



# **Pack 06** BUILD INSTRUCTIONS

STAGE 38: FITTING THE LEFT SIDE FRAME, THE FUEL FILTER AND THE ENGINE

STAGE 39: FITTING THE RIGHT SIDE FRAME AND JOINING THE FUEL LINE

STAGE 40: INSTALLING THE IGNITION COILS AND THE BRAKE LINES

> STAGE 41: ASSEMBLING THE LEFT REAR SUSPENSION

STAGE 42: ASSEMBLING THE RIGHT REAR SUSPENSION STAGE 43: INSTALLING THE REAR AXLE AND THE SUSPENSION

STAGE 44: BUILDING THE REAR BRAKE DISCS AND FITTING THE CALIPERS

STAGE 45: ADDING THE REINFORCEMENT FRAME AND BUILDING THE LEFT TRANSMISSION LINE

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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.

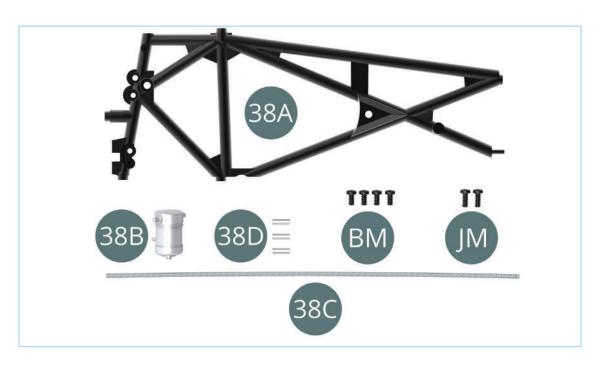
Left and Right! When building your Porsche 917KH, the left or right hand side refers to each side as you are sitting in the car.

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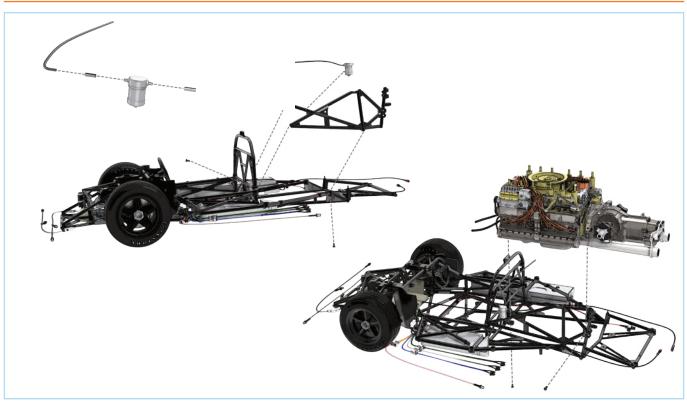
**WARNING:** Some parts are assembled using magnets. These magnets can cause serious injury if they are swallowed. Keep away from children. If you suspect a magnet has been swallowed, seek medical help straight away.

38A Left side frame
38B Fuel filter
38C Fuel line
38D Connector (x3)

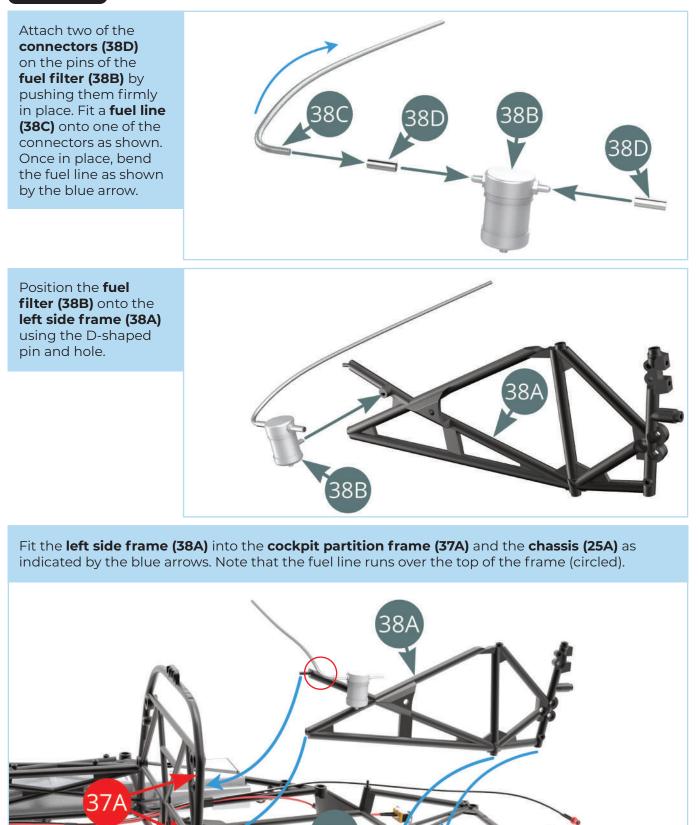
**BM** Screw 2.0 x 4 mm (x4) **JM** Screw 2.0 x 5 mm (x2)



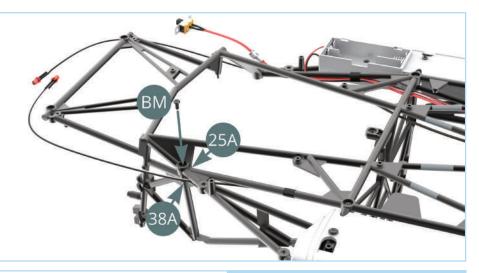
### ASSEMBLY DIAGRAM

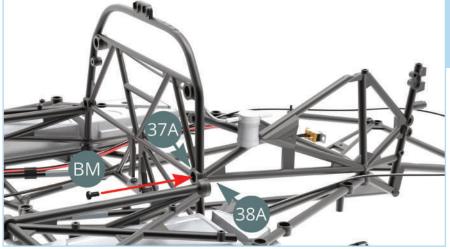


#### STEP 1



Carefully turn the assembly over while holding the frame in position and secure them together using a **BM** screw.

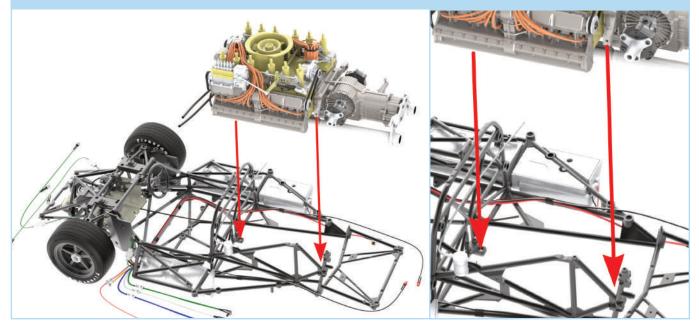




Then turn the assembly back over and secure the frame to the partition with a **BM** screw.

#### STEP 2

Retrieve the engine assembly (Stage 37) and align it with the chassis as shown. Fit the engine in place using the connection points highlighted by the red arrows in the images below.

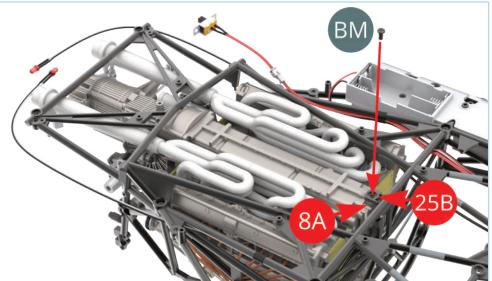


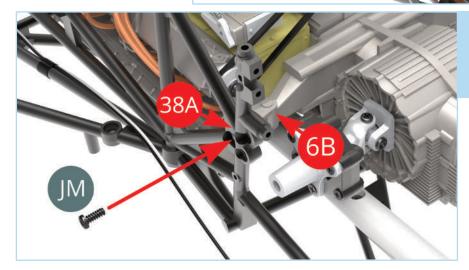
STEP 3



Feed the two **oil hoses (37B)** through the left side frame.

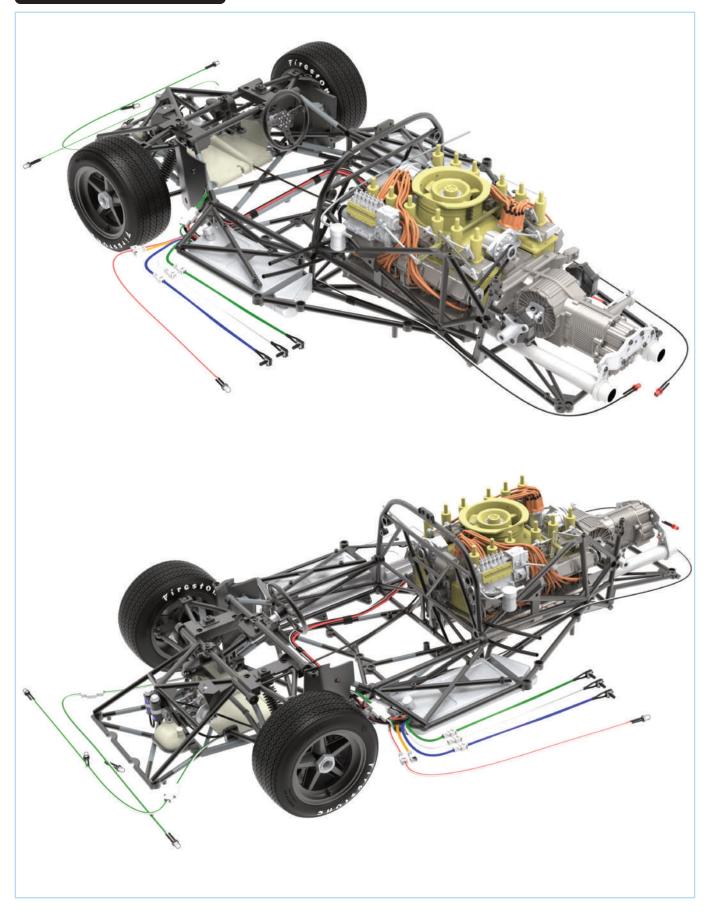
Carefully turn the assembly over and secure the engine using a **BM** screw driven through the **front engine mount** (25A) into the water pump housing (8A).





