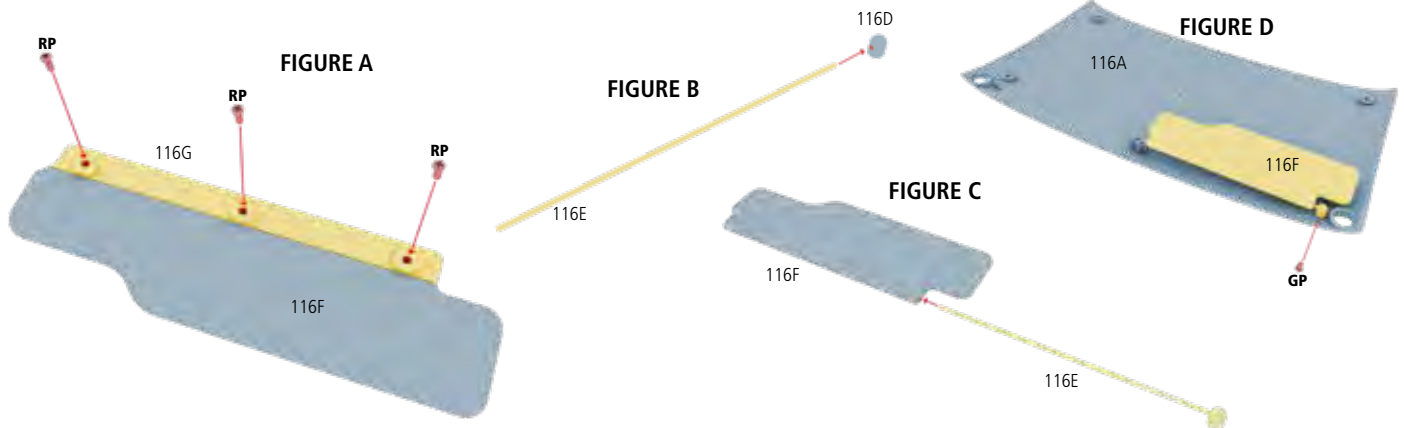
02 **FITTING THE LEFT VISOR:** Attach the left sun visor panel (116C) to the left sun visor (116B) using three RP screws (figure A). Slot the remaining sun visor stalk (116E) through the top of the sun visor and secure the visor to the cockpit ceiling panel using one GP screw (figure B).

FIGURE A

RP

RP

RP

116C

116B

FIGURE B

116A

116B

116E

GP
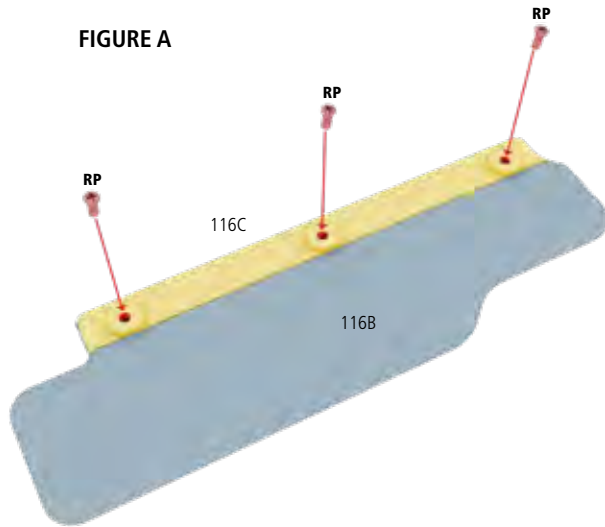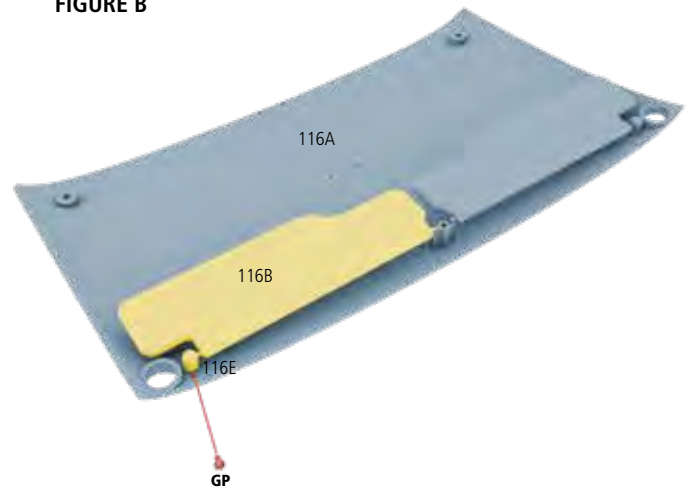
03 **SECURING THE VISORS:** Take the sun visor retainer (116H) and place it on top of the screw post in the middle of the cockpit ceiling panel (116A). Make sure that the end of each sun visor stalk (116E) slots into either end of the retainer. Fix these parts together with one TP screw (figure A).

FIGURE A

TP

116H

116A
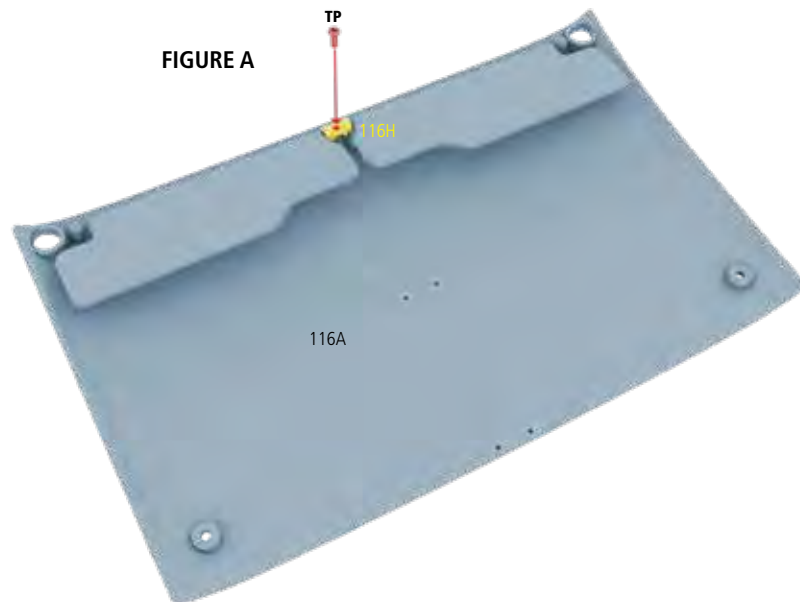
STAGE 116 BUILD

This is what the assembled pieces should look like.

STAGE 117
MIDLAND 77-859 CB RADIO

In this phase, you assemble the CB radio, fit it to the cockpit ceiling and finally fit the ceiling panel to the frame of your model.

