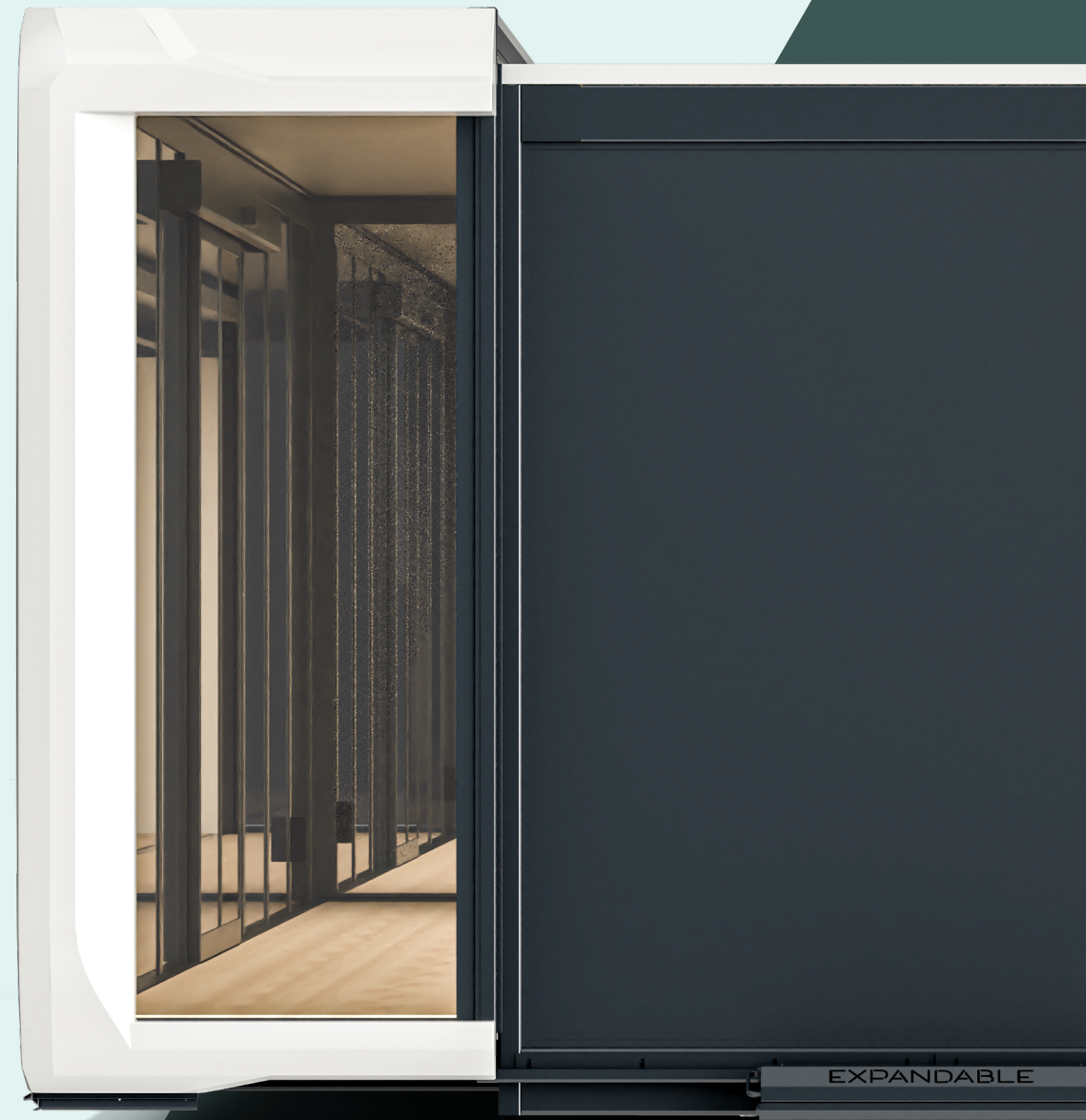


**create  
space**  
and never  
forget

**38ft - TOUCHDOWN**

Maintenance instruction

Applied systems



EXPANDABLE  
movable spaces

# Table of contents

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|                                                                             |    |
|-----------------------------------------------------------------------------|----|
| 1. Maintenance intervals .....                                              | 1  |
| 1.1 Periodic maintenance schedule .....                                     | 2  |
| 1.1.1 Additional information for SAF Holland axles type CBX23u-4 w342 ..... | 5  |
| 1.1.1.1 Torque Specifications .....                                         | 7  |
| 1.2 Daikin air conditioning system .....                                    | 9  |
| 1.2.1 About maintenance .....                                               | 11 |
| 1.3 Maintenance Assa Abloy .....                                            | 12 |
| 1.4 General periodical check list Expandable Touchdown Semi Trailer .....   | 14 |

## 1. Maintenance intervals

The following sections describe the maintenance schedule for Expandable LLC and supplier produced systems such as SAF Holland, DAIKIN and ASSA ABLOY. This information is intended to give customers a quick insight into the maintenance of the various systems built by Expandable LLC and suppliers of Expandable LLC. For carrying out maintenance work, Expandable LLC refers to the documentation of the manufacturers of the products.



The documentation of the products built by suppliers such as SAF Holland, DAIKIN, and ASSA ABLOY are always leading. Therefore, always consult the relevant documentation or possibly the website of these brands.

## 1.1 Periodic maintenance schedule

Carry out the following inspections periodically at the interval mentioned.

| Check                               | Daily/<br>before<br>each<br>journey | every<br>5,000<br>km<br>or<br>two<br>weeks | every<br>5,000 km<br>or<br>monthly | every<br>30,000<br>km<br>or<br>every 3<br>months | every<br>60,000<br>km<br>or<br>every 6<br>months | every<br>120,000<br>km<br>or<br>every 12<br>months | Every 2<br>years | Instruction                     | Responsible<br>Party  |
|-------------------------------------|-------------------------------------|--------------------------------------------|------------------------------------|--------------------------------------------------|--------------------------------------------------|----------------------------------------------------|------------------|---------------------------------|-----------------------|
| Exterior light-<br>ing              | X                                   |                                            |                                    |                                                  |                                                  |                                                    |                  |                                 | Driver/operator       |
| Oil level                           |                                     |                                            | X                                  |                                                  |                                                  |                                                    |                  | <a href="#">User<br/>manual</a> | Driver/operator       |
| Slide out sup-<br>port beam         |                                     |                                            |                                    | X                                                |                                                  |                                                    |                  | Will be<br>developed            | Driver/operator       |
| Hydraulic fil-<br>ter               |                                     |                                            |                                    |                                                  |                                                  | X                                                  |                  | Will be<br>developed            | Service work-<br>shop |
| Hydraulic oil                       |                                     |                                            |                                    |                                                  |                                                  |                                                    | X                | Will be<br>developed            | Service work-<br>shop |
| Interior light-<br>ing              |                                     |                                            |                                    |                                                  |                                                  | X <sup>1</sup>                                     |                  |                                 | Service work-<br>shop |
| Air bags:<br>visual inspec-<br>tion | X                                   |                                            |                                    |                                                  |                                                  |                                                    |                  |                                 | Driver/operator       |

