STAGE 41: FITTING A VERTEBRA AND CASING

Assemble and insert a vertebra casing to further extend the Terminator $T-800^{\text{TM}}$'s spine.





LIST OF PIECES

41-1	Vertebra spindle	41-5
41-2	Vertebra casing (deeper)	41-6
41-3	Vertebra casing (shallower)	41-7
41-4	Vertebra connector	41-8

41-5 Vertebra (small)
41-6 Vertebra (larger)
41-7 5x M3 spring washers (1 spare)
41-8 5x PM screw (3x6 mm) (1 spare)

YOU WILL ALSO NEED

A cross-head screwdriver, tweezers (optional), a pair of fine-nosed pliers pliers (optional) and all the parts that you have assembled so far, apart from the battery box.



STEP 1

Fit the vertebra casing **41-3** into part **41-4**. Note that parts **41-3** and **41-2** are similar. Part **41-3** has a shallower recess, and should be positioned recess side up as seen in this photo, so that the edge of the rim of part **41-3** is level with the rim of part **41-4**.



STEP 2

Fit the longer shaft of part 41-1 into the hole in the assembled parts 41-3/41-4.



STEP 3

Take the second vertebra housing **41-2** and fit it over the short shaft of the vertebra **41-1**.



STEP 4

This shows the vertebra casing **41-2** in place. The rim of part **41-2** butts up to the rim of part **41-3**, which is inside the recess of part **41-4**.



STEP 5

Place the assembly from stage 40 on your worktop, so that you can access part **40-3**. Have the assembly from step 4 ready, as shown.



STEP 6

Take four PM 3x6 mm screws (41-8) and fit an M3 spring over them. Align the spline on part 41-1 to face the front as shown by the blue arrow. Fit the screws into the four holes on the underside of part 41-4 (circled) and tighten to hold the part in place. As described in stage 39, if the springs are a tight fit, squeeze them around the screw with fine-nosed pliers.





STAGE COMPLETE!

The next vertebra has been fitted to the base of the thoracic cage. The other two vertebrae supplied (**41-5** and **41-6**) will be used in the next stage.

42

STAGE 42: FITTING FIVE VERTEBRAE

The spine continues to take shape as you combine the vertebrae from stage 41 with the new pieces from this stage.





LIST OF PIECES

- 42-1 Vertebra (smaller)
- 42-2 Vertebra (medium)
- 42-3 Vertebra (larger)
- 42-4 Spinal cord

YOU WILL ALSO NEED

Parts 41-5 and 41-6 from stage 41 and the assembly from stage 41.



STEP 1

Place the largest vertebra, **42-3**, on your work surface and position the next in size, **42-2**, on top of it so that the rim on part **42-3** fits into the hollow in part **42-2**.



STEP 2

Note that the fit is not tight – there is 'wobble' room between the vertebrae. Next, take part **42-1**.



STEP 3

Fit vertebra **42-1** on top of vertebra **42-2**. The next piece to add is part **41-6**.

42



STEP 4

Position vertebra **41-6** on top of vertebra **42-1**. The next piece to add is part **41-5**.



STEP 5

The five vertebrae are now assembled, with the smallest, **41-5**, on top of the pile.



STEP 6

Take the spinal cord **42-4**. Note that one end (circled) has a narrower 'cuff' than the other.

7





STEP 7

Fit the narrower end of the spinal cord **42-4** through the centre of all five vertebrae so that it is at the top. Place the assembly from stage 41 on your work surface.

STEP 8

Fit the top end of the spinal cord **42-4** into the open end of part **41-1**. Tighten part **42-4** by turning by hand, as indicated by the arrow.



STAGE COMPLETE!

Five graduated vertebrae have been fitted to the thoracic cage structure.

EXPERT TIP!

Your model is growing fast, and needs to be stored carefully. We found that a plastic 'under-bed' storage box, lined with bubble wrap, was a convenient shape.

43

STAGE 43: STARTING WORK ON THE PELVIS

You will begin to assemble the pelvis, onto which the Terminator T-800's legs will be mounted.



