

1955

# MERCEDES-BENZ

# 300 SL

## GULLWING



# Pack 05

## BUILD INSTRUCTIONS

STAGE 24: THE REAR LEFT WHEEL

STAGE 25: THE REAR SUSPENSION

STAGE 26: THE REAR RIGHT WHEEL

STAGE 27: THE OIL RESERVOIR

STAGE 28: THE COOLANT  
EXPANSION TANK

STAGE 29: THE DRIVESHAFT AXLE  
GUARDS AND BATTERY

STAGE 30: THE FIREWALL

STAGE 31: THE IGNITION AND  
HEADLIGHT RELAYS

STAGE 32: COMPLETING  
THE FIREWALL

STAGE 33: THE WINDSHIELD  
WIPER MOTOR

STAGE 34: THE RADIATOR

STAGE 35: THE HONEYCOMB  
HEAT EXCHANGER

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## Advice from the experts

Spare screws are included with each part. Occasionally, you may be instructed to keep spare or unused screws for a later stage. Keep these spares in a safe place and label them correctly.

Please make sure you don't mix up the screws. They look quite similar, but the threads do vary slightly. Using the wrong screws may damage the parts.

When securing parts together using multiple screws, fit each screw loosely to ensure all the parts are correctly aligned before gently tightening them firmly, but not overtight, in the order in which you placed them.

The screwdriver can be magnetized by stroking it with a magnet (fridge magnet, etc.) enabling it to hold the screws and make assembly easier.

If a screw is tight going into a metal part, do not force it as you may shear the head off. Remove it and put a tiny smear of Vaseline, soap or light oil on the thread. That will lubricate it and make it easier to drive home.

During the course of this build, you will receive many pieces that you will assemble immediately – following the instructions in the corresponding stage – and other pieces that you should store safely to one side, for use in future assembly stages.

Left and Right! When building your Mercedes-Benz 300SL, the left or right hand side refers to each side as you are sitting in the car.



**WARNING:** Some parts are assembled using magnets. These magnets can cause serious injury if they are swallowed. Keep away from children. If you suspect a magnet has been swallowed, seek medical help straight away.

## STAGE 24: THE REAR LEFT WHEEL

Fit the tire onto the rear left rim, attach the brake drum and brake backing plate, fix the wheel to the axle and fit the hub cap. Then fit the brake lines 1 & 2 to the main chassis.

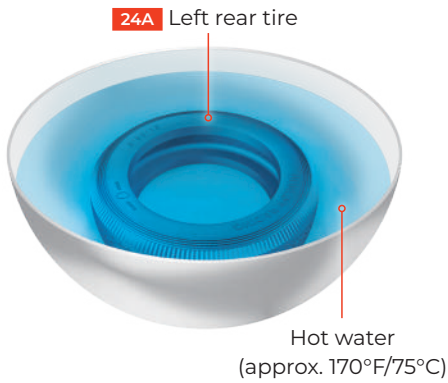
### STAGE 24 - REQUIRED PARTS

Code	Name	Quantity	Material
24A	Left rear tire	1	PVC
24B	Left rear rim	1	Zinc
24C	Brake drum	1	ABS
24D	Backing plate	1	ABS
24E	Hub cap	1	ABS
24F	Brake line 1	1	ABS
24G	Brake line 2	1	ABS
24H	Washer	1	ABS
MM	Screws 2.3 x 4mm	3+1*	Iron
TM	Screws 1.7 x 6mm	1+1*	Iron

\* Replacement screws included



## 01 SOFTENING THE TIRE

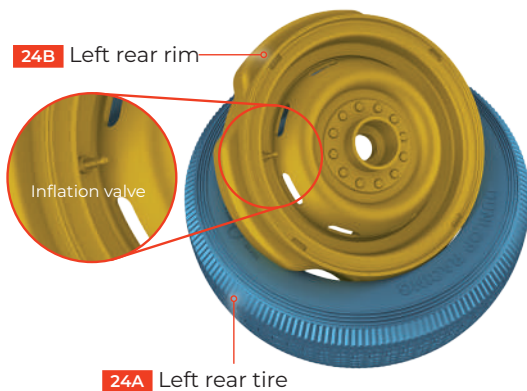


The left rear tire **24A** is difficult to bend at room temperature, and it is hard to press onto the rim. We recommend you place it in a container with hot water (approx. 170°F/75°C) for a few minutes. When warmed up it will soften and can easily be fitted.

**Warning!**  
Take care when handling hot water and the tire to avoid scalding yourself.

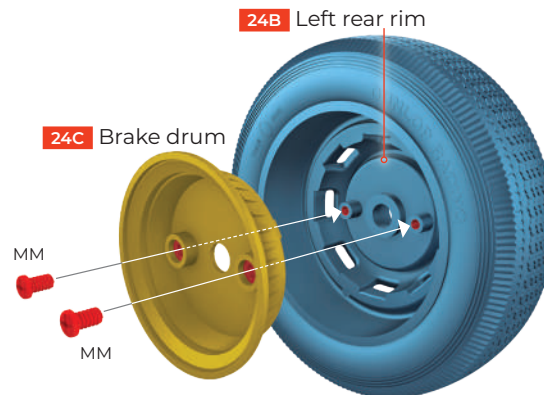
## 02 FITTING THE TIRE ON TO THE RIM

Place the rim **24B** inside the tire **24A** as shown in the picture and carefully press the sides to seat it onto the rim so that it is evenly distributed. **ATTENTION:** while fitting the tire **DO NOT PRESS** the inflation valve as it is very fragile.



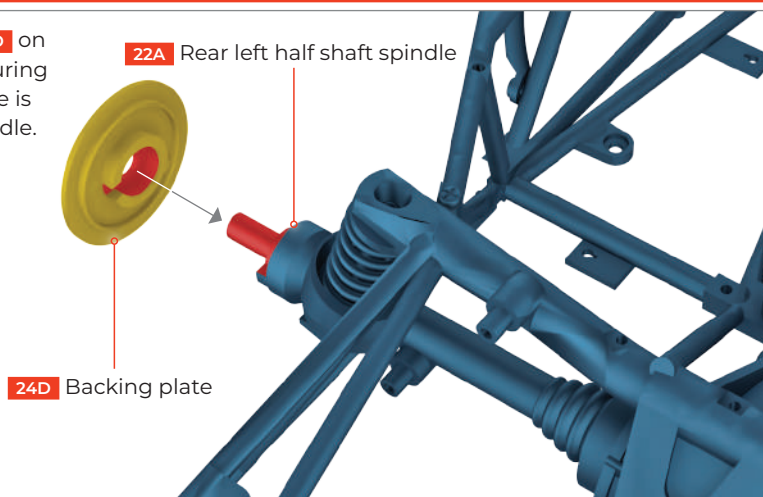
## 03 ASSEMBLING THE BRAKE DRUM

Place the brake drum **24C** on the inside face of the rim **24B** as shown in the image. Fix it in place with two **MM** screws.

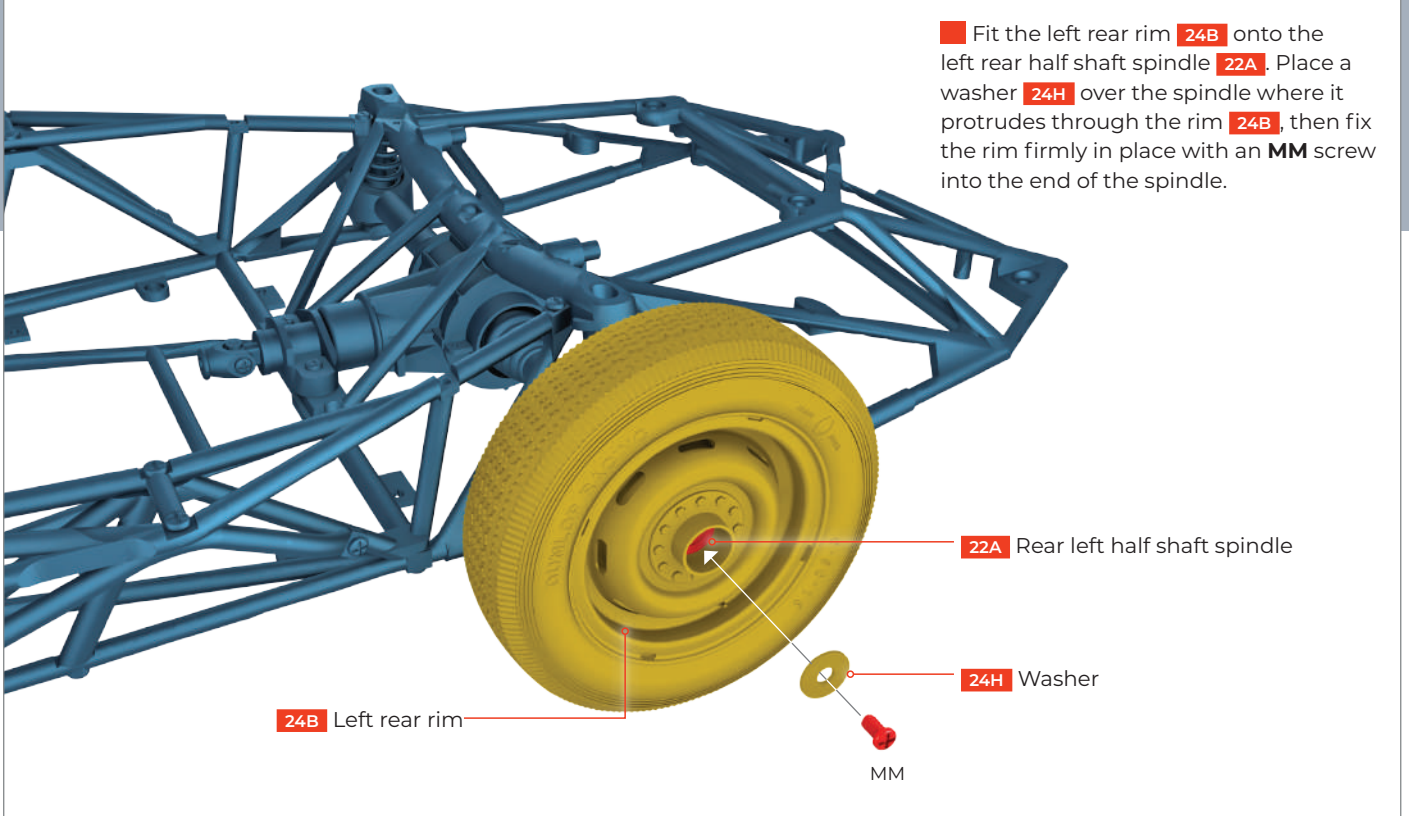


## 04 FITTING THE LEFT BRAKE BACKING PLATE

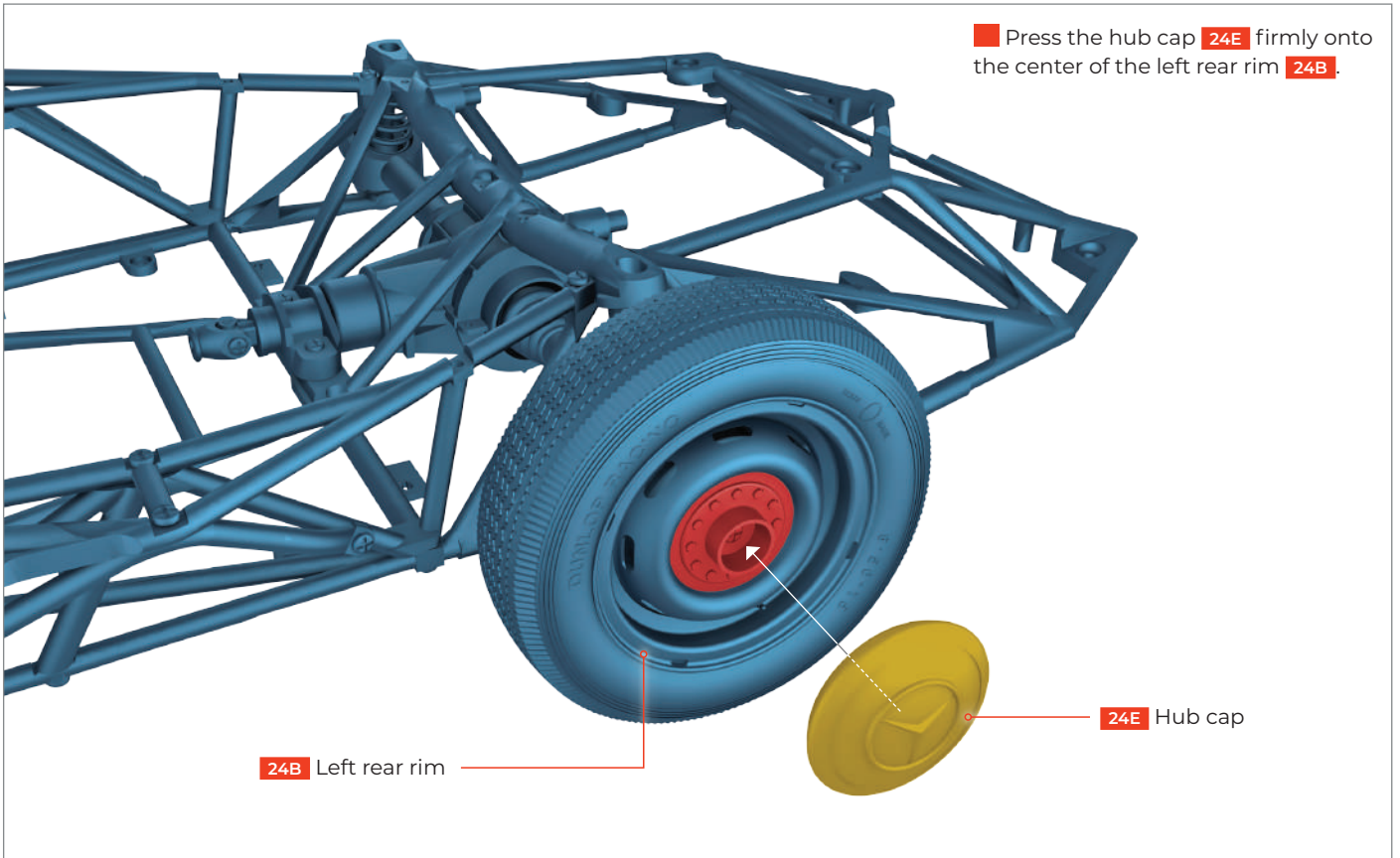
Fit the left brake backing plate **24D** on to the left half shaft spindle **22A**, ensuring that the slot in the brake support plate is located over the notch below the spindle.



## 05 FITTING THE REAR LEFT WHEEL

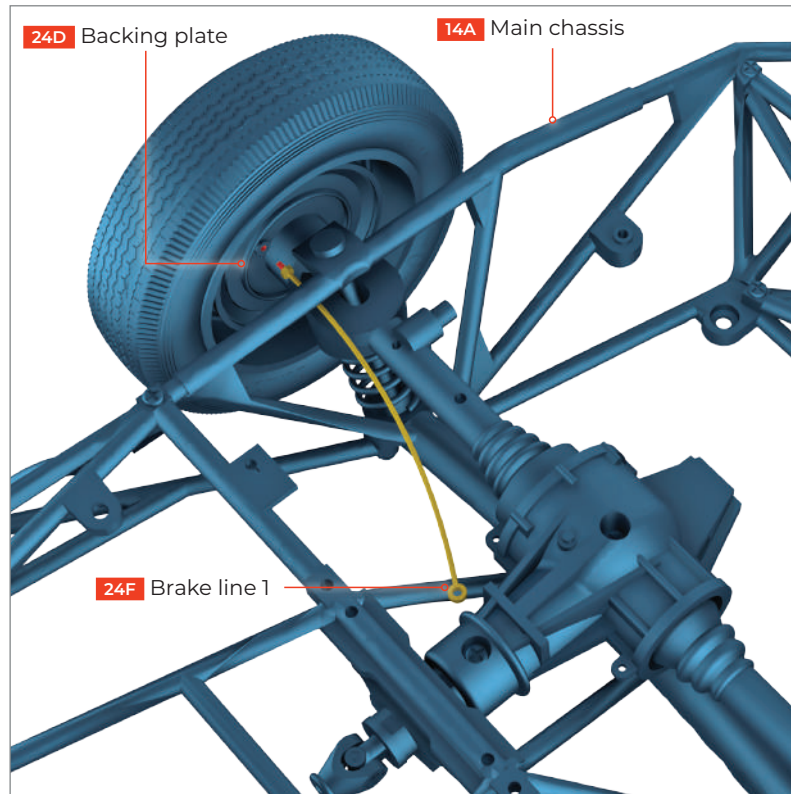


## 06 FITTING THE HUB CAP



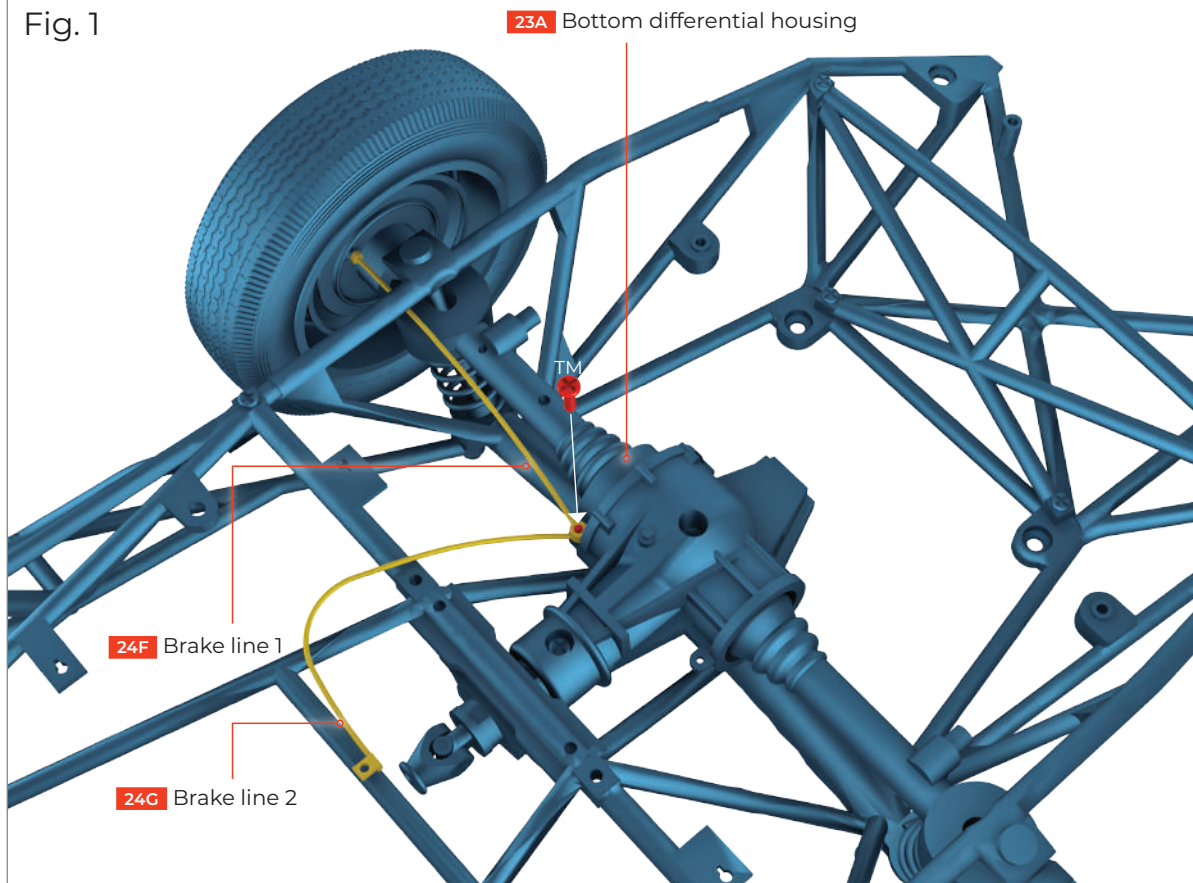
## 07 FITTING THE BRAKE LINES

With the model upside down, and using tweezers, push the pin at the end of brake line 1 **24F** into the socket on the backing plate **24D**, ensuring that it runs above the main chassis **14A** – see 'Be careful!' in the page margin. Align the loop at the other end of brake line 1 **24F** with the loop at the end of brake line 2 **24G**. Use a **TM** screw through both loops to fix them into the screw hole on the left of the bottom differential housing **23A** (figure 1). The free (square) end of brake line 2 **24G** will be attached later.



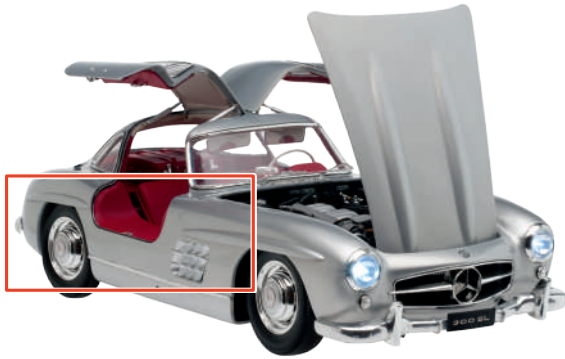
**Be careful!**  
Do not bend the brake lines while fitting them as they are not flexible.

