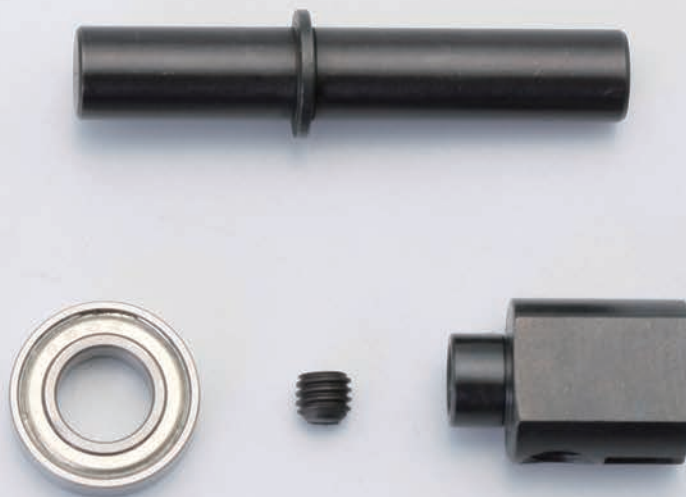


Stage 37

The main shaft cup joint

Your parts



Main gear shaft
1680 ball bearing

5 × 4mm set screw
Main shaft cup joint

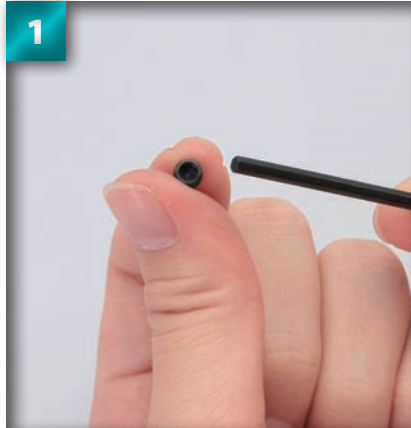
Tools and materials

2.5mm Allen key (Stage 7)
Thread-locking agent (or rubber-based adhesive)

Main shaft assembly (Stage 36)
Sealable plastic bag
Marker pen

HUMMER H1: STEP BY STEP

Place the set screw onto the tip of the Allen key.



Apply a little thread-locking adhesive to the set screw (rubber-based adhesive can also be used).



Place the set screw into the threaded hole in the side of the main shaft cup joint (circled). Do this immediately, before the thread-locking agent or adhesive dries.



Turn the Allen key to feed the set screw into the side of the cup joint.

Look into the main hole of centre of the cup joint, and keep turning the set screw until the end of the screw is visible, as shown.



Place the 1680 ball bearing over the cup joint's circular tip.



Push the 1680 bearing onto the tip so that it sits flush with the body of the cup joint.



Remove the masking tape from the tip of the main shaft assembly built in Stage 36.



Place the cup joint and bearing assembly onto the tip of the main shaft, as shown. Make sure that the flat portion of the shaft's tip fits into the corresponding flattened section of the inside of the joint (see arrow).



Push the cup joint down so that it rests against the gear. If it is difficult to push it, loosen the set screw a little.

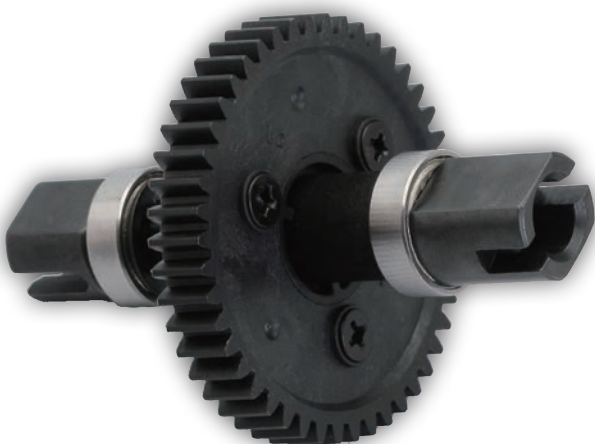


Applying pressure with your hands to keep the parts tight to each other, tighten the set screw firmly with the Allen key.



Holding the Allen key so that its shorter arm is in the screw and its longer arm is in your hand will make it easier to tighten, as you are given greater leverage.