PART LOCATOR

CB RADIO
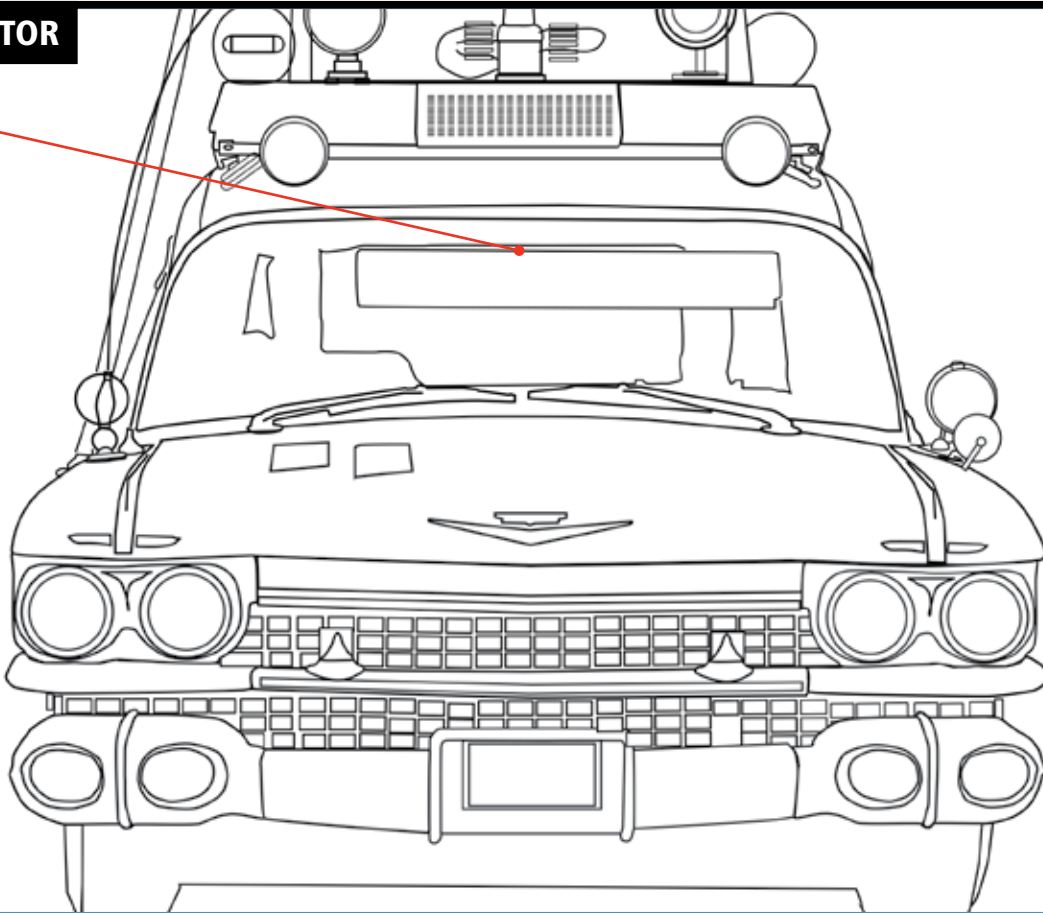
TIP: REMOVING PARTS FROM SPRUES

This phase includes small parts that are packaged with sprues. These need to be removed carefully in order to avoid warping deforming the part. You may find that using a cutting tool such as a scalpel is useful for this.

KEY: The illustrations are color-coded to help you identify which parts are being assembled.

RED Highlights where the new part/s fit and screw in

YELLOW Identifies the new part/s

GRAY–BLUE Indicates the previous assembly on to which the new part is fitted.

01 FITTING THE FRAME: Take the cockpit ceiling panel (116A) from the previous phase and place the CB radio frame (117A) in the center of its interior side. Secure the two parts together with six RP screws (figure A).

FIGURE A

RP RP
RP RP
RP RP

117A

116A
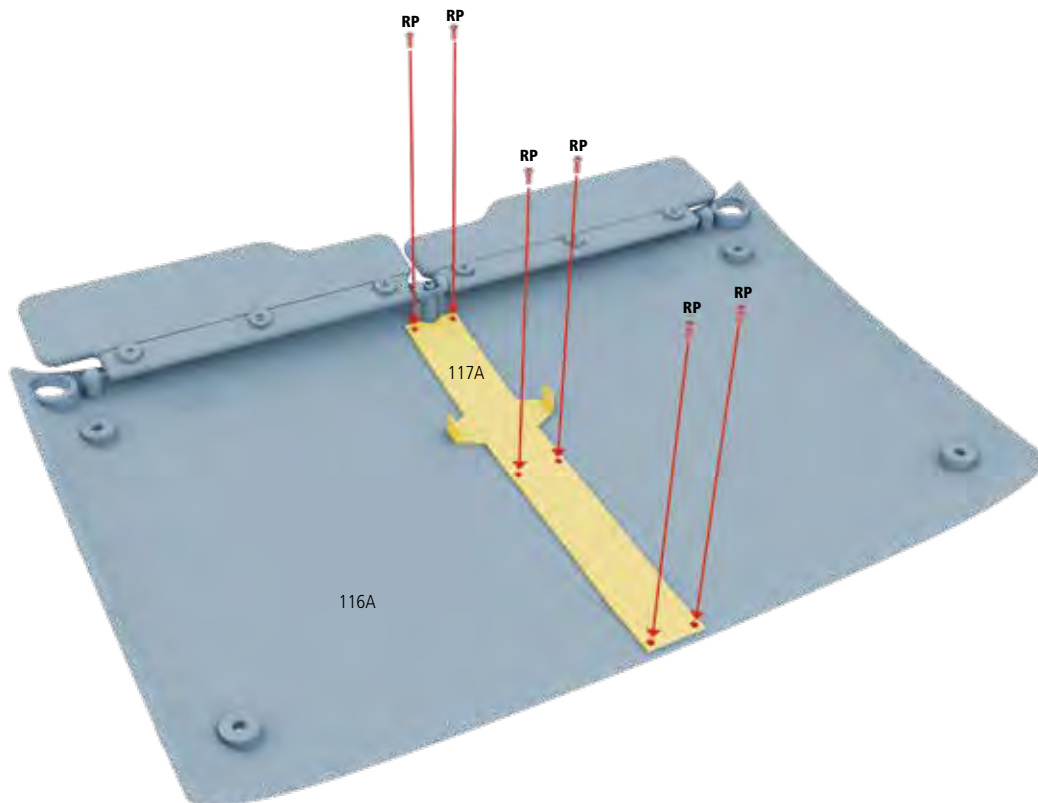
02 ASSEMBLING THE CB RADIO: Take the CB radio top (117C) and bottom (117B) parts and push them together (figure A). Next, carefully remove the buttons from their sprues and insert the wider button A (117D) into the pinhole on the black part of the radio. Fit the three button Bs (117E) into the pinholes on the silver part of the radio (figure B). These just push into place.

