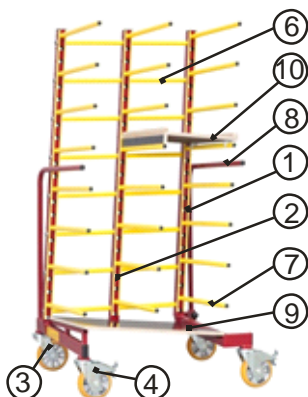
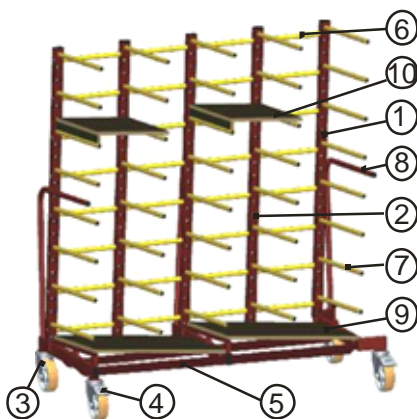




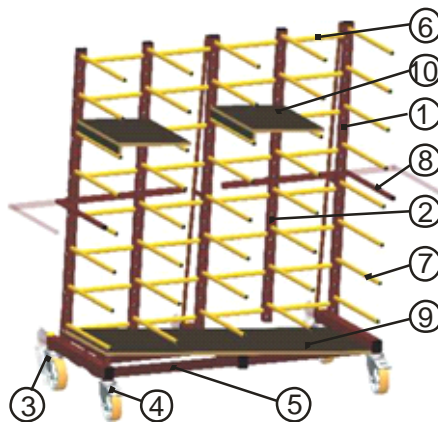
**Mobile
Ablagesysteme**



Gecko GE2-590-2/1-24-1/1



Gecko GE3-590-3/2-40-2/2



Nautilus NA2-590-3/2-40-1/2

Assembly and Instruction Manual

Gecko Transport Rack (GE2-590-2/1 and GE3-590-3/2)

Nautilus Transport Rack (NA2-590-3/2 and NA2-780-3/2)



Transport Racks

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Congratulations

Congratulations on the purchase of this Transport Rack from JOWI. You will find it the perfect solution for storing and transporting a wide range of materials used during manufacturing.

Important



These operating instructions contain important information regarding safety, use and maintenance. Please ensure that you read and fully understand these instructions before using your JOWI Transport Rack for the first time. In the event that you sell your JOWI Transport Rack to somebody else, please make sure that you pass on this instruction manual to the new owner. We expressly inform you that these instructions must be strictly adhered to if they are to protect personal health and safety, people's lives and property. As the manufacturer, we reserve the right to make changes to the instruction manual at any time and without prior notice. Changes can include, for example, adding further details, new information or improving instructions. You can request a copy of the current version of these operating instructions by sending an email to office@jowi.at or download the current version on our website www.jowi.at.



**This symbol is used in these operating instructions and means:
Important: Failure to comply with these operating instructions can result in the risk of injury, risk of death or possible damages.**

Some of the information in these operating instructions only applies to certain models. This is clearly indicated in each section.

The different JOWI Transport Rack designs can be summarised as follows:

Gecko GE2-590-2/1 => GE2

Gecko GE3-590-3/2 => GE3

Nautilus NA2-590-3/2 => NA2

Nautilus NA2-780-3/2 => NA2

Assembling your JOWI Transport Rack

At least two people are required to assemble your JOWI Transport Rack.

To assemble your rack:

1. Open the cardboard box

Make sure that the box is lying in a stable position on one of its larger flat sides. Open the flaps along the two long sides of the box and cut the box open along the short sides. Take the top layer off the box. Place it alongside the bottom of the box to use as an underlay when assembling the Transport Rack.

