InnoLIFT®

Operator's Manual

Version 7

FRENDIX®

From Finland for the world

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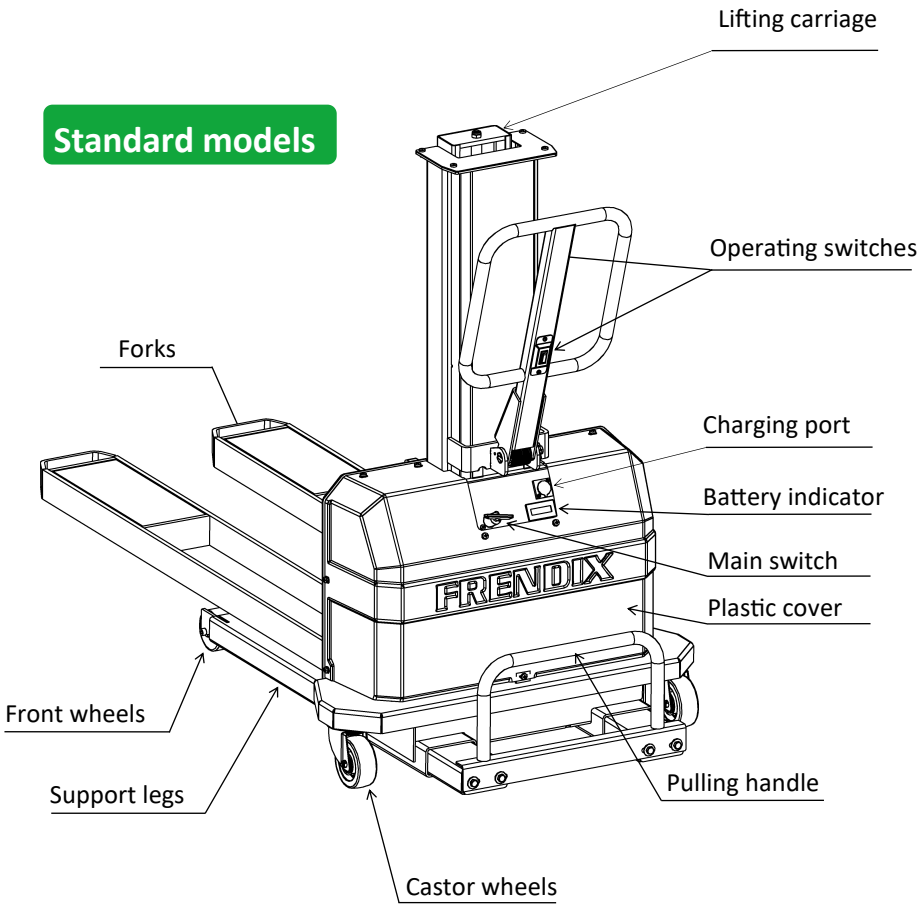
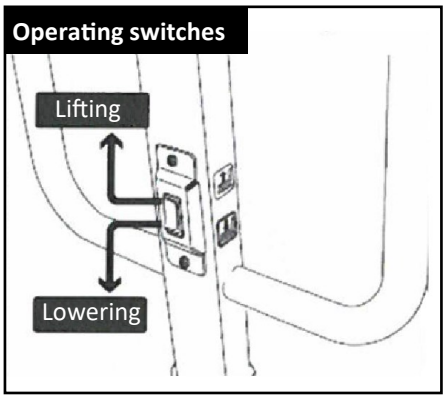
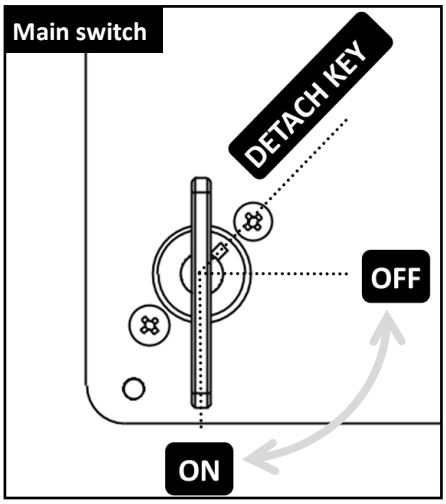
1. Main components of InnoLIFT

