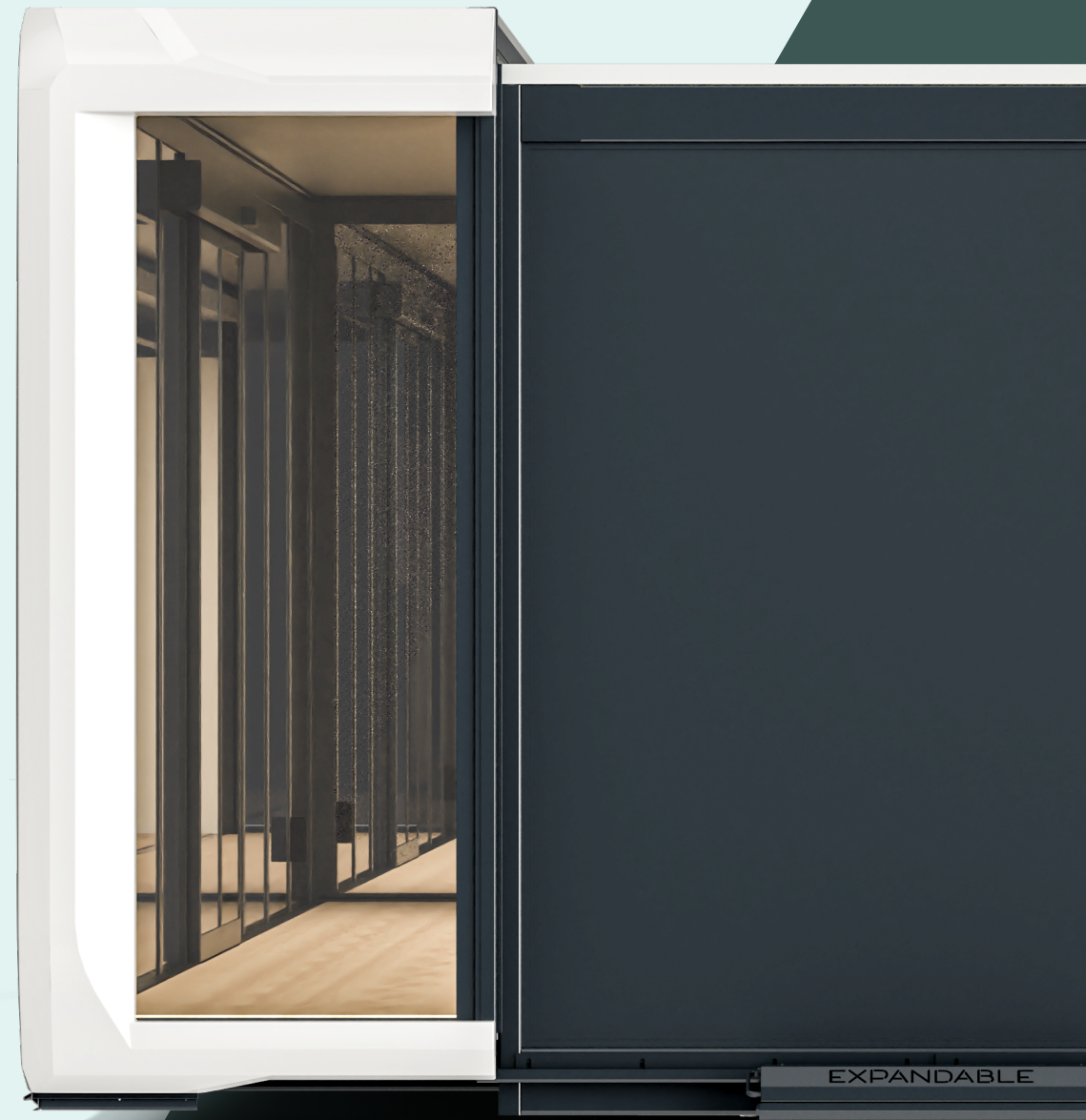


**create
space**
and never
forget

53ft - TOUCHDOWN

Maintenance instruction

Applied systems



EXPANDABLE
movable spaces

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

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

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

¹ According to NEN 1010

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

Check	Daily	3 months or 5,000 miles	1 year or 100,000 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) 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 or 5,000 miles	1 year or 100,000 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").

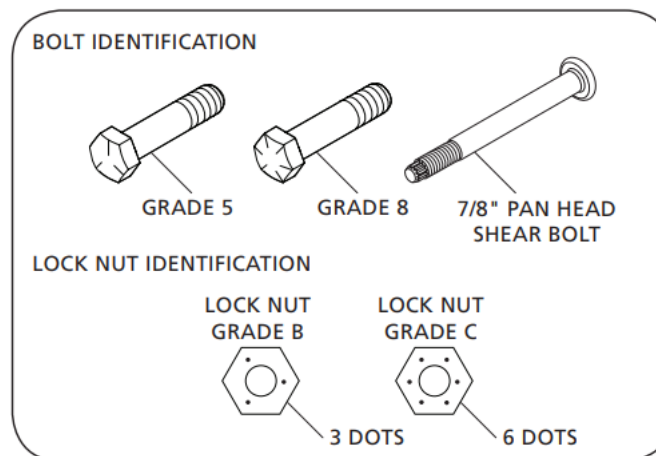


Fig. 1-1



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.

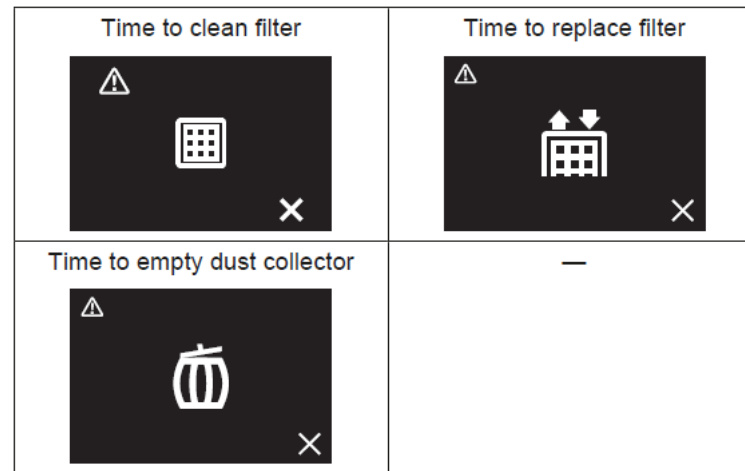


The test operation finishes after 30 minutes.

- | | | |
|---|---|---|
|  |  | 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
Floor guide shoe Standard Felt padded Break-out	24 months	12 months	6 months	6 months
Door carriage 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	☐	☐
Lifting cylinders	Check lifting and lowering using the control panel	☐	☐
Slide outs	Check extension and retraction using the control panel	☐	☐

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

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

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

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

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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