
Build the
C57
Steam
Locomotive
Pack 03
C57117
DeAGOSTINI
MODEL SPACE™

Build the C57 Steam Locomotive

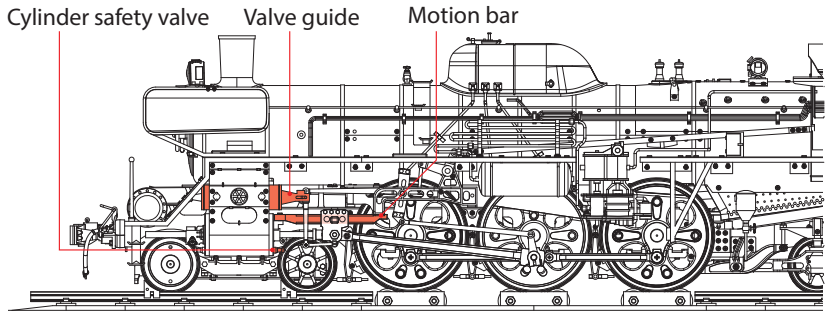
DeAGOSTINI MODEL SPACE™
www.model-space.com

Contents

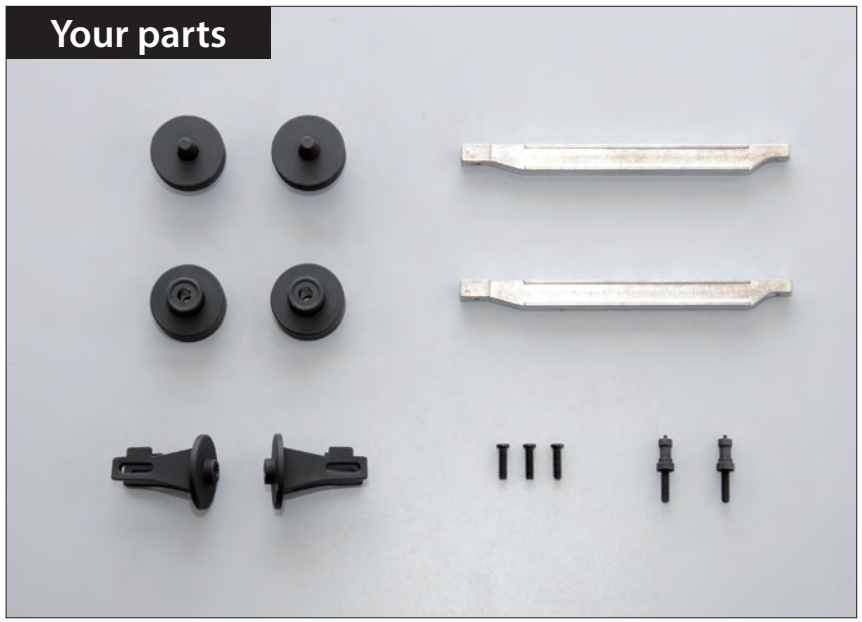
Editorial and design by Continuo Creative, 39-41 North Road, London N7 9DP.
Published in the UK by De Agostini UK Ltd, Battersea Studios 2, 82 Silverthorne Road, London SW8 3HE.
Published in the USA by De Agostini Publishing USA, Inc., 915 Broadway, Suite 609, New York, NY 10010.

The safety valves and motion bars

Where your parts fit



Your parts

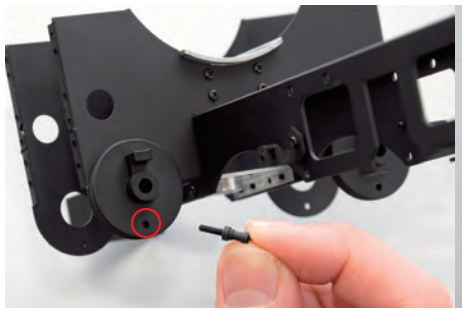


Front steam chest covers × 2
Piston valve tail guides A × 2
Piston valve tail guides B × 2
Motion bars × 2
Cylinder safety valves × 2
2 × 5mm screws x 3

Tools

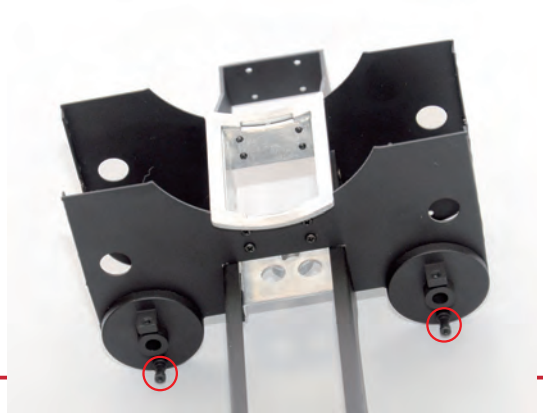
Phillips screwdriver
Synthetic rubber adhesive
Flat file or sandpaper
Toothpick

1

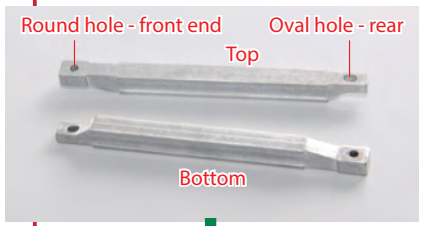


Insert one of the cylinder safety valves into one of the cylinder covers on the rear plate, into the hole from which the screw was removed in Stage 12.

Insert the second safety valve into the hole in the cover on the other side of the rear plate.

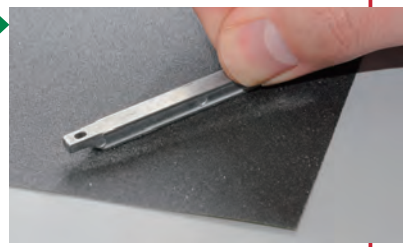


2



Check the two motion bars for any burrs or flash left over from casting.

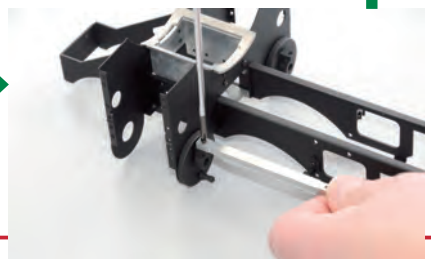
Remove any you find with a file or sandpaper, taking care not to alter the bars' shape.



3

Position the front end of one of the bars over the hole in the square projection on the cover.

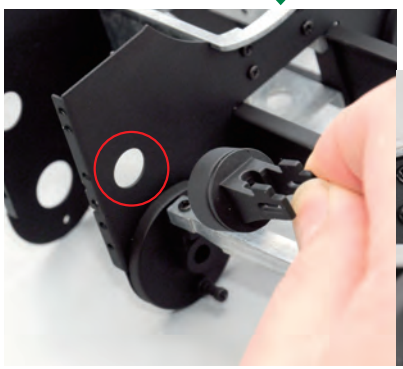
Loosely fix it in place with a 2 × 5mm screw.

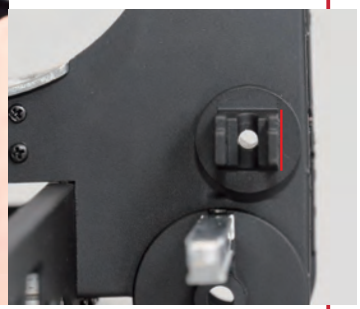


Repeat this for the other cover.

4

Apply synthetic rubber adhesive to the front of piston valve tail guides B, and combine with guides A, as shown. Remove any excess adhesive with a toothpick.





Apply synthetic rubber adhesive to the front sides of the piston valve tail guides A. Insert the guides into the holes on the rear cylinder plate, above the covers. Before the glue dries, adjust the position of the guides so they are vertical (red line) and parallel to the underframe.