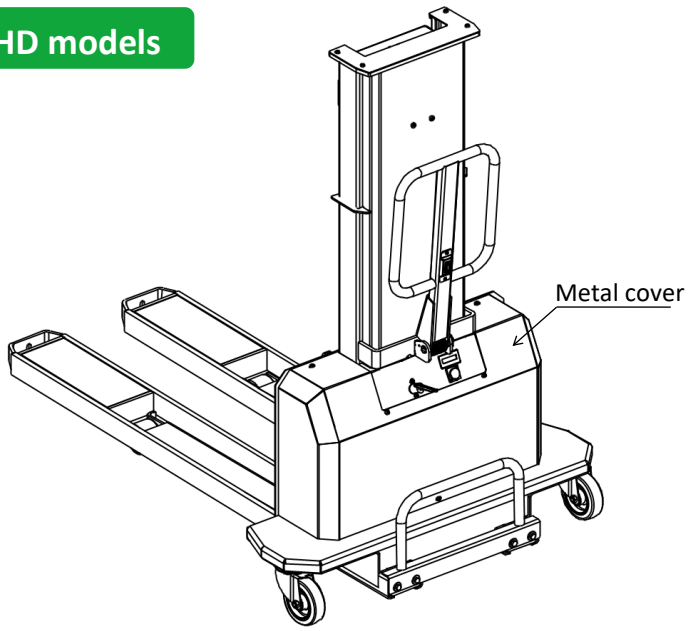
Standard models



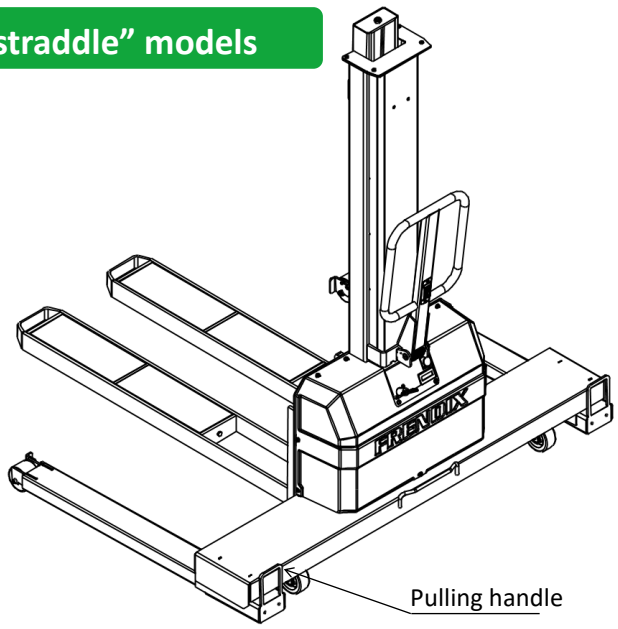




HD models



”straddle” models



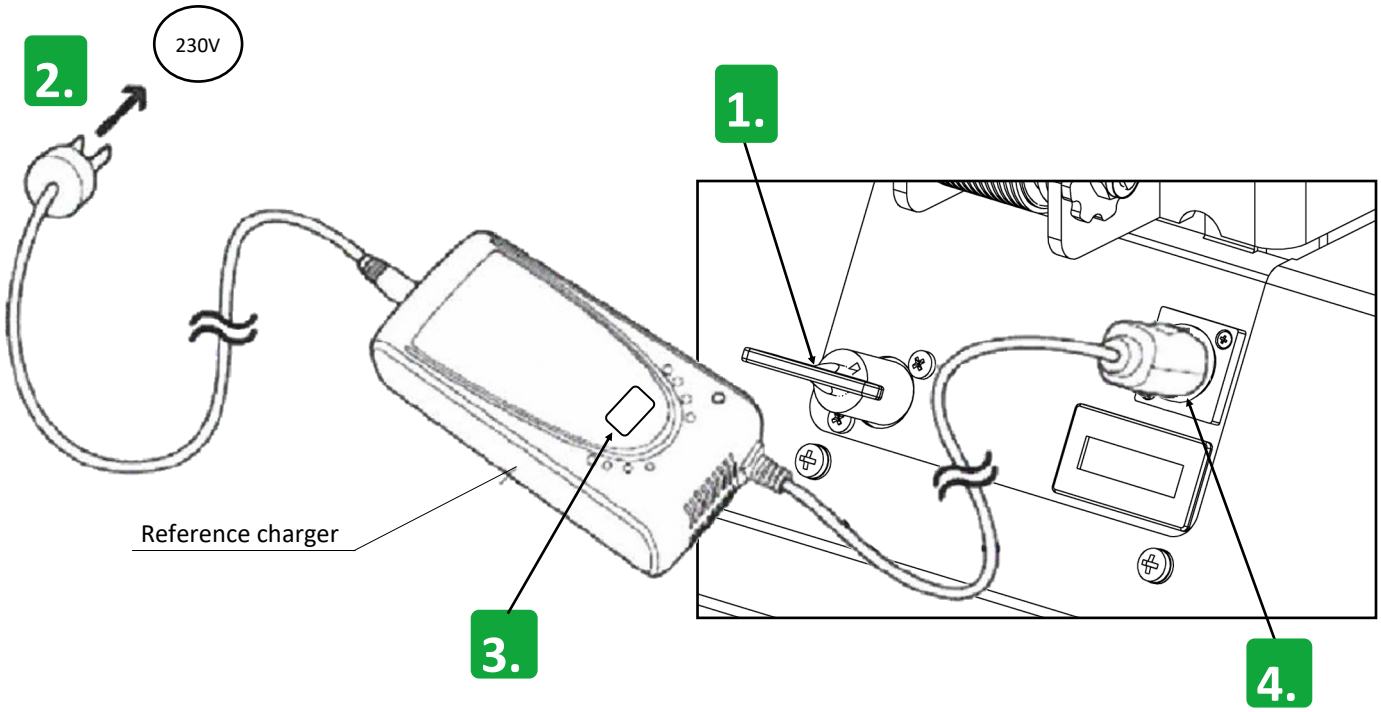
2. Charging the InnoLIFT

!	**Never use any operating buttons during charging** **It will blow the fuse.**

1. Turn the main switch to an **OFF** position or remove the main switch key to cut the power.
2. Plug the provided charger to a power outlet.
3. Select the charging mode with the mode button on the charger:

   12V STD - for standard battery configuration

   12V AGM - For option AGM battery configuration
4. Connect the charging plug to the charging port on the electrical panel.
5. Charging will begin and the status is indicated on the display of the charger.



!	**Avoid discharging the standard battery below 50% to ensure maximum lifetime.**

In case of problems with charging refer to the provided charger manual. If the solution is not found, contact your Frendix support.

3. Information about the unit

This machine has been designed and manufactured as a pallet stacker which has hydraulically operated lifting and lowering. InnoLIFT has been designed to be operated and moved manually. InnoLIFT is intended to be used mainly indoors and on solid, flat and parrallel ground. Operating outside is permitted if InnoLIFT is used on a solid ground and on a dry weather.

Operator is **ALWAYS REQUIRED TO HAVE PROPER TRAINING** and knowledge on operating InnoLIFT and maintenance.
This manual has been put together to remind the user of the principle of safe operation when using the InnoLIFT.
This machine fulfills all of the EU machinery directive requirements placed on the machine and to prove it, the CE marking is written on the identification plate.

To get the best/ safest user experience when operating the InnoLIFT, the machine should always be used and maintained as instructed in the manual. The manual must be read through before usage! Only personnel with the required know how is allowed to perform maintenance on the machine.

InnoLIFT is not intended to be a replacement for regular stacker but as an assistant when loading goods in a place where it is impossible/harder to use normal stackers, pump lifts or tail lift. The special function of InnoLIFT is that it can climb to the loading area with the lifted goods.

IMPORTANT: KEEP THE MANUAL IN NEAR VICINITY OF THE MACHINE FOR LATER USAGE.

4. Transportation and Storage

When InnoLIFT is transported, the carriage should be lowered to the ground so that the wheels lift off from the ground.
Store InnoLIFT in dry place away from the elements. Always keep the carriage in lowered position when storing.
In a longer storage disconnect the battery unit from the InnoLIFT and maintain the charge of the battery every 3 month.

When installing the battery back to the unit, make sure to connect **red** cable to + side and the **black** cable to - side.
When the InnoLIFT is delivered the unit is pre-charged and ready for use. If the battery is neglected for a long period of time the maximum voltage may drop. InnoLIFT is only allowed to be lifted with web sling. Either from carriage or under the unit.

5. Before usage

Make sure that the unit matches the order and that the intended usage of the unit is suitable for the ordered model.

Notice areas that are potentially hazardous when using the stacker for example slides, ramps, slippery surfaces, elevators, etc. If necessary, make additional instructions/ warnings regarding safe usage.

Make sure that the lifted load is neatly packed.
Make sure that the mass centre of the load is the same than the stackers. (600mm from the carriage)
Lifted load cannot hang outside of the pallet.

Before usage make sure to read through the manual and practice usage of the unit carefully and use sufficient amount of time so that every function and movement of the unit is understood !!!

6. Usage of the unit

- **UNIT MUST BE USED WITH CARE WHEN LOADING OR UNLOADING.**
- **ALWAYS CARRY THE LOAD IN A LOWERED POSITION.**
- **WHEN OPERATION IS FINISHED THE FORKS MUST BE LOWERED TO THE GROUND SO THAT THE WHEELS LIFT UP.**

7. Warning

InnoLIFT cannot be used...

