



ISSUE 18

# BUILD THE GHOSTBUSTERS<sup>TM</sup> ECTO-1







# BUILD THE GHOSTBUSTERS<sup>TM</sup> ECTO-1

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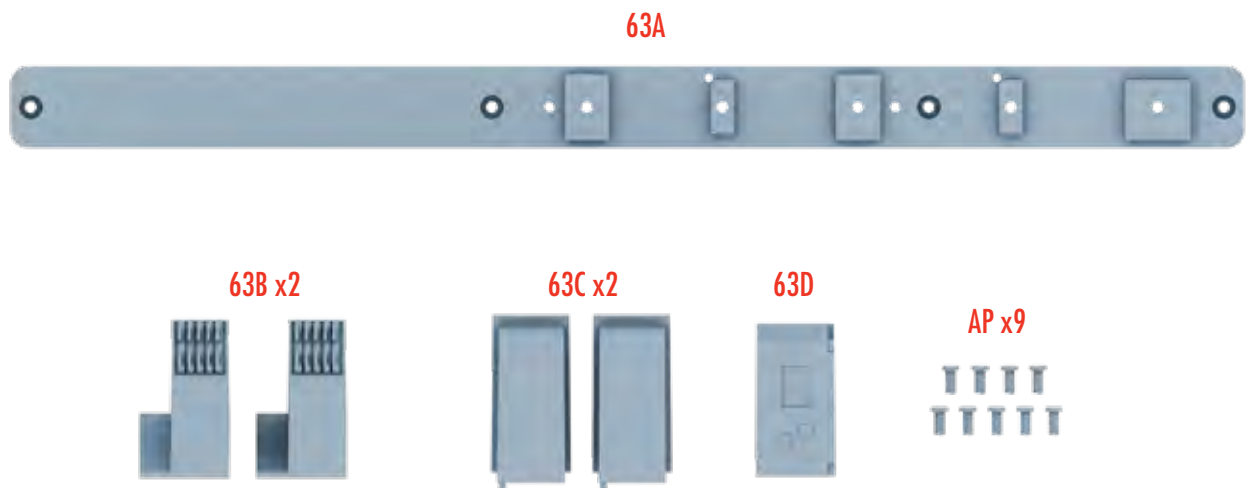
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# CAR PARTS STAGE 63

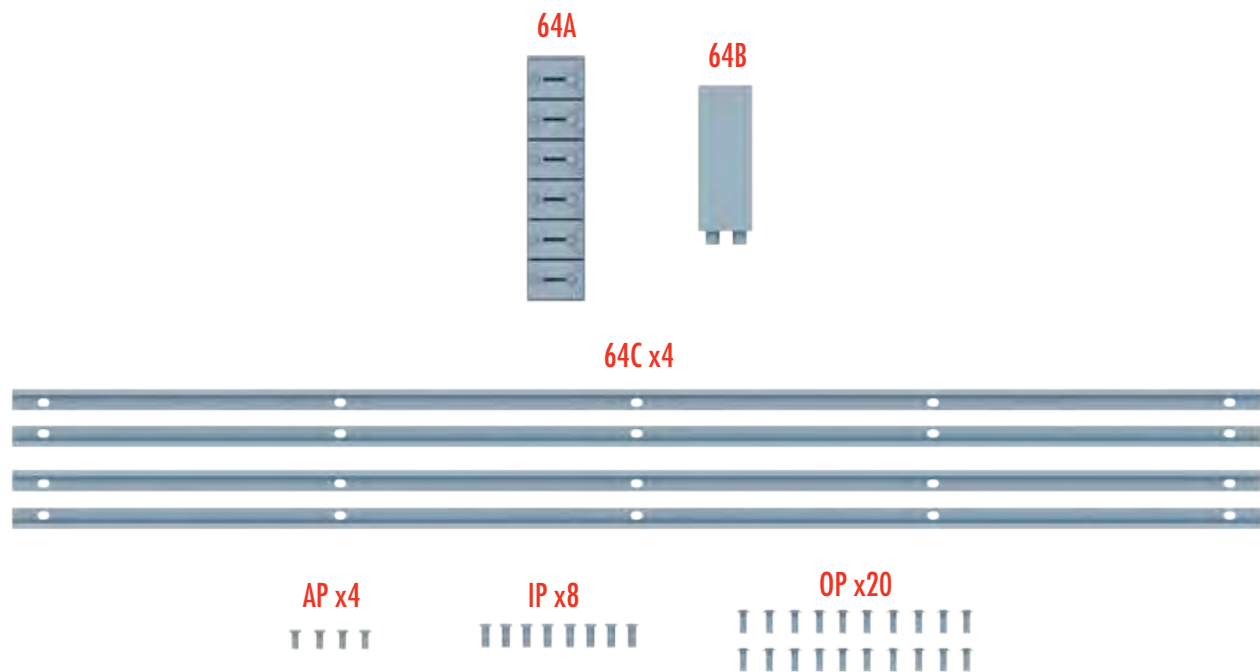
In this stage, you receive more gadgets for the rear cargo area of your Ecto-1 model.



PART NUMBER	DESCRIPTION	QUANTITY
63A	REAR LEFT COMPONENT STATION	1
63B	LATITUDE/LONGITUDE PROCESSOR FRONT	2
63C	LATITUDE/LONGITUDE PROCESSOR REAR	2
63D	AN/UNH-6 MAGNETIC TAPE SOUND REPRODUCER	1
AP	1.7x5MM	9 (+2 SPARE)

# CAR PARTS STAGE 64

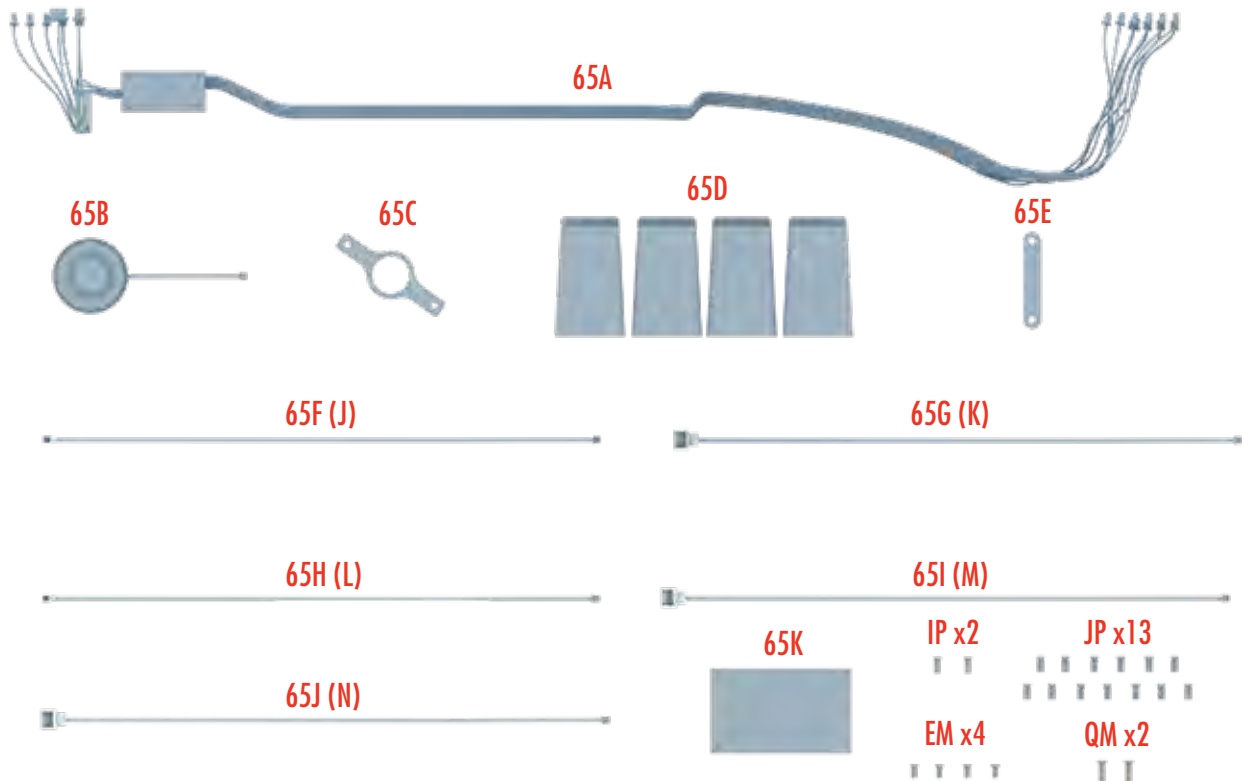
In this stage, you receive control boxes for the rear of the Ecto-1,  
as well as the floor rails for the gurney.



PART NUMBER	DESCRIPTION	QUANTITY
64A	TELEFUNKEN SB-329/AR CONTROL BOXES	1
64B	CONTROL BOX	1
64C	FERNO-WASHINGTON MODEL 22 GURNEY FLOOR RAILS	4
AP	1.7x5MM	4 (+1 SPARE)
IP	2x5MM	8 (+2 SPARES)
OP	1.7x4MM	20 (+3 SPARES)

# CAR PARTS STAGE 65

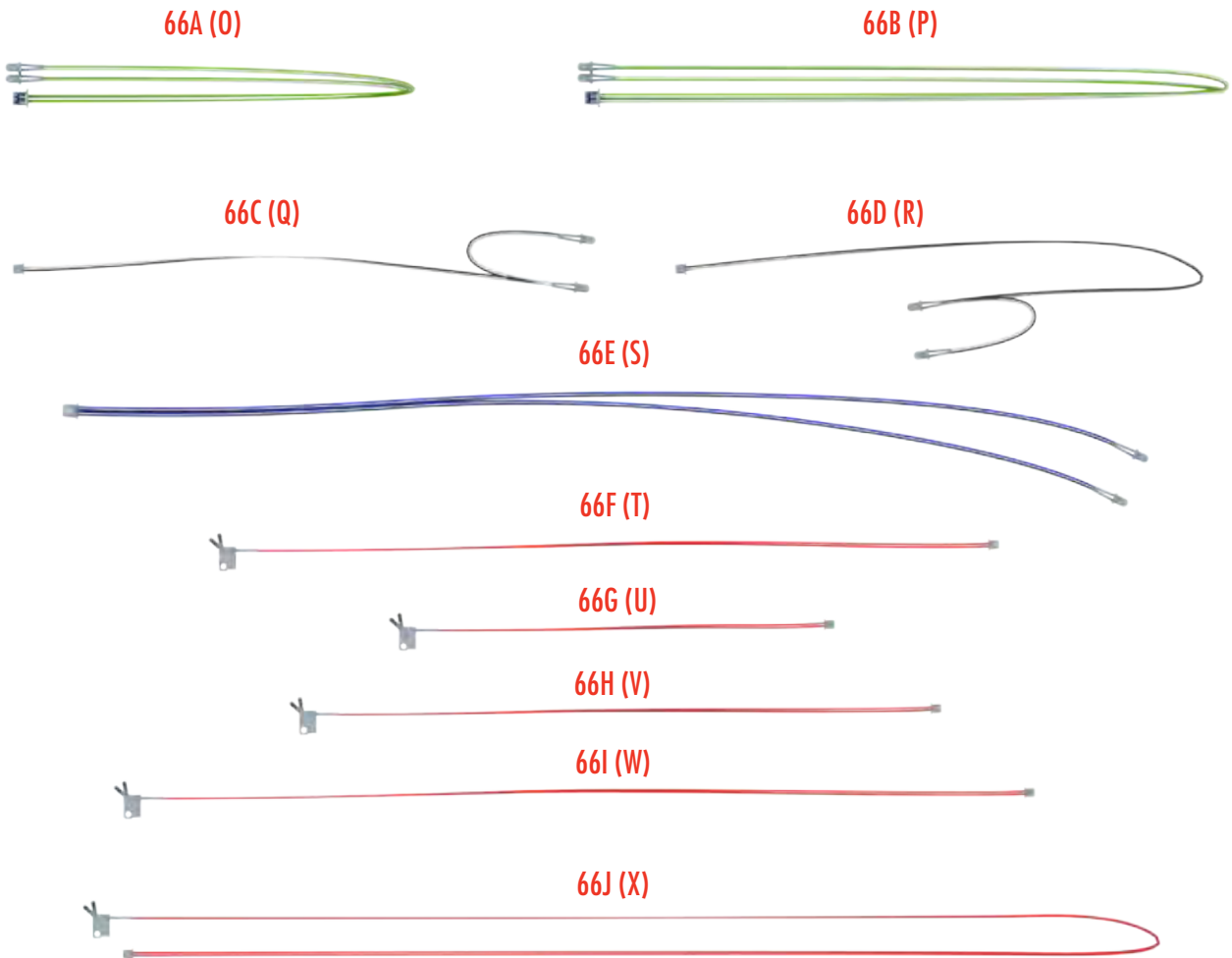
In this stage, you receive the PCB and speaker for your Ectomobile,  
as well as wires for the electrical circuit.