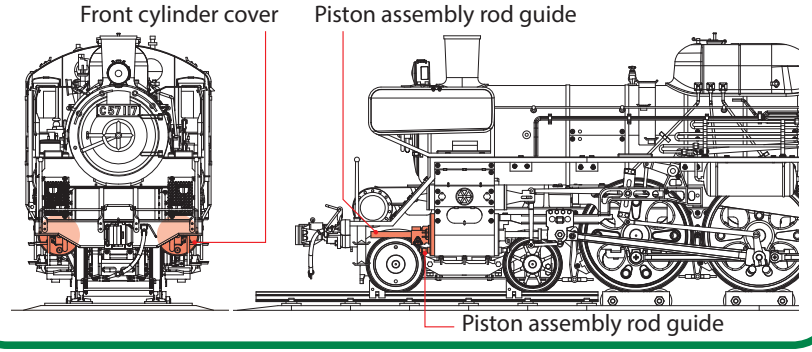
5

Apply a small amount of synthetic rubber adhesive to the front steam chest covers, and insert the covers into the two holes in the front plate, pressing firmly into place.

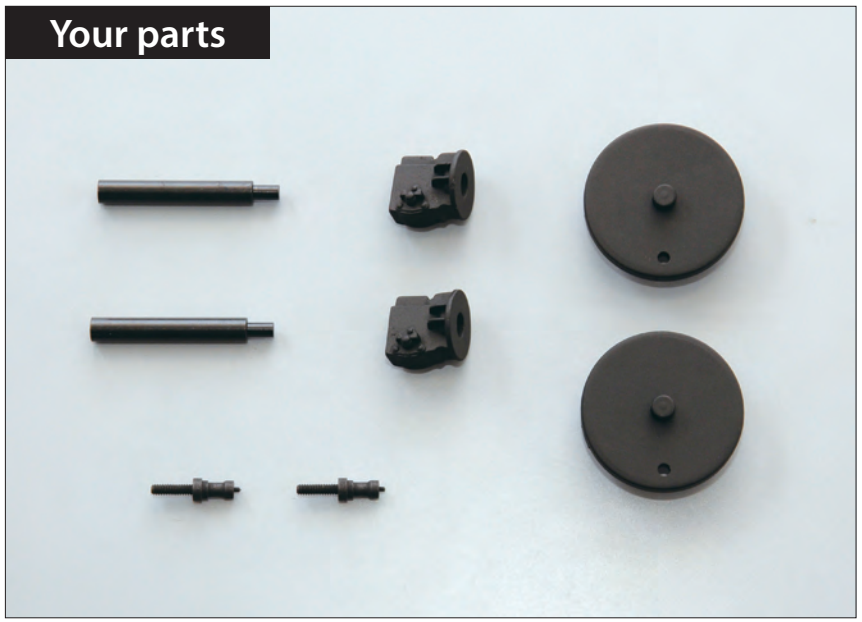
Complete

The piston rods and cylinder covers

Where your parts fit



Your parts

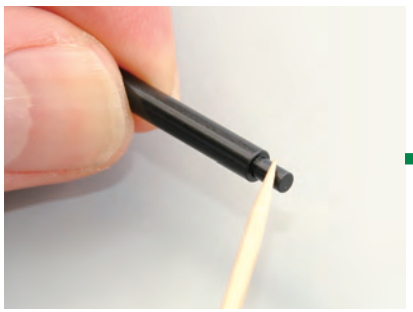


Piston rods × 2
Piston rod housings × 2
Cylinder safety valves × 2
Front cylinder covers × 2

Tools

Synthetic rubber adhesive
Instant adhesive

1

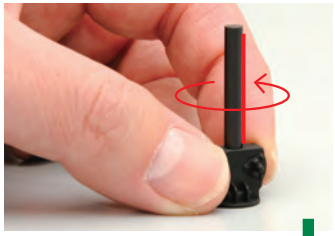


Apply synthetic rubber adhesive to the thin end of one of the piston rods.

Insert the piston rod into the hole in the rectangular end of a piston rod housing.

Remove any excess adhesive from around the join between the two parts.

2

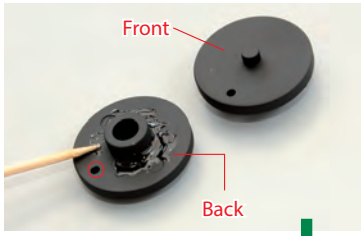


Before the adhesive dries, place the assembly on a flat surface. Check that the rod is vertical from all directions.

Hold the rod in position and apply some instant adhesive to the inside of the housing.

Allow the adhesive to dry, then repeat this process to assemble the second set.

3

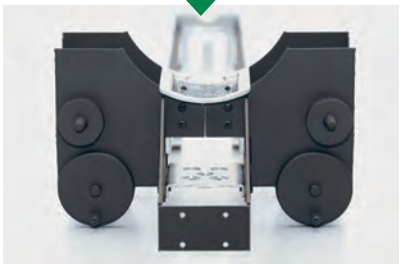


Apply synthetic rubber adhesive to the back side of one of the front cylinder covers, avoiding the circled hole.

Align the position of the small hole with the one in the cylinder plate. Insert the centre of the cover into the large hole in the plate.

Before the adhesive dries look through the small hole to ensure it is aligned.

Screw one of the safety valves into the hole at the bottom of the cylinder cover.



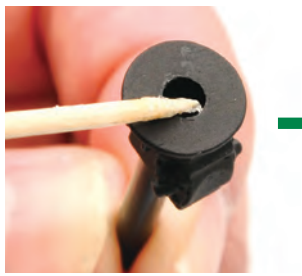
Repeat the process to fit the other cylinder cover and safety valve.

Complete

Tip

It is always best to use as small an amount of instant adhesive as possible, but, as it is a liquid adhesive, it is easy to apply too much. If this happens, you can use some tissue twisted to a point to soak up the excess, as shown on the right. You can also use a cotton swab, but this will lack the narrow tip that the rolled tissue will have. As superglue dries quickly, you will need to act fast.

4

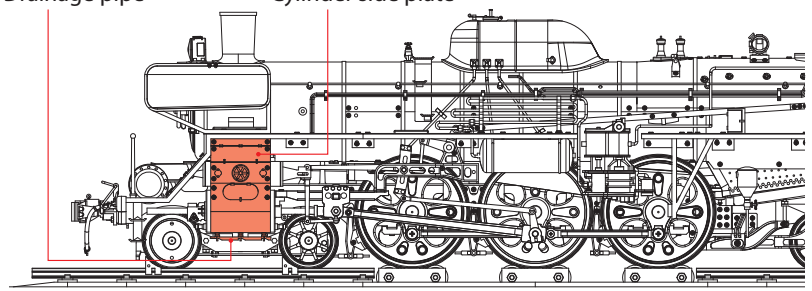


Apply some synthetic rubber adhesive to the back of both piston rod housings.

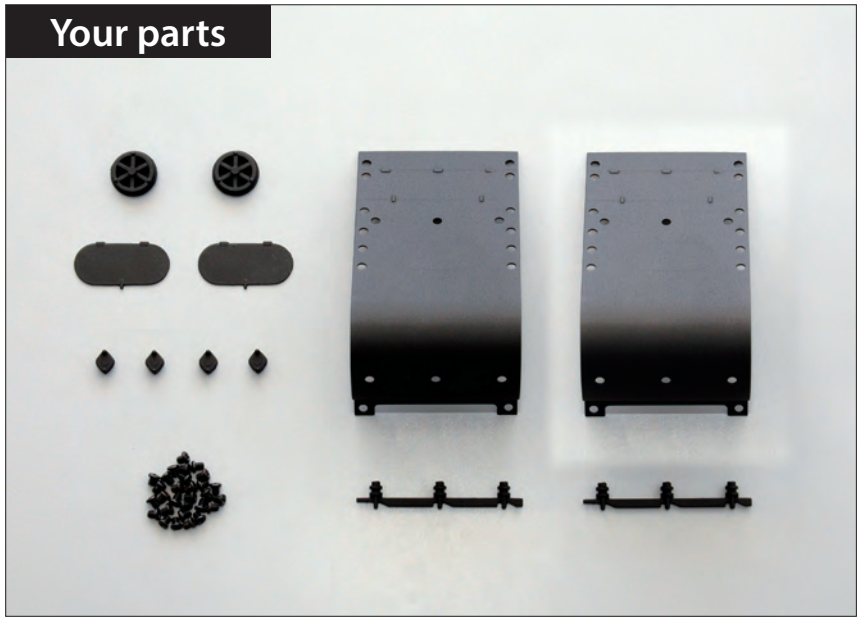
Place the housings onto the projections in the centres of the front cylinder covers (circled).