117C

FIGURE B

FIGURE A

117E
117E
117E
117D
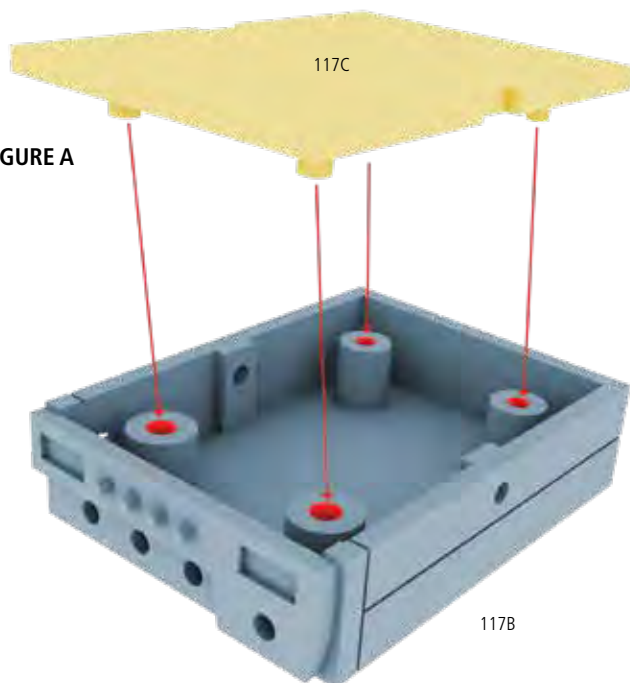
117B
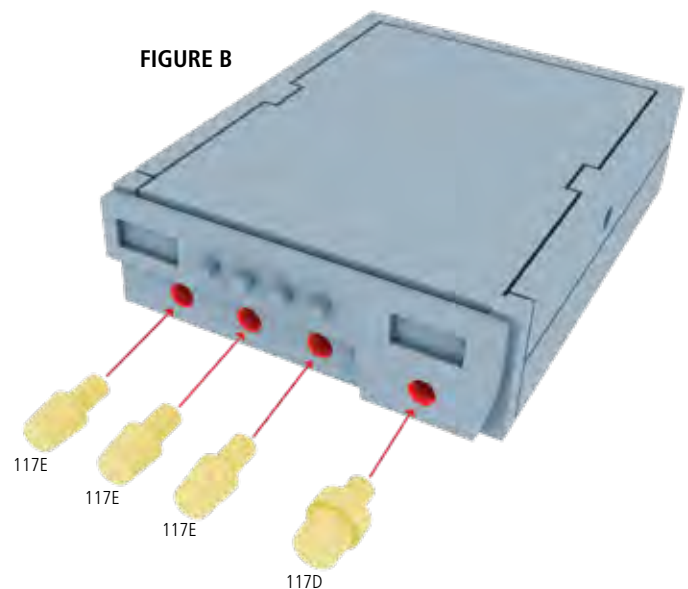
03 **ASSEMBLING THE MICROPHONE:** First, push the microphone filter (117F) and microphone body (117G) together (figure A). Then, take the wire (117H) and coil it around your screwdriver so it takes on the shape of telephone wire, leaving the ends uncoiled so they can be fitted to the radio and microphone (figure B).

Push one end of the wire (117H) into the hole in the bottom of the microphone filter (117F) and the other end into the hole in the CB radio bottom (117B) (figure C).

FIGURE A

117G

117F

FIGURE C

117B

117F

FIGURE B

117H

117H
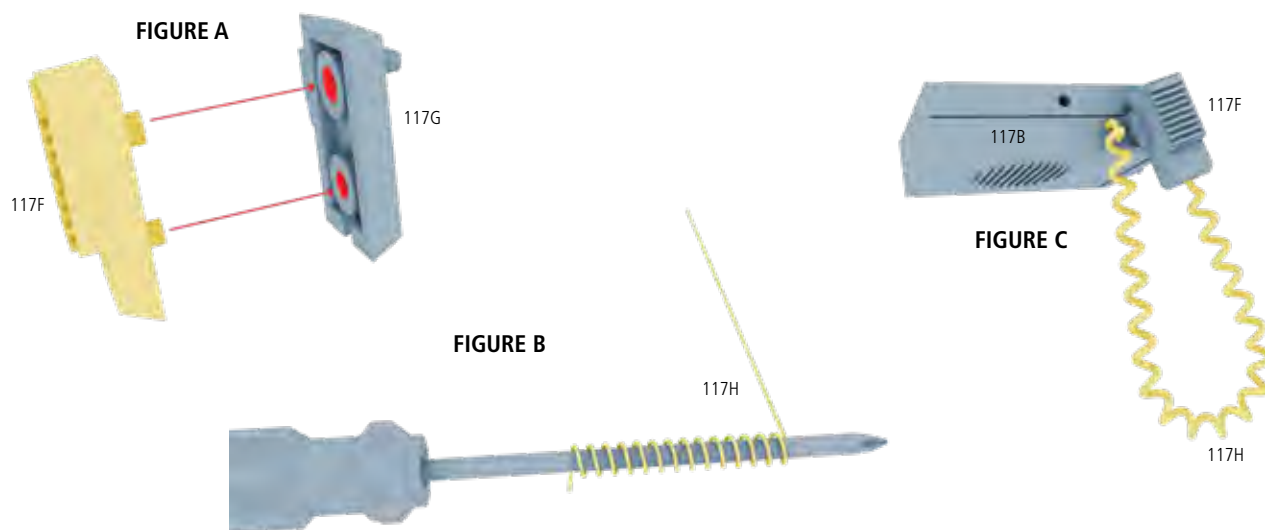
04 **INSTALLING THE RADIO:** Place the CB radio assembly in the center of the CB radio frame (117A) so that the holes on either side of the radio meet the two loops in the center of the frame, fixing the parts together with two KP screws (figure A).

