

PACK 1

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IDENTIFYING YOUR COMPONENTS: Each of your Terminator packs is divided into stages. Each stage contains a number of components, and can be identified by referring to the images in your assembly guide or the number located on the sticker on the back of each stage. Each number begins with '77' and is followed by a further three digits. The last three digits indicate the number of each stage. For example, 77 001 indicates stage 01, 77 002 indicates stage 02, etc.

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T-800: ORIGINS OF A KILLING MACHINE

The T-800 Terminator endoskeleton, born from a director's nightmare and brought to life by a group of special effects geniuses, has become one of the most enduringly terrifying creations in the history of cinema.

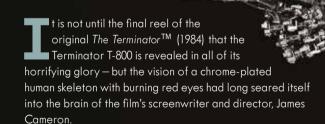
"[On] TERMINATOR, the last flakes of flesh are falling from him like burning leaves. His gleaming structure is revealed in all its intricacy. No longer a 'He', but an 'It'.

It looks like Death rendered in steel.

A CHROME SKELETON with HYDRAULIC MUSCLES and TENDONS OF FLEXIBLE CABLE.

In the sockets of the metal skull, the eyeball swivels with a WHIR of tiny servos, both glowing red now.

It turns slowly and fixes its gaze directly INTO CAMERA."



Awakening from a fever dream in Rome in 1981, Cameron scribbled a description of the Terminator that would capture the imaginations of audiences the world over: "A chrome skeleton emerging out of a fire."

A cybernetic organism, or cyborg, the Terminator is an unholy fusion of man and machine — a fully-functioning robot wrapped in human flesh. At the urging of the defence computers of Skynet, its only mission is to kill its named targets, and remove all who stand in its way.

Sent back to the past of 1984 from the near future of 2029, the Terminator represents both an example of miraculous technological progress, and an alarmist vision of Al and robotics run amok—a creation, much like Frankenstein's Monster, that has exceeded the reach of its creator.

Says Cameron, "The first *Terminator* was born out of the science fiction movies and literature I grew up with. For the most part, they were warnings—about technology, about science, about the military and the government. You couldn't escape those themes, or the fear of nuclear holocaust."

T-800 SPECIFICATIONS

MODEL: CSM 101 (Cyberdyne Systems Model 101)

CHASSIS: 800-series endoskeleton

WEIGHT: 91kg

HEIGHT: 1.88m

COMPOSITION: Titanium and tungsten hyperalloy, clothed in a synthetic, living skin

POWER SUPPLY: Nuclear core

OPERATING LIFESPAN: 120 years

DATE OF CREATION: Between 2027–2029 (approx.)



ABOVE: Resistance soldier Kyle Reese (Michael Biehn) travels from the future to protect Sarah Connor (Linda Hamilton) from the deadly Terminator

SKYNET'S MOST LETHAL WEAPON

The CSM-101 T-800 is an infiltration unit, a cybernetic organism with a metal endoskeleton and a human appearance: an android cloaked in synthetic skin and hair; producing sweat and even bad breath in its efforts to remain undetectable. It is one of the most powerful weapons developed by the defence network supercomputer Skynet, with the objective of annihilating humanity.

Code CSM-101 refers to the Model of living tissue used to sheath the metal endoskeleton – in the case of Cyberdyne Systems Model 101, the mold matches the physique of actor Arnold Schwarzenegger in the year 1984.

All 101 Models share the same human template, ripped by Skynet from scans of human military volunteers before the AI rose to dominance - a CSM-102 or CSM-103 uses a different human quise over the same metallic core. At the beginning of the Terminator program, tall, body-builder-style physiques were the only human molds suitable to accommodate the daunting proportions of the endoskeleton.

T-800 means 'series 800 Terminator', and refers to the kind of metal chassis. Other robot models existed prior to the creation of the cyborg infiltrator, but it was with the T-800 and its ability to crudely mimic a person that Skynet first explored the art of the stealthy, humaniform foe.

THE T-800. A REAL INNOVATION

In the pre-production stage for The Terminator TM, Cameron's priority was to create a credible cyborg. He did not want a man dressed up in a robot suit, because he felt that such

STRENGTHS

Resistant to almost any form of attack, from brute force to firearms, flames, and explosives. Tactical analysis and facial recognition software, combined with advanced tracking algorithms, ensure the Terminator can find and follow any target, and subdue it using any and all means available. Visual acuity is far beyond human range – with long-range 15x zoom, night vision, and infrared as standard.

Passive sensors constantly calculate weights, ranges, temperatures, and materials, giving the Terminator a 360-degree view of its surroundings and a lightningfast mental map of all possibilities. Mimicry subroutines and machine learning software allow the Terminator to attempt to integrate with human society, though early models remain robotic in demeanour.

Originally built for Resistance infiltration missions, Skynet's Al quickly repurposed the T-800 model for the time travel mission, primarily because of the model's ability to improvise and because the T-800's sheath of flesh allowed it to use the Resistance time machine, while other, purer Skynet robots would be destroyed by the process. As Resistance hero Kyle Reese explains, neither he nor the Terminator could bring anything back with them: "You go naked. Something about the field generated by a living organism. Nothing dead will go."



costumes made it more difficult for audiences to suspend their disbelief. In that way, the idea of creating a partmachine, part-human robot for the film helped address his

Until the Terminator T-800, few in cinema had imagined a robot as anything other than a costume of tangled cables and molded metal; it was in that context that the T-800 emerged. Another key aspect of the T-800 compared to previous movie robots is the flesh-shedding metamorphosis it goes through during the course of the film: we first meet it in its human guise, the brawny and hulking presence of Arnold Schwarzenegger, and it gradually sheds its 'human' disguise to reveal itself as a murderous machine.

THE T-800. BEHIND THE CAMERAS

Once the idea of a robotic costume was discarded, Cameron and the effects team decided to make several T-800 models at different scales, using a combination of different disciplines: sculpture, prosthetic make-up (for the sequences where elements of the endoskeleton and skull are revealed through the skin of the Terminator), and robotics.

As many as seven artists, led by the visual effects specialist Stan Winston, worked constantly for six months to build the life-size Terminator puppet. First it was molded in clay, then plaster, and finally in urethane. Next, it was cast in epoxy and fibreglass, and strengthened with reinforced steel. These pieces were sanded, painted, and later chrome-plated and distressed to achieve the characteristic appearance of the T-800 endoskeleton.

Inside the robot's head, the team placed a radiocontrolled mechanism to operate its movements. Once finished, the life-size T-800 puppet weighed over 45 kilos; a characteristic that would help to create the appearance on screen of an indestructible creature that is impossible to kill.

This portable T-800 puppet was used for close-ups and mid-shots. Special effects specialist Shane Mahan carried the puppet mounted on his back and shoulders, while other operators remotely controlled the movements of the head

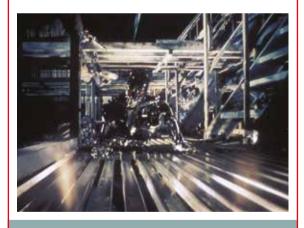
For scenes which required full-body shots of the

WEAKNESSES

High-calibre weaponry (.50-calibre machine guns and above) and extremes of pressure, heat, and cold. Sustained exposure to fire will strip the unit of its false flesh, destroying its ability to blend into a human population – but the endoskeleton itself will continue its mission as long as any mobile part remains. Terminators have few weaknesses, which is by design. As Kyle Reese tells Sarah Connor: "That Terminator is out there. It can't be reasoned with, it can't be bargained with...it doesn't feel pity or remorse or fear... and it absolutely will not stop. Ever. Until you are

While the T-800 can regrow its synthetic skin, this process is not quick, and severe wounds and lacerations will reveal the robotic endoskeleton beneath the flesh. To maintain and heal the skin, the T-800 must take in nutrients similar to those consumed by human beings – a behaviour that allows it to blend in in human populations, but also a weakness that can be exploited.

Largely undetectable to people, dogs can sense the presence of an infiltration unit, so members of the Resistance use them at checkpoints to sniff out the presence of Terminators – though such information is cold comfort, as the T-800s often cut through the soldiers without mercy.



cyborg endoskeleton, stop-motion animation was used, with miniatures being produced by Doug Beswick and his construction team at one third of the scale of Winston's lifesize endoskeleton.

The stop-motion armatures stood 2 feet tall, and copied the proportions of Winston's lifesize puppet exactly. The stop-motion shots themselves were animated by Peter Kleinow and his team at FX house Fantasy II, at a painstaking 24 frames per second. Many shots, including the iconic flaming tanker scene, used rear-projected footage shot by Cameron on set to further sell the integration between models and live action.

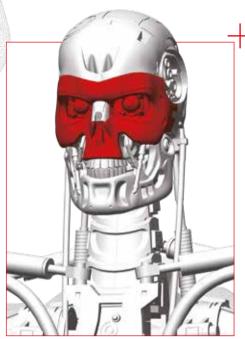
ABOVE LEFT: Director James Cameron, seen here on the set of T2: 3D: Battle Across Time, a 3D film and live show that ran at various Universal Studios theme parks until 2017. (Photo: Alamy)

ABOVE: Its legs disabled but its drive to kill undiminished the T-800 crawls in pursuit of Sarah Connor in the finale of The Terminator™.

STAGE 01: COMPONENTS FOR THE HEAD AND EYES

In this first stage, you will assemble the first part of the head of your T-800, beginning with the eyes. Once the model is finished, the eyes are lit by red LED diodes and move from right to left.