The cylinder side plates

Where your parts fit



Your parts

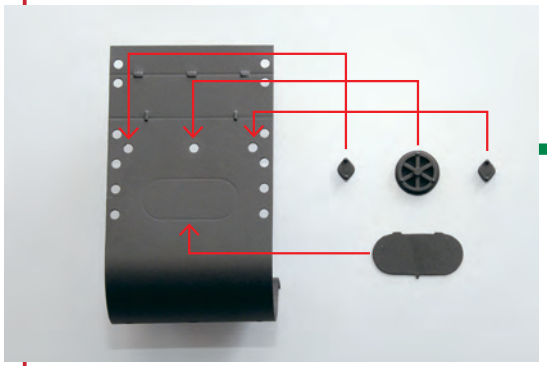


Air valve wheels × 2
Inspection hatches × 2
Hole covers × 4
2 × 2mm screws × 30
Cylinder side plates × 2
Drainage pipes × 2

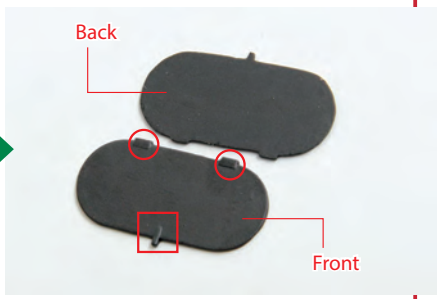
Tools

Phillips screwdriver
Synthetic rubber adhesive
Instant adhesive
Soft cloth or towel

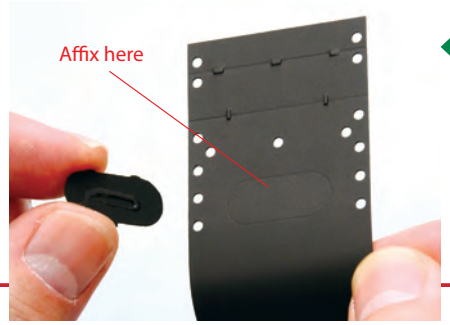
1



Place a cylinder side plate, an air valve wheel, an inspection hatch and two hole covers as shown above.

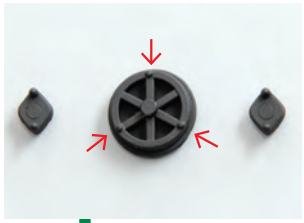


On the front side of each inspection hatch, the projections at the top and bottom (outlined) are raised.



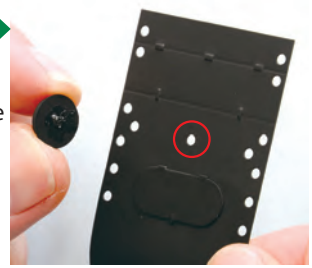
Apply synthetic rubber adhesive to the back of one of the inspection hatches and glue it into place on the side plate.

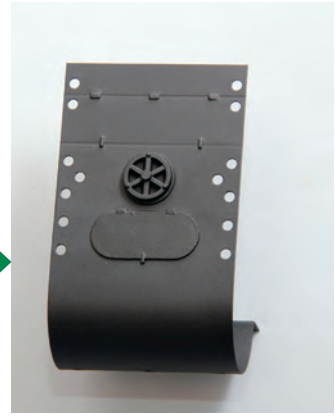
2



Prepare one of the air valve wheels and two hole covers. Position the wheel with the projections at the arrowed points when gluing to the side plate.

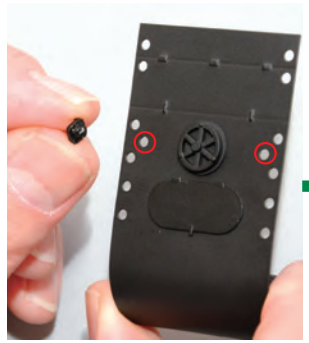
Apply synthetic rubber adhesive to the back of the wheel and glue it into the circled hole.



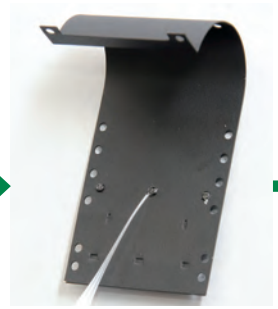


Adjust the position of the wheel so that the projections match those shown above left.

3

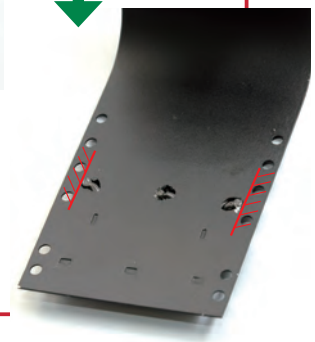


Apply synthetic rubber adhesive to the pins on the backs of the hole covers and place them into the circled holes in the side plate.

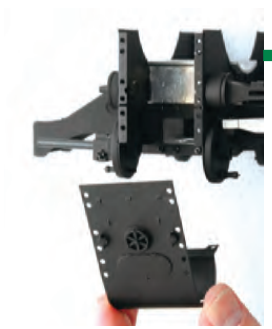


Turn the side plate over and apply a small amount of instant adhesive to the backs of the pins.

Don't let any glue block the holes at the side of the plate.

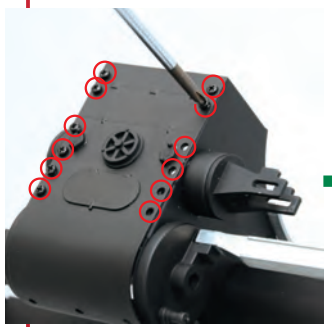


4

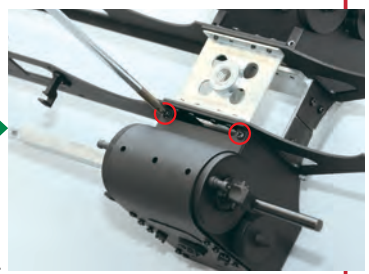


Align the side plate assembly with the left front and rear cylinder plates.

Align the holes in the side plate with those in the cylinder plates.



Half-tighten a 2 × 2mm screw into each of the aligned holes (circled).

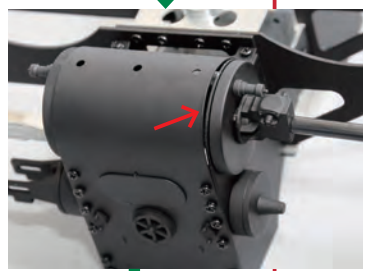


Half-tighten another two 2 × 2mm screws into the two holes on the underside (circled).

5

This shows the position of the left side plate after being fitted.

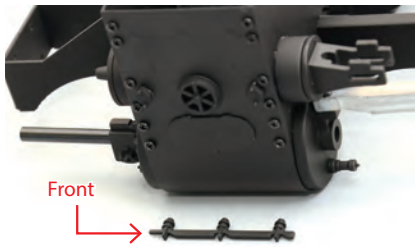
At this point, the front or rear cylinder covers may not be flush with the side plate, as is the case in this picture.



Tightening the screws fully should close this gap.

Place the left side of the model on a soft cloth or towel, and then repeat the process to fit the right side plate.

6



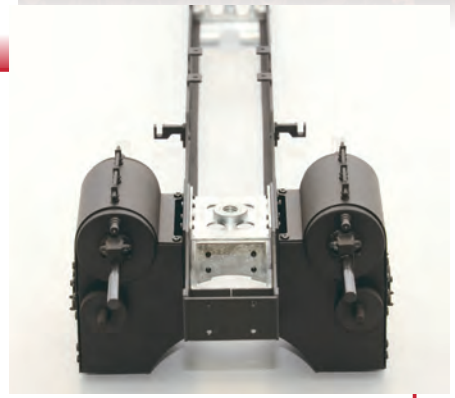
The front end of each drainage pipe is thinner than the rear.

Apply some synthetic rubber adhesive to the three pins on one of the pipes and insert them into the circled holes on the underside of the left side plate.