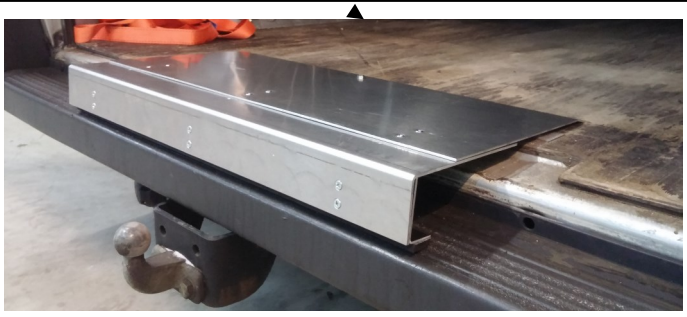
- ***TO TRANSPORT PEOPLE***
- ***IF THERE IS ANY DAMAGE OR MALFUNCTION IN THE UNIT***
- ***OVER 5 DEGREE RAMPS AND SLOPES. DO NOT LOAD OR UNLOAD IF THE VAN IS PARKED ON A TOO STEEP ANGLE.***
- ***TO TRANSPORT LOADS WIDER THAN 1M***

8. Rear plate / loading plate

Rear plate

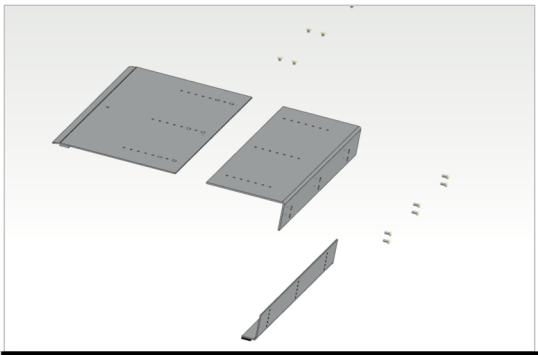
The rear plate must be mounted on a specific location designed for it before loading or unloading goods. Using the rear plate ensures safe usage for InnoLIFT when the loading area is straight and even.

The bolt located in the rear plate is fitted on the mounting hole drilled on the van's plywood. (Mounting plate) The end of the rear plate should be on the same level with the back bumper. Now the loading can be performed safely.



The rear plate must be adjusted to fit the corresponding van before usage so that the loading area is even with the vans floor. Notice! We do not recommend using rubber flooring in the van.

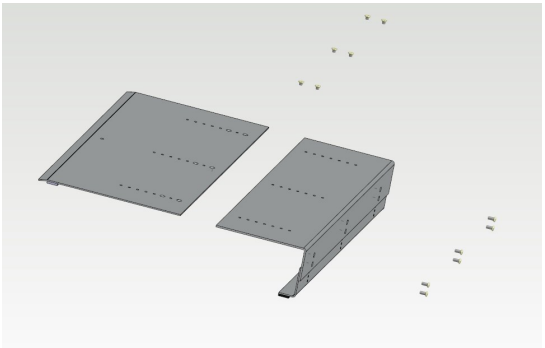
9. Assembly of the adjustable rear plate



How to assemble the adjustable rear plate for InnoLIFT.

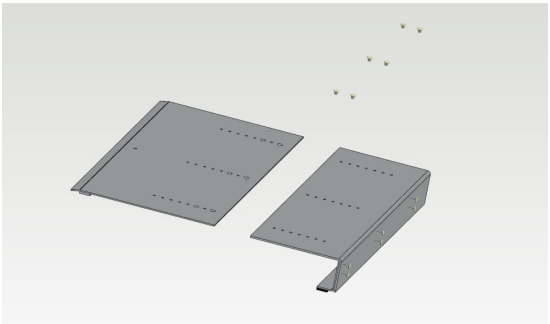
You have 3 plates, 6 smaller screws for top plate and 6 longer screws + nuts for bottom plate.

There is also one 8x20mm bolt + nut for fastening the plate to the car.

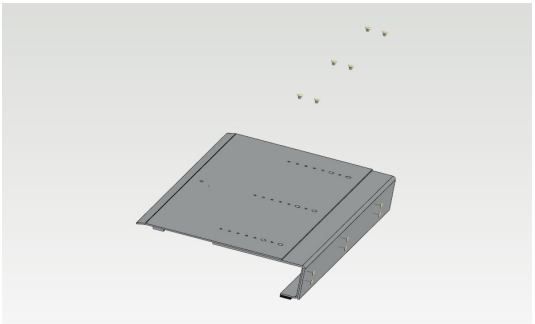


First you need to adjust the height of the plate. The plates bottom should rest horizontally on the back of the bumper and the corner plate should be resting in the loading are (plywood). At this point the plate should be completely horizontal.

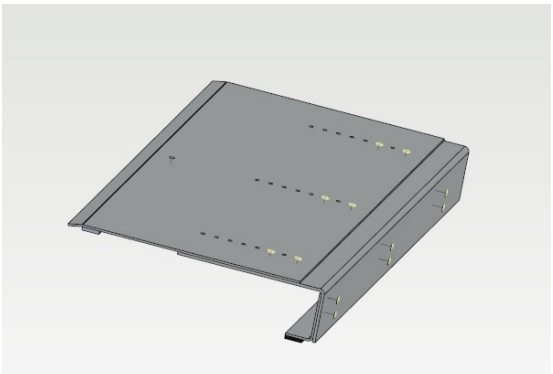
If there is an obstruction that prevents the assembly in completely horizontal level the plate should be installed so that the back bumper side is elevated and the plywood side is lowered. Angle to the other direction is forbidden!



Fasten the 6 screws into their places and place the nuts on the other side. Tighten them properly.

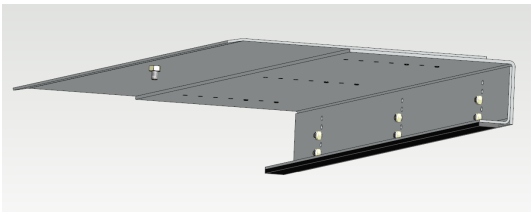


Adjust the plates length so that the fastening hole at the top part of the plate is lined up with the mounting plate on your van/truck and that the rear bumper is even with the other end.



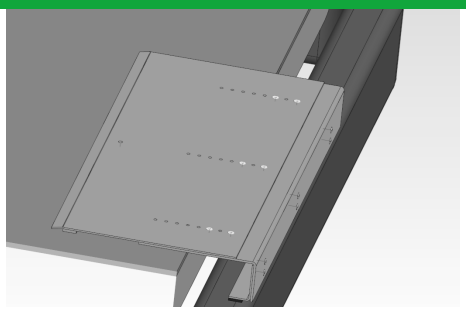
Fasten in the 6 screws on to the top plate.

Remember to fasten them properly.



Finally install the last 8x20 mm bolt. Make sure to tighten properly.