LIST OF PIECES

1-1	Chrome eye and nasal sockets
1-1	Cili Ollie eye dila liasai sockeis

1-2 Matte black inner eye sockets

1-3 Eye socket brace

1-4 Chrome eye orbits

1-5 Red eye caps

1-6 LED diodes for the eyes

1-7 Eye orbit brace

-8 3x PB 2 x 4mm screws

YOU WILL ALSO NEED

A small cross-point screwdriver (Phillips PH00 or similar) with a shaft of at least 2 inches.

EXPERT TIP!

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



STEP 1

Before starting your assembly, carefully examine all of the pieces you have received with the first stage of your Terminator T-800 model. Make sure that the components you have received match the list of components in this stage, and that you have identified each part and its related number.

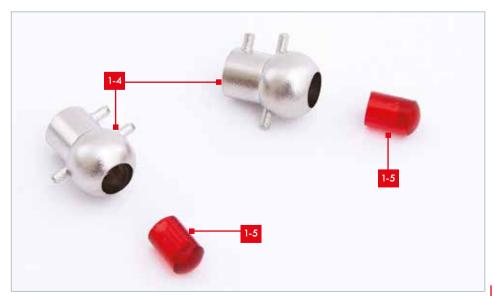
During the course of the build, you will receive many pieces that you can assemble immediately — following the instructions in that corresponding stage — and other pieces that you should store safely to one side, for use in future assembly sessions.



STEP 2

In this stage, you won't need to assemble the chrome eye and nasal sockets (Part 1-1) or the eye orbit brace (Part 1-7), so you can safely put those to one side.

Make sure wherever you are storing the additional components is well-organized, so that you can keep track of the parts from pack to pack.



STEP 3

The first step on the road to assembly begins with the T-800's eyes, specifically, embedding the red eye caps (1-5) into the chrome-plated ocular orbits (1-4).

Push one of the red eye caps into one of the orbits, using a gentle but firm touch to push it in until it can go no further.

T-800 ASSEMBLY

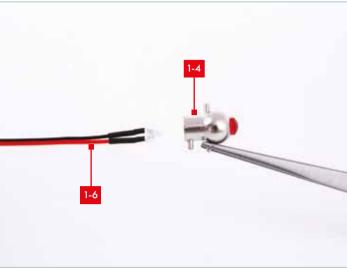


STEP 4

Next, do the same with the second eye cap and second orbit.

It is very important that the two pieces are properly fitted together the red eye cap should protrude over the edge of the orbit slightly, but should be firmly attached to the orbit.

Check that your two pairs of pieces look the same when assembled as the photos here.



STEP 5

Find the two LED diodes (1-6). These are fragile elements, so take care as you gently insert each LED into its corresponding place in the back of the eye orbit.

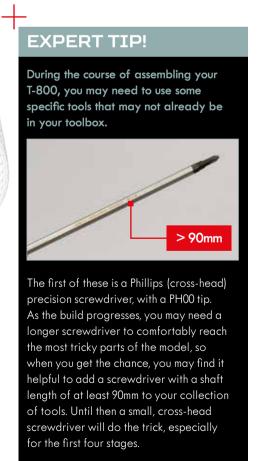
Align the black and red wires vertically, as shown, and hold the eye orbit 1-4 so that the pins are aligned vertically. Insert the LEDs into the orbits as shown.



STEP 6

Repeat to fit the second LED into the second eye orbit. This is how the two eyes of your T-800 should look once assembled.

In Stage 03, you will plug the LED connections (at the other end of the black and red cables) into a circuit board, allowing the eyes to be lit by turning on the corresponding switch.

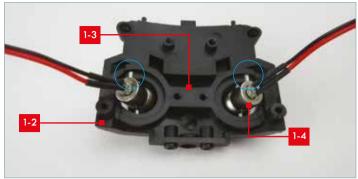




STEP 7

Now, find the matte black inner eye sockets (1-2), and the eye socket brace (1-3). You will also need two PB 2 x 4mm screws (1-8).

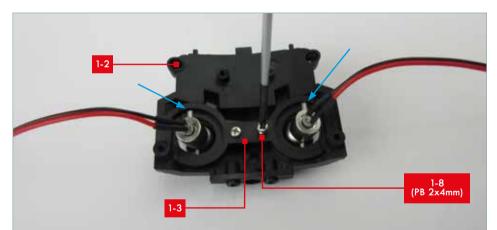
With the concave side of the eye sockets facing towards you (and the 'nose' section facing away), place each eye into a socket, matching the vertical slots in the black plastic to the thin, cylindrical pins in the back of each eye. With part 1-2 in this orientation, two pins point upwards, and one points downwards. If in doubt, use the photograph to guide your placement. Be careful, as the eyes are still loose at this stage, until fixed in place by the brace, **1-3**, in the next step.



STEP 8

Once the eyes are in place, push the eye socket brace (1-3) into the appropriate spot behind both eyes, following the convex shape of the eye sockets. One of the pins at the top of each of the eye orbits (1-4) is on top of the rim of the eye socket brace (circled); the others are held in place behind it.

The eye socket brace holds the eye orbits in place, making sure that the eyes remain in their housing, but also allowing them to be moved from



STEP 9

To finish this segment, secure the eye socket brace in place using two of three PB 2 x 4mm screws supplied (1-8).

Use a small, cross-point screwdriver (Phillips PH00 or similar) to gently insert and turn the screws until they make a firm connection. Make sure that the pegs on parts 1-4 are still fitting in the recesses, and that the sides with two pegs point upwards in this orientation (blue arrows).



STAGE COMPLETE!

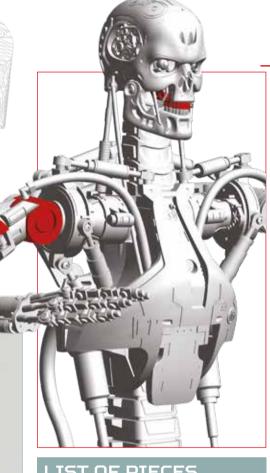
With these easy steps, you have completed the first stage of your Terminator T-800.

Before you finish, go back through the step-bystep photos to ensure that all the components are where they should be. Keep the unused parts and the head assembly safely stored until they are needed again.



In Stage 02, you'll begin to assemble the Terminator T-800 Endoskeleton's haunting, skeletal grin. You'll start with the upper jaw area and teeth, and then put together the first segment of the right arm.





LIST OF PIECES

Upper jaw

2-2	Upper teeth
2-3	Right arm component A
2-4	Right arm component B
2-5	Right arm component C
2-6	3x PB 2 x 6mm screws (1 spare)
2-7	3x PB 2 x 4mm screws (1 spare)
2-8	3x KB2x6mm screws (1 spare)

YOU WILL ALSO NEED

A suitable cross-point screwdriver (assembly is much easier if you magnetize your screwdriver!).

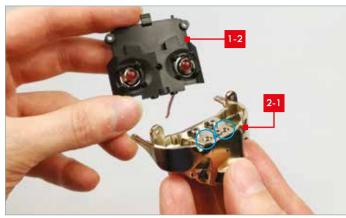
Superglue Gel, and a cocktail stick or toothpick.



Before you get started, make sure to carefully examine all of the pieces you have received with this second stage. Go over the components to make sure they match the list of components in this stage, and that you have identified each part and its related number.

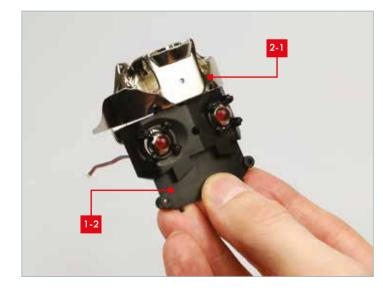
As with stage 01, not all of the pieces that come with this stage will be assembled immediately. In this case, you can safely put **2-3 – Right arm component A** – to one side, for use in a future assembly session.

Make sure you have your screwdriver handy before moving to the next step. Please note the subtle difference between the KB 2x6mm and the PB 2x6mm screws; the KB screws have a countersunk head whilst the PB screws have a larger, rounded head.



STEP 2

The first thing you will do in this stage is to insert the upper jaw (2-1) into the black eye socket section that you assembled in stage 01. Note that the upper jaw (2-1) has a set of screw holes (circled in blue) that match up with a set of holes in the inside of the eye socket section.

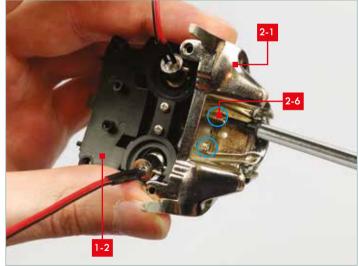


STEP 3

STEP 1

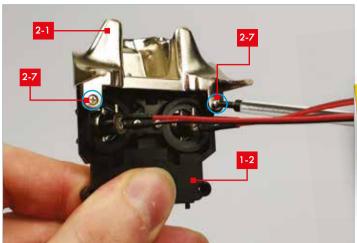
Fit the pieces together, taking care not to damage the cables of the LEDs you have already installed.

Next, find two PB 2 x 6mm screws (2-6); the longer of the screws, with the rounded head.



STEP 4

Using your screwdriver, insert the two PB 2 x 6mm screws (2-6) into their respective holes on the underside of the upper jaw (2-1), under the eyes, as shown in the photo (circled in blue). Tighten them firmly into place, without forcing them.



Take two PB 2 x 4mm (2-7) screws (the shorter ones with a round head) and insert them through the holes in the upper jaw and into the eye socket assembly. The screw holes are on either side of the eye sockets, as shown circled in blue. As before, screw them home, but without forcing them beyond a firm fit.