LIST OF PIECES

43-1	Pelvic frame (right)
43-2	Pelvic frame (right)
43-3	Pelvic plate (right)

43-4 Pelvic plate (left)

43-5	3x M2 nuts (1 spare)
43-6	2x KB screw (2x4 mm) (1 spare)
43-7	3x PM screw (2x6 mm) (1 spare)

YOU WILL ALSO NEED

A cross-head screwdriver, tweezers (optional), a fine file and a sharp craft knife with a suitable cutting surface.



STEP 1

Cut the right pelvic plate **43-3** (marked R, circled) from the frame. Use a fine file to smooth any roughness where it has been removed from the frame (arrow).



STEP 2

Position the pelvic frame **43-1** on your work surface as shown. Fit the smaller raised socket on the plate **43-3** into the hole in part **43-1** (circled). It fits in from beneath when the parts are in the orientation shown here.



STEP 3

Fix part **43-3** in place with a KB 2x4 mm screw (**43-6**).



STEP 4

Fit an M2 nut (**43-5**) into each of the two hexagonal recesses (circled) in part **43-1**.



STEP 5

Turn part **43-1** over, taking care that the nuts do not fall out. Take the pelvic frame **43-2** and align the two screw sockets with the recesses on part **43-1**, as indicated by the arrows. Note that there are raised areas on the underside of part **43-2** that fit into the recesses.



STEP 6

Fix the two parts together with two PM 2x6 mm screws (**43-7**).



STAGE COMPLETE!

Pieces of the right pelvic frame have been assembled. The left pelvic plate **43-4** will be used in a future stage. We suggest that you leave it attached to the frame at this stage.

STAGE 44: WORKING ON THE RIGHT PELVIS

Extending the pelvis, by attaching the pelvic frame to the pelvic girdle.





LIST OF PIECES

- 44-1 Pelvic girdle (right)
- 44-2 Pelvic girdle detail (right)
- 44-3 2x PM screw (2x4 mm) (1 spare)
- 44-4 3x PB screw (2x6 mm) (1 spare)

44-5 6x PB screw (2x4 mm) (1 spare)

YOU WILL ALSO NEED

A cross-head screwdriver and the Right pelvic frame from the previous stage.



STEP 1

Position the right pelvic girdle **44-1** on your work surface and identify the fixing points for the pelvic frame (circled).



STEP 2

Take the pelvic frame assembly from stage 43 and position it on the pelvic girdle **44-1** so that the screw holes (circled) align with the fixing points identified in step 1.



STEP 3

When in place, the outer edge of the frame should fit neatly into part **44-1**, with the pelvic plate **43-3** in the matching recess in part **44-1** (arrow). When correctly positioned, fix in place with two PB 2x6 mm screws (**44-4**).

44



STEP 4

Identify the four fixing points (circled) on pelvic frame parts **43-1** and **43-2**.



STEP 5

Use four PB 2x4 mm screws (44-5) to fix the pelvic frame in place, as shown here.



STEP 6

Take the pelvic girdle detail **44-2** and fit it against the rounded end of part **44-1** so that the screw holes (circled) are aligned.



STEP 7

Fix part **44-2** in place with a PM 2x4 mm screw (**44-5**).



STEP 8

Take a PB 2x4 mm screw (**44-5**) and fit it into the screw socket at the corner of part **44-2**. Tighten the screw to fix the parts together.



STAGE COMPLETE!

The pelvic frame and a detail have been attached to the right pelvic girdle.

STAGE 45: THE LEFT PELVIC FRAME

Extend the pelvis by completing the left pelvic frame and adding detail to the right.





LIST OF PIECES

45-1	Pelvic frame (left)
45-2	Pelvic frame (left)
45-3	Pelvic girdle detail (right)
45-4	Pelvic girdle detail (left)
45-5	3x M2 nuts (1 spare)
45-6	2x KB screw (2x4 mm) (1 spare)
45-7	3x PM screw (2x6 mm) (1 spare)

YOU WILL ALSO NEED

A sharp craft knife and cutting surface, a cross-head screwdriver, tweezers (optional), a fine file, the Left pelvic plate 43-4 supplied with stage 43, the Right girdle assembly from stage 44, superglue and a cocktail stick.

