

Reachstacker

Please read all the way through the assembly instructions before beginning!

The assembly kit contains the following parts:

- 1 x 0.2mm nickel silver card
- 1 x square-edged brass tube, 5x5x50mm (telescopic boom)
- 1 x square-edged brass tube, 4x4x50mm (telescoping section)
- 1 x square-edged brass tube, 4x4x35mm (spreader beam)
- 1 x round brass dowel, 1x40mm
- 2 x round brass tubes, 2.5x13mm (hydraulic cylinder barrel)
- 2 x round silver steel dowel, 1.5x13mm (hydraulic cylinder plunger)
- 2 x single wheels, cast metal
- 2 x dual wheels, cast metal

Necessary tools:

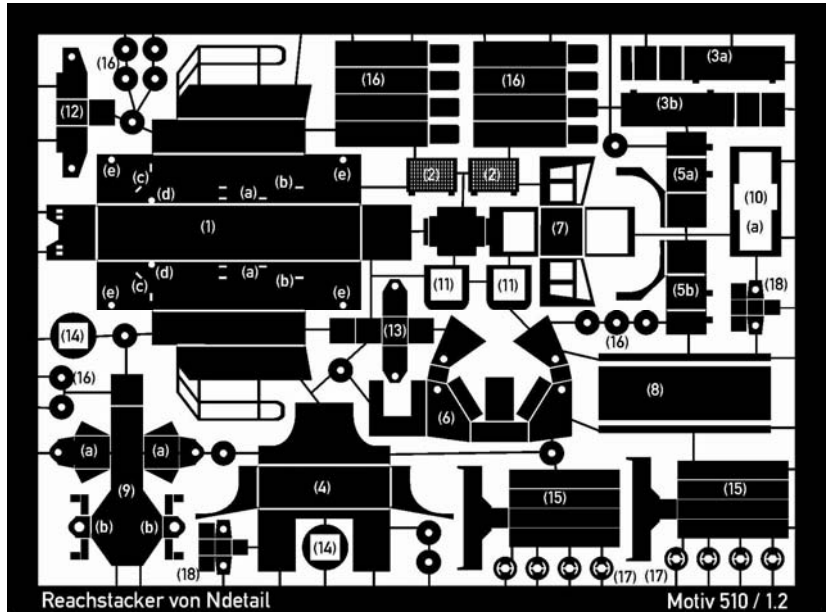
- Small scissors (nail scissors), fine file (nail file), fine square file
- Flat nose pliers, wire cutting pliers
- Soldering iron, soldering fluid, tin solder, instant adhesive
- Paint and varnish, as desired

1. Vehicle body

- Detach part (1) from the card and remove the rest of the runners. Fold all sides downwards towards the etched-on fold lines (only the 4 interior fold edges at the moment!) and solder/glue together at the corners from the inside.
- Solder/glue the **step plate (2)** to the outside of the body with the pegs slotting into the slits (a) on the left and right sides.
- Fold the **steps (3a, 3b)** into shape. The fold lines are always in the direction of the fold. Solder/glue the pegs on the steps to the left and right sides of the body into the slits (b). Check that the steps are formed evenly and fix to the wall of the body with drops of solder or glue.
- Fold the **bottom panels and side panels** (with the railing) into a U-shape towards the steps. The last step should be flush with the bottom panel of the staircase opening. Finally, solder/glue the steps together from beneath/behind.
- Fix the step plate to the railing with a drop of solder or glue.
- Fold all the walls of the **rear superstructure (4)** at right angles along the fold lines and solder/glue together in the corners.
- Slide on the rear superstructure (4) from behind, putting the U-shaped opening over the body (i.e. the side without any holes in the front panel) and solder/glue it to the vehicle body.
- Form the **crane mounting (6)**. Fold the parts along the fold lines indicated at exact right angles and solder/glue together where the edges meet. The fold lines should all be on the inside. Place the crane mounting centrally on the vehicle body, butting up to the rear superstructure, and solder/glue them together. The bevelled edges of the crane mounting should point towards the rear of the vehicle.
- Fold the **mudguards (5a, 5b)** into shape by folding along the fold lines and solder/glue the pegs into the slits (c) on the body.
- Form the **operator's cab (7)**. All fold lines should be on the inside. Save for the frame of the front windscreen, all the folds should be right angles. The bottom panel of the operator's cab has a 1-2mm gap and "air" between the window frames on the side. This is important and ensures that the protrusions on the bottom panel of the operator's cab can be slotted into the sliding rails (8) later on.
- Fold the sides of the **sliding panel (8)** completely over until they are parallel to the sliding panel's surface. The gap between the surface of the panel and the sides should be about the same thickness as the panel itself. Two pieces from the nickel silver card can be laid on top of each other and used as a guide for the gap's size.
- Solder/glue the sliding panel onto the middle of the upper side of the vehicle body. Be careful, however, to ensure that no solder or glue gets into the rails.
- Slide the operator's cab onto the rails. The angled windscreen should point towards the front of the vehicle.