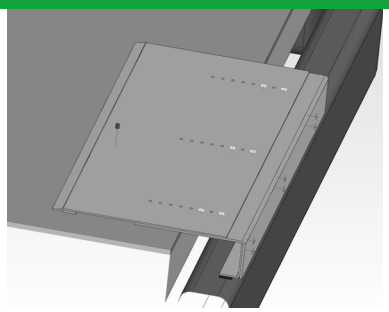
10. Mounting the adjustable rear plate



Installing the fastening plate to the van:

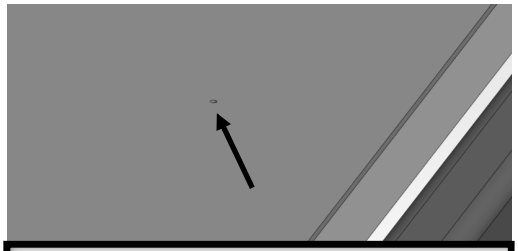
Place the adjusted rear plate on to the van. Make sure that the end is even with the rear bumper or the stepping plate. Plate should be centered so that it's in the middle of the van.

The mounting bolts (8x20mm) hole should be at least 50mm from the start of the plywood. This precaution is taken just to reduce the chance of the plywood's chipping.

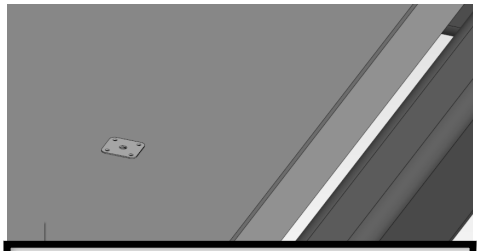


Drill 8mm hole through the hole in the top plate. The top plate acts just like a stencil for the hole.

"Remember not to drill through the van's floor"

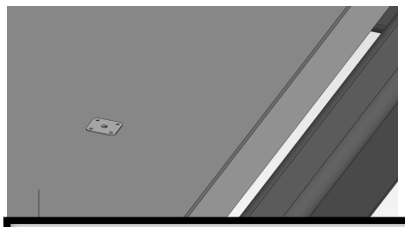


Make sure that the hole is free of any dirt or wood chips.

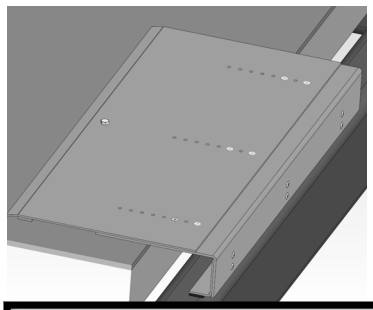


Place the rear plates' mounting plate on to the hole as shown in the picture.

Mounting plate is installed to reduce chipping and damage to the plywood when loading heavier products.



Fasten the mounting plate on to the plywood as shown in the picture.



Now you are ready to place the adjustable rear plate into the van.

Disclaimer:

Mounting plate/ hole is always required to be used when loading with InnoLIFT.

If neglected FRENDIX Oy is not responsible of the damage caused or material loss.

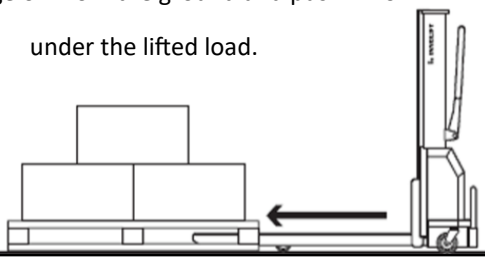
Rear plate should always be used when loading with InnoLIFT and it must be adjusted corresponding to the height of the used van.

If neglected FRENDIX Oy is not responsible of the damage caused to personnel or property.

11. Loading

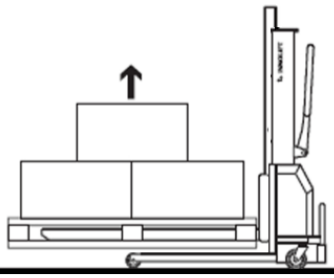
Loading 1

Lift the carriage off from the ground and push InnoLIFT under the lifted load.



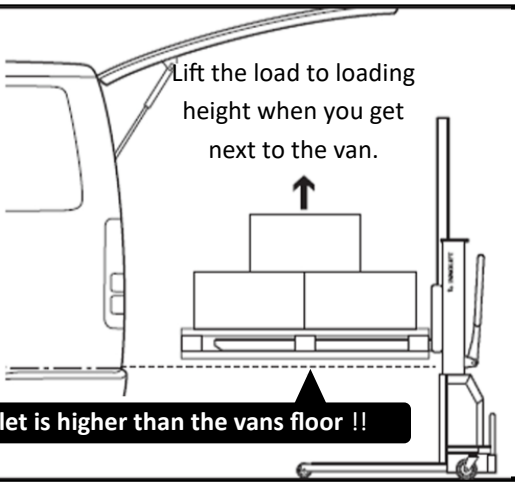
Loading 2

Lift the carriage so that the load no longer touches the ground and begin the transportation.



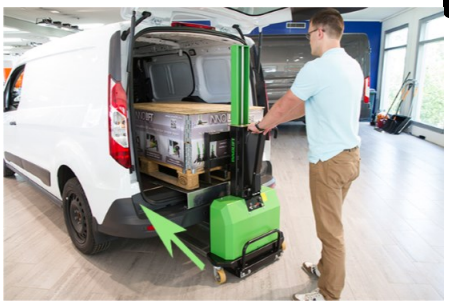
Loading 3

Lift the load to loading height when you get next to the van.



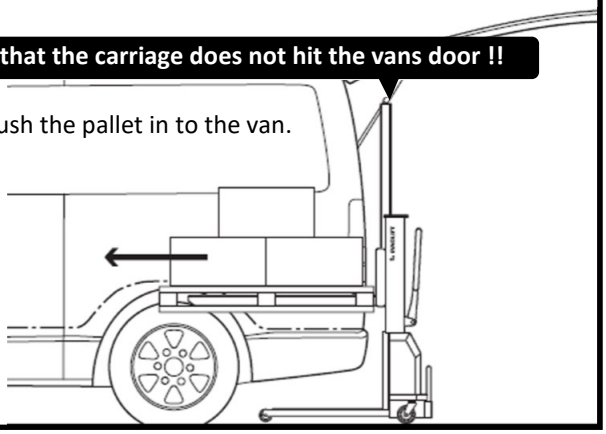
Make sure that the bottom of the pallet is higher than the vans floor !!

Loading 4



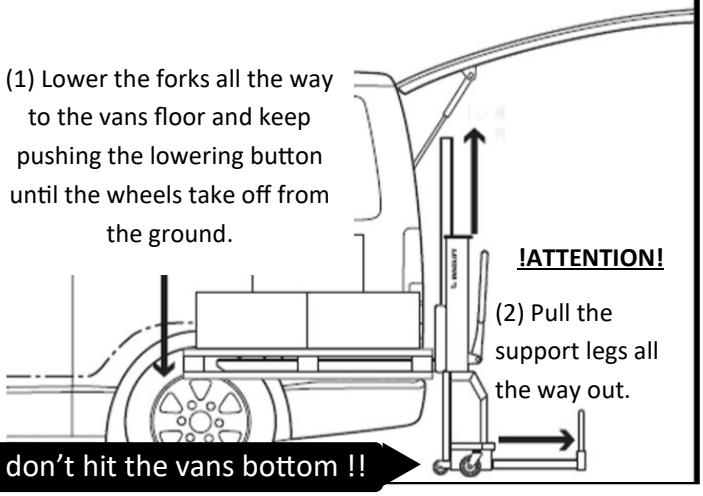
Make sure that the carriage does not hit the vans door !!