EXPERT TIP!

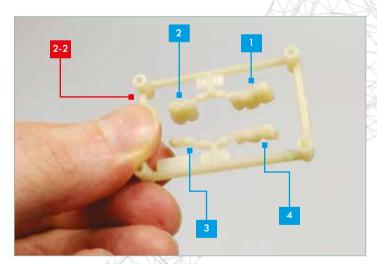
Using superglue as part of your build.

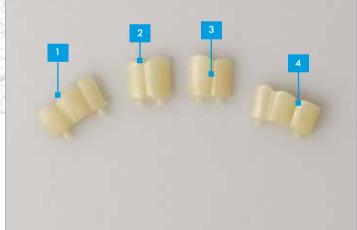
SUPERGLUE GEL

When using superglue, always apply it extremely sparingly! We recommend that you use superglue gel, which can be applied with great accuracy to the relevant surfaces using a cocktail stick or a toothpick.

Apply a tiny drop of superglue to one of the surfaces to be bonded, press the surfaces together, and hold them in place for a few moments in order for the glue to fix.

Be careful, and remember that superglue can also bond skin as easily as it does anything else, which is why using cocktail sticks is recommended for added precision.



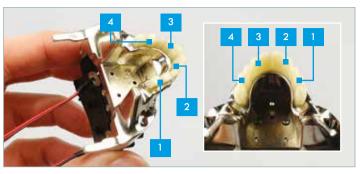


STEP 6

You can now move on to fitting the upper teeth (2-2) into the upper jaw. Each of the four sets of teeth are different, and so it is vital that you note the part number of the teeth on the framework before you remove them. If necessary, smooth any remaining rough edges with a fine file or sandpaper.

Keep them clearly numbered until they are fitted. You may find it helpful to also study the photograph to the right once you have removed the teeth from the framework, and especially if you lose track of which piece We recommend using a craft knife or a set of small side-cutting pliers to remove the teeth from the framework, as more delicate pieces can become damaged by twisting them.

Always take care when using a craft knife or a bladed tool.



STEP 7

Test-fit all of the teeth in place, checking they match the inset photograph.

Then remove the first set of teeth and apply a tiny drop of thick superglue, with a cocktail stick, to the locating pins on the top of the teeth.

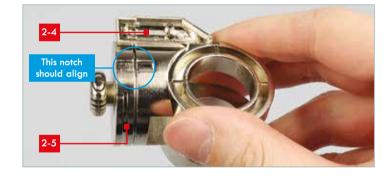
Fix the teeth section in place, holding them secure for a few seconds whilst the glue sets. Repeat this process for the remaining three sets of teeth.



STEP 8

With the teeth carefully affixed, it's time to assemble the first pieces of

Take right arm components B (2-4) and C (2-5) which were both supplied with this stage.



STEP 9

Fit the two pieces (2-4 and 2-5) together, as shown in the photograph. Ensure that the two screw holes of component C (2-5) match up with component B (2-4), and that they fit correctly. There is a notch on one side of both parts which should align, as shown.



STEP 10

Next, secure the two pieces to each other using two KB 2 x 6mm screws (2-8), which have the smaller, countersunk head. Always remember not to use excessive force when you drive these small screws home, as you could damage one or both of the pieces.



STAGE COMPLETE!

After stage 02, the head of your Terminator T-800 is now taking shape. Before you finish, check that the components you've assembled match with what has been shown in the pictures at each step, and in this final example.

Lastly, don't forget to keep safe the pieces and screws that you have not yet used, ready for a later session. Some small, clear plastic bags labelled with either a sticker or a note, are especially useful for the screws.

STAGE 03: COMPONENTS FOR THE RIGHT ARM AND FIRST FINGER

With the pieces you've received in this stage, you will be able to assemble a new element for the Terminator T-800 Endoskeleton's right arm, piece together the first articulated finger, and use a diode tester kit to check the LED eyes are working perfectly!

IMPORTANT UPDATE!

To improve the performance of your T-800 model, we have improved the fit of the articulating connectors.

DO NOT USE PARTS 3-12 AND 3-13 CONTAINED IN THE MAIN PACK.

You must use the replacement 3-12 and 3-13 parts supplied in a separate plastic bag along with the sleeves (3-14).

Stage 03 will have a little bag attached to it. You must use all the parts in this bag that replace parts 3-12 and 3-13. This bag also contains the 3 x Sleeves for connectors A.







LIST OF PIECES

3-1	Right arm component D
3-2	Right arm component E
3-3	Right arm component F
3-4	AAA battery holder
3-5	LED test circuit board
3-6	2x PM 3 x 8mm screws (1 spare)
3-7	Right hand first finger component A
3-8	Right hand first finger component B
3-9	Right hand first finger component C
3-10	Right hand first finger component D
3-11	Right hand first finger component E
3-12	3x Articulating connector A
3-13	3x Articulating connector B
_	

YOU WILL ALSO NEED

3-14 3x Sleeves for connectors A

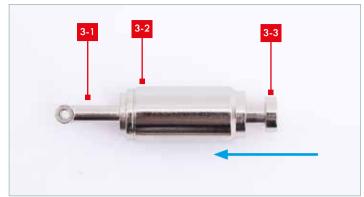
A suitable cross-point screwdriver.

3x AAA Batteries



STEP 1

Take the right arm parts **3-1**, **3-2**, **3-3** and a PM 3x8mm screw (**3-6**) and place them on your work surface in the order that they are to be connected, as shown.



STEP 2

Fit part **3-1** into the wider end of part **3-2**, and insert part **3-3** into the thinner end, as shown by the blue arrow.



STEP 3

Insert part **3-3** fully and secure all three parts together by fitting a PM screw (3-6) through part **3-2** into part **3-1**.

For this you will need a cross-point screwdriver with a shaft of at least 2 inches.

Once assembled, put the arm unit safely aside until it is needed in the next stage.

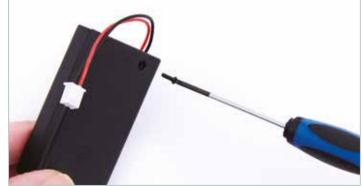
EXPERT TIP!

Having a magnetized screwdriver helps hold the screw and keeps it in place on



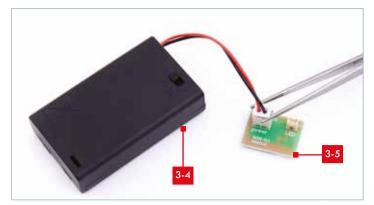
STEP 4

Next, take the battery box **3-4**, which holds three AAA batteries. Remove the screw on the lid (circled in blue) and slide open. Fit the batteries, noting where the +ve and -ve terminals go.



STEP 5

After fitting the batteries, replace the lid of the box and secure the screw. It is always good practice to leave a power supply turned off when connections are being made.

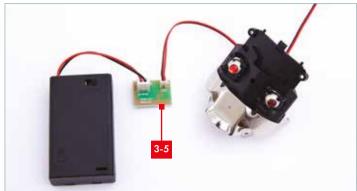


Check that the switch on the battery box is off. Plug the cable from the battery box into the larger socket marked POWER on the circuit board **3-5**. It may help to use tweezers to guide the connector into place.



STEP 8

Turn the power off, and then repeat the process with the second eye. Once tested, turn the power off and safely store the head assembly, circuit board and battery box.



STEP 7

Take the head assembly from the previous stage and connect one of the eye cables to the smaller socket on the circuit board 3-5 marked 'LED'. Switch the battery box on to see the eye light up.

LEDS

A colourful source of electroluminescence — the term for when a material emits light when an electrical current is passed through it – LEDs have been part of our lives since the 1960s.

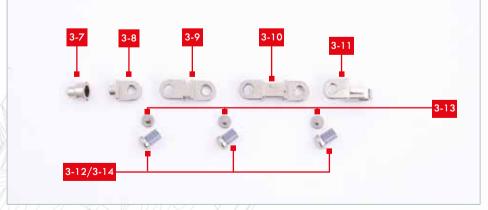
Though the earliest LEDs were of low intensity and only red in color (as seen in early alarm clocks and electronic calculators), subsequent breakthroughs increased both their brightness and colour palette, with blue, green, and, ultimately, white forms appearing on the market, and their uses diversifying accordingly.

LEDs are vastly more efficient than standard bulbs and other forms of artificial illumination, which is why they are increasingly replacing many forms of traditional lighting, both on the street and in the home. LEDs can now be found powering the screens of many smartphones, as well as enormous outdoor advertising displays, street lights, traffic lights, TV screens, and more.

STEP 9

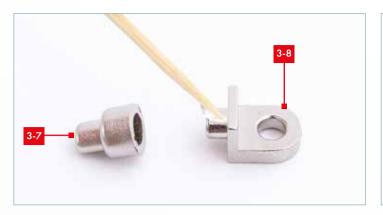


Before you start construction of the first finger, fit the three plastic sleeves **3-14** on to the articulating connectors A, 3-12.



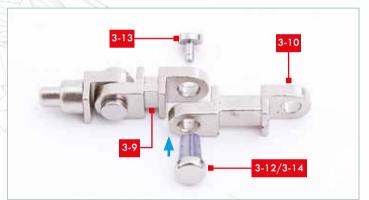
STEP 10

Take the finger parts **3-7**, **3-8**, **3-9**, **3-10** and **3-11** and lay them out in order, with connectors A and B in place between them, as shown.



