

## 42031 Tow Truck

Welcome to text-based instructions from LEGO for the Blind. Before you start building, here are some terms we'll be using:

**Front:** towards you.

**Back:** away from you.

**Up:** towards the ceiling.

**Down:** towards the floor.

**Stud:** the bump on a Lego brick. Example: A 2x1 brick has two studs on it.

**Vertically:** going from front to back.

**Horizontally:** going from left to right.

**Upright:** pointing up towards the ceiling, and down towards the floor.

**Symmetrically:** a mirror image. Example: If you place a 2x1 brick with technic connector on the front wall at the right, connector to the front, and then place another such piece symmetrically on the back wall, at the right, the technic connector of the second piece should point to the back, since it will be placed symmetrically.

There are also abbreviations defined at the end of this file.

Reach dizzying heights with the awesome LEGO® Technic Tow Truck! Let's get to work!

Tow truck

Bag 1.

Put a 9x1 oblong piece hor on the table, holes to front and back.

Insert a long connector from the front, short end first, into the leftmost hole.

Skip two holes to the right and repeat.

Bag 2.

Insert a rotating long connector from the back, short end first, into the second hole from the left.

Skip two holes to the right (including the one with the connector in) and insert a connector from the back.

Skip three holes to the right and insert a rotating long connector from the back, short end first.

Lay momentarily aside.

Bag 3.

Put a 13x1 oblong piece hor on the table, holes to front and back.

Insert a long connector from the front, short end first, into the 5th hole from the left.

Skip seven holes to the right and repeat (the rightmost hole).

Insert a long Philips connector from the front, short end first, into the 7th hole.

Hold a 2x1 oblong piece ver, upright, the holes to the front and back, the cross-hole on top, and put it (with the cross-hole) from the front onto the middle (Philips) connector all the way.

Connect this part to your main structure by turning your oblong piece, so that the free hole faces down.

Then attach this part to your main structure by the 1x1 long connector in the third hole from the left. Push the oblong part in all the way.

Bag 4 – 5.

Hold a double long connector ver, upright, and insert the bottom into the 4th hole from the right of the 13x1 oblong piece.

Repeat to the right.

Insert a ridged Philips stick hor from the right into the cross-hole in the middle of the two PPs.

Lay momentarily aside.

Bag 6.

With your left hand hold a short tube with the two Philips sticks attached at 90 degrees so that the tube is at the bottom on the left, front to back.

With your right hand, hold a tube with a philips tube attached, hor, so the tube is to the right, front to back.

Insert the right stick into the cross hole of the Philips tube.

Hold a connector with the tube in the middle ver, so that the tube is from left to right. Insert the back end of this piece from the front into the right tube of your part.

Lay momentarily aside.

6.3.

Insert the ridged ends of two short philips-connectors, from left and right, into both ends of a ribbed tube with the hole in the middle.

Insert the left end of the left connector of this part, from the right, into the middle hole of the PP, (the right tube of the part we put aside) so that the middle hole of this piece is from front to back.

6.4.

Hold a 4/1 L-piece upright, the toe to the bottom at the left, and put the long connector long side first, from the back into the left toe hole. Attach this l-connector part on the left of your previous piece.

6.5.

1. repeat step 6.1.

2. put this part in front of the L-piece. Symm to the similar part at the back.

3. put a 3x1 oblong piece ver, cross-holes to top and bottom, onto the two left upright attached connectors.

6.7.

Insert a ridged stick into the top hole of the L-piece, half-way.

Put a 2x1 oblong piece from the back, ver, cross-hole on top, its hole from left-to-right on the back end of the stick.

Repeat symm at the front.

6.8.

1. Put a 1x1 button ver, upright, button to the right, into the bottom hole of each of the two PPs.
2. connect this part to your main structure, as is, from the front, putting the leftmost long connector (at the bottom) of the main part (from the back) into the hole in the ribbed tube at the right of the part.

Put momentarily aside.

Bag 7

Put the spectacles piece (the wide double piece) on the table, on its side, the oculars one on top of the other, from front to back, at the right. Insert a ridged Philips stick from the top into the top cross-hole (at the left) – just a little.

Put the binocular piece symm from the left, the middle part in between the spectacles handles.

Push the stick all the way down.

Connect this part to your main structure, as is, from the front, inserting the long connector at the left, on top, of the main structure (from the back) into the right bottom hole of your part.

Bag 8

Insert a long connector from the front, long end first, into the left top hole of the same part. Lay momentarily aside.