Fig. 1



## STAGE 25: THE REAR SUSPENSION

Assemble and fit the left and right rear suspension shock absorbers, and install the rear central brake line.



### STAGE 25 - REQUIRED PARTS

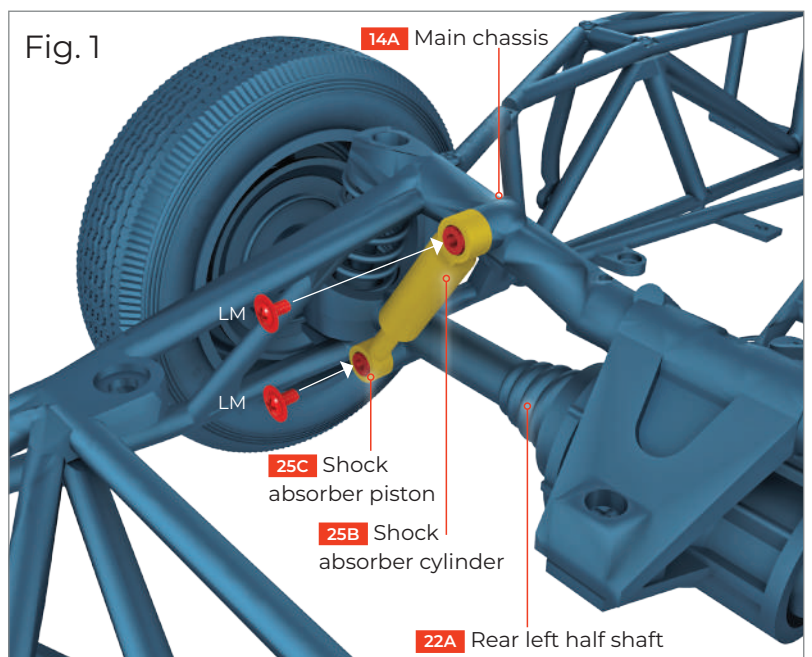
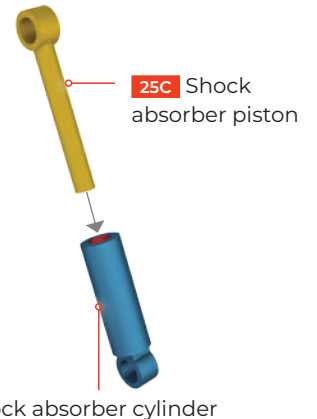
Code	Name	Quantity	Material
25A	Brake line 3	1	ABS
25B	Shock absorber cylinder	2	Zinc
25C	Shock absorber piston	2	Zinc
LM	Screws 2.3 x 3 x 6.5mm	4 + 2*	Iron
AP	Screws 1.5 x 3mm	1 + 1*	Iron

\* Replacement screws included



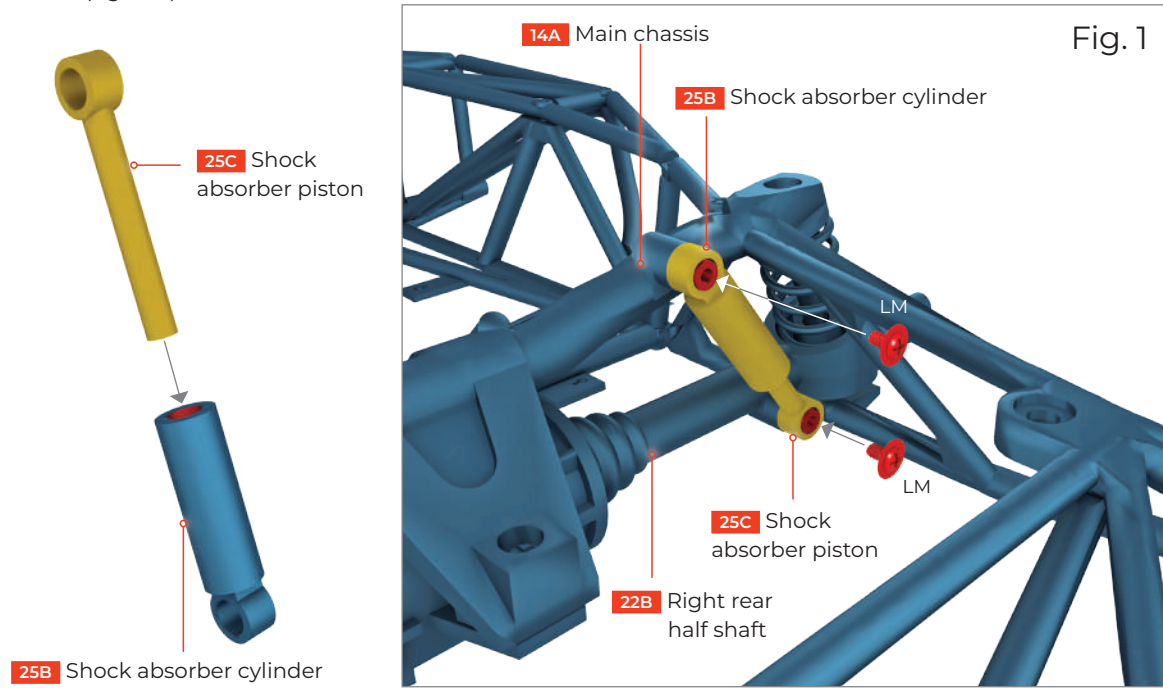
#### 01 FITTING THE LEFT SHOCK ABSORBER

Slide one of the shock absorber pistons **25C** into one of the shock absorber cylinders **25B**. Fit the circular bushing mount on the end of the cylinder **25B** over the post projecting backward from the left crossbar of the main chassis **14A**. Fit the circular bushing mount on the end of the shock absorber piston **25C** over the post projecting backwards from the left rear half shaft **22A**. Fix the bushing mounts in place with two **LM** screws (figure 1).

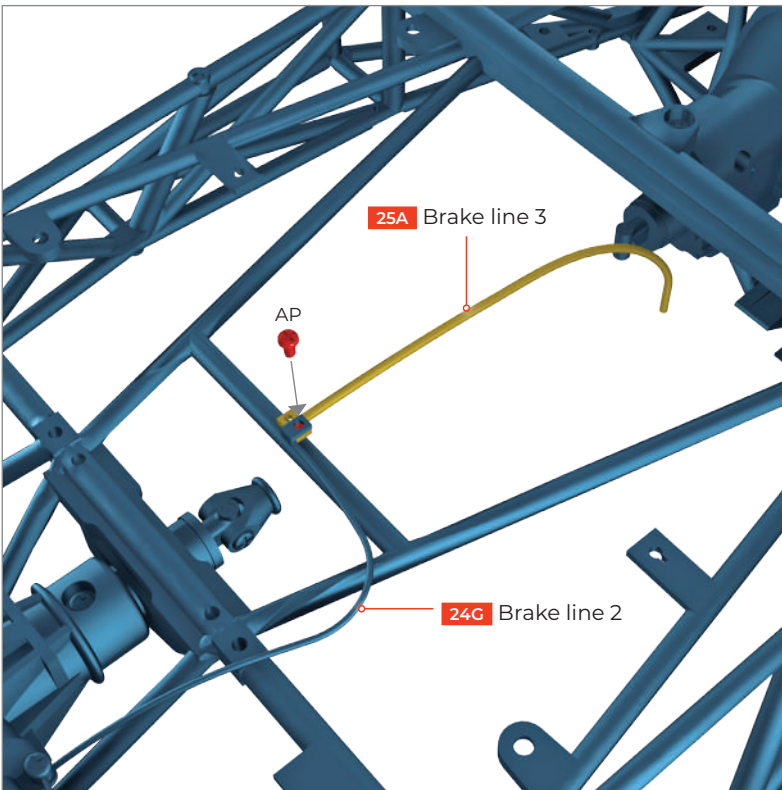


## 02 FITTING THE RIGHT SHOCK ABSORBER

Slide the remaining shock absorber piston **25C** into its shock absorber cylinder **25B**. Fit the circular bushing mount on the end of the cylinder **25B** over the post projecting backward from the right crossbar of the main chassis **14A**. Fit the circular bushing mount on the end of the shock absorber piston **25C** over the post projecting backwards from the right rear half shaft **22B**. Fix the bushing mounts in place with two **LM** screws (figure 1).



## 03 FITTING BRAKE LINE 3



Align the square end of brake line 3 **25A** with the square end of brake line 2 **24G**, ensuring that line 3 runs forwards and upwards at the other end. Fix the connector plates of lines 2 and 3 with an **AP** screw. The free end of line 3 will be connected later.

**Be careful!**  
Do not bend the brake lines while fitting them as they are not flexible.



## STAGE 26: THE REAR RIGHT WHEEL

Fit the tire onto the rear right rim, attach the brake drum and the brake backing plate, fix the wheel to the half shaft and fit the hub cap. Then fit brake lines 4 & 5 to the main chassis.

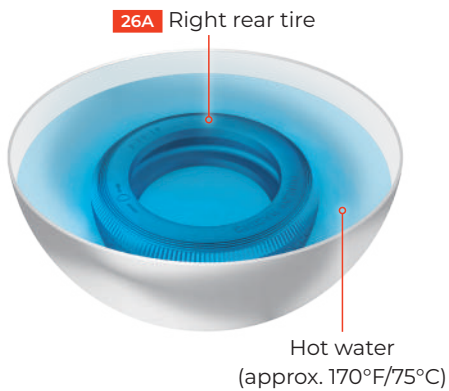
### STAGE 26 - REQUIRED PARTS

Code	Name	Quantity	Material
26A	Rear right tire	1	PVC
26B	Rear right rim	1	Zinc
26C	Brake drum	1	ABS
26D	Backing plate	1	ABS
26E	Hub cap	1	ABS
26F	Brake line 4	1	ABS
26G	Brake line 5	1	ABS
26H	Washer	1	ABS
MM	Screws 2.3 x 4mm	3+1*	Iron
TM	Screws 1.7 x 6mm	1+1*	Iron
AP	Screws 1.5 x 3mm	1+1*	Iron

\* Replacement screws included



## 01 SOFTENING THE TIRE

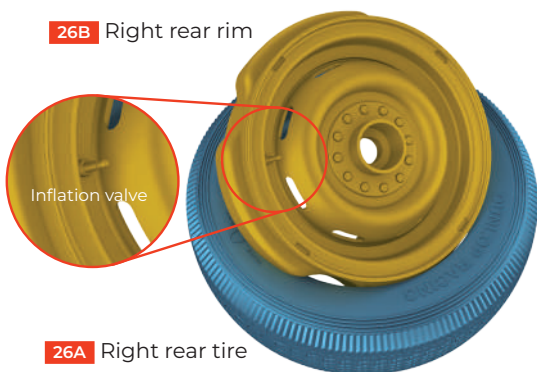


The right rear tire 26A is difficult to bend at room temperature, and it is hard to press onto the rim. We recommended you place it in a container with hot water (approx. 170° F / 75°C) for a few minutes. When warmed up it will soften and can easily be fitted.

**Warning!**  
Take care when handling hot water and the tire to avoid scalding yourself.

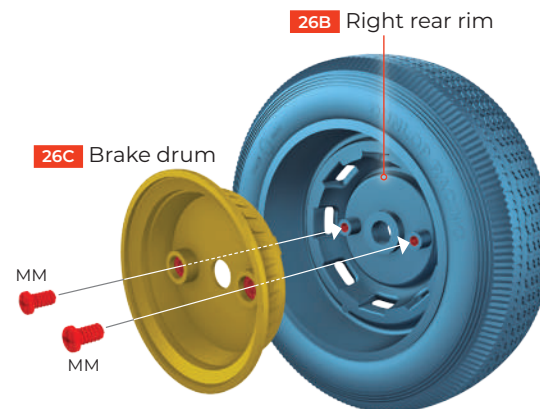
## 02 FITTING THE TIRE ON TO THE RIM

Place the rim 26B inside the tire 26A as shown in the picture and carefully press the sides to seat it onto the rim so that it is evenly distributed. ATTENTION: while fitting the tire DO NOT PRESS the inflation valve as it is very fragile.



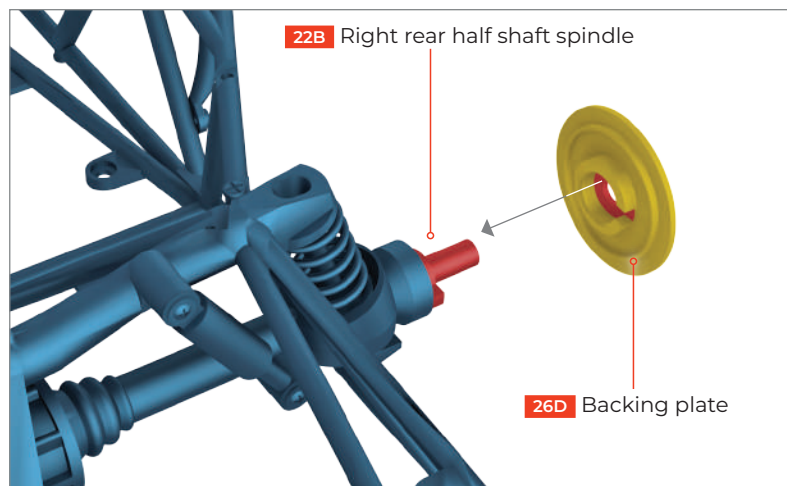
## 03 ASSEMBLING THE BRAKE DRUM

Place the brake drum 26C on the inside face of the rim 26B as shown in the image. Fix in place with two MM screws.



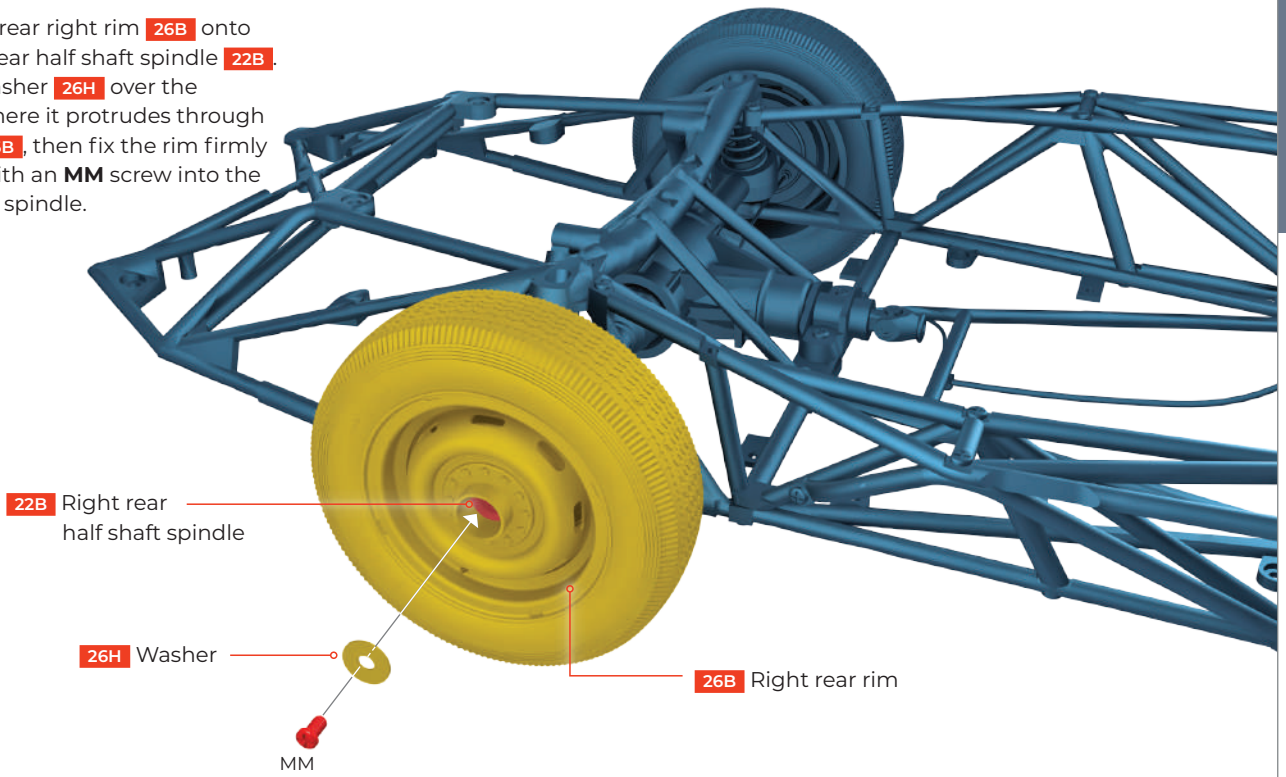
## 04 FITTING THE BRAKE DRUM

Fit the right brake backing plate 26D on to the right half shaft spindle 22B, ensuring that the slot in the backing plate is located over the notch below the spindle.



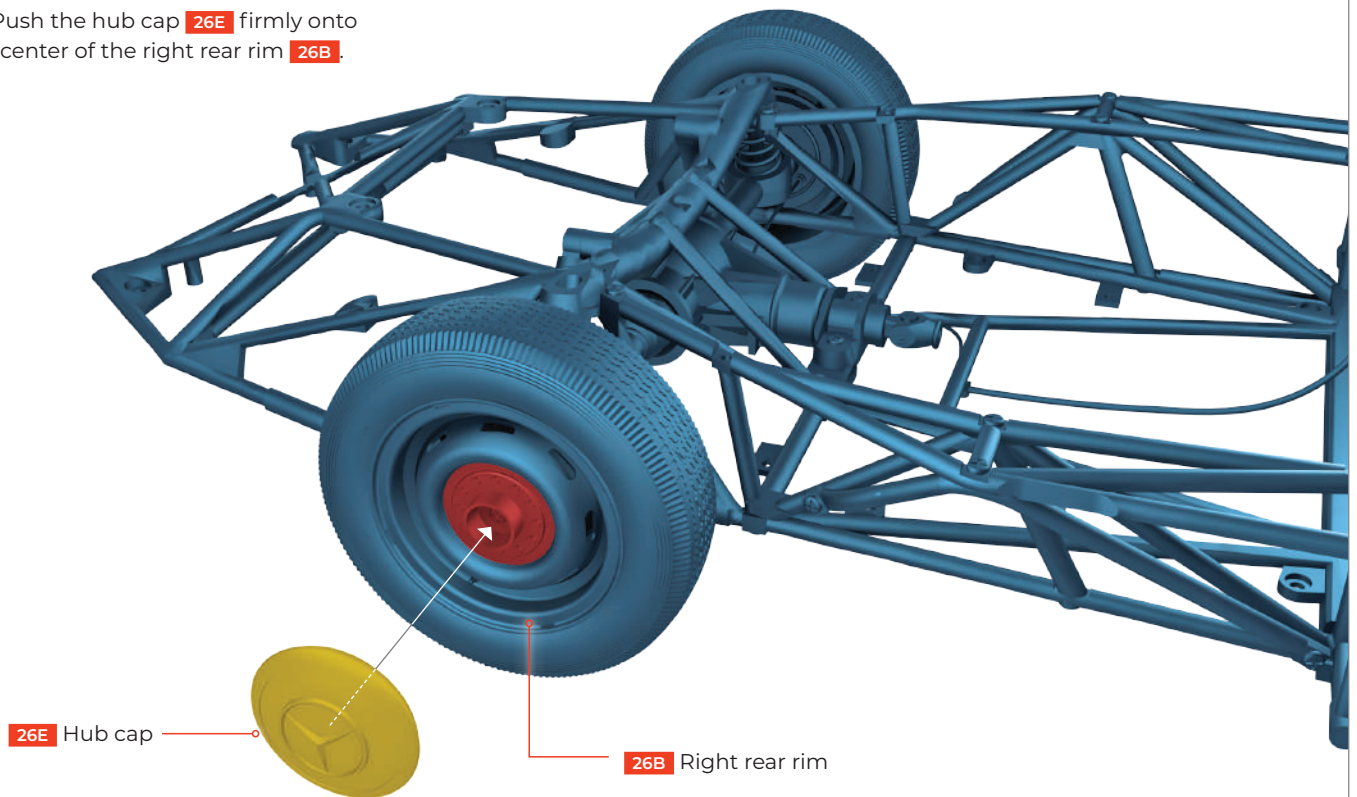
## 05 FITTING THE REAR RIGHT WHEEL

Fit the rear right rim **26B** onto the right rear half shaft spindle **22B**. Place a washer **26H** over the spindle where it protrudes through the rim **26B**, then fix the rim firmly in place with an **MM** screw into the end of the spindle.