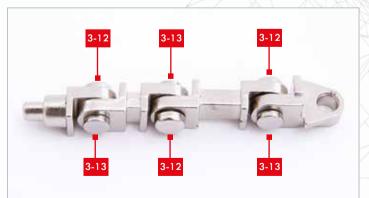
STEP 11

Begin the assembly by fitting part **3-7** onto part **3-8**. Using a cocktail stick, apply a little superglue gel to the peg on part 3-8 before fixing the peg into the recess in part 3-7.



STEP 13

In a similar way, this assembly is connected to part **3-10** using one each of the connectors **3-12** and **3-13**. Ensure that connetor **3-12** has a plastic sleeve, and apply glue to the pin on connector 3-13. Note that connector **3-12** is inserted on the other side to the previous step.



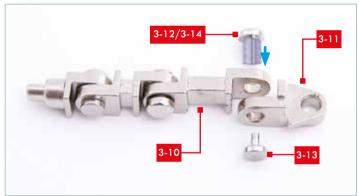
STEP 15

The first finger of your Terminator T-800 is now complete. Check that all the parts are connected as shown above, with connectors 3-12 and **3-13** in the positions indicated.



STEP 12

The assembled parts **3-7/3-8** connect to part **3-9** using one each of the connectors **3-12/3-14** and **3-13**. Fit part **3-12/3-14** through the holes in parts **3-8** and **3-9** (blue arrow). Apply glue to the pin on connector **3-13** (inset) and fix the connectors together to form a flexible joint.



STEP 14

The finger assembly is finished by attaching part **3-11** in the same way, with connectors **3-12** and **3-13**. Note that part **3-12** has again swapped sides. Ensure that connetor **3-12** has a plastic sleeve, and apply glue to connector **3-13** to fix in place.



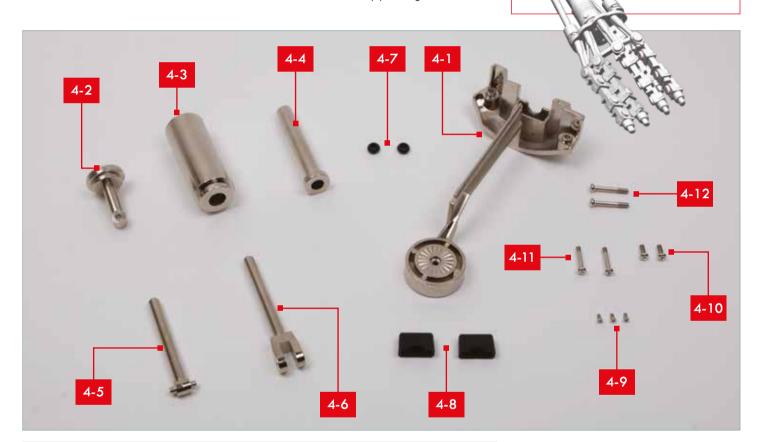
STAGE COMPLETE!

The photograph shows the assembly you have completed in this stage.



STAGE 04: NEW COMPONENTS FOR THE UPPER **RIGHT ARM**

With the pieces you've received in this stage, together with the other elements of the right arm you have already assembled, you will be able to construct the Terminator T-800 Endoskeleton's upper right arm.



LIST OF PIECES

4-1	Right arm component G	4-7	Rubber washers for right arm rods
4-2	Right arm component H	4-8	Plastic grips for combined right arm component B&C
4-3	Right arm component I		rigin arm component bac
		4-9	3x PM 2x4mm screws (1 spare)
4-4	Right arm component J	4-10	2x PM 3x8mm screws (1 spare)
4-5	Right arm rod A	4-10	ZX 1741 Oxoninii screws (1 spare)
		4-11	2x PM 3x16mm screws (1 spare)
4-6	Right arm rod B	4-12	2x PM 3x20mm screws (1 spare)

YOU WILL ALSO NEED

A suitable cross-point screwdriver.

The right arm components you have previously assembled in stages 02 and 03.



STEP 1

STEP 3

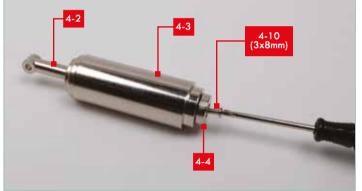
cross-point screwdriver.

A second cylinder is constructed in a similar way to the one in the previous stage. Begin by laying out the required parts.



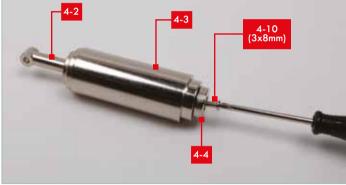
STEP 2

As before, place part **4-2** onto the left end of part **4-3** and insert part **4-4** into the other end as shown by the blue arrow.



STEP 4





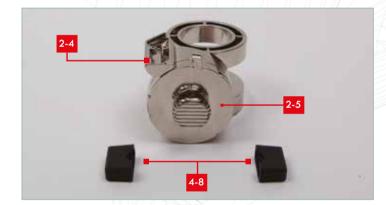


STEP 5

Secure the washer in place on the end of the rod with a PM 2x4mm screw. Be careful not to over-tighten the screw and apply too much pressure to the washer. Then take the cylinder assembly **3-2**, which was constructed in the previous stage, and slide the rod **4-5** into it, as indicated by the blue arrow. The inset photograph shows the completed assembly.

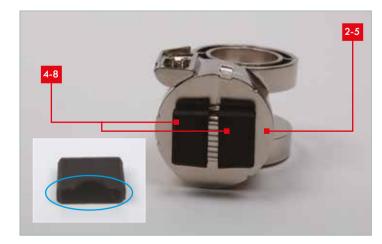


Next repeat the process with arm rod part 4-6, rubber washer 4-7 and a PM 2x4mm screw (4-9). Again note that the recess on one side of the washer fits over the end of the rod 4-6.



STEP 8

Take the assembly **2-4/2-5**, which was completed in stage 02, along with plastic grips **4-8**, supplied with this stage.



STEP 9

Fit the plastic grips, parts **4-8**, on the end of the button-like protrusion, as shown. One side of the grip has a recess (see inset) which fits towards the back. The parts may not fit securely at present but they will be held firmly in place in a later step.



STEP 7

After securing the washer in place on the end of the rod with a PM 2x4mm screw, again taking care not to over-tighten it, take the cylinder assembly 4-3 which was completed in step 3 of this stage and slide the rod **4-6** into it (indicated by the blue arrow). The inset photograph shows the completed assembly.



STEP 10

Before progressing further, read carefully through to the end of the stage 04 assembly guide as several parts need to be placed before they are secured together.

Take part **4-1**, the piston assembly **4-3** and a PM 3x20mm screw (**4-12**) and lay them on the work surface, as shown.

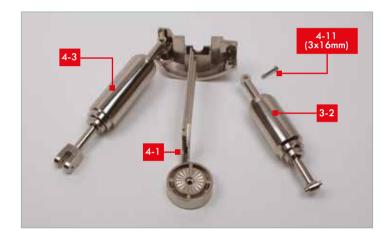


EXPERT TIP!

You may find it helpful to temporarily hold the screws in place from the back with small pieces of tape.

STEP 11

Begin by fitting the 3x20mm screw from the back and place the hole at the end of the piston assembly **4-3** over it (circled in blue). See inset.



STEP 12

Next take the piston assembly which was completed in step 5 and a slightly shorter PM 3x16mm screw (4-11) and place them on the work surface, as shown.



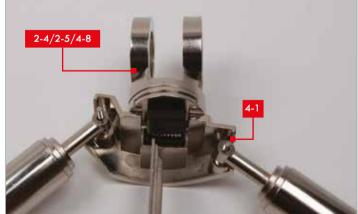
STEP 14

Take the assembly **2-4/2-5/4-8** which was worked on in steps 8 and 9 and place it on the work surface, as shown. Note the slot on part 4-1, circled in blue, which receives a grip (4-8) in the next step.



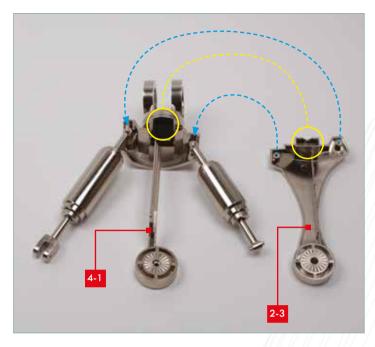
STEP 13

In a similar way insert the 3x16mm screw from the back and place the end of the piston assembly **3-2** over it (circled blue).



STEP 15

Insert the assembly **2-4/2-5/4-8** into the slot in part **4-1**, as shown.



Next, take part **2-3** which was supplied with stage 02 and lay it next to the assembled parts. Study the photograph carefully, following the dotted lines to see where the parts connect when it is fitted on top.



STEP 18

The screws (circled in blue) are then tightened. This action will close the parts together and firmly secure the assembly.



STEP 17

Turn part **2-3** over and align it on top of the previously assembled parts. When the screws and grip **4-8** are located in their sockets, gently hold the assembly, squeezing the parts slightly together. Then very carefully turn the entire assembly over. See also next step.



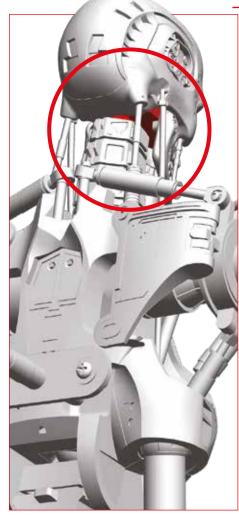
STAGE COMPLETE

The photograph shows the assembly completed in this stage. Don't worry, the joints (**3-1** and **4-2**) are meant to be slightly loose at this point.