FIGURE A

KP

KP

117A
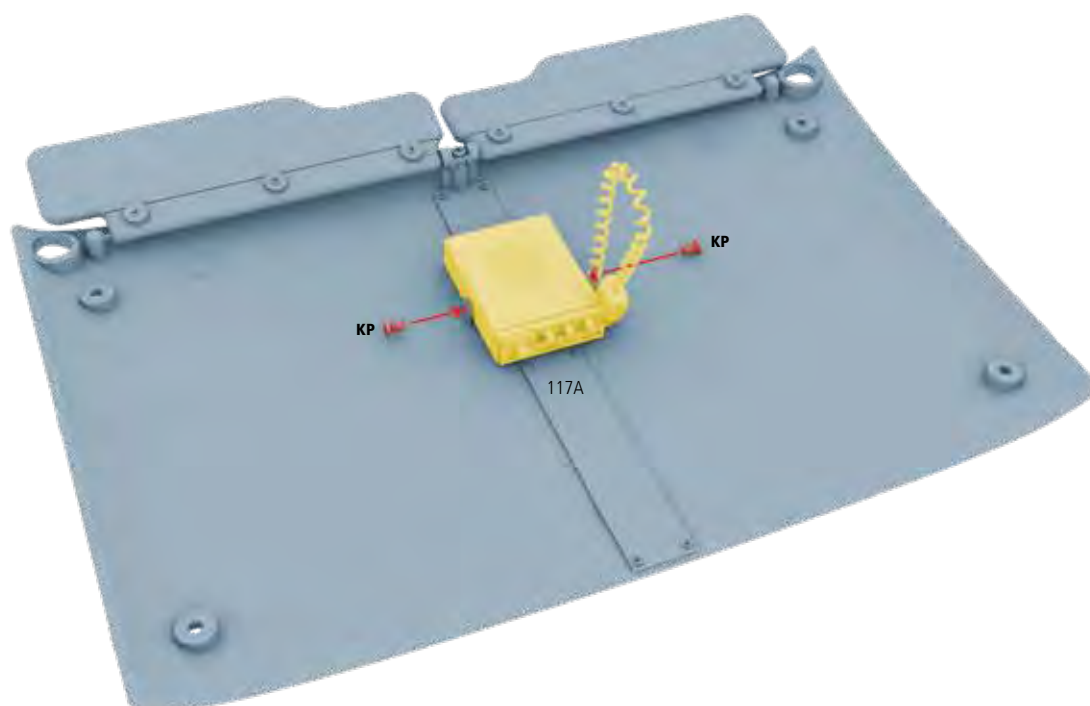
05 **FITTING THE CEILING PANEL:** Lay the body frame of your model upside down on a soft surface, ensuring the deck lights on top are not bearing any of the weight. Place the cockpit ceiling panel (116A) on the inside of the frame and secure it with four EM screws (figure A).

FIGURE A

EM

EM

EM

116A

EM
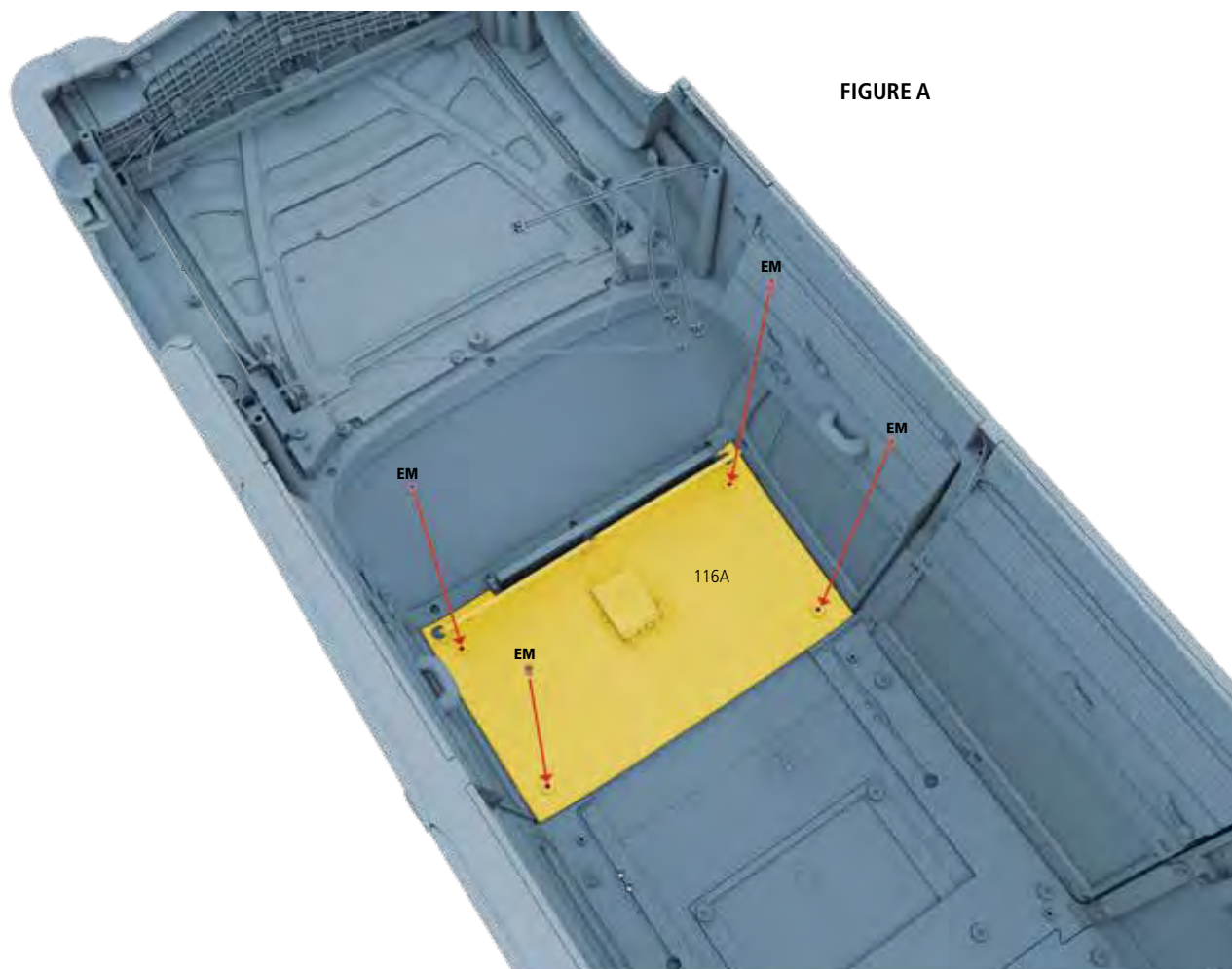
STAGE 117 BUILD

This is what the assembled pieces should look like.

STAGE 118
INTERIOR CEILING LIGHTS

In this stage, you fit the two ceiling lights to the central ceiling panel,
finally fitting the panel to the model's frame.

PART LOCATOR

INTERIOR
CEILING
LIGHTS

TIP: FITTING THE CEILING LIGHTS

In order to make installing the ceiling panel easier, make sure the LED casings and cables sit as flat to the ceiling panel as possible.

**KEY:** The illustrations are color-coded to help you identify which parts are being assembled. **RED** Highlights where the new part/s fit and screw in **YELLOW** Identifies the new part/s. **GRAY–BLUE** Indicates the previous assembly on to which the new part is fitted.

01 **ASSEMBLING THE LIGHTS:** Take the two interior light lenses (118C) and push the first onto the interior light base right (118B) and the second onto the interior light base left (118D) (figure A).