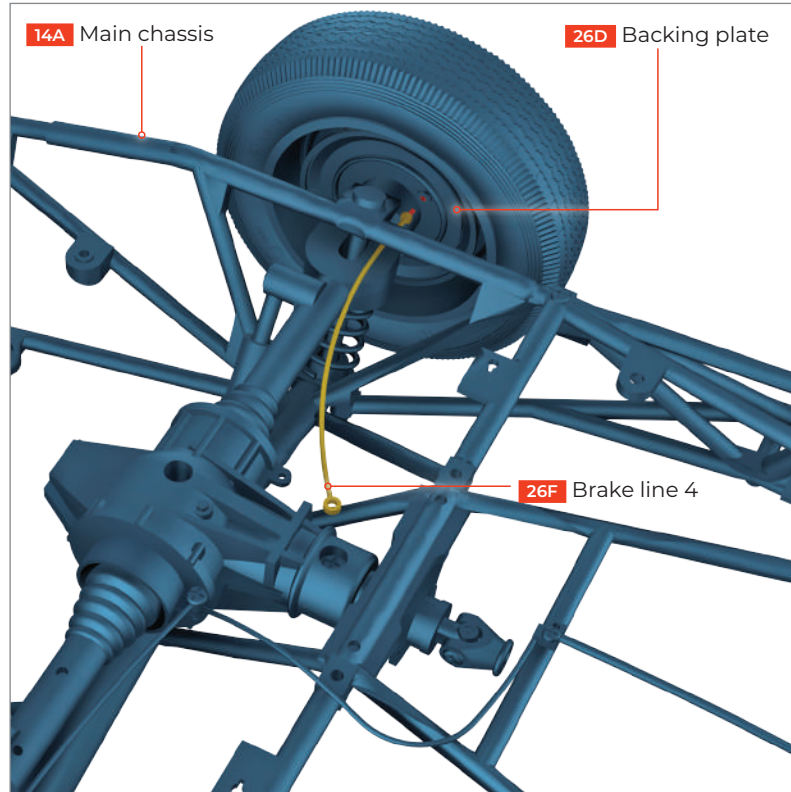
## 06 FITTING THE HUB CAP

Push the hub cap **26E** firmly onto the center of the right rear rim **26B**.



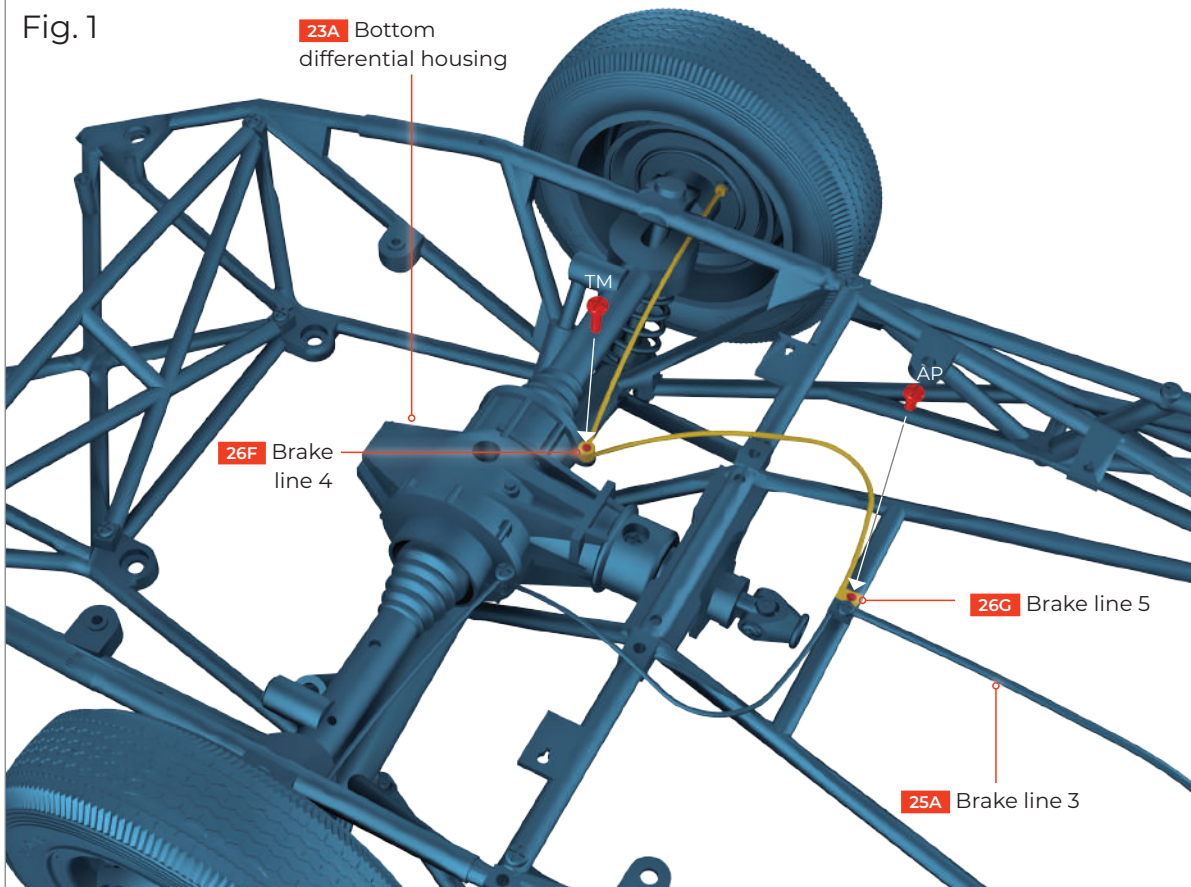
## 07 FITTING THE BRAKE LINES

With the model upside down and using tweezers, push the pin at the end of brake line 4 **26F** into the socket on the backing plate **26D**, ensuring that it runs above the main chassis **14A** – see **Be careful!** in the page margin. Align the loop at the other end of brake line 4 **26F** with the loop at the end of brake line 5 **26G**. Use a **TM** screw through both loops to fix them into the screw hole on the right of the bottom differential housing **23A**. Then fix the front end of brake pipe 5 **24G** to the remaining screw hole on brake pipe 3 **25A** with an **AP** screw (figure 1).



**Be careful!**  
Do not bend the brake lines while fitting them as they are not flexible.

Fig. 1



## STAGE 27: THE OIL RESERVOIR

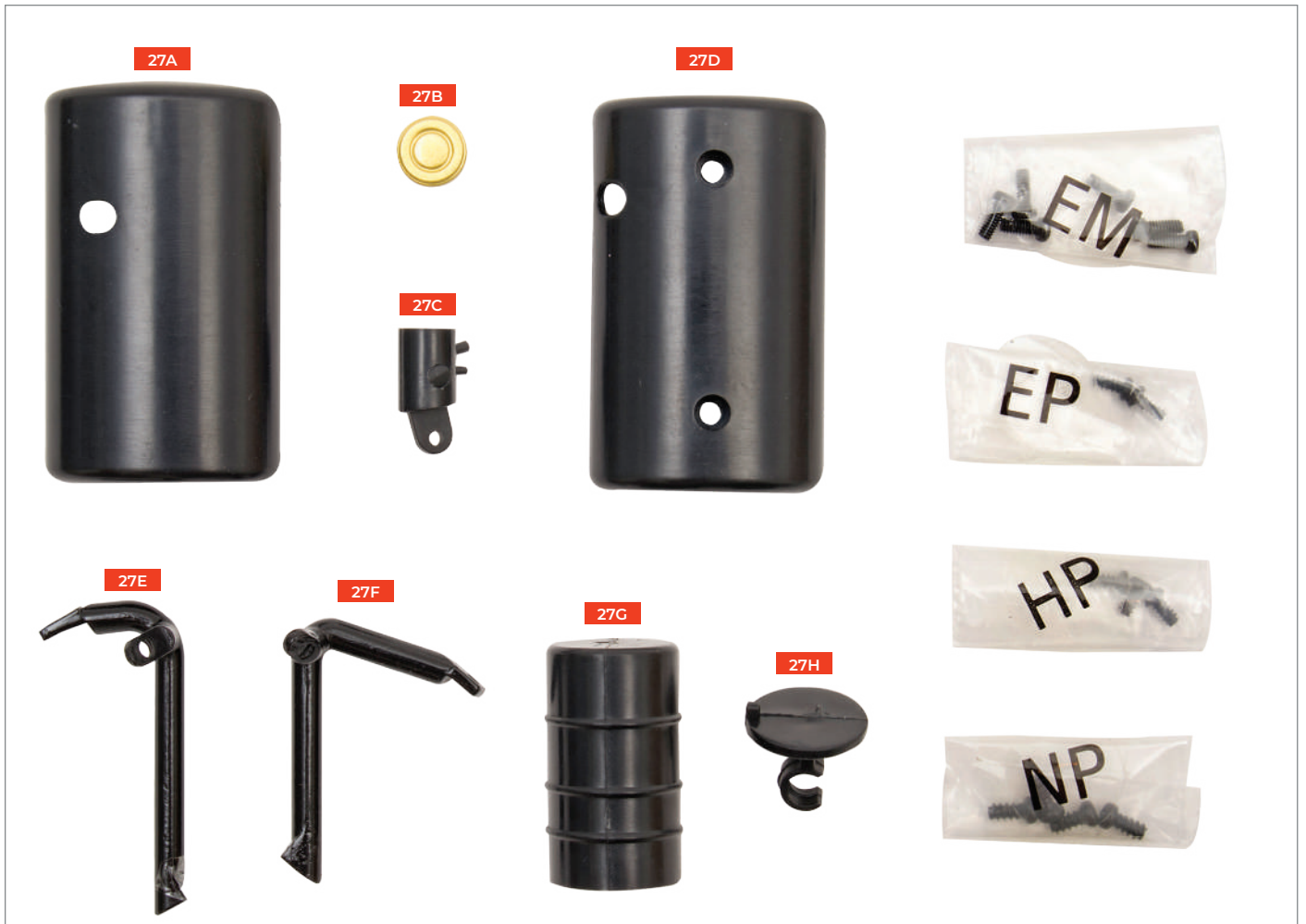
Assemble and fit the oil reservoir and brake booster vacuum tank to the left side of the main chassis.



### STAGE 27 – REQUIRED PARTS

Code	Name	Quantity	Material
27A	Oil reservoir left side	1	ABS
27B	Oil reservoir cap	1	ABS
27C	Oil reservoir filler tube	1	ABS
27D	Oil reservoir right side	1	ABS
27E	Reservoir rear bracket	1	Zinc
27F	Reservoir front bracket	1	Zinc
27G	Brake booster vacuum tank	1	ABS
27H	Vacuum tank top bracket	1	ABS
EM	Screws 2 x 5mm	4+2*	Iron
EP	Screws 1.7 x 4mm	1+1*	Iron
HP	Screws 2 x 4mm	2+1*	Iron
NP	Screws 2.3 x 5mm	3+1*	Iron

\* Replacement screws included



## 01 FITTING THE OIL RESERVOIR FILLER TUBE AND CAP

**27C** Oil reservoir filler tube

**27B** Oil reservoir cap

**27D** Oil reservoir right side

**EP**

**Fig. 1**

**27C** Oil reservoir filler tube

Fit the tab at the base of the oil reservoir filler tube **27C** over the socket at the top of the oil reservoir right side **27D**, ensuring that the two small pins face forwards. Fix in place with an **EP** screw. Then carefully push the oil reservoir cap **27B** into the top of the filler tube **27C** (figure 1).

## 02 FITTING THE OIL RESERVOIR BRACKETS

Fit the reservoir rear bracket **27E** into the hole near the top outer edge of the right side of the oil reservoir **27D** so that the tab aligns with the screw post. Fix in place with an **HP** screw. Then fit the reservoir front bracket **27F** into the hole near the top outer edge of the left side of the oil reservoir **27A** so that the tab aligns with the screw post. Fix in place with an **HP** screw (figure 1). Join the two halves of the oil reservoir **27D** and **27A** and fix them together with two **NP** screws (figure 2).

**27E** Reservoir rear bracket

**HP**

**27D** Oil reservoir right side

**27F** Reservoir front bracket

**HP**

**27A** Oil reservoir left side

**Fig. 1**

**27A** Oil reservoir left side

**NP**

**NP**

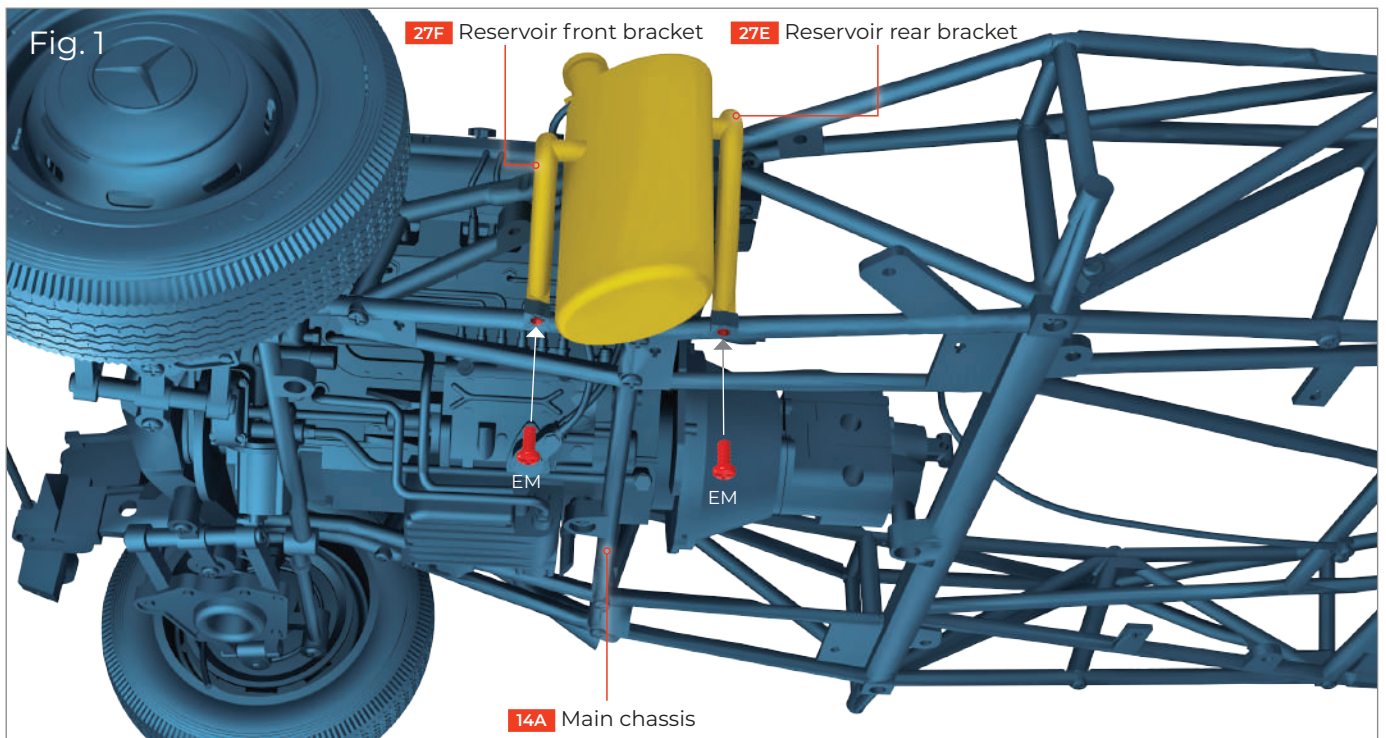
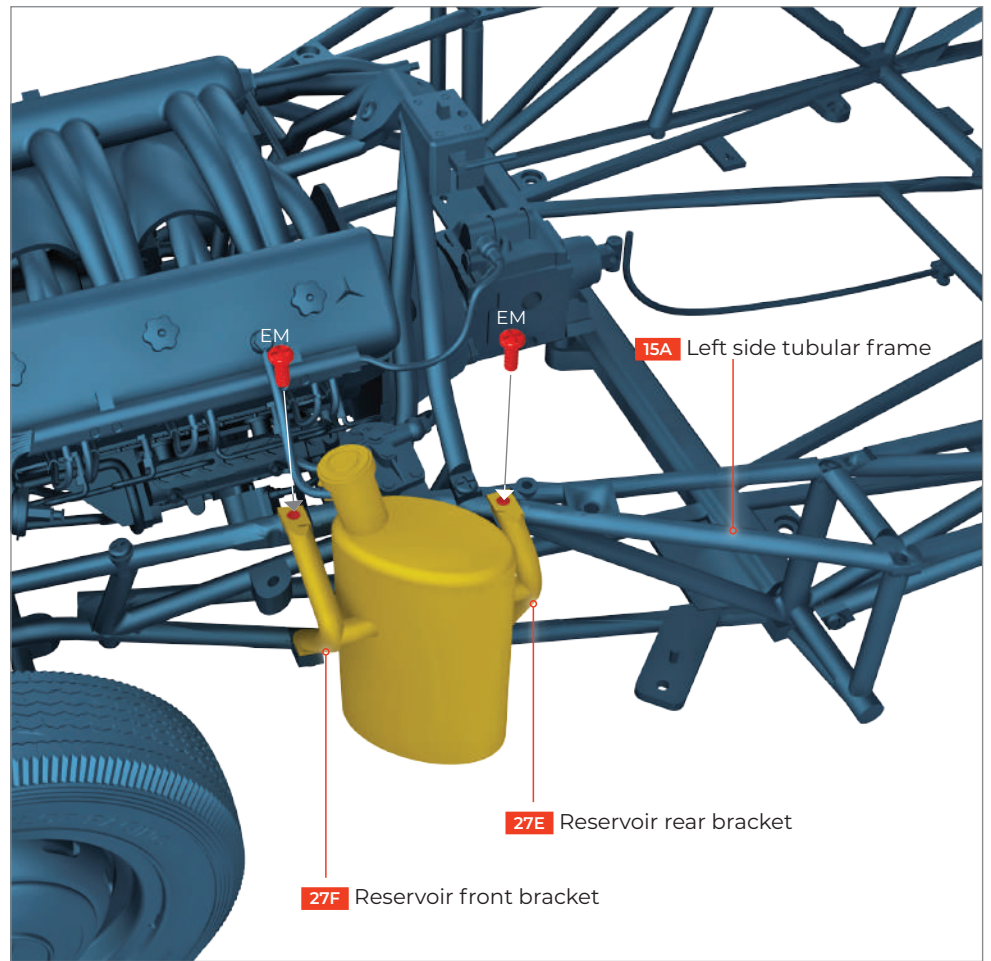
**27D** Oil reservoir right side

**Fig. 2**

Notice that the reservoir rear bracket (27E) is longer than the reservoir front bracket (27F).

### 03 FITTING THE OIL RESERVOIR TO THE MAIN CHASSIS

Align the top of the reservoir rear bracket **27E** and the top of the reservoir front bracket **27F** with the two corresponding screw holes on the left side tubular frame **15A** and fix them in place with two **EM** screws. Align the bottom of the reservoir rear bracket **27E** and the bottom of the reservoir front bracket **27F** with the two corresponding screw holes in the main chassis **14A** and fix them in place with two **EM** screws (figure 1).



## 04 FITTING THE BRAKE BOOSTER VACUUM TANK

Push the vacuum tank top bracket **27H** into the top of the brake booster vacuum tank **27G**, ensuring that the tab in the rim aligns with the notch. Clip the vacuum tank top bracket **27H** over the left side tubular frame **15A** in the position shown (figure 1). Then sit the tank on the support flange protruding from the left side of the main chassis **14A** and fix it in place with an **NP** screw from below (figure 2).