7

Fit the other drainage pipe to the bottom of the right side plate in the same way.

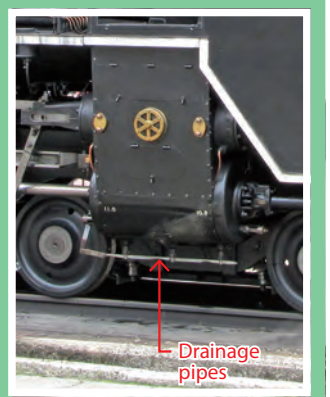
Before the glue dries, make sure the drainage pipes are vertical, as shown.



Apply some instant adhesive to the ends of the three pins of the pipes, to make them more secure.

FOCUS The drainage pipes

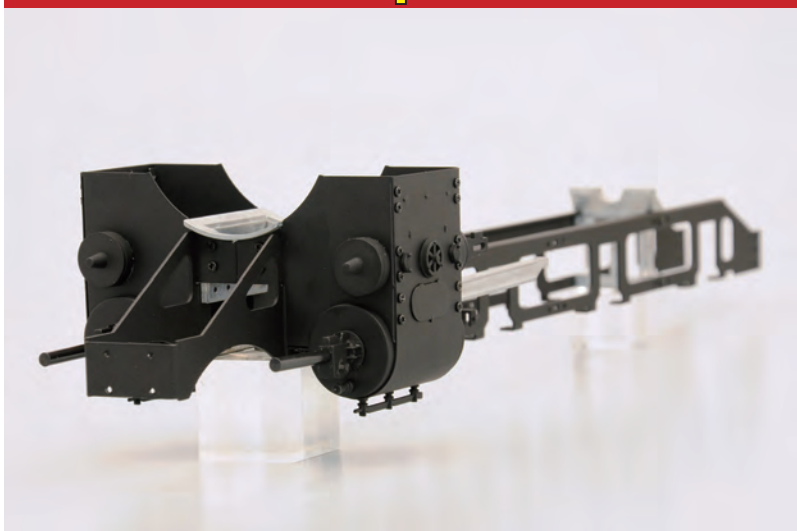
When steam is fed into the cylinders, water can accumulate in them due to condensation, especially when operating in the cold, which can cause trouble in steam locomotives. The drain pipes at the bottom of the cylinders allow this build-up of water to be discharged from the pressure system.



The drainage pipe under a cylinder of a real C57.

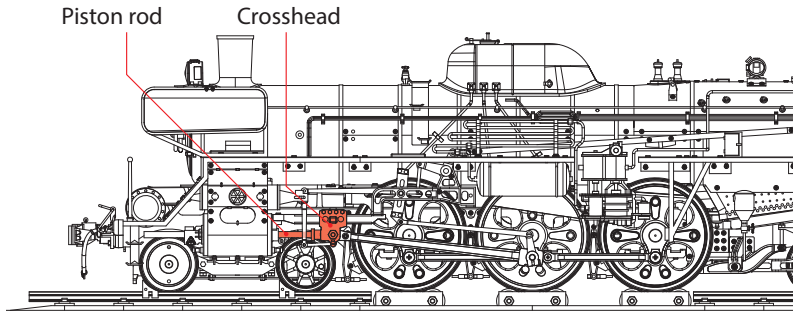
Here you can see a C57 underway with its drainage pipes fully opened, discharging the water from the cylinders.

Complete

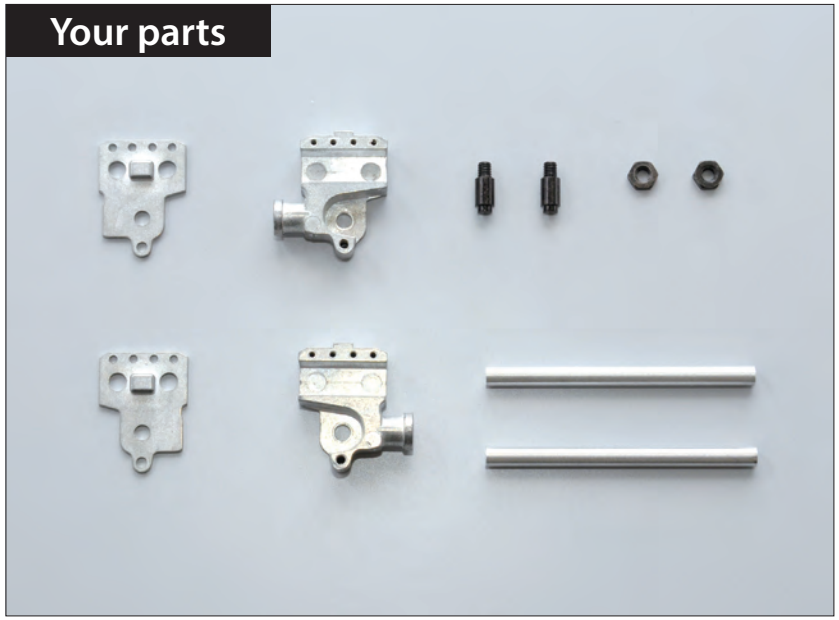


The piston rods and crossheads

Where your parts fit



Your parts

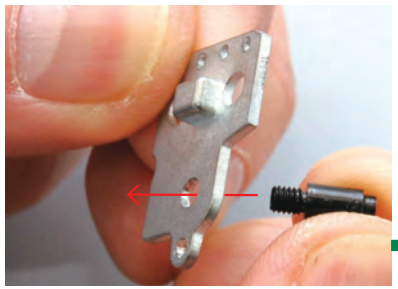


Left crosshead
Right crosshead
Left outer crosshead
Right outer crosshead
Crosshead pins × 2
Nuts × 2
Piston rods × 2

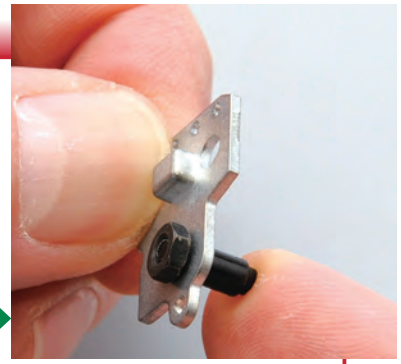
Tools

Pliers
Epoxy adhesive
Socket wrench (5.5mm)

1



Insert a crosshead pin into one of the outer crossheads.

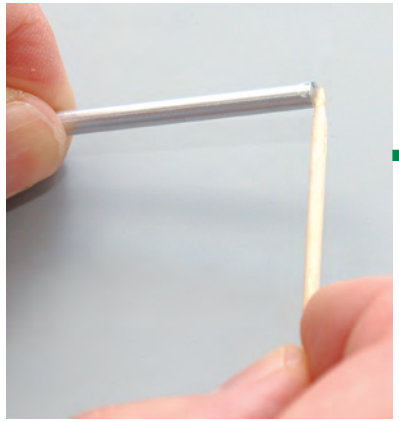


Place a nut onto the thread of the crosshead pin.

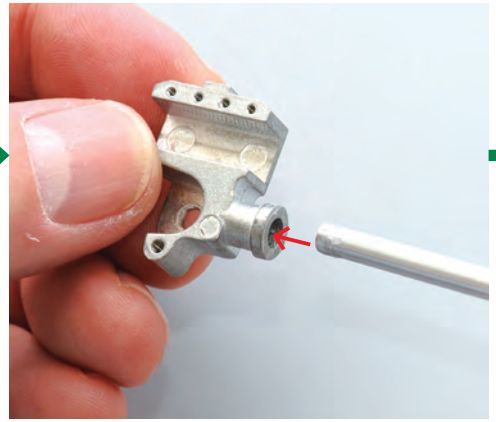
Tighten the nut. A 5.5mm socket wrench will make this easier.

Fit a crosshead pin and nut to the other outer crosshead in the same way.