118C

FIGURE A

118B
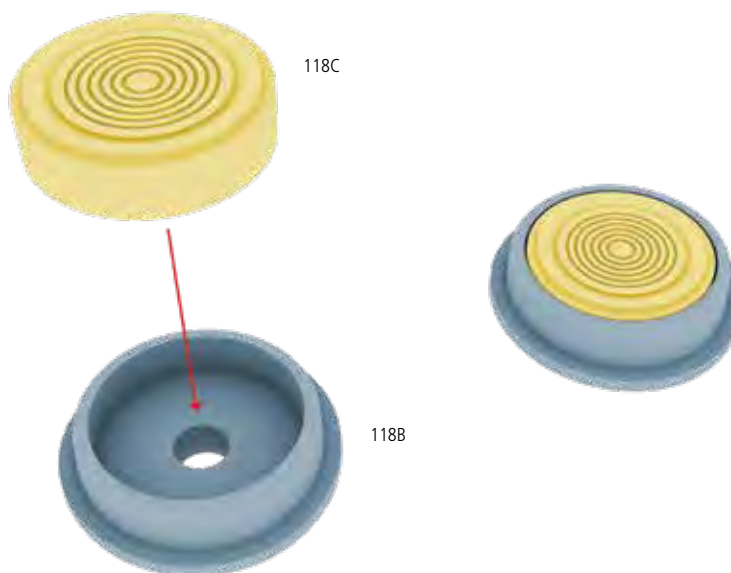
02 **INSTALLING THE LIGHTS:** Take the two interior lights assembled in step 1 and place them on the central ceiling panel (118A) (figure A). Next, push the two bulbs from the ceiling light LED (66E) into the holes in the center of the interior light assemblies (figure B). Next, bend the bulb casings so they are flush to the surface of the ceiling panel, and use the two stickers (118E) to keep the LED cables in place in the recesses that run from the interior lights to the edge of the panel (figure C).

FIGURE A

118A

FIGURE B

FIGURE C

90°

118E

118E

66E
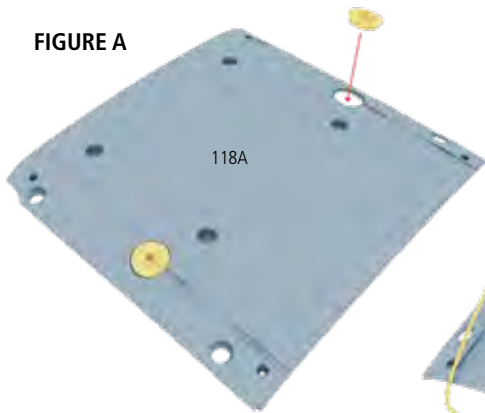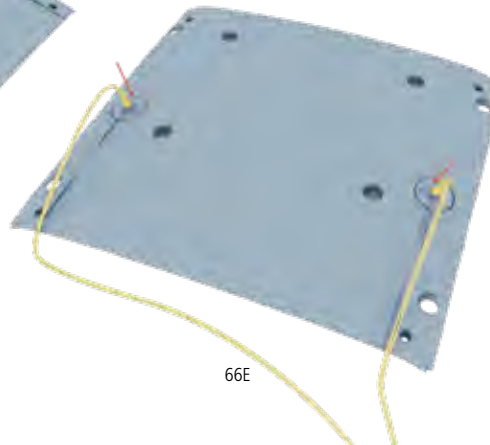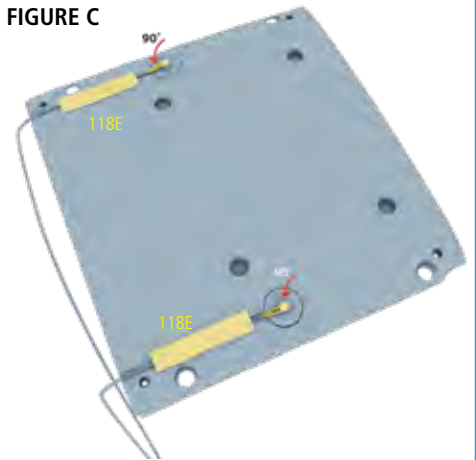
03 **FITTING THE CEILING PANEL:** Place the ceiling panel on the inside of the body frame of your model and secure the two parts together using four EM screws (figure A).

FIGURE A

EM

EM

EM

EM

STAGE 118 BUILD

This is what the assembled pieces should look like.
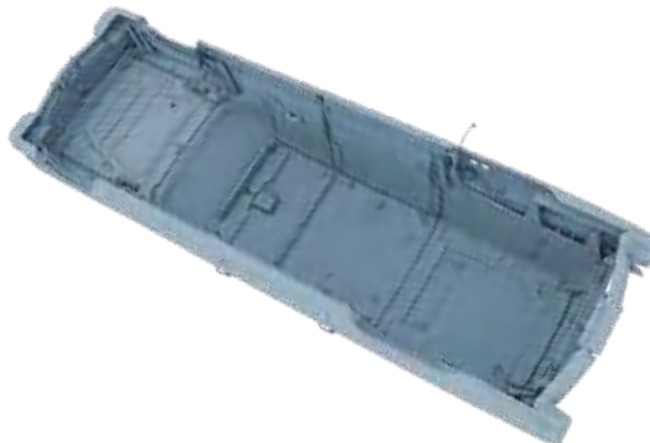
ACROSS THE BOARD

Ghostbusters II's assistant storyboard artist Chris R. Green looks back on cutting and pasting, perfecting his storyboarding style, and the joy of slime.

ANIMATOR AND ARTIST CHRIS R. GREEN was still in the process of getting his "chops" as a storyboard illustrator when he began work on *Ghostbusters II*. While he had worked as an animator on *Twice Upon a Time*, *Howard the Duck*, and *The Witches of Eastwick*, a detour into effects storyboarding meant Green had to perfect a new skillset – and fast.

"There was a huge adjustment when I would go from the animation department to storyboarding," he remembers. "I was terribly nervous about it. If you're not in practice sketching in that style, you have to get up to speed. So in order to do that, they would start me off working with existing storyboards. They would say, 'OK, we need to change this so it looks closer to the goo in the sewer of slime,' or 'The screenplay suggests this character needs to be in the shot,' or whatever. And I would add a new drawing on top of an existing drawing. Sometimes I would redraw something outright, but there would a lot of cutting and pasting with X-Acto knives and glue using photocopied pieces as well as new drawings. Eventually, when I did get my chops, I got to create my own board instead of chopping up pieces of existing board!"

According to Green, there were thousands of storyboards lining the corridors of ILM so that anyone working on the movie could easily reference them. "The walls of the hallways would be plastered with them, and it was always kind of wonderful to walk through there later when I was on my way to the animation department. The boards were constantly updated if the script was rewritten or they needed another way to fill out the sequence. Changes were cranked out every day. The system at ILM was that the storyboards were actually integral in the contracts they negotiated for the movies. If there was a change [to the agreed effects sequence] they could check, 'Does it fit the contractual obligations?' And if not, they'd have to charge [the studio] for the change."

FAST AND LOOSE

With a big, constantly evolving production like *Ghostbusters II*, Green and other storyboard artists – under the supervision of art director Harley Jessup – needed to work quickly, roughing illustrations in pencil before inking them in.

Despite the pace, it was important that the details in their drawings were crystal clear. "The style was fast and loose, but there could be no ambiguity. The stuff at ILM was very specifically designed to explain the effects shots so that people from different departments could look at them and say, 'Oh, here's where the modeling department needs to take care of these shots.' Or the optical department might look at certain shots and say, 'OK, what are the layers? What goes on top of what?' So it had to be very specific and correct. The angles and lenses had to be well defined, and proportions had to be quite realistic. I mean, that's what was so terrifying about it – if there was any ambiguity, you'd have to throw it in the wastepaper basket before anyone saw it. Whereas, in other great storyboard art – in non-effects situations – it could be looser or just convey a sense of the sequence."