Assembled parts

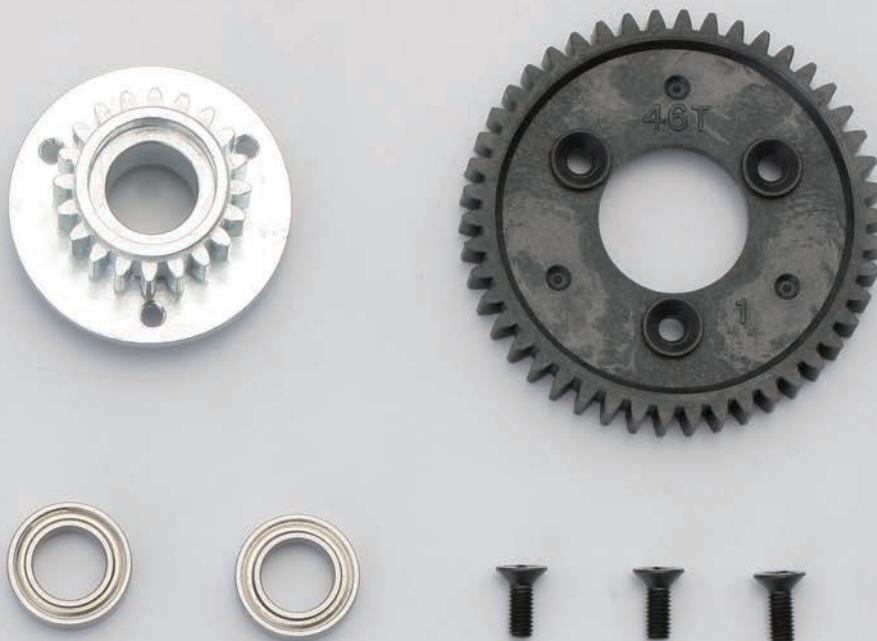


As you have done in earlier stages, keep any unused parts in a plastic bag, and mark the stage number for ease of reference.

Stage 38

Assembling the main gear

Your parts



Centre gear (20T)
Main gear (46T)

1480 ball bearings × 2
3 × 8mm countersunk screws × 3

Tools and materials

Phillips screwdriver
Masking tape
Main gear shaft (Stage 37)
Plastic bag
Marker pen

HUMMER H1: STEP BY STEP

Fit the 20T centre gear into the centre of the 46T main gear.



Adjust the centre gear so that the circled holes line up with those on the 46T gear, and that it is fitting snugly into place.



From the back, insert the first 3 × 8mm countersunk screw into one of the holes (see arrow).



Tighten with a screwdriver, but not too firmly at this stage.

Insert the next two 3 × 8mm countersunk screws. Again, tighten lightly at first: when all three are in lightly, tighten each fully.



Place the first 1480 ball bearing into the space in the centre gear, as arrowed. It does not matter which way round the bearing goes.



Press the bearing into place.

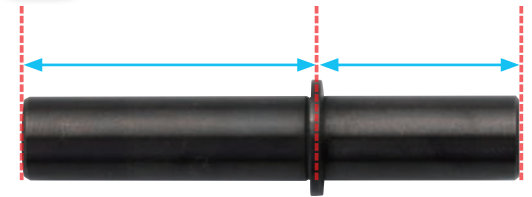


Hold the first bearing in place from the back, then place the other bearing into the corresponding space at the front of the centre gear.

Press the bearing into place, making sure it is sitting straight.



10



Inspect the main gear shaft supplied with Stage 37. You will see it has a 'collar' near the centre of the shaft, and that this divides the shaft into a longer and shorter end.

11



Place the longer end of the main gear shaft into the front of the centre and main gear assembly, as shown by the arrow.

12



Slide the shaft into the gear so that the collar rests against the 1480 ball bearing.

Pull through from the back so that the parts are flush with each other, then use masking tape to hold the shaft in place.



13

Check that your assembly matches the one in the photo, and that the tape is holding the parts in place securely.