| Check                                                  | Daily/<br>before<br>each<br>journey | every<br>5,000<br>km<br>or<br>two<br>weeks | every<br>5,000 km<br>or<br>monthly | every<br>30,000<br>km<br>or<br>every 3<br>months | every<br>60,000<br>km<br>or<br>every 6<br>months | every<br>120,000<br>km<br>or<br>every 12<br>months | Every 2<br>years | Instruction             | Responsible<br>Party  |
|--------------------------------------------------------|-------------------------------------|--------------------------------------------|------------------------------------|--------------------------------------------------|--------------------------------------------------|----------------------------------------------------|------------------|-------------------------|-----------------------|
| Brake pads:<br>check thick-<br>ness and con-<br>dition |                                     |                                            |                                    | X                                                |                                                  |                                                    |                  | SAF Holland<br>website. | Service work-<br>shop |
| Tyres: check<br>pressure                               |                                     | X                                          |                                    |                                                  |                                                  |                                                    |                  |                         | Driver/operator       |
| Bleed com-<br>pressed air<br>tank                      |                                     |                                            | X                                  |                                                  |                                                  |                                                    |                  |                         | Service work-<br>shop |
| Shock<br>absorber                                      |                                     |                                            |                                    |                                                  | X                                                |                                                    |                  |                         | Service work-<br>shop |
| 5 <sup>th</sup> wheel<br>unit: check<br>bolt tightness |                                     |                                            |                                    |                                                  | X                                                |                                                    |                  | SAF Holland<br>website. | Service work-<br>shop |
| Air filter EBS                                         |                                     |                                            |                                    |                                                  |                                                  | X                                                  |                  | SAF Holland<br>website. | Service work-<br>shop |
| Periodic<br>inspection by<br>legislation               |                                     |                                            |                                    |                                                  |                                                  | X                                                  |                  |                         | Service work-<br>shop |

| Check                                                    | Daily/<br>before<br>each<br>journey | every<br>5,000<br>km<br>or<br>two<br>weeks | every<br>5,000 km<br>or<br>monthly | every<br>30,000<br>km<br>or<br>every 3<br>months | every<br>60,000<br>km<br>or<br>every 6<br>months | every<br>120,000<br>km<br>or<br>every 12<br>months | Every 2<br>years | Instruction             | Responsible<br>Party  |
|----------------------------------------------------------|-------------------------------------|--------------------------------------------|------------------------------------|--------------------------------------------------|--------------------------------------------------|----------------------------------------------------|------------------|-------------------------|-----------------------|
| All mounted<br>parts on axle:<br>bolt tightness<br>check |                                     |                                            |                                    |                                                  |                                                  | X                                                  |                  | SAF Holland<br>website. | Service work-<br>shop |
| Brake cal-<br>liper: check<br>seals                      |                                     |                                            |                                    |                                                  |                                                  | X                                                  |                  | SAF Holland<br>website. | Service work-<br>shop |
| Axle fixing:<br>check rubber<br>spring bush-<br>ing      |                                     |                                            |                                    |                                                  |                                                  | X                                                  |                  | SAF Holland<br>website. | Service work-<br>shop |
| Braking sys-<br>tem: adjust<br>all brakes                |                                     |                                            |                                    |                                                  |                                                  | X                                                  |                  | SAF Holland<br>website. | Service work-<br>shop |

<sup>1</sup> According to NEN 1010

### 1.1.1 Additional information for SAF Holland axles type CBX23u-4 w342

| Check                                                                                                                                                                | Daily | 3 months<br>or 5,000<br>miles | 1 year or<br>100,000<br>miles |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------|-------------------------------|
| the suspension to ensure it is fully operational.                                                                                                                    | X     |                               |                               |
| ***for loose, broken or missing fasteners. Repair or replace as needed                                                                                               | X     |                               |                               |
| all decals to ensure they are clearly legible and intact. Clean with a terry cloth towel, soap and water.                                                            | X     |                               |                               |
| air springs visually for sufficient inflation and that the suspension is at proper ride height.                                                                      | X     |                               |                               |
| suspension ride height* (underside of frame to centreline of axle)<br>MUST be within $\pm 1/4"$ (6 mm) of the recommended design height.                             |       | X                             |                               |
| the bolts and nuts at the pivot connections to ensure they are properly torqued. Check all other nuts and bolts for proper torque or that the spline is sheared off. |       | X                             |                               |
| **with the vehicle on a level surface and air pressure above 85 psig (5.9 bars), verify that all the air springs are of sufficient and equal firmness.               |       | X                             |                               |

| Check                                                                                                                                                                            | Daily | 3 months<br>or 5,000<br>miles | 1 year or<br>100,000<br>miles |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-------------------------------|-------------------------------|
| Check all other suspension components for any sign of damage, looseness, torque loss, wear or cracks. Repair, tighten or replace damaged part(s) to prevent equipment breakdown. |       |                               | X                             |

Table 1 Maintenance

\*An improperly set ride height could result in suspension component damage and/or poor vehicle ride performance.