PART NUMBER	DESCRIPTION	QUANTITY
65A	PCB	1
65B	SPEAKER	1
65C	SPEAKER BRACKET	1
65D	SUPPORT	4
65E	WIRE RETAINER	1
65F	FEDERAL 19 PROPELLO-RAY WIRE	1
65G	WHELEN HRDF-200 STROBE WIRE	1
65H	FRONT DECK LIGHT WIRE	1
65I	REAR DECK LIGHT WIRE	1
65J	CODE 3 FORCE 4 XL WIRE	1
65K	STICKER	3
IP	2X5MM	2 (+1 SPARE)
JP	2.3X5MM	13 (+3 SPARES)
EM	2X4MM	4 (+1 SPARE)
QM	2X7MM	2 (+1 SPARE)

# CAR PARTS STAGE 66

In this stage, you receive the LEDs for the headlights and tail lights of your model, as well as the ceiling light switch system.



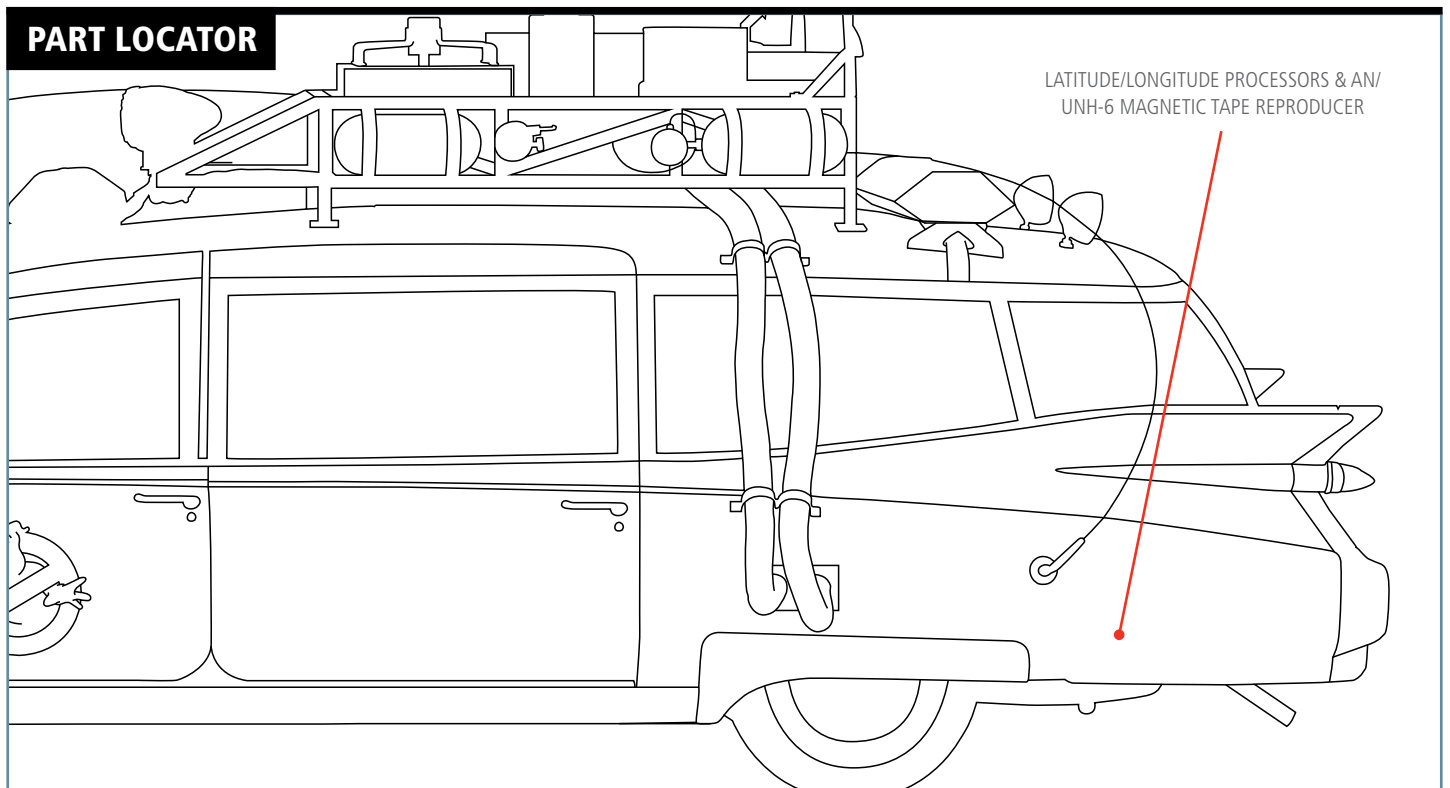
PART NUMBER	DESCRIPTION	QUANTITY
66A	LEFT HEADLIGHT LED	1
66B	RIGHT HEADLIGHT LED	1
66C	LEFT TAIL LIGHT LED	1
66D	RIGHT TAIL LIGHT LED	1
66E	CEILING LIGHT LED	1
66F	REAR DOOR SWITCH	1
66G	FRONT LEFT DOOR SWITCH	1
66H	REAR LEFT DOOR SWITCH	1
66I	FRONT RIGHT DOOR SWITCH	1
66J	REAR RIGHT DOOR SWITCH	1



## STAGE 63

# LATITUDE/LONGITUDE PROCESSORS

In this stage, you install the Latitude/Longitude processors and AN/UNH-6 magnetic tape sound reproducer into the rear of the Ecto-1.



### 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 halfway 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.

**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 LATITUDE/LONGITUDE PROCESSORS:** Firstly, place the two latitude/longitude processor front parts (63B) on the rear left component station (63A), securing with two AP screws (figure A). The two latitude/longitude processor front parts should be facing opposite directions. Then fit the two latitude/longitude processor rear parts (63C) to the component station, fastening with two AP screws (figure B).

FIGURE A

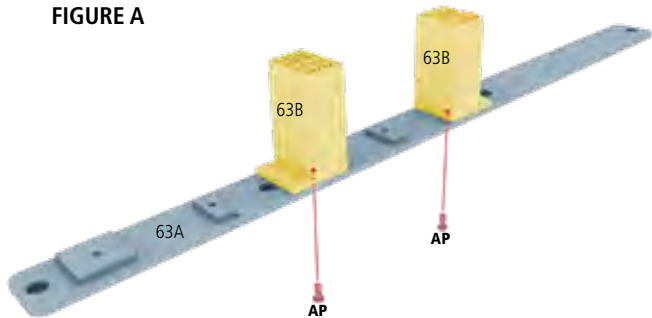
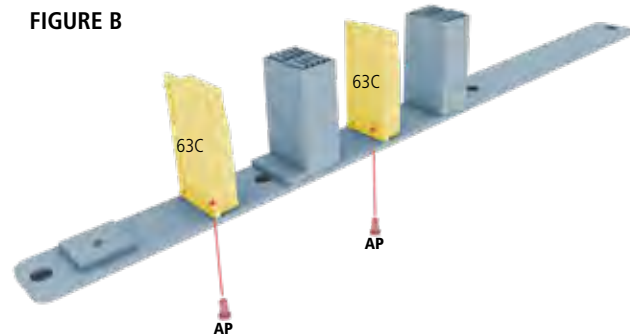


FIGURE B



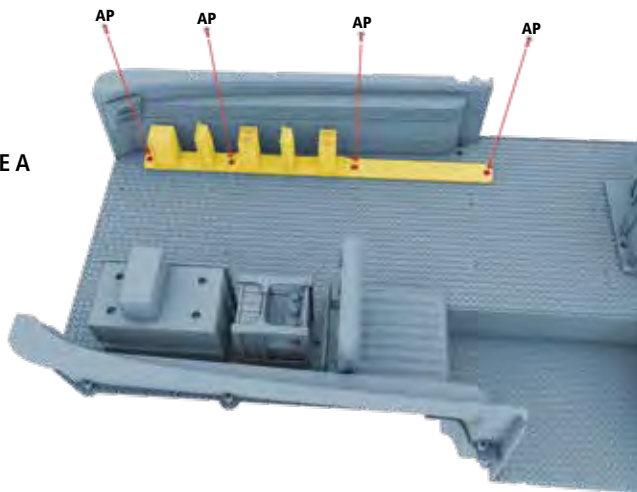
- 02 FITTING THE SOUND REPRODUCER:** Place the AN/UNH-6 magnetic tape sound recorder (63D) on the remaining spot on the rear left component station (63A), joining the parts together with one AP screw (figure A).

FIGURE A



03

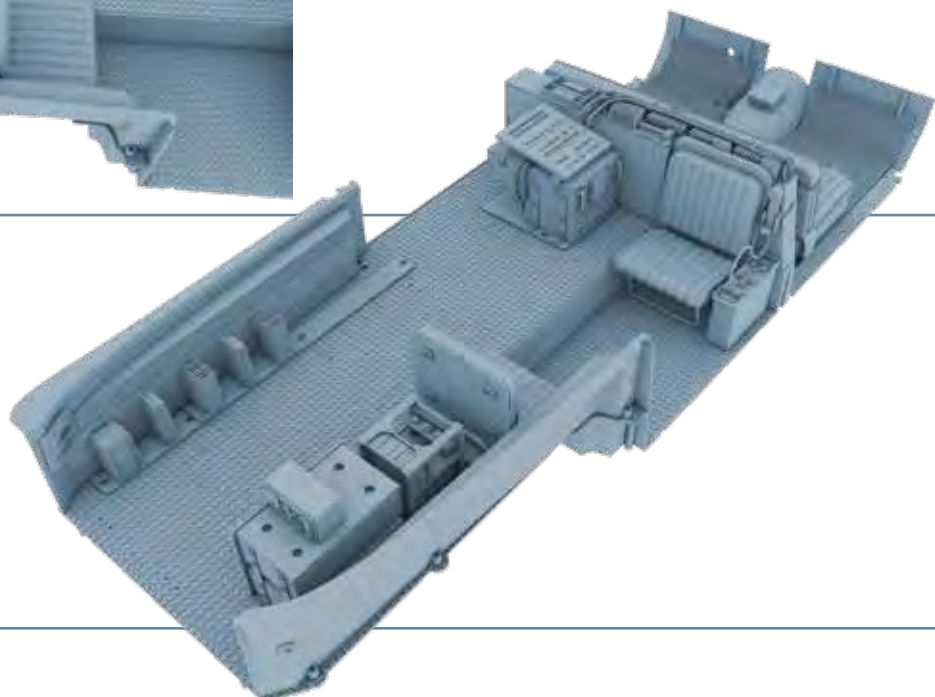
FIGURE A



**INSTALLING THE COMPONENT STATION:** Take the rear left component station (63A) and place it on the rear left section of the cargo area floor so that the four sets of screw holes on the two parts match up. Finally, secure the parts together using four AP screws (figure A).

## STAGE 63 BUILD

This is what the assembled piece should look like.



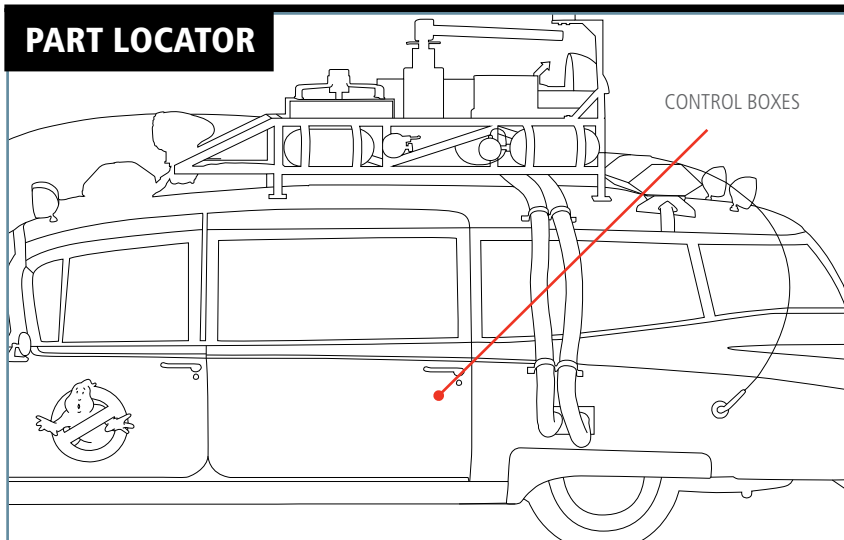


## STAGE 64

# CONTROL BOXES AND GURNEY RAILS

In this stage, you fit two control boxes to the cargo area, as well as the rail for the gurney.

### PART LOCATOR



### TIP: WORK ON A TRAY

Many of the parts in this phase are small. Unpack them all carefully and work on a tray to avoid losing any of them. You may need tweezers to handle and fit the smallest parts.