Fix the engine to the **left side** frame (38A) using a JM screw driven into the **left mounting** bracket (6B).

#### STAGE COMPLETE

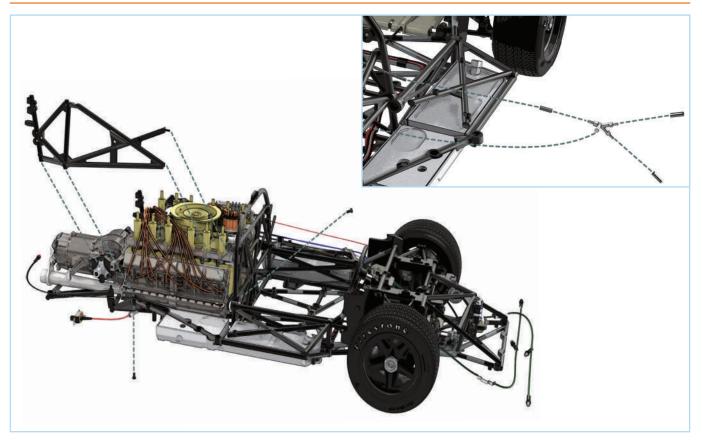


**39A** Right side frame**39B** Y branch**39C** Connector (x4)

**BM** Screw 2.0 x 4 mm (x3)



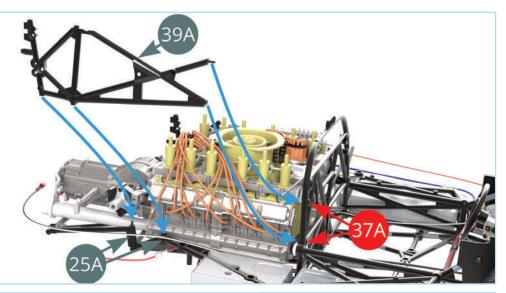
#### ASSEMBLY DIAGRAM



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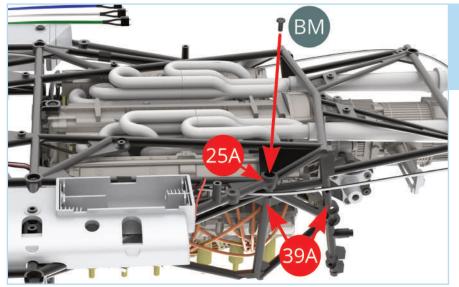
#### STEP 1

Fit the **right side frame (39A)** onto the **chassis (25A)** and **cockpit partition frame (37A)**. We recommend fitting the frame to the cockpit partition first then guiding the other connections onto the chassis. You may need to apply some pressure towards the partition until the frame fits in place.





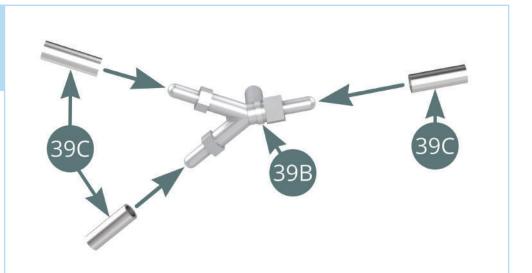
Fix the frame to the central partition using a **BM** screw.



Then carefully turn the assembly over and fix the frame to the chassis using another **BM** screw as shown.

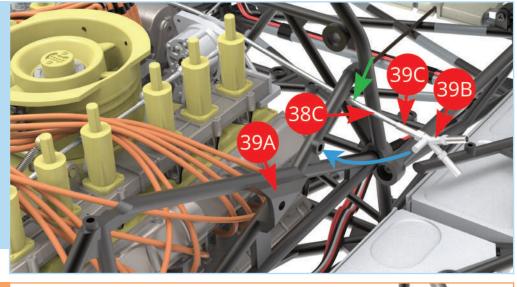
#### STEP 2

Take the Y branch (39B) and attach the three connectors (39C) to the ends.

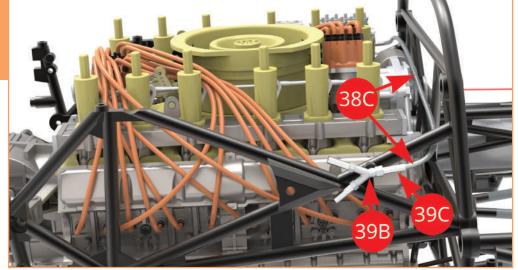


Pass the **fuel line** (**38C**) through the frame at the point indicated by the green arrow, then insert it into the **connector** (**39C**) at the end of the Y branch as shown.

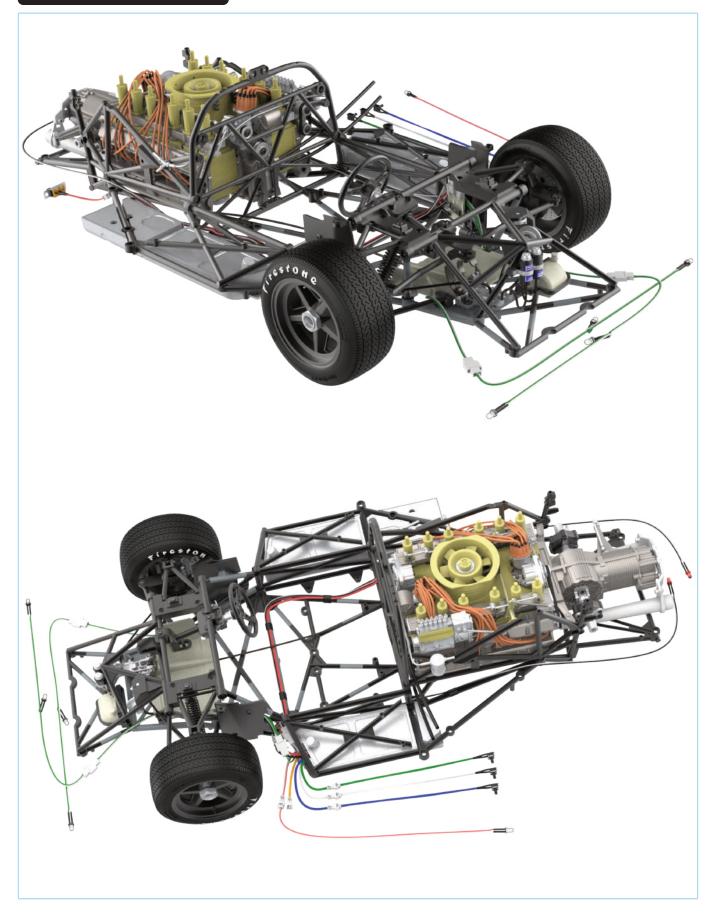
Fit the pin of the Y branch into the hole located on the **right side frame (39A)** (blue arrow).



The Y branch and fuel line should look like this once connected to the frame.



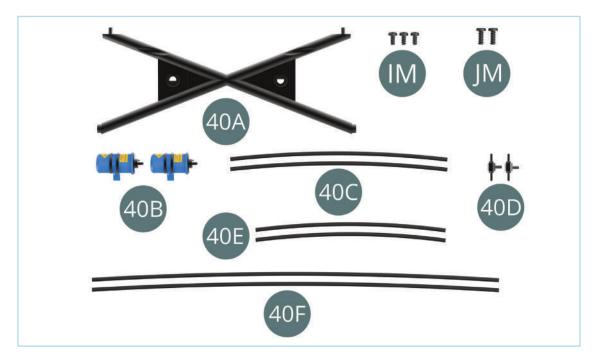
#### STAGE COMPLETE



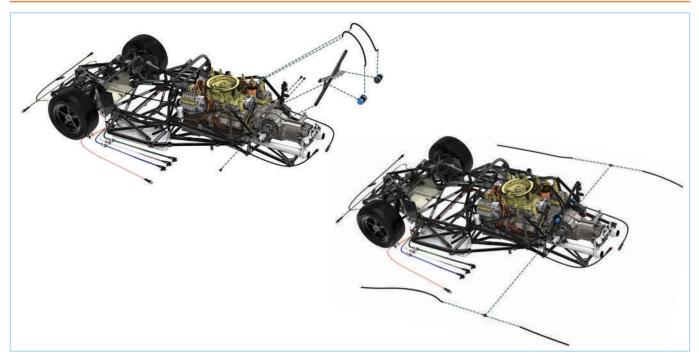
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40A X frame
40B Ignition coil (x2)
40C High voltage cable (x2)
40D Connector (x2)
40E Brake line (x2)
40F Brake line (x2)