14



Assembled parts

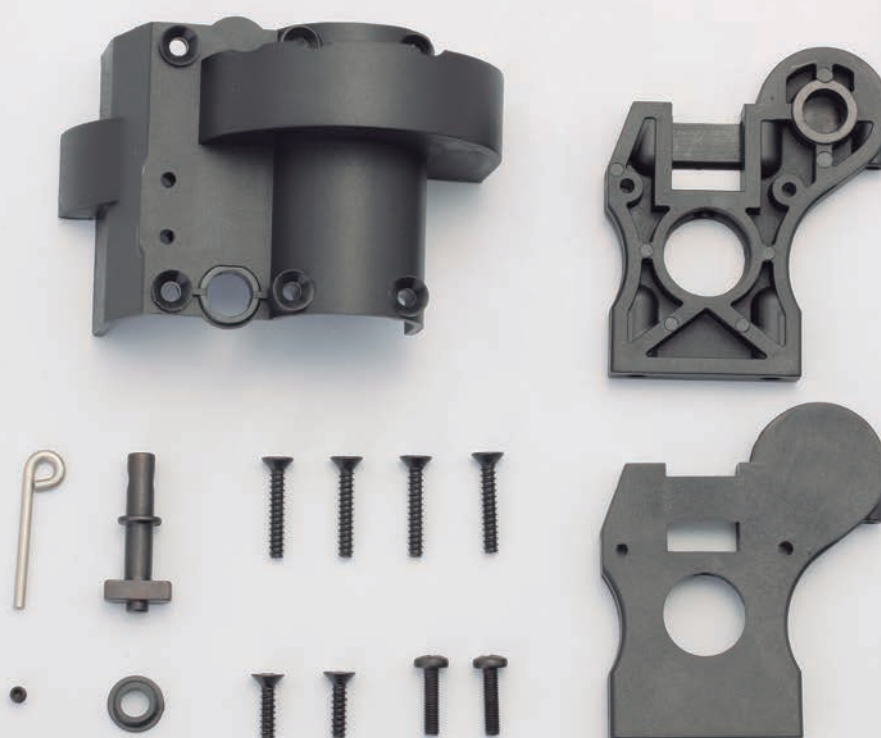


Store your assembly in a sealable plastic bag. This is especially important for the parts that make up the gears, as any dust that gets into these parts may cause difficulties at a later stage.

Stage 39

Assembling and mounting the centre gear

Your parts



Centre gear cover

Centre gear mount back

Centre gear mount front

Brake cam rod

Brake cam

3 × 18mm self-tapping screws × 4

3 × 3mm set screw

Brake collar

3 × 12mm self-tapping screws × 2

3 × 12mm binding-head screws × 2

Tools and materials

Phillips screwdriver

1.5mm Allen key

Thread-locking agent (or rubber-based adhesive)

Centre gear (Stage 37)

Main gear assembly (Stage 38)

Sealable plastic bag

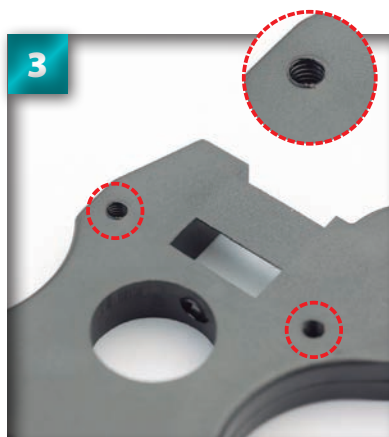
Marker pen



Place the centre gear mount front flat on your work surface, as shown. The centre gear mount front and back parts look very similar, so make absolutely sure you select the front part. Place one of the 3 × 12mm binding-head screws into the first hole, as shown.



Turn the screw with a screwdriver, making sure the screw enters the gear mount perfectly straight. When you feel the screw reach the far side of the mount, carefully remove the screw, again making sure to keep the screw straight.



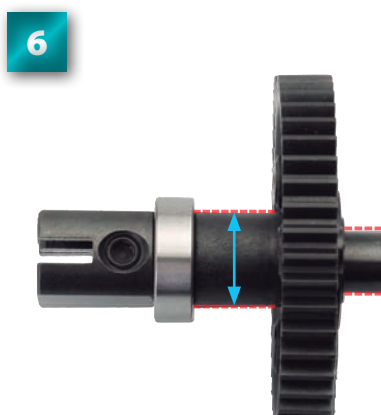
Repeat Steps 1 and 2 for the other hole, so that both holes are left with the screw's indentations, forming the 'tapped' inside (see circles).