**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 CONTROL BOXES:** Start by placing the Telefunken SB-329/AR control boxes (64A) on the rear right interior panel (62A), securing the part with two AP screws (figure A). Then, slot the two screw posts in the bottom of the control box (64B) into the two screw holes in the cargo area floor (52A), next to the rear left interior panel (61A) (figure B). Fasten the two parts together using two AP screws (figure C).

FIGURE A

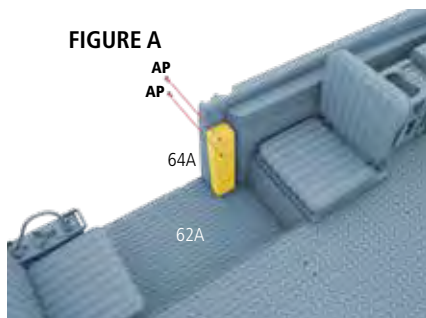


FIGURE B

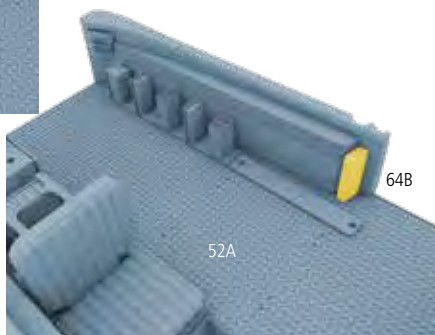
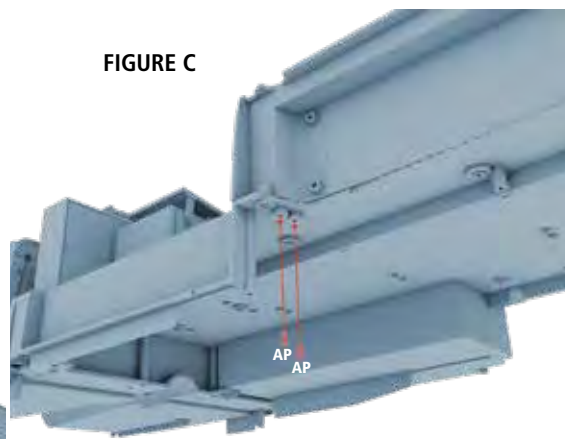


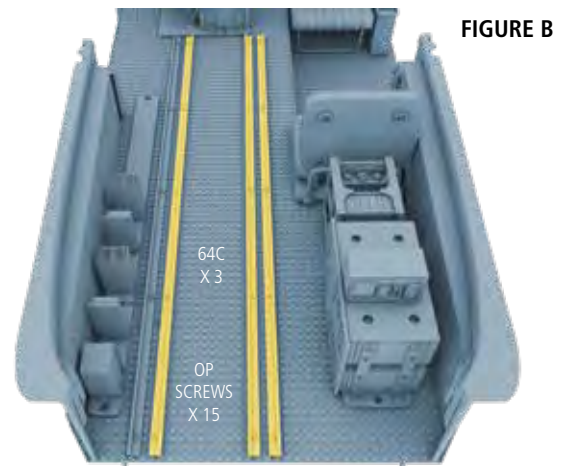
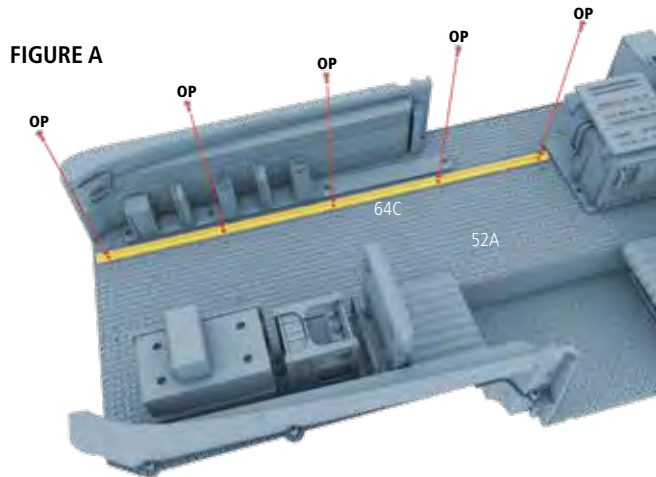
FIGURE C





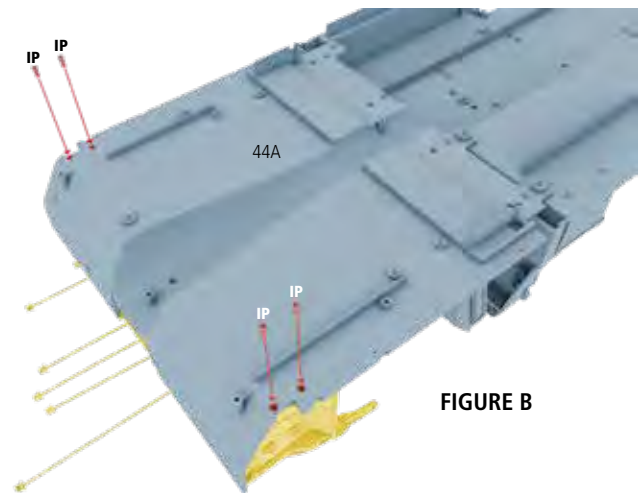
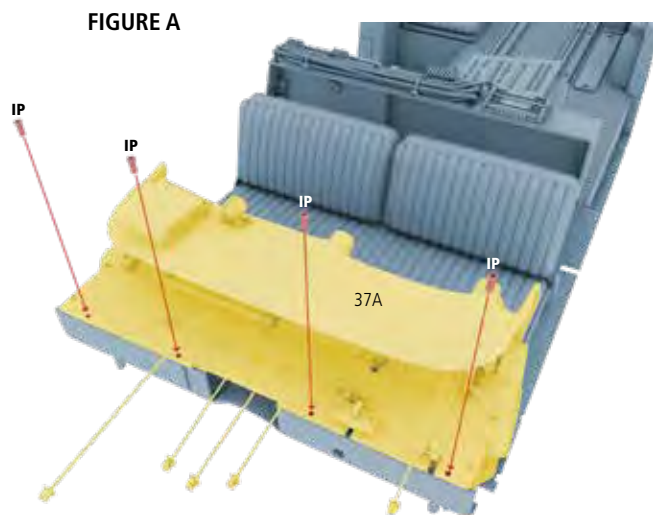
02

**FITTING THE FLOOR RAILS:** Take the first of the four floor rails (64C) and secure it to the cargo area floor (52A) using five OP screws (figure A). Then, repeat this with the three remaining floor rails (figure B).



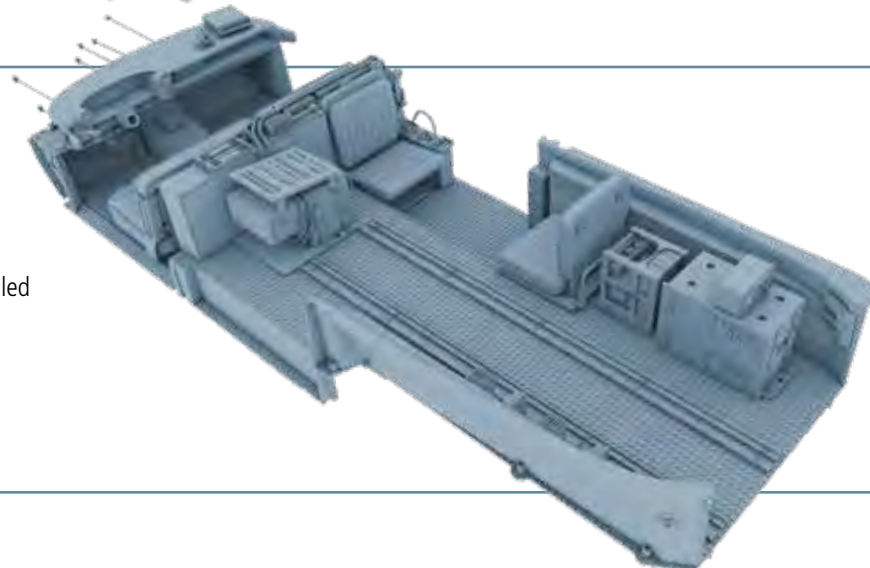
03

**SECURING THE DASHBOARD:** Secure the dashboard lower panel (37A) using four IP screws (figure A). Then, turn the parts over and drive four IP screws through the front inner floor (44A) (figure B).



## STAGE 64 BUILD

This is what the assembled piece should look like.



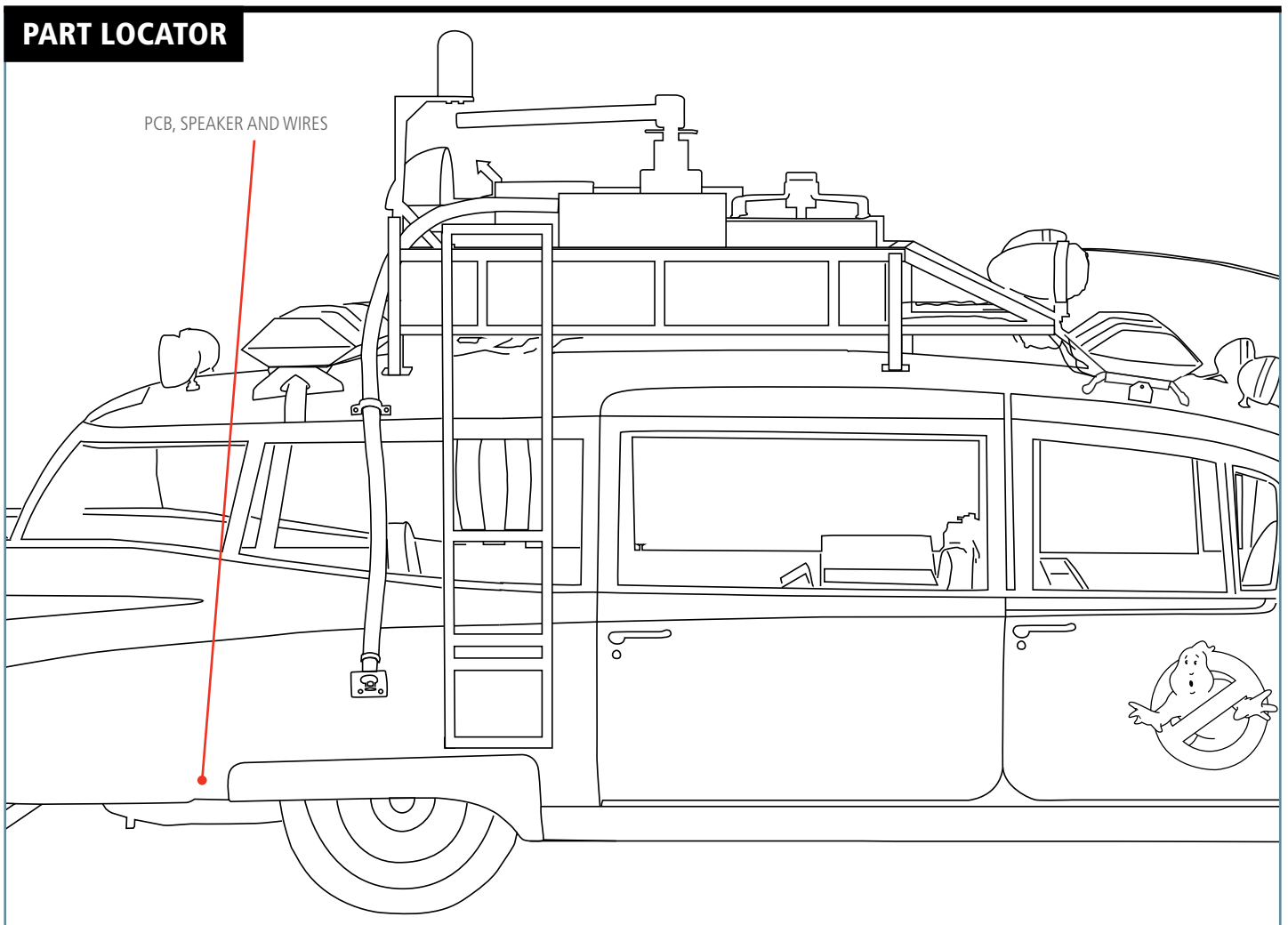


## STAGE 65

# PCB, SPEAKER & WIRES

In this stage, you fit the PCB and speaker to the chassis, install the interior of the Ectomobile and work on the electrical components of your model.

### PART LOCATOR



#### TIP: WORK ON A TRAY

Many of the parts in this phase are small. Unpack them all carefully and work on a tray to avoid losing any of them. You may need tweezers to handle and fit the smallest parts.

**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 PCB:** First, take the PCB (65A) and secure it to the middle chassis (20A) with four EM screws (figure A). Then, take the socket marked "A" from the PCB and plug the wire from the battery, also marked with an "A" into it (figure B).