2. Check that the cardboard box contains all the correct components

The cardboard box should contain

- 2 x L-shaped uprights (1) (GE2) or 3 x L-shaped uprights (1) (GE3 and NA2) with pre-mounted support tubes (7)
- 1 x i-shaped upright (2) (GE2) or 2 x i-shaped uprights (2) (GE3 and NA2) with pre-mounted support tubes (7)
- 1 x 4-mm Allen key (attached to the top of the left-hand L-shaped upright (1))
- 8 x galvanised cross tubes (6)
- two small boxes, each containing:
 - 2 x steering castors (3, 4) Ø 160 mm, 1 of which is fitted with brakes (4)

2 x M12 hex-head bolts including wedge-lock washer sets

One box also contains 1 x 19 mm combination spanner

- GE3 and NA2: 2 x crossbars (5) including bolts to secure them
- GE2: 1 x bottom shelf (9) 682 x 590 mm
- GE3: 2 x bottom shelves (9) 682 x 590 mm
- NA2: 1 x bottom shelf (9) 1393 x 590 (or 1393 x 780) mm
- 2 x angulated handle bars (8)
- GE2: 24 x yellow plastic tubes; GE3 and NA2: 32 x yellow plastic tubes (6A)
- NA2: 2 x knurled screws to secure the telescopic arms of the chassis.
- Optional intermediate shelves (10) 374 x 590 (or 374 x 780) mm can also be included.

3. Separate the transport unit (requires at least 2 people)

- Cut the plastic ties and put the shelves (9, 10), crossbars (5), cross tubes (6), boxes containing the steering castors (3, 4), plastic tubes (6A) and, in the case of a Nautilus rack, the handle bars (8) on one side for the time being.
- Using the 4 mm Allen key that is attached to the top end of the left-hand L-shaped upright (1), undo the 2 grub screws at the top and bottom of the uppermost L-shaped upright (1), at the back. With the help of at least one other person, lift the L-shaped upright (1) until it comes off the short cross tubes (6) and put it to one side for the time being. Remove the two spacing blocks between the support tubes.
- Repeat this process with the remaining uprights (1,2).
- Undo the screws on the remaining L-shaped upright (1) and remove the short cross tubes (6).

4. Assemble the Transport Rack

4. Prepare the L-shaped upright (1)

Pick up the left-hand L-shaped upright (1) and place it on a level underlay – the yellow sticker indicates which side faces downwards. The left-hand L-shaped upright can be recognised by the U-shaped track on the chassis for the bottom shelf (9).

4.2 Fit the top and bottom cross tubes (6)

Push one cross tube (6) into the bottom hole of the left-hand L-shaped upright (1) and another cross tube (6) into the uppermost hole of the same upright so that it protrudes by approx. 5 mm at the bottom. Secure the cross tubes (6) using the 4-mm Allen key.

4.3 Push on the plastic tubes (6A)

Pick up the yellow plastic tubes (6A) and push one tube onto each cross tube (6).

4.4 Fit the first i-shaped upright (2)

With the help of at least one other person, pick up one i-shaped upright (2) and turn it so that the clamp bolts on the support tubes (7) are pointing downwards. Push the i-shaped upright (2) onto the two cross tubes (6) until it reaches the plastic tubes (6A). Secure the i-shaped upright (2) for the time being by tightening the 2 grub screws.

4.5 Push on the plastic tubes (6A)

Pick up the yellow plastic tubes (6A) and push one tube onto each cross tube (6).

4.6 Fit the following parts one after another in the same way

- GE3 and NA2: the central L-shaped upright (1) (no nuts for securing the steering castors or crossbars)
- GE3 and NA2: the second i-shaped upright (2)
- the right-hand L-shaped upright (1) (nuts to secure the steering castors and crossbars, no U-shaped track)

4.7 Tip the Transport Rack onto its side

With the help of at least one other person, tip the Transport Rack onto its back so that it is lying securely on the cardboard underlay. You are now able access the underside of the chassis for further assembly.

4.8 NA2: Fit the knurled screws

The knurled screw on the right-hand L-shaped upright (1) is already in place. Screw the other knurled screws into the central and left-hand L-shaped uprights (1).

4.9 GE3 and NA2: Fit the crossbars (5)

The holes at the diagonally cut ends of the crossbars (5) contain bolts and washers.



Important: The following parts must be assembled in the following order: the screw head is immediately followed by a set of wedge-lock washers, which is followed by a large plain washer that butts onto the crossbar (5).

