

1955

MERCEDES-BENZ

# 300 SL

GULLWING



# Pack 03

## BUILD INSTRUCTIONS

STAGE 11: THE ENGINE FAN

STAGE 12: OIL LINES AND  
HIGH-PRESSURE OIL LINE

STAGE 13: THE GEARBOX AND  
CLUTCH HOUSINGS

STAGE 14: FITTING THE ENGINE  
TO THE CHASSIS

STAGE 15: THE LEFT CHASSIS

STAGE 16: THE RIGHT CHASSIS

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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 11: THE ENGINE FAN

In this stage, you will put together the engine fan assembly with its fan belt and pulleys, then fit them onto the Mercedes 300 SL engine block.



### STAGE 11 - REQUIRED PARTS

Code	Name	Quantity	Material
11A	Fan drive shaft	1	ABS
11B	Fan blades	1	ABS
11C	Pulley (fan)	1	ABS
11D	Fan support backplate	1	ABS
11E	Crankshaft damper pulley	1	ABS
11F	Pulley (crankshaft)	1	ABS
11G	Fan belt	1	PVC
CM	Screws 2 x 4mm	2 + 1*	Iron

\* Replacement screws included

### COLOR CODING

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

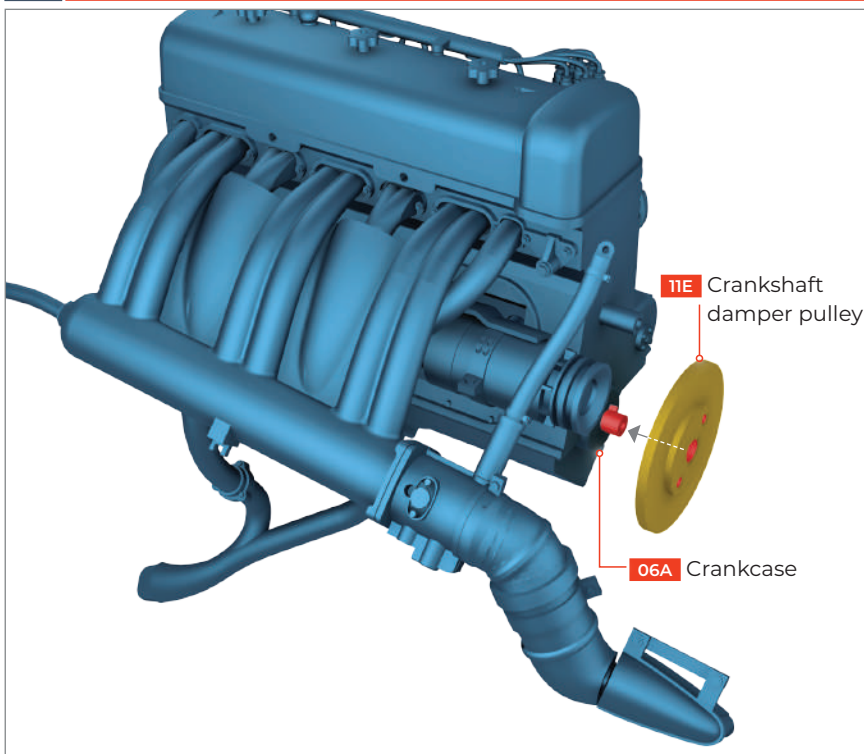
**RED** indicates the screws and the correct position.

**YELLOW** indicates new parts.

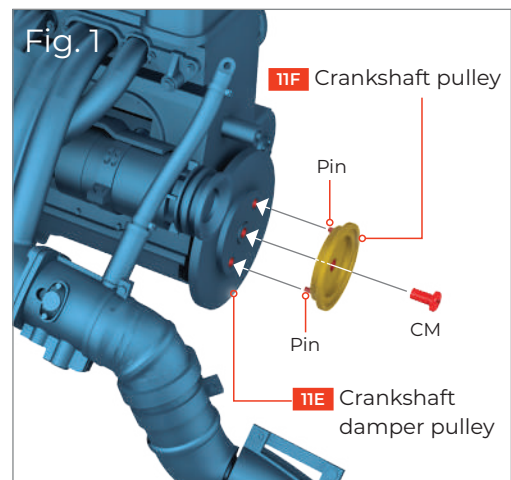
**GRAY-BLUE** indicates the modules on which the new parts should be assembled.



### 01 FITTING THE CRANKSHAFT DAMPER AND THE PULLEY

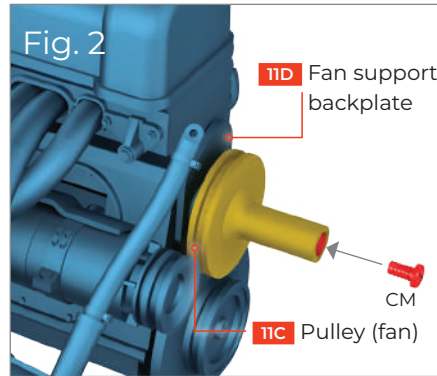
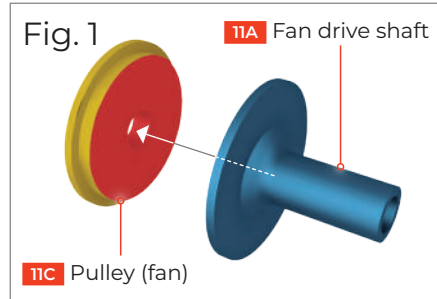
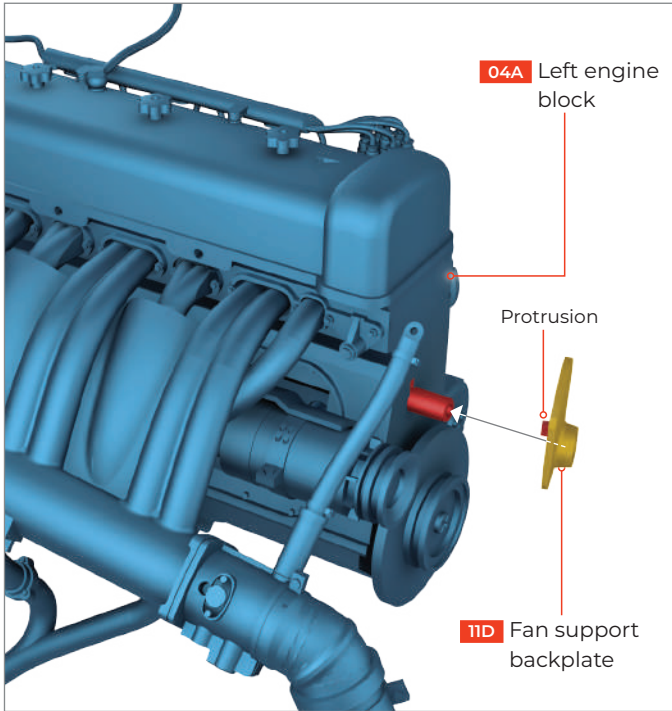


The crankshaft damper pulley **11E** is fitted onto the crankshaft with its widest side facing the engine **06A**. Then the smaller crankshaft pulley **11F** is inserted onto the shaft, with the narrowest side facing the damper **11E**, forming a channel. Both pins on the pulley must be inserted into the holes in the crankshaft damper. Join these parts together with a **CM** screw.



## 02 FITTING THE FAN SUPPORT BACKPLATE

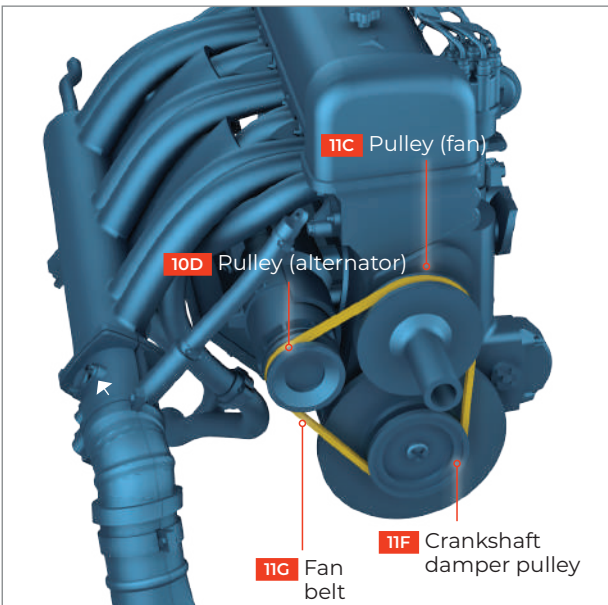
The fan support backplate **11D** is inserted onto the shaft at the front end of the engine block **04A** so that the protrusion on the back slides into its corresponding recess on the engine block. Then the fan pulley **11C** and the fan drive shaft **11A** are fitted as shown in figure 1. Both parts are pushed all the way onto the shaft on the front end of the engine block. This assembly is fixed in place with a **CM** screw inserted into the end of the fan drive shaft.



Be very careful when inserting the pulley onto the engine, to avoid damaging any of the parts that are already assembled.

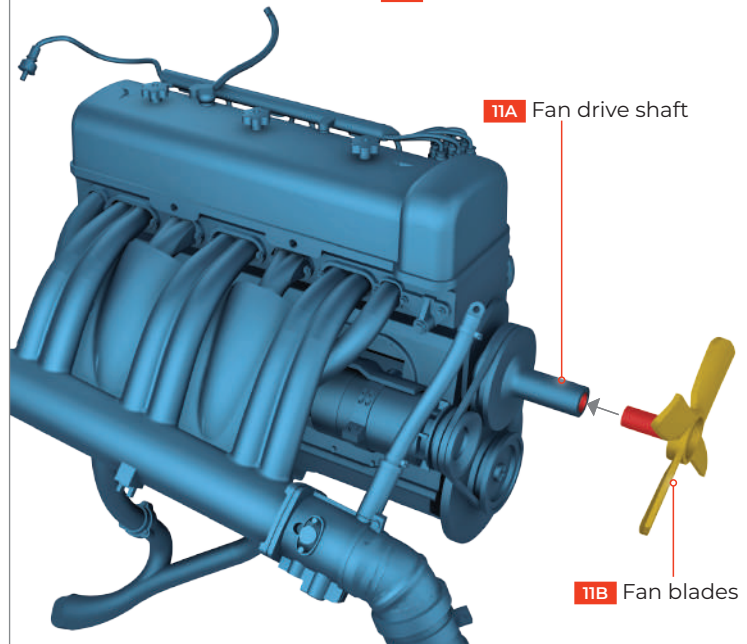
## 03 FITTING THE FAN BELT

The fan belt **11G** is tensioned around the fan pulley **11C**, the crankshaft damper pulley **11F**, and the alternator pulley **10D**, as shown in the picture.



## 04 FITTING THE FAN BLADES

The shaft of the fan blades **11B** is inserted all the way into the central hole of the fan drive shaft **11A**.