FIGURE A

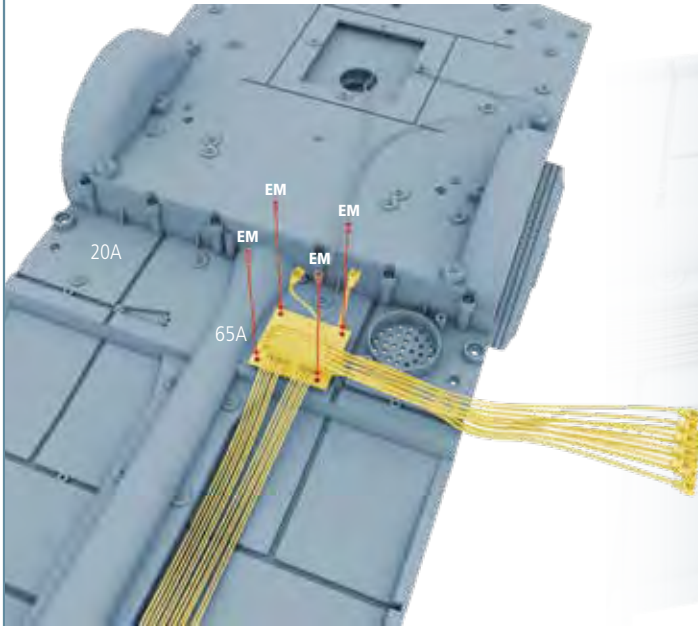
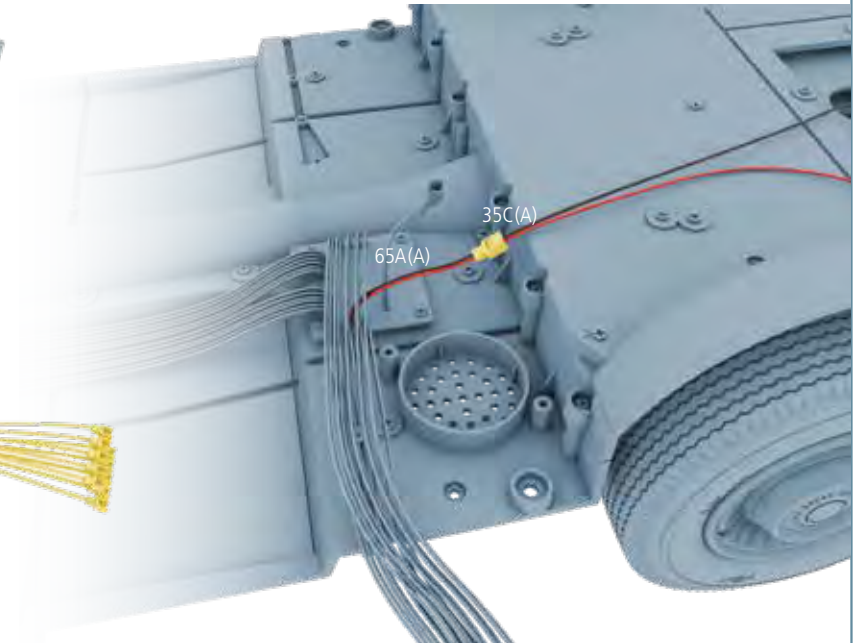


FIGURE B

**02**

**INSTALLING THE SPEAKER:** Place the speaker (65B) into the circular bracket on the middle chassis (20A). Fix it in place by placing the speaker cover (65C) on top and driving two QM screws through the cover into the middle chassis (figure A). Plug the yellow wire marked "I" coming from the speaker into the yellow wire marked "I" coming from the PCB (figure B).

FIGURE A

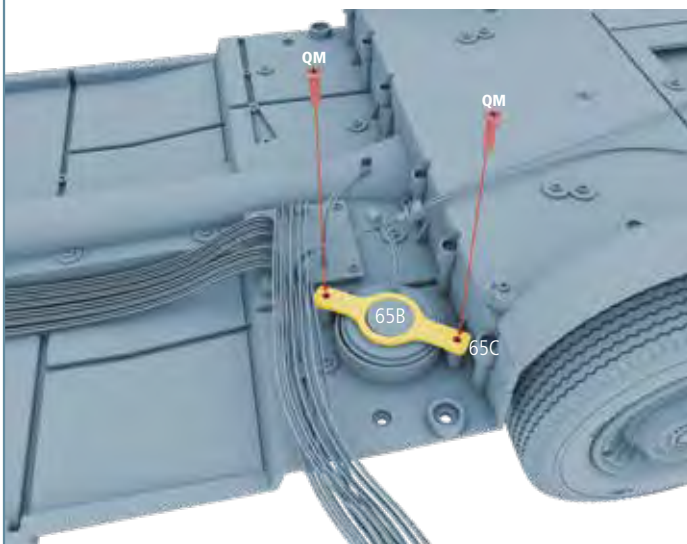
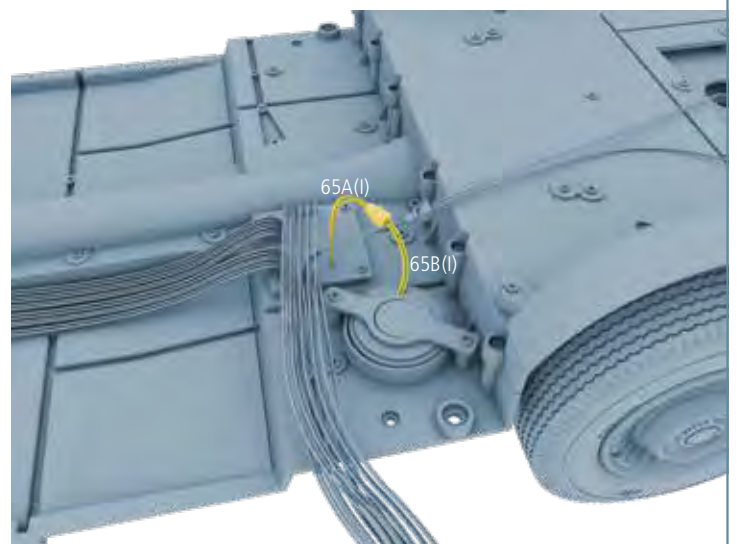


FIGURE B







**03 FITTING THE INTERIOR SECTION:** Begin by laying out the wires as shown in figure A, holding them in place using the three stickers (65K) provided with this issue. This will keep the wires out of the way of the interior section and ready to be fitted to the bulbs and switches later. The long wires all head up towards the front of the car, and the shorter wires are pulled towards the rear left wheel.

Place the interior section on top of the car's frame, taking care to slot the steering column (16I) through the front inner floor (44A) and making sure that the newly connected parts do not harm the wires already fitted (figure B). Holding these parts together, turn the model over and secure with four JP screws through the front middle chassis (19A), four through the middle chassis (20A) and five through the rear chassis (23A) (figure C).

FIGURE A

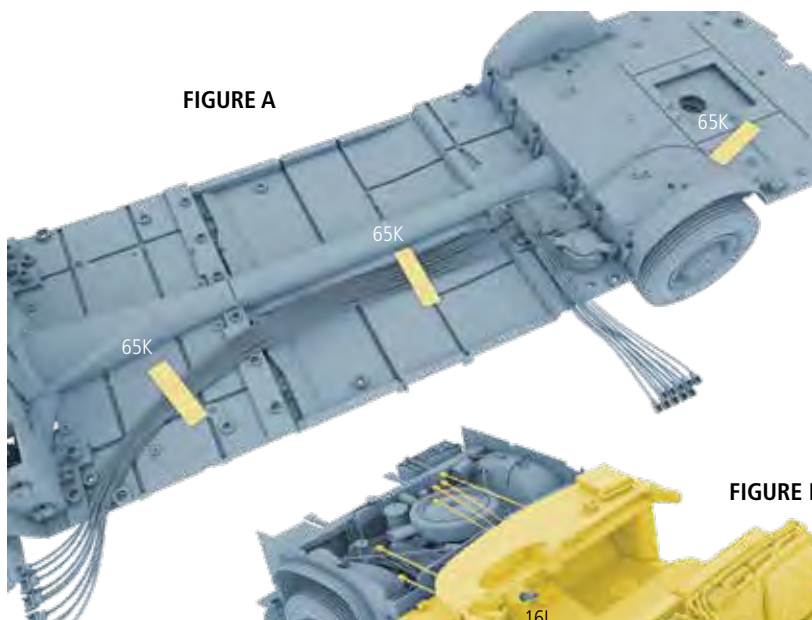


FIGURE B

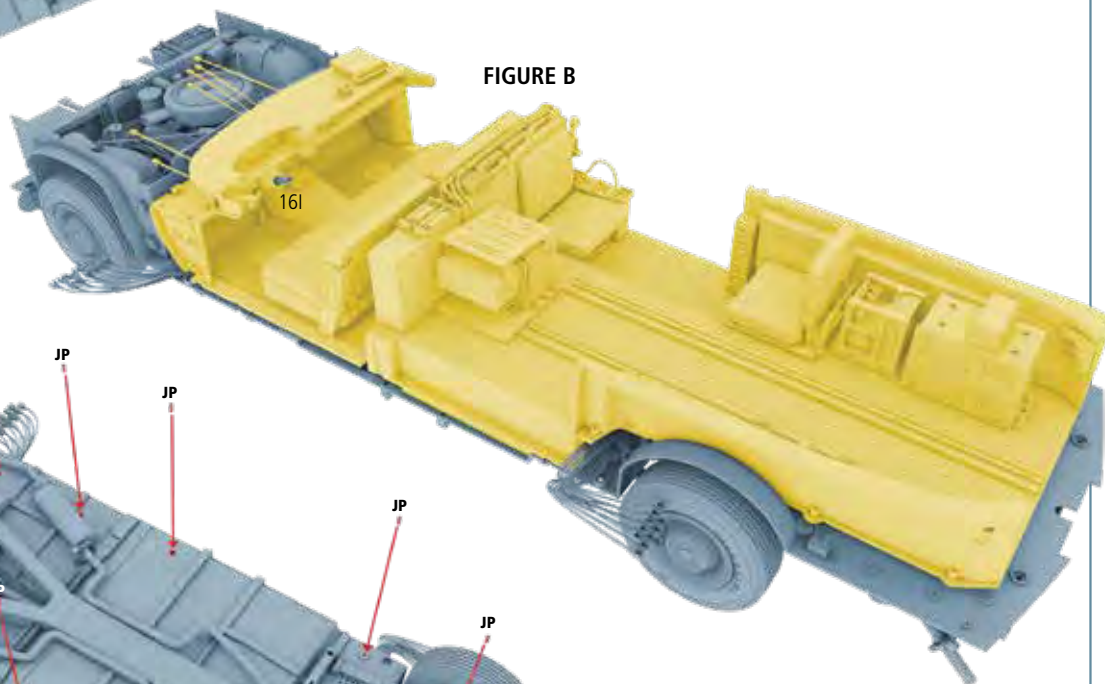
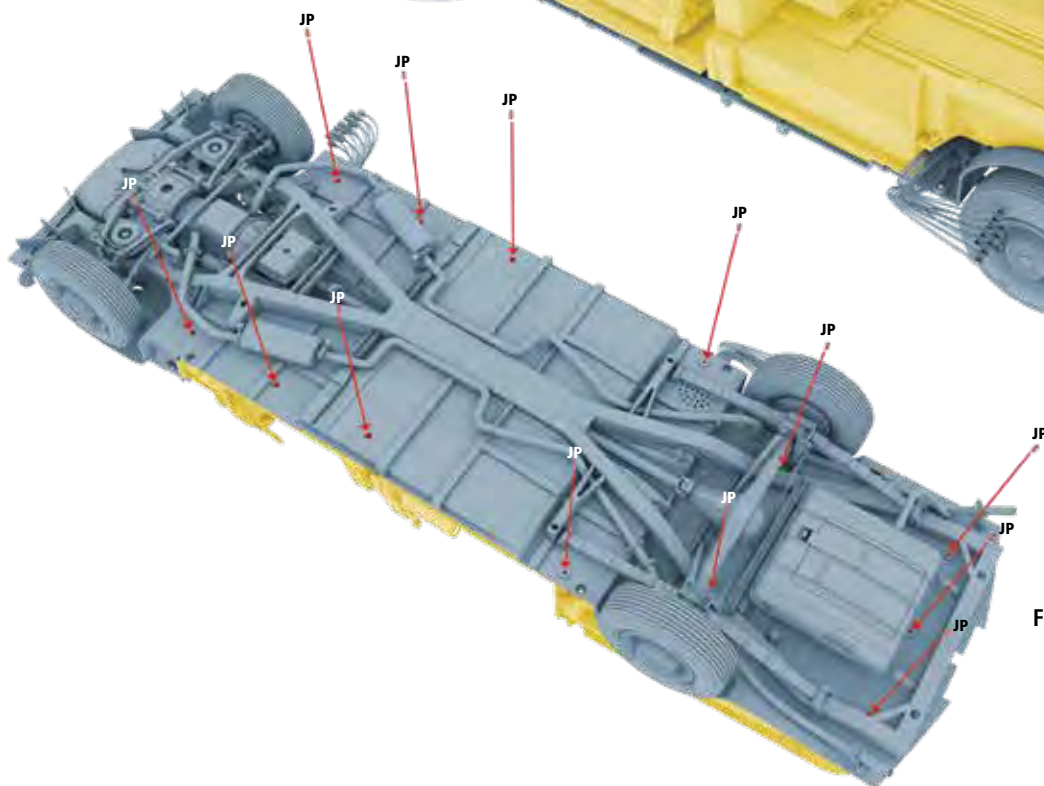


FIGURE C





## 04

**INSTALLING THE WIRES:** There is a bundle of wires that is protruding from the gap to the side of the rear left wheel. Bend these around the top of the wheel and keep them in place using wire retainer (65E) and two IP screws (figure A).