Push the pallet in to the van.



Loading 5

(1) Lower the forks all the way to the vans floor and keep pushing the lowering button until the wheels take off from the ground.

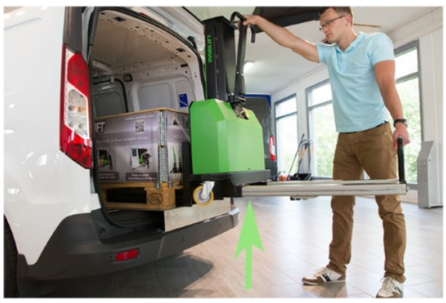


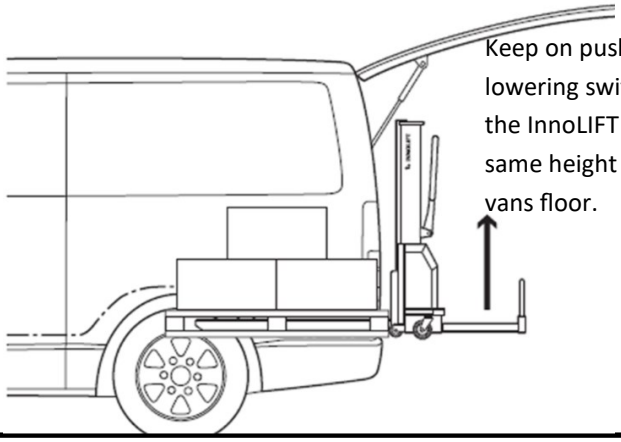
!ATTENTION!

(2) Pull the support legs all the way out.

Make sure that the support legs don't hit the vans bottom !!

Loading 6



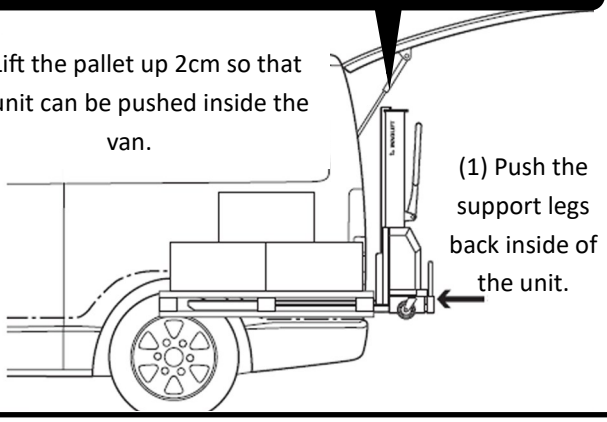


Keep on pushing the lowering switch until the InnoLIFT is at the same height as the vans floor.

Loading 7

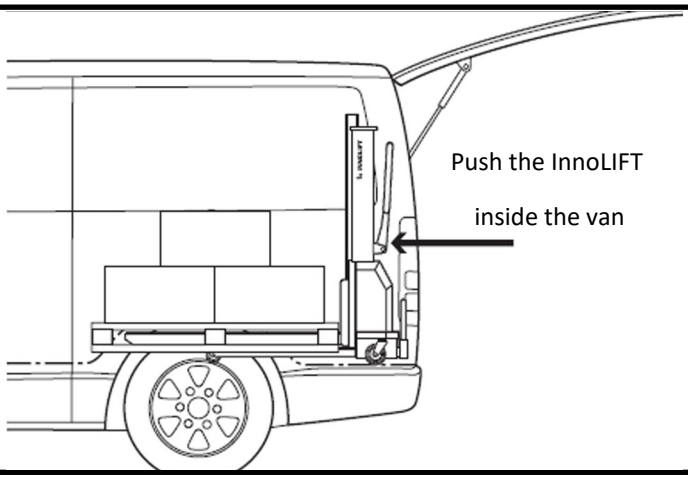
Make sure that the carriage or any other component doesn't get stuck on the van's ceiling while loading !!

(2) Lift the pallet up 2cm so that the unit can be pushed inside the van.



(1) Push the support legs back inside of the unit.

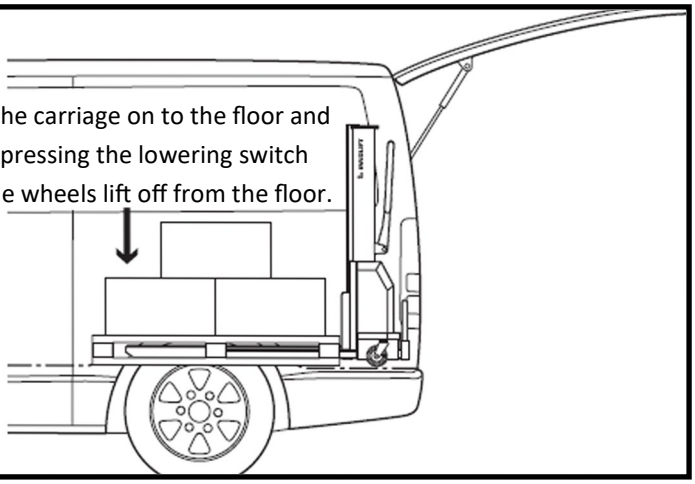
Loading 8



Push the InnoLIFT inside the van

Loading 9

Lower the carriage on to the floor and keep pressing the lowering switch untill the wheels lift off from the floor.



12. Unloading

Remember to use the rear plate !!

Unloading 1

Make sure that the carriage or any other component does not get stuck on the selaing of the van while unloading !!

Unloading 2

Unloading 3

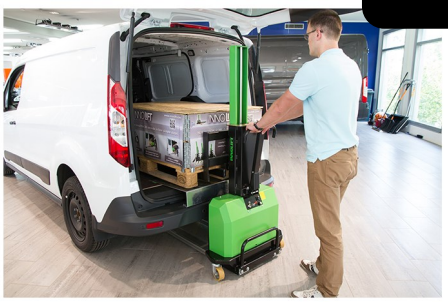
(1) Lower the chassis by pressing the lifting switch and stop pushing the switch when the wheels are close to the ground.

(2) Push the support legs back in.

Make sure that the support legs are pushed all the way inside.