IM Screw 1.7 x 5 mm (x3) JM Screw 2.0 x 5 mm (x2)

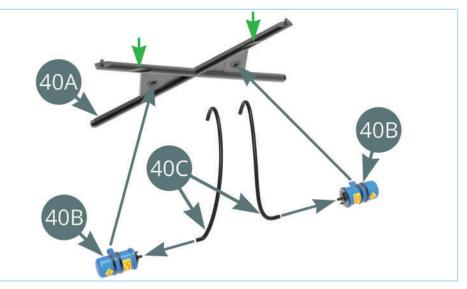


### ASSEMBLY DIAGRAM

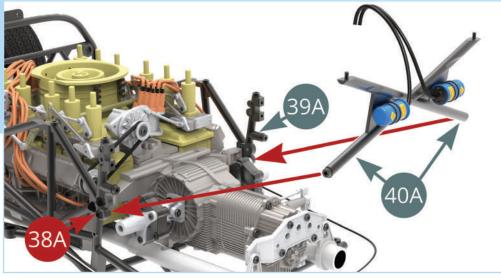


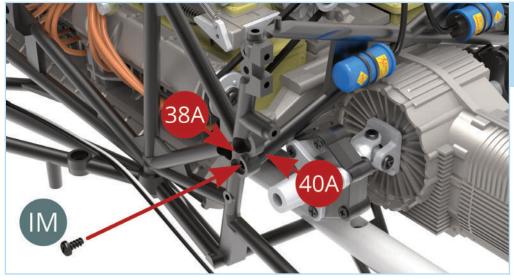
#### STEP 1

Make sure the X frame is oriented in the correct way as indicated by the green arrows before continuing. Fit the **high voltage cables** (40C) onto the pins at the top of the **ignition coils (40B)**, then press the coils into the X **frame (40A)** using the D-shaped fittings.



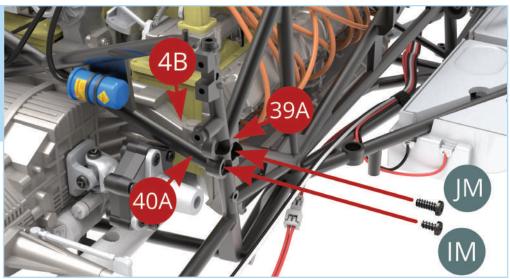
Align the X frame with the chassis assembly as shown. Position the ends of the X frame into the two side frames (**38A** and **39A**) (red arrows).



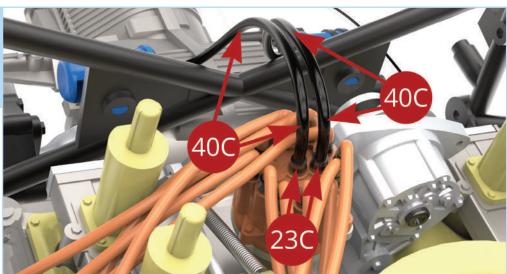


Secure the X frame (40A) to the left side frame (38A) using an IM screw.

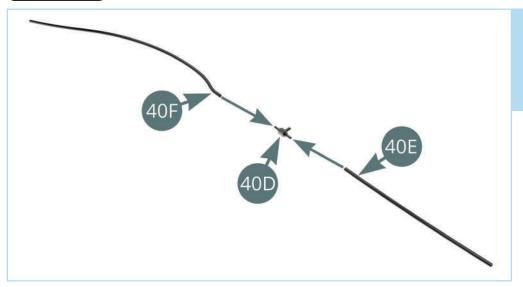
Secure the X frame (40A) to the right side frame (39A) using an IM screw. Then drive a JM screw into the right engine mount (4B) as shown.



Fit the ends of the high voltage cables (40C) into the two available ignition wire connectors (23C).

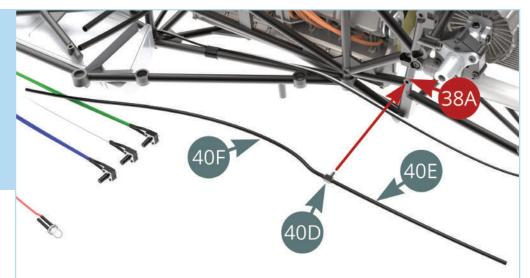


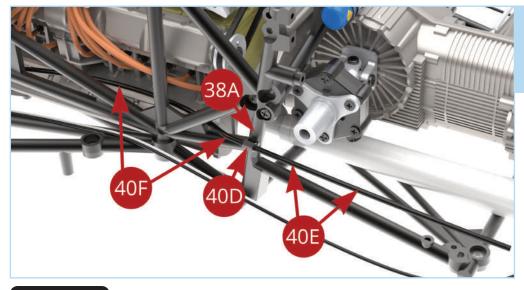
STEP 2



Attach one of the shorter **brake lines** (40E) and longer **brake lines (40F)** to a **connector (40D)**.

Fit the **connector** (40D) into the **left side frame (38A)** as shown. Note that the shorter **brake line** (40E) leads to the rear of the assembly while the longer **brake line** (40F) leads towards the front.

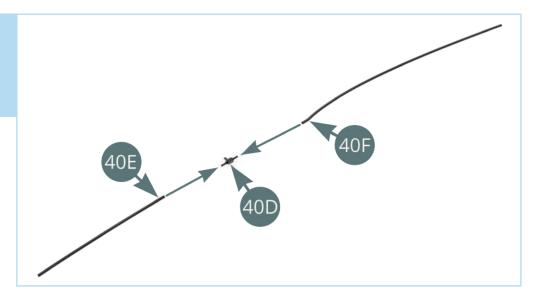




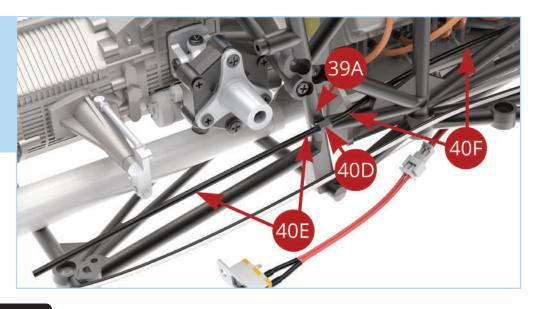
Guide the **longer brake line (40F)** through the frames as shown in the image.

#### STEP 3

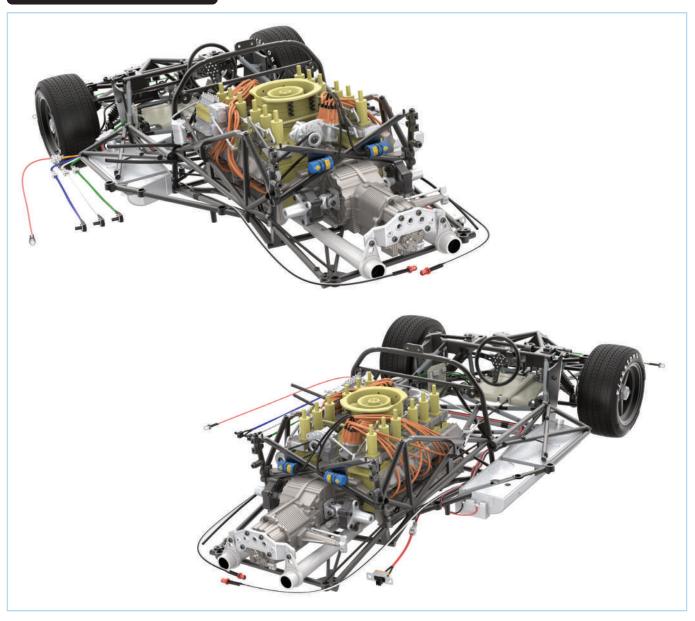
Attach the remaining short **brake line (40E)** and long **brake line** (40F) to remaining connector (40D).



Fit the **connector** (40D) to the **right side frame (39A)** in the same manner as before and guide the longer brake line through the frame.

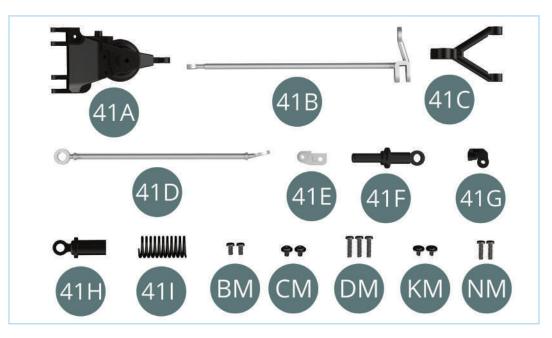


#### STAGE COMPLETE

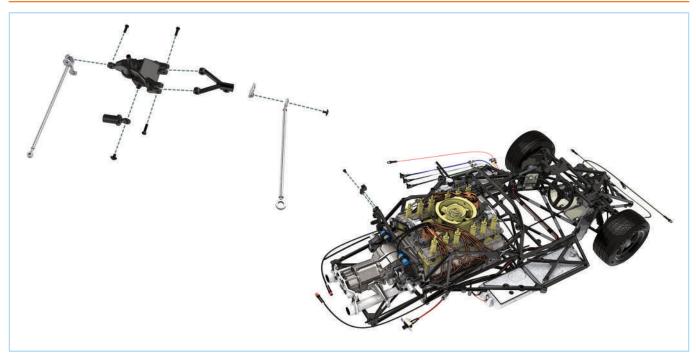


- 41A Rear left upright
- 41B Radius arm with upper link
- **41C** Bottom wishbone
- 41D Radius arm
- 41E Bracket
- 41F Shock absorber piston
- 41G Bracket