2

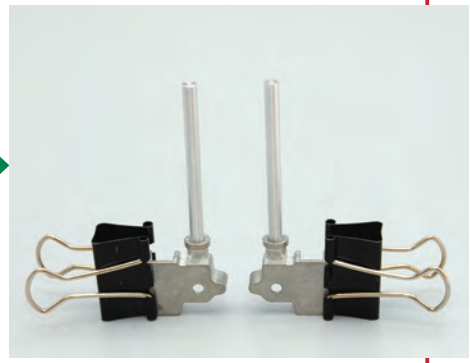


Apply some epoxy adhesive to one end of one of the piston rods.



Insert the piston rod into the hole in the cylindrical projection of one of the crossheads.

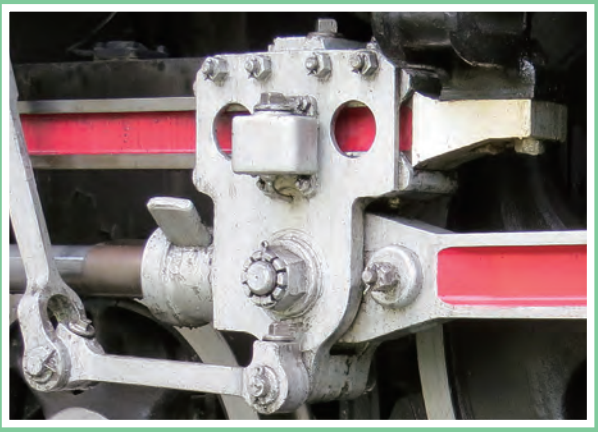
Push the rod in as far as it will go, then wipe away any excess adhesive.



Repeat with the second rod and crosshead. Keep both assemblies positioned with the rods vertical, as shown, until the glue dries.

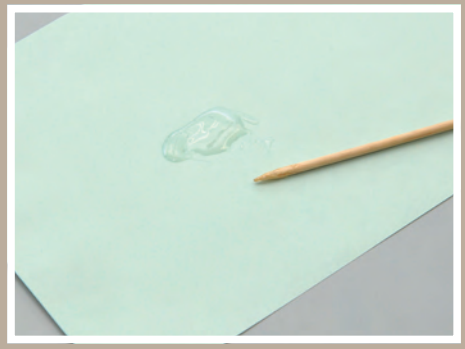
FOCUS The crosshead

The crosshead pin and crosshead on the real C57 are secured using a hexagonal nut, just as on the model.

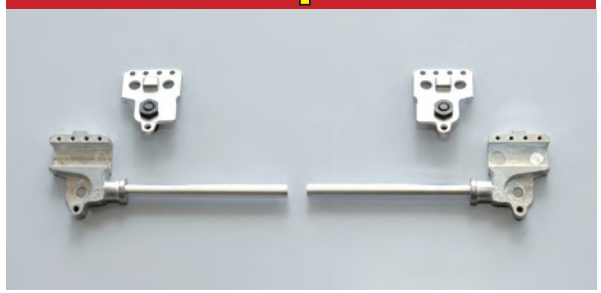


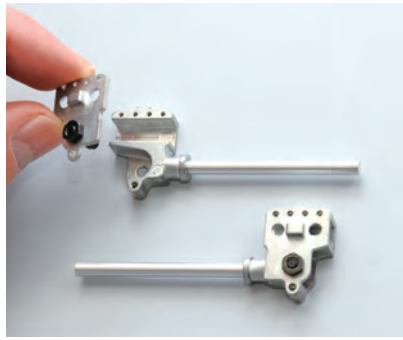
Tip

When working with epoxy adhesive, make sure to not move the parts you are gluing until the epoxy is completely dry, because the strength of the bond is weak when the adhesive is still wet.



Complete

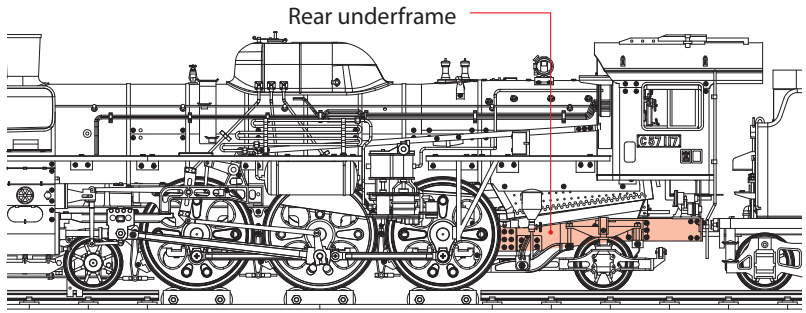




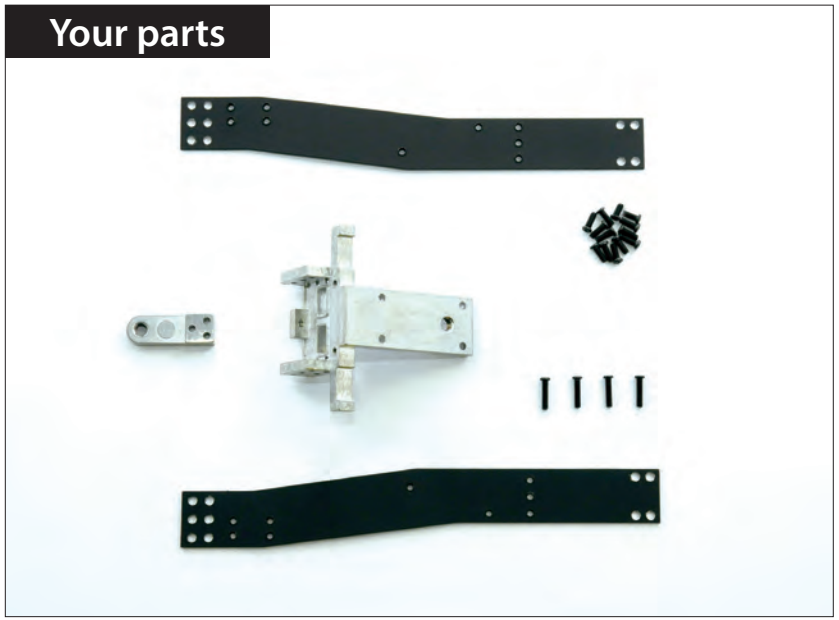
Keep the crosshead parts together.

The rear underframe

Where your parts fit



Your parts



Right rear underframe
Expansion support bracket
Expansion support
2 × 5mm screws × 13
2 × 8mm screws ×4
Left rear underframe

Tools

Phillips screwdriver
Soft cloth or towel

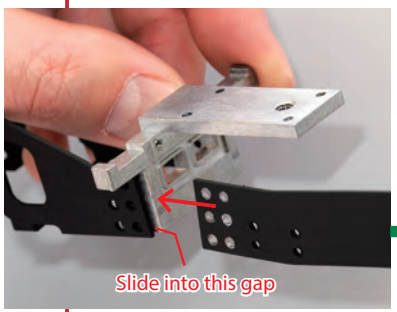
1

Prepare the new parts along with the main underframe assembly. To protect the parts, you should work on a soft cloth or towel.

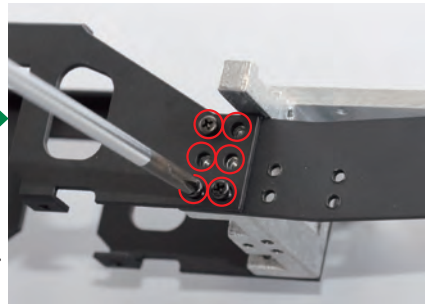
2

The rear underframes are mostly symmetrical, the only exception being that when the underframes are laid flat, the front ends will be raised slightly, as shown here.

Position the two underframes and the expansion support behind the main assembly.



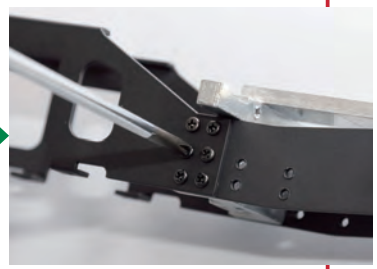
Place the support between the ends of the main underframe, and slide the left rear underframe into the indicated gap.



Align the screw holes of the three parts and half-tighten a 2 × 5mm screw into each of them.