## STAGE 12: OIL LINES AND HIGH-PRESSURE OIL LINE

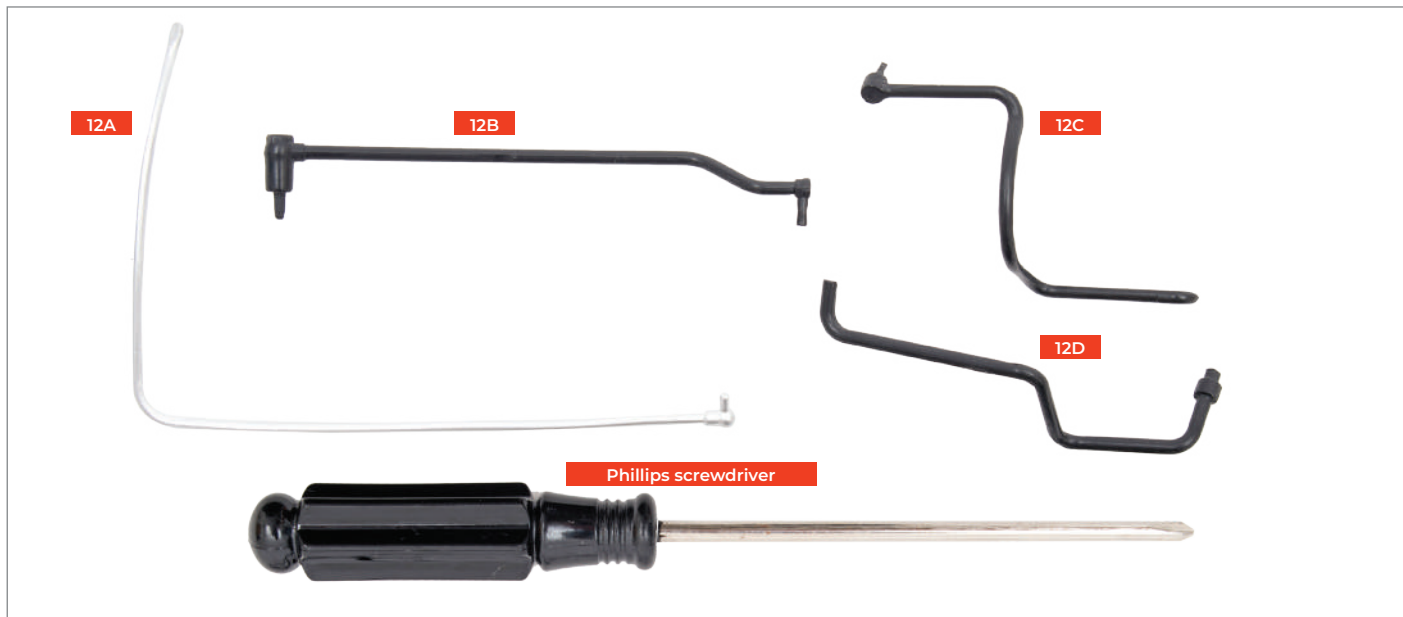
In this stage, we explain how to install the three oil lines and the high-pressure line.



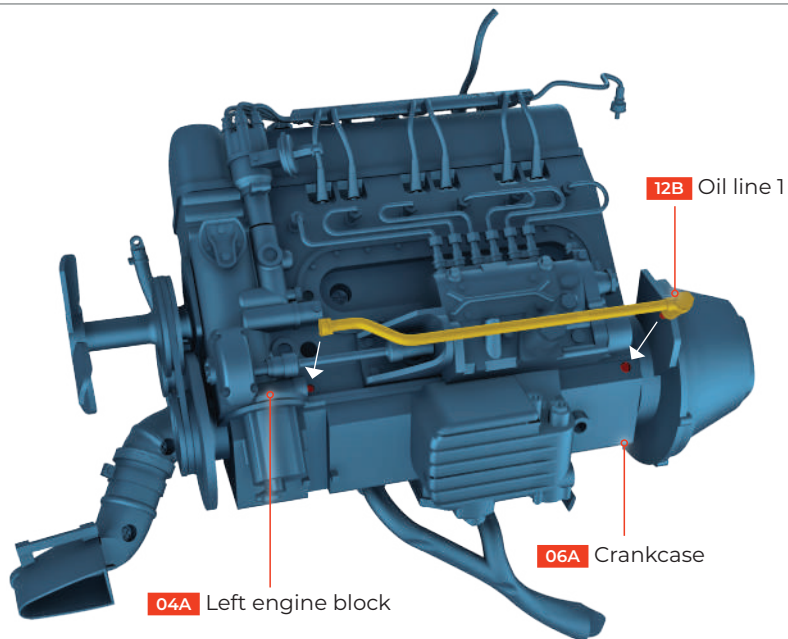
### STAGE 12 – REQUIRED PARTS

Code	Name	Quantity	Material
12A	High-pressure oil line	1	ABS
12B	Oil line 1	1	ABS
12C	Oil line 2	1	ABS
12D	Oil line 3	1	ABS
-	Phillips screwdriver	1	-

\* Replacement screws included

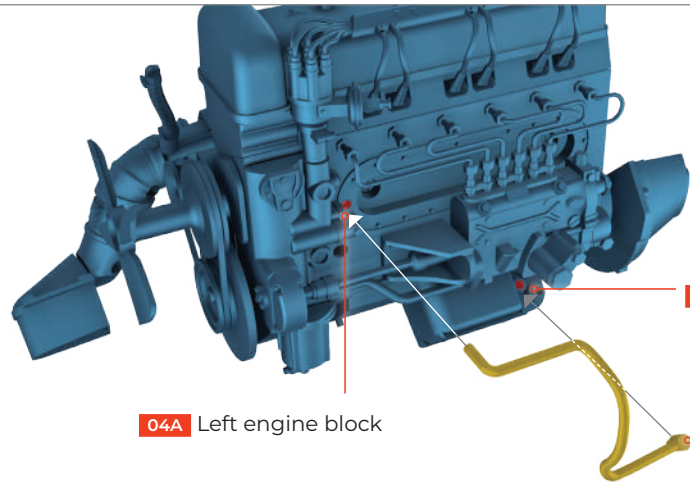


### 01 INSTALLING THE FIRST OIL LINE



The pin on the straight end of oil line 1 **12B** is inserted into the hole in the lower back end of the left side of the crankcase **06A**, as shown. The pin on the angled end of the oil line **12B** is pressed into the hole in the lower front end of the left side of the engine **04A**, as shown.

## 02 INSTALLING THE SECOND OIL LINE



The thicker end of oil line 2 **12C** is inserted in the upper hole at the bottom of the crankcase **06A**. The other end of oil line 2 **12C** is pressed into the hole in the the left engine block **04A**, as shown.

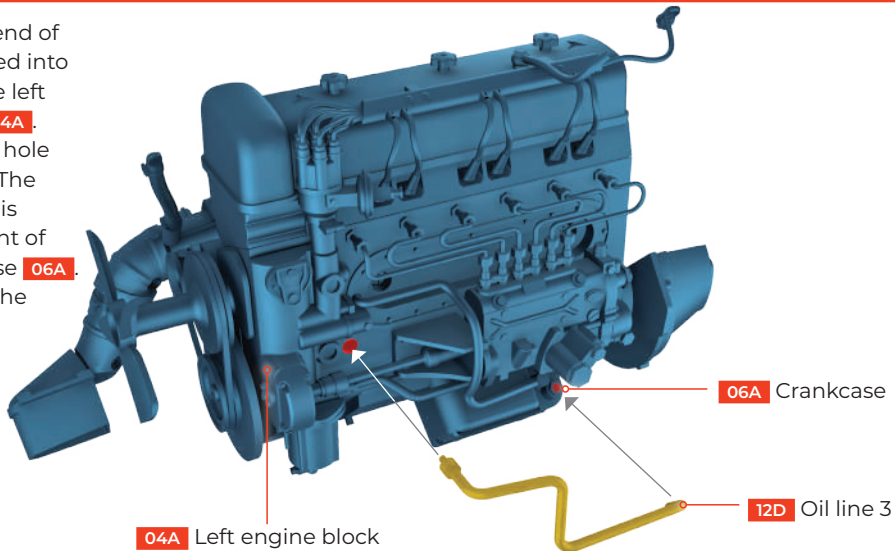
**06A** Crankcase

**04A** Left engine block

**12C** Oil line 2

## 03 INSTALLING THE THIRD OIL LINE

The pin on the thicker end of oil line 3 **12D** is also inserted into a hole at the bottom of the left side of the engine block **04A**. It is located just below the hole used in the previous step. The other end of oil line 3 **12D** is inserted into the lower front of the middle of the crankcase **06A**. The hole is slightly below the wide end of oil line 2.



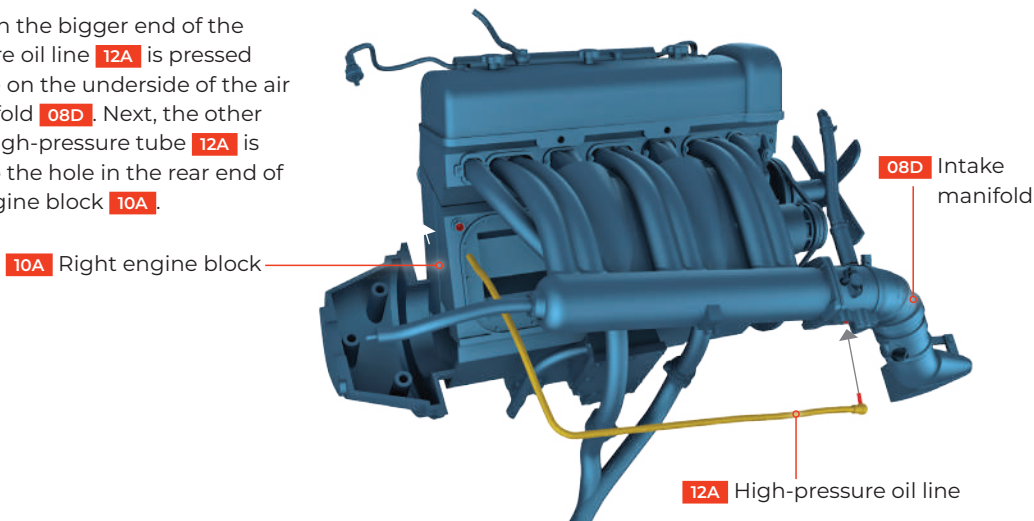
**06A** Crankcase

**04A** Left engine block

**12D** Oil line 3

## 04 INSTALLING THE HIGH-PRESSURE LINE

The pin on the bigger end of the high-pressure oil line **12A** is pressed into the hole on the underside of the air intake manifold **08D**. Next, the other end of the high-pressure tube **12A** is inserted into the hole in the rear end of the right engine block **10A**.