Bag 9

Put a F 2x1 hor on the table. Put a F 2x1 with the hole underneath, hor, the hole to the left, on the left button of the PP.

Put a 2x1 curve hor to the right, slide to the right.

Repeat steps 1-2 to make two such parts.

Put one, as is, from the front on the long connector from bag 8.

Put the other one symm from the back on the same connector.

Lay momentarily aside.

Bag 10.

Put a F 3x1 ver on the table.

Put three 1x1 wedge pieces on top, slides to the left.

Put this part ver, slides to the left, on the free buttons at front and back, of the two previous parts (to the left of the curved pieces).

Check that this part is able to rise to the left.

Lay aside.

Bag 11. Make a part.

Put a F 3x3 corner piece on the table, ends to the left and to the front.

Insert a ridged stick upright into the cross-hole in the corner.

Insert another such stick into the left end cross-hole.

Put a F 5x1 oblong piece hor on top, its leftmost hole in the left stick, the middle hole in the right stick, and overhanging to the right.

Lay momentarily aside.

Make a part. Put a F nut on a ridged nail stick, all the way to the head. Repeat. Put a 2x1 oblong piece on the stick, with its round hole on and its cross-hole to the side.

Put a spiral on. Put a F nut on.

Turn this part ver, head to the back, and connect it to your main part by putting the cross-hole of the 2x1 oblong piece on the right stick of your main part.

Put a 3x1 oblong piece ver with its front cross-hole on the left stick.

Insert a ridged stick halfway into the back cross-hole of the same piece.

Put a F 5x1 oblong piece hor with its leftmost hole on the left stick, its middle hole on the right stick, overhanging to the right.

Insert a ridged Philips stick a little way into the rightmost hole of the same piece.

Put a F 3x3 corner piece on top, symm to the similar piece at the bottom.

Insert a connector a little way into the front cross-hole of the same piece.

Repeat symm at the bottom.

Turn this part so that the ridged Philips stick is to the front at the left at the bottom and connect it to your main structure, installing it from the top to the middle of your structure and by pushing the ridged Philips stick all the way in.

lay momentarily aside.

Bag 13.

Put a 9x1 oblong piece hor on the table.

Insert a long connector from the front, short end first, into the second hole from the left.

Repeat at the rightmost hole.

Insert a connector from the front into the 5th hole from the right.

Install this part, as is. From the front, putting the leftmost connector of the main structure into the leftmost hole of your part, the middle connector into the 4th hole from the left, and the ridged stick into the 6th hole

from the left.

#### Bag 14

Put the spectacles piece on its side, the handles to the right on top and bottom, and put the top ocular hole (at the left) onto the long top connector at the right end of your structure.

#### Bag 15

Put a 13x1 oblong piece hor on your structure, from the front, putting its rightmost hole onto the same long connector at the top on the right end of your structure.

Lay aside.

#### Bag 16. Make a part.

Insert a ridged stick into the cross-hole of a half-stick with the cross-hole, halfway in.

Put the F nuts on both ends.

Put a spectacles piece on its side, the handles to the right at front and back, and put it from the front on the front end of the tick, with the cross-holes of the handles on the stick, and the ocular holes to the left.

Repeat symm at the back.

Insert four half-connectors from the top, long end first, into the ocular holes.

Put the four 1x1 buttons on tops of the half-connectors.

Turn this part so that the buttons are to the right at the top and the stick is upright to the bottom, and connect to your main structure by inserting this stick into the cross-hole at the right end of your structure.

Lay aside.

#### Bag 17. Make a part.

Put a F sector piece so that the curve is to the right and to the back.

Insert a ridged Philips stick upright from the top into the left back cross-hole.

Put a 2x1 oblong piece with its cross-hole on the stick, the round-hole end to the left.

Insert a ridged stick into the middle of a toothed wheel.

Connect this part to your main part by putting the back end of the ridged stick on the wheel (the wheel hor at the front) into the round hole in the middle of the front edge of your main part.

Turn this part so that the F sector piece is at the back and put a F sector piece from the front, symm to the similar piece at the back.

Connect this part to your main structure, as is, by putting the round-hole end of the part from the top on the middle upright stick (to the top of the spiral part).

#### Bag 18

Connect this part firmly by pushing the vertical connectors from front and back all the way in.

Bag 19

Put a F nut on the same stick.

Put a small toothed wheel on top.

Lay aside.

Bag 20. Make a part.

Put one connector with the hole in the middle ver on the table, the hole to left and right.

Insert the other such connector from the left into the hole.