Fig. 1

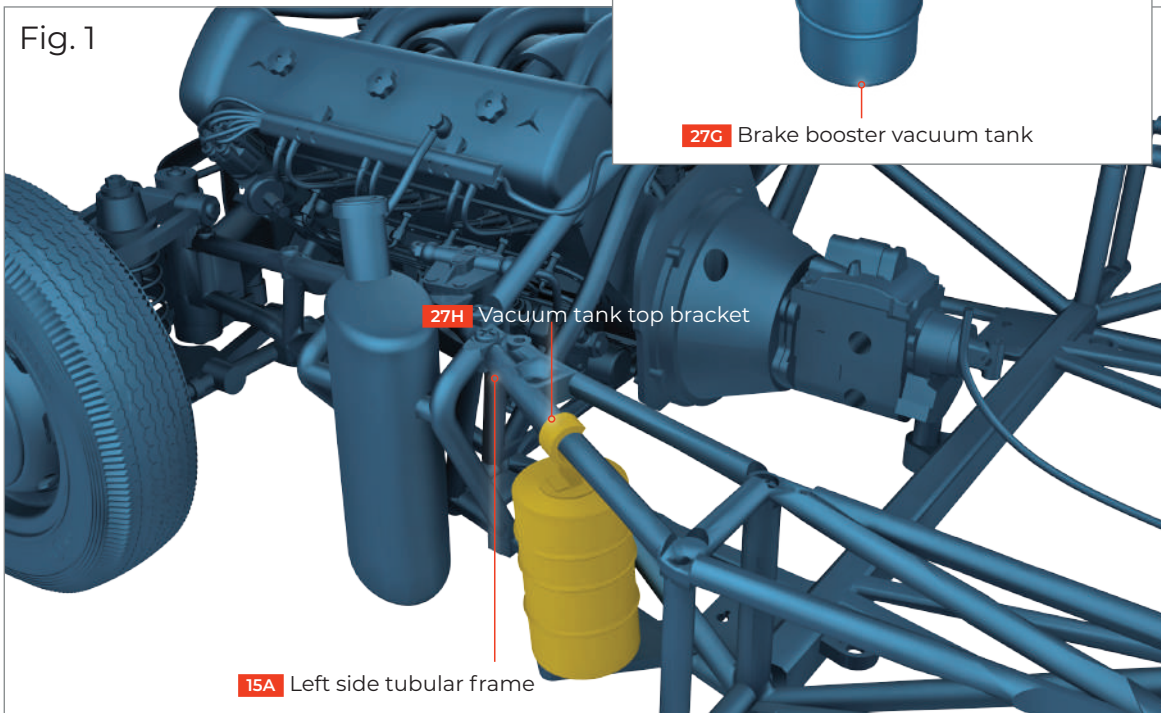
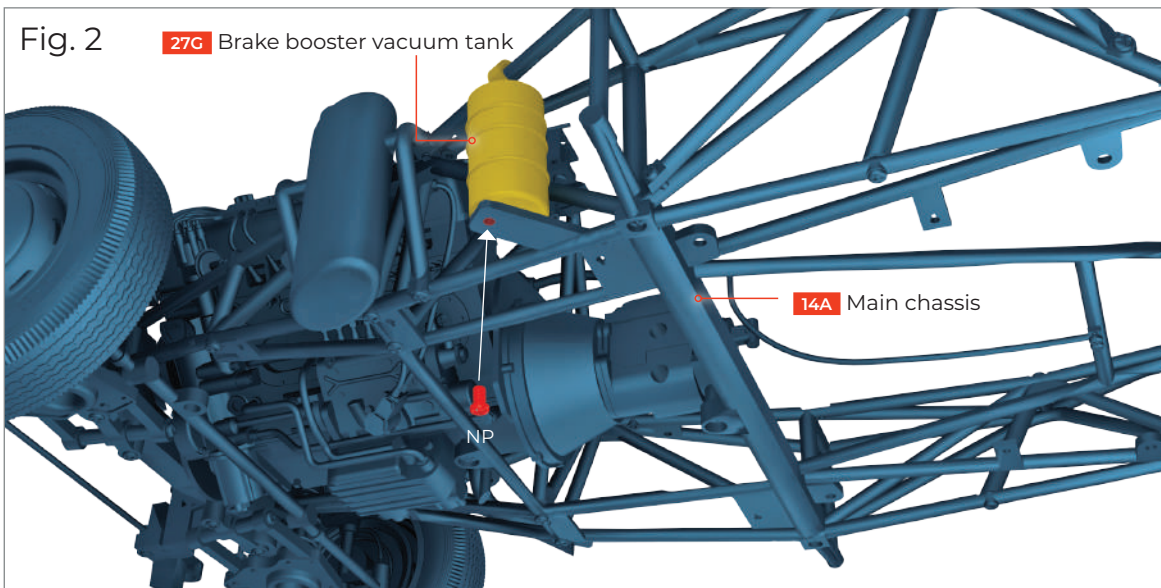


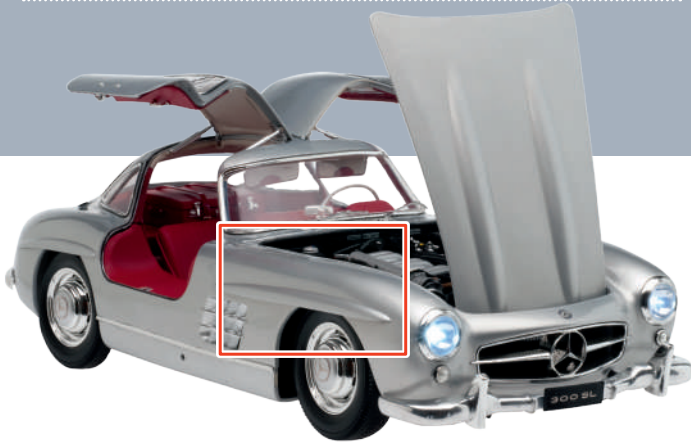
Fig. 2





## STAGE 28: THE COOLANT EXPANSION TANK

Assemble and fit the coolant expansion tank to the right side of the main chassis.



### STAGE 28 – REQUIRED PARTS

Code	Name	Quantity	Material
28A	Coolant expansion tank	1	ABS
28B	Coolant tank top	1	ABS
28C	Coolant hose	1	ABS
28D	Coolant expansion tank cap	1	ABS
HP	Screws 2 x 4mm	1 + 1*	Iron
KP	Screws 2 x 6mm	1 + 1*	Iron

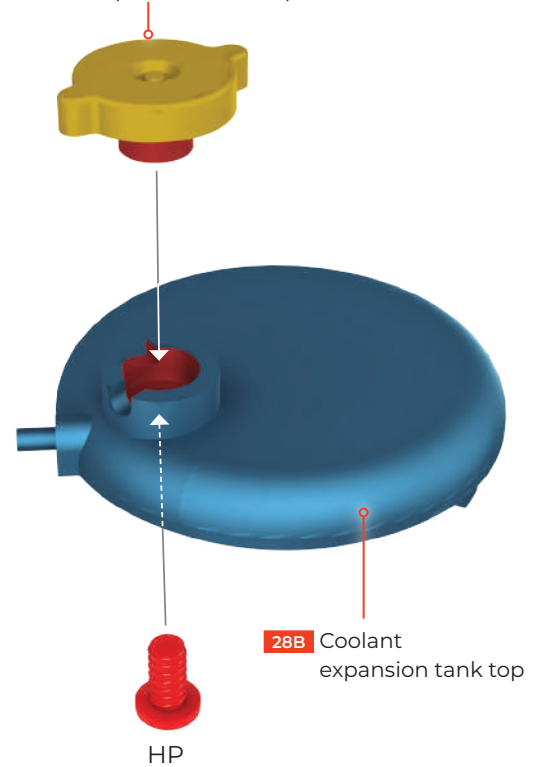
\* Replacement screws included



### 01 THE COOLANT EXPANSION TANK CAP

Fit the coolant expansion tank cap **28D** to the coolant expansion tank top **28B**, ensuring that the notch on the cap fits into the larger slot in the rim. Fix in place with an **HP** screw.

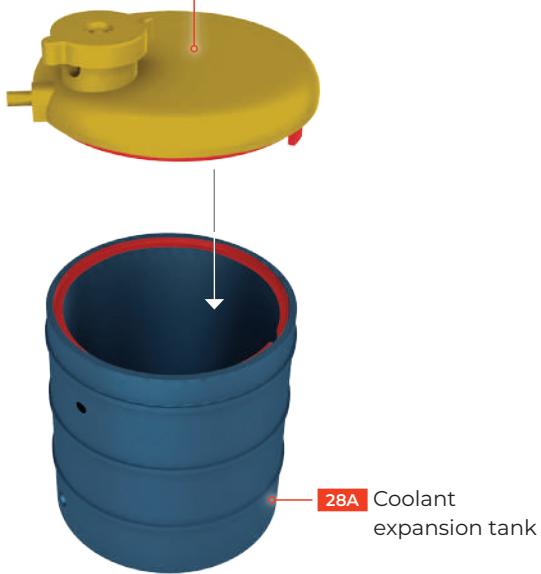
**28D** Coolant expansion tank cap



## 02 THE COOLANT EXPANSION TANK TOP

Push the expansion tank top **28B** firmly into the top of the expansion tank **28A**, ensuring that the two inner tabs on the cover align with their corresponding slots inside the tank.

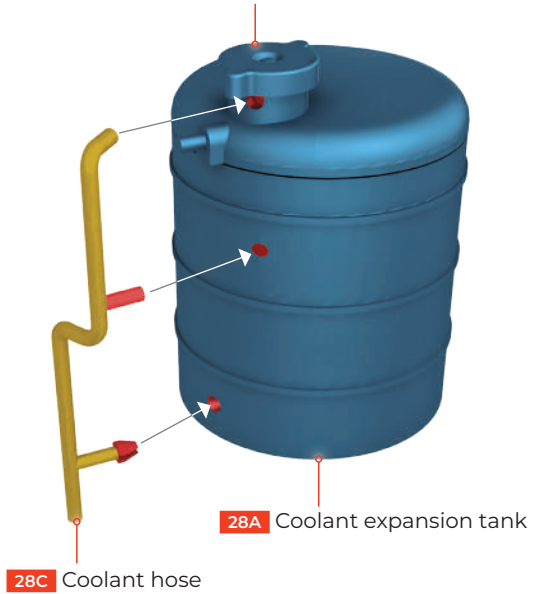
**28B** Coolant expansion tank top



## 03 THE COOLANT EXPANSION TANK HOSE

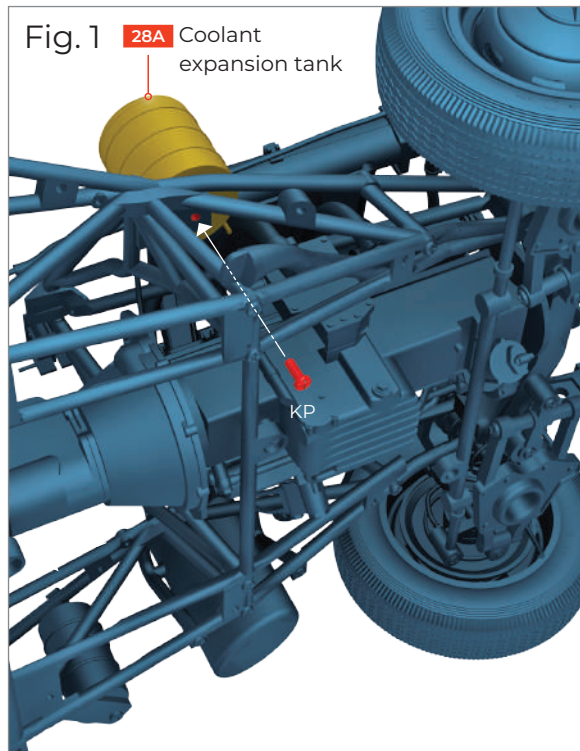
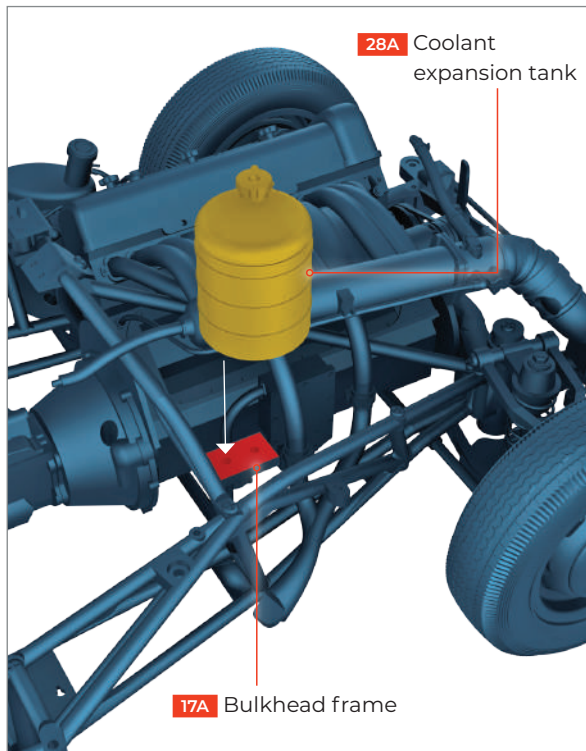
Fit the top of the coolant hose **28C** into the hole under the coolant tank cap **28D**. Push the two pins on the side of the hose into the two holes in the expansion tank **28A**.

**28D** Coolant expansion tank cap



## 04 INSTALLING THE COOLANT EXPANSION TANK

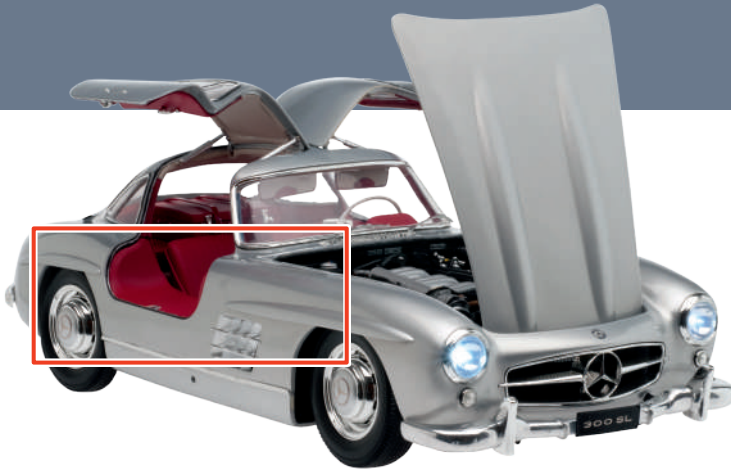
Stand the expansion tank **28A** on the support flange on the right side of the bulkhead frame **17A**. Ensure that the pin on the underside of the tank fits into the rear hole on the support flange. Fix in place with a **KP** screw through the underside of the flange (figure 1).



When assembling the model upside down, work on a pad of soft cloth to protect the delicate engine parts.

## STAGE 29: THE DRIVESHAFT AXLE GUARDS AND BATTERY

Fit the driveshaft, two rear axle guards and the battery to the back of the main chassis.



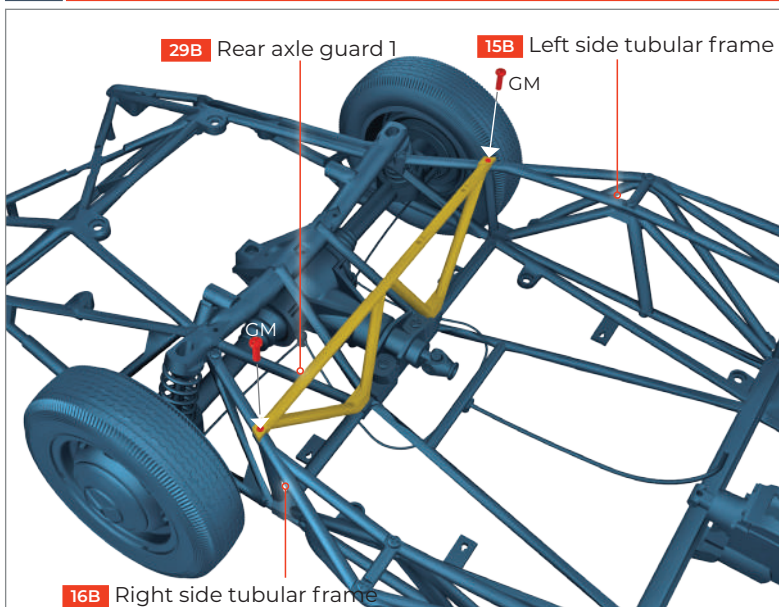
### STAGE 29 – REQUIRED PARTS

Code	Name	Quantity	Material
29A	Driveshaft	1	Zinc
29B	Rear axle guard 1	1	Zinc
29C	Rear axle guard 2	1	Zinc
29D	Battery	1	ABS
29E	Battery holder	1	ABS
CM	Screws 2 x 4mm	2 + 1*	Iron
EM	Screws 2 x 5mm	4 + 2*	Iron
GM	Screws 2 x 7mm	2 + 1*	Iron
HM	Screws 2 x 8mm	3 + 1*	Iron
MP	Screws 2.3 x 4mm	2 + 1*	Iron

\* Replacement screws included



#### 01 FITTING REAR AXLE GUARD 1



Position the rear axle guard 1 **29B** across the main chassis, with the long crossbar at the top. Align the hole on the top left of the frame with the socket in the left side tubular frame **15B** and fix in place with a **GM** screw. Align the hole on the top right of the frame with the socket in the right side tubular frame **16B** and fix in place with a **GM** screw. Align the lower parts of the frame with the sockets in the main chassis **14A** on either side of the differential support bracket and fix with two **HM** screws from underneath (figure 1).

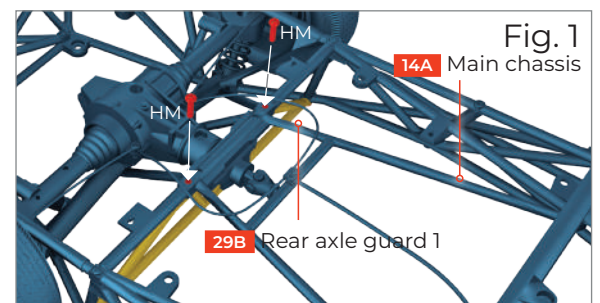
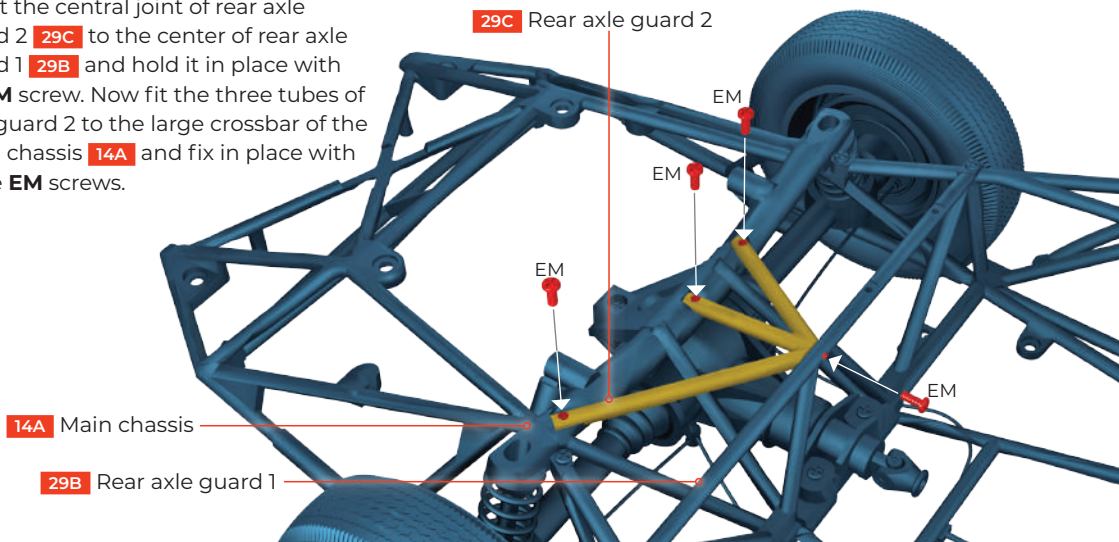


Fig. 1

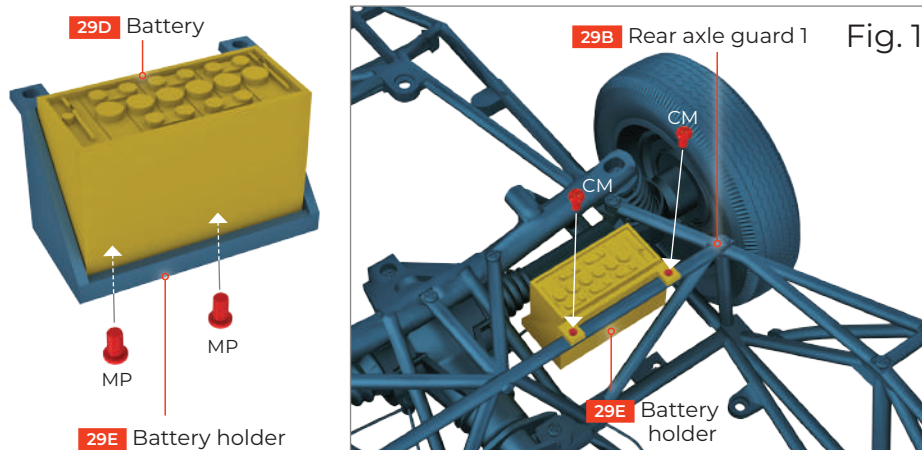
## 02 FITTING REAR AXLE GUARD 2

Fit the central joint of rear axle guard 2 **29C** to the center of rear axle guard 1 **29B** and hold it in place with an **EM** screw. Now fit the three tubes of axle guard 2 to the large crossbar of the main chassis **14A** and fix in place with three **EM** screws.