**08D** Intake manifold

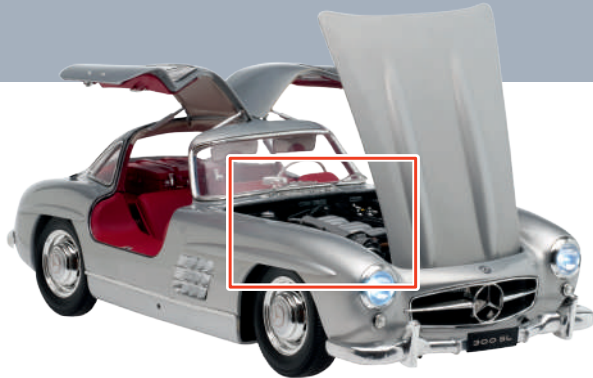
**10A** Right engine block

**12A** High-pressure oil line

Be very careful when inserting the oil lines, to avoid damaging any of the parts that are already assembled.

## STAGE 13: THE GEARBOX AND CLUTCH HOUSINGS

In this stage, you will assemble the gearbox and clutch housings. Later, both parts will be fixed to the rear end of the engine.



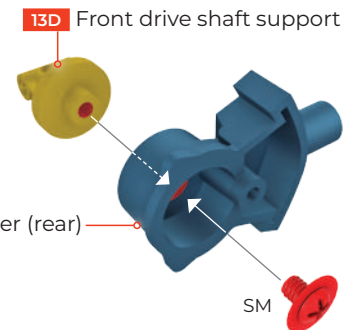
### STAGE 13 – REQUIRED PARTS

Code	Name	Quantity	Material
13A	Gearbox housing (left)	1	Zinc
13B	Gearbox housing (right)	1	Zinc
13C	Gearshift housing cover (front)	1	Zinc
13D	Front drive shaft support	1	Zinc
13E	Clutch housing	1	Zinc
13F	Gearshift housing cover (rear)	1	Zinc
MM	Screws 2.3 x 4mm	5 + 2*	Iron
SM	Screws 2 x 3 x 6.5mm	3 + 1*	Iron

\* Replacement screws included

#### 01 THE FRONT DRIVESHAFT SUPPORT

The front drive shaft support **13D** is positioned on the rear gearshift housing cover **13F**, as shown in the picture. Fix it in place with an **SM** screw.



**13F** Gearshift housing cover (rear)

#### 02 THE RIGHT GEARSHIFT HOUSING COVER

Semi-tighten an **SM** screw just one or two turns into the internal hole of the gearshift housing cover **13C**. Do the same in the internal hole of the gearshift housing cover **13F**. Housing cover **13F** and housing cover **13C** are positioned together with the right gearbox housing **13B**, as shown in the picture, so that the necks of both screws rest inside **13B** (see figure 1). Gently tighten both screws.

**13C** Gearshift housing cover (front)

**13F** Gearshift housing cover (rear)

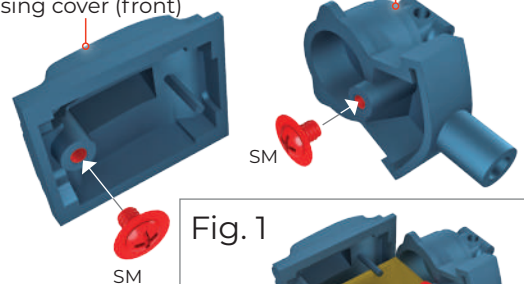


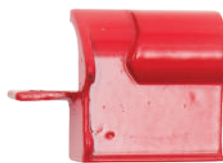
Fig. 1

**13B** Gearbox housing (right)

13A



13B



13C



13D



13E

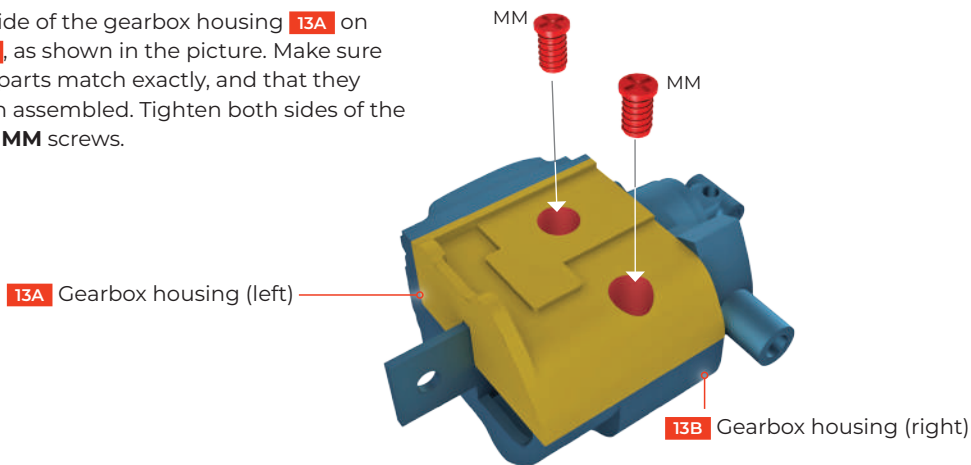


13F



### 03 ASSEMBLING THE GEARBOX HOUSING

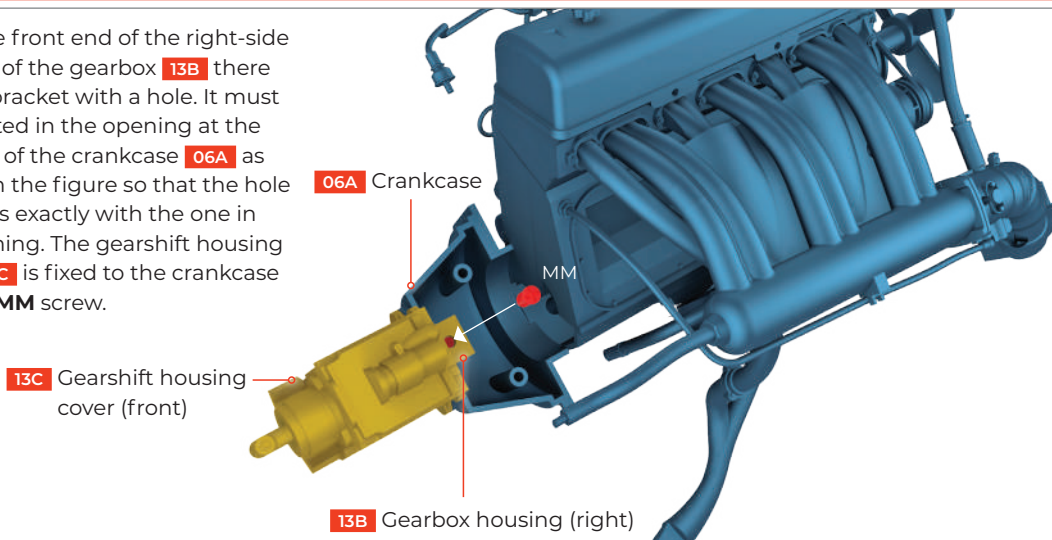
Place the left side of the gearbox housing **13A** on the right side **13B**, as shown in the picture. Make sure the holes of both parts match exactly, and that they stay in place when assembled. Tighten both sides of the housing with two **MM** screws.



The self-tapping screws create their own thread when they are screwed in. For a perfect thread, first screw in halfway and then remove the screw. Remove all the shavings and then insert and tighten the screw all the way in, holding the screwdriver tightly and applying firm pressure.

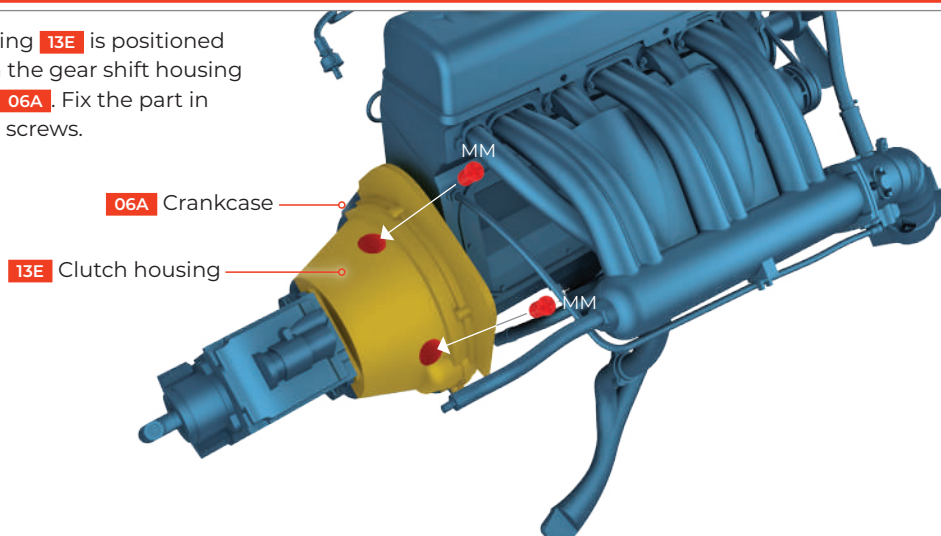
### 04 COMPLETING THE ASSEMBLY OF THE GEARBOX HOUSING

At the front end of the right-side housing of the gearbox **13B** there is a flat bracket with a hole. It must be inserted in the opening at the rear end of the crankcase **06A** as shown in the figure so that the hole coincides exactly with the one in the opening. The gearshift housing cover **13C** is fixed to the crankcase with an **MM** screw.