- 41H Shock absorber cylinder
- 411 Shock absorber spring
- **BM** Screw 2.0 x 4 mm (x2)
- **CM** Screw 2.0 x 3 x 5 mm (x2)
- DM Screw 2.0 x 8 mm (x3)
- **KM** Screw 1.7 x 3 x 5 mm (x2)
- NM Screw 2.0 x 7 mm (x2)

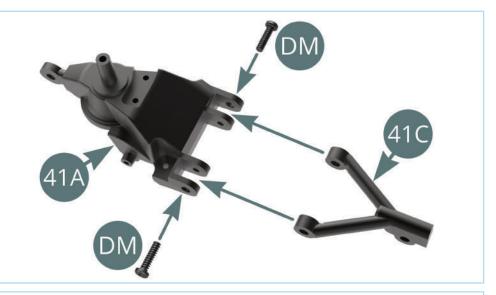


### ASSEMBLY DIAGRAM



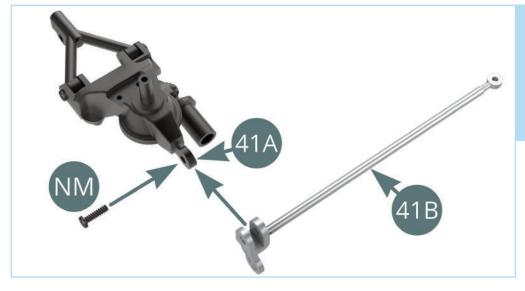
#### STEP 1

Take the **bottom wishbone (41C)** and align it with the **rear left upright (41A)** as shown. Fit it in place then secure by driving two **DM** screws through the sides of the upright.



Place the **shock absorber cylinder** (41H) on the side of the **rear left upright** (41A) and fix it using a CM screw. Don't overtighten the screw, the cylinder should be able to move freely.





Push the joint of the radius arm with upper link (41B) onto the left rear upright (41A) as shown and secure in place using an NM screw.

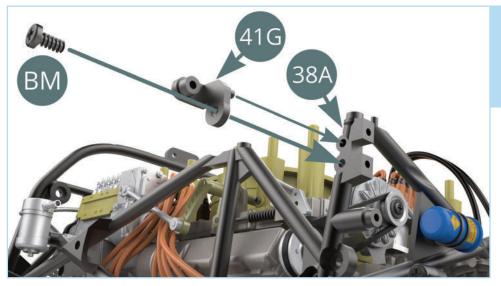


#### STEP 2

Take the **radius arm** (41D) and align the slightly bent end of it with the **bracket (41E)** as shown. Fit the arm over the bracket then fix the parts together using a **KM** screw. The link should be loose enough to rotate.

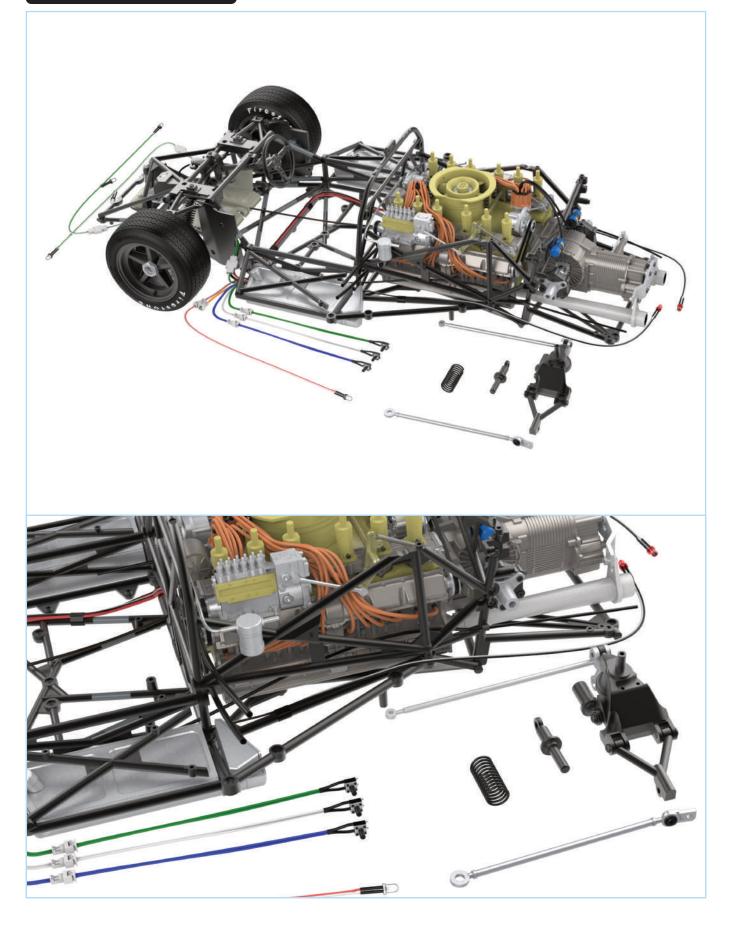


#### STEP 3



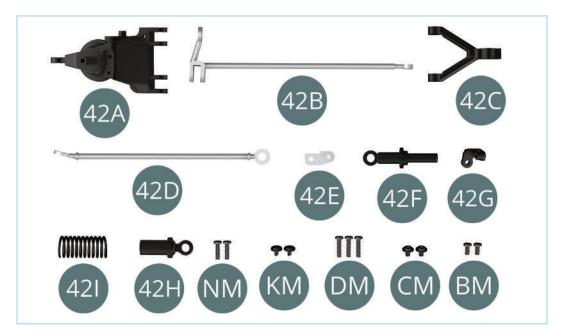
Push the **bracket (41G)** into the **left side frame** (38A) in the orientation shown then secure with a **BM** screw.

#### STAGE COMPLETE

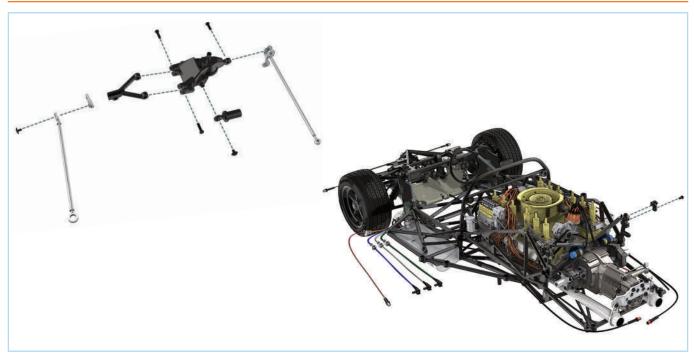


- 42A Rear right upright
- 42B Radius arm with upper link
- **42C** Bottom wishbone
- 42D Radius arm
- 42E Bracket
- 42F Shock absorber piston
- 42G Bracket

- 42H Shock absorber cylinder
- 42I Shock absorber spring
- **BM** Screw 2.0 x 4 mm (x2)
- **CM** Screw 2.0 x 3 x 5 mm (x2)
- **DM** Screw 2.0 x 8 mm (x3)
- **KM** Screw 1.7 x 3 x 5 mm (x2)
- **NM** Screw 2.0 x 7 mm (x2)

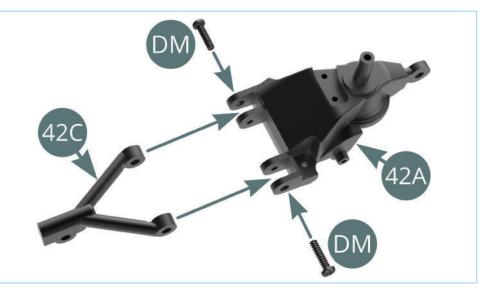


### ASSEMBLY DIAGRAM

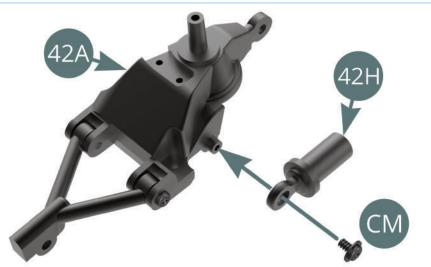


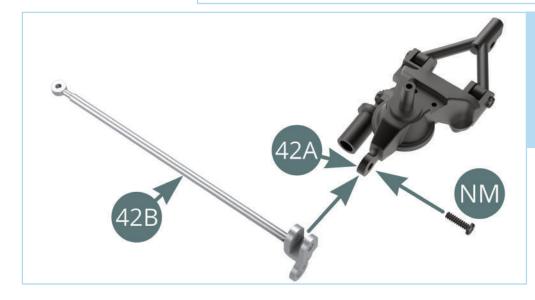
#### STEP 1

Take the **bottom wishbone (42C)** and align it with the **rear right upright (42A)** as shown. Fit the parts together then fix using two **DM** screws.



Fix the **shock absorber cylinder** (42H) onto the side of the **rear right upright (42A)** using a **CM** screw. Don't overtighten the screw, the cylinder should be able to move freely.





Align the radius arm with upper link (42B) to the right rear upright (42A) as shown then fit it in place and secure using an NM screw.

The rear right upright assembly should now look like this.