STAGE 05: COMPONENTS FOR THE LOWER JAW AND NECK

In stage 05, you'll be assembling the T-800 Endoskeleton's all-important lower jaw, and the first ball joint in your cyborg's body.





I IST OF PIECES

	or Pieces
5 -1	Lower Jaw
5-2	Ring
5-3	Ball Joint Socket
5-4	Ball Joint — A
5-5	Ball Joint — B
5-6	Ball Joint Cover
5-7	Screw PM 2x6mm (x4)
5-8	Screw PB 2x6mm (x3)

YOU WILL ALSO NEED

A suitable cross-point screwdriver.



After double-checking your pieces from this stage match the checklist, take the ball joints A (5-4) and B (5-5) and place them on the work surface.

You'll also need two of the silver screws supplied with this stage — Screw PB 2x6mm (5-8).

STEP 2

Align the screw holes, then push pieces **5-4** and **5-5** together, as shown.



STEP 3

Insert a **5-8** screw into each of the two screw holes on **5-4**, marked in blue in the photo above.

Using your cross-point screwdriver, screw them home. The screws should be recessed within their screw holes when you are finished.



STEP 4

With the ball joint assembly completed (called **5-4** from now on), you'll Insert **5-2** into the receiving hole in **5-1**. Make sure it sits evenly. move on to the neck piece itself.

Find the Lower Jaw (5-1), the Lower Jaw Ring (5-2), and the ball joint socket (**5-3**).



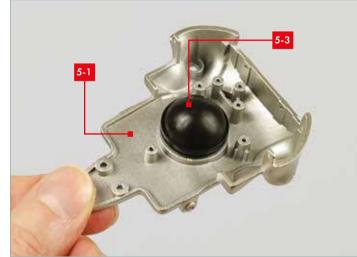
STEP 5



STEP 6

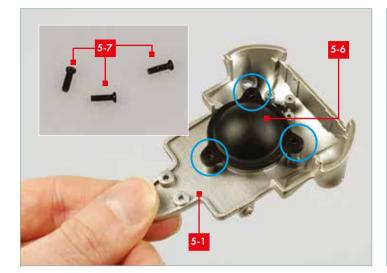
Insert the ball joint assembly **5-4** into the ring **5-2**.

The ball joint will retain freedom of movement, allowing you to pose your T-800 Endoskeleton's head when it is attached to the body.



STEP 7

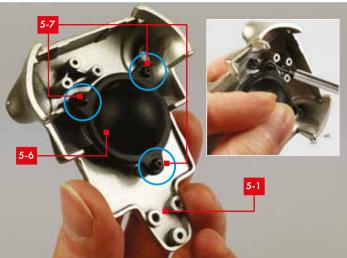
Place the ball joint socket (5-3) on top of the ball joint, as shown.



Next, take the ball joint cover **(5-6)** and place it over **5-3**, which was fitted in the previous step.

Align the three screw holes in the cover with the three screw holes on **5-1**, marked with blue circles in the photo.

You'll need three of the black screws supplied with this stage for the next step - PM 2x6mm screws, labelled **5-7**.



STEP 9

Screw the three screws (5-7) through the cover to securely fasten the ball joint into place.



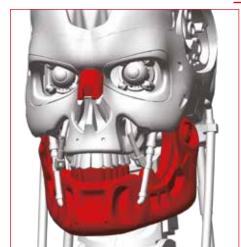
STAGE COMPLETE!

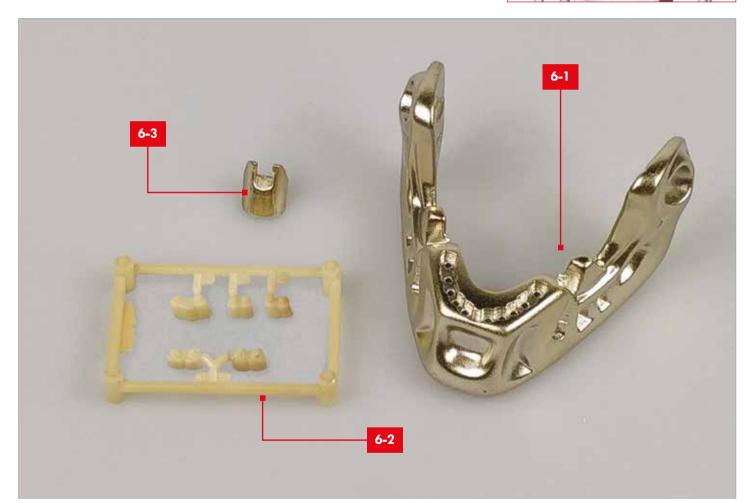
This is how your Lower Jaw should look once you've finished this stage's steps.

Check your version against the photos, and, once you're happy, store the pieces safely, along with the spare screws. In the next stage, we'll be building out more of the skull!



In this stage, you'll insert the teeth into the T-800 Endoskeleton's lower jaw, and add the bridge of the nose.





LIST OF PIECES

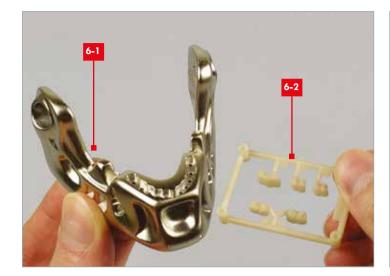
6-1 Lower Jaw

6-2 Lower Teeth

6-3 Bridge of Nose

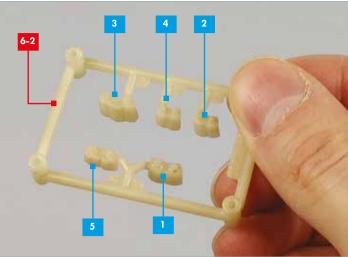
YOU WILL ALSO NEED

Superglue gel, and a cocktail stick or toothpick with which to apply it.



Check that you have all three pieces supplied with this stage, and then find the lower jaw (6-1) and the framework with the lower teeth (6-2).

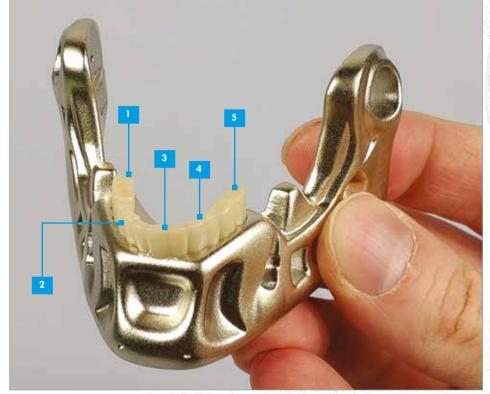
You will also need the superglue and a cocktail stick or similar with which to apply it.



STEP 2

As with the upper teeth back in stage 02, each of the five sets of teeth (6-2) are different, so it is important that you note the part number of the teeth on the framework before you remove them, as shown in the photo above.

Keep them clearly numbered until they are fitted. You may find it helpful to also study the photograph below once you have removed the teeth from the framework, and especially if you lose track of which piece is which.



STEP 5

When glued into the lower jaw, the teeth should look like the above.

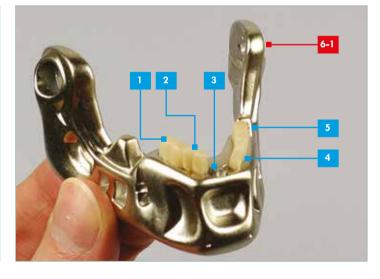




STEP 3

Using a craft knife, small side-cutting pliers or similar, remove the teeth from the framework.

Always take care when using a craft knife or a bladed tool.



STEP 4

First, test-fit all of the teeth in place, checking they match the next photograph. You may find it easier to fit the front teeth last.

Then remove the first set of teeth and apply a tiny drop of superglue, with a cocktail stick, to the locating pins on the underside of the teeth.

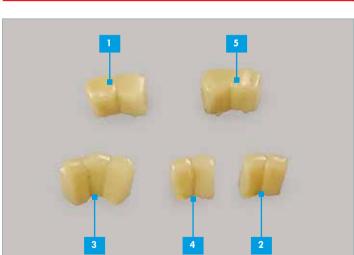
Fix the glued section in place, holding it secure for a few seconds while the glue sets. Repeat this process for the remaining four sets of teeth.



STEP 6

Next, take the bridge of the nose (6-3) from this stage, and the faceplate (1-1) from stage 01.

Check that **6-3** is correctly oriented, with the plated side facing outwards and the two 'prongs' pointing down towards the nostrils.







STEP 7

There are two small pins on the back of **6-3**. As with the teeth, apply a tiny drop of superglue with a cocktail stick to these locating pins.

Fix part **6-3** in place on the faceplate, as shown, holding it secure for a few seconds while the glue sets.



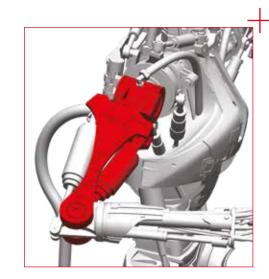
STAGE COMPLETE

This is how your lower jaw and faceplate should look.

Check your version against the photos, and, once you're happy, store the pieces safely.

STAGE 07: COMPONENTS FOR THE UPPER ARM AND HEAD MOTOR

In this stage, you'll continue work on the upper arm from stage 04, and begin assembling the head motor joint.