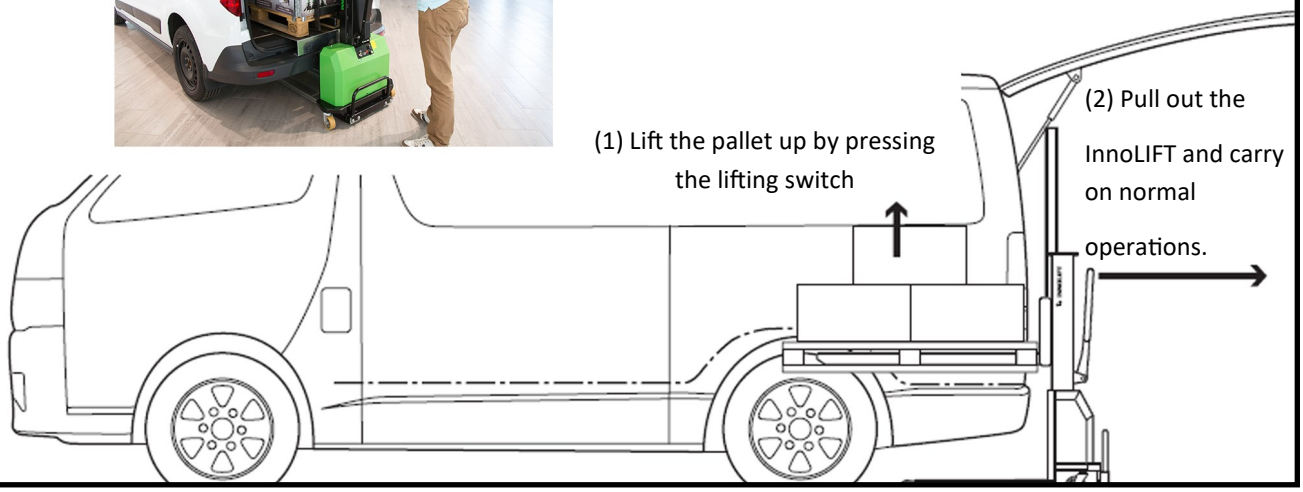
Unloading 4

Don’t move the load while the carriage is in an upwards position other than when loading or unloading.



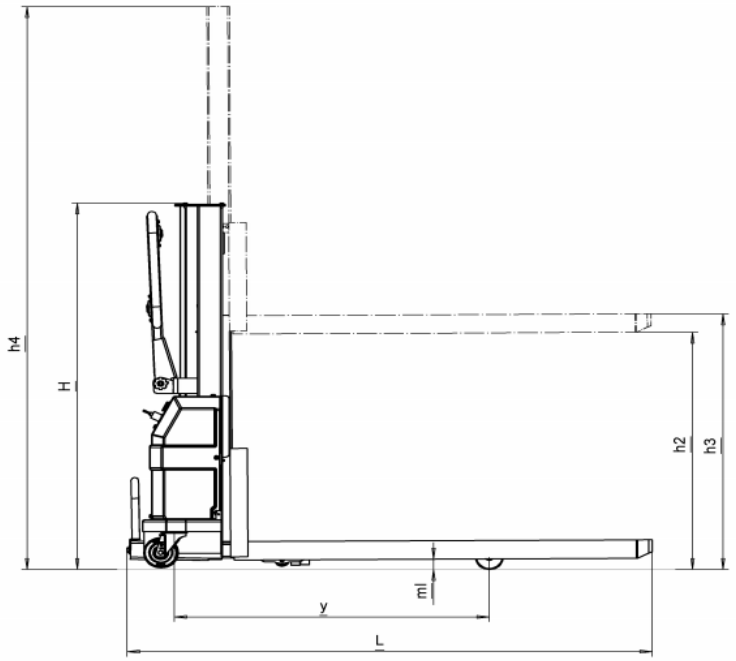
(1) Lift the pallet up by pressing the lifting switch

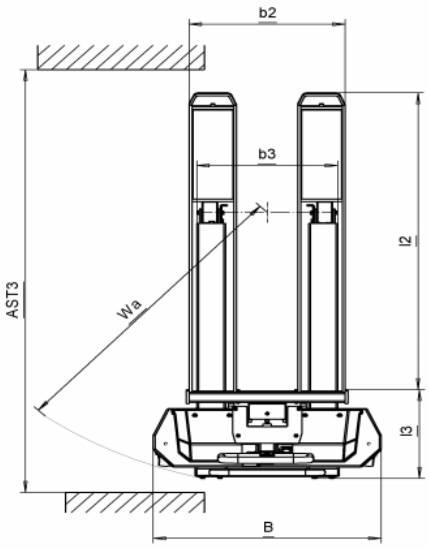
(2) Pull out the InnoLIFT and carry on normal operations.



13. Technical information

INNOLIFT Self Loader Version 7 (60164)





Technical Data Sheet
INNOLIFT version 7

Standard models

		IS600.700	IM600.800	IL600.1000	IXL500.1250	IXXL400.1400
Power		Battery	Battery	Battery	Battery	Battery
Capacity	kg	600	600	600	500	400
Load centre	mm	600	600	600	600	600
Lifting height	mm h3	700	800	1000	1250	1400
Loading height	mm h2	600	700	900	1150	1300
Own weight (AGM battery)	kg	180 (184)	184 (188)	192 (196)	202 (206)	208 (212)
Overall lowered height	mm H	1100	1200	1400	1650	1800
Overall extended height	mm h4	1690	1890	2290	2790	3090
Wheel material		Polyurethan	Polyurethan	Polyurethan	Polyurethan	Polyurethan
Wheel dimensions, front	mm	80 x 54	80 x 54	80 x 54	80 x 54	80 x 54
Wheel dimensions, rear	mm	100 x 40	100 x 40	100 x 40	100 x 40	100 x 40
Total length	mm L	1520	1520	1520	1520	1520
Length without forks	mm l3	350	350	350	350	350
Chassis width	mm B	790	790	790	790	790
Support legs width	mm b3	485	485	485	485	485
Wheel base	mm y	980	980	980	980	980
Fork dimensions	mm	165 x 60	165 x 60	165 x 60	165 x 60	165 x 60
Fork length	mm l2	1170	1170	1170	1170	1170
Fork width	mm b2	540	540	540	540	540
Ground clearance	mm ml	0 - 30	0 - 30	0 - 30	0 - 30	0 - 30
Working aisle AST3	mm	1810	1810	1810	1810	1810
Turning radius	mm Wa	1090	1090	1090	1090	1090
Parking brake		Mechanical	Mechanical	Mechanical	Mechanical	Mechanical
Lifting motor	kW	0,8	0,8	0,8	0,8	0,8
Default battery capacity	V / Ah	12 / 44	12 / 44	12 / 44	12 / 44	12 / 44
Default charger	V / A	12 / 4	12 / 4	12 / 4	12 / 4	12 / 4