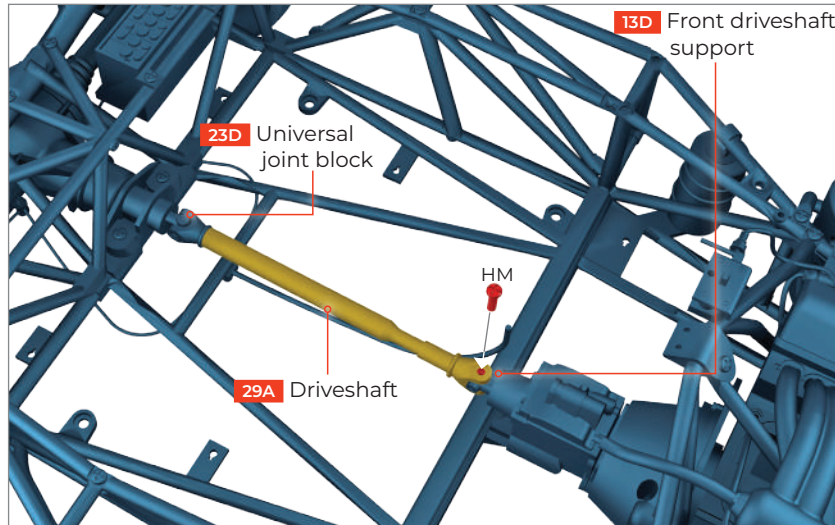
## 03 FITTING THE BATTERY

Fit the battery **29D** into the battery holder **29E**. Note that the screw holes will only align with the battery fitted the correct way round. Fix in place with two **MP** screws. Then fit the battery holder **29E** to the top of the rear axle guard 1 **29B** and fix in place with two **CM** screws (figure 1).



## 04 INSTALLING THE DRIVESHAFT

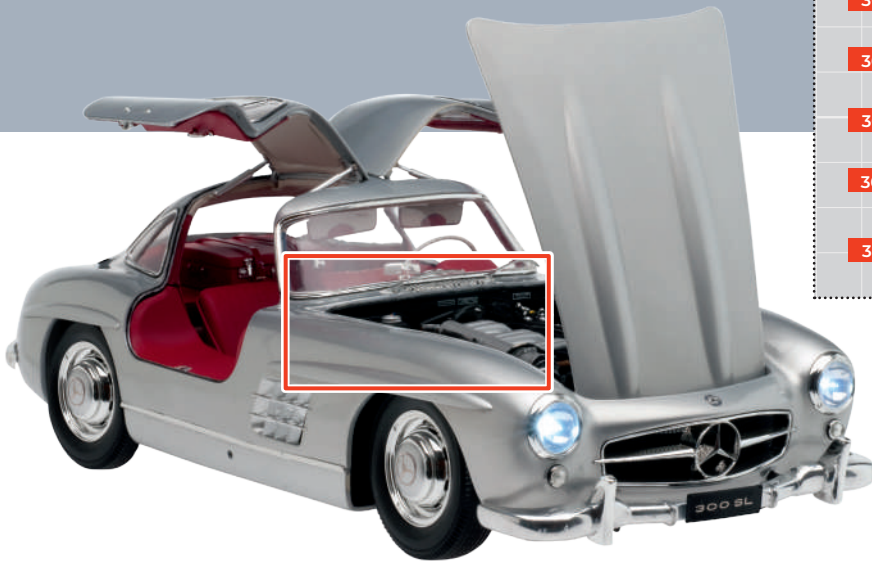
Fit the pin at the end of the driveshaft **29A** into the socket in the universal joint **23D**. Then slide the front jaws of the driveshaft into the front driveshaft support **13D** and fix in place with an **HM** screw.



Note that the gearbox is offset from the differential, so the driveshaft runs between the two at a slight angle.

## STAGE 30: THE FIREWALL

Assemble and fit the wiper linkage mechanism to the firewall.



### STAGE 30 – REQUIRED PARTS

Code	Name	Quantity	Material
30A	Firewall	1	Zinc
30B	Right pivot	1	ABS
30C	Left pivot	1	ABS
30D	Wiper linkage	1	ABS
30E	Wiper transmission arm	1	ABS



30B



30C



30D



30E



## 01 ASSEMBLING THE WINDSHIELD WIPER LINKAGE

Push the pin at the left end of the wiper linkage **30D** into the top hole in the left pivot **30C**, orientated as shown. Push the pin at the right end of the wiper linkage **30D** into the hole in the right pivot **30B**, orientated as shown (figure 1).

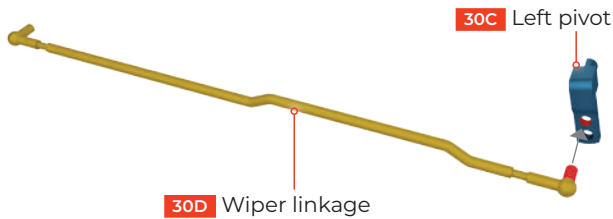
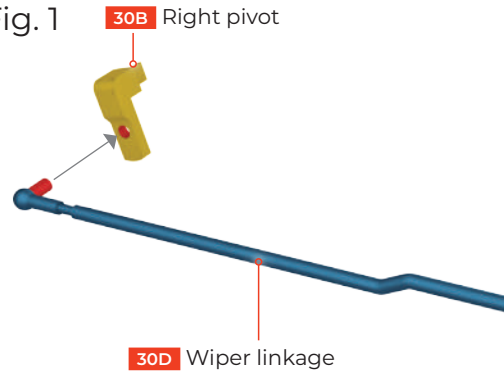
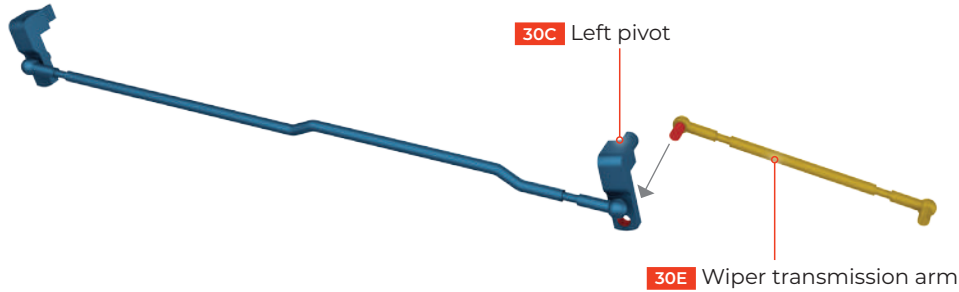


Fig. 1



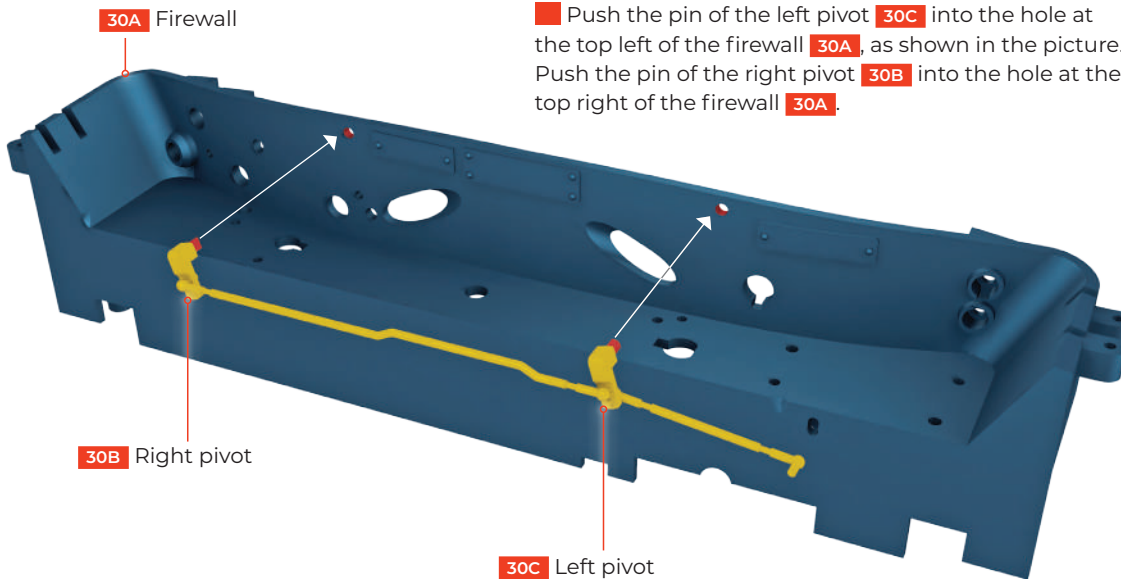
## 02 CONNECTING THE WIPER TRANSMISSION ARM

Push the pin at one end of the wiper transmission arm **30E** – from behind – into the bottom hole in the left pivot **30C**, orientated as shown.



## 03 FITTING THE WIPER LINKAGE ASSEMBLY TO THE FIREWALL

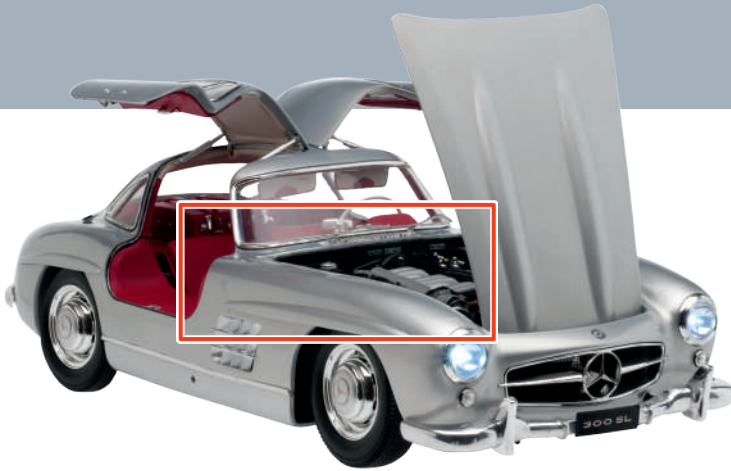
Push the pin of the left pivot **30C** into the hole at the top left of the firewall **30A**, as shown in the picture. Push the pin of the right pivot **30B** into the hole at the top right of the firewall **30A**.



The free end of the wiper transmission arm 30E will be connected later.

## STAGE 31: THE IGNITION AND HEADLIGHT RELAYS

Install the ignition and headlight relays, and assemble and fit the ignition coil.



### STAGE 31 – REQUIRED PARTS

Code	Name	Quantity	Material
31A	Ignition relay	1	ABS
31B	Ignition coil bottom	1	ABS
31C	Firewall left hose A	1	ABS
31D	Wiring harness	1	ABS
31E	Headlight relay	1	ABS
31F	Ignition coil top	1	ABS
CM	Screws 2 x 4mm	1 + 1*	Iron
DP	Screws 1.7 x 3 x 4.5mm	1 + 1*	Iron
HP	Screws 2 x 4mm	1 + 1*	Iron
IP	Screws 2 x 3 x 5mm	2 + 1*	Iron

\* Replacement screws included

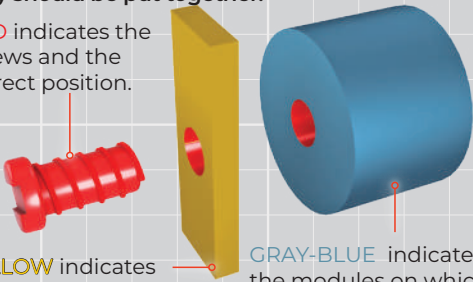
### COLOR CODING

The color coding of the parts shows how they should be put together.

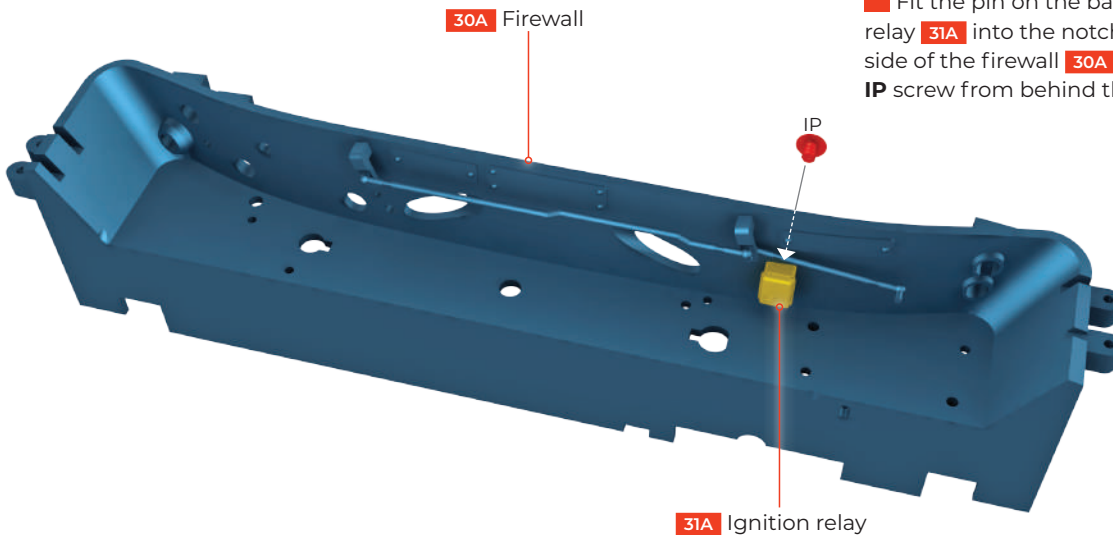
**RED** indicates the screws and the correct position.

**YELLOW** indicates new parts.

**GRAY-BLUE** indicates the modules on which the new parts should be assembled.



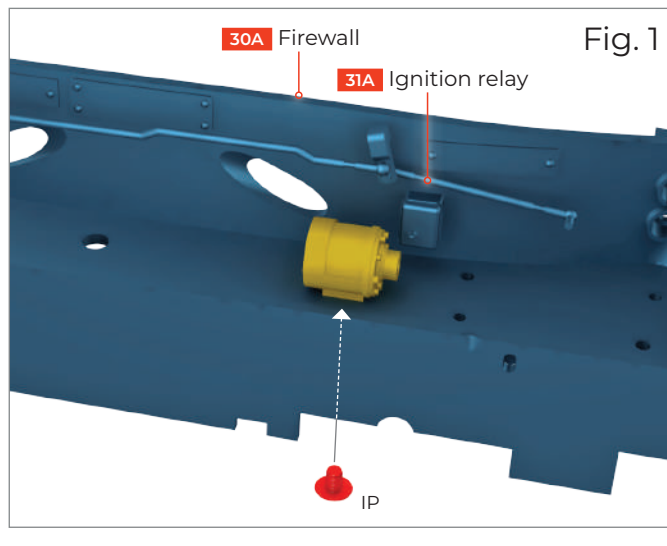
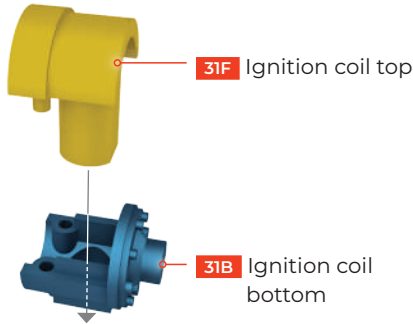
### 01 FITTING THE IGNITION RELAY



Fit the pin on the back of the ignition relay **31A** into the notched socket in the left side of the firewall **30A**. Fix in place with an **IP** screw from behind the firewall.

## 02 INSTALLING THE IGNITION COIL

Push the ignition coil top **31F** firmly into the ignition coil bottom **31B**. Then locate the post on the bottom of the ignition coil top **31F** into its hole in the bottom left of the firewall **30A** beneath the ignition relay **31A**. Fix with an **IP** screw from beneath the firewall (figure 1).



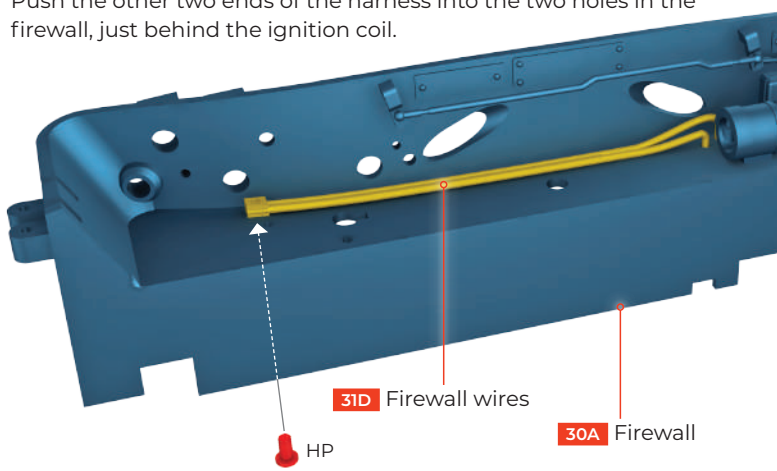
## 03 FITTING THE FIREWALL LEFT HOSE A

Fit the connector loop at the end of the firewall left hose A **31C** over the front screw hole on the left side of the firewall **30A**, as shown in the picture. Fix in place with a **CM** screw.



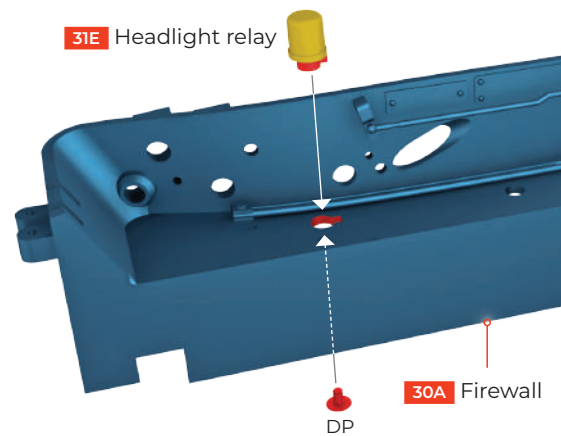
## 04 FITTING THE WIRING HARNESS

Align the square end of the wiring harness **31D** over the correct hole on the bottom of the right side of the firewall **30A** as shown in the picture. Fix in place with an **HP** screw from underneath the firewall. Push the other two ends of the harness into the two holes in the firewall, just behind the ignition coil.



## 05 FITTING THE HEADLIGHT RELAY

Fit the peg of the headlight relay **31E** into its corresponding hole on the right side of the bottom of the firewall **30A**. Fix with a **DP** screw from underneath the firewall.

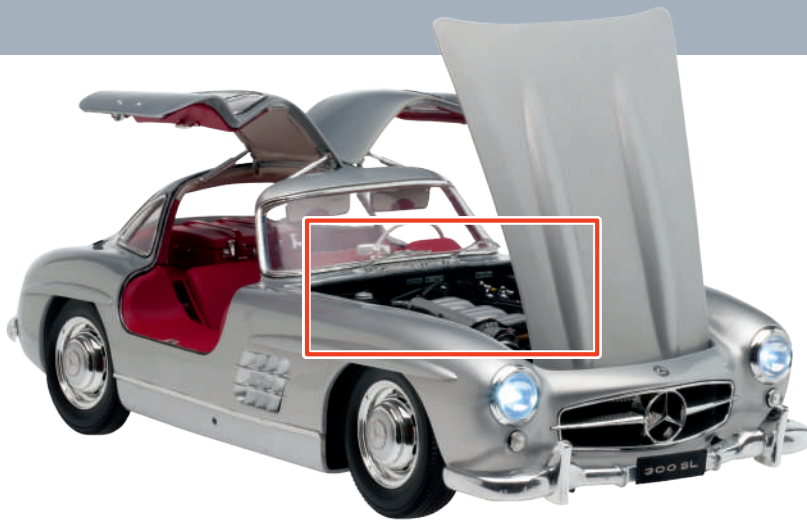


When fitting these parts to the firewall, be careful not to touch the delicate bonnet release levers and catches fitted previously.



## STAGE 32: COMPLETING THE FIREWALL

Assemble and fit the windshield washer tank, the fuse box, and hoses to the firewall.