45



STEP 1

If you have not already done so, cut part **43-4** from the frame and remove any rough edges with a fine file. Take care when using a craft knife; it is advisable to work on a cutting mat or other suitable surface.



STEP 2

Take the pelvic frame **45-1** and position it as shown. Fit part **43-4** under the matching shape on the frame so that the raised screw socket (circled) fits into a recess on the frame (the recess is on the underside when viewed from this angle).



STEP 3

Fix the two parts together with a KB 2x4 mm screw (45-6).



STEP 4 Fit two **M2** nuts into the hexagonal recesses in part **45-1** (circled).





STEP 5

Turn the frame **45-1** over, ensuring that the nuts stay in place. Position part **45-2** so that the two screw holes align with the recesses in part **45-1**. Note that there are raised areas around the holes in part **45-2** (on the underside, when viewed from this angle), which fit into the recesses in part **45-1**.

STEP 6

Fix the pelvic frame **45-2** to part **45-1** with two PM 2x6 mm screws (**45-7**).





STEP 7

Cut the right pelvic detail **45-3** from the frame, ensuring that the 'foot' (circled) is still attached. Remove any roughness where it was joined to the frame.

STEP 8

Check the fit of part **45-3** at the end of the assembly from stage 44. The 'foot' fits into a recess (arrow, inset), and the inner curved edge fits against part **44-1**, between the edge of part 44-1 and the two raised tabs (dotted line, inset).





STEP 9

Apply a very small amount of superglue to the edges of part **45-3** that will be in contact with the assembly from stage 44 (highlighted with a blue dotted line).



STEP 10

Fix part **45-3** in place (seen here from the opposite side) ensuring that all the glued edges are in contact.



STAGE COMPLETE!

The left pelvic girdle frame has been assembled, and a detail has been attached to the right pelvis. Part **45-4** will be used in a future stage. We suggest that you leave it on the frame at this stage.

20

46

STAGE 46: WORKING ON THE RIGHT PELVIS

Combine the assembled left pelvic frame from the previous stage with this stage's components.





LIST OF PIECES

46-1	Pelvic girdle (left)
46-2	Pelvic girdle detail (left)
46-3	2x PM screw (2x4 mm) (1 spare)
46-4	3x PB screw (2x6 mm) (1 spare)
46-5	6x PB screw (2x4 mm) (1 spare)

YOU WILL ALSO NEED

A cross-head screwdriver, a fine file, the Left pelvic frame and pelvic accessory 45-4 from the previous stage, superglue and cocktail stick.

46



STEP 1

Position the left pelvic girdle **46-1** on your work surface and identify the fixing points for the pelvic frame (circled).



STEP 2

Take the pelvic frame assembly from stage 45 and position it on the pelvic girdle **46-1** so that the screw holes (circled) align with the fixing point identified in step 1.



STEP 3

When in place, the outer edge of the frame should fit neatly into part **46-1**, with the pelvic plate **45-3** in the matching recess in part **46-1**. When correctly positioned, fix in place with two PB 2x6 mm screws (**46-4**).



STEP 4

Identify the four fixing points (circled) on pelvic frame parts **45-1** and **45-2**.



STEP 5

Use four PB 2x4 mm screws (**46-5**) to fix the pelvic frame in place, as shown here.



STEP 6

Take the pelvic girdle detail **46-2** and fit it against the rounded end of part **46-1** so that the screw holes (circled) are aligned.



STEP 7

Fix part 46-2 in place with a PM 2x4 mm screw (46-3).



STEP 8

Take a PB 2x4 mm screw (**46-5**) and fit it into the screw socket at the corner of part **46-2**. Tighten the screw to fix the parts together.



STEP 9

Cut the left pelvic detail **45-4** from the frame, ensuring that the 'foot' is still attached (see STEP 10 before cutting). Remove any roughness where it was joined to the frame.



STEP 10

Check the fit of part **45-4** at the end of the assembly from step 8. The 'foot' fits into a recess, and the inner curved edge fits against part **46-1**, between the edge of part **46-1** and the two raised tabs.