Remove the masking tape from the main gear assembly built in Stage 38.



Insert the tip of the main gear shaft into the hole in the underside of the centre gear mount back, following the arrow.



Next, re-familiarise yourself with the proportions of the centre gear assembly built in Stage 37. The left side is thicker and the right side is thinner.



Making sure not to dislodge the main gear, place the centre gear assembly into the second hole on the underside of the gear mount, as shown.



Adjust until the teeth of the centre gear engage fully with those of the main gear (circled). Make sure not to force the parts, as this may damage the teeth. Once engaged, ensure the centre gear is sitting straight.

HUMMER H1: STEP BY STEP



Press the parts firmly together.



Place the centre gear mount front part over the tips of each gear assembly and press together, following the arrows. Check against the photo that you have the parts aligned correctly.

Press the parts firmly together, making sure that the ball bearing on the centre gear shaft sits inside the hole of the gear mount front, as shown.



12

It is very important that the parts fit together snugly, so check closely against the photo to make sure that your assembly looks exactly like this.



Place the 3 × 3mm set screw onto the tip of the Allen key, and apply a little thread-locking agent (or rubber-based adhesive).



Hold the brake cam level, as shown, and carefully insert the set screw. Make sure that the set screw is in perfectly straight, then tighten by two rotations.

Inspect the cam section of the brake cam (pictured) – there is one short side and one long side.



Position the gear mount assembly on your work surface, as shown, then carefully place the brake cam into the arrowed slot, with the short side of the cam facing you.



17



Press the brake cam into place.

18



The short side of the cam should be visible in the rectangular hole from the outside of the gear mount.

Place the brake collar onto the tip of the brake cam, with the flange side facing down.

19



Press the brake collar down so that it rests on the upper edge of the gear mount.

20

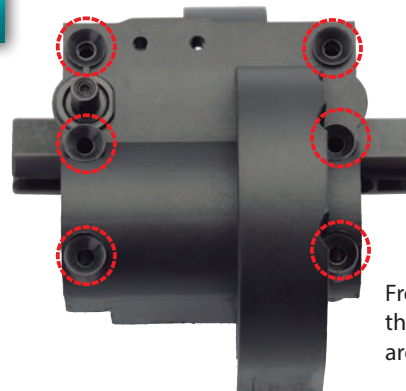


21



Hold the assembly level, then lower the centre gear cover onto it, so that the arrowed holes line up.

22



From above, check that the circled screw holes are correctly aligned.

Holding the parts together, insert the first 3 × 18mm self-tapping screw into the circled hole and tighten lightly.

23



Next, repeat for the next three circled holes. Do not fully tighten the screws at this stage.

24





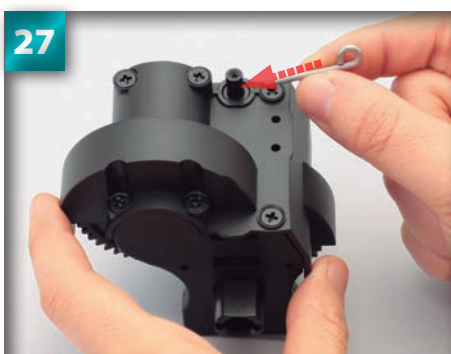
25

Holding the assembly in your hand, as shown in the photo, insert two 3 × 12mm self-tapping screws into the holes at the top corners. Again, do not fully tighten yet.



26

Once the two 3 × 12mm screws, and the four 3 × 18mm screws are in, tighten each fully with a screwdriver.



27

Push the brake cam rod through the hole in the shaft of the brake cam protruding from the gear cover.



28

Adjust the rod so that the straight end sits 1mm away from the side of the raised section of the gear case, and the looped end is facing upwards, as shown.



29

Use the 1.5mm Allen key to tighten the set screw fitted in Step 14 until it presses down on the rod, stopping it from moving.



30

Check that the brake cam is able to rotate by turning the brake cam rod from side to side.