#### STEP 2

Align the slightly bent end of the **radius arm** (42D) with the **bracket** (42E) as shown, then fit the end of the arm onto the bracket and fix in place using a KM screw. Leave the screw loose enough so that the link can rotate.

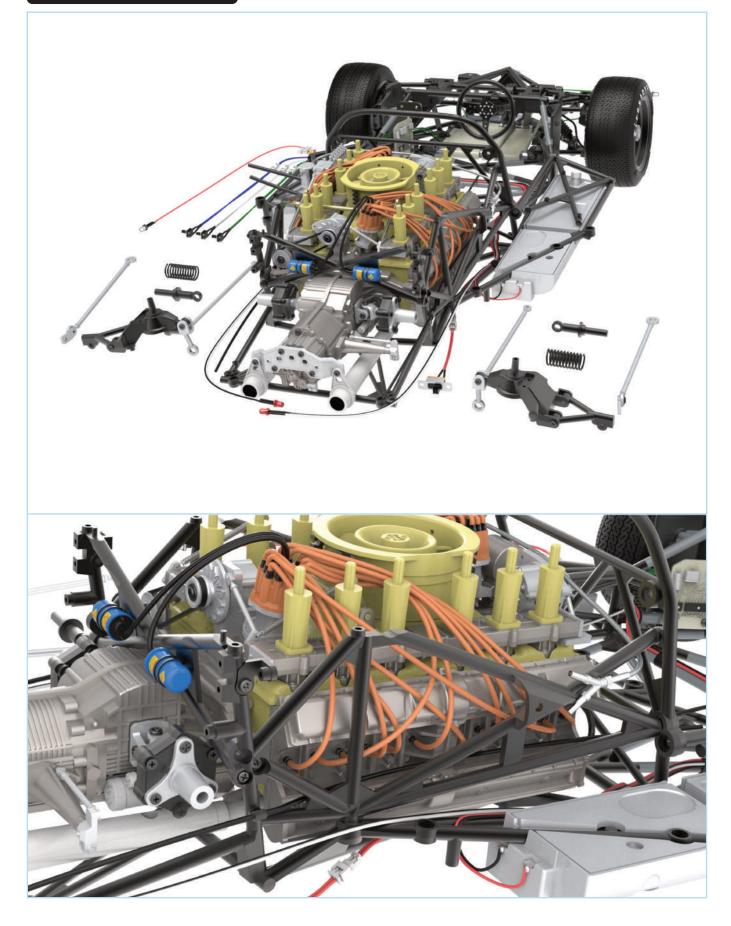


#### STEP 3



Push the **bracket** (42G) into the **right side frame (39A)** as shown then secure with a **BM** screw.

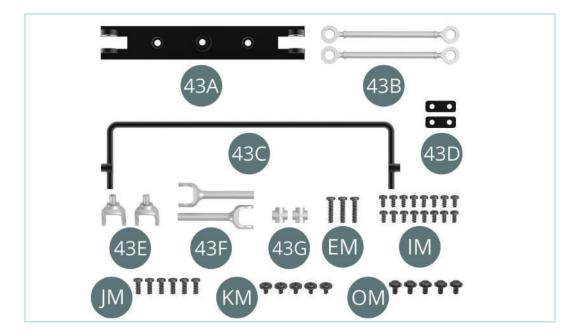
#### STAGE COMPLETE



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43A Rear axle
43B Drop links (x2)
43C Rear anti-roll bar
43D Plate bracket (x2)
43E Half shaft (x2)
43F Half shaft (x2)
43G Universal joint (x2)

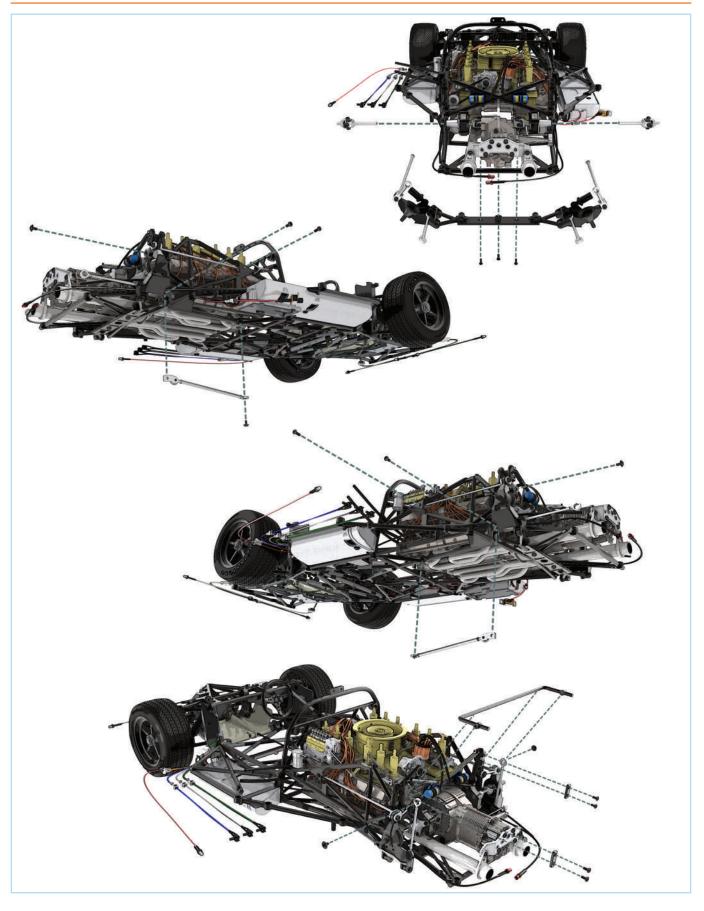
EM Screw 2.0 x 9 mm (x3) IM Screw 1.7 x 3.5 mm (x16) JM Screw 2.0 x 5 mm (x6) KM Screw 1.7 x 3 x 5 mm (x5) OM Screw 2.0 x 4 x 5 mm (x5)



### ASSEMBLY DIAGRAM



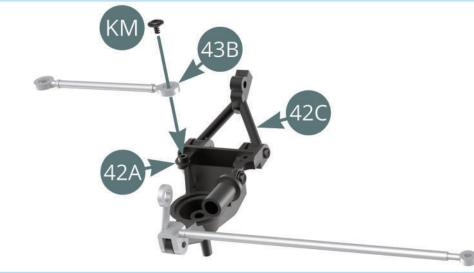
#### ASSEMBLY DIAGRAM



#### STEP 1

Take the rear left upright assembly from Stage 41 and fit a **drop link (43B)** onto the upright as shown. Secure in place using a **KM** screw.



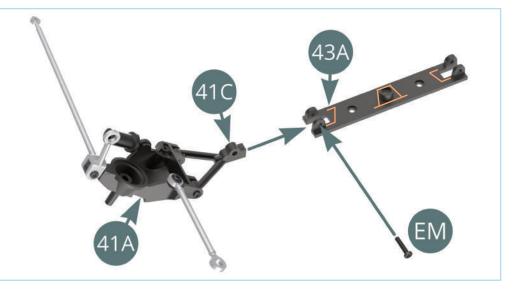


Fit the other **drop link** (43B) onto the rear right upright assembly from Stage 42 and secure with another KM screw.

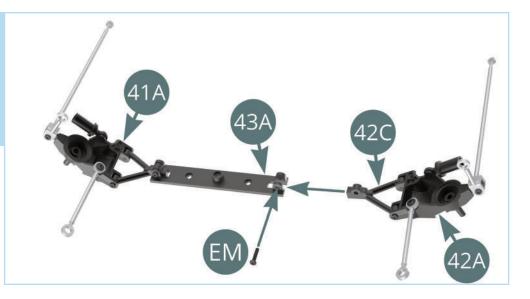
#### STEP 2

Take the rear left upright assembly and align it with the **rear axle (43A)** as shown. Fit the **bottom wishbone (41C)** into the axle and secure using an **EM** screw.

The axle has ridges, shown here in orange, for fitting it to the chassis. Align the axle and the upright assembly as shown.

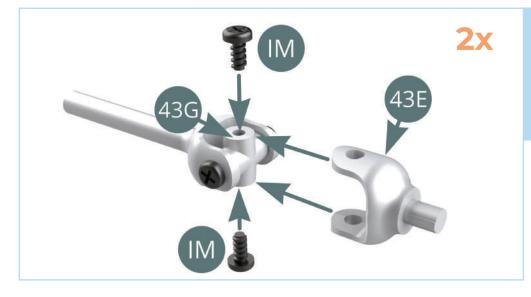


Next fit the **bottom wishbone (42C)** of the rear right upright assembly into the other side of the axle and secure using an **EM** screw.



#### STEP 3

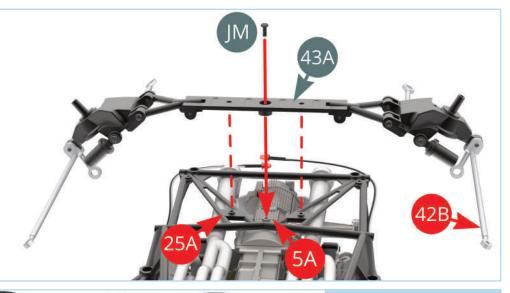


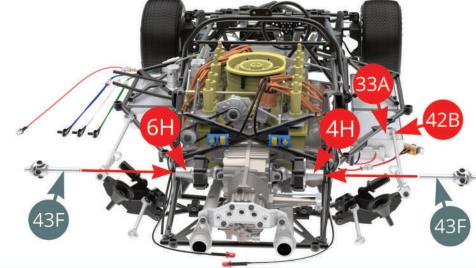


Take the shorter **half shafts (43E)** and position them over the **universal joints (43G)** before securing each in place using two more **IM** screws.