### 05 ASSEMBLING THE CLUTCH HOUSING

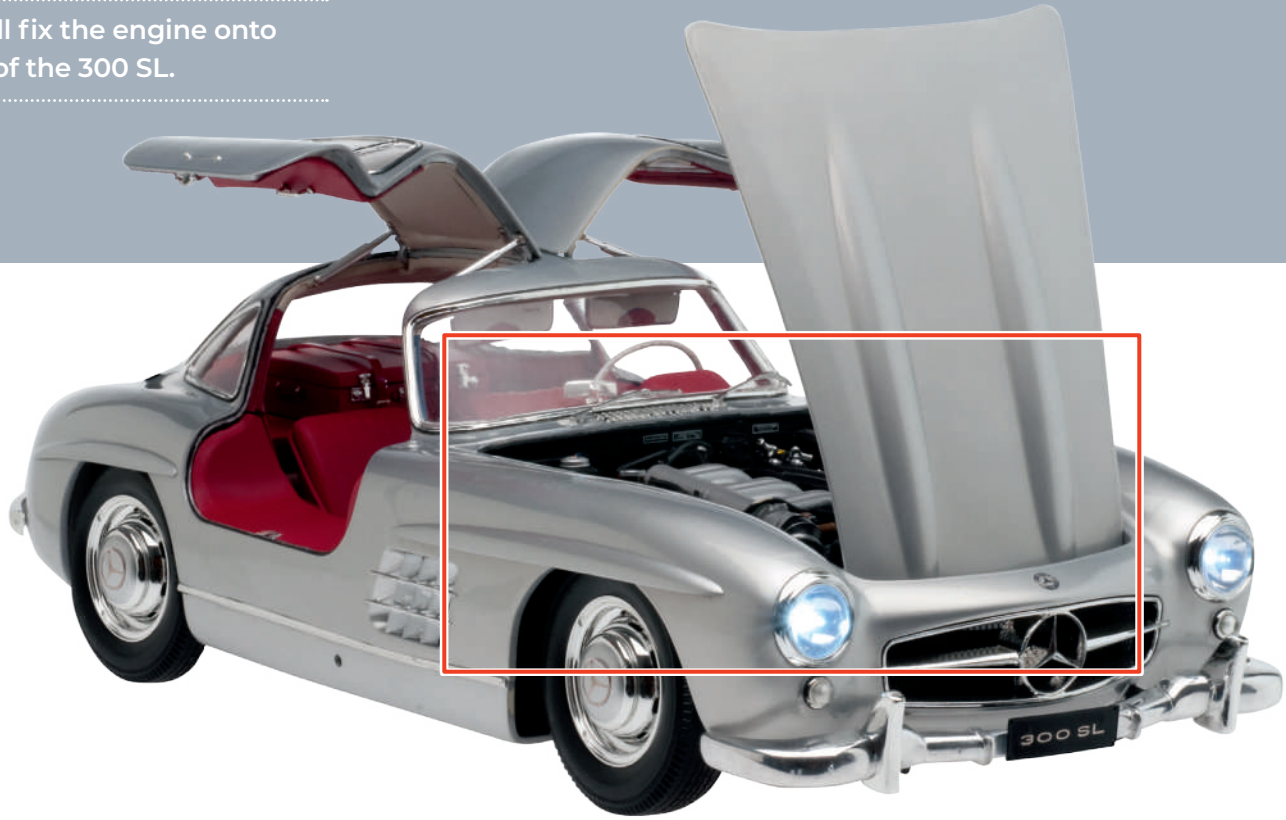
The clutch housing **13E** is positioned as shown, between the gear shift housing and the crankcase **06A**. Fix the part in place with two **MM** screws.





## STAGE 14: FITTING THE ENGINE TO THE CHASSIS

In this stage, you will fix the engine onto the tubular chassis of the 300 SL.



### STAGE 14 – REQUIRED PARTS

Code	Name	Quantity	Material
14A	Main chassis	1	Zinc
QM	Screws 2.6 x 5mm	2 + 1*	Iron

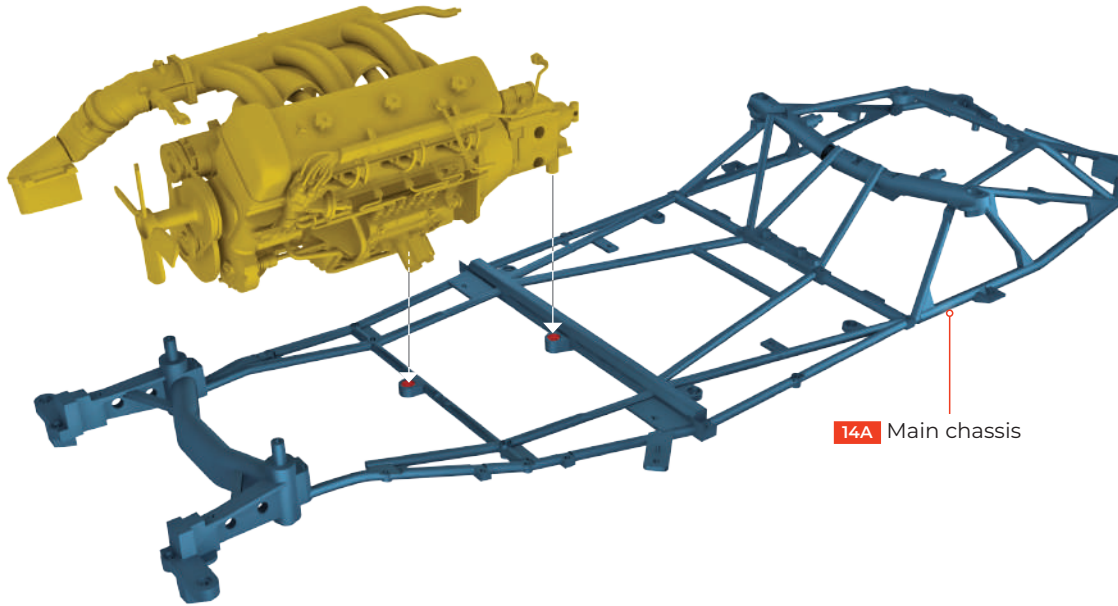
\* Replacement screws included

14A Main chassis



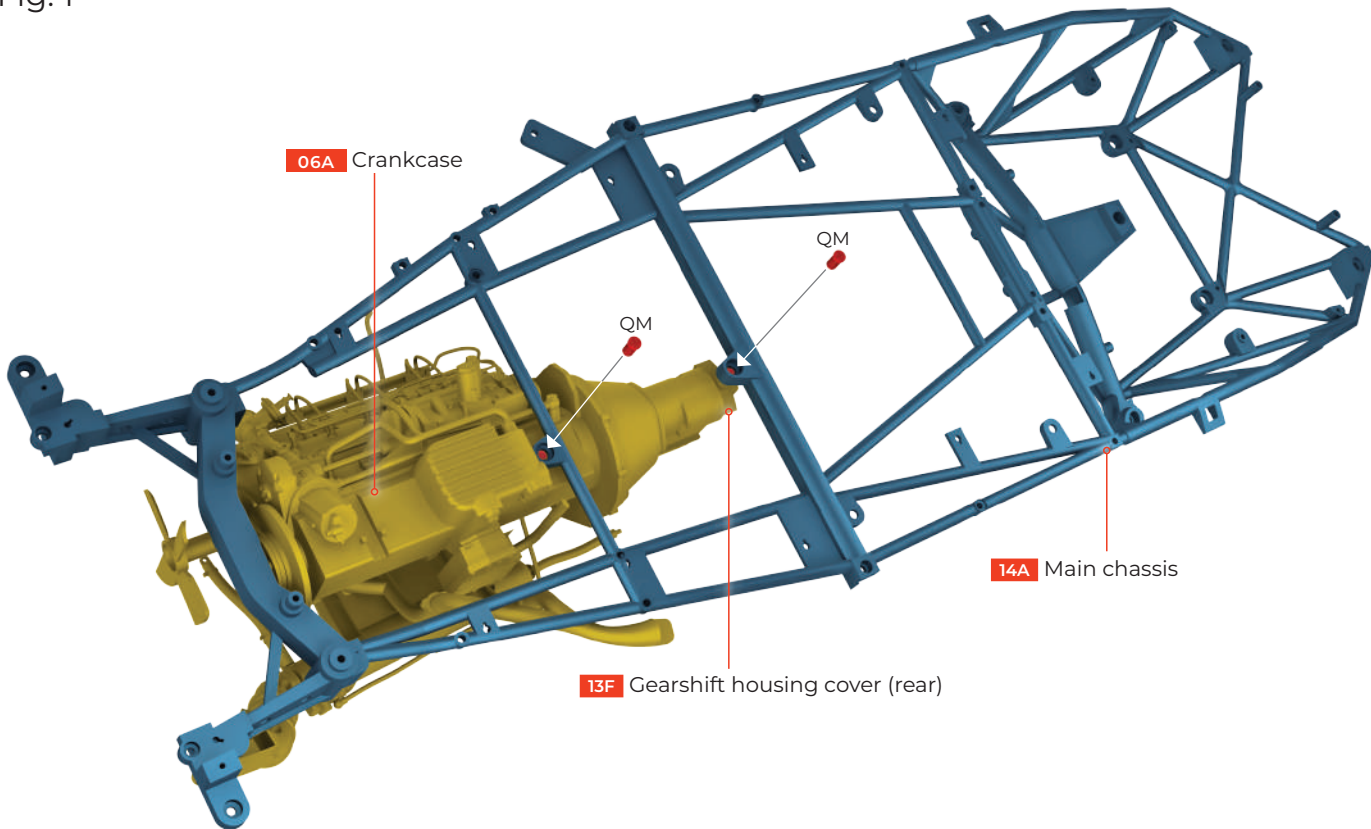
## 01 FITTING THE ENGINE TO THE TUBULAR CHASSIS

This installment explains how to assemble the complete engine group from stage 13 with the front part of the main chassis **14A**. First, the motor is placed on the chassis as shown in the picture. Hold both pieces in this position and turn the assembly upside down. Next, one **QM** screw is inserted in the rear hole of the crankcase **06A** and another in the hole in the rear end of the gearshift housing cover **13F** (see figure 1).



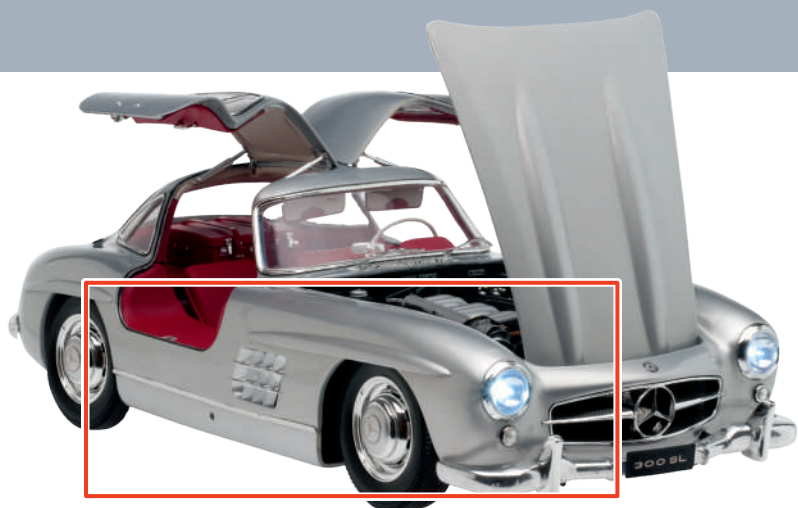
To avoid scratches, it is recommended that you place the chassis on a soft cloth before starting. Be very careful when turning the assembly over, to avoid damaging any of the parts.

Fig. 1



## STAGE 15: THE LEFT CHASSIS

In this stage, you will join the four pieces of the left frame to the main chassis. You will also assemble the fuel filter and the fuel lines.