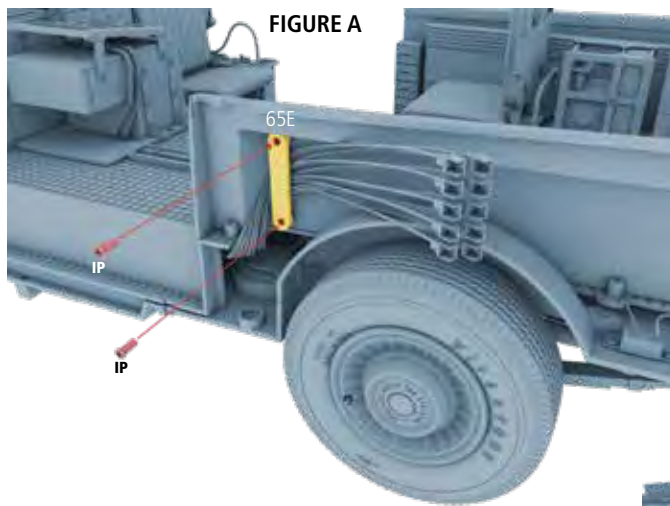


FIGURE A

Now, turn your attention to the wires by the front left wheel. Plug the white siren switch (38A) - marked with a "B" - into the white wire marked "B" coming from the PCB (65A) (figure B). Repeat this with the blue roof lights switch (38B, marked with a "C"), blue/green engine sound switch (38C, marked with a "D"), green horn switch (38D, marked with an "E"), gray main light switch (38E, marked with an "F"), black brake pedal switch (38F, marked with a "G") and red/white dashboard light (38G, marked with an "H") (figure C).

Hold on to the supports (65D) and the five wires (65F-65J) for a later phase of assembly.

FIGURE B

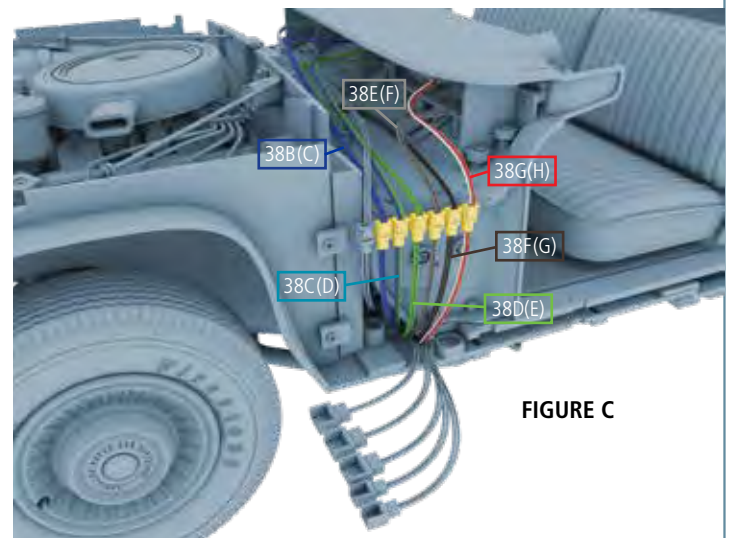
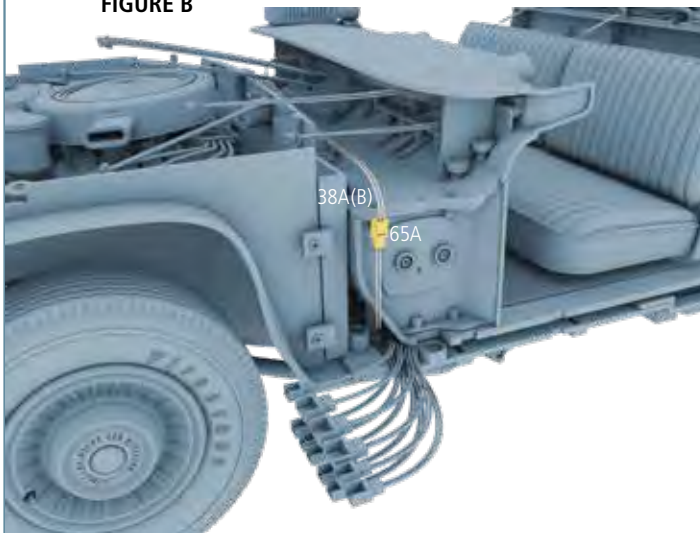
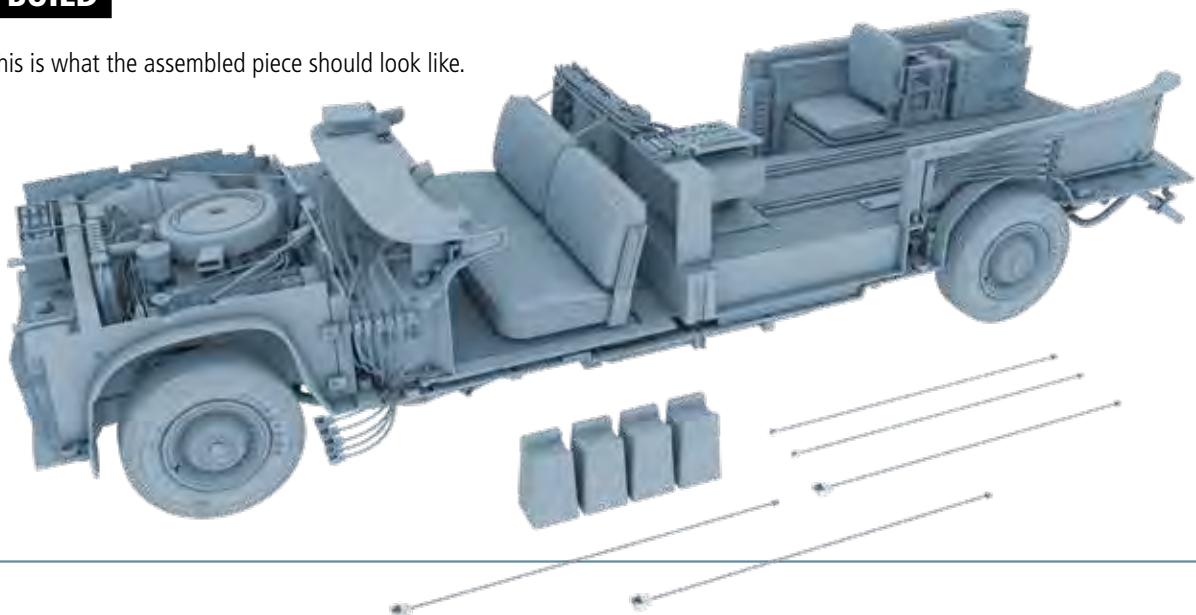


FIGURE C

## STAGE 65 BUILD

This is what the assembled piece should look like.



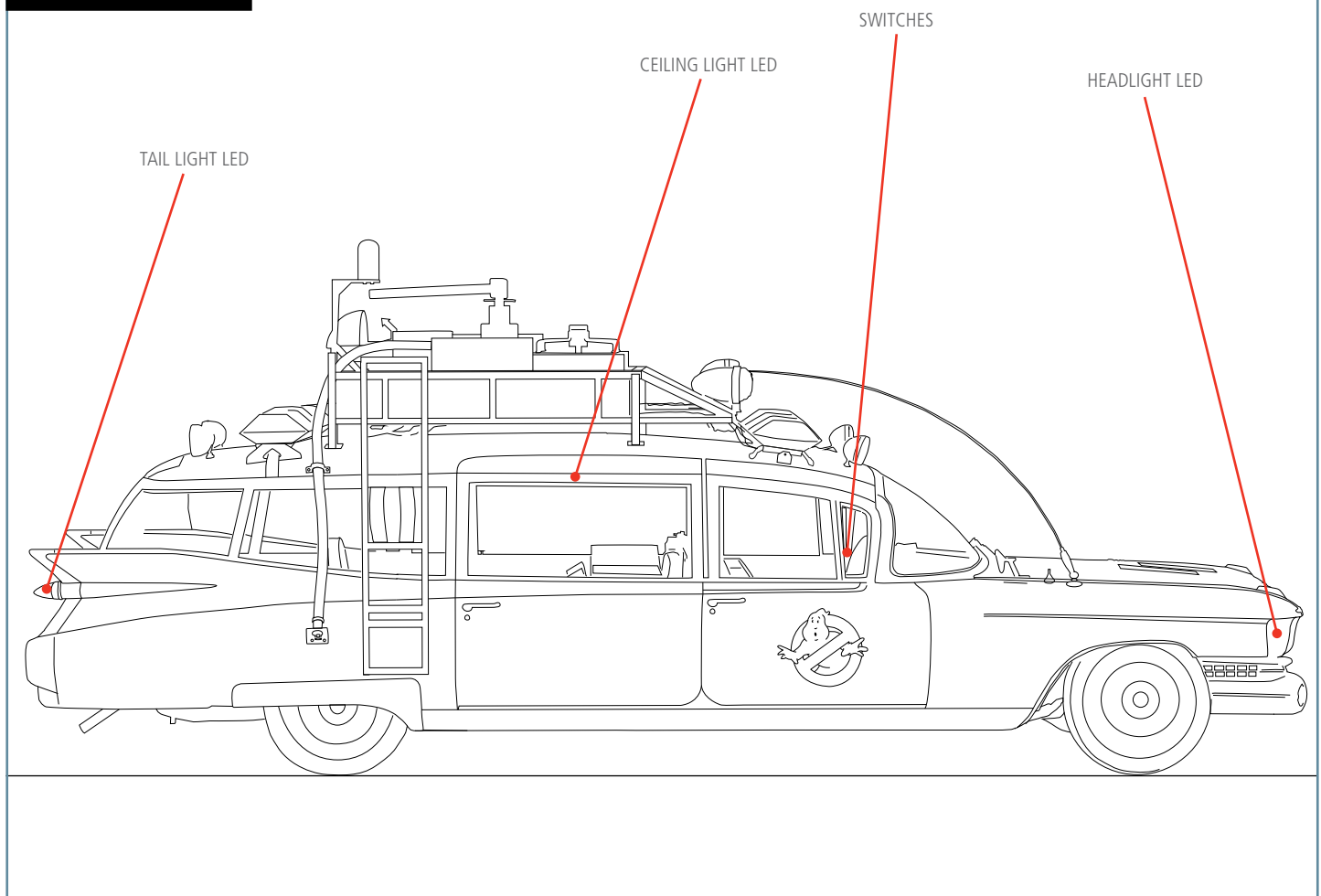


## STAGE 66

# LEDs & CEILING LIGHT SYSTEM

In this stage, you fit the headlight and tail light LEDs to the PCB, as well as fitting the ceiling light system.

### PART LOCATOR



#### TIP: ATTACHING WIRES

Wires are fitted with lettered labels to indicate which other wires they should be fitted to, as well as matching colors. When plugging wires together, please ensure that the power is switched off.

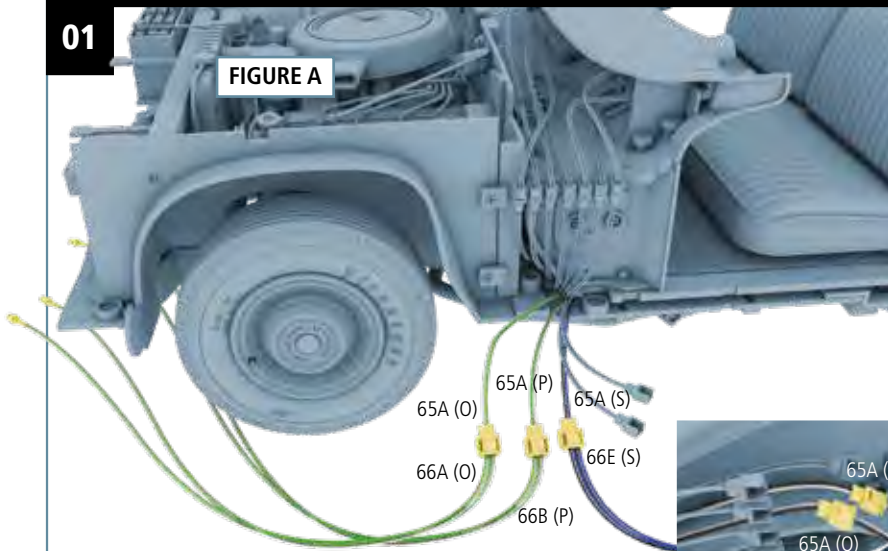
**KEY:** The illustrations are color-coded to help you identify which parts are being assembled. **RED** Highlights where the new part/s fit and screw in. **YELLOW** Identifies the new part/s. **GRAY-BLUE** Indicates the previous assembly on to which the new part is fitted.