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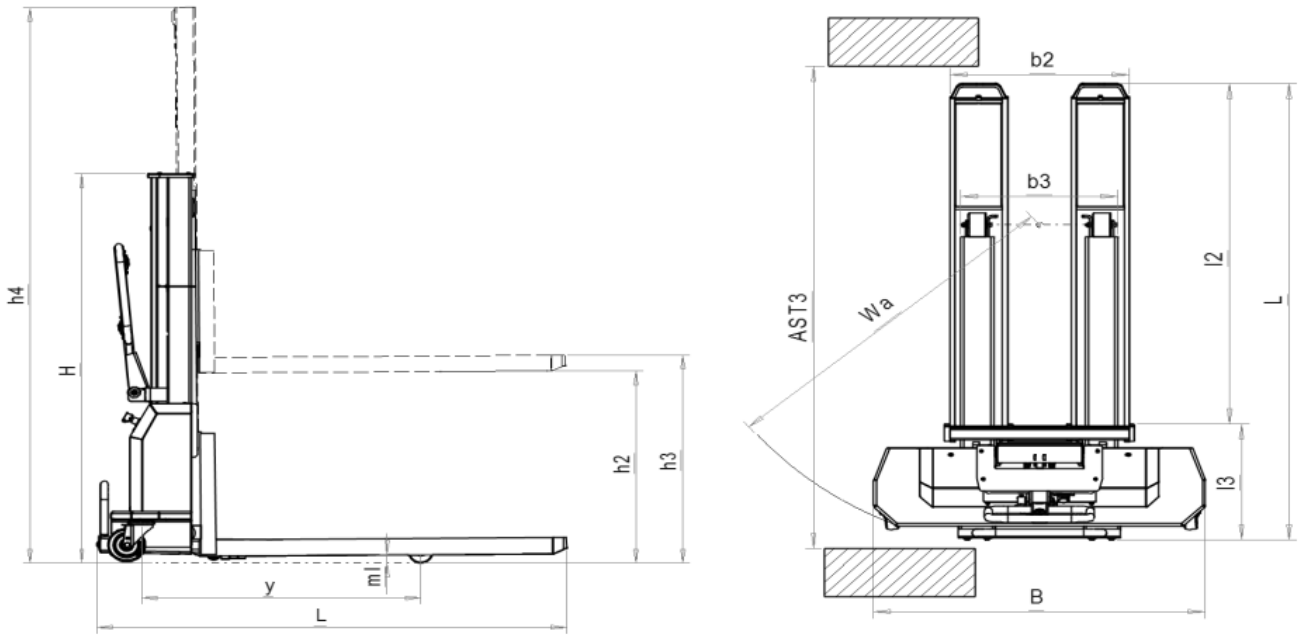

Technical Data Sheet
INNOLIFT

		IL1000.1000	IXL1000.1250
Power		Battery	Battery
Capacity	kg	1000	1000
Load centre	mm	600	600
Lifting height	mm h3	1000	1250
Loading height	mm h2	900	1150
Own weight	kg	257	265
Overall lowered height	mm H	1450	1710
Overall extended height	mm h4	2370	2880
Wheel material		Polyurethane	Polyurethane
Wheel dimensions, front	mm	80 x 54	80 x 54
Wheel dimensions, rear	mm	125 x 40	125 x 40
Total length	mm L	1570	1570
Length without forks	mm l3	390	390
Chassis width	mm B	1000	1000
Support legs width	mm b3	474	474
Wheel base	mm y	980	980
Fork dimensions	mm	175 x 60	175 x 60
Fork length	mm l2	1175	1175
Fork width	mm b2	540	540
Ground clearance	mm ml	0 - 30	0 - 30
Working aisle AST3	mm	1860	1860
Turning radius	mm Wa	1140	1140
Parking brake		Mechanical	Mechanical
Lifting motor	kW	0,8	0,8
Battery capacity	V / Ah	12 / 44	12 / 44
Charger	V / A	12 / 10	12 / 10

Frendix Oy
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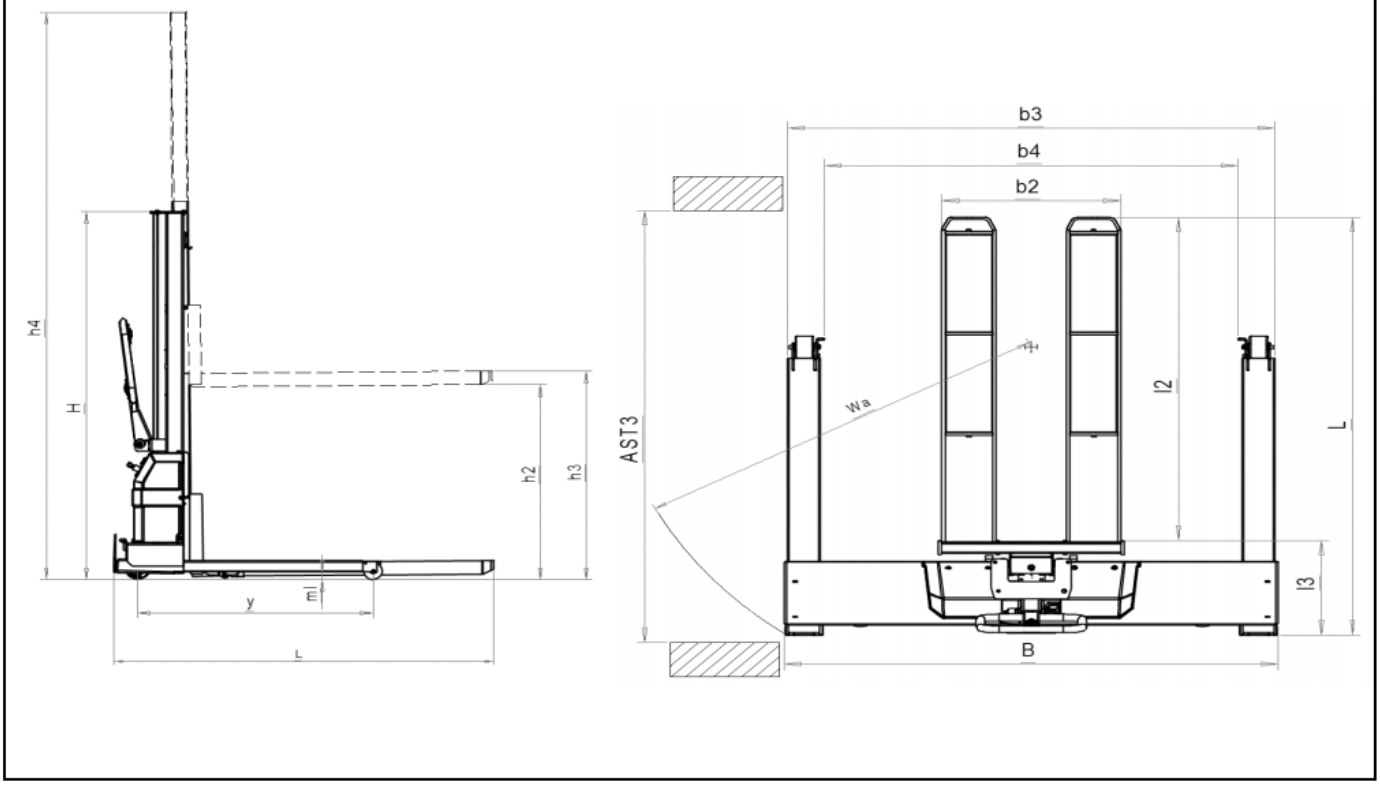
Finland

info@frendix.fi
www.frendix.com

Frendix Oy keeps the right for changes

INNOLIFT Self Loader Version 7 (straddle)