3

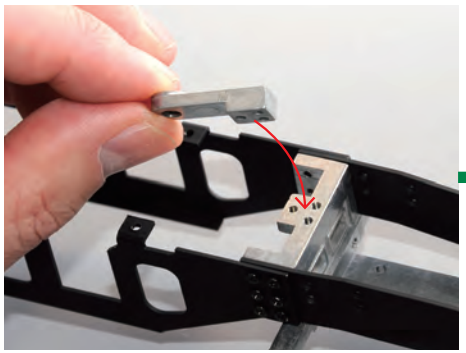
Fit the right rear underframe between the support and main underframe. Half tighten a 2 × 5mm screw into each of the aligned holes.



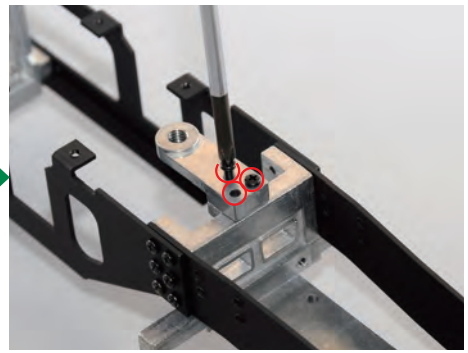
Now fully tighten the screws on each side of the underframe.

Check that your model looks the same as the one shown here.

4



Align the three holes in the expansion support bracket with the matching holes in the expansion support.

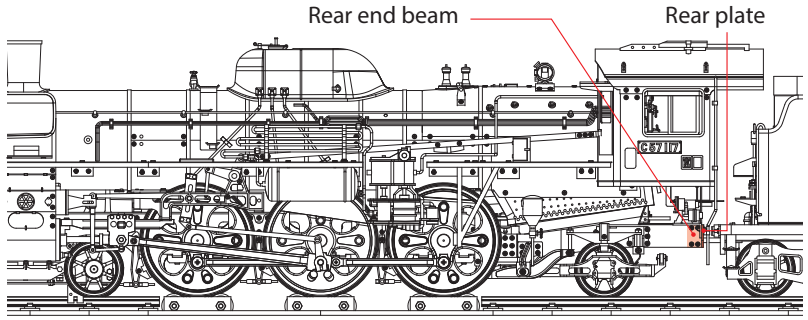


Tighten a 2 × 8mm screw into each of the holes.

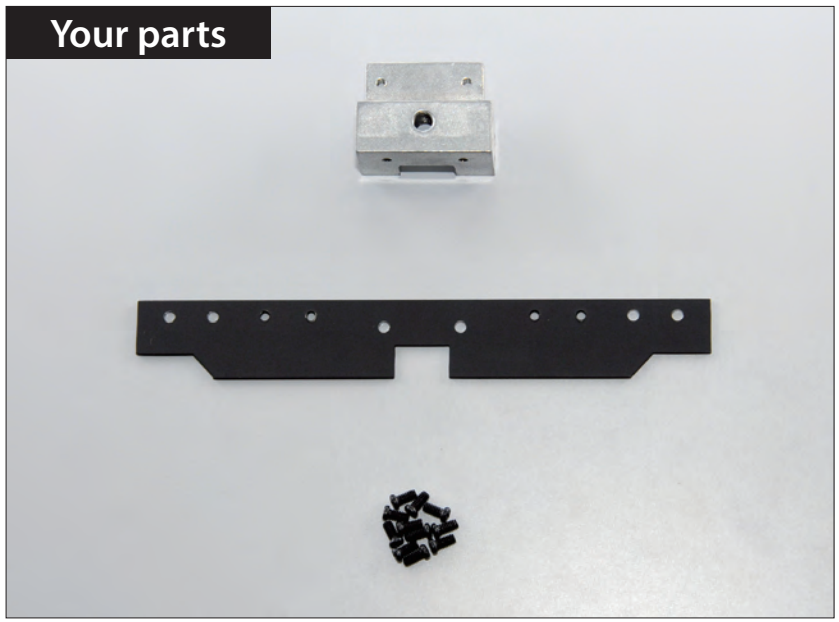
Complete

Rear end beam and plate

Where your parts fit



Your parts

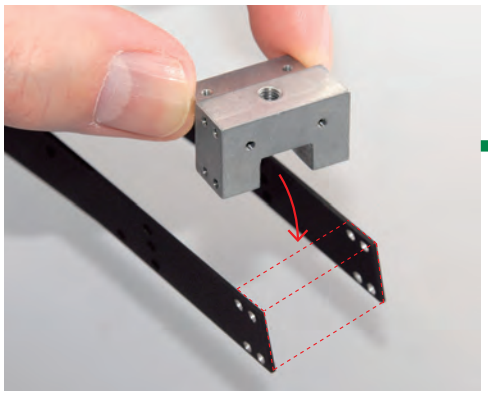


Rear end beam
Rear plate
2 × 4mm screws × 11

Tools

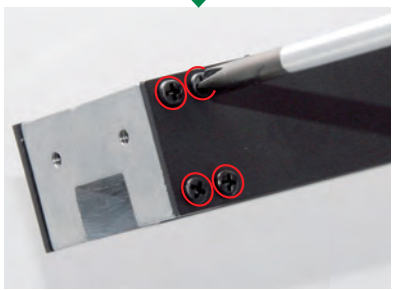
Phillips screwdriver

1



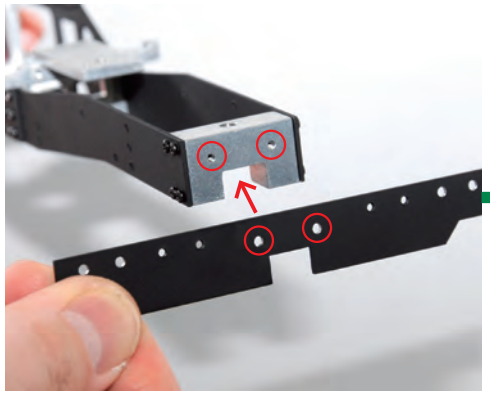
Place the rear end beam between the ends of the rear underframe, aligning the holes of both parts.

Half-tighten a 2 x 4mm screw into each of the indicated holes on one side of the underframe.

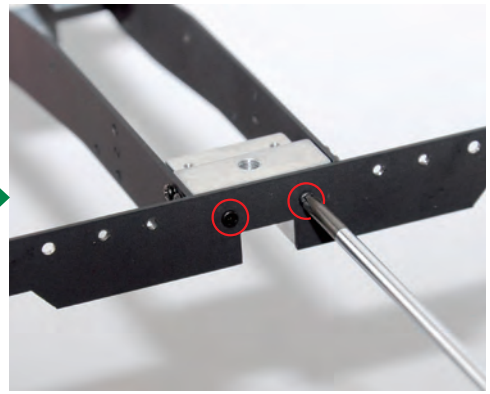


Half-tighten another four 2 x 4mm screws into the holes on the other side.

2



Align the two circled holes in the rear plate with those in the end beam.

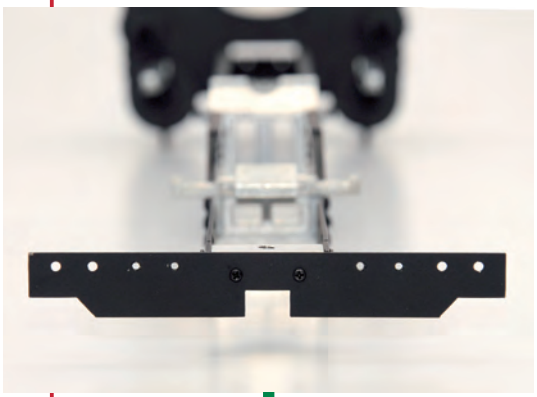


Hold the rear plate level, and secure it with two 2 × 4mm screws.

3

Fully tighten the four screws on each side of the end of the rear underframe.