- Screw one bolt from one of the crossbars (5) into one of the fastening screw threads underneath the left-hand L-shaped upright (1).
- Undo the clamp bolts on the lower cross tube (6) on the right-hand L-shaped upright (1).
- Position the right-hand L-shaped upright on the crossbar (5) and screw the two together.
- Fit the second crossbar (5).
- Secure the clamp bolts on the lower cross tube (6) on the right-hand L-shaped upright (1).
- Tighten all the bolts that secure the crossbar (5) in place (applying a torque of 80 to 100 Nm). With a 200-mm-long spanner, this needs a force of around 400–550 N (approx. 40–55 kpF/kg).



Important: Safety can only be guaranteed when the recommended amount of torque (80–100 Nm) has been applied. We recommend checking the bolts with a torque spanner.



Important: Check the tightness of the bolts after using the rack for the first time. Tighten the bolts if necessary. Plan further inspections according to the usage conditions, e.g. distance covered by the rack, the nature of the floor, the weight of loads and the frequency of loading/unloading, as well as any other factors, such as a noticeable loosening of the screws.

4.10 Attach the steering castors (3, 4) to the L-shaped uprights (1)

For optimal manoeuvrability, we recommend attaching the steering castors fitted with brakes (4) at the front (at the open end of the support tubes) and the steering castors without brakes (3) at the back. You will require the M12 hex-head bolts and wedge-lock washers supplied (see castor box), as well as the 19-mm ring spanner or an equivalent.

N.B.: From April 2017, the bolt sets supplied to attach the steering castors include wedge-lock washer sets, which allows for better tensioning of the bolts that hold the castors in place. If you own a JOWI Mobile Rack or Transport Rack that is not fitted with wedge-lock washer sets, we will gladly send you a free set of wedge-lock washers to use on your rack. To request these, please send an email to office@jowi.at.



- Place the bolt, with the wedge-lock washer set on it, through the steering castor housing (3, 4) and attach it underneath the chassis.
- Tighten the bolts with a torque of 80–100 Nm. With a 200-mm-long spanner, this needs a force of around 400–550 N (approx. 40–55 kpF/kg).



Important: Safety can only be guaranteed when the recommended amount of torque (80–100 Nm) has been applied. We recommend checking the bolts with a torque spanner.

N.B.: The bolt may touch the side of the tube behind the jam nut before the steering castor housing is properly secured. Continue to turn the bolt until the appropriate torque has been applied. The side of the tube will spring back into place.



Important: Check the tightness of the bolts after using the rack for the first time. Tighten the bolts if necessary. We recommend inspecting the bolts regularly. Plan inspections as frequently as the level of usage requires, e.g. depending on distance covered by the rack, the nature of the floor, the weight of loads and the frequency of loading/unloading, as well as any other factors, such as a noticeable loosening of the screws.



4.11 Stand the JOWI Transport Rack upright

- Secure both brakes on the steering castors (4) to avoid the rack rolling away accidentally.
- With the help of at least one other person, carefully tip the mobile rack upright onto its steering castors (3, 4).

4.12 Line up the fixation points for the top and bottom cross tubes (6)

- Undo the clamp bolts on the bottom cross tube (6). Make sure that the cross tubes protrude to the left and right by equal amounts and secure them in place on the outer L-shaped uprights (1)..

- Position the central L-shaped upright (1) so that it is central to the outer L-shaped uprights (1) and secure it in place with the clamp bolts.
- Position the two i-shaped uprights (2) so that they are centrally placed between the L-shaped uprights (1) and secure them in place.
- Line up the fixation points for the top cross tube (6) in the same way.

4.13 Fit the remaining cross tubes (6)

- From the side, guide another cross tube (6) through the holes in the L-shaped and i-shaped uprights (1,2). Slip a plastic tube (6A) over the cross tube (6) in each space between the uprights.
- Once both ends of the cross tube (6) protrude an equal amount, secure it in place with the grub screws.
- Repeat this process with the remaining cross tubes (6).
- Store the Allen key at the top of the L-shaped upright (1).

4.14 Fit the bottom shelves (9)

- Place the left-hand side of the shelf/shelves (9) on the U-shaped rail on the chassis and place the right-hand side a little below the yellow plastic strip.
- Slide it backwards a little and guide the plastic pegs on the left into the U-shaped rail.
- Push the shelf (9) as far back as it will go and lower it down on the right-hand side.