### STAGE 32 – REQUIRED PARTS

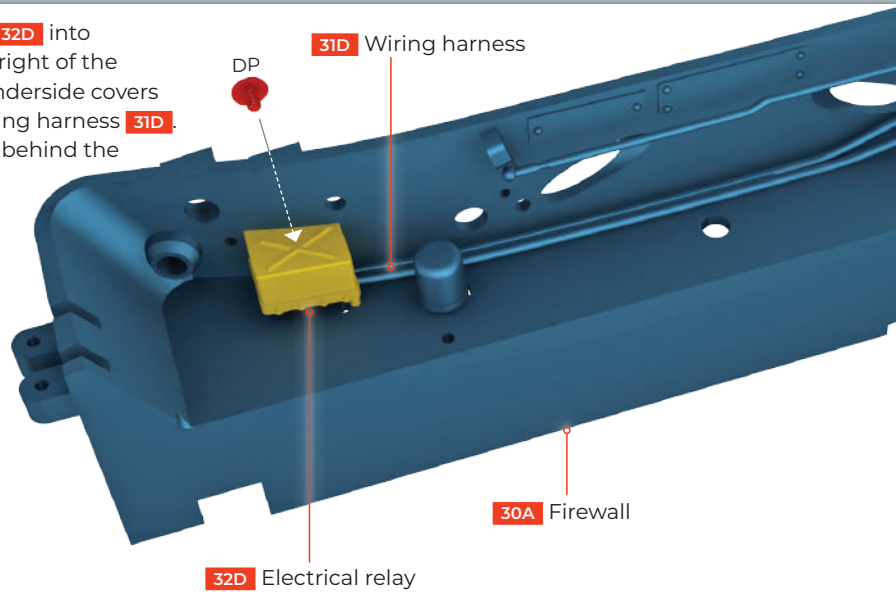
Code	Name	Quantity	Material
32A	Windshield washer tank	1	Mixed
32B	Windshield washer hose	1	ABS
32C	Fuse box	1	ABS
32D	Electrical relay	1	ABS
32E	Firewall right hose A	1	ABS
32F	Firewall right hose B	1	ABS
32G	Firewall right hose C	1	ABS
32H	Windshield washer tank bracket	1	ABS
CM	Screws 2 x 4mm	4+2*	Iron
DP	Screws 1.7 x 3 x 4.5mm	2+1*	Iron
IP	Screws 2 x 3 x 5mm	2+1*	Iron

\* Replacement screws included



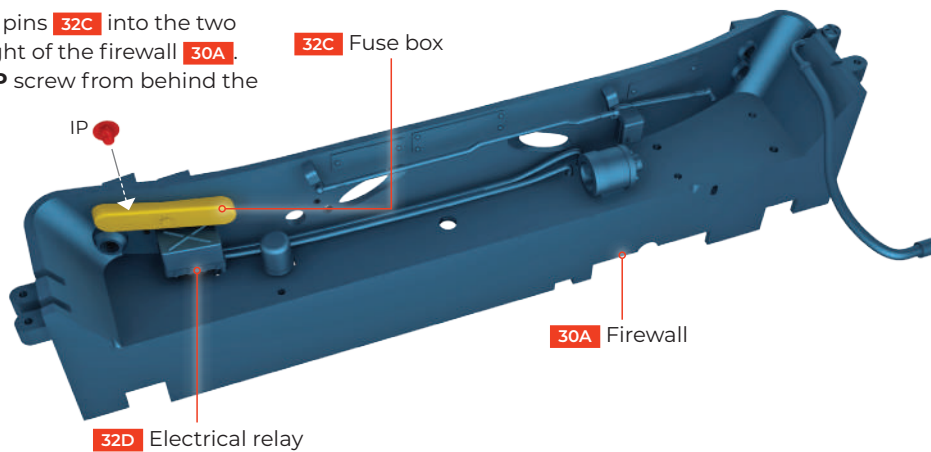
## 01 INSTALLING AN ELECTRICAL RELAY

Fit the electrical relay **32D** into the socket in the bottom right of the firewall **30A** so that its underside covers the square end of the wiring harness **31D**. Fix with a **DP** screw from behind the firewall upright.



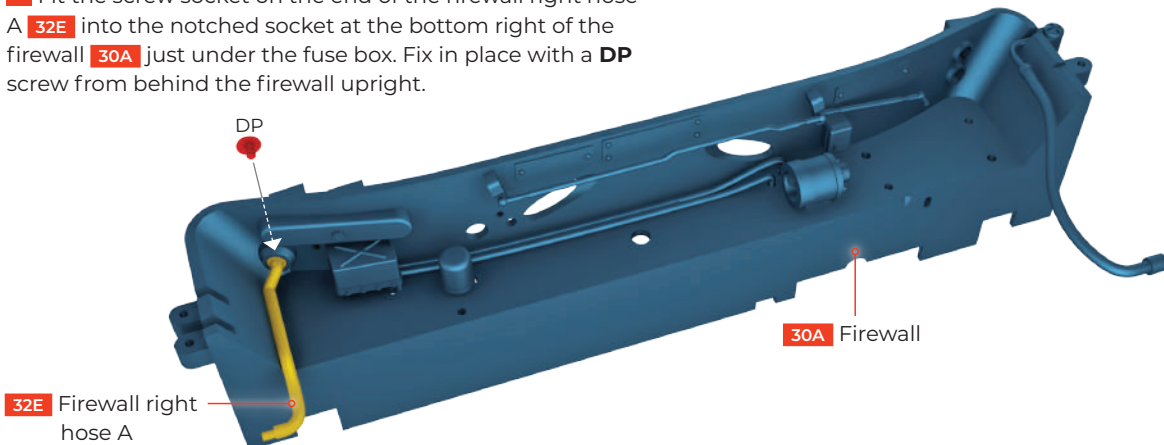
## 02 FITTING THE FUSE BOX TO THE FIREWALL

Push the fuse box pins **32C** into the two holes in the upper right of the firewall **30A**. Fix in place with an **IP** screw from behind the firewall upright.



## 03 FITTING THE FIREWALL RIGHT HOSE A

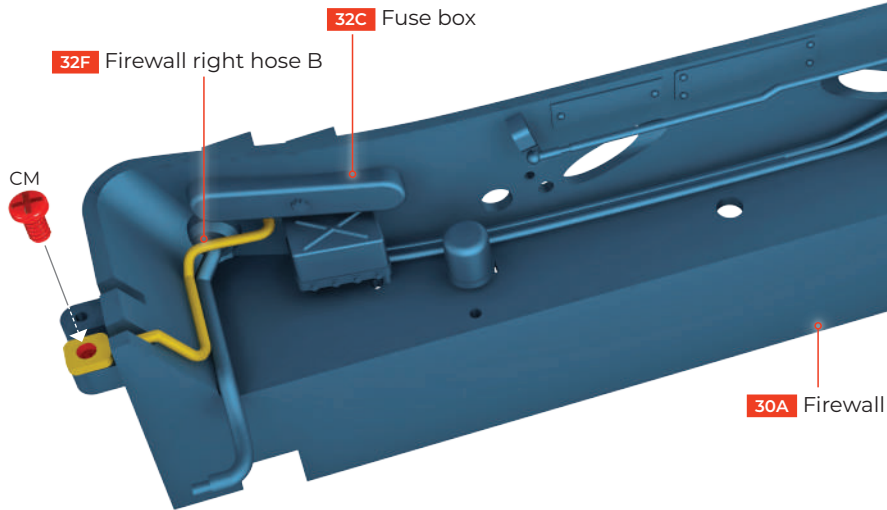
Fit the screw socket on the end of the firewall right hose A **32E** into the notched socket at the bottom right of the firewall **30A** just under the fuse box. Fix in place with a **DP** screw from behind the firewall upright.



When fitting these parts to the firewall, be careful not to damage the fragile windshield wiper parts previously installed.

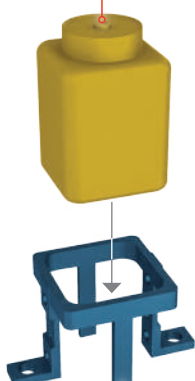
#### 04 FITTING THE FIREWALL RIGHT HOSE B

Fit the connector loop at the end of the firewall right hose B **32F** over the screw hole at the front right of the firewall **30A**. Fix in place with a **CM** screw. Fit the other end of the firewall right hose B **32F** into the hole in the firewall under the fuse box **32C**.



#### 05 FITTING THE WINDSHIELD WASHER TANK

**32A** Windshield washer tank



**32H** Windshield washer tank bracket

Fit the windshield washer tank **32A** into the windshield washer tank bracket **32H** so that the screw guides are at the bottom. Then align the bracket **32H** over the two holes at the front right of the firewall **30A** and fix in place with two **CM** screws (figure 1).

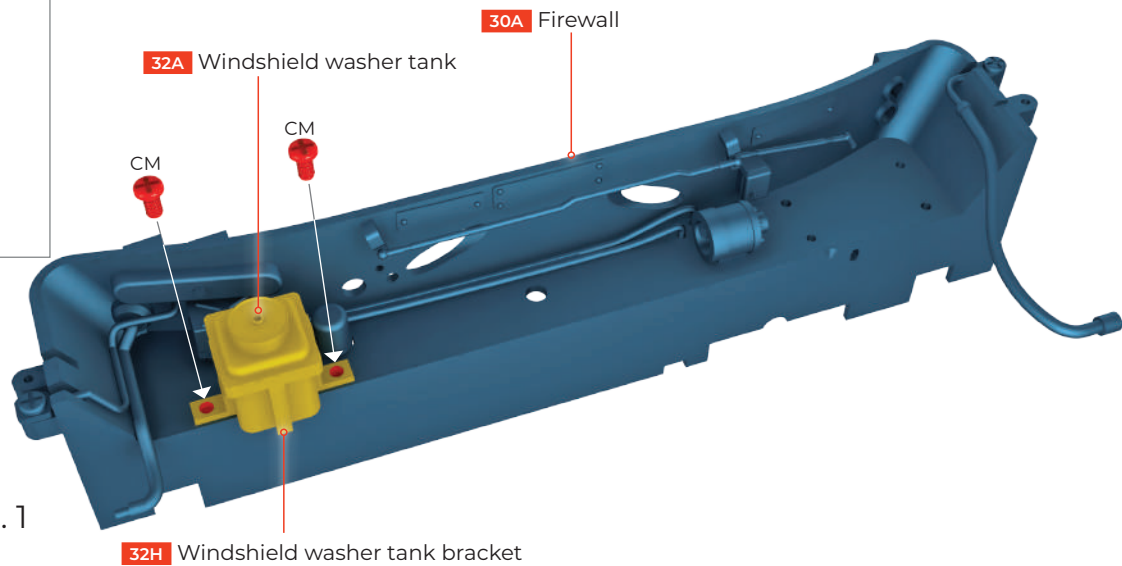
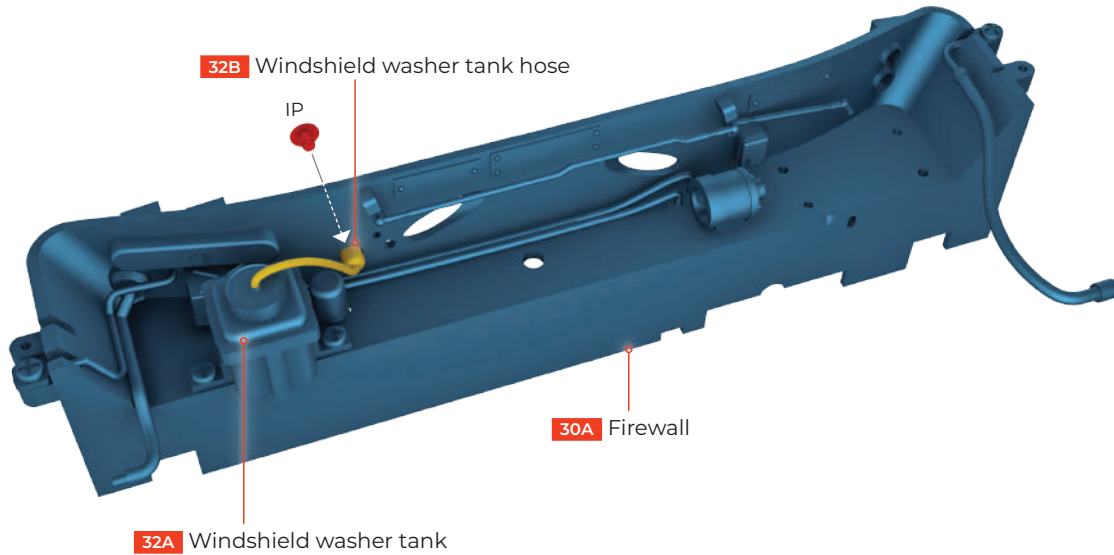


Fig. 1

**32H** Windshield washer tank bracket

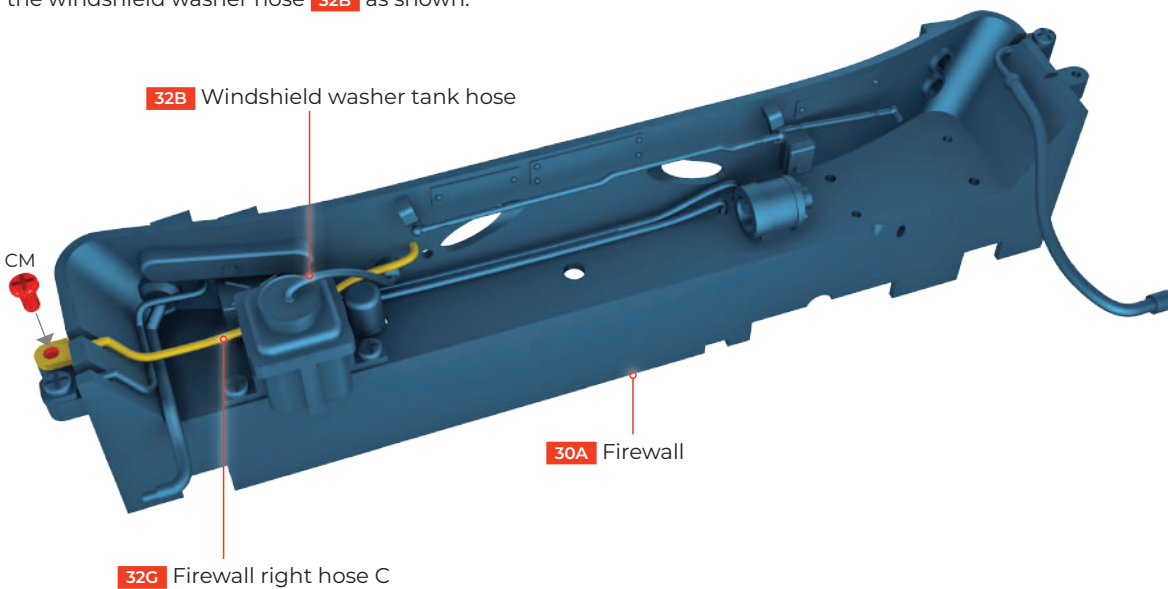
## 06 FITTING THE WINDSHIELD WASHER HOSE

Push the thin end of the windshield washer hose **32B** into the top of the windshield washer tank **32A**. Then use tweezers to position the collared end of the hose into the socket in the firewall upright **30A** to the left of the tank, as shown. Fix from behind the firewall with an **IP** screw.



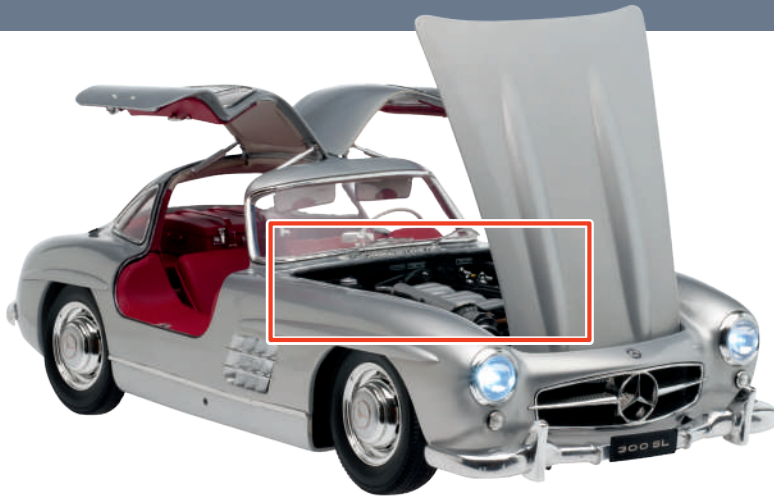
## 07 FITTING THE FIREWALL RIGHT HOSE C

Place the connector loop at the end of the firewall right hose C **32G** over the screw hole at the rear right side of the firewall **30A**. Fix with a **CM** screw. Run the other end of the firewall right hose C **32G** behind the windshield washer tank and into the hole in the firewall close to the windshield washer hose **32B** as shown.



## STAGE 33: THE WINDSHIELD WIPER MOTOR

Assemble and install the windshield wiper motor, brake fluid reservoir, hood release catch, wiper linkage cam, and hoses to the firewall, then fit the firewall to the main chassis.



### STAGE 33 – REQUIRED PARTS

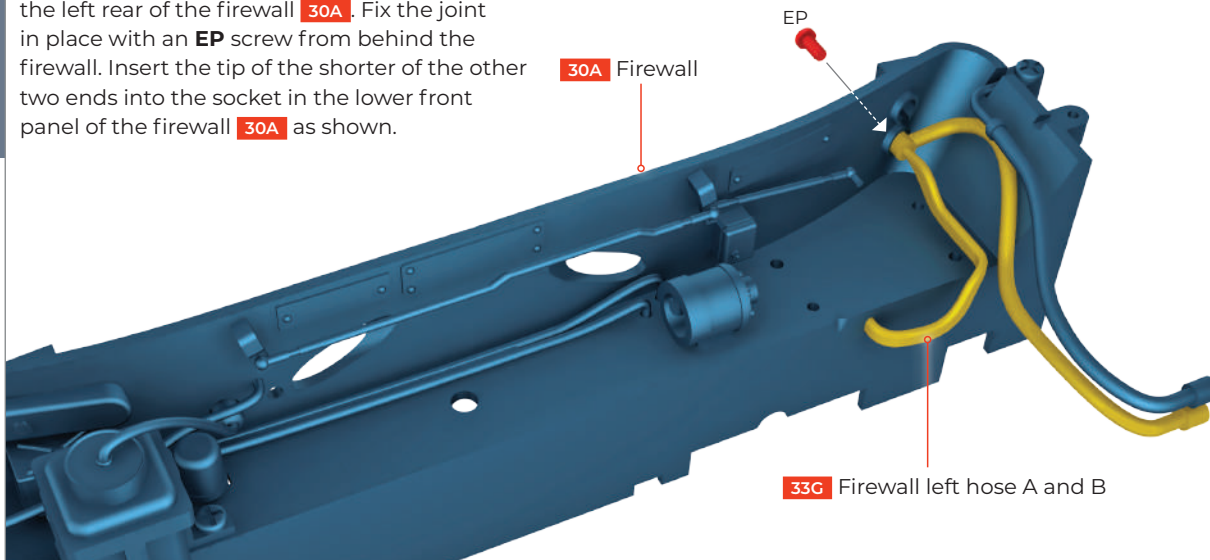
Code	Name	Quantity	Material
33A	Windshield wiper motor (bottom)	1	ABS
33B	Windshield wiper motor bracket	1	ABS
33C	Brake fluid reservoir	1	ABS
33D	Brake fluid reservoir top	1	ABS
33E	Hood release catch	1	ABS
33F	Windshield wiper motor (top)	1	ABS
33G	Firewall left hose A and B	1	ABS
33H	Firewall left hose C	1	ABS
33I	Wiper linkage cam	1	ABS
CM	Screws 2 x 4mm	3 + 1*	Iron
FM	Screws 2 x 6mm	2 + 1*	Iron
AP	Screws 1.5 x 3mm	1 + 1*	Iron
DP	Screws 1.7 x 3 x 4.5mm	1 + 1*	Iron
EP	Screws 1.7 x 4mm	3 + 1*	Iron
JP	Screws 2 x 5mm	1 + 1*	Iron
MP	Screws 2.3 x 4mm	1 + 1*	Iron

\* Replacement screws included



## 01 FITTING FIREWALL LEFT HOSE A AND B

Fit the joined end of the firewall left hose A and B **33G** into the lower of the two holes in the left rear of the firewall **30A**. Fix the joint in place with an **EP** screw from behind the firewall. Insert the tip of the shorter of the other two ends into the socket in the lower front panel of the firewall **30A** as shown.



## 02 THE WINDSHIELD WIPER MOTOR

Fit the wiper linkage cam **33I** to the axle protruding from the windshield wiper motor (bottom) **33A**. Fix with an **AP** screw through the larger hole in the cam. Do not over-tighten the screw, so that the cam can still turn freely. Then fit the windshield wiper motor (top) **33F** to the windshield wiper motor (bottom) **33A** and fix the parts together with an **EP** screw (figure 1).