STEP 11

Apply a very small amount of superglue to the edges of part **45-4** that will be in contact with the assembly (highlighted with a blue dotted line).



STEP 12

Fix part **45-4** in place (seen here from the opposite side) ensuring that all the glued edges are in contact.



STAGE COMPLETE!

The left pelvic frame and details have been attached to the left pelvic girdle.

47

STAGE 47: WORKING ON THE CENTRAL PELVIC FRAME

In this stage, you will assemble the connective frame that links the pelvis together.







LIS	T OF PIECES
47-1	Pelvic frame (rear section)

47-2 Pelvic fran	me
------------------	----

- 47-3 Lower panel of pelvis
- 47-4 5x PB screw (2x4 mm) (1 spare)
- 47-5 3x PM screw (2x6 mm) (1 spare)

YOU WILL ALSO NEED

A cross-head screwdriver.





STEP 1

Take the lower panel of the pelvis **47-3** and the pelvic frame **47-2**. Check how the two parts fit together: raised screw sockets on part **47-3** fit into sockets on part **47-2**, as indicated by the dotted lines.



STEP 2

When you are happy with the fit, fix the two parts together with four PB 2x4 mm screws (47-4) (circled in blue).



STEP 3

Take the rear part of the pelvic frame **47-1** and identify the two tabs with screw holes in them (arrows). Align the holes in the tabs with the raised screw sockets on part **47-2** (circled).



STEP 4

Fix together the two sections of pelvic frame, **47-1** and **47-2** using two PM 2x6 mm screws (**47-5**).



STEP 5

This shows the frame parts fixed together, with the PM 2x6 mm screws, circled.



STAGE COMPLETE

The central frame for the pelvis has been assembled, together with a panel of the pelvis.

48

STAGE 48: ASSEMBLING THE PELVIS

You will now assemble the pelvis, connecting the left, central, and right pelvic frames.





LIST OF PIECES

48-1	Pelvic frame
48-2	Pelvic shield (right)
48-3	7x PM screw (3x8 mm) (1 spare)
48-4	3x PM screw (2x4 mm) (1 spare)
48-5	3x PM screw (2x6 mm) (1 spare)

YOU WILL ALSO NEED

A cross-head screwdriver, tweezers (optional), a fine file (if necessary), the Left pelvic assembly from stage 46, the Pelvic frame assembly from stage 47, the Right pelvic assembly from stage 45, superglue and a cocktail stick.



STEP 1

Take the assembly from stage 45. Identify two slots in the pelvic frame **43-1** (circled in blue) where the central frame will fit. The slot on the left is below a tab, and the one on the right is above a tab.



STEP 3

When correctly assembled, check the areas circled in blue. The screw holes on the tabs on part **43-1** (described in step 1) align with screw holes on the frame **47-1**.



STEP 2

Take the pelvic frame assembly from stage 47 and position it as shown. The two tabs on the side of part **47-1** fit into the slots identified in step 1, as indicated by the arrows. (The tabs are a tight fit, so you may need to file them down slightly to do this.)



STEP 4

Identify the next two slots, in the upper bar of frame **43-1** (circled in red). Take part **48-1** and arrange it in the orientation shown. The tabs on the side of **48-1** (circled in blue) fit into the slots.



STEP 5

Fit the tabs into the slots. (Again, it is a tight fit, so you may need to file the tabs down to do this.)



STEP 6

Take the assembly from stage 46. This mirrors the parts from stage 45, and has to be fitted in the same way as described in the previous steps. All four tabs (circled) have to be fitted at the same time.



STEP 7

The tight fit of the tabs creates a fairly stable assembly, but ensure that the parts are pushed as close together as possible. The screw holes near the corners of part **48-1** (circled) should align with screw holes on tabs in the frames on either side.





STEP 8

Fix the two sides of the pelvis to the central part of the frame with four **PM** 3x8 mm screws (circled, inset).





STEP 9

Identify the screw hole in the tab on part **45-2** (the framework of the right side of the pelvis). Ensure it is correctly aligned with a screw hole in part **47-2**. Fix in place with a PM 2x4 mm screw (**48-4**). Repeat on the other side of the pelvis (inset).