#### STEP 4

Place the chassis assembly upside down on your work surface. Take the rear axle assembly and align it with the underside closest to the exhausts. Using the ridges highlighted in step 2, fit the **rear axle** (43A) onto the **chassis** (25A) then secure it to the **gearbox underside** (5A) using a JM screw.

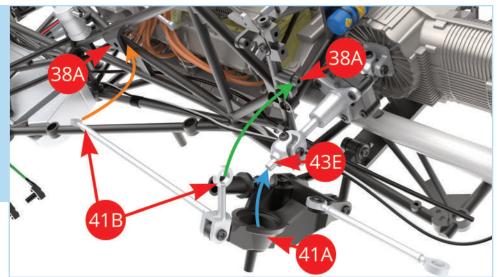




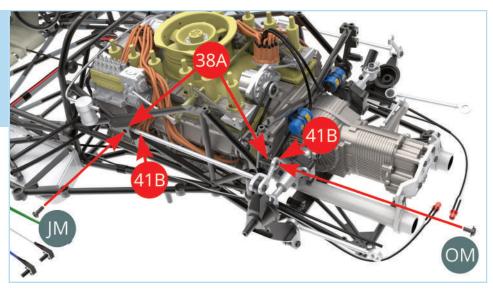
Turn the assembly over and fit the two half shafts (43F) into the cardan sockets (4H and 6H).

#### STEP 5

Lift the **rear left upright** (**41A**) and fit it over the **half shaft (43E)** as shown by the blue arrow. At the same time, fit connections of the **radius arm (41B)** inside the enclosure (orange arrow) and over the screw hole (green arrow) located on the **left side frame (38A)**.

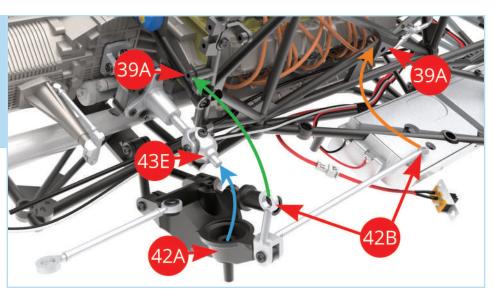


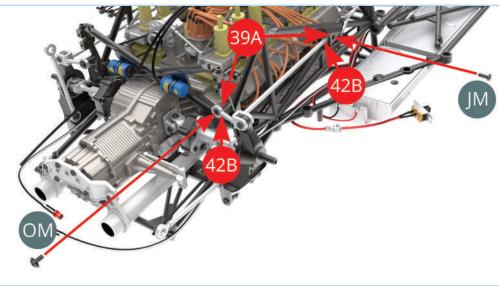
Use a **JM** screw to fix the **radius arm (41B)** to the **left side frame (38A)** from the side and an **OM** screw to secure it from the rear, as shown in the image.



#### STEP 6

Repeat the same process as before by lifting the **rear right upright (42A)** into place and fitting the connections of the **radius arm (42B)** to the **right side frame (39A)**.

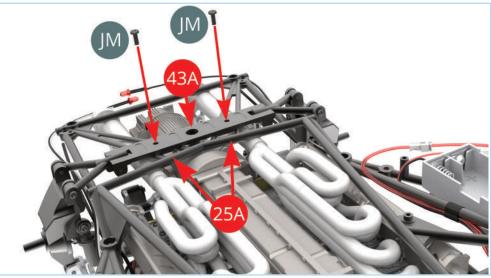




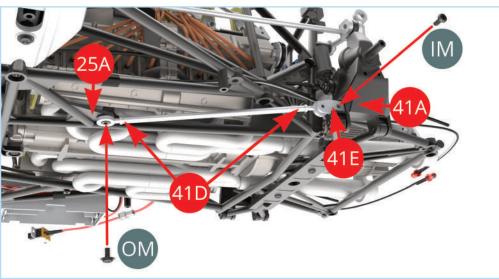
Use a JM screw and an OM screw to fix the radius arm (42B) to the right side frame (39A) as shown.

#### STEP 7

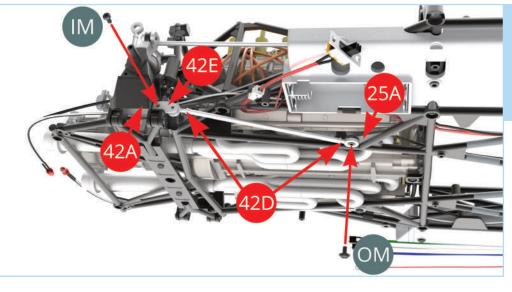
Carefully turn the assembly back over and secure the **rear axle (43A)** to the **chassis (25A)** using two **JM** screws.



Turn the assembly back over. Still working on the underside of the chassis, take the radius arm assembly from Stage 41. Fit the **radius arm (41D)** to the **chassis (25A)** and the **bracket (41E)** to the **left rear upright (41A)**. Secure in place using an **OM** and an **IM** screw as shown.

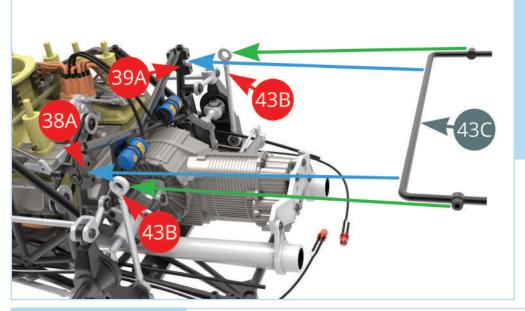


Note: the radius arms have an 'L' and an 'R' on the shaft, closest to the link opposite the bracket.



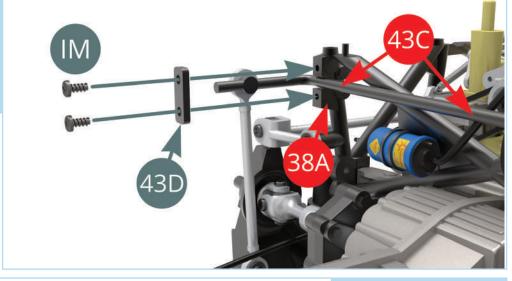
Then take the radius arm assembly from Stage 42 and fix it to the other side in the same way using an **IM** and an **OM** screw.

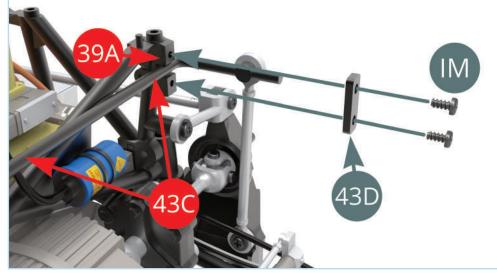
STEP 8



Push the **rear antiroll bar (43C)** into the recesses on the side frames **(38A and 39A)** as shown by the blue arrows. Once in place, fit the eyelets of the **drop links (43B)** over the screw columns of the bar (green arrows).

Fit one of the **plate brackets (43D)** over the recess in the **left side frame (38A)** and fix together using two **IM** screws.

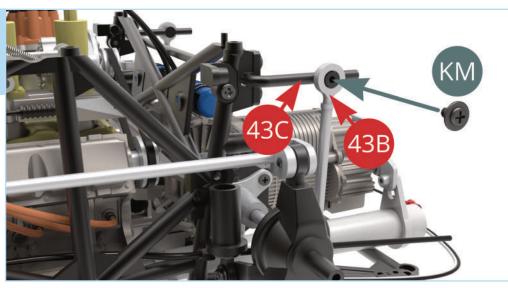


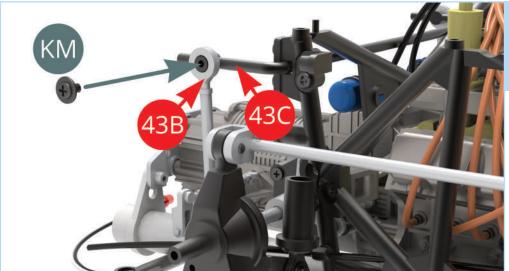


Fit the other **plate bracket (43D)** over the **right side frame (39A)** in the same way and secure with two more **IM** screws to hold the **rear anti-roll bar (43C)** in place.