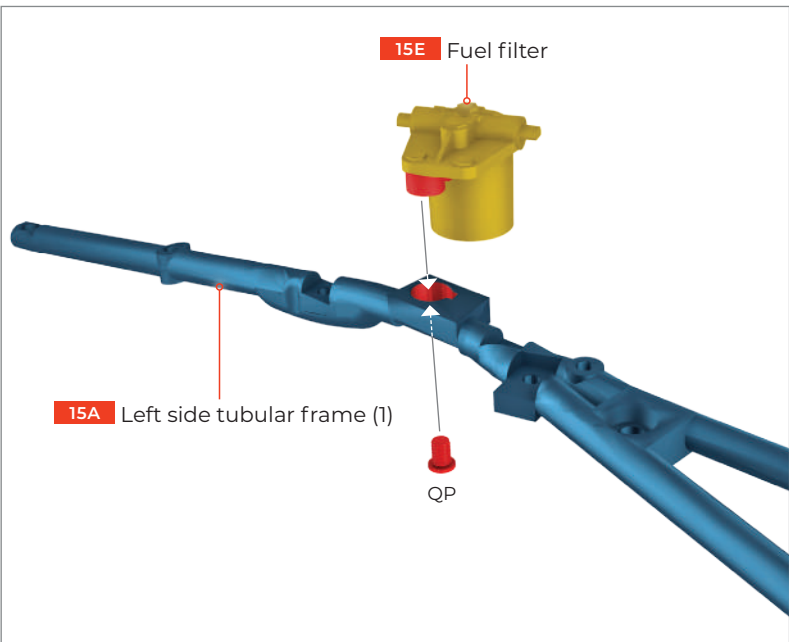
### STAGE 15 – REQUIRED PARTS

Code	Name	Quantity	Material
15A	Left side tubular frame (1)	1	Zinc
15B	Left side tubular frame (2)	1	Zinc
15C	Left side tubular frame (3)	1	Zinc
15D	Left side tubular frame (4)	1	Zinc
15E	Fuel filter	1	ABS
15F	Fuel line (1)	1	ABS
15G	Fuel line (2)	1	ABS
CM	Screws 2 × 4 mm	3 + 1*	Iron
EM	Screws 2 × 5 mm	5 + 1*	Iron
FM	Screws 2 × 6 mm	5 + 1*	Iron
GM	Screws 2 × 7 mm	1 + 1*	Iron
QP	Screws 2 × 3 mm	1 + 1*	Iron

\* Replacement screws included



**01 ASSEMBLING THE FUEL FILTER**

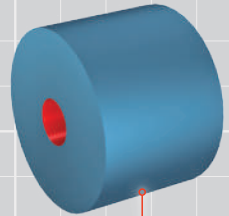


**COLOR CODING**

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

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

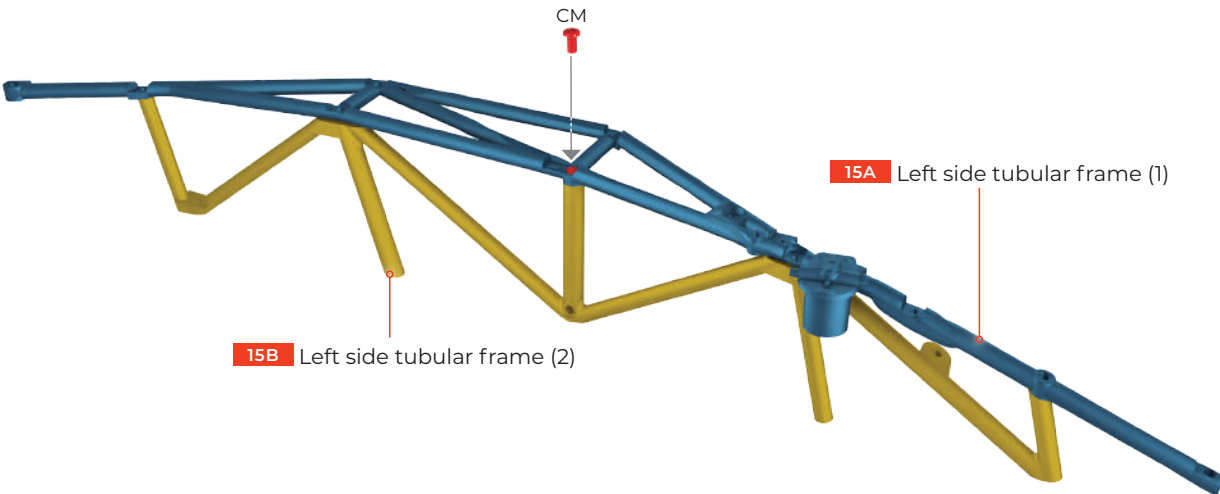
**YELLOW** indicates the new parts.



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

There is a small stud under the fuel filter **15E**. Fit it into the corresponding hole in the front of the left side tubular frame (1) **15A**, as shown in the figure. These two parts are to be fixed with a **QP** screw.

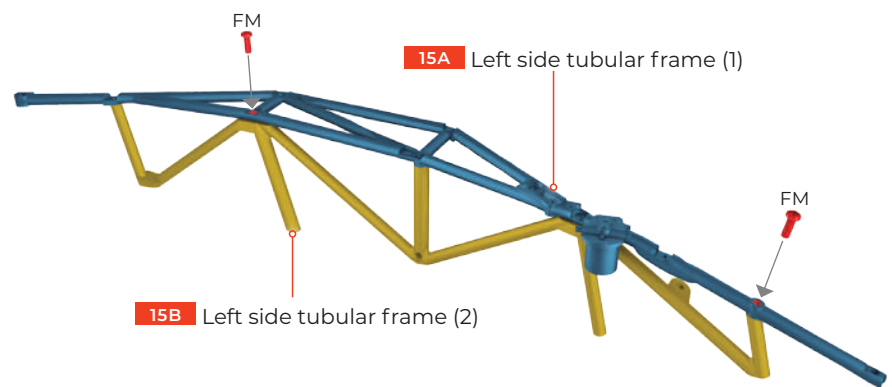
**02 ASSEMBLING THE LEFT FRAME (1) TO LEFT FRAME (2)**



Both parts of the chassis must be carefully examined before assembly, to ensure a proper fit.

The left side tubular frame (2) **15B** is positioned as illustrated, pointing towards left frame (1) **15A**. The center cross member of left frame (2) **15B** is positioned onto left frame (1) **15A**, as shown in the picture, and both parts are joined with a **CM** screw. The front cross member of left frame (2) **15B** is placed vertically under the screw hole that is about 1.4in (35mm) from the front end of frame (1) **15A**. Secure both parts with an **FM** screw. The screw hole at the center of the vertex of the rear triangle of frame (2) **15B** fits into the socket which is about 3.5in (87mm) from the rear end of frame (1) **15A**. Fix both parts with an **FM** screw (figure 1).

Fig. 1



**03 FITTING LEFT FRAME (3)**

■ Left frame (3) **15C** is positioned onto left frame (1) **15A**, as shown in the picture. The apex of left frame (3) **15C** is screwed to frame (1) **15A** by inserting an **EM** screw from above. The back end of frame (3) **15C** is fixed to frame (1) **15A** with a **CM** screw (figure 1). The other end of frame (3) **15C** is fixed to the bottom of frame (2) upright **15B** with an **EM** screw (figure 1).

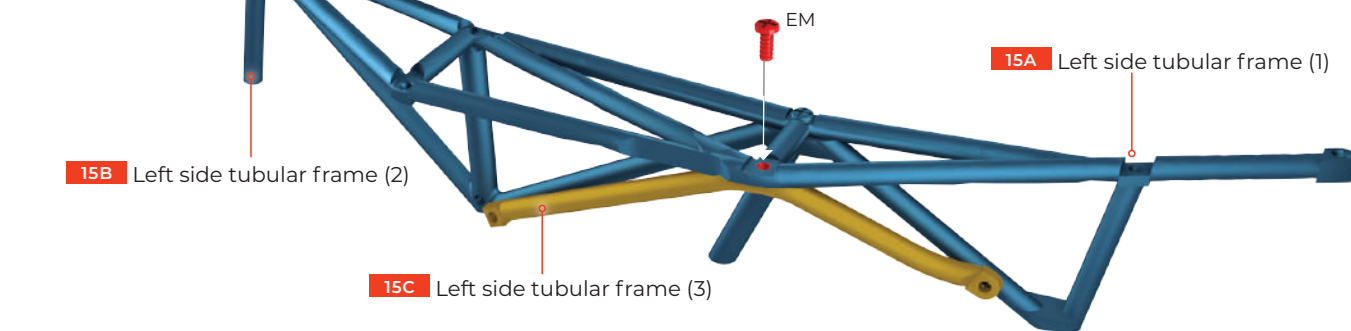
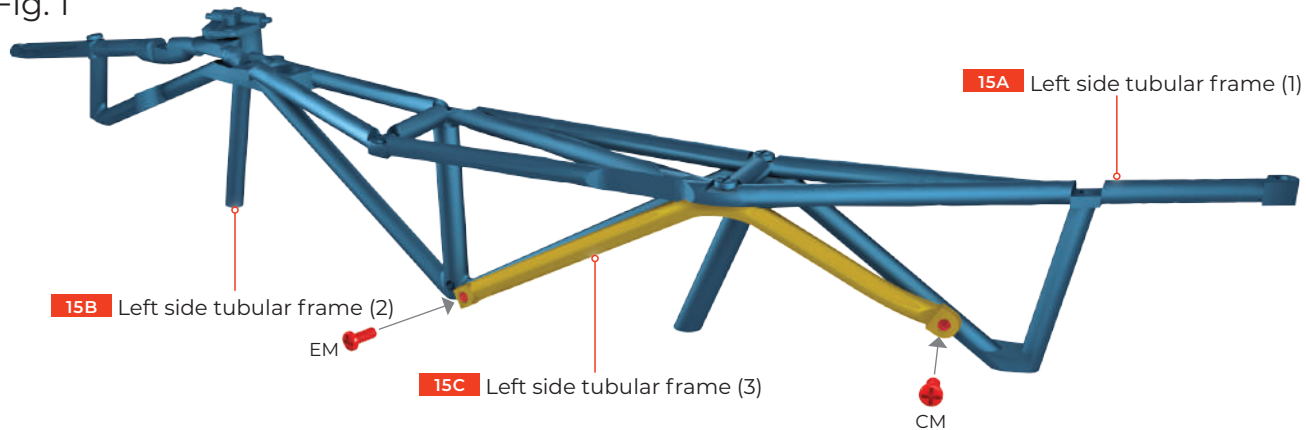