LIST OF PIECES

Upper arm ring

7-4

 7-1
 Upper arm A
 7-5
 Head motor joint A

 7-2
 Upper arm B
 7-6
 Head motor joint B

 7-3
 Upper arm C
 7-7
 5x PB 2x6mm screws (1 spare)

NOTE

Parts 7-4 and 7-1 may be packaged together. Please separate before starting to build Stage 07.

YOU WILL ALSO NEED

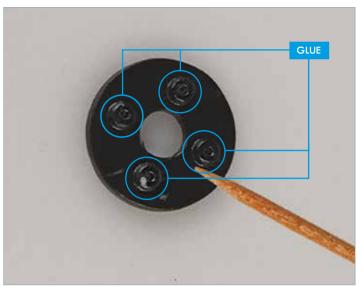
Superglue gel, and a cocktail stick or toothpick with which to apply it.

The completed arm from stage 04.

A suitable cross-point screwdriver.

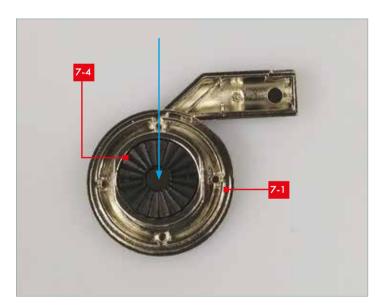


Check that you have all of the pieces supplied with this stage, and then find upper arm A (7-1) and the upper arm ring (7-4). Note the four pegs (circled in blue) on part **7-4** which fit into matching holes in part **7-1**. Test fit the parts together as shown in the inset. Note: these parts may come packaged together.



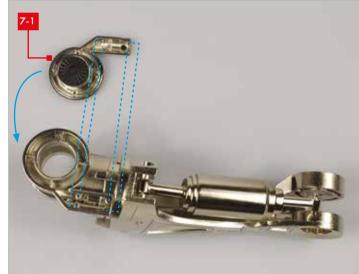
STEP 2

Take **7-4** and apply superglue to the outer edges of the four pegs on its underside, as shown in the photo, taking care that the glue doesn't accidently fill the holes. Using a cocktail stick or similar may help with the application of the glue.



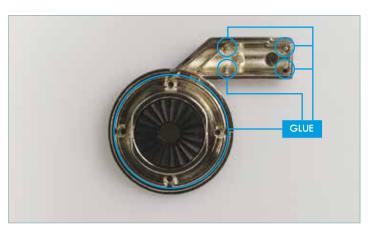
STEP 3

Once the glue is applied, secure part **7-4** into the recessed area on part **7-1**. As before, the pegs on the reverse of part **7-4** fit neatly into the matching holes in part **7-1**.



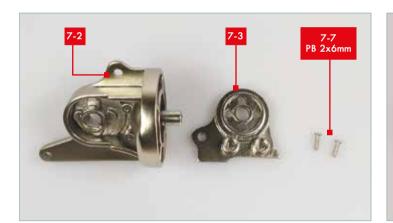
STEP 4

Next, take your completed part **7-1/7-4** along with the completed upper right arm assembly from stage 04. Test-fit part **7-1** into the shoulder joint as shown. Use the four pins in the 'half-pipe' section to help locate the piece correctly. See also the photographs in step 6.



STEP 5

Once you're comfortable with the fit, apply superglue to the four pins, and to the edges of the inner circumference of **7-1**, using the photo as a guide.



STEP 7

Next, take upper arm parts B (**7-2**) and C (**7-3**), along with 2x PB 2x6mm screws (7-7).



STEP 8

Part **7-3** locates into part **7-2**, and is held in place with the two screws, as shown.



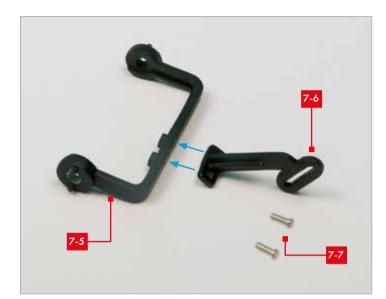
STEP 9

After test-fitting the parts together, insert two PB 2x6mm screws into the screw holes as illustrated, and tighten to secure the two parts.

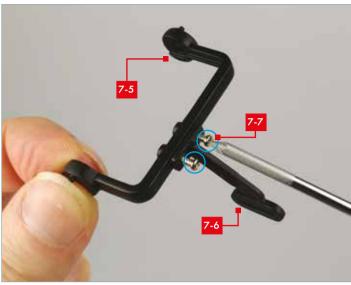


STEP 10

The component looks like this once screwed together. Note how the screws are sunk within the holes.



Finally, take head motor joint A (7-5) and head motor joint B (7-6) along with 2x PB 2x6mm screws (7-7). Part 7-6 is joined to part 7-5, as indicated by the blue arrows.



STEP 12

Insert the two screws into the holes, as shown, and tighten to secure the two parts together.



STEP 13

The piece looks like this once assembled.



STAGE COMPLETE

This is how all three components should look once you've finished this session's steps.

Check your pieces against the photos, and, once you're happy, store them away safely.

STAGE 08: AND RIGHT PALM

In this stage, you'll assemble the right thumb and attach it to the palm, alongside the first finger you assembled in stage 03.





8-1	Right palm	8-9	Right thumb
8-2	2x Right thumb A		connector D
8-3	Right thumb B	8-10	2x KM 2x6mm screws
8-4	Right thumb C		(1 spare)
8-5	Right thumb D	8-11	2x Plastic sleeves for parts 8-7
8-6	4x Right thumb connector A	8-12	Plastic sleeve for part 8-8
8-7	2x Right thumb connector B	8-13	Plastic sleeve for part 8-9
8-8	Right finger connector C		ρατι σ-7

YOU WILL ALSO NEED

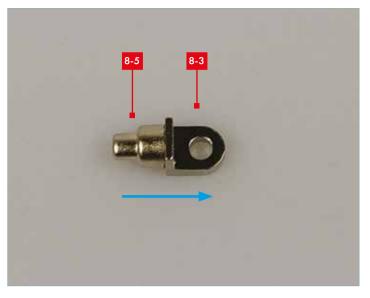
A suitable cross-point screwdriver

Superglue gel

The completed finger from stage 03

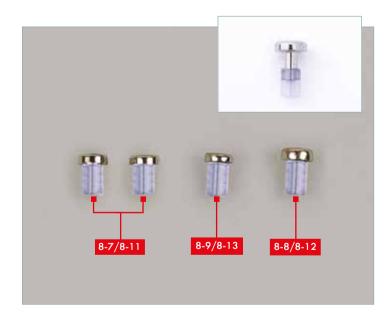


Check that you have all of the pieces supplied with this stage, and then find right thumb D (8-5) and right thumb B (8-3). Apply a little superglue to the peg on part 8-3 (inset).



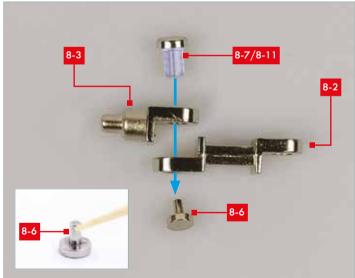
STEP 2

Fix **8-5** onto **8-3**, as shown by the blue directional arrow. This combined piece will be called 8-3 from now on.



STEP 3

Take the connectors **8-7** (x2), **8-8** and **8-9**. Fit the plastic sleeves **8-11**, **8-12** and **8-13** onto the shafts of the connectors (inset). Note that the shafts are the same diameters, but there are three different lengths. Carefully rank the connector/sleeve assemblies in order of length.



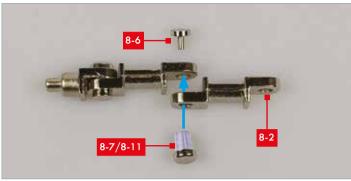
STEP 4

Take part **8-2** along with part **8-3** and check how they connect, as shown. Take one of the connectors 8-7, with plastic sleeve 8-11 fitted, and fit through the holes in parts 8-3 and 8-2. Apply a little superglue to the pin on connector **8-6** (inset) and fix the joint together.



STEP 5

The first section of the thumb looks like this when completed.



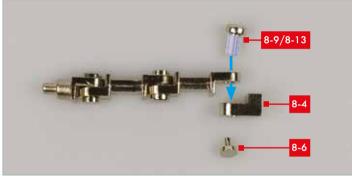
STEP 6

Now, take the thumb section **8-2** and position it as shown. This time, connector 8-7 (with plastic sleeve) is fitted through from the other side, as indicated by the blue arrow. Apply a little superglue to one of the connectors **8-6** and fix the joint together.



STEP 7

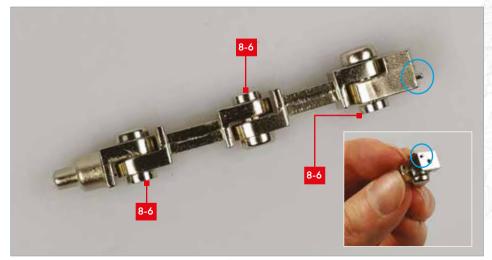
The first two joints of the thumb look like this when completed.



STEP 8

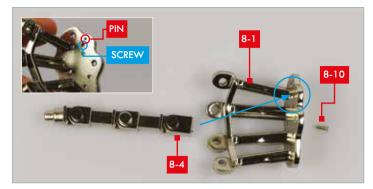
To your first two joints, now add the connector (8-9) — which is the longest of the three kinds of connectors in this stage — complete with its sleeve. Position right thumb C (8-4) as shown. Fit the connector 8-9 through the joint, as indicated by the arrow.

Apply a little superglue to the connector **8-6** and fix the joint together.