4.15 Fit the intermediate shelves (10) (on option)

- Pick up the intermediate shelf (10) so that the two fastening clips are on the right at the bottom.
- Slide the fastening clips onto the support tube (7) from the front, until the intermediate shelf (10) is resting on the uprights (1, 2).

4.16 NA2: Fit the handle bars (8)

- Fit the square tube of the handle bar (8) with the hole facing upwards in the guide bushing on the uprights (1, 2). You will need to raise the locking pin as you do this.
- Move the handle bar (8) to the desired position and make sure that the locking pin springs back into one of the holes.

5. Your JOWI Transport Rack is now ready for use!

Intended use

The JOWI Gecko and Nautilus Transport Racks have been designed exclusively for storing and transporting materials used during manufacturing processes. Please respect the following:

- The weight of materials should not exceed the maximum load capacity for a given rack. (Please refer to the information contained in the "Maximum load capacity" section of this chapter, or to the label on the Mobile Rack/Transport Rack.
- The width of materials should not exceed the length of the support tubes (7). Wider items may be placed in the rack, providing specific guidelines are respected. Please refer to the section "Placing wide items in the rack".
- Materials stored horizontally must be no longer than twice the length of the rack.
- If materials are stored vertically, items must rest on at least 2 support tubes (7). One of these tubes must be towards the top of the item and the other towards the bottom.

Maximum load capacity (based on evenly distributed loads, without impact loads)

1 support tube SR23-0590: 15 kg; 1 support tube SR23-0780: 11 kg

1 intermediate shelf (10): 30 kg (NA2-780: 22 kg)

GE2 and GE3: 1 bottom shelf (9): 400 kg (GE3: whole rack: 600 kg)

NA2: bottom shelf (9) 600 kg

Maximum speed: 3 km/hr

Secure rack contents with straps if required.

Environmental requirements: The Transport Rack has been designed to be used inside, in areas with:

- a slip-proof, level and horizontal floor (to prevent tripping when pushing/pulling the rack)
- a temperature between 10°C and 80°C (racks can be custom-built if they are needed to withstand higher temperatures)
- a relative humidity of <50% (not condensing). The rack should not come into contact with any corrosive substances.

Using the rack for any other purpose than those stated here could be dangerous. The manufacturer shall not be held liable or responsible *for any damages that are caused by incorrect use or operation of the rack.*

Technical safety



Always replace damaged parts of the rack with original JOWI components. The manufacturer cannot guarantee that any other parts fully comply with safety standards. No other spare parts may be added to or integrated into the rack unless they have been expressly approved by the manufacturer. If you fit any parts to your rack other than original JOWI components, the warranty, compensation and product liability will be rendered null and void.

Mechanical stability and protection against explosion

Securing the chassis: Tighten up all the bolts that secure the chassis, applying the torque listed in the section "Assembly". This ensures maximum stability and load capacity of the Transport Rack, and enables potential to be correctly equalised.



Securing the support tubes (7): Tighten up all the bolts that secure the support tubes (7) with 3 to 4 Nm, to ensure maximum stability and load capacity of the Transport Rack and to enable potential to be correctly equalised. You will need to use the Allen key supplied (attached to the top of one of the L-shaped uprights).

Potential equalisation: Potential equalisation is essential where electrostatic processes are concerned and recommended in spray-painting and drying zones. An M8 bolt is fixed to both sides of the chassis. These bolts, marked with a white, circular sticker showing an earth symbol, can be used as contact pins for equalising potential. (Nautilus)



If the contact pins for potential equalisation are to be found beneath the chassis, they are marked with a yellow, rectangular sticker on a vertical surface next to them (Gecko).



To ensure that potential is correctly equalised, keep the contact pins clean and (depending on rack model) tighten the bolts that secure the chassis, as well as all the bolts that secure the support tubes (7). All bolts must be tightened with the corresponding torque, as listed in this instruction manual.



Risk of explosion: Items that are tainted with solvent may lead to a potentially explosive atmosphere. Hitting the frame with a hammer or other metal tools could generate sparks and is, therefore, forbidden in areas subject to explosion

hazards. Please comply with your country's safety guidelines and regulations relating to this matter.