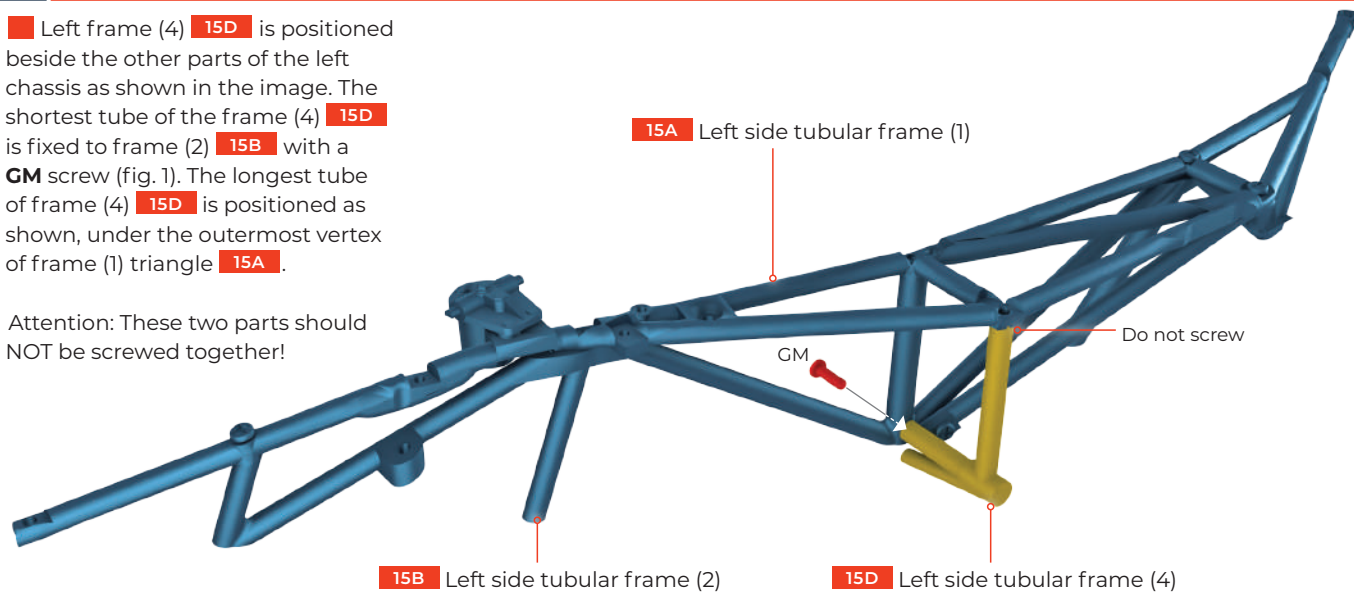
Fig. 1



**04 ASSEMBLING LEFT FRAME (4)**

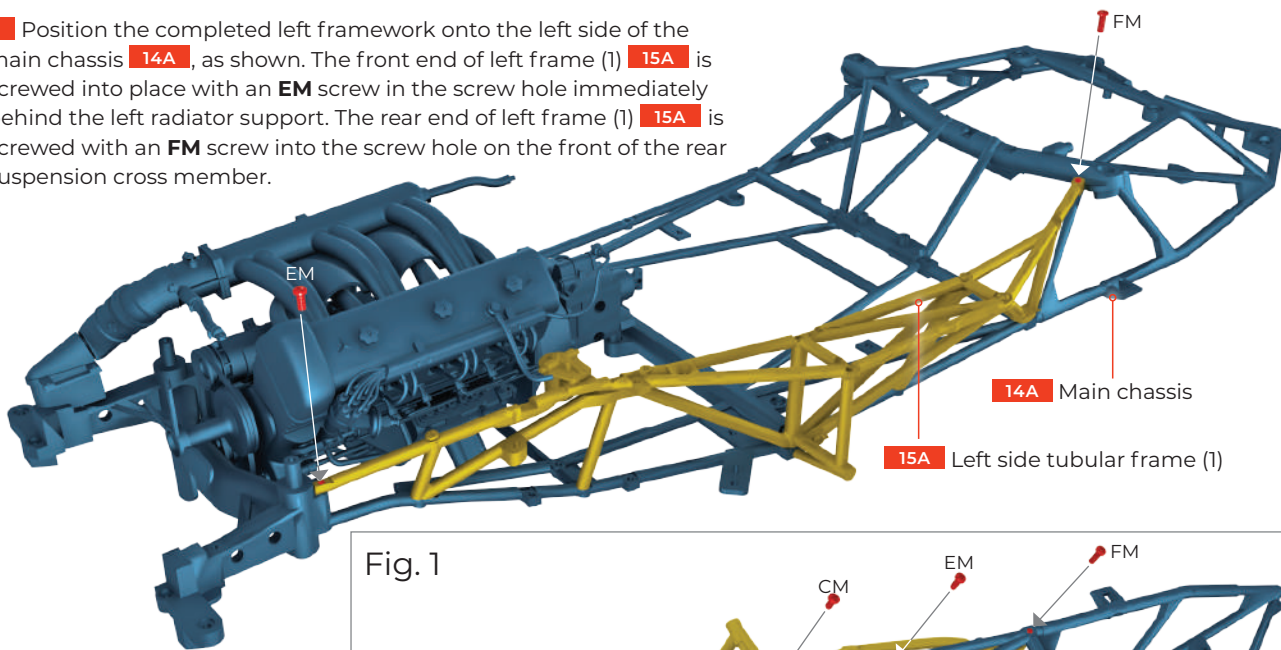
■ Left frame (4) **15D** is positioned beside the other parts of the left chassis as shown in the image. The shortest tube of the frame (4) **15D** is fixed to frame (2) **15B** with a **GM** screw (fig. 1). The longest tube of frame (4) **15D** is positioned as shown, under the outermost vertex of frame (1) triangle **15A**.

Attention: These two parts should NOT be screwed together!



## 05 JOIN THE LEFT FRAMEWORK TO THE MAIN CHASSIS

Position the completed left framework onto the left side of the main chassis **14A**, as shown. The front end of left frame (1) **15A** is screwed into place with an **EM** screw in the screw hole immediately behind the left radiator support. The rear end of left frame (1) **15A** is screwed with an **FM** screw into the screw hole on the front of the rear suspension cross member.



Turn the model over to see it from below. Now you can screw left frame (2) **15B** to the main chassis **14A**, as shown in the figure. Start at the front end and screw in the **FM, EM, CM, EM, FM** screws one after another (figure 1).

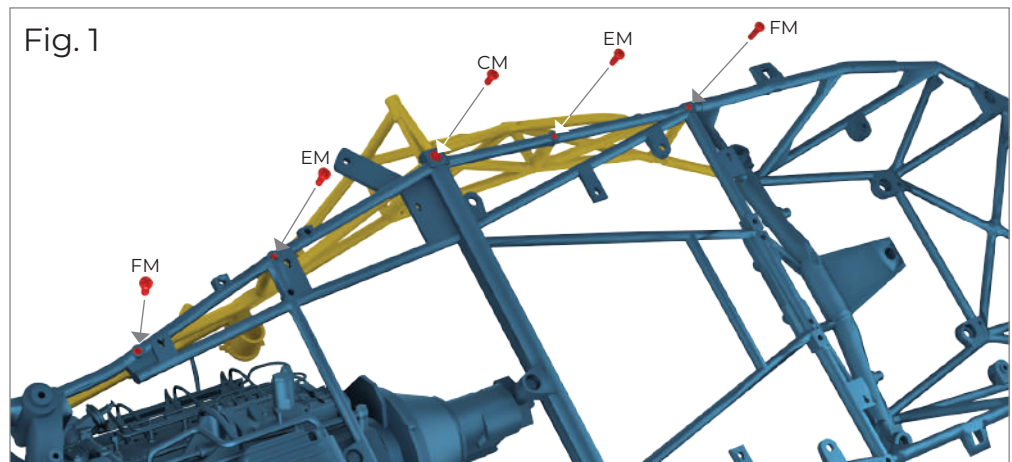


Fig. 1

## 06 CONNECTING THE FUEL LINES

The semicircular fitting at one end of fuel line (1) **15F** is inserted onto the protrusion at the rear of the fuel filter **15E**. The other end of the tube fits as shown into the socket on the fuel pump **04G**. The semicircular fitting at one end of fuel line (2) **15G** is inserted onto the protrusion at the front of the fuel filter **15E**. The other end of fuel line (2) **15G** fits as shown into the other socket on the fuel pump **04G** (figure 1).

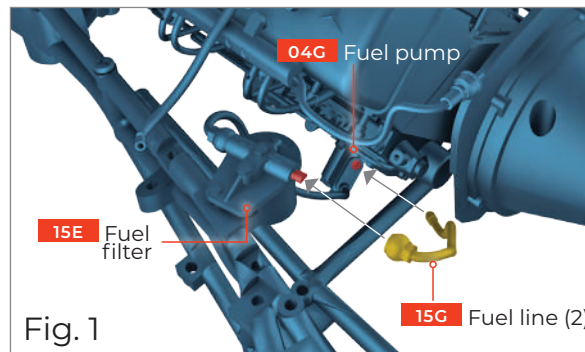
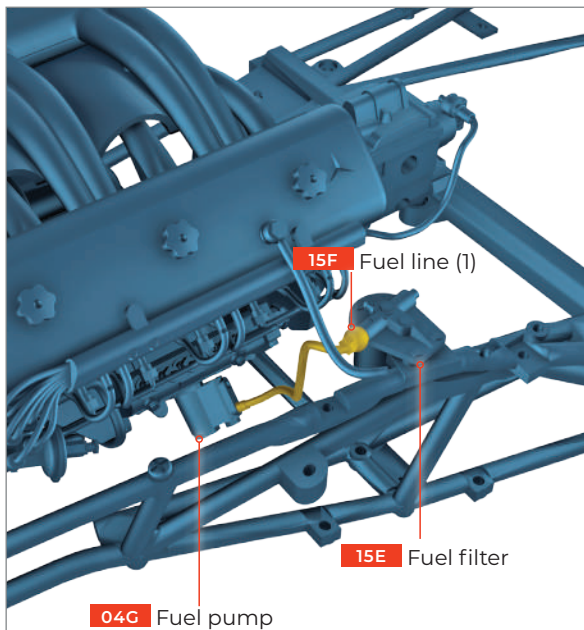


Fig. 1

When assembling the chassis, it is a good idea to put a piece of soft cloth underneath to protect the parts from being damaged.