\*\*\*Loose, damaged, or missing fasteners can cause loss of vehicle control which, if not avoided, could result in death or serious injury.

\*\*Check all air control system fittings for air leaks, by applying a soapy water solution and checking for bubbles at all the air connections and fittings.

Always consult the SAF Holland documentation for detailed information. This is always leading.



### 1.1.1.1 Torque Specifications

The torque specifications are applied to the nut and NOT the bolt.




Failure to use the proper fasteners when servicing the suspension could cause component failure which, if not avoided, could result in death or serious injury




Failure to properly torque all fasteners could result in component failure which, if not avoided, could result in death or serious injury.

| Component                                           | Torque value                 | Fastener size |
|-----------------------------------------------------|------------------------------|---------------|
| Shock Absorber                                      | 140-175 ft.-lbs. 190-237 N•m | 3/4"          |
| Pivot Connection, Hex Head Bolt                     | 550-600 ft.-lbs. 746-813 N•m | 1-1/8"        |
| ****Pivot Connection, Pan Head Shear Bolt           | Visual Inspection            | 7/8"          |
| Lower Air Spring Nut                                | 30-40 ft.-lbs. 40-54 N•m     | 1/2"          |
| Upper Air Spring Nut                                | 40-45 ft.-lbs. 54-61 N•m     | 3/4"          |
| SwingAlign Mounting Fasteners Only - NOT Pivot Bolt | 50-60 ft.-lbs. 68-81 N•m     | 1/2"          |
| Height Control Valve Lower Linkage                  | 30-40 In.-lbs. 3-5 N•m       | 1/4"          |

Table 2 Torque specifications



All torque specifications are  $\pm 5\%$ . Torques specified are for clean, lubricated threads. Always Apply torque to nut if possible. Required re-torquing at every brake re-lining.



If equipped with 7/8" splined shear bolt, ensure that the spline is sheared off and that there are no signs of movement.



Torque specifications listed above are with clean lubricated / coated threads.



All new SAF-HOLLAND fasteners come precoated from the factory. For bolt and lock nut grade markings (see "Fig. 1-1").

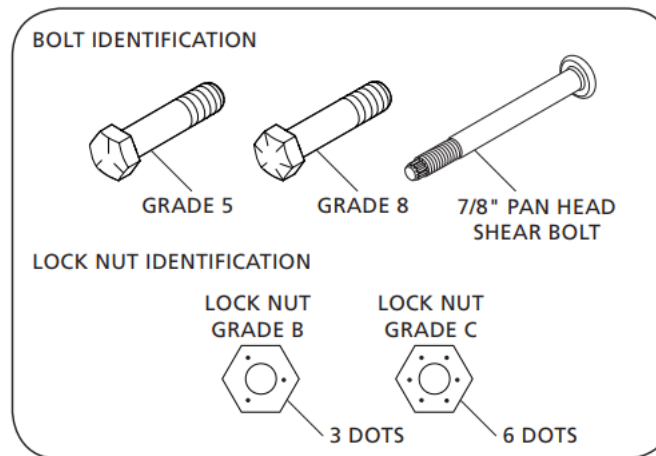


Fig. 1-1



The use of special lubricants with friction modifiers, such as Anti-Seize or Never-Seez®, without written approval from SAF-HOLLAND engineering, will void warranty and could lead to over torquing of fasteners or other component issues.

## 1.2 Daikin air conditioning system

### Performing a test operation

1. Confirm that the indoor unit gas and liquid stop valves are open.



It is possible that the pressure inside the refrigerant circuit does not rise, despite the opened stop valve. This can be due to the expansion valve (or the like) blocking the refrigerant, and does not obstruct the test run.