An explosion risk assessment should be carried out for the relevant areas and stations on your site by an explosion prevention expert, taking the following information into consideration. Other measures may need to be implemented in addition to those listed above.

Established explosion protection data:

Capacity per support tube $C < 0.5 \text{ pF}$,

Maximum potential $U < 12 \text{ kV}$,

Maximum ignition energy $E < 0.5 \text{ mJ}$,

Surface resistance of support tubes $r > 109 \text{ Ohm}$.

Bleeder resistance of the steel frame $R_a < 10 \text{ Ohm}$ when potential equalisation cables connected.

Adjusting the Transport Rack

Moving intermediate shelves (10) (on option)

Removing shelves: Hold onto the intermediate shelf (10) and pull it towards the front of the Transport Rack so that the fastening clips slip off the support tube (7).

Assembly: Hold the intermediate shelf (10) so that the two fastening clips are on the right at the bottom. Slide the fastening clips onto the desired support tube (7) from the front, until the intermediate shelf (10) is resting on the uprights (1, 2).

Nautilus: Altering the position of the handle bars (8)

Lift up the locking pin, move the handle bars (8) into the desired position and make sure that the locking pin springs back into one of the holes.

Removing and fitting support tubes (7)

The position of the support tubes (7) can be changed or more support tubes (7) can be added if required.

To do this, release the grub screws on the side using the 4-mm Allen key and remove or fit the corresponding support tube (7).

To fit a support tube (7), insert the support tube into the corresponding hole drilled in the L-shaped (1) or i-shaped upright (2) and secure it in place by tightening the grub screws on the side using the 4-mm Allen key with a torque of 3 to 4 Nm.



Only fit support tubes (7) on the front of the rack: Never fit support tubes (7) to the back of a Transport Rack. Fitting support tubes to the back could cause the Mobile Rack/Transport Rack to tip over.



Some models of Transport Rack feature a rear-extendable chassis with telescopic arms. This allows larger materials to be stored on the back of the rack. Loosen the knurled screws on the side of the chassis and lift the Transport Rack a few millimetres off the ground. Pull the telescopic arm out until it clicks, or push it back in. Tighten up the knurled screws with a torque of 3 to 4 Nm. Repeat this procedure for all 3 telescopic arms. As a general rule, we recommend securing materials on the rear of the rack to prevent them from tipping off, with a restraining strap, for example.



Risk of tripping: If all or some of the support tubes (7) are removed, or when the telescopic chassis arms are extended, there is a risk of tripping over the chassis.

Positioning the Transport Rack in the workplace



Locking the steering castors: Secure both lockable steering castors (4) after moving the Transport Rack to a different place, to prevent the rack from rolling away accidentally.

Moving the rack/transporting material



Maximum authorised speed 3 km/hr: To ensure that the Transport Rack does not tip over, the maximum authorised speed is 3 km/hr.



Unsuitable for inclined floors: Only use the Transport Rack on a horizontal floor. If the floor is not level, materials stored on the support tubes (7) may fall off the rack. The brakes on the steering castors (4) are not designed to hold the rack securely in place if left on a sloping floor.



Do not bang into steps or other objects! The Transport Rack has been designed for use on horizontal, level floors. Banging into objects, e.g. steps, can lead to accidents that may cause injuries or material damage.



Do not climb on the rack! Do not ride on the rack! The Transport Rack has not been designed to climb on, to travel with, or to transport people. This may overload the rack and cause it to tip over. The Transport Rack has been exclusively designed to hold and transport materials.

Loading/unloading materials



Maximum load capacity of support tubes (7): The maximum load capacity applies to a rack with an evenly distributed load, without impact loads. Please refer to the corresponding data in the chapter "Intended use", or the label on the Transport Rack.

The maximum load capacity of support tubes (7) is calculated for a load that does not protrude beyond the front end of the support tubes (7). Materials that protrude beyond the front end of the support tubes (7) reduce the load capacity of the tubes and the overall load capacity of the rack. Please refer to the section "Placing wide items in the rack".



Overall maximum load capacity of the Transport Rack: The maximum load capacity data is calculated based on an evenly distributed load. Please refer to the corresponding data in the chapter "Intended use", or the label on the Transport Rack.