Assembled parts



Store unused parts safely in a sealable plastic bag, and mark the stage number on it for ease of reference.

Check that the gears are able to rotate freely inside the mount casing by turning the centre gear's cup joint. It does not matter if the parts catch a little bit at this stage.



31

Stage 40

Installing the disc brake

Your parts



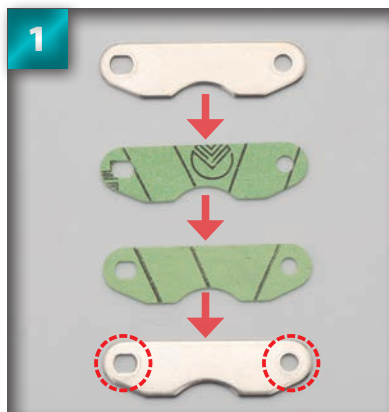
Front torque rod
Brake callipers × 2
Brake pads × 2
Brake disc
Steering posts × 2

4 × 10mm countersunk screws × 2
3 × 10mm self-tapping screw
3 × 10mm self-tapping countersunk screws × 2
4 × 10mm binding-head screws × 2

Tools and materials

Phillips screwdriver
Centre gear mount assembly (Stage 39)
Main chassis (Stage 32)
Steering plate (Stage 26)
3 × 12mm binding screws × 2 (Stage 39)

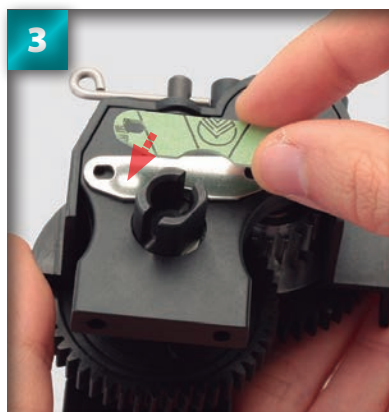
HUMMER H1: STEP BY STEP



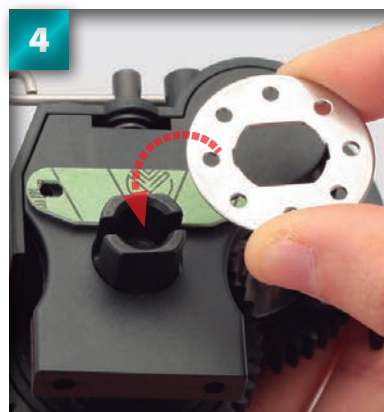
Inspect the brake pads and callipers. Lay the parts out, as shown: note the shape and orientation of each. The holes on the left and right side are different shapes (see red circles). Ignore the pattern printed on the brake pads.



Holding the centre gear mount as shown, place the first brake calliper so that its two holes line up with those on the casing of the mount (arrows). Make sure you have the orientation of the calliper positioned, as shown in the photo.



Next, place the corresponding brake pad over the calliper, making sure the holes line up.



Fit the brake disc over the protruding cup joint.



Place the second brake pad over the brake disc, so that its holes line up with those of the first.



Add the second brake calliper.



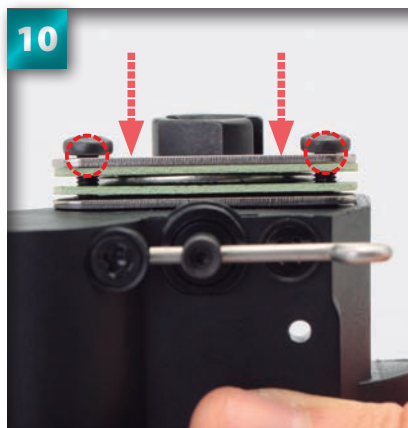
Place the first 3 × 12mm binding-head screw provided in Stage 39 through the holes on the right of the brake pads and callipers, and into the hole in the gear mount beneath.



Holding the parts in place, gently tighten the screw, but stop before the head touches the outermost calliper.



Tighten the second 3 × 12mm binding-head screw (Stage 39) into the wider hole on the left side of the pads and callipers, and tighten lightly.



From the side, your brake pads and callipers should look like this. Turn the screws until there is a gap of about 1mm between the outermost calliper and the screw head.