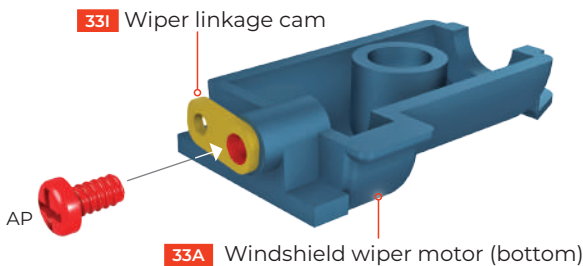
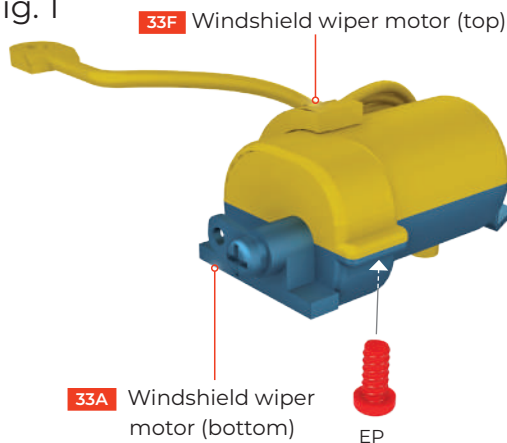
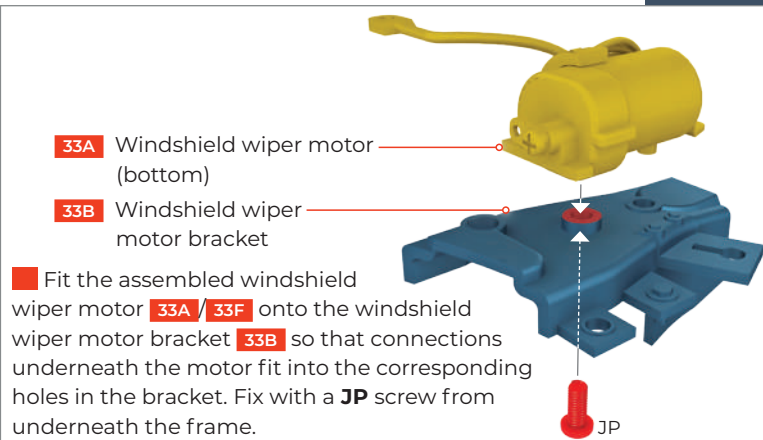


Fig. 1

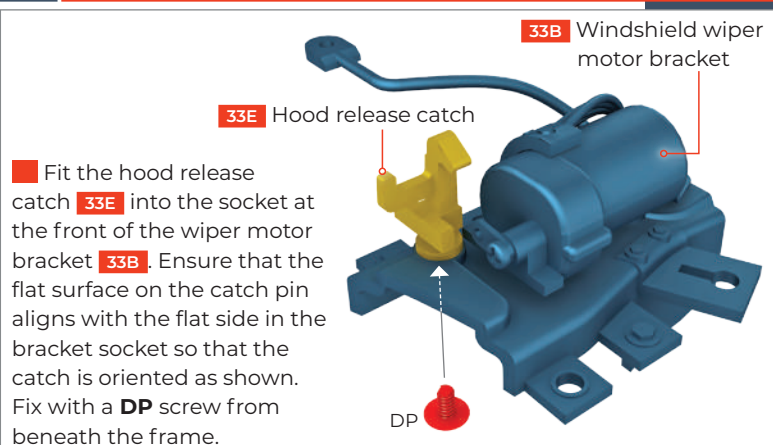


## 03 THE WINDSHIELD WIPER MOTOR BRACKET



Fit the assembled windshield wiper motor **33A / 33F** onto the windshield wiper motor bracket **33B** so that connections underneath the motor fit into the corresponding holes in the bracket. Fix with a **JP** screw from underneath the frame.

## 04 FITTING THE HOOD RELEASE CATCH



Fit the hood release catch **33E** into the socket at the front of the wiper motor bracket **33B**. Ensure that the flat surface on the catch pin aligns with the flat side in the bracket socket so that the catch is oriented as shown. Fix with a **DP** screw from beneath the frame.

## 05 FITTING THE BRAKE FLUID RESERVOIR

Push the pin under the brake fluid reservoir top **33D** into the hole in the top of the brake fluid reservoir **33C**. Then fit the base of the brake fluid reservoir **33C** to the notched socket at the front of the windshield wiper motor bracket **33B** and fix it in place with an **MP** screw from underneath (figure 1).

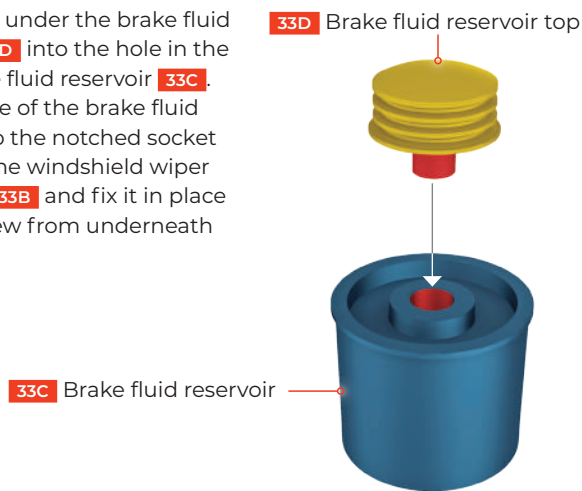
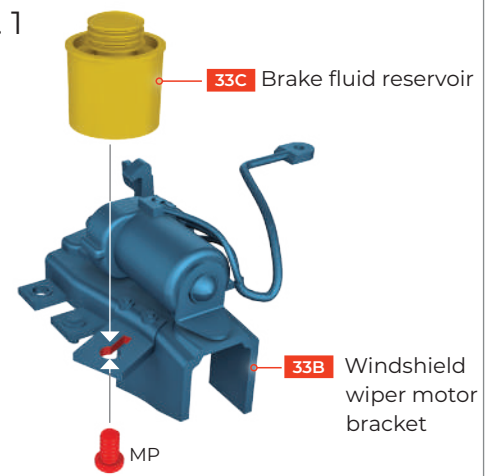


Fig. 1



## 06 FITTING THE WIPER MOTOR BRACKET TO THE FIREWALL

Position the windshield wiper motor bracket **33B** over the four holes at the left side of the firewall **30A** beside the starter coil. Ensure that the bracket is inserted underneath the firewall left hoses A and B **33G**. Fix the bracket from above with two **CM** screws into the firewall. Also ensure that the small hole in the wiper linkage cam **33I** hooks over the end of the wiper transmission arm **30E** (figure 1).

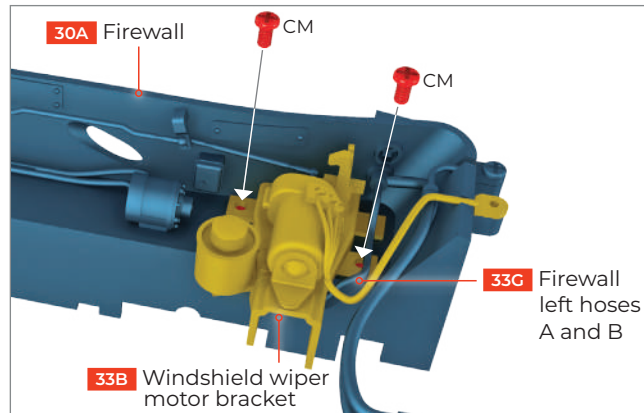
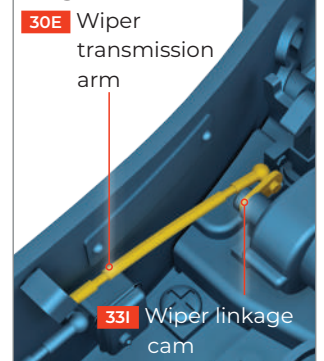
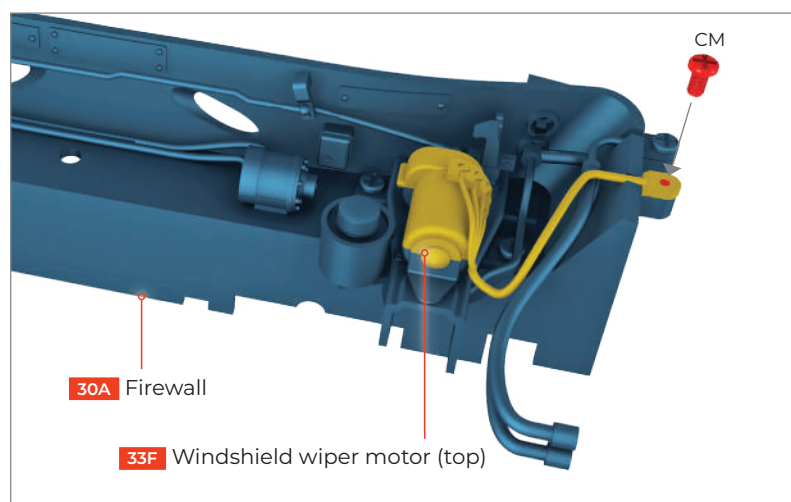


Fig. 1



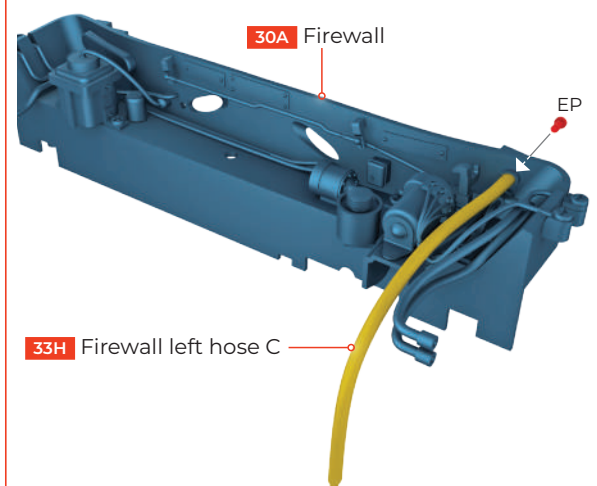
## 07 FIXING THE WIPER MOTOR CABLES

Fix the connection loop at the end of the windshield wiper motor cables **33F** over the screw hole at the front left edge of the firewall **30A** and fix it in place with a **CM** screw.



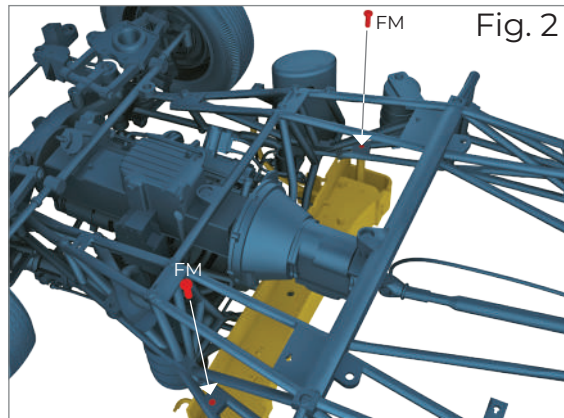
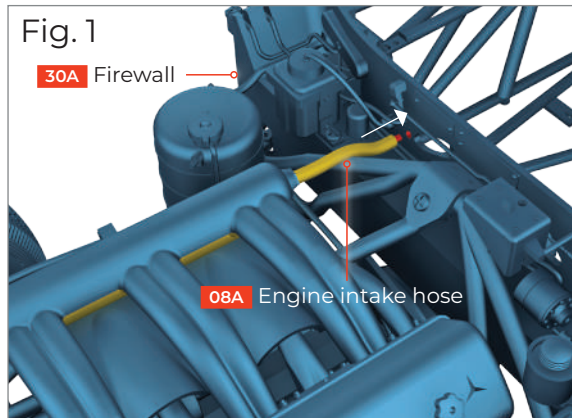
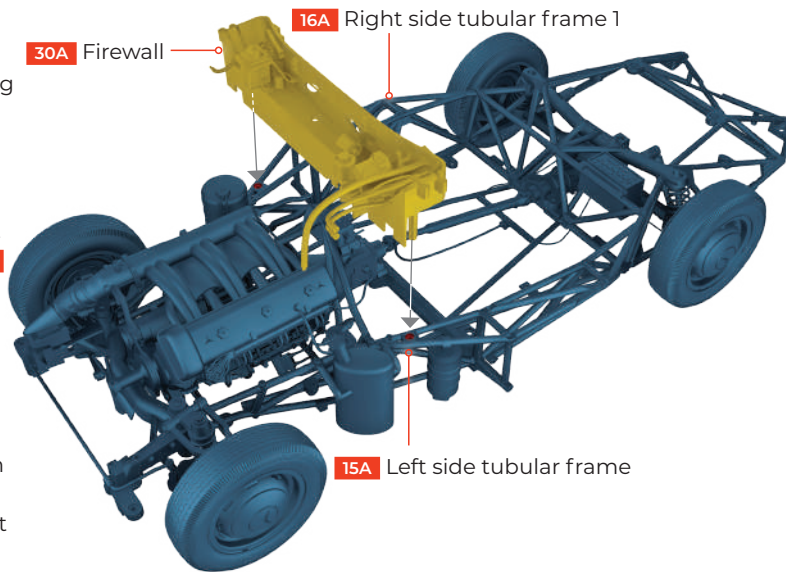
## 08 FITTING THE FIREWALL LEFT HOSE C

Fit the notched end of the firewall left hose C **33H** into the notched socket at the top left of the firewall **30A**, ensuring that the hose curves downwards. Fix with an **EP** screw from behind the firewall.



## 09 FITTING THE FIREWALL TO THE MAIN CHASSIS

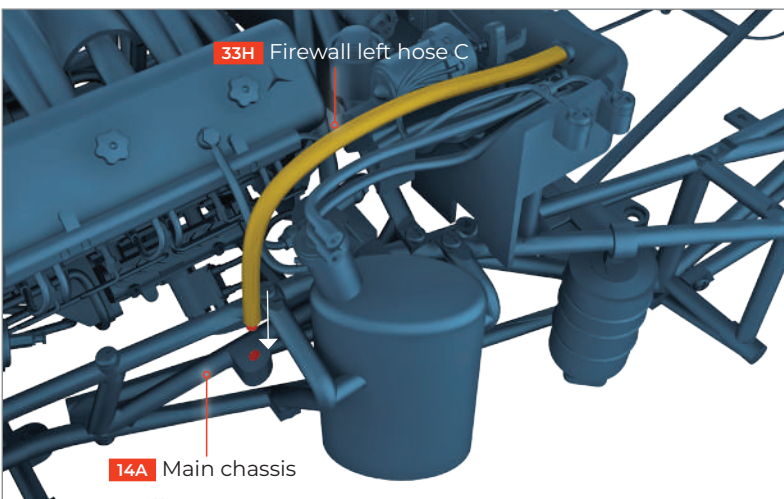
Insert the two posts on the underside of the assembled firewall **30A** into the corresponding sockets in left side tubular frame **15A** and in the right side tubular frame **16A**. Then push the pin on the end of the engine intake hose **08A** into the socket at the center right of the firewall **30A** (figure 1) as shown. Gently turn the chassis upside down, ensuring that the firewall remains in the correct position. Fix the left side of the firewall in position from underneath the left side tubular frame **15A** with an **FM** screw. Then fix the right side of the firewall in position from underneath the right side tubular frame **16A** with an **FM** screw (figure 2).



When fitting these parts to the firewall, take care not to damage the fragile windshield wiper parts fitted previously.

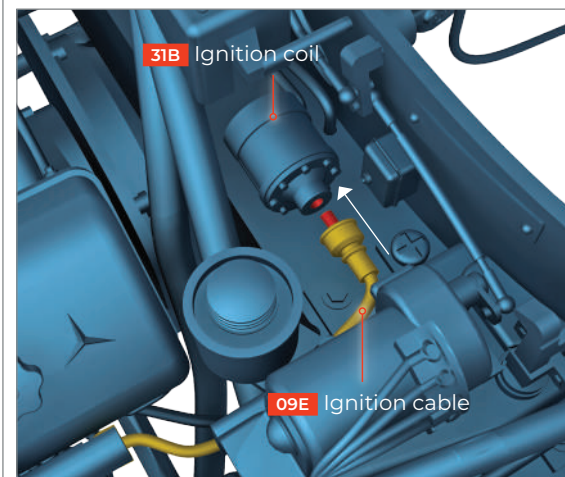
## 10 FITTING FIREWALL LEFT HOSE C

Push the pin on the end of firewall left hose C **33H** into the socket on the left side of the main chassis **14A**.



## 11 THE IGNITION CABLE

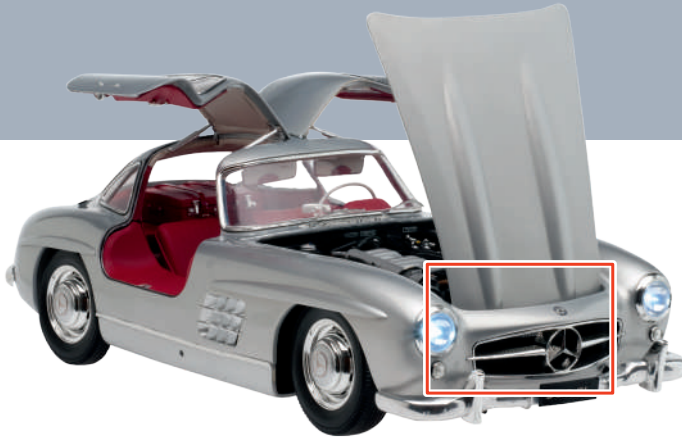
Using tweezers, push the free end of the ignition cable **09E** into the socket in the ignition coil **31B**.





## STAGE 34: THE RADIATOR

Begin to assemble the radiator with its hoses and radiator top.



### STAGE 34 – REQUIRED PARTS

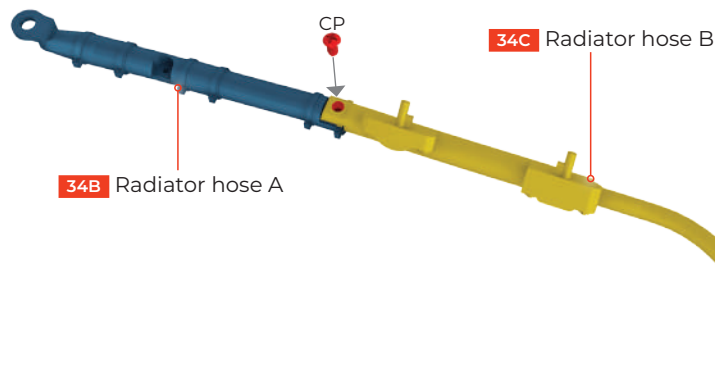
Code	Name	Quantity	Material
34A	Radiator housing	1	ABS
34B	Radiator hose A	1	ABS
34C	Radiator hose B	1	ABS
34D	Radiator top	1	ABS
34E	Radiator hose C	1	ABS
CP	Screws 1.7 x 3 x 4.5mm	1 + 1*	Iron
EP	Screws 1.7 x 4mm	2 + 1*	Iron
HP	Screws 2 x 4mm	1 + 1*	Iron
QP	Screws 2 x 3mm	1 + 1*	Iron

\* Replacement screws included

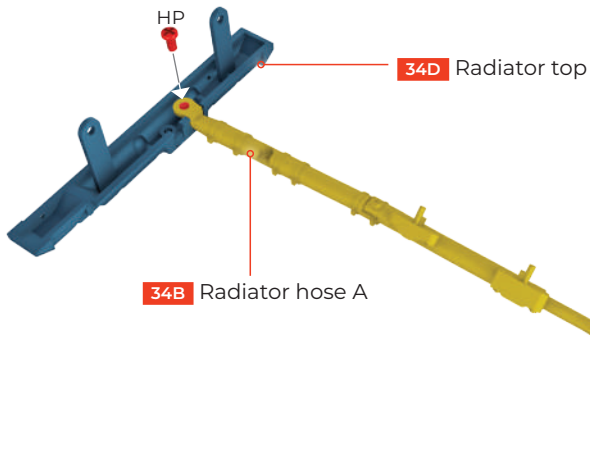


### 01 JOINING RADIATOR HOSES A AND B

Join the hoses A and B by fitting the tab at the end of radiator hose B (34C) over the recessed end of radiator hose A (34B). Fix in place with a CP screw.



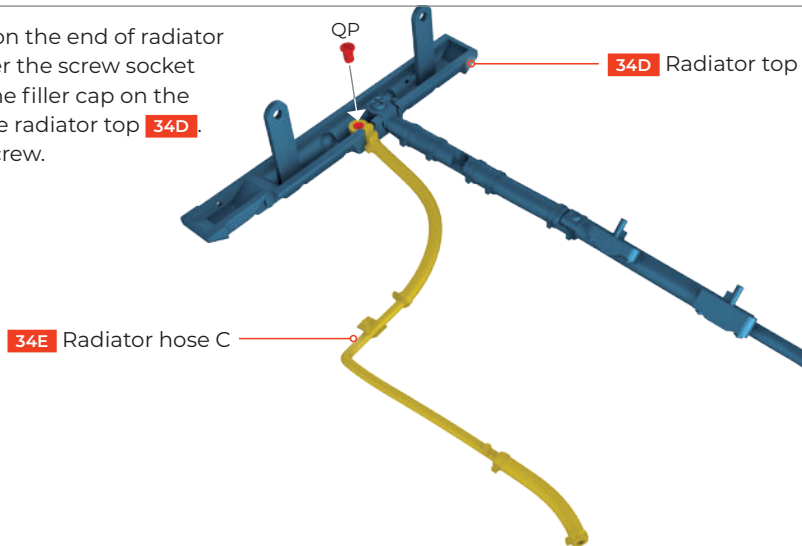
## 02 CONNECTING THE HOSES TO THE RADIATOR TOP



Fit the loop on the end of radiator hose A **34B** over the screw socket closest to the filler cap on the underside of the radiator top **34D**. Fix with an **HP** screw.