2. Telescopic boom (Picture 1)

- Remove any burrs carefully from the **telescopic boom (brass tube 5x5x50)**. Also, file the inside of the tube with a square file. Carefully remove any filings to ensure that the parts slide inside one another well later on.
- Remove any burrs carefully from the **telescoping section (brass tube 4x4x40)**. This tube should move slightly inside the telescopic boom when it is inserted. If this is not the case, then grind or file the inside of the telescopic boom and/or the outside of the telescoping section until they move slightly. It is important to carry out this step carefully now. Later on, it will be very difficult to rework.
- Form the **hydraulic mounting (9)** for the crane mounting. Fold all fold lines at right angles in the direction of the fold line, save for the lines at (b). Place the metal fittings on the telescopic boom. The back end of the metal fitting covers the lower end of the telescopic boom and the bearing supports for the lifting hydraulics at (a) tightly about the telescopic boom with spacers. Solder/glue on the metal fitting. The panels with the hole at (a) are bent, so that the surface with holes is parallel to the telescopic boom. All the space above the holes between the telescopic boom and panel can be filled with tin solder or glue (two-part glue) for stability.
- Form the **bracing profile (10)**. Fold both sides of the taper points, creating an angle of approximately 45 degrees. The bracing panel should form a U-shape. Slide this U over the telescopic boom, bringing the narrow point of the bracing panel level to (b). The longer side (a) of the bracing panel should, therefore, point towards the front of the telescopic boom. Now fold the panel strips at (9b) first upwards then sideways. This will clamp the bracing panel (10) under the telescopic boom. Both of the small end pieces from the narrow strips at



(b) should remain unfolded for now. Solder/glue the bracing panel to the telescopic boom. Be careful to ensure that the underside of the telescopic boom remains closely butted up to the panel.

- Mount the two bracing rings (11) on the open end of the telescopic boom. One ring should be flush with the tube, whilst the other should be positioned 2mm behind the first. The rounded corners of the rings should point to the underside of the telescopic boom.
- Form the **spreader mounting (12)**. Fold all the parts at right angles along the fold lines. All fold lines should be on the inside. Place the mounting on one side of the telescoping section so that the end of the tube is closed. Solder/glue the mounting to the telescoping section.

3. Spreader (Picture 2)

- Form the **side parts of the spreader (15)**. Fold all the parts at right angles along the fold lines. The square-edged tube which is formed as a result will be closed by one side of the container mounting. Solder/glue the parts together.
- Remove any burrs from the **spreader beam (brass tube 4x4x35)**. The side parts of the spreader should move freely inside the mounting.
- Fold the **spreader joint (13)** around the middle of the spreader beam (brass tube). The panels with the holes should point away from the beam at right angles. These will be joined to the mounting on the telescoping section later on so that they are free to move. Solder/glue the panels together.
- Place the **control rings (14)** over the protruding panels of the spreader mounting and solder in place, in each case leaving a gap of 1mm from the telescoping section and the next ring.
- Form the **spreader extensions (16)**. They will be needed if 40-foot containers are to be lifted. First, fold the ends of the panels over completely and only solder/glue together a little near to the fold line. Then, fold the parts into square-edged tubes along the fold lines. The panel strips that have been folded over should point inwards. Carefully solder/glue together where the edges meet. No tin solder/glue should get on the inside!

4. Hydraulic rod system

- Remove any burrs from the **hydraulic cylinder barrel** (round, brass, 2.5x13mm) and the hydraulic cylinder plunger (silver steel dowel, 1.5x13mm). The silver steel dowel should be free to move inside the cylinder.
- Form the bearing for the hydraulic cylinder barrel (18). The part should be in the shape of an open cube on one side and have two protruding panels with holes in on the other.
- Solder/glue the hydraulic cylinder barrel on one side into the open cube. Be careful to ensure that no tin solder/glue gets inside the tube.

5. Assembling the reach stacker

- At this point, a "dry run" is recommended. The final assembly should be completed after the individual parts have been painted. It is also possible to use a soluble glue on the ends of the dowel or retaining clips (17) to hold things temporarily.
- Trim off a length, approximately 12mm, from the 1mm brass dowel and remove any burrs.
- Place the **telescopic boom** on the crane mounting and fix in place with the brass dowel. For the final assembly of the vehicle, the dowel can be soldered/glued between the support jaws and the outside of the telescopic boom mounting should be ground/filed. Alternatively, use a 1mm nail with a round head and insert this from the outside.
- Trim off a length, approximately 23mm, from the 1mm brass dowel and remove any burrs.
- Push the dowel through the holes (d) in the vehicle body (1). Slide in the **hydraulic cylinders** on each side.
- Push the bent end of the hydraulic cylinder plunger through the hole in telescopic boom metal fitting (9b) and insert the other end into the hydraulic cylinder barrel; repeat this for the other side. The hydraulic cylinders must be positioned tightly against the vehicle body. The telescopic boom should be able to be raised and lowered easily. Use the discs (16) for even spacing. For the final assembly of the hydraulic cylinder, solder/glue the hydraulic cylinder mounting to the 1mm brass dowel. The dowel should move freely inside the vehicle body. The hydraulic cylinder plunger is fixed in place by bending the small corners at (9b) behind the silver steel dowel. The protruding part of the silver steel dowel should be ground as flush as possible with the mounting.
- **Set the spreader to the container size:** this means either inserting the spreader side parts (15) directly into the brass tube or into the extension piece (16) which has already been soldered/glued onto the tube.
- Join the spreader to the telescoping section with an approx. 5mm long piece of brass dowel. If the dowel is only soldered/glued to the spreader or telescoping section, then the bearing will still move.
- The pre-assembled telescoping section is then simply inserted into the telescopic boom. A drop of wax or soluble glue will hold the telescopic section in the desired position. For a more permanent setup, the parts can be soldered/glued together after they have been positioned.

6. Wheel assembly

- After painting, the wheels can be soldered/glued in the holes at (1e) (Be careful when soldering! Cast metal melts at around 180 degrees).
- Affix the dual wheels at the front and the single wheels at the back.

General information:

The paint scheme is based on your own "tastes" or imagination. Since the model is designed to be stationary, it is possible to fix moveable parts; the fastening points can then be painted over. If you wish to leave the telescoping section free to move, then it is recommended

you bronze the telescoping section instead of painting it, since the gap in the tube may become too tight.