Load materials gently into the rack: Impact loads could overload and damage the rack.



Avoid impact loads: Avoid pushing or pulling the rack over steps that are over 8 mm high as this may overload the Transport Rack.



Place materials in the rack so that the load is evenly distributed:

A) Lengthways: Ensure that items are placed in the rack centrally so that there is equal overlap on each side.

B) Sideways: Place materials as far back as possible, close to the vertical load-bearing frame. Items should not protrude

beyond the ends of the support tubes if this can be avoided.

Placing wide items in the rack: Items are allowed to protrude beyond the ends of the support tubes by up to one third of the length of the support tube in up to one third of the rack's storeys (as low down in the rack as possible). Care should be taken to ensure that the centre of gravity is positioned as far back as possible. The centre of gravity must lie between the two rear supports and in the middle of the item being carried. If a Transport Rack is loaded with wide items that protrude beyond the ends of the support tubes, the maximum load capacity of these tubes is reduced by one-third. The rack may be moved at a maximum speed of 2 km/hr. Greater speeds can cause the rack and its contents to tip.



Securing items to prevent tipping: You can store items vertically in the compartments, on the intermediate shelves (10), as well as on the rear side of the rack on Nautilus models. The inclination of the items keeps them in place. Depending on the shape and dimensions of materials, or the way they are placed in the rack, they may need to be secured manually to prevent tipping. We generally recommend securing items with a restraining strap, for example.



Gecko: Placing narrow items in the rack: Narrow material and poles can also be stored on the Gecko rack. Items stay in position as a result of their sideways and backwards inclination. Depending on the shape and dimensions of materials, or the way they are placed in the rack, they may need to be secured manually to prevent tipping, with a restraining strap, for example.



Nautilus: Placing narrow items in the rack: Certain sized narrow or pole-shaped materials can also be stored in the rack, providing certain guidelines are adhered to. It is, however, necessary to secure contents during transport with a restraining strap, for example, to prevent them from tipping out.



Material protruding from the rack: Single protruding items, particularly at foot- or head-height, present a risk of accidents.

Repairs and maintenance



Regular inspections

Carry out regular inspections (depending on the wear and tear of the rack), but AT LEAST once every year:

- Check the tightness of all bolts, especially those that secure the steering castors (3,4). Tighten the bolts if necessary.
- Check the state of the steering castors (3,4) and ensure that the brakes lock properly.
- Check that the stickers are in place and legible. Stickers providing operation and safety advice, as well as authorised loads, can be found underneath the chassis of the left-hand L-shaped upright (1) of your Transport Rack. Add or replace missing or illegible stickers immediately. Replacement stickers can be ordered from your supplier, or by sending an email to office@jowi.at.
- The rack should be fully cleaned and inspected for micro-cracks. Micro-cracks can, in rare cases, be caused by material fatigue, which often occurs as a result of exceptional loads. The inspection should pay particular attention to the following areas: the join between the support tubes (7) and the L-shaped (1) or i-shaped uprights (2), as well as all welded areas, especially at the point where the vertical and horizontal parts of the L-shaped uprights (1) join. Also inspect the rack for any other damage, such as bent or twisted parts. If you notice that the Transport Rack is damaged, stop using the rack immediately. Damage may make the rack less stable.
Replace any damaged parts with original JOWI parts. It cannot be guaranteed that any other parts fully comply with safety standards.

Dismantling and disposing of the rack

Please respect your local recycling regulations.

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These instructions have been written to provide information to users of the corresponding products. This document may only be copied and circulated for this purpose.

This document cannot be used for any other purpose, including circulated in whole or in part, without prior written consent from JOWI Produktions- und Vertriebs GmbH.

Liability

As the manufacturer of the product described in this manual, we are unable to monitor whether these instructions are observed, nor are we able to monitor the way in which the product is operated, used and maintained. Incorrectly assembling, maintaining or servicing the rack, or failing to carry out the minimum annual inspection, can result in material damage and put people's safety at risk.

We cannot be held accountable or liable for any direct or indirect loss, damage or costs that result from the incorrect installation, operation, use and maintenance of the rack.

Once it is known that the rack can no longer be used safely (e.g. once damage has been detected, etc.) the product must be taken out of use immediately.

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