2. Open the Madoka Assistant app.
3. Navigate to the operation screen of the controller that is connected to the indoor unit(s) on which you want to perform a test run.
4. In the operation screen, set the operation mode to Cooling.
5. Go to the "Unit settings" menu (upper right corner of the operation screen).  
**Result:** You are in the "Unit settings" menu.
6. In the "Maintenance field", tap "Test operation".  
**Result:** You are in the "Test operation" menu.
7. Tap "Start test operation".  
**Result:** The indoor unit(s) enter test operation mode, during which normal operation is not possible.
8. Return to the operation screen.
9. Tap "Vertical airflow direction".
10. Tap "Fixed".
11. Cycle through the five fixed airflow directions, and confirm if the indoor unit flaps behave correspondingly.
12. Return to the "Test operation" menu.
13. Tap "Stop test operation".  
**Result:** The indoor units leave test operation mode. Normal operation is possible again.
14. Go to "6 Operation" on page 5 of the Daikin manual and confirm if the indoor unit(s) behave according to the information set out there.
15. Check the error history. If required, solve the cause of the errors and perform the test operation again.

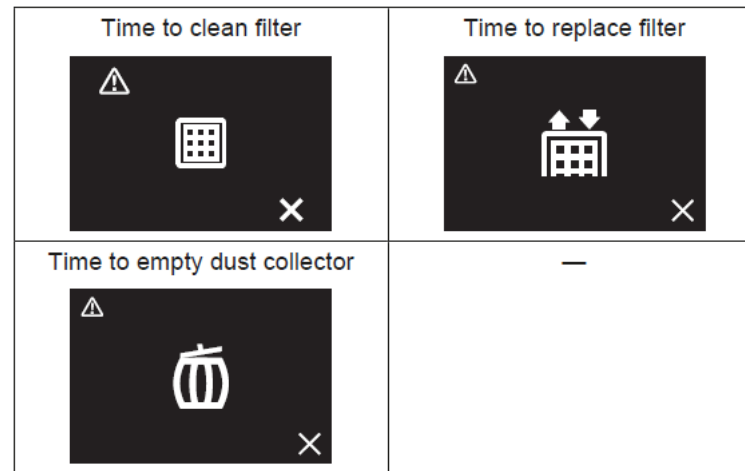


The test operation finishes after 30 minutes.

- |                                                                                   |                                                                                   |                                                                                                                                                                                                                                       |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  |  | Before carrying out any maintenance or repair activities, stop system operation with the controller, and turn off the power supply circuit breaker. Possible consequence: electric shock or injury.                                   |
|  |                                                                                   | To clean the controller, do NOT use organic solvents, such as paint thinner. Possible consequence: damage, electric shock, or fire.                                                                                                   |
|  |  | Do not wash the remote controller. Possible consequence: electric leakage, electric shock, or fire.                                                                                                                                   |
|                                                                                   |  | When the dirt on the surface cannot be removed easily while cleaning the controller, soak the cloth in neutral detergent diluted with water, squeeze the cloth tightly, and clean the surface. Afterwards, wipe dry with a dry cloth. |
|  |  | Always consult the supplier documentation. This is always leading.                                                                                                                                                                    |

## 1.2.1 About maintenance

When the indoor unit needs to be maintained, the controller will display  on the home screen, and display a warning screen as soon as you try to enter the main menu. Perform the required maintenance, and then remove the warning screen. The following warning screens are related to indoor unit maintenance:



### 1.3 Maintenance Assa Abloy

Service and adjustments performed by your ASSA ABLOY Entrance Systems-authorized representative will ensure safe and proper operation of your automatic door unit. This product may contain batteries that should only be replaced by an ASSA ABLOY Entrance Systems-trained and skilled technician. Remember to keep “Service Log Book” and “Site Acceptance Test and Risk Assessment” documents (PRA-0005) available. These are used together. The table below shows there commended interval in months, when to replace parts during preventive maintenance. Talk to your ASSA ABLOY Entrance Systems representative to learn more about our service offering. Abusive