STEP 10

Turn the assembly over and identify the next two fixing points (circled).

48-3	48-3

STEP 11

Fix the lower part of the pelvic frame in place with two PM 3x8 mm screws (**48-3**).



STEP 12

This shows the two PM 3x8 mm screws (**48-3**) in place, looking from directly overhead.



STEP 13

Turn the pelvis the right way up again. Apply a little superglue to the sides of the two pegs (circled) on the right hand side.



STEP 14

Take the right pelvic shield **48-2** and fix it to the top of the glued pegs on the right hand side of the pelvis, as shown.



STAGE COMPLETE!

The two sides of the pelvis have been joined together and a decorative finish has been fitted on the right-hand side of the pelvis.

STAGE 49: ADDING DETAILS TO THE PELVIS

Adding details to the left of the pelvis with the left pelvic shield.





LIST OF PIECES

- 49-1 Pelvic shield (left)
 49-2 Pelvic plate
 49-3 2x pelvic sockets
- 49-4 3x PB screw (2x5 mm) (1 spare)

YOU WILL ALSO NEED

A cross-head screwdriver, tweezers (optional), a craft knife and suitable cutting surface, the Pelvic assembly from stage 48, superglue and a cocktail stick.



STEP 1

Take the assembly from stage 48. Identify the two pegs on the left side of the pelvis (circled), and after test-fitting, apply a little superglue around the sides. Fit the left pelvic shield **49-1** in place, as described in the previous stage for the right shield.



STEP 2

Cut the two sockets **49-3** from the frame, and smooth the surface at the cutting points if necessary.



STEP 3

Fit the sockets **49-3** into the pelvic shields **48-2** and **49-1**. Note that there is a bar on the underside of each socket that fits into the slot in the recess in the shields.

49





STEP 4

Fix each of the sockets in place with a PB 2x5 mm screw (**49-4**).



STEP 5

On either side of the front of the pelvis, there is a recess that follows the curve of the pelvis. After test-fitting, apply a little superglue around each recess.



STEP 6

Take the pelvic plate **49-2** and position it in the orientation shown, so that you can fit it into the gap in the front of the pelvis.



STEP 7 Fit the plate **49-2** in place as shown.



STAGE COMPLETE!

Further details have been added to the pelvis.

STAGE 50: FITTING THE PELVIS TO THE SPINE

The Terminator TM T-800 takes another step towards completion as you attach the pelvis to the existing endoskeleton body.



LIST OF PIECES

50-1 Pelvic plate

- 50-2 Connection plate
- 50-3 5x M3 lock nuts
- 50-4 M10 nut
- 50-5 5x PM screw (3x8 mm) (1 spare)

YOU WILL ALSO NEED

A cross-head screwdriver, tweezers (optional), the complete assembly from stage 42, the Pelvic assembly from stage 49, superglue and a cocktail stick.

50



STEP 1

Take the connection plate **50-2**. Apply a little superglue in each of the four hexagonal recesses.



STEP 2

Fit an M3 lock nut **50-3** in each of the recesses. Note that the nuts have one flat side and one side with a rim. The flat sides fit into the bases of the recesses.



STEP 3

Take the assembly from stage 42 and lay it down on your work surface so that you can access the end of the spinal cord **42-4**. Part **50-2** will be fitted to this as indicated by the arrow. Note that the sides of the spinal cord are flat, so that it will fit into the shaped hole in the centre of part **50-2**.



STEP 4

Carefully note the orientation and fit the connecting plate **50-2** on to the end of the spinal cord **42-4** as shown.

50





STEP 5

After checking the spinal cord **42-4** is still fully tightened, fix the connecting plate **50-2** in place by tightening the M10 nut **50-4** on to the end of the spinal cord, as shown. If necessary gently tighten with a suitable spanner or pair of pliers taking care not to over-tighten.

STEP 6

Take the pelvis assembly from stage 49 and position it in the orientation shown. Once lifted into position (blue arrow), the four raised screw holes in part **48-1** will fit into the recesses in the connecting plate **50-2** (we have indicated the fit of one of these with a red arrow).