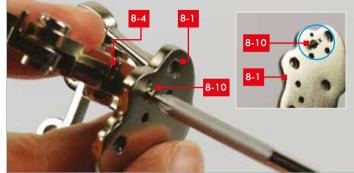
STEP 9

Your completed thumb will look like this, with the connectors arranged alternately. Take particular note of the locating pin, as shown in the inset (circled in blue) which will be important in the next step.



Now, find the right palm (8-1) and a KM 2x6mm screw (8-10). Lay them out in your workspace as shown in the photo.

The locating pin on part **8-4** fits into the hole marked 'pin', which will help keep the thumb from rotating as the screw is tightened.



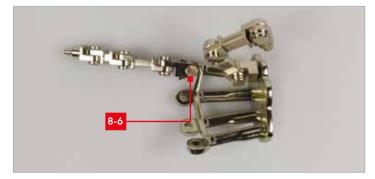
STEP 11

Insert the locating pin on part **8-4** into the matching hole in **8-1** (inset step 10). Whilst holding part **8-4** in place, insert a KM 2x6mm screw (8-10), as shown, and screw it in place.



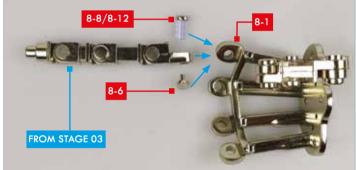
STEP 12

The thumb will look like this once attached (the digits are fully articulated).



STEP 14

The finger should look like this when connected to the knuckle, with **8-8** on top, and **8-6** underneath when viewed in this orientation.



STEP 13

Finally, take the finger you assembled in stage 03, together with the final two connectors — **8-8** (with sleeve) and **8-6**. The finger is attached to the knuckle in the index finger position, as shown. Fit connector 8-8 (with sleeve) through the knuckle socket on part 8-1 and then through part **8-6**. Apply a little superglue to connector **8-6** and fix the joint together.



STAGE COMPLETE

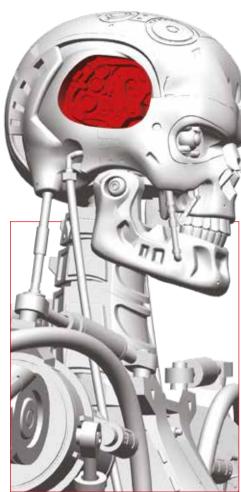
This is how your palm, thumb, and first finger should look when assembled.

Check your version against the photos, and, once you're happy, store the pieces until it's time to add the next finger.

STAGE 09: COMPONENTS FOR THE RIGHT-HAND SIDE OF THE HEAD

In this stage, you'll combine two elements to make part of the right-hand side of the head.





LIST OF PIECES

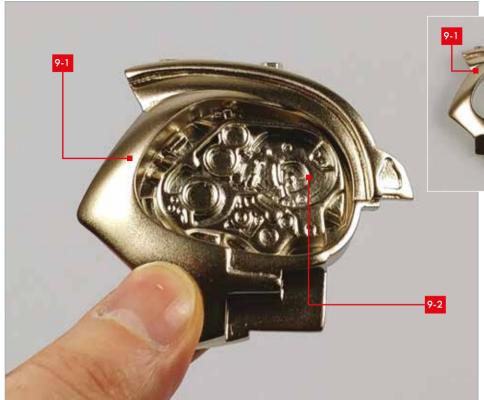
9-1 Right head A

9-2 Right head B

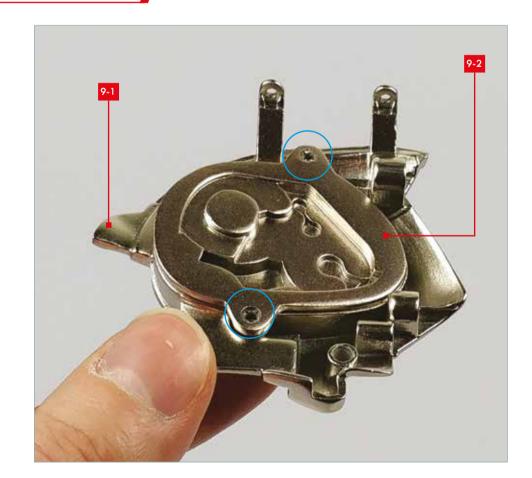
9-3 3x PM 2x4mm screws (1 spare)

YOU WILL ALSO NEED

A suitable cross-point screwdriver

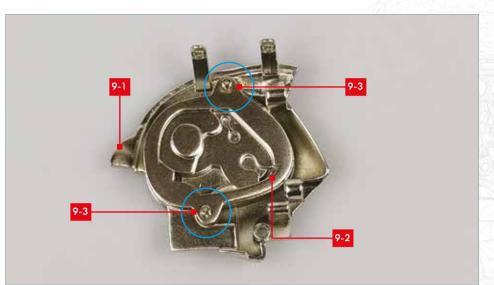


Take the right head part A (9-1) and right head part B (9-2), both supplied with this stage, and place them on the work surface (see inset). From behind, insert part 9-2 through the opening in part 9-1.



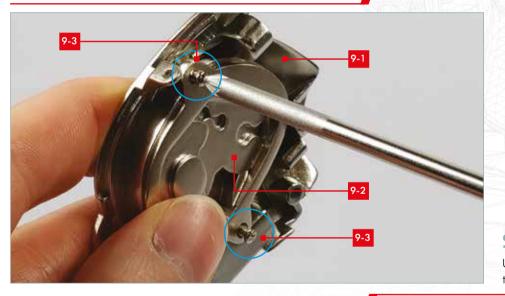
STEP 2

After turning the parts over, note how the screw holes in **9-2** align with those on the reverse of **9-1** (circled in blue).



STEP 3

Insert one PM 2x4mm screw (9-3) into each of the screw holes, still circled above in blue.



STEP 4

Use your cross-point screwdriver to tighten the two screws.



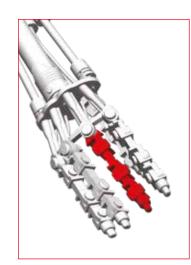
STAGE COMPLETE!

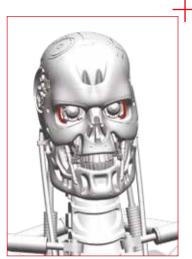
Once assembled, this is how your right side of the head should look.

Keep the assembled parts safely aside until they are needed.

STAGE 10: INNER LE FINGER

In this stage, you'll add to the interior of the skull, and construct another finger for the right hand.







LIST OF PIECES

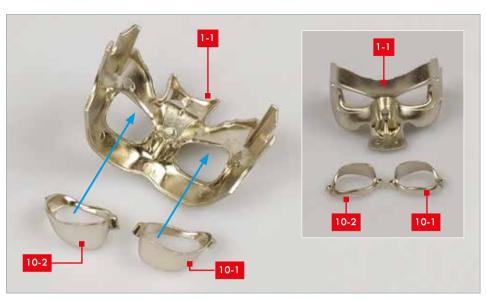
10-1	Inner eye socket left	10-7	Right middle finger E
10-2	Inner eye socket right	10-8	3x Finger connector A
10-3	Right middle finger A	10-9	Knuckle connector
10-4	Right middle finger B	10-10	4x Finger connector B
10-5	Right middle finger C	10-11	3x Plastic sleeves for parts 10-8
10-6	Right middle finger D	10-12	Plastic sleeve for part 10-9

YOU WILL ALSO NEED

Part 1-1 Skull faceplate

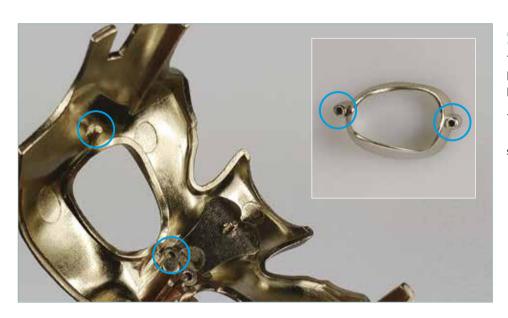
Part 8-1 The right wrist, with finger and thumb attached

Superglue, and a cocktail stick or toothpick with which to apply it.



STEP 1

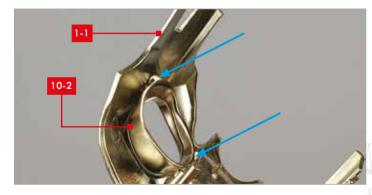
First, find your faceplate (1-1) which was last worked on in stage 06, and take the two inner eye sockets (10-1, 10-2). The left and right eye sockets will only fit into the skull one way, with the curve of the socket following the corresponding curve of the skull interior.



STEP 2

The inside of the faceplate (1-1) has a locating pin on either side of each eye (see left, circled blue).

The outer edges of the inner eye sockets (10-1, 10-2) have matching holes on either side of the socket (see inset circled blue).



STEP 3

After aligning the locating pins and holes, push-fit the right inner eye socket (10-2) in place. Note how the curve of the eye socket part matches the curve of the faceplate. The parts are push-fit but if necessary apply a small drop of superglue to secure the part in place.



STEP 4

Repeat step three, this time fitting the left inner eye socket (10-1).

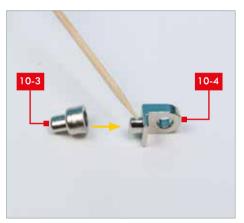


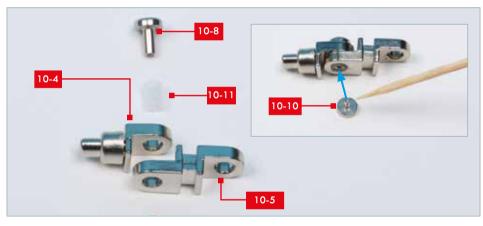


The inner eye sockets will look like this when fitted.