#### STEP 9

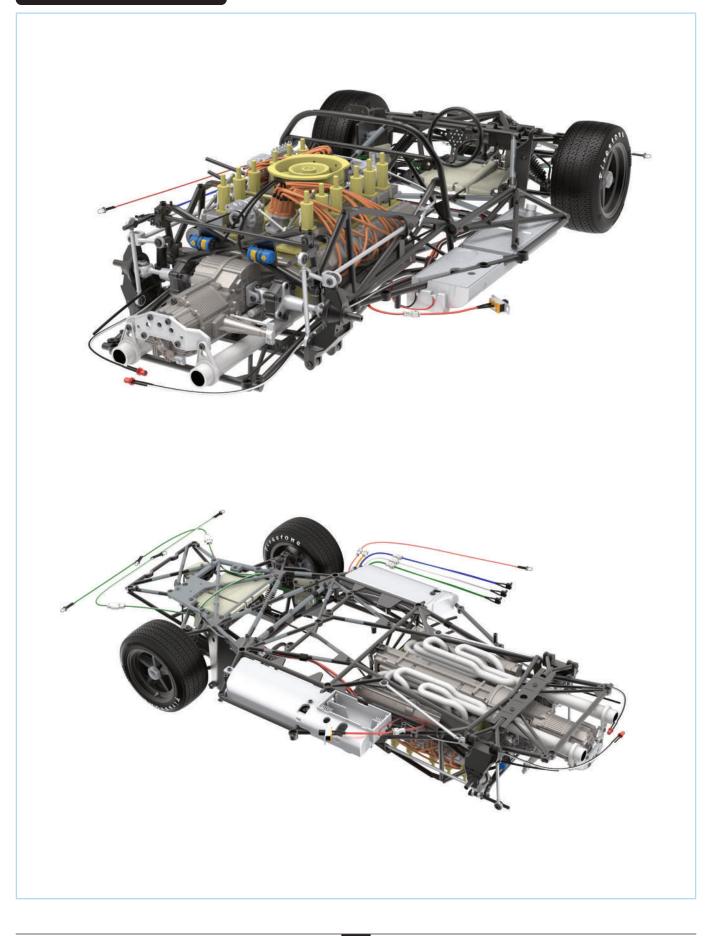
Use a KM screw to fix the left drop link (43B) to the rear anti-roll bar (43C).





Repeat on the other side with another **KM** screw to secure the bar in place.

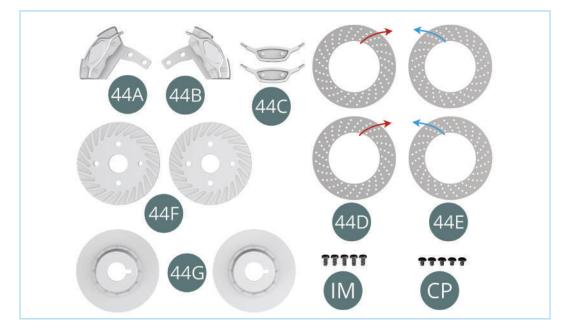
#### STAGE COMPLETE



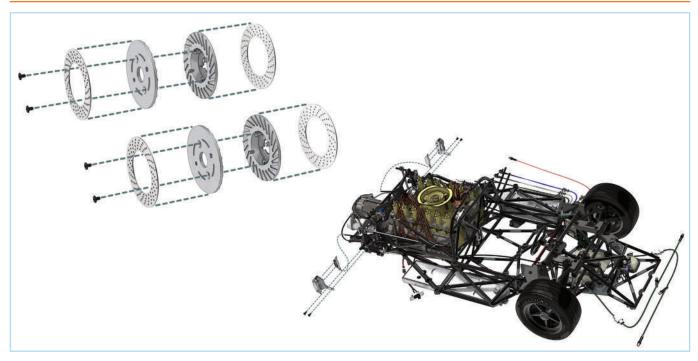
44A Left brake caliper 44B Right brake caliper **44C** Brake piston cover (x2) **44D** Brake disc surface (red arrows indicate **CP** Screw 1.7 x 3 x 3 mm (x5) direction of ventilation holes, right) (x2) 44E Brake disc surface (blue arrows indicate direction of ventilation holes, left) (x2)

**44F** Brake disc rotor (inner half) (x2)

- **44G** Brake disc rotor (outer half) (x2)
- IM Screw 1.7 x 3.5 mm (x5)

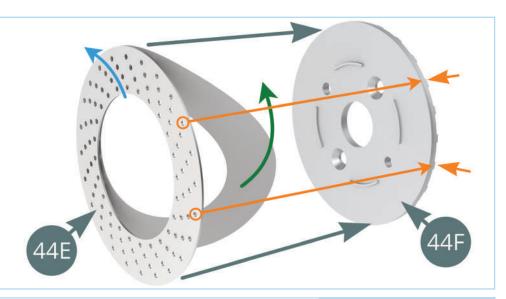


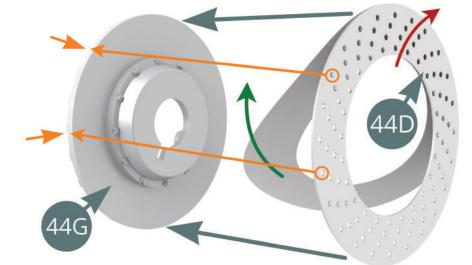
### ASSEMBLY DIAGRAM



#### STEP 1

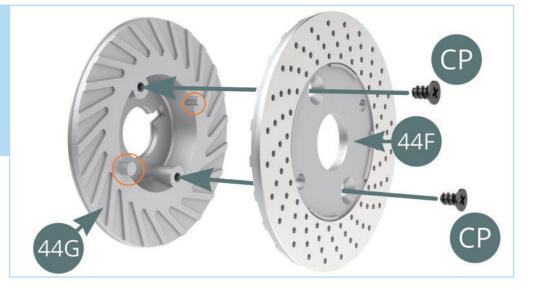
Take one of the **brake disc surfaces (44E)** with the ventilation holes to the left (blue arrow). Peel the backing paper from it and stick it to one of the **brake disc rotors (inner half) (44F)** as shown. Ensure that the outer holes are in line with the raised ridge on the disc, as indicated by the orange arrows.





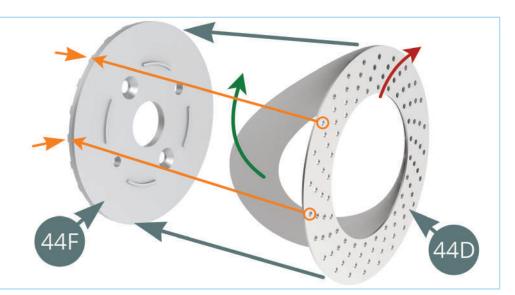
Then take one of the other **brake disc surfaces (44D)** with the holes to the right (red arrow) and peel its backing paper off. Stick this to one of the **brake disc rotors (outer half) (44G)**, again lining up the outer holes with the raised ridges.

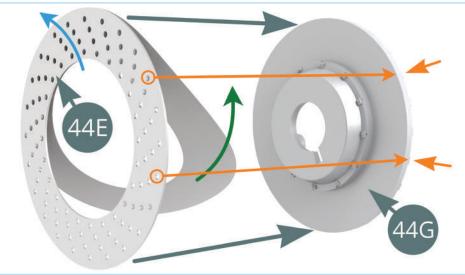
Fit the two halves of the brake disc together by pressing the small and large pins (circled) into the corresponding holes. Fix the halves together using two **CP** screws.



#### STEP 2

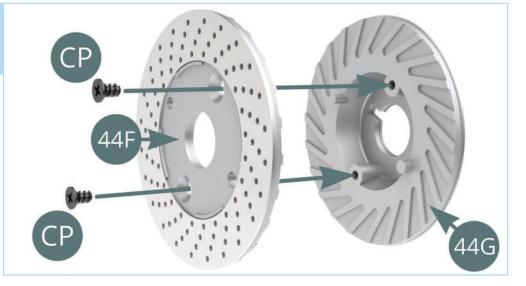
You'll now repeat the steps to assemble the second brake disc but using alternate surfaces for each half. Take the remaining **brake disc surface** (44D) with the ventilation holes to the right (red arrow). Peel the backing paper from it and stick it to the remaining **brake disc rotor (inner half)** (44F) as shown.





Take the last **brake disc surface (44E)** with the holes to the left (blue arrow) and stick it to the remaining **brake disc rotor (outer half) (44C)** in the same manner as before.

Fit the two halves together and secure using two **CP** screws.

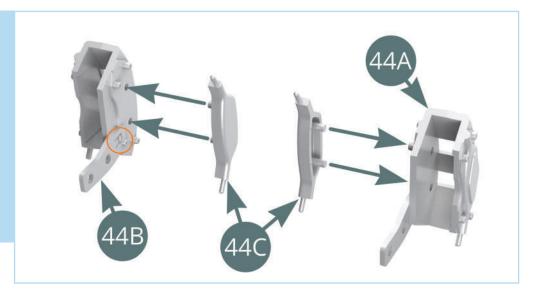




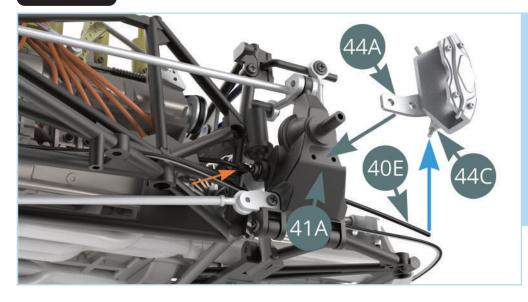
This image shows the two rear brake discs assembled correctly.

#### STEP 3

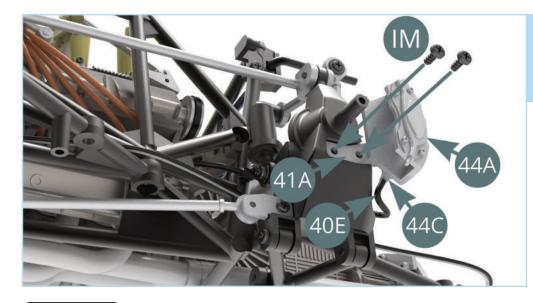
Take the two **brake piston covers (44C)** and align them with the left and right **brake caliper (44A and 44B)** as shown. Press the pins of the covers into the holes on the calipers. Note that each caliper is marked to help differentiate the left from right ('R', circled).