Some of the shots that Green remembers most clearly involve the mood slime, whether it's

bubbling up through the sidewalk in the opening shot of the movie or flowing in a glutinous river beneath New York City. "I worked on a lot of slime shots. It was a relatively simple thing – you can draw smooth, flowing lines and then marker it in, without worrying about proportions."

The mood slime proved to be a highlight on screen as well as on the board. "The slime always elicited laughter from the audience when we watched dailies, because it's so disgusting. Slime is always fun."

Green adds that watching dailies at ILM's screening room was one of his favorite parts of the day during his time with the company. "The effects supervisors would all sit in the center, and we'd go through it, project by project. There was a camaraderie with other people who had worked on a film, whether a film was good or bad. And for someone who loves outtakes, like me, it was just hilarious to see outtake after outtake. It was an amazing place to work."

ABOVE AND LEFT: Storyboards of the river of slime, Vigo's ghostly head, and the Museum of Art. Panels like these were often the work of multiple artists tweaking existing panels.

MAKING MONSTERS

Ghostbusters' effects artist Steve Neill did everything from sculpting and puppeteering demon arms to co-ordinating Terror Dogs and creating the jail ghost. He looks back at his time on the film.

STEVE NEILL'S FORTY-FIVE-YEAR CAREER IN VISUAL effects has taken in dozens of major genre movies and involved everything from sculpting models and applying prosthetic makeup to writing, directing, and editing. For *Ghostbusters* fans, though, he is best known as the man who helped generate one of the movie's biggest scares.

Not only did Neill sculpt the three demon arms that burst so shockingly out of Dana's armchair, but he also puppeteered one of them, alongside Mike Hoover and Mike Jones. Despite their monstrous appearance, the demon arms – including one with "octopus fingers" that was rejected by Ivan Reitman for not being scary enough – were actually based on Neill's own limbs. "I based it on a cast of myself, because I was going to be the lead

[puppeteer]," he recalls. "I did all the sculptures, Gunnar [Ferdinandsen] did the molds, and Rob Burman, who is one of the best people in the business, did the foam running. The arms would then come back to me, and I'd trim them, paint them, and do the hair work with the help of Craig Caton. That one little sequence involved a week's work, but it was an amazing experience."

The scene required Neill to squash himself uncomfortably inside the oversized, weakened armchair for the initial chair-bursting shock. But a bigger challenge was making the face-grabbing moment look suitably believable. "I was trying to be very careful so that I didn't actually poke an eye out or scratch Sigourney Weaver in the face with the claws," Neill says. "But Ivan wanted it to look realistic – [to look as though] it was the force of my arm [pushing her back] rather than that she was thrusting her head back. He didn't want it to look like we were acting." Neill remembers that it was Weaver who was most insistent that the sequence should look as realistic as possible, even if it left her with bruises afterwards. "Sigourney Weaver was amazing," he adds. "She was very gracious, very sweet, and very

easy to work with. She came down to visit us at Boss Film after the shoot and was very curious about seeing the creatures and how they were being made. She was really interested in the project."

THE DOG WHISPERER

As well as his work on the chair sequence, Neill's other key role on the film was as a puppeteer on several Terror Dogs scenes. "Because I was in the Screen Actors Guild and had acted as gorillas and creatures on other movies, it was natural to have me do puppeteering. When the claws burst out of the plaster cast statue, it was actually me who made them break open on time. I was underneath the Terror Dog with some controls. I was also inside a Terror Dog suit at one point, when Rick [Moranis] says, 'Nice doggie… Maybe I got a Milk-Bone?' and I rise up." Neill's puppeteering work for the latter scene was shot against blackscreen at Boss Film and composited in with footage of Moranis shot in Central Park.

In addition to these scenes, Neill was also the "master puppeteer" of the Terror Dog at Louis's apartment. "[Creature shop co-supervisor/stop-motion animator] Randy Cook put me on that task.

What 'master puppeteer' meant was that I stood on stage with the director, with headphones on, and communicated with the puppeteers underneath the apartment [floor]. I co-ordinated all the puppeteering on that. Additionally, I also did some sculpting on the full-size Terror Dog. A lot of us worked on that. Randy was the director of how it would be done, and it was a really good replica of his miniature."

Neill's *Ghostbusters* tasks didn't end there. He also worked on some of the Marshmallow Man's mechanics, and, for his first job on the picture, sculpted a "jail ghost" that was originally going to be seen trapped inside the containment unit. "Now as you know, we never saw any jail ghost. I worked on that for a while before they came to me and said, 'What we really want you to do is stop working on the jail ghost because we're going to write that scene out.' So they put me on the chair scene instead."

Of course, Neill wasn't the only one creating groundbreaking effects on *Ghostbusters*, and for an avid fantasy fan like him, part of the fun of working on the movie was wandering around the set and marveling at the work of other artists. There was no shortage of amazing sights. "All the hardware, like the proton packs, were so well made, such a class act. It looked like real hardware. And the sets they built for the apartment building were amazing. You'd swear you were actually in a New York apartment complex. They spared no expense in the detail and care that was put into making that film."

That attention to detail is a large part of why the movie has survived the test of time, Neill argues. "It's why it remains so popular and why it's the film I get asked about more than any other I've worked on. I'm very grateful to [ghost shop supervisor] Stuart Ziff and Randy Cook for getting me hired on that picture. It's one of those sweet spots in my career and I have nothing but fond memories about it."

CLOCKWISE One of the demon arms sculpted by Neill; Louis throws a coat over the Terror Dog at his apartment; the jail ghost, sculpted by Neill for an unfilmed scene; the Terror Dog's toes burst from the statue.
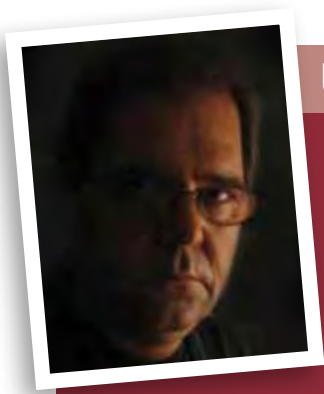
LASERBLAST FROM THE PAST

After creating makeup effects for low-budget late-1970s genre fare like Larry Cohen's *God Told Me To* and *The Crater Lake Monster*, Neill made a name for himself working for Charles Band at Empire Pictures, alongside fellow VFX veterans (and *Ghostbusters* franchise alumni) Randy Cook and David Allen. The trio would go on to maintain a long friendship and work on many future projects together.

One of Neill's most popular projects for Band was the cult 1977 sci-fi adventure *Laserblast*, for which he created the prosthetic makeup effects. He also played an alien in the film. "Recently I replicated the gun from that film," Neill laughs. "One person called me up and said, 'I have to have it, no matter how much it costs!' Aside from *Ghostbusters*, *Laserblast* is the project I get asked about most."