4



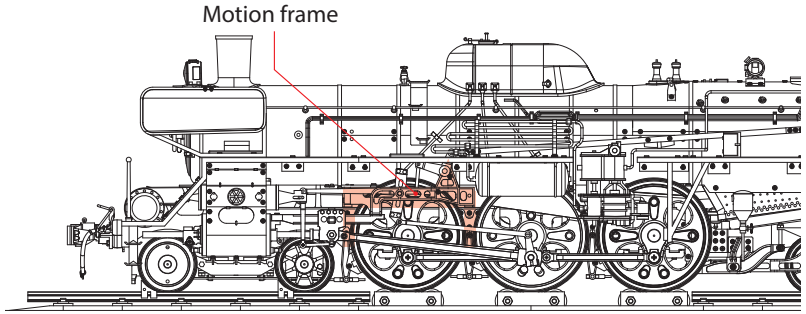
Check that the top of the rear plate is level with the top of the end beam.

Loosen the screws to adjust the position if necessary. Tighten them when correct.

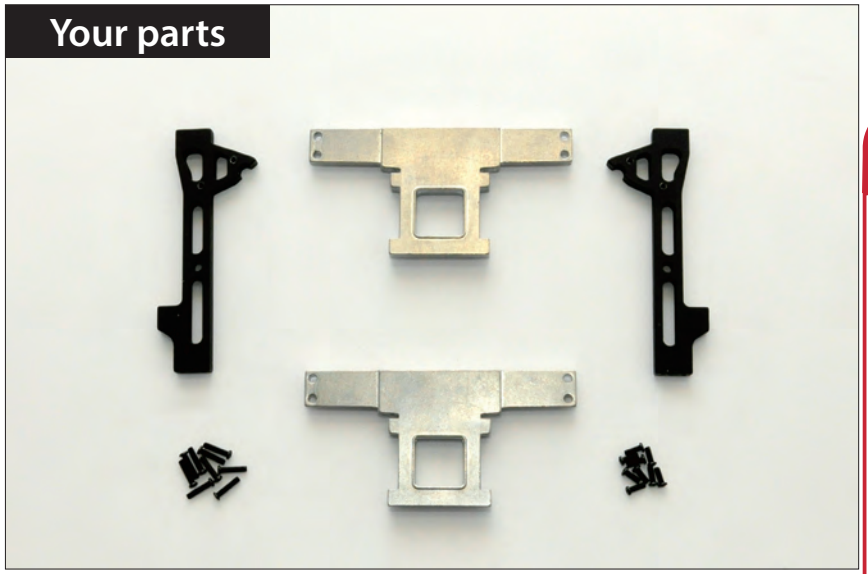
Complete

The motion frame

Where your parts fit



Your parts

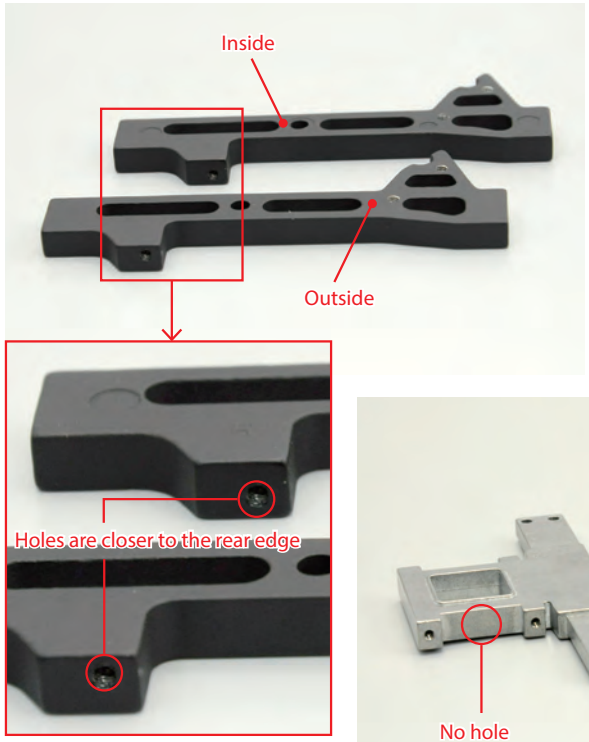


Right motion frame plate
Front motion frame plate
Rear motion frame plate
Left motion frame plate
2 × 8mm screws × 9
2 × 5mm screws × 9

Tools

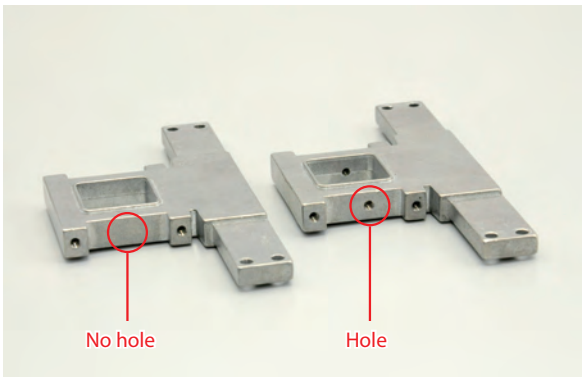
Phillips screwdriver

1

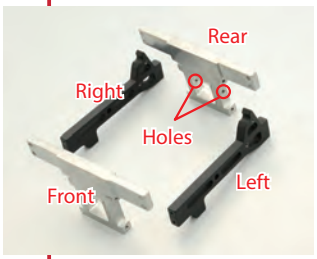


Place the right and left motion frame plates next to each other, as shown. The positions in the photo, left, show the inside and outside of the plates. The holes at the bottom are positioned closer to the rear edge of the projecting part, bottom left.

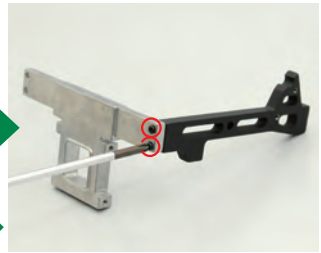
The rear motion frame plate has two extra holes in the upright section than the front motion frame plate.



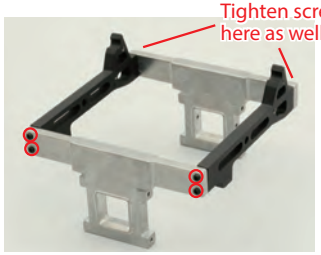
2



Arrange the motion frame components into the positions shown here.



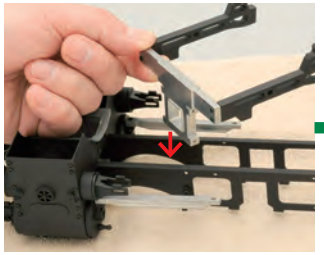
Attach the left motion frame plate to the front plate with two 2 × 8mm screws. Only half-tighten the screws at this point.



Fix the right motion frame plate to the front plate, then screw the rear plate onto the ends of the side plates.

Fully tighten the screws in the front plate to fix the side plates in position, then remove the rear plate.

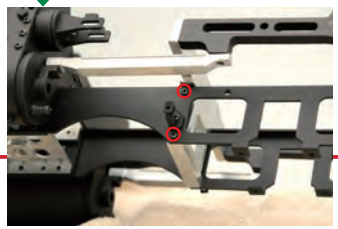
3



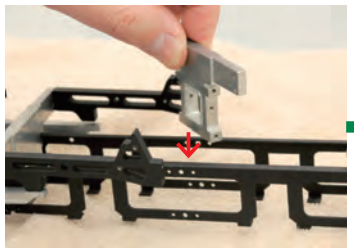
Place the motion frame between the underframes, behind the cylinders.

Turn the motion frame so that it is perpendicular to the underframe.

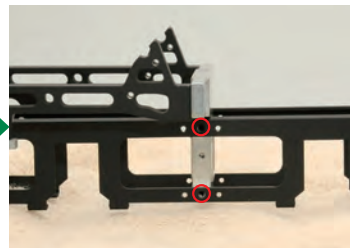
Align the holes of the front motion frame plate with those in the underframe, and half-tighten two 2 × 5mm screws into them.



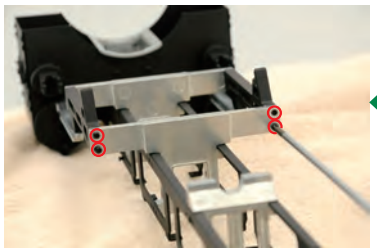
4



Place the rear motion frame plate between the underframes, behind the rest of the motion frame.