01

FIGURE A



**FITTING THE LEDS:** First, fit the green/white left headlight LED (66A, marked "O") to the matching wire from the PCB (65A) by the front left wheel. Repeat this with the green/white red headlight LED (66B, marked "P") and black/blue ceiling light LED (66E, marked "S") (figure A).

Then plug the black/white left tail light LED (66C, marked "Q") into the matching wire from the PCB (65A) by the rear left wheel. Repeat this with the black/white right rail light LED (66D, marked "R") (figure B).

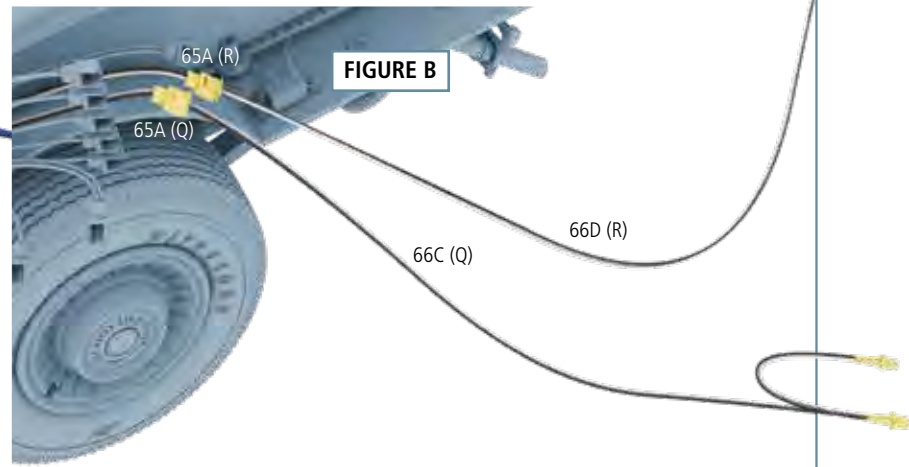
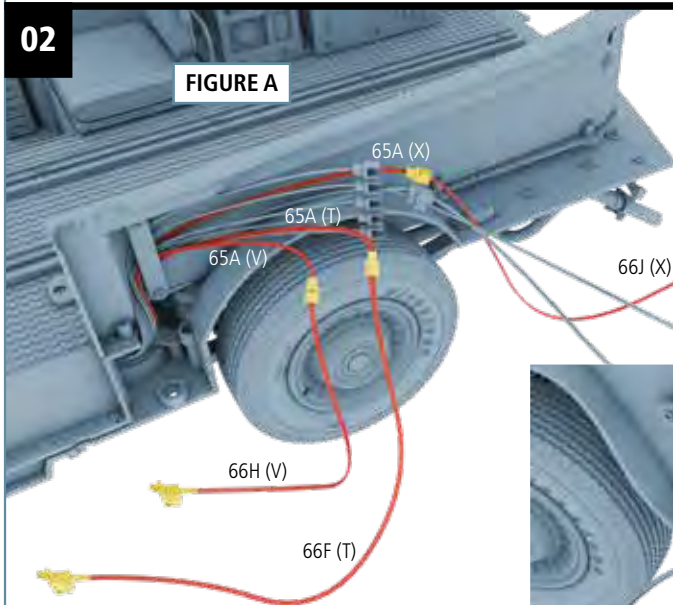


FIGURE B

02

FIGURE A



**FITTING THE SWITCHES:** Begin with the wires by the rear left wheel. First, insert the rear door switch (66F, marked "T") into the matching wire, then the rear left door switch (66H, marked "V") and finally the rear right door switch (66J, marked "X") (figure A).

Now move to the front left wheel. Insert the front left door switch (66G, marked "U") and front right door switch (66I, marked "W") into the matching wires from the PCB (65A) (figure B).

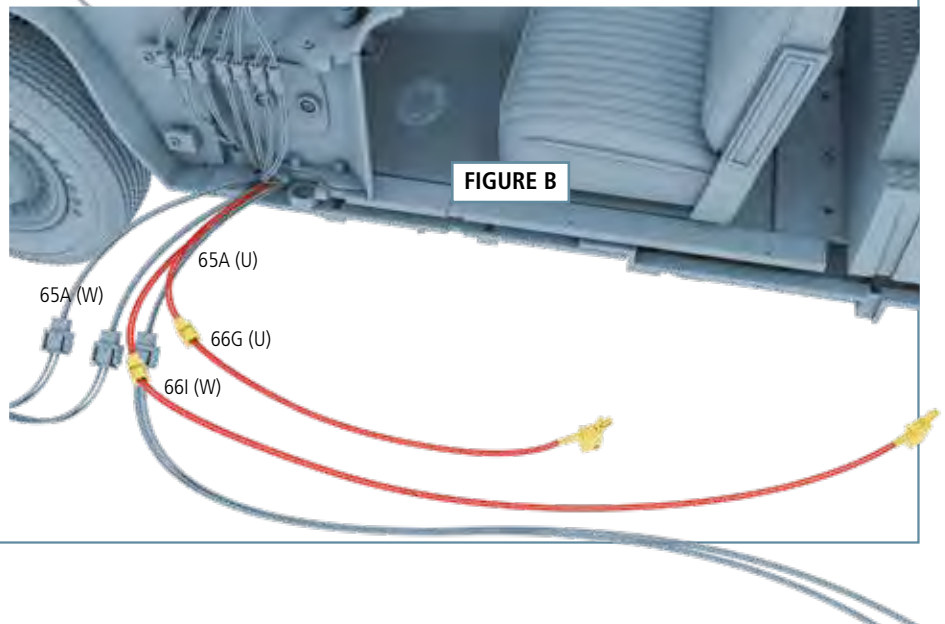


FIGURE B

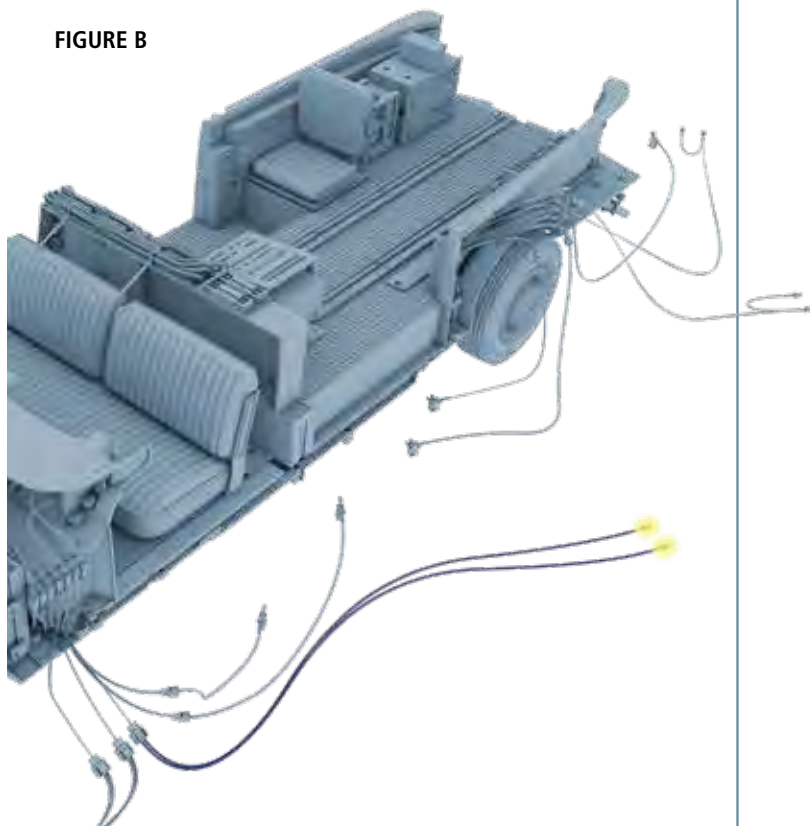


- 03 TESTING THE CEILING LIGHT:** At this point, you can now test that the electronics you have fitted are working correctly. Firstly, flick the main switch into the “on” position. At this point, the ceiling light LED (66E) should illuminate (figures A and B). Please note, the Ecto-1 requires six AAA batteries (not provided).

FIGURE A



FIGURE B



- 04 TESTING THE BRAKE LIGHT:** Next, press the brake pedal. This should cause the tail lights (66C, 66D) to illuminate (figures A and B).

FIGURE A

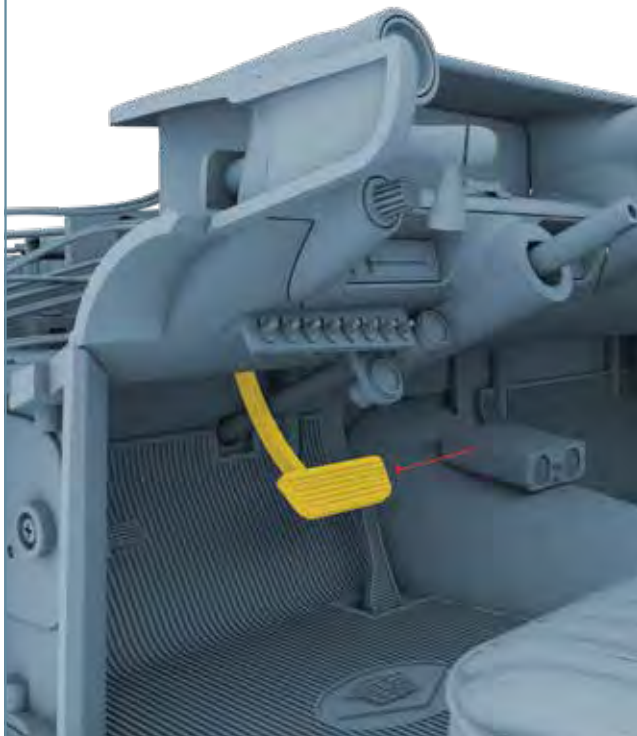
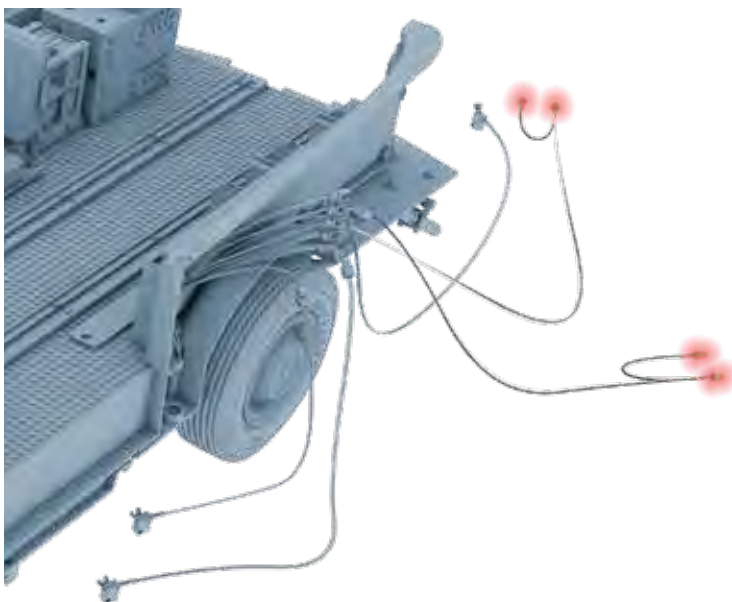


FIGURE B





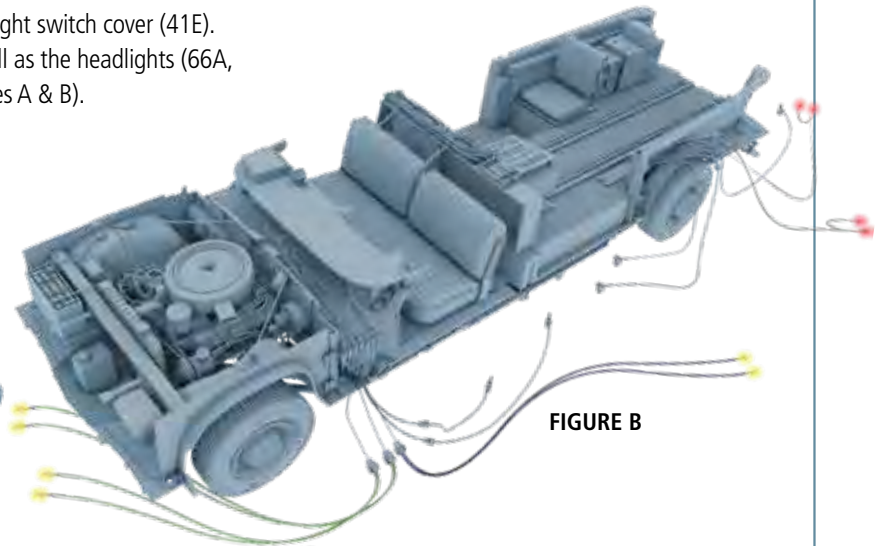


**05 TESTING THE OTHER LIGHTS:** Next, push the main light switch cover (41E). This should cause the dashboard lights to light up, as well as the headlights (66A, 66B), tail lights (66C, 66D) and ceiling lights (66E) (figures A & B).