Neill has worked on plenty of other high-profile projects, too, providing effects, models, props, and make-up for the likes of *Battle Beyond the Stars*, *Fright Night*, *Q*, and *The Stuff*. He is also known for his *Star Trek* work, which includes *Star Trek: The Motion Picture*, *Star Trek VI: The Undiscovered Country*, and *The Next Generation* pilot, 'Encounter at Farpoint.' "When I got the call to work on *Star Trek: The Motion Picture* I was delighted," he recalls. "I darn near fainted! Spock was always my favorite character on *Star Trek* – and I got asked to recreate his ears for the film! Fred [Phillips] gave me the ears from the original TV show and said, 'Can you replicate these exactly?' It was a wonderful experience."

During his long career, Neill has worked with hundreds of famous names, from Tobe Hooper ("A good friend and a really good guy to work for") and Oliver Reed ("I spent three months going out and tearing up the town with him"). But there is one movie legend who has been particularly influential. "If it wasn't for Rick Baker, I wouldn't have got the early jobs I got. He basically made my career, or at least helped launch it. I couldn't have done it with him."

Like Dan Aykroyd, Neill is also an aficionado of the paranormal, inspiring him to write and direct the series *But Something Is There*, based on his own uncanny experiences. Is that partly what attracts him to outlandish genre movies like *Ghostbusters*? "Absolutely," he says. "You'll find many people who are interested in the bizarre have had little brushes with [the paranormal] at one point or another, whether they care to admit to it or not. But I've always been interested in it, ever since I first looked at the sky became fascinated by the stars and the moon. I watched all the space launches, I was an addict of *The Twilight Zone*, *Science Fiction Theater*, *The Outer Limits*, *Star Trek*, and, later on, *2001: A Space Odyssey*. All those things had a tremendous influence on my career choices."

CUTTING ROOM HEROES

Sheldon Kahn and David Blewitt's masterful editing was crucial in ensuring
Ghostbusters believably moved from comedy to horror without jarring.

KEEN TO BRING IN EDITORS WHO COULD handle *Ghostbusters*' tonal shifts – which went from romance to improvised comedy to out-and-out horror – without sacrificing the pace, Ivan Reitman hired the well-regarded Sheldon Kahn and David Blewitt.

Kahn had won a BAFTA for his editing work on 1975's *One Flew Over the Cuckoo's Nest*, a film that, like *Ghostbusters*, successfully pulled off a difficult tonal balancing act (in this case black comedy and tragedy). Kahn had also worked on more 'straightforward' comedies too, including 1980's Goldie Hawn vehicle *Private Benjamin* and 1982's concert film *Richard Pryor:*

Live on the Sunset Strip. Meanwhile 1976's crime drama *Mikey and Nicky* and 1979's *The Electric Horseman* were further evidence of how he could handle more serious films, which was important as Reitman was keen to ensure that *Ghostbusters* maintained an air of realism.

The realism that Reitman favored can further be seen in the choice of Kahn's co-editor David Blewitt, who had mainly edited documentaries – though he had also cut *Smokey and the Bandit Part 3* and Joel Schumacher's *D.C. Cab* (both 1983). That documentary experience would come in useful during sequences such as *Ghostbusters*' first montage.

TENSION BUILDING

Kahn and Blewitt's smart use of tension-building through editing can be seen in the pre-credits sequence of *Ghostbusters*, as the librarian is confronted by an as-yet-unseen ghost. "Sometimes giving them less information and letting them fill [things] in as the story goes is better than giving them all the information immediately and then they're two steps ahead of you through the film," Kahn told Gabriella Oldham in the 1995 book *First Cut: Conversations With Film Editors.*

Kahn and Blewitt also handled the film's spectacle with mastery – not least in the first appearance of the Stay Puft Marshmallow Man. "You see the Stay Puft Marshmallow Man between the buildings, you just see a little bit of it, and you're like, 'What the hell is that?'" he explained during a panel at 2019's *Ghostbusters Fan Fest.* "Then you cut back to the boys, and then you cut back to the image going past another building and you see just a tiny bit more of him. And then you cut back to the boys, and then you cut to the street and see him come around the corner for the first time. It's an old editor's trick of everything in threes. And it works... We hide it for the first two times just to get your curiosity. And then we show you what we're about."

The film's editing is equally impressive outside of the scare sequences. Filmmaker and editor Adam Bertocci neatly summed up the film's skilful pacing on the website *RunLeiaRun.com*: "*Ghostbusters* slows down in between some stimulating moments. Dana's rejection of Venkman is paced slowly, with leisurely dolly shots covering several lines of dialogue. Then it quickens: a one-shot scene button in the hallway, a brief establishing shot of the firehouse. Then slow again: the *Ghostbusters*' doleful Chinese meal, all covered in one shot, and an unhurried push-in on Janine – and then the excitement begins... These simpler scenes let us cool off, and make the subsequent rumpus more exhilarating by contrast. Everything in editing is relative; the pace of a scene only means something in relation to what came before."

Reitman and Kahn forged a great working relationship in the editing room. As well as *Ghostbusters II* (1989), the pair worked together again on *Legal Eagles* (1986), *Twins* (1988), *Kindergarten Cop* (1990), *Junior* (1994), *Six Days Seven Nights* (1998), *Evolution* (2001), *My Super Ex-Girlfriend* (2006), and *Draft Day* (2014). As well as editing, Kahn earned associate producer credits on several of these pictures. Blewitt's subsequent editing work, meanwhile, included *Psycho III* (1986), *Moonwalker* (1988), and *Flatliners* (1990) before his death in 2010.

GIGA METER

This handheld device, used by Egon on the streets of New York and at the Manhattan Museum of Art, measures psychomagnotheric energy in giga-electron volts.

INTRODUCED IN *GHOSTBUSTERS II,* the giga meter works in a similar way to the PKE meter, except that it tracks psychomagnotheric energy (found in "mood slime") rather than psychokinetic energy. As its name suggests, the device does this by measuring giga-electron (GeV) volts. A high number on the LED readout strongly suggests that a paranormal entity has affected the GeV levels.

In the movie, Egon is seen using the device at three locations: Dana's apartment, New York's First Avenue above the river of slime ("2.5 on the giga meter"), and the Manhattan Museum of Art. In a line cut from the final script, Ray gives a brief description of the device: "Egon and I have been working on it. It measures psychomagnetic energy in GeVs: giga-electron volts." Egon also explains more about one readout in an early draft: "You're reading three at the moment. That's normal. The difference between 3 and 130 in terms of potential volatility is

like the difference between a firecracker and a stick of dynamite."

SCRUBBER N' BUFFER

Like most of the tech seen in both *Ghostbusters* movies, the device was designed by the late hardware consultant Stephen Dane. He drew up various designs before he and Ivan Reitman agreed upon the final version.