The disc brake is complete, and should look like this.



Prepare the steering plate and servo saver assembly built in Stage 26. The steering plate is in the middle, with the two servo savers to the left and right.



Place one of the steering posts into the hole in the centre of the right servo saver, from the side that houses the spring.

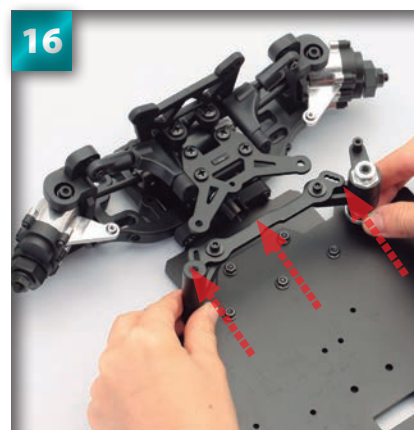


Push the steering post through to the back of the servo saver.

Insert the other steering post into the hole in the left servo saver from the same side as you did the first.



Pull the servo savers apart gently and place the assembly directly behind the front bulkhead from the rear.



17



Turn the servo savers until they line up directly with the circled holes on the front upper plate.

18



Place the first 4 x 10mm binding-head screw into the right hole in the front upper plate and through to the hole in the right servo saver.

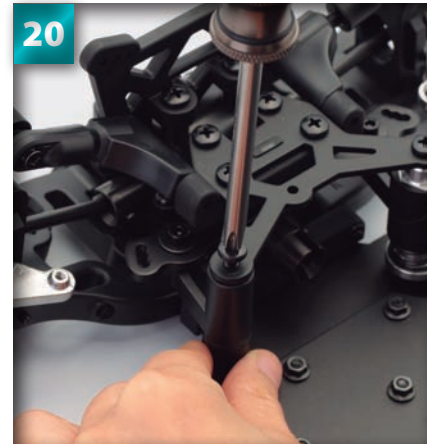
Tighten the screw, but not entirely at this stage, as the lower part of the steering post is not fixed yet.

19



Repeat Steps 18 and 19 for the left servo saver and the second 4 x 10mm binding-head screw.

20



21



Position the front torque rod beneath the centre of the front upper plate, as shown by the arrow.

22



Fit the front torque rod to the upper plate, so that the contours of each are flush with one another.

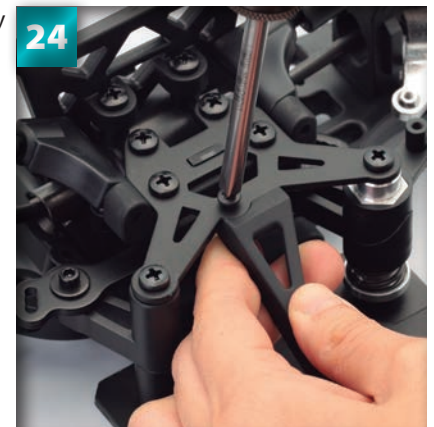
Set a 3 x 10mm binding-head screw into the hole, as shown.

23



Tighten the screw securely with a screwdriver.

24

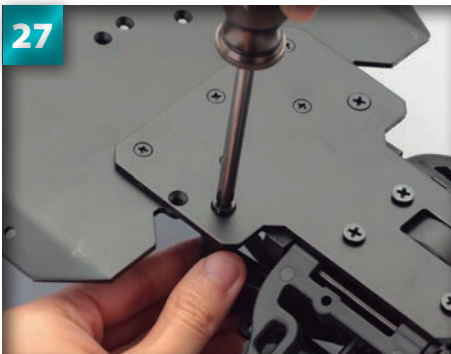




Next, carefully turn the main chassis over, and place a 4 × 10mm countersunk screw into the hole leading to the bottom of the right servo saver.



Tighten with a screwdriver.



Repeat for the left servo saver.



Next locate the holes in the underside of the chassis that lead to the holes of the front torque rod, and insert a 3 × 10mm countersunk self-tapping screw.



Tighten with a screwdriver.



Repeat for the adjacent hole to finish attaching the front torque rod.



Turn the chassis back over and complete tightening the screws in the left and right servo savers.

Assembled parts