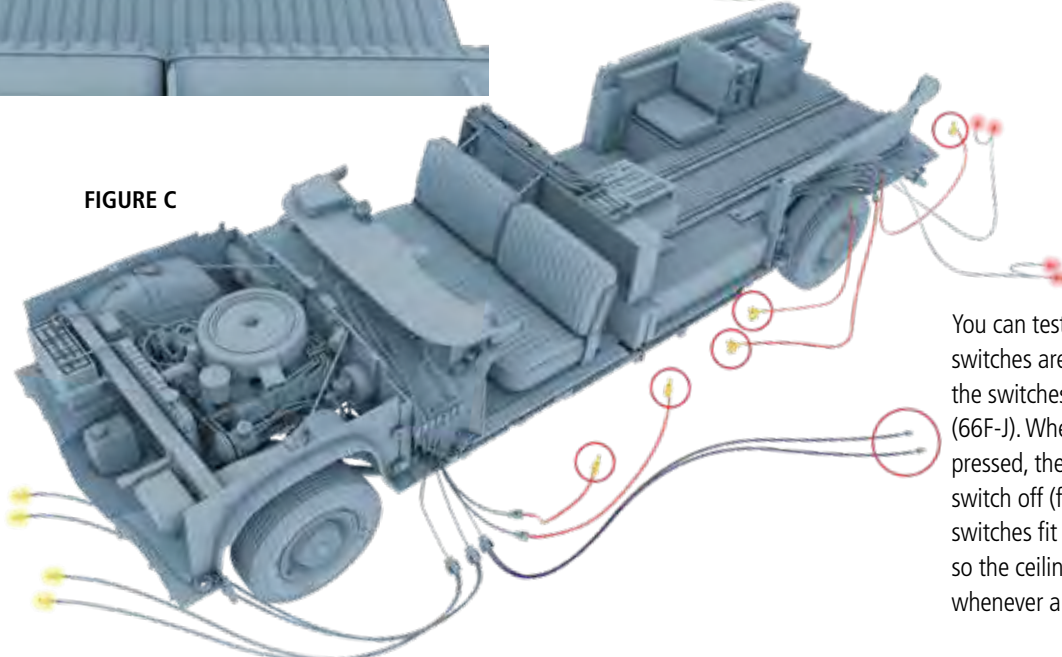
**FIGURE A**



**FIGURE B**

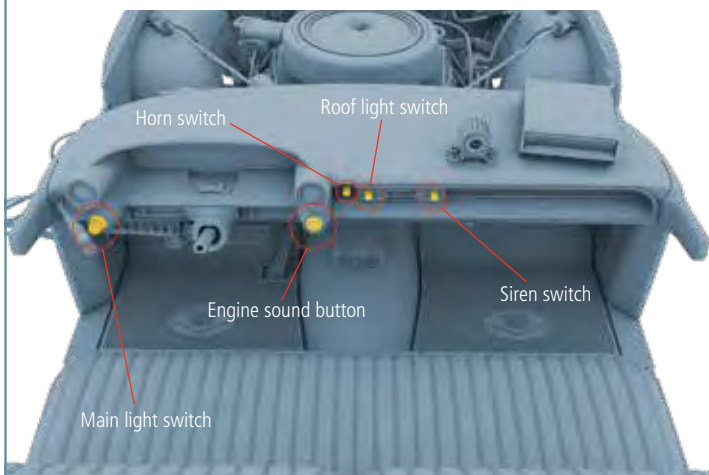


**FIGURE C**



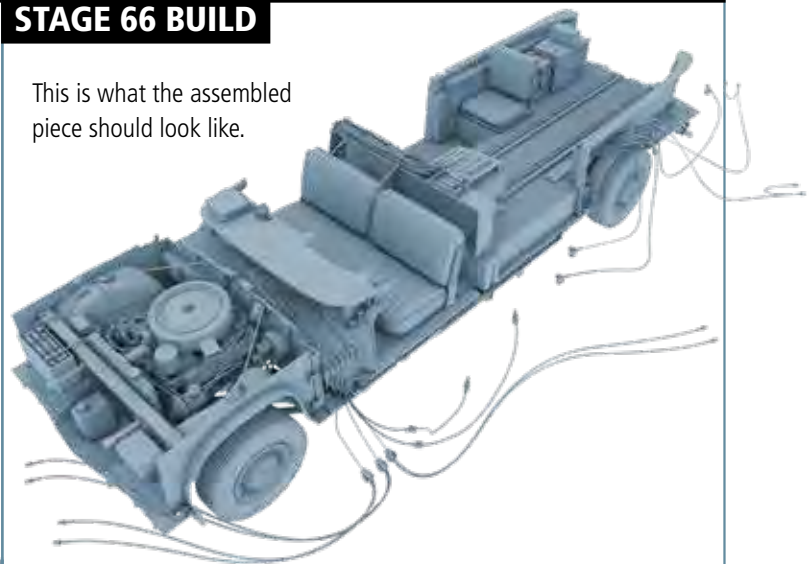
You can test that the ceiling light switches are working by pushing the switches fitted in this phase (66F-J). When they are all pressed, the ceiling light should switch off (figure C). These switches fit in the door hinges, so the ceiling light will come on whenever a door is open.

**05 SWITCH DIAGRAM:** The following diagram indicates how each of the electrical functions is controlled from the dashboard.



## STAGE 66 BUILD

This is what the assembled piece should look like.





**ABOVE** Terri Hardin and Diana Allen Williams with pieces of Stay Puft. Some pieces were foam latex, others were urethane foam.

# THE FOAM ZONE

---

Sculptor and makeup artist Rob Burman looks back on casting the colossal foam pieces for *Ghostbusters'* creatures.

---

**I**MPRESSED BY THE FOAM LATEX WORK THAT Rob Burman and his old pal Dale Brady had created for *The Thing*, ghost shop supervisor Stuart Ziff invited the duo into Boss Film Studios to discuss making the intricate foam pieces needed for the creatures on *Ghostbusters*. The effects artists were given a customized foam room with anything they required – “They even gave us new shoes so we wouldn’t have to go home in our work shoes!” Burman laughs.





As Burman and Brady set to work creating the pieces for the Terror Dogs, Stay Puft and Slimer, they found the foam latex demands of *Ghostbusters* to be even more challenging than those of *The Thing*. "The Terror Dog was, up to that point, the biggest thing we'd ever been asked to cast in foam latex," Burman says. "It was huge! On that show, we went through 125 five-gallon kits of foam latex to produce two Terror Dogs and Slimer – I think we cast three copies of Slimer and two each of the Terror dogs. Stay Puft's head, hands, feet and hat were made of foam latex too, though everything else was fabricated out of

urethane foam by Bill Bryan's department."

Creating foam pieces is a long and delicate process at the best of times. Burman compares it to making whipped cream or meringue, except that a chemical process within the substance causes it to turn from a liquid foam to a solid foam – if, that is, it is done correctly. "You're constantly having to vary the components and formulas to get everything right," Burman explains. "Most people are terrified of foam latex and are as resistant as hell to it. I've always found it something I'm good at working with, and at the time we were the only guys really capable of doing it."

**ABOVE** Huge foam latex pieces were used to build the Terror Dogs. Creating the foam was a long and difficult process.

**ABOVE AND RIGHT**

The Stay Puff costume (worn by Bill Bryan) was a combination of foam latex pieces cast by Rob Burman and Dale Brady, and urethane foam that was created by Bryan's team. These pieces were all stitched together to form the multiple suits.

**WHAT'S COOKING?**

A single batch of foam is, Burman says, enough to create around 40 prosthetic noses, so creating enough foam to meet the needs of *Ghostbusters'* creatures was time-consuming to say the least. "We had to create 45 batches at a time, with mixers going simultaneously," Burman recalls. "Then we'd have huge injector guns with great big crank pumps. It was an awful lot of labor-intensive effort to create the skin of one ghost, before you even got to mechanizing it and making the puppet move. Sometimes you came in the next morning after it [the foam] had cooked in the oven all night and found it didn't come out right. You'd have to do it

again! Or sometimes when the mechanics tested them, the pieces would tear and fall apart. There was a lot of trial and error and sometimes it could be heartbreaking."

Despite the challenges of the process, Burman says that *Ghostbusters* remains one of two favorite projects he has worked on alongside *The Thing*. Aside from the satisfaction of seeing his foam-work up on the screen and the many joys of the movie itself, the film gave him an insight into the work of revered mold-makers Gunnar Ferdinandson and Richard Ruiz. "That was probably the greatest experience of all," he says. "Our foam room on *Ghostbusters* was inside the mold-making





department. So when we were waiting for things to happen, we could step outside the door and there was Gunnar Ferdinandson and Richard Ruiz, two of the all-time greatest mold-makers in the industry. We didn't make molds with them, but we watched and saw what they did. Then later, when I had to make molds for my own projects, I found that the quality of my own mold work had improved from what I'd learned by watching them."

For Burman – as with many of *Ghostbusters*' fans – the practical effects created by Ferdinandson, Ruiz and the many other artists at Boss Film Studios remain key to the movie's enduring appeal. "That film wouldn't be made the same way if it was done today – a lot of things would be CG-enhanced, if not completely CGI. But I think the fact that we were really there on set and that there were real rubber monsters makes all the difference in the world."

**ABOVE** The Marshmallow Man's head – which was made out of foam latex – is attached to Bill Bryan by Diana Allen Williams and Linda Frobos; Linda Frobos with more of Stay Puft's foam pieces.

## THE BURMAN LEGACY

For Rob Burman, special effects is a family business. His grandfather Ellis Burman Sr. created props and masks for movies such as *Son of Frankenstein* (1939) and *The Wolf Man* (1941). Rob's uncle, Ellis Burman Jr., is a makeup artist who has worked on everything from *The Man Who Fell to Earth* (1976) to *Back to the Future II* (1989), while his father Thomas Burman earned

acclaim for his makeup work on the likes of *Invasion of the Body Snatchers* (1978), *The Goonies* (1985), and *Scrooged* (1989). Rob's brother Barney Burman is also an effects artist and part of the team that won an Oscar for makeup work on *Star Trek* (2009).

Rob Burman cut his teeth at his father's studio while he was still at school. "My parents never pushed me into anything, but I had jobs cleaning office buildings and doing dishes in ice cream parlors and they sucked! So I got a part-time job cleaning my dad's shop with Dale Brady. Then when I graduated high school, I stayed because my dad was working on *The Beast Within* and *Cat People*. First of all it was my job to bring donuts in for the crew, but the next thing you know I was the only one who knew where everything was. Then when the shows there were over, I got a call from Kenny Diaz working for Rob Bottin. He said, 'We need some help running foam. Can you do that?' I said 'Sure.' By this point I'd pretty much decided this is what I was going to do."







# FROG GHOST

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Concept artist Henry Mayo and monster maker Rick Lazzarini look back on the unseen frog ghost that almost hopped its way into *Ghostbusters II*.

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**N**OT ALL OF THE SPOOKS DESIGNED FOR THE *Ghostbusters* movies made it to the screen. Many creatures never made it beyond the concept stage, while others were actually built but cut late in the day. One of the most intriguing entries in the latter category is the frog ghost, which very nearly appeared in the subway sequence in *Ghostbusters II*.

The origins of the frog ghost lay in a stroll that concept artist Henry Mayo took around the Warner Bros lot. "I was walking outside when I saw this frog on the ground," he recalls. "When I came back in I drew a frog attacking somebody on the subway – and [producer] Michael Gross fell in love with it. He said, 'This is going to be our great monster sequence!' It was funny because it was just a throwaway idea."



**LEFT** Henry Mayo's original concept art, showing the frog ghost appearing in the subway sequence. The illustration was inspired by a frog Mayo spotted on the Warner Bros. lot.

The picture was sent to animatronics expert Rick Lazzarini – who took it in an even more insanely monstrous direction. Lazzarini was given the go-ahead to run with his idea and sculpt the creature, which was to appear after the ghost train vanished in the subway.

"I went over to Rick's shop down the street while it was in process and looked at the creature," Mayo remembers. "It had changed. It no longer looked so much like a frog as some kind of monstrous thing... it was horrific to see in person! It was just so horrible-looking in a wonderful way. Rick had developed this great mechanical system, and it moved in the creepiest way."