Just as the original PKE prop was a modified Iona shoe polisher, the giga meter prop was refashioned from another cleaning device – a power cleaner called the Redman Corporation Power Scrubber N' Buffer. This device, which was designed in the late-1970s, was given added spinning lights and condenser microphones. "I configured the whole thing in detail, to make it something you'd really build in order to detect certain frequencies or whatever the presence of the ghost would be," Dane said in the 2015 book *Ghostbusters: The Visual History*.

Dane explained more about the giga meter and other *Ghostbusters II* tech in an interview with the website *Beyond the Marquee* in 2014: "The new equipment: giga meter, slime scooper and the slime blowers… were all designed by me. I worked off the script references of the equipment and had

design development meetings with Ivan Reitman. I made a good set of scaled isometric images for the prop makers to build from once the designs were approved."

The device later reappeared on several occasions in IDW's *Ghostbusters* comic series.

ABOVE Photo of the giga meter prop, which was refashioned from a Power Scrubber N' Buffer.

BELOW The giga meter was an exhibit in Judge Wexler's courtroom, alongside ghost traps and the slime sample.

ECTO-101

A MONTHLY LIST OF ALL THE THINGS THAT MAKE GHOSTBUSTERS GREAT.

#31 MAGICIANS, MARTYRS & MADMEN

Along with *Tobin's Spirit Guide*, *Magicians, Martyrs and Madmen* is another indispensable book about the paranormal that the Ghostbusters draw upon during their investigations.

Ray consults the tome in *Ghostbusters II* after first hearing about Vigo. "Found it in Leon Zundinger's *Magicians, Martyrs and Madmen*," he says, handing Peter some notes. Ray and Egon then reveal some of their findings – notably, that Vigo was born in 1505 and died 102 years later after being "poisoned, stabbed, shot, hung, stretched, disembowelled, drawn and quartered." They also learn from the book that he had a whole host of other names (Vigo the Cruel, Vigo the Torturer, Vigo the Despised etc.) and that his last words were, "Death is but a door, time is but a window. I'll be back!"

Earlier in the film, material from the book is seen on the "Occult Reference Net" that Egon consults after learning that Dana has been attacked by her bathtub. It reveals: "16th Century Carpathia was in a constant state of spiritual turmoil due principally to the despotic rule of Prince Vigo von Homburg Deutschendorf, tyrant, sorcerer and psychotic autocrat." "Von Homburg" is, of course, the surname of Vigo actor Wilhelm von Homburg, while Deutschendorf is the surname of the twins William and Henry, who played Oscar.

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ZUNDINGER, LEON.
MAGICIANS,MARTYRS AND MADMEN

CHAPTER 6 , PP. 128 - 145
Vigo the Carpathian (1505-1618)

Sixteenth century Carpathia was in
a constant state of spiritual
turmoil due principally to the
despotic rule of PRINCE
VIGO VON HOMBURG DEUTSCHENDORF ,
tyrant ,sorcerer and psychotic
autocrat.
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> *It was a miracle we got it out on time. We had effects that were redone for the DVD because they were in such a raw state in the original version. But we were confident. Somehow we were doing this very elaborate film, before digital effects were invented, winging it with old-school methods. But that helped it work, I think… In a strange way, it was real for everyone on set.*

▲ **Ivan Reitman on the benefits of live special effects and refining Ghostbusters' *VFX* for the DVD (*Wild and Crazy Guys* book, 2019).**

> *When we watched his movies, from* Animal House *and* Caddyshack *to* Ghostbusters *and* Groundhog Day *– we didn't just laugh until it hurt. We questioned authority. We identified with the outsider. We rooted for the underdog. And through it all, we never lost our faith in happy endings.*

▲ **Barack Obama's tribute to Harold Ramis following the actor's death (Feb 2014).**

> *Early in my career I got a part as a singing construction worker for a restaurant called Long John Silver's – a fish and chips place. I got fired because I could not stay on key during the 'batter-fried fish' jingle...*

▲ **Ghostbusters II*'s Kurt Fuller on why he avoids any role requiring him to sing. Though he does sing* Auld Lang Syne *at the end of GBII! (MyFanbase.de, 2011).**

ISSUE 32

BUILD THE
GHOSTBUSTERS
ECTO-I

FANHOME   **BUILD THE ICONIC ECTO-1 CAR FROM GHOSTBUSTERS**

HAUNTED HONEYMOON
Wendy Goldman on the cut Slimer sequence.
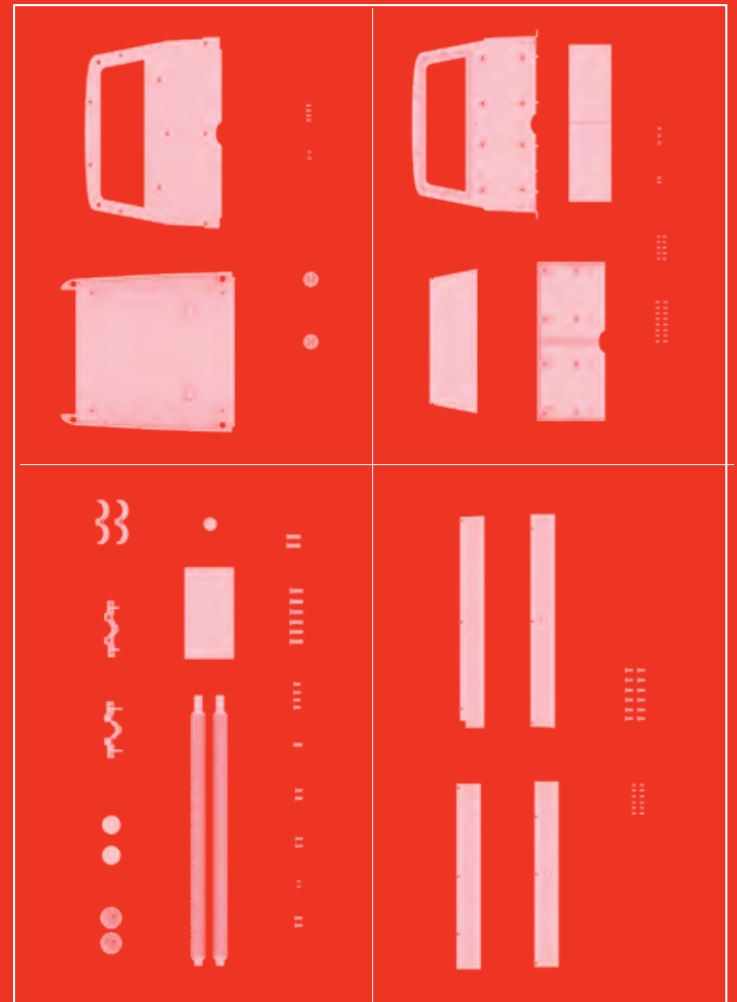
MICHAEL CHAPMAN
Ghostbusters II's late cinematographer.

Portrait: Twelvetides /Wikimedia Commons

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