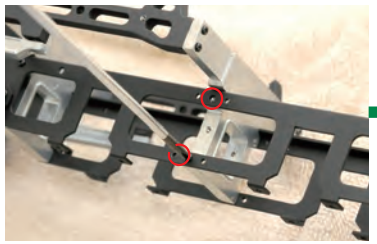


Align the holes in the rear plate with those in the underframe.



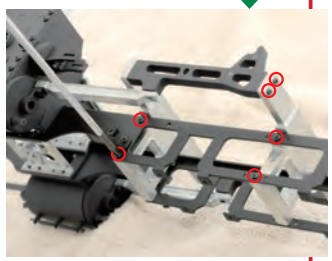
Fix the rear plate to the back of the side plates.

5



Half-tighten a 2 × 5mm screw into the indicated two holes on the sides of the underframe.

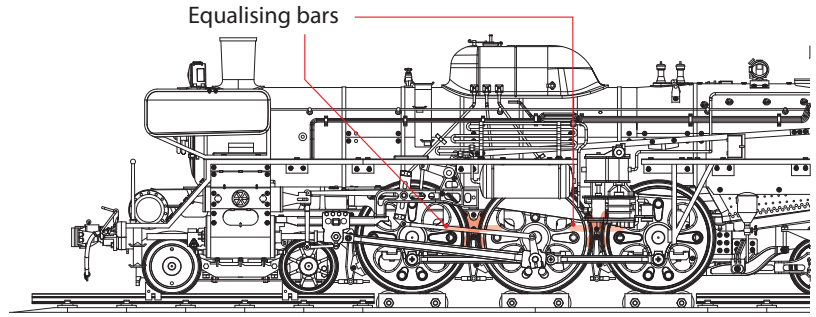
Go over all the screws and tighten them fully to complete this assembly stage.



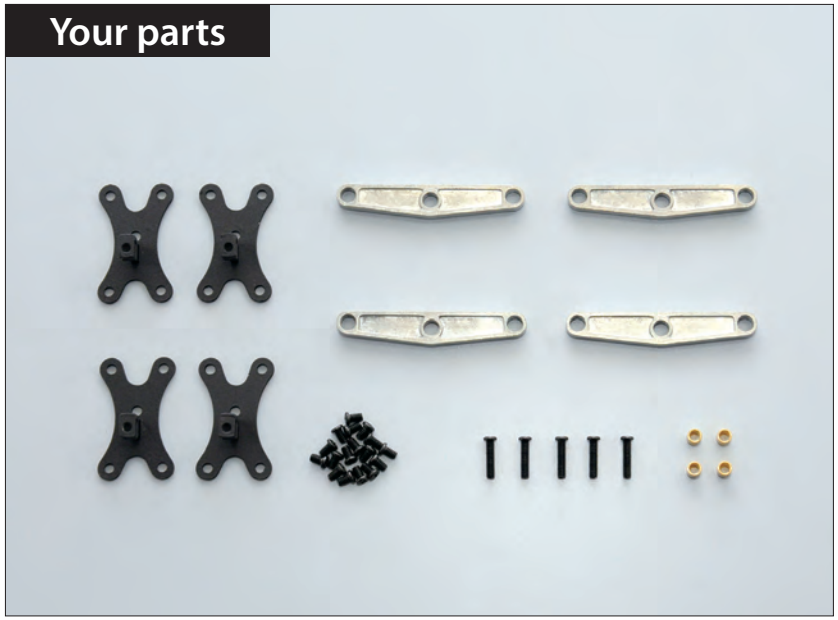
Complete

The equalising bars

Where your parts fit



Your parts



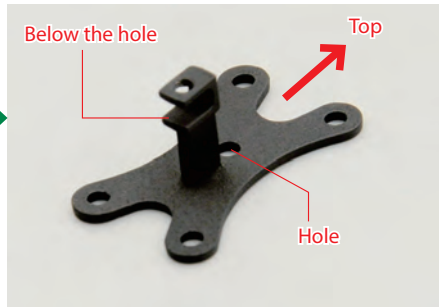
Equalising bars × 4
Equalising brackets × 4
Bush × 4
2 × 8mm screws × 5
2 × 3mm screws × 17

Tools

Tweezers
Phillips screwdriver
Masking tape

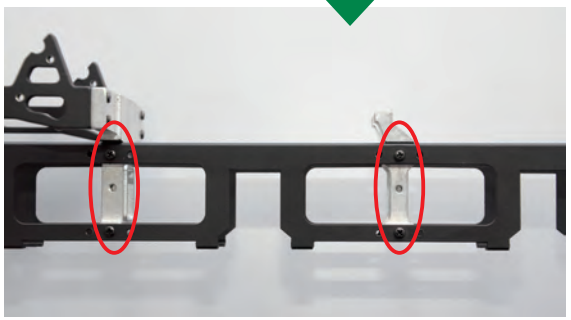
1

There is no difference between the front and back of an equalising bar, but the top of it is flat while the bottom is angled.



This picture shows the orientation of the equalising brackets.

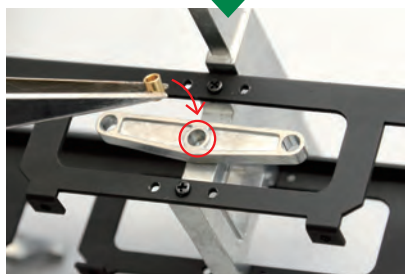
The equalising bars and brackets will be fitted to the front and rear motion frame plates.



2

Align the hole in the centre of one of the equalising bars with the indicated hole in the rear motion frame plate.

Align the five holes in an equalising bracket with the five in the bar and underframe.

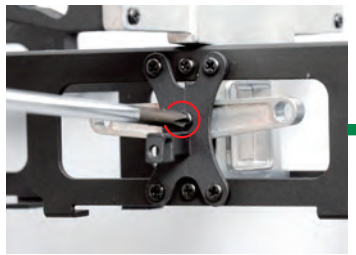


Using tweezers, insert a bush into the hole in the centre of the bar.

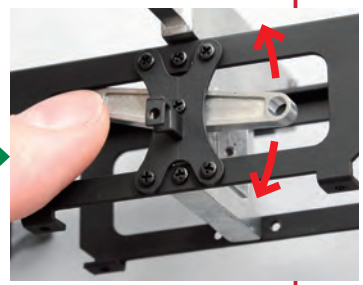
3

Half-tighten a 2 × 8mm screw into the hole in the centre of the bracket.

Tighten a 2 × 3mm screw into each of the four circled holes.



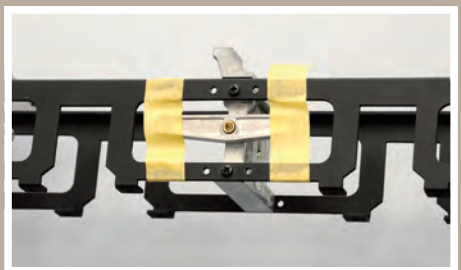
Fully tighten the screw in the centre of the bracket.



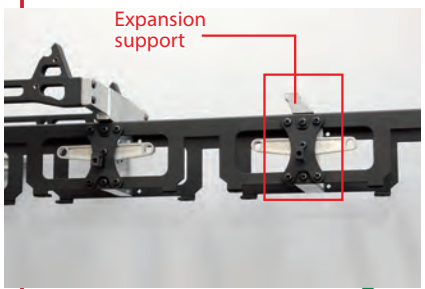
Make sure that the equaliser bar pivots smoothly.

Tip

To stop an equalising bar from moving during subsequent assembly work, you can temporarily secure it to the underframe with masking tape, as shown.

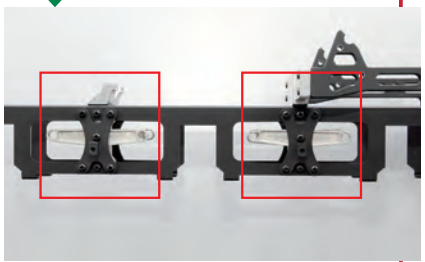


4



Fit another equalising bar, bush and bracket to the underframe, alongside the expansion support.

Repeat Steps 2-4 to fit equalising bars and brackets to the right side of the underframe, as shown.



Complete