Lazzarini, who constructed a fully animatronic latex puppet of the frog ghost, also has fond memories of his creation. "It was kind of chubby with big bug eyes, a mouthful of fangs, and a big tongue lashing out," he laughs. "We actually had a performer, Jon Price, with his arms inside the creature's arms as if it was crawling,

and his head actuated the tongue. He had a helmet on with a rod – sort of like a dildo-hat! – that went inside the tongue. He could make the tongue slobber from left to right and up and down as he moved his head. It had animatronic eyes which blinked, and brows, which I operated off-screen."

While footage of the frog ghost was shot, it never made it into the final film. Lazzarini says that Ivan Reitman felt it was just a little too comical. "To me it fits right in with the *Ghostbusters* oeuvre, but Ivan said he didn't think it was scary enough, so it ended up on the cutting room floor," he says with a touch of sadness. "Bye bye frog ghost."

Lazzarini's latex puppet has long since deteriorated – or, in his words, "shipped upstairs to the old creature farm to chase Saturn Awards for all eternity" – leaving Mayo's illustrations and a handful of on-set photos all that remains of the amphibian behemoth's legacy.

**BELOW** Monster maker Rick Lazzarini and his outlandish frog ghost creation. The puppet featured an intricate mechanical system and was able to blink, slobber and crawl.







# SUPERVISING SPOOKS

Pete Travers, the VFX supervisor of 2016's *Ghostbusters*, reveals the secrets behind some of the movie's key ghosts and set pieces.



**W**HILE THE VISUAL EFFECTS OF THE ORIGINAL *Ghostbusters* were all done by the California-based Boss Film Studios, the effects of 2016's *Ghostbusters* were created by six different companies located across the US, Australia and the UK. The way in which visual effects have moved on can also be seen in the number of effects shots – the reboot has around 1,700 compared to the original's 200. “The job description for visual effects has greatly expanded into many different avenues including costume, hair and makeup, and rod and wire removal, so 1,700 is around average these days,” says VFX supervisor Pete Travers, who oversaw all six FX companies. Travers describes his job as being akin to an air

traffic controller – “I may not be flying any of the planes, but I’ve got to keep track of what the plane’s doing and make sure everyone is communicating.”

While the visual effects of 2016's *Ghostbusters* were more extensive and elaborate than the original, Travers points out they were not a complete break from what had gone before. “Paul [Feig] loves the original film – we all do, right? So we tried to pay homage to it. Visual effects artists today still love the practical side of things because it gives you the correct physical reference – unless you’re doing something fantastical that defies physics! The right way to do it is to have a strong relationship between practical and visual effects.”





### SLIMER

"Paul [Feig] was originally adamant about Slimer being a puppet. But things had evolved quite a bit [since the original movie] and we had the opportunity to make it look like a *better* puppet with CG. There was actually a real puppet on set [built by Rick Lazzarini] that the actors could react to, but in post-production it was completely replaced by CG shots designed by Sony Imageworks which were created in the same spirit [as the puppet]."

### STEALING THE ECTO-1

"When we filmed Slimer stealing the Ecto-1 and slamming into other cars, there was a stunt driver wearing a green mock Slimer outfit. We obviously couldn't destroy the Ecto-1 so we used another car with a similar wheelbase. The stunt driver's suit meant a green glow was cast on the interior of the car he was driving. The cars he slammed into were really there too – you can even see a little bit of Slimer's green reflection on them! Later we replaced the exterior of the car with the digital Ecto-1 and replaced the driver with our digital Slimer. The people controlling the purse strings were like, 'You're telling me we're going to crash an actual car and then completely replace it?' But the more we hang on to a practical plate, the better our stuff looks."



### GERTRUDE

"Gertrude was played by an actress [Bess Rous] rather than being all CG. We sewed LEDs into her costume; you couldn't see them directly on camera but they added a glow. I love to look at the original plates where you can see all the little blue glints on the environment as she floats in. If we didn't put LEDs in the costume, we would have sat there in post trying to figure out how the glow should be reflecting correctly. Just about every ghost that has any kind of significant interaction with people in the movie had LEDs on them so they'd have light that would interact on the environment. We filmed Gertrude on what we called the 'seesaw.' It was a pedestal that she stood on with a counterweight to make it look like she was floating."





### ROWAN THE NO GHOST LOGO

"I talked to [supervisor at VFX company MPC] Dave Seager and said, 'We want to make this look like the logo.' And he replied, 'OK, so you want something similar to the logo...' And I was like, 'No, no, it's got to be the *actual* logo.' MPC had an old-timey animator on staff that knew how to do traditional animation. He did the hand-drawn animation for the logo component and then it got blended into a CG character. Everyone at MPC were excited to do it because it suited the movie exactly."



### MACY'S DAY PARADE BALLOONS

"There was a lot of creative design work and an incredible amount of iterating that went into figuring out things like the dynamics of the ropes and how the balloons deflate. There's an interesting genesis behind the balloons. I started looking at really old photographs of balloons in the Macy's Day Parade during the 1930s. They were horrifyingly creepy! I showed them to [production designer] Jefferson Sage and to Paul [Feig], and they were like, 'Well, it sounds like the designs are done!' You remember that initial ghost that looks around the corner? There's a real black-and-white photo on the internet of that balloon. They were so crazy, we literally we didn't do any alternate design work to them. Apparently, the Macy's Day Parade back then was not for kids!"

### TIMES SQUARE

"We never set foot in the real Times Square. We used a digital Manhattan, and I knew that Sony Imageworks had a lot of assets because of the *Spider-Man* films amongst others. There's a ton of borrowing of digital assets that goes on. So we pulled out those archived assets and MPC and Imageworks split up the whole Times Square [effects]. The actors were filmed on a one-story block of Times Square that was built at the Naval Air Station South Weymouth, Massachusetts, and it was all composited together. "







### PROTON BEAMS

"We started with exactly the same look [as the proton beams in the original] and then augmented them a little bit. There was a red light inside the proton guns and a little cap at the end with LEDs on. When the girls fired the guns, light shot out. It created a soft red light on the wall and there was light bleed from the muzzle of gun. When they fired the guns, you saw it in their faces, so we didn't have to edit that. We did have to paint out the LED lights and gun caps and put in our [CG] beams, but the nice thing is we were putting a beam into a plate that was ready to go. If you watch the original movie, you'll see that there's very little light interaction between the proton beams on the environment. But in the 2016 movie, you can see light bleed on the walls because of the practical gun system that we came up with."

### CHRIS HEMSWORTH DANCES

"Chris Hemsworth was only available for three weeks – and this was before we had finished building Times Square at the naval base. We had to shoot his part earlier on a set in Norfolk [in Massachusetts]. The cops that Chris makes dance [in the final act] were filmed at the naval base a month later. But Chris himself was looking at a green screen, and we mapped out on the screen exactly where he should look at any point in time. We basically projected a two-dimensional version of the 3D scene in gaffer tape. Paul had to know exactly what was going to happen in the dance number and where everyone was going to stand while shooting Chris Hemsworth. Otherwise, we would have gotten to the naval base and been like, 'Oh, we don't have that footage of Chris looking in that direction...' It actually happens quite often: how are we going to shoot something when we don't have the actor? That's where the real magic happens. It looks like it's all shot together but it's not."





# ECTO-101

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



## #18 TOASTMASTER B700

**W**hile Ray and Winston dancing at the nightmarish children's birthday party in *Ghostbusters II* is an undoubtedly joyous sight, it is perhaps eclipsed by another classic dancing scene in the movie: the heroes' mood slime-coated toaster bopping away to Jackie Wilson's '(Your Love Has Lifted Me) Higher and Higher.'

The toaster used in the sequence was the Toastmaster B700. The model was made in 1978 by McGraw-Edison and was a squarer iteration of their earlier design. For a time it was America's most popular toaster. The B700's packaging boasted of its trademarked 'MasterMind' feature in which "control compensates for bread freshness to ensure even toasting."

The toaster was brought to life in the film by mechanical effects supervisor Chuck Gasper. An actuator was attached to the toaster via a fake power cord (actually an air hose), which triggered air cylinders inside the toaster, making it jump around. The success of the film, along with the device's retro appeal, has inevitably made an original B700 a sought-after appliance today.

The soul-loving contraption was later glimpsed briefly in a number of IDW's *Ghostbusters* comics.



“

*There isn't any reason why Ghostbusters had to have rock-and-roll music – after all, it's not Footloose!*

”

▲ **Composer Elmer Bernstein interviewed in Cinefantastique (Jan 1985).**

“

*The great thing was that the firehouses were designed the same. I think we brought a pair of doors with us which we may have put on in New York, but the buildings were basically the same design. We pretty much shot them as is.*

”



▲ **Associate producer Joe Medjuck tells Beyond the Marquee how they were lucky to have found similar firehouses in New York and LA.**

“

*We were doing so many things mechanically as opposed to digital CGI effects that it really required skillful people, the majority of whom were in [Los Angeles]. ... I think we were there [New York] for five weeks, and we got out of there literally just before Christmas. I remember the last couple of days the weather had really turned bad, and I was saying, 'Thank God, we're going to California.'*

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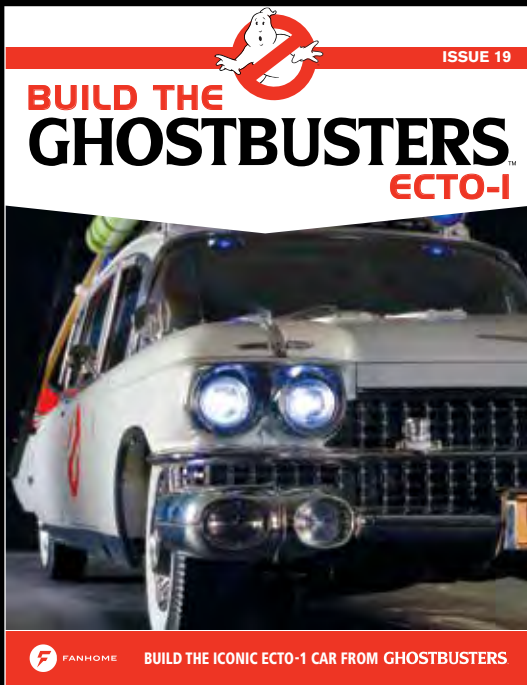
▲ **Ivan Reitman on location shooting in New York for Ghostbusters (LA Weekly, 2016).**





# COMING IN ISSUE 19

# YOUR PARTS



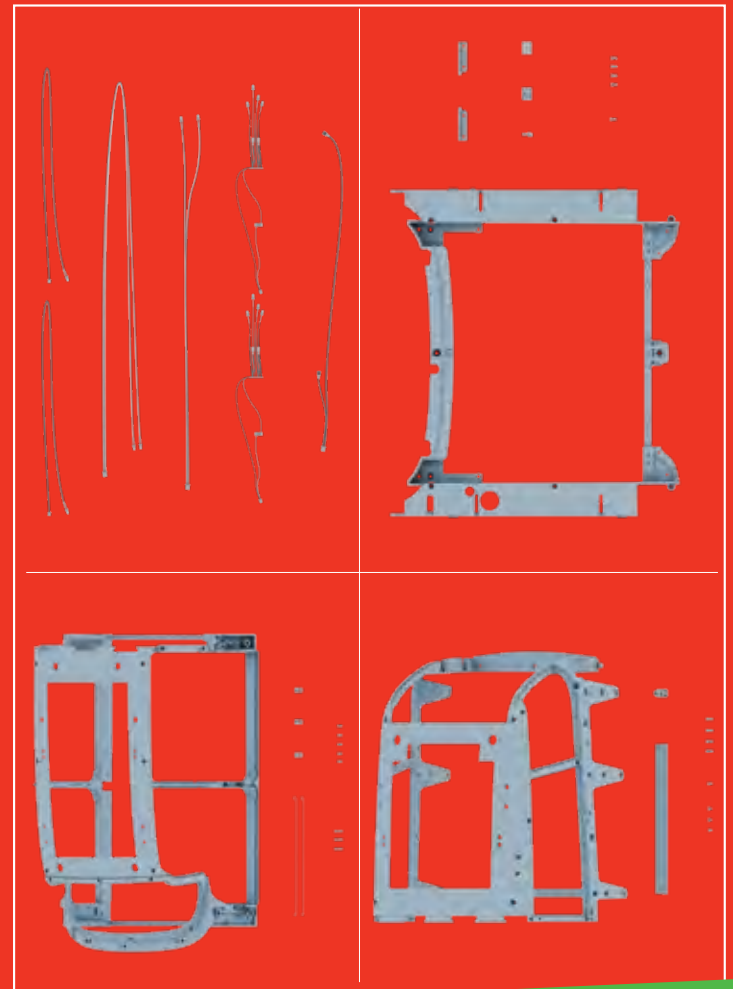
## MAGIC MIKE

Prosthetic makeup artist Mike Smithson.



## SPOOK CENTRAL

John DeCuir Jr. talks about the monumental set.



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