| Part                                                                  | Cycles/hour in operation |                |              | Abusive Environment |
|-----------------------------------------------------------------------|--------------------------|----------------|--------------|---------------------|
|                                                                       | <10                      | <100           | >100         |                     |
|                                                                       | Low   traffic            | Medium traffic | High traffic |                     |
| Electrical emergency unit battery (with 10 AT fuse)                   | 24 months                | 24 months      | 24 months    | 24 months           |
| <b>Floor guide shoe</b><br>Standard Felt padded Break-out             | 24 months                | 12 months      | 6 months     | 6 months            |
| <b>Door carriage</b><br>Plastic wheels Steel wheels Anti-riser device | 36 months                | 24 months      | 12 months    | 12 months           |
| Sliding track                                                         | 36 months                | 36 months      | 36 months    | 24 months           |
| Tooth belt                                                            | 48 months                | 48 months      | 48 months    | 36 months           |
| Drive unit (SL521)                                                    | 42 months                | 12 months      | 6 months     | 6 months            |

| Part                               | Cycles/hour in operation |                |              | Abusive Environment |
|------------------------------------|--------------------------|----------------|--------------|---------------------|
|                                    | <10                      | <100           | >100         |                     |
|                                    | Low   traffic            | Medium traffic | High traffic |                     |
| Drive unit damper kit              | 60 months                | 60 months      | 60 months    | 60 months           |
| Lock ramp                          | 60 months                | 60 months      | 60 months    | 60 months           |
| Belt clamp                         | 60 months                | 48 months      | 36 months    | 24 months           |
| Plastic protector center shaft kit | 60 months                | 60 months      | 60 months    | 48 months           |
| Door stop rubber kit               | 24 months                | 24 months      | 24 months    | 24 months           |
| Tension wheel assembly             | 36 months                | 36 months      | 36 months    | 36 months           |
| Detachment guard                   | 60 months                | 60 months      | 60 months    | 60 months           |
| Brush/sealing                      | 12 months                | 12 months      | 12 months    | 12 months           |

Table 1 Periodical maintenance Assa Abloy




Always consult the supplier documentation. This is always leading.

1.4 General periodical check list Expandable Touchdown Semi Trailer

Vehicle data

Chassis Number \_\_\_\_\_

Registration number \_\_\_\_\_

Kilometres / Miles ABS-EBS / \_\_\_\_\_

Customer \_\_\_\_\_

Date:

| Expandable Touchdown Semi Trailer | To access                                              | Check                    | Condition                |
|-----------------------------------|--------------------------------------------------------|--------------------------|--------------------------|
| Chassis                           | Check welds and bolted assemblies                      | <input type="checkbox"/> | <input type="checkbox"/> |
| Lifting cylinders                 | Check lifting and lowering using the control panel     | <input type="checkbox"/> | <input type="checkbox"/> |
| Slide outs                        | Check extension and retraction using the control panel | <input type="checkbox"/> | <input type="checkbox"/> |



| Expandable Touchdown Semi Trailer | To access                                              | Check                    | Condition                |
|-----------------------------------|--------------------------------------------------------|--------------------------|--------------------------|
| Folding floor                     | Check that the folding floor folds in and out smoothly | <input type="checkbox"/> | <input type="checkbox"/> |
| Touchdown                         | Check for correct attachment and wear                  | <input type="checkbox"/> | <input type="checkbox"/> |
| Air suspension                    | Check bridles according to maintenance manual          | <input type="checkbox"/> | <input type="checkbox"/> |
| Suspension mounting sub-assembly  | Check fixing bolts (manufacturer's specifications)     | <input type="checkbox"/> | <input type="checkbox"/> |
| Air bellows                       | Visual inspection                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| Dampers                           | Check for leakage dampers                              | <input type="checkbox"/> | <input type="checkbox"/> |
| Lift axle                         | If fitted, check operation                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Tyres                             | Visual inspection for damage                           | <input type="checkbox"/> | <input type="checkbox"/> |
| Tyres                             | Check wheel rims, tightening                           | <input type="checkbox"/> | <input type="checkbox"/> |
| Air tanks                         | Drain water from the tanks                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Brakes                            | Check the tightness of the pneumatic system            | <input type="checkbox"/> | <input type="checkbox"/> |
| Hose couplings                    | Tightness check of couplings                           | <input type="checkbox"/> | <input type="checkbox"/> |