STEP 7

The inset shows the pelvis assembly viewed from beneath. Identify the four screw holes (circled). Position the pelvis assembly against the connecting plate and fix in place from beneath with four PM 3x8 mm screws (**50-5**). (The screws are anchored in place by the M3 nuts that were glued to the connecting plate in steps 1 and 2.)

50



STEP 8

Take the pelvic plate **50-1** and identify the four raised pegs on the back of the plate, near the corners. Part **50-1** fits across the back of the pelvis at the base of the spine. The four pegs fit into the four holes (circled).



STEP 9

After test-fitting, position the pelvic plate **50-1** across the base of the spine as shown in the next step.



STEP 10

Once in position, the ends of the plate **50-1** butt up neatly with the sides of the pelvis, as shown.



STAGE COMPLETE!

The pelvis has been fitted to the base of the spine.

51

STAGE 51: FITTING DETAILS TO THE PELVIS

Affix the pelvic shield to the pelvis, and attach a hip socket to the existing assembly.





LIST OF PIECES

51-1	Pelvic plate
51-2	Hip socket
51-3	Muscle connection

YOU WILL ALSO NEED

Tweezers (optional), the complete assembly from stage 50, superglue and a cocktail stick.



STEP 1

Take the assembly from stage 50 and identify the two holes in the pelvic shields **48-2** and **49-1** where the plate will fit (circled).



STEP 2

Fit the pelvic plate **51-1** in place so that the two pegs on the lower edge fit into the holes identified in step 1 (arrows).



STEP 3

This shows the pelvic plate **51-1** fitted in place so that the top edge is flush with the inner edge of the pelvic shields.





STEP 4

Apply a little superglue in the inner recesses of the hip socket **51-2**.



STEP 5

Identify the fixing point for the hip socket – it fits over the two pegs that protrude from the right pelvic girdle **44-1** (circled).



STEP 6

Fit the hip socket **51-2** over the raised part of the pelvic girdle **44-1** so that the pegs fit into the holes.



STEP 7 This shows the hip socket **51-2** in place.



STAGE COMPLETE!

Details have been added to the pelvis. The muscle connection **51-3** will be used in the next stage.

52

STAGE 52: ASSEMBLING A MUSCLE AND FITTING ANOTHER PELVIC PLATE

Ready one of the connective muscles that will attach the pelvis to the chest, and seal the pelvic unit with a large pelvic plate.





LIST OF PIECES

- 52-1 Pelvic plate
- 52-2 Outer muscle
- 52-3 Inner muscle
- 52-4 Muscle cap

YOU WILL ALSO NEED

Tweezers (optional), the complete assembly from stage 51, the Muscle connection 51-3, superglue and a cocktail stick.



STEP 1

Fit the inner muscle **52-3** into the outer muscle **52-2**, inserting it through the wider end of part **52-2**.



STEP 2

Pull the inner muscle 52-3 through the outer muscle 52-2, as shown.





STEP 3

Apply a little superglue around the end of the muscle cap **52-4**, just beneath the rim (blue shaded area). Slide it onto the inner muscle **52-3** and down to the outer muscle **52-2**.

STEP 4

Fix the muscle cap **52-4** into the end of the outer muscle **52-2**. Just the rim of part **52-4** is visible.







STEP 5

Take the muscle connection **51-3** supplied with the previous stage. Apply a little superglue around part **51-3**, just below the rim (blue shaded area). Fix it in place in the open end of the outer muscle **52-2**.



This shows the muscle assembled.



STEP 7

Take the complete assembly which was last worked upon in stage 51. Identify four screw holes in the central framework (circled).



STEP 8

Identify the four smaller pegs on the back of the pelvic plate **52-1** (circled).



STEP 9

Fit the pelvic plate **52-1** in place so that the pegs go into the sockets identified in step 7. This is a push-fit connection.



STEP 10

This shows the pelvic plate **52-1** in place.



STAGE COMPLETE!

A muscle has been assembled, and another plate has been fitted to the pelvis.