Use the photos above as guides to check the alignment of the eye socket pieces.

Keep the assembly safely aside until it is needed in a later stage.



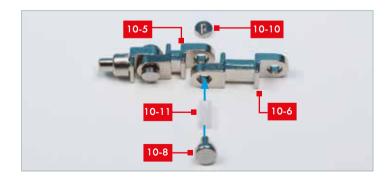


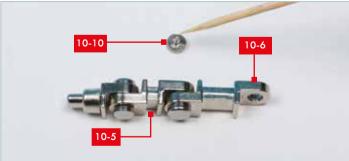
STEP 6

Apply a little superglue to the peg on part 10-4. Attach the fingertip part, 10-3, as indicated by the yellow arrow.

STEP 7

Arrange part 10-5 next to part 10-4 as shown. Take a connector 10-8 and a plastic sleeve 10-11. Hold the holes in parts 10-5 and 10-4 together and fit the sleeve 10-11 and connector 10-8 into the hole in the joint. Apply a little superglue to the pin on connector 10-10 and fit it into the joint as indicated by the blue arrow (inset) to hold the parts together.



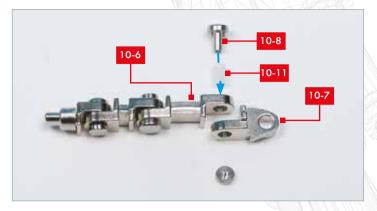


STEP 8

Take the right middle finger D, 10-6 along with a second set of connectors 10-8, 10-11 and 10-10. This time, 10-10 and 10-8 connect in the opposite direction to the previous joint. Fit the sleeve and connector 10-8 through the holes in parts 10-6 and 10-5.

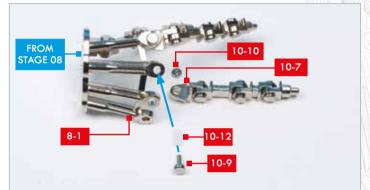
STEP 9

Apply a little superglue to the pin on part 10-10 and fix the joint together.



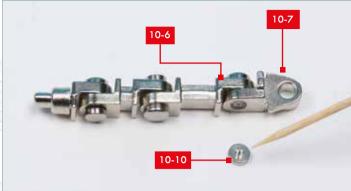
STEP 10

Position the next finger section 10-7 next to part 10-6, as shown. Fit connector 10-8 and sleeve 10-11 into the holes in parts 10-6 and 10-7. Note that the direction in which the connectors are inserted alternates.



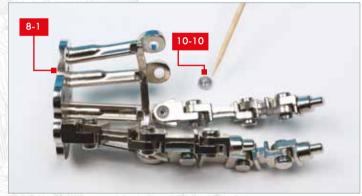
STEP 12

Now, take the assembled hand from stage 08 and identify the fixing point for the end of the finger assembly, **10-7**. This time, you will need the larger connector, **10-9** and plastic sheath **10-12**. With the palm **8-1** positioned as shown, align the hole in part 10-7 under the hole in the knuckle. Fit the connector 10-9 and the sleeve 10-12 through the hole in the knucke and the hole in part 10-7, as indicated by the arrow.



STEP 11

Apply a little superglue to the pin on the third connector 10-10 and fix the joint together.



STEP 13

Turn the hand over, so that you can see the inside of the knuckle joint. Apply a little superglue to the fourth connecting pin 10-10 and fit it into the assembled joint, as indicated by the blue arrow.



STEP 14

This is how your hand should look when the second finger has been connected.



STAGE COMPLETE

Your two new components should look like this. Store them safely — you'll be adding more elements to both very soon!

DIGITAL VISION: ARTIFICIAL INTELLIGENCE AND PHOTOGRAPHY

The Terminator's hyper-analytical vision processes all manner of data and threats. Given the astounding developments in Al and digital cameras since the first Terminator™ movie came out, how does real-world science stack up against fiction?

ver since the advent of photography and computing, scientists have been attempting to splice the two, to produce intelligent, automatic image analysis.

Having just assembled the Terminator's fearsome eyes, it's interesting to look at the history and current state of digital photography and computer-assisted image recognition.

DAWN OF THE DIGITAL

As with many technological advances, the first digital cameras were developed by the military — in order to get around the limitations of early spy satellites. The first completely electronic imaging satellite was the **KH-11**, launched by the USA's National Reconnaissance Office, or NRO, in 1976.

NASA 's pioneering deep space probes **Voyager 1** and **2**, launched in 1977, also had both digital cameras and the ability to transmit such imagery electronically back to



What do we mean when we say 'artificial intelligence', or Al?

Firstly, it's a good idea to draw a distinction between movie-style free-thinking, humanoid robots like C-3PO or Vision, and today's technology, which is much more limited – but also providing unexpected breakthroughs every day.

Many of today's Al and Machine Learning researchers are more concerned with highly specialized programs (in the field of image recognition, for instance), or those which come about their intelligence in a unique, self-taught way, than with trying to replicate human consciousness.

To date, no Al program has demonstrated a sense of the 'self' as we understand it, but many scientists believe that it's only a matter of time – even if those working in the field have been predicting such an Al breakthrough 'within the next ten years' since the dawn of digital computing.

We'll continue to investigate the current state of Al in future packs.



Earth. The cameras had a resolution of 800×800 pixels, and images could be transmitted at a top speed of 7.2 kilobits per second. By comparison, today, it isn't unusual to achieve over 100 Megabytes per second, and digital cameras can now capture images in the region of 20-50 megapixels of resolution.

The first commercially-available portable digital camera was Fuji's **DS-X**. Launching in 1989, it cost around £15,000 for the camera and back-up system, and could store up to 10 images on its proprietary memory card.

TO DATE, NO AI PROGRAM
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SENSE OF THE 'SELF' AS WE
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INFINITE IMAGES, INFINITE DATA

Today, digital cameras are integrated into phones, tablets, and webcams, meaning we're never far from a device which can capture high-quality images. Storage space, thanks to cloud computing, is nearly infinite. As a result, humankind is producing more visual data than ever.

There are **over 5** *trillion* photos in storage online. On social media, over **760 million** images are shared on Snapchat every day, while **67 million** are shared on Instagram. Users watch **6 billion** YouTube videos every twenty-four hours.

And that's just the photos that we **choose** to share. The



rise of the surveillance state means that every day, you cross the lens of around **70 surveillance cameras** and, increasingly, that footage is analysed by computers — whether it's to prevent international crime, or to optimize smooth customer flow around a shopping mall.

These numbers are far beyond anything that even the most industrious of humans could catalog on their own. It's applied Al that helps sift the useful imagery from the dross.

LEARNED VS. CODED

What's really happening under the hood when we perform a Google Image search, or its equivalent in the murky world of global surveillance?

The precise algorithms used are well-protected secrets, but such searches use a mixture of trained (coded) and learned behaviors to improve their accuracy.

Trained behaviors include programmers teaching a program what an 'apple' looks like, by feeding it thousands of photos of different apples. The program can then compare new photos to its increasingly huge database and find appropriate matches.

Learned behaviors include trial and error, with the program grouping photos together by pure visual similarity and then analyzing what makes each image and object distinct. A red apple and a red balloon share many characteristics, but by comparing them to a green apple and a blue balloon, the differences can be weeded out. This method creates a vast number of automatically linked categories, far more than could be applied by programming or tagging alone.

It's in combination that the two methods are currently

most powerful – artificial intelligence supplemented by human information.

THE FUTURE OF AI IMAGERY

Some of the most interesting developments in Al imagery analysis and machine 'thinking' are coming out of the UK's DeepMind company, part of the Alphabet group. DeepMind researches pure Al, and then applies such learnings in the worlds of work and play. Their contributions can be as small as the automatic brightness settings on your Android phone handset, or as grand as tackling climate change, but a lot of their recent research has focused on teaching machines how to see and recognize objects independently — without prescriptive programming from human hands.

Google's NASNet is the leading neural net in the field of image identification, but DeepMind's Generative Query Network, or GQN, trains machines to perceive the objects in their surroundings using only data obtained by moving around within computer-generated scenes. Without human input, the programs build up predictive models of where objects *should* be when scenes are shown from another perspective, and can guess the materials and the behaviors of objects based on previous experience, building an abstract, 3D, visual map of the digital world around them from observation alone.

This experiment is very much in its infancy, but in moving away from human-tagged images and towards a wholly learned, self-taught view of the world, this program – and others like it – are the closest we've yet come to the kind of Al-enhanced eyes demonstrated by the Terminator.

OPPOSITE TOP: Facial
recognition is just one
of the ways artificial
intelligence is used
to sort and identify
photos. If you have
a Facebook account,
you're feeding an Al
algorithm new data
every time you upload.
(Photo Camposite:
Shutterstack)

OPPOSITE BOTTOM:
Studies suggest one

providing un
Many of to
researchers of
specialized precognition, for
their intellige
with trying to
To date, no
of the 'self' of
believe that if
working in the
breakthrough

OPPOSITE BOTTOM: Studies suggest one billion surveillance cameras will be deployed globally by 2021. [Photo: Shutterstock]

ABOVE RIGHT: The

Voyager I probe,

seen here entering

ınterstellər space.

The pioneering probes

equipped with early

digital cameras, are

data back to Earth.

[IIIustration: NASA]

still active and sending