## STAGE 16: THE RIGHT CHASSIS

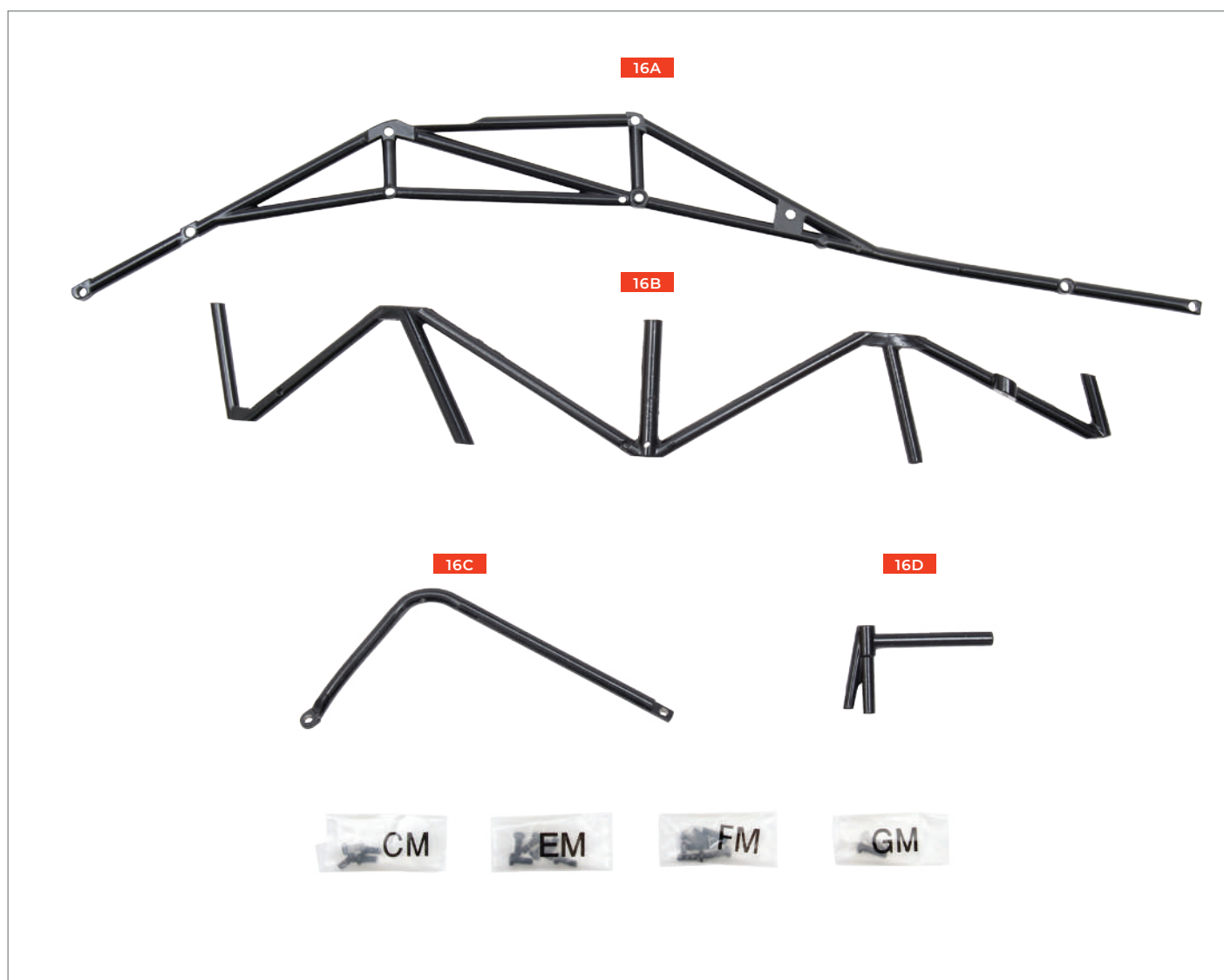
In this stage, you will join the four pieces of the right frame to the main chassis.



### STAGE 16 – REQUIRED PARTS

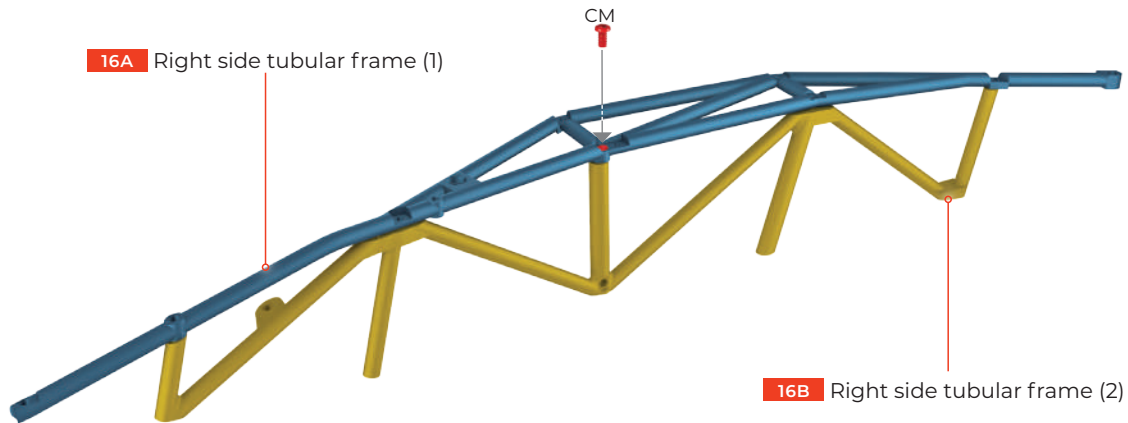
Code	Name	Quantity	Material
16A	Right side tubular frame (1)	1	Zinc
16B	Right side tubular frame (2)	1	Zinc
16C	Right side tubular frame (3)	1	Zinc
16D	Right side tubular frame (4)	1	Zinc
CM	Screws 2 × 4 mm	3 + 1*	Iron
EM	Screws 2 × 5 mm	5 + 1*	Iron
FM	Screws 2 × 6 mm	5 + 1*	Iron
GM	Screws 2 × 7 mm	1 + 1*	Iron

\* Replacement screws included



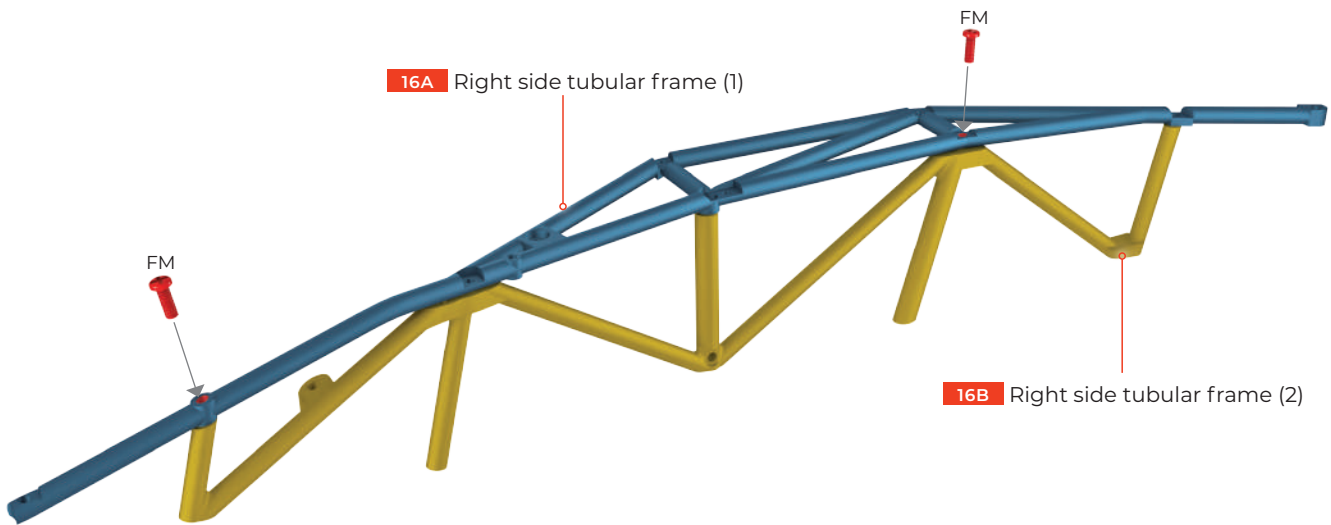
**01 JOIN RIGHT FRAME (1) TO RIGHT FRAME (2)**

Right side tubular frame (2) **16B** is positioned onto right side tubular frame (1) **16A** as shown in the picture. The center cross member of right frame (2) **16B** is positioned over the central screw hole of right frame (1) **16A**, as shown in the picture. Join both parts with a **CM** screw. The front cross member of right side tubular frame (2) **16B** is placed vertically under the screw hole that is about 1.4in (35mm) from the end of frame (1) **16A**. Fix both parts with an **FM** screw. The screw hole at the center of the vertex of the rear triangle of frame (2) **16B** fits into the socket which is about 3.5in (87mm) from the back end of frame (1) **16A**. Fix both parts with an **FM** screw (figure 1).



Take the time to check both frame parts before assembling them. This will ensure that they are assembled correctly.

Fig. 1





## STAGE 16: THE RIGHT CHASSIS

### 02 ASSEMBLING THE RIGHT FRAME (3)

Right side tubular frame (3) **16C** is positioned onto right side tubular frame (1) **16A** as shown in the picture. The apex of frame (3) **16C** is screwed to frame (1) **16A** with an **EM** screw from above. The back end of frame (3) **16C** is fixed to frame (1) **16A** with a **CM** screw (fig. 1). The other end of frame (3) **16C** is attached to the bottom of the frame (2) upright **16B** with an **EM** screw (fig. 1).

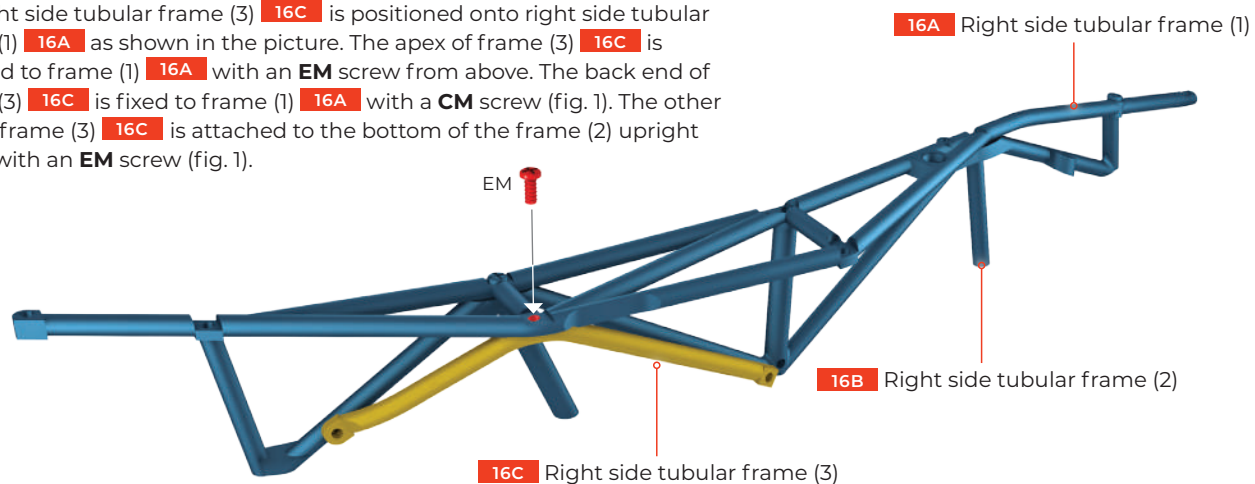
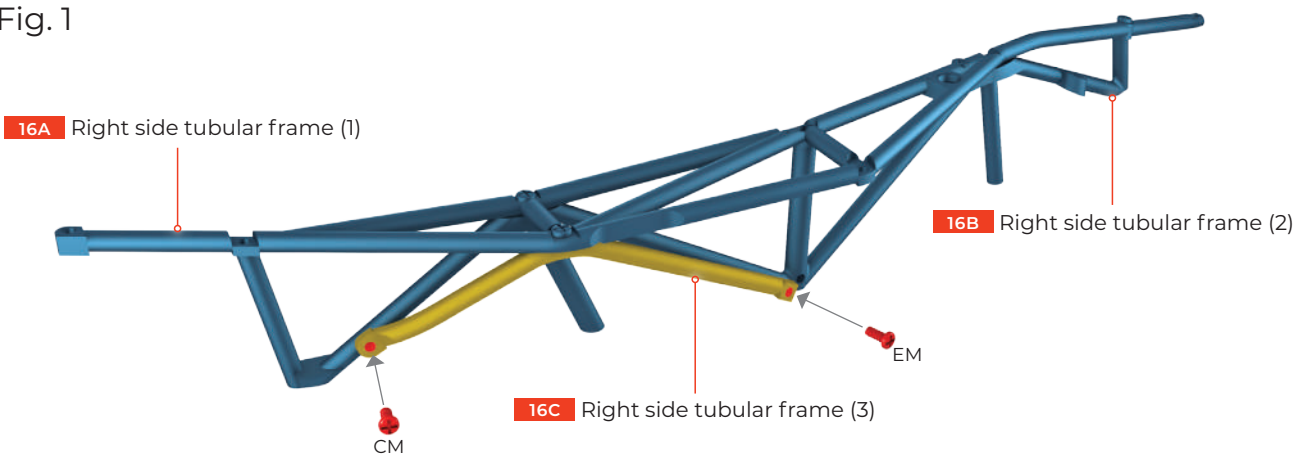