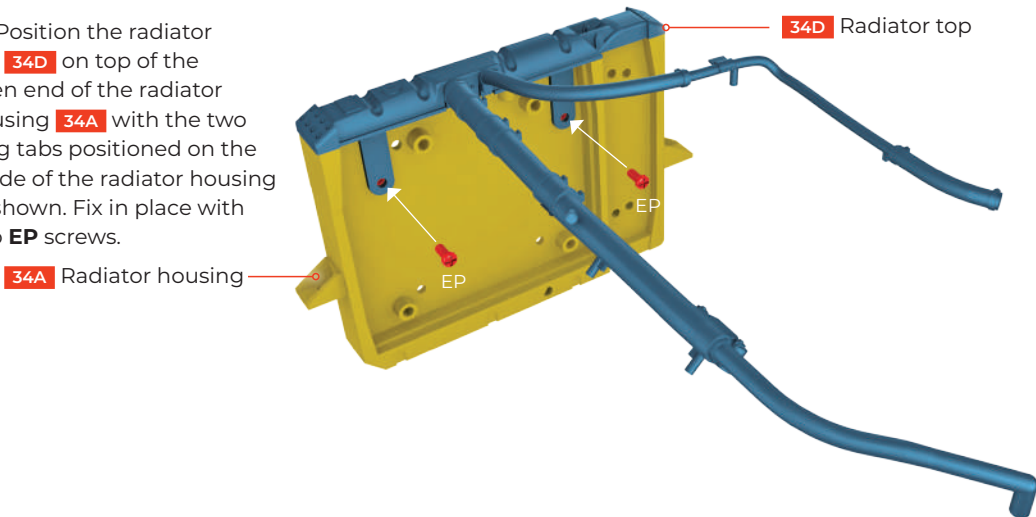
## 03 CONNECTING RADIATOR HOSE C

Fit the loop on the end of radiator hose C **34E** over the screw socket farthest from the filler cap on the underside of the radiator top **34D**. Fix with a **QP** screw.



## 04 FITTING THE RADIATOR TOP TO THE RADIATOR HOUSING

Position the radiator top **34D** on top of the open end of the radiator housing **34A** with the two long tabs positioned on the inside of the radiator housing as shown. Fix in place with two **EP** screws.



## STAGE 35: THE HONEYCOMB HEAT EXCHANGER

Fit the radiator honeycombs, cooled water return pipe, and oil cooler line to the radiator housing, then install the housing to the main chassis and engine.



### STAGE 35 – REQUIRED PARTS

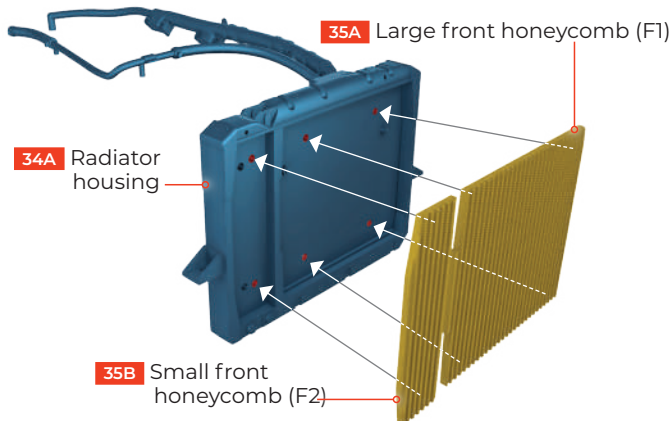
Code	Name	Quantity	Material
35A	Large front honeycomb (F1)	1	ABS
35B	Small front honeycomb (F2)	1	ABS
35C	Large rear honeycomb (R1)	1	ABS
35D	Small rear honeycomb (R2)	1	ABS
35E	Cooled water return pipe	1	ABS
35F	Oil cooler line	1	ABS
CM	Screws 2 x 4mm	2+1*	Iron

\* Replacement screws included



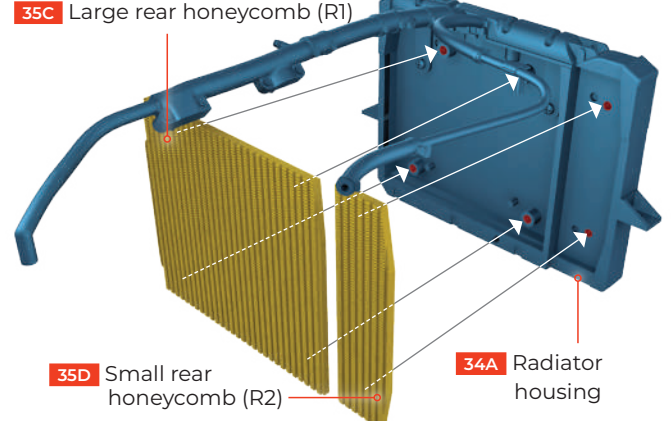
#### 01 FITTING THE FRONT HONEYCOMBS

Press the large front honeycomb **35A** – labeled F1 on the back – into its space on the front of the radiator housing **34A**, ensuring that the four pins on the back of the honeycomb align with the four holes in the housing. Then press the small front honeycomb **35B** – labeled F2 on the back – into the front of the housing **34A**, ensuring that the two pins on the back of the honeycomb align with the two holes in the housing.

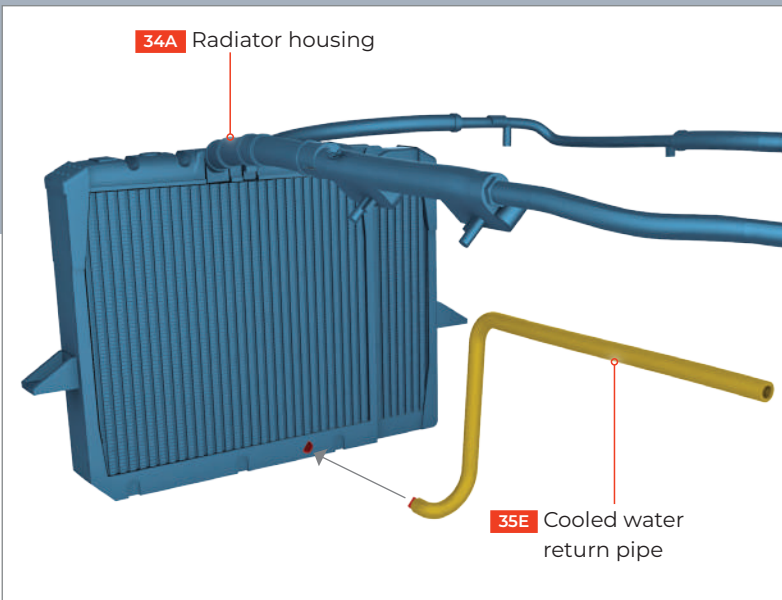


#### 02 FITTING THE REAR HONEYCOMBS

Press the large rear honeycomb **35C** – labeled R1 on the back – into its space in the rear of the radiator housing **34A**, ensuring that the four pins on the back of the honeycomb align with the four holes in the housing. Then press the small rear honeycomb **35D** – labeled R2 on the back – into the rear of the radiator housing **34A**, ensuring that the two pins on the back of the heat sink align with the two holes in the housing.



### 03 FITTING THE COOLED WATER PIPE



### COLOR CODING

The color coding of the parts shows how they should be put together.

**RED** indicates the screws and the correct position.

**YELLOW** indicates new parts.

**GRAY-BLUE** indicates the modules on which the new parts should be assembled.

Push the half-round pin on the end of the cooled water pipe **35E** into the half-round socket at the bottom rear of the radiator housing **34A**, ensuring that the pipe is angled as shown.

### 04 INSTALLING THE RADIATOR ASSEMBLY

Take the assembled radiator housing **34A** and position it in front of the engine bay, as shown. Slide the end of the cooled water pipe **35E** along the right side of the engine until you can push the end onto the pin protruding forwards from the water pump **10G**. Then lower the radiator housing so that the bracket on each side sits on the main chassis **14A** (figure 1). Now push the pin on the end of radiator hose B **34C** down into the socket in the front center of the firewall **30A** (figure 2). Finally, fix the radiator to the main chassis with two **CM** screws through the brackets from above (figure 3).

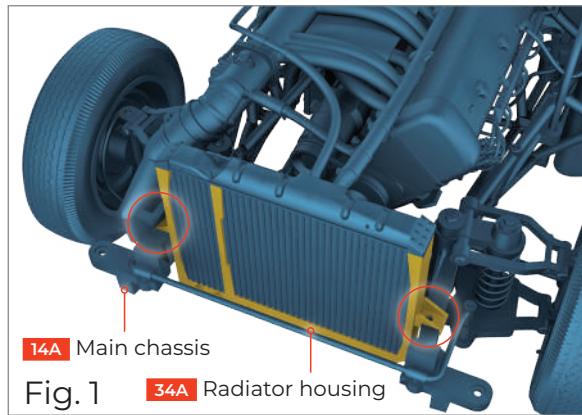
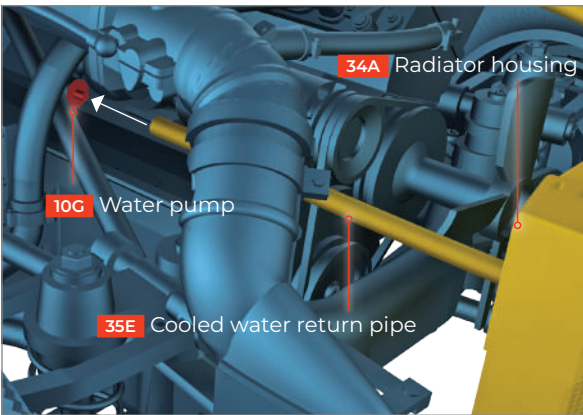


Fig. 1 **34A** Radiator housing

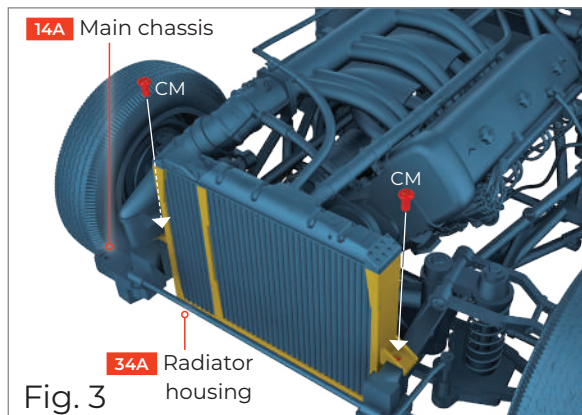
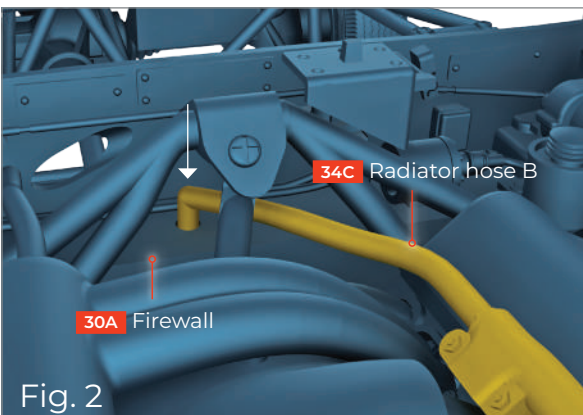
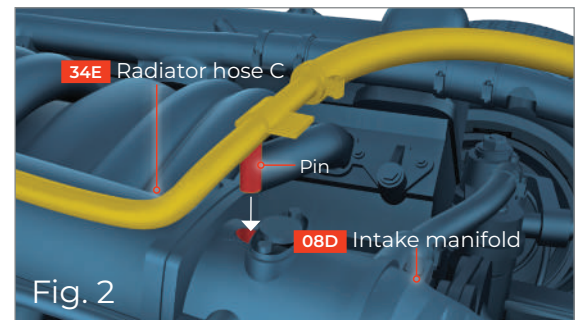
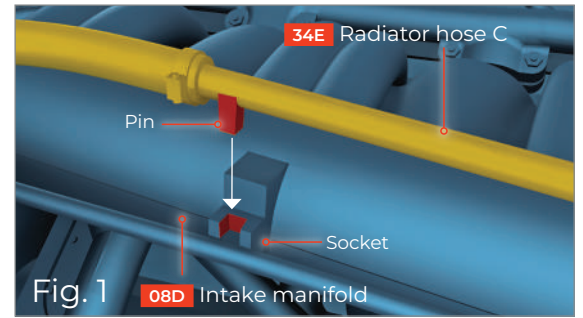
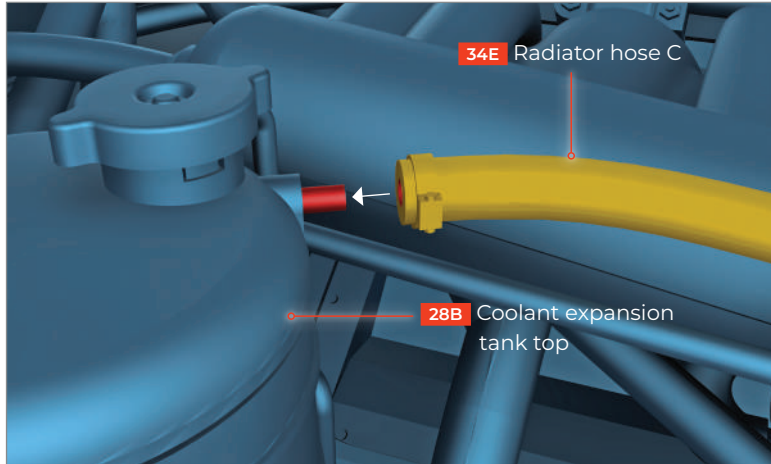


Fig. 3 **34A** Radiator housing

Take care when fitting the radiator and hoses to avoid damaging or dislodging any other previously fitted delicate engine parts.

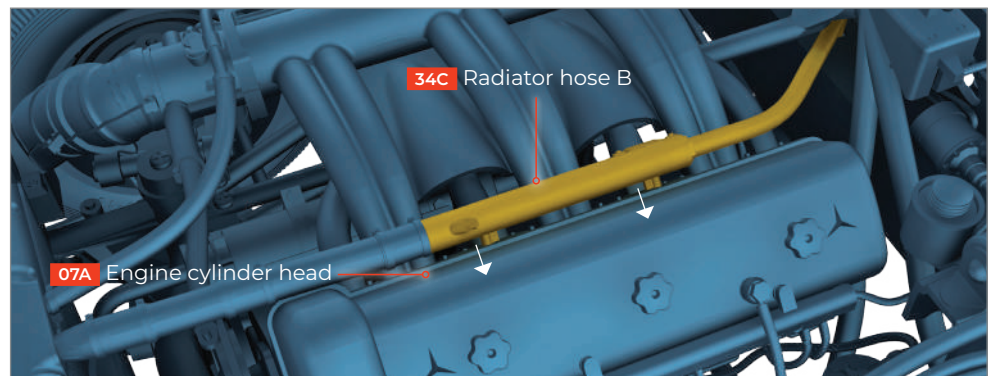
## 05 FITTING RADIATOR HOSE C TO THE COOLANT EXPANSION TANK

Push the end of radiator hose C **34E** onto the pin on the top side of the coolant expansion tank **28B**. Insert the pin pointing downward midway along radiator hose C **34E** into the socket on the side of the intake manifold **08D** (figure 1). Then insert the pin pointing downwards near the right-angle bend in radiator hose C **34E** into the socket at the top front end of the intake manifold **08D** (figure 2).



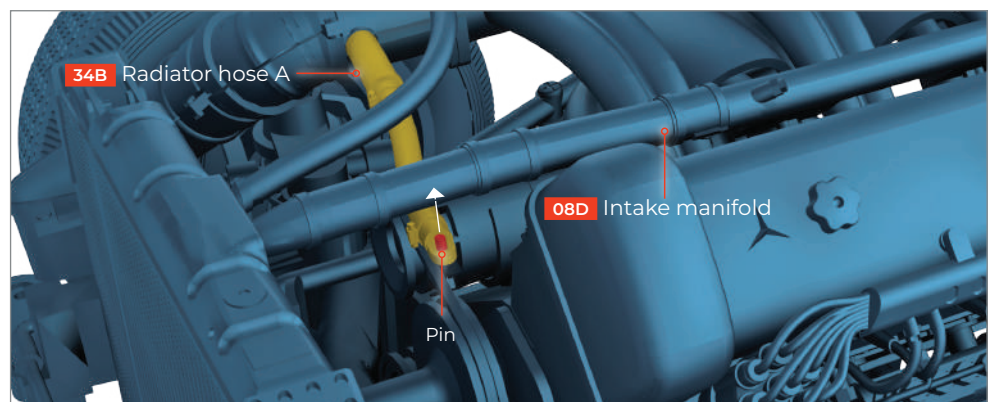
## 06 FITTING RADIATOR HOSE B TO THE CYLINDER HEAD

Push the two pins beneath radiator hose B **34C** into the two sockets at the upper right side of the engine cylinder head **07A**.

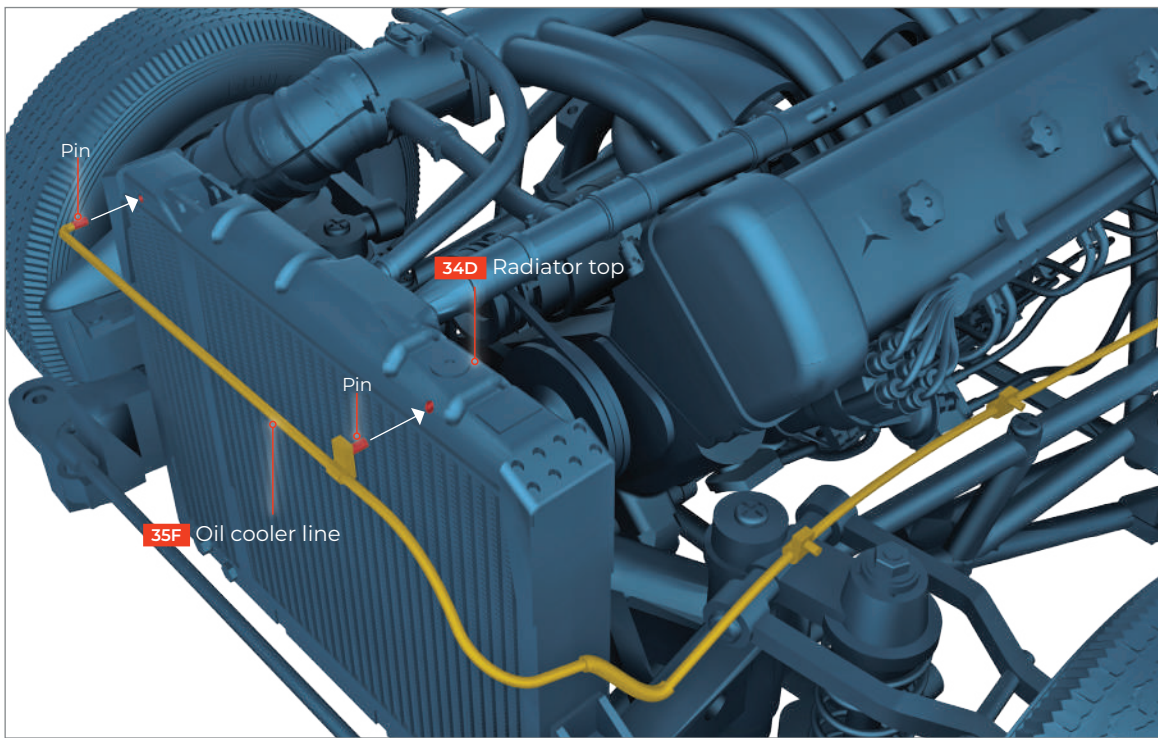


## 07 FITTING RADIATOR HOSE A TO THE INTAKE MANIFOLD (EXTERIOR)

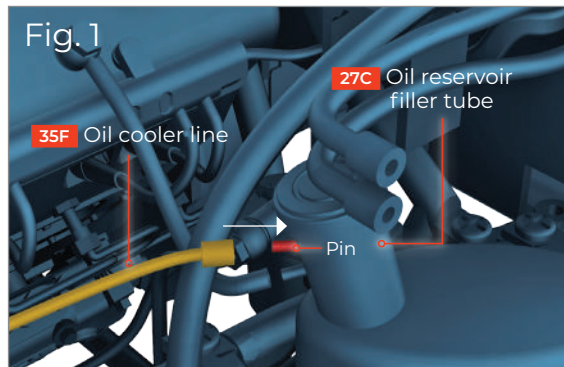
Push the pin protruding from the radiator hose A **34B** into the hole in the end of intake manifold **08D**.



## 08 INSTALLING THE OIL COOLER LINE



Align the shortest length of the oil cooler line **35F** along the front of the radiator top **34D**. Push the two pins on this section of line into the two corresponding holes in the top of the radiator **34D**. Now push the the socket at the end of the longest side of the oil cooler line **35F** onto the upper pin on the oil reservoir filler tube **27C** (figure 1).



## 09 FITTING THE CYLINDER HEAD OIL LINE

Push the end of the cylinder head oil line **09C** onto the lower pin on the oil reservoir filler tube **27C**.