Put a tube from the left hor on the left end of this part.

Put a F 7x1 oblong piece hor, upright, from the back, to this part, inserting the back vertical connector into the rightmost hole of the 7x1 piece.

Insert a ridged stick a little bit into the leftmost cross-hole of a F 5x1 oblong piece. Turn this part hor, upright, the stick on the left to the front, and connect to your main part from the back by inserting the front end of the stick into the second hole from the right of the main part, and inserting the back end of the right-end connector into the second hole from the left of the 5x1 piece.

Insert a long connector from the front, ver, short end first, into the leftmost hole of your part.

Put a 2x1 oblong piece on the front end of the same connector, the round hole on the connector and the cross-hole to the left.

Put a F 7x1 oblong piece hor, upright, from the front, on your piece, symm to the similar piece at the back.

Make a part. Put a two-cross-holes piece hor, the large cross-hole at the right, from top to bottom, and the small one to the left. Put an attached connectors piece so that one end is to the right and the other to the top, and insert the right one, from the left into the left cross-hole. Insert a ridges Philips stick upright, from the top, into the right cross-hole.

Turn this part upside down and connect to your main part by inserting the bottom end of the ridged Philips stick into the cross-hole at the left end of the main part.

Connect this part to your main structure by turning it ver, the protruding F 5x1 oblong piece to the left at the front, and putting the front hole of this part, from the left, onto the ridged stick at the left side of your structure (turned ver, curved pieces to the front), on the sector piece.

Bag 21.

Turn your structure hor, the curved pieces to the left.

Put a F 5x1 oblong piece hor at the front, symm to the similar piece from step 11, bag 21, at the back.

Lay momentarily aside.

Bag 22. Make a part.

Put a 2x1 oblong piece hor on the table, the round hole to the left, from front to back.

Insert a ridged stick upright into the cross-hole at the right until it touches the table.

Put a ribbed tube with the hole upright on top, the round hole to the top front-to-back.

Repeat steps 1-3 to make two such parts.

Install one such part, as is, putting the hole on the top onto the connector in the leftmost hole of the PP, swinging the right bottom end to the right and putting the round hole at the bottom at the left onto the connector in the middle of your structure.

Repeat symm at the back.

Lay momentarily aside.

Bag 23. Make a part.

Put a F 3x1 piece hor on the table.

Insert a ridged stick upright into the leftmost hole until it touches the table.

Repeat symm at the right.

Put a F sector piece on top, ver, so that the curve is to the left and to the back and the sticks are in the front-row holes.

Turn this piece upright, so that the sticks protrude to the front at the bottom, and connect it to your structure from the back by inserting the sticks into the first and 3rd holes from the left of the 13x1 piece. On the second story (the higher row of buttons))

Lay aside.

Bag 24. Make a part.

Put two F nuts onto a ridges sticks so that they touch and are in the middle of the stick.

Put a 2x1 oblong piece onto the left end of the stick, ver, the cross-hole on the stick and the round hole to the front and to the top and bottom.

Repeat symm at the right.

Insert a half-connector from the top into each round hole.

Insert a rounded peg into each half-connector.

Turn this part ver, the pegs to the left, and install over the curved pieces, the back end of the part into the top cross-hole of the sector piece at the back.

Bag 25.

Put a F sector piece upright at the front, symm to the similar piece at the back.

Put a F 3x1 oblong piece hor, upright, at the bottom onto the two connectors at the bottom of the sector piece, symm to the similar piece at the back.

Bag 26.

Put the wheels on.

Enjoy!

Thank you so much for building this set!

Visit [legofortheblind.com](http://legofortheblind.com) for more accessible instructions!

**Abbreviation definitions:**

F = flat (Plate.)

FS = flat smooth (tile)

Slide = slope.

Lip = inverted slope.

Ribbed stick = Technic axle.

Connector = Technic pin.

Stubby or Short connector = Technic pin with stud.

Long connector = elongated Technic pin.

Nail = technic axle with end stop.

Fat nut = Technic joiner.

Thin nut = Technic stop.

Elbow = technic joiner 90 dg.

1x1, 2x1, 3x1... means a 1x1, 2x1, 1x3... brick.

Ver = vertically.

Hor = horizontally.

Symm = symmetrically.

LMA = Lay Momentarily Aside.

PP = previous piece.

Sep bag = separate bag.

Braille letters (for placing corner pieces):

D = open corner to the front left.

F = open corner to the front right.

J = open corner to the back left.

H = open corner to the back right.