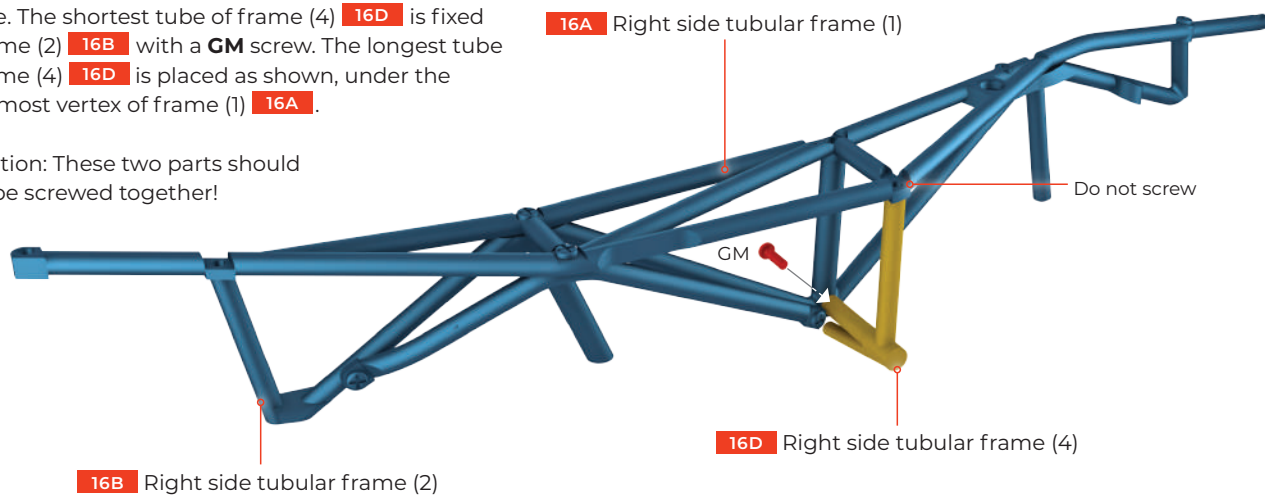
Fig. 1



### 03 ASSEMBLING THE RIGHT FRAME (4)

Right frame (4) **16D** is positioned beside the other parts of the right frame, as shown in the image. The shortest tube of frame (4) **16D** is fixed to frame (2) **16B** with a **GM** screw. The longest tube of frame (4) **16D** is placed as shown, under the outermost vertex of frame (1) **16A**.

Attention: These two parts should NOT be screwed together!



#### 04 JOIN THE RIGHT FRAMEWORK TO THE MAIN CHASSIS

Position the completed right framework as shown, onto the right side of the main chassis **14A**. The front end of right frame (1) **16A** is screwed into place with an **EM** screw in the screw hole immediately behind the right radiator support. The rear end of right frame (1) **16A** is screwed together with an **FM** screw into the screw hole on the front of the rear suspension cross member. Now, turn the model over and attach the right side tubular frame (2) **16B** to the main chassis **14A**. Start at the front end and screw in the **FM, EM, CM, EM, FM** screws one after another (figure 1).

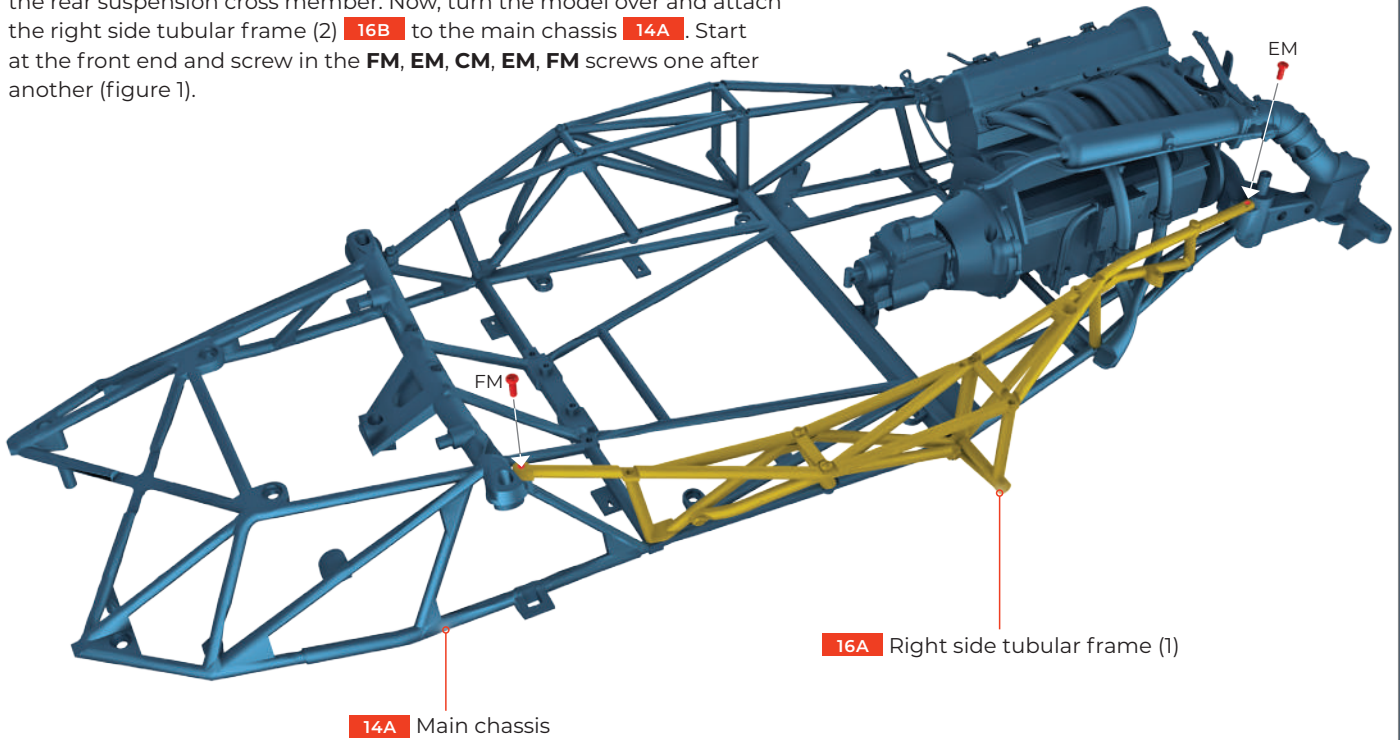
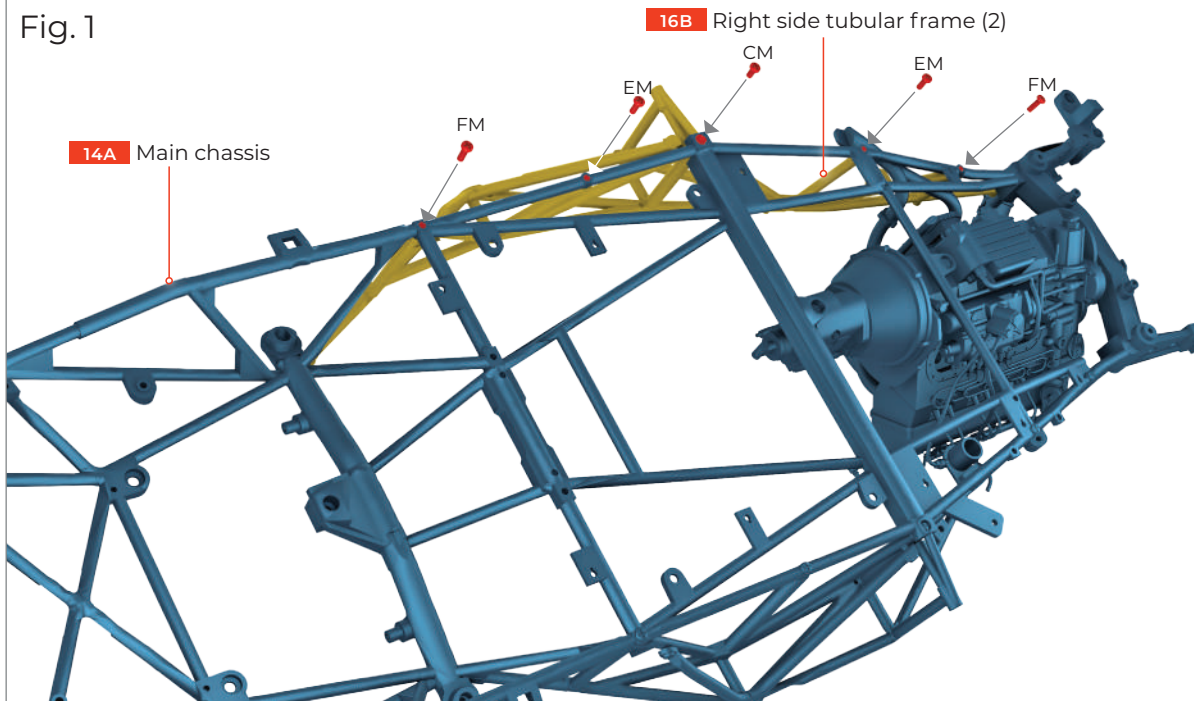


Fig. 1



When the chassis is turned over, be careful to protect the fragile parts at the top of the engine from damage.