#### STEP 4



Connect the shorter **brake line (40E)** (leading from the connector, orange arrow) to the pin on the bottom of the **brake piston cover** (44C) as shown by the blue arrow, then position the **left brake caliper (44A)** onto the **rear left upright (41A)**.



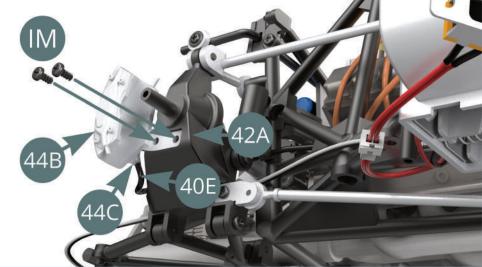
While holding it in place, fix the caliper to the upright using two **IM** screws.

#### STEP 5

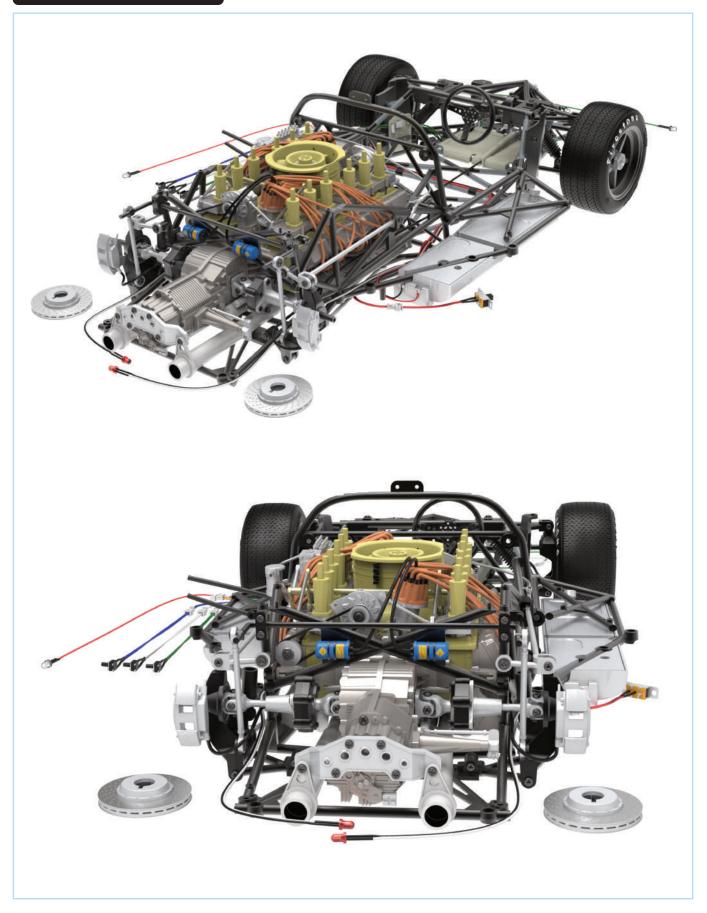
Now turn the assembly around and connect the rightside **brake line (40E)** to the **brake piston cover (44C)** in the same way as before, then position the **right brake caliper (44B)** over the **rear right upright (42A)**.







#### STAGE COMPLETE



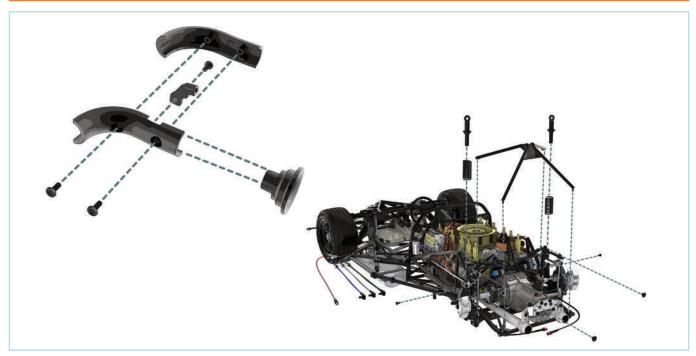
40

- 45A Reinforcement frame
  45B Left-hand stand
  45C Right-hand stand
  45D Transmission cooling line
  45E Transmission cooling line
  45F Pipe outlet
- 45G Support bracket

AP Screw 1.7 x 4 mm (x4) IM Screw 1.7 x 3.5 mm (x3) KM Screw 1.7 x 3 x 5 mm (x3)



### ASSEMBLY DIAGRAM



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#### STEP 1

Take the **support bracket (45G)** and align it with the **transmission cooling line (45E)** as shown. Fit the bracket in place then secure it using an **AP** screw.



Fit the assembly onto the other half of the **transmission cooling line (45D)** as shown then secure together using two **AP** screws.

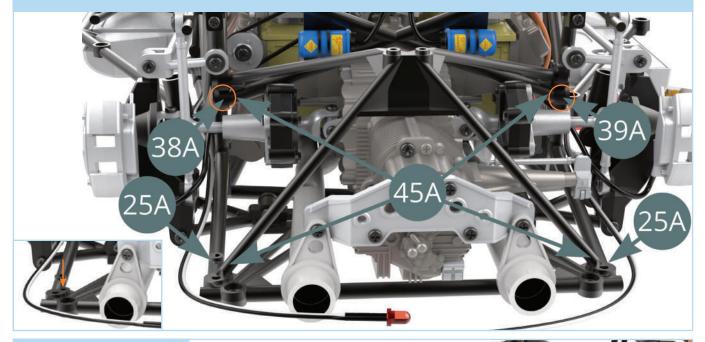




Press the **pipe outlet** (45F) into the end of the transmission line assembly as shown.

#### STEP 2

Fit the **reinforcement frame (45A)** onto the **chassis (25A)** by pressing the pins into the innermost holes (orange arrow, inset). Then align the screw holes at the other ends of the reinforcement frame with the corresponding holes in the left and right side frames **(38A and 39A)** (circled).



Locate the screw hole on the **right side frame (39A)** then drive an **IM** screw through it and into the reinforcement frame. We suggest partially tightening this screw then returning to tighten it fully once the screw for the left side frame is secure (see next step).

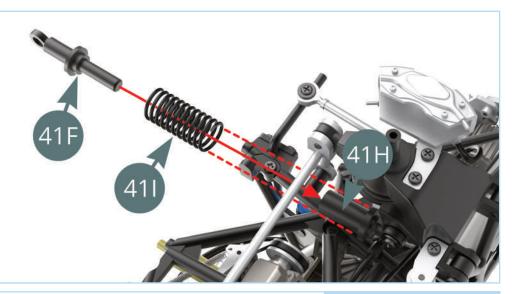
We recommend using the thin screwdriver from Stage 37. Pass it between the cylinder and rear upright (orange arrow).

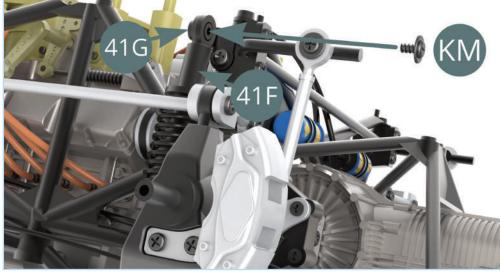


Take an **IM** screw and drive it through the **left side frame** (**38A**) and into the reinforcement frame in the same way.

#### STEP 3

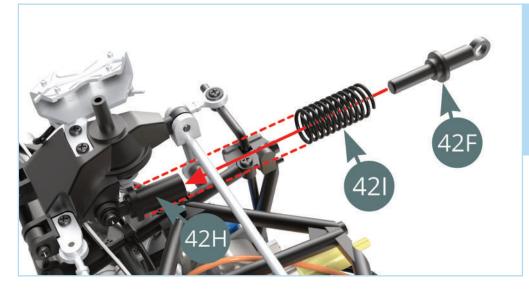
Retrieve the **shock absorber spring (411)** and **shock absorber piston (41F)** supplied with Stage 41. Fit the spring onto the right hand **shock absorber cylinder (41H)** then push the piston inside.





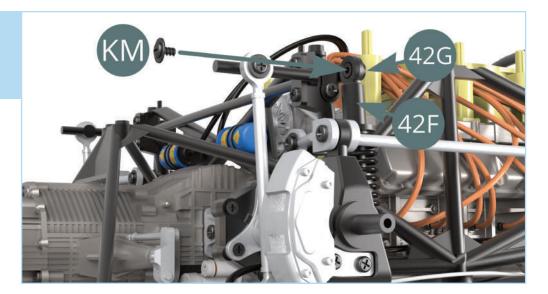
Press the **shock absorber piston (41F)** down and fit its eyelet over the **bracket (41C)**, then secure in place using a **KM** screw.

STEP 4



Take the piston and spring supplied with Stage 42 **(42F and 42I)** then fit them with the left hand **shock absorber cylinder (42H)** in the same manner as before.

Press and fit the piston onto the **bracket (42C)** and fix using a **KM** screw.



#### STAGE COMPLETE