| Expandable Touchdown Semi Trailer | To access                                                                                | Check                    | Condition                |
|-----------------------------------|------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| Brake chamber                     | Parking brake check                                                                      | <input type="checkbox"/> | <input type="checkbox"/> |
| Brake disk                        | Check caliper (possibility of repositioning within tolerance limits)                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Release valve                     | Check valve function                                                                     | <input type="checkbox"/> | <input type="checkbox"/> |
| Brake drum                        | Check operation of automatic play reduction due to wear                                  | <input type="checkbox"/> | <input type="checkbox"/> |
| Brake drum                        | Lubrication of automatic slack adjustment mechanism due to wear                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Brake arm                         | Check brake camshaft bearing: lubrication                                                | <input type="checkbox"/> | <input type="checkbox"/> |
| Brake linings                     | Wear check of linings                                                                    | <input type="checkbox"/> | <input type="checkbox"/> |
| Lights                            | Check for correct operation and faults                                                   | <input type="checkbox"/> | <input type="checkbox"/> |
| Electronics / EBS                 | Reading fault list                                                                       | <input type="checkbox"/> | <input type="checkbox"/> |
| Accessories                       | Check that attachments such as the mounting bracket spare wheel, toolbox and other items | <input type="checkbox"/> | <input type="checkbox"/> |

| Expandable Touchdown Semi Trailer | To access                                                                                    | Check                    | Condition                |
|-----------------------------------|----------------------------------------------------------------------------------------------|--------------------------|--------------------------|
| Surfaces                          | Painting, Galvanising, Painting KTL                                                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Periodic                          | Functional check                                                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Steering shaft                    | Functional check according to manufacturer's specifications                                  | <input type="checkbox"/> | <input type="checkbox"/> |
| Lifting eyebolt                   | Check according to manufacturer's specifications and test log book.                          | <input type="checkbox"/> | <input type="checkbox"/> |
| Floor                             | Screw tightening                                                                             | <input type="checkbox"/> | <input type="checkbox"/> |
| Floor end                         | Check for damage to sealing weld, repair if necessary                                        | <input type="checkbox"/> | <input type="checkbox"/> |
| Superstructure                    | Visual inspection                                                                            | <input type="checkbox"/> | <input type="checkbox"/> |
| Roof                              | Visual inspection                                                                            | <input type="checkbox"/> | <input type="checkbox"/> |
| Door tightness                    | Visual inspection                                                                            | <input type="checkbox"/> | <input type="checkbox"/> |
| Door closing                      | Visual inspection                                                                            | <input type="checkbox"/> | <input type="checkbox"/> |
| Interior of super-structure       | Check for defects / leaks repair if necessary. Check tightness welds and repair if necessary | <input type="checkbox"/> | <input type="checkbox"/> |

| Expandable Touchdown Semi Trailer | To access                                                                     | Check                    | Condition                |
|-----------------------------------|-------------------------------------------------------------------------------|--------------------------|--------------------------|
| Hydraulic system                  | Check for leaks in pipes and connections (if damaged - limited lifting force) | <input type="checkbox"/> | <input type="checkbox"/> |
| Door stop                         | Check correct operation, repair if necessary                                  | <input type="checkbox"/> | <input type="checkbox"/> |
| Floor protection seal             | Check for damage, repair if necessary                                         | <input type="checkbox"/> | <input type="checkbox"/> |
| Air pipes                         | Check air pipes - fastening - check fastening system, repair if necessary     | <input type="checkbox"/> | <input type="checkbox"/> |
| Superstructure                    | Visual platform check                                                         | <input type="checkbox"/> | <input type="checkbox"/> |

Table 1 Periodical test report.

**Check:** ☐ NOT Checked, ☒ Checked. **Condition:** ☒ NOT OK, ☒ OK



Document any existing damage to the semi-trailer before starting to work. For further technical details **always check** the latest operating instructions.

**any questions?**  
contact us

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