Technical Data Sheet
INNOLIFT

		40" pallet	40" pallet	48" pallet	48" pallet
		IXL550.1250.US	**IXXL500.1400.US**	**IXL550.1250.US**	**IXXL500.1400.US**
Power		Battery	Battery	Battery	Battery
Capacity	kg (lbs)	550 (1210 lbs)	500 (1100 lbs)	550 (1210 lbs)	500 (1100 lbs)
Load centre	mm (inch)	600 (23,6")	600 (23,6")	600 (23,6")	600 (23,6")
Lifting height	mm h3 (inch)	1250 (49,2")	1400 (55,1")	1250 (49,2")	1400 (55,1")
Loading height	mm h2 (inch)	1150 (45,2")	1300 (51,1")	1150 (45,2")	1300 (51,1")
Own weight	kg (lbs)	258 (569 lbs)	264 (582 lbs)	262 (578 lbs)	268 (591 lbs)
Overall lowered height	mm H (inch)	1650 (65,0")	1800 (70,86")	1650 (65,0")	1800 (70,86")
Overall extended height	mm h4 (inch)	2790 (109,9")	3090 (121,7")	2790 (109,9")	3090 (121,7")
Wheel material		Polyurethane	Polyurethane	Polyurethane	Polyurethane
Wheel dimensions, front	mm (inch)	75 x 60 (2,95"x2,36")	75 x 60 (2,95"x2,36")	75 x 60 (2,95"x2,36")	75 x 60 (2,95"x2,36")
Wheel dimensions, rear	mm (inch)	100 x 40 (3,95" x 1,57")	100 x 40 (3,95" x 1,57")	100 x 40 (3,95" x 1,57")	100 x 40 (3,95" x 1,57")
Total length	mm L (inch)	1550 (61,02")	1550 (61,02")	1550 (61,02")	1550 (61,02")
Length without forks	mm l3 (inch)	380 (14,96")	380 (14,96")	380 (14,96")	380 (14,96")
Width between support legs	mm b4 (inch)	1050 (41,33")	1050 (41,33")	1250 (49,21")	1250 (49,21")
Chassis width	mm B (inch)	1290 (50,79")	1290 (50,79")	1490 (58,66")	1490 (58,66")
Support legs width	mm b3 (inch)	1270 (50,0")	1270 (50,0")	1470 (57,80")	1470 (57,80")
Wheel base	mm y (inch)	915 (36,02")	915 (36,02")	915 (36,02")	915 (36,02")
Fork dimensions	mm (inch)	165 x 60 (6,5" x 2,36")	165 x 60 (6,5" x 2,36")	165 x 60 (6,5" x 2,36")	165 x 60 (6,5" x 2,36")
Fork length	mm l2 (inch)	1170 (46,06")	1170 (46,06")	1170 (46,06")	1170 (46,06")
Fork width	mm b2 (inch)	540 (21,26")	540 (21,26")	540 (21,26")	540 (21,26")
Ground clearance	mm ml (inch)	0 - 30	0 - 30	0 - 30	0 - 30
Working aisle AST3	mm (inch)	1890 (53,15")	1890 (53,15")	1890 (53,15")	1890 (53,15")
Turning radius	mm Wa (inch)	1200 (47,24")	1200 (47,24")	1250 (49,21")	1250 (49,21")
Parking brake		Mechanical	Mechanical	Mechanical	Mechanical
Lifting motor	kW	0,8	0,8	0,8	0,8
Battery capacity	V / Ah	12 / 44	12 / 44	12 / 44	12 / 44
Charger	V / A	12 / 10	12 / 10	12 / 10	12 / 10

Frendix Oy
Vierikatu 11, 04430 Järvenpää
Finland

14. EU Declaration of conformity

Manufacturer:

Frendix Oy

Vierikatu 11

04430 Järvenpää

FINLAND

Declares that the device:

InnoLIFT model:_____Serial number:_____

Launched on the market conforms to the regulations of the machinery Directive 2006/42/EC.
To the following modifications as well as the national regulations are enforcing them.

Safety of Manual Stackers: EN 3691-5

Electrical requirements: EN 1175-1

Järvenpää, Finland

Juha Korpela

15. Guarantee conditions

The machine is guaranteed on condition that it is used for the work for which it was intended and that these operation- and maintenance instructions have been closely followed. Warranty period is 12 months. Warranty period starts from the date of delivery.

Coverage of guarantee:

The guarantee concerns the first customer and cannot be transferred to another without prior permission.
The guarantee covers manufactured parts, and components proved to have material faults. Labor or travelling costs are not included.

The faulty parts, marked with part number, machine type number, the manufacturer's serial number and the machine delivery date should be sent to the manufacturer or its dealer. If, after investigations, it is found that the parts in question are either incorrectly manufactured or that there is an evidence of material fault, they will be exchanged free of charge or rectified and returned in good order.

Items outside guaranteed coverage:

Faults arising from overloading.

Faults arising from misuse of the machine.

Faults arising from collision or other externally caused damage.

Machines in which no-genuine Frendix spare parts have been used.

Machines that have been modified, or onto which further equipment or attachments have been added, so that the constructional strength or other requirements have been altered.

Normal wear and faults possibly caused thereby (e.g. tyres, fuses, etc.).

Faults connected with the normal maintenance and operation, for example, oil leakage caused by a loosened hydraulic hose connections or a loose electrical connection. Such items must be checked as part of the monthly or annual servicing procedures.

Faults arising from neglect in the service routines and intervals mentioned in the maintenance instructions. Service can be accepted by the serviceman authorized by Frendix Oy only.

16. Maintenance

Before starting the maintenance, the machine must be unloaded and the forks must be in the lowered positions. Also disconnect the wire of the charging device from the electrical outlet.

Daily maintenance

- Check that the rubber stoppers under the support legs are in good conditions. Change them if needed. Maximum wear is 3mm. Rubber thickness 20mm.
- Keep the machine clean and check it visually every time before use. Contact authorized service personnel immediately if you notice any damages.
- Charge the battery after usage by plugging the charger on to the power outlet. We recommend charging in between shifts or during the night.
- Inspect the gliding surface of the support leg and chassis. Make sure that they are clean of any dirt. If needed, re-apply HHS5000 lubricant spray in between of the chassis and support legs.

ATTENTION! NEVER PUSH THE OPERATION BUTTONS DURING THE CHARGING. IT WILL BLOW THE FUSE.

Every 6 months or after the first 50 usage hours

- Check that the rubber stoppers under the support legs are in good conditions. Change them if needed. Maximum wear is 3mm. Rubber thickness 20mm.
- Change the hydraulic oil. The original hydraulic oil is TB 32 S
- Check that all wheels are in good conditions. Change them if needed.
- Check all hydraulic connectors. Make sure that there are no oil leaks.
- By eye, inspect that all the electrical components are in good condition.
- Check that all bolts and nuts are tight. Tighten them if needed.
- Check that all plates and warning signs are readable.

ATTENTION! HYDRAULIC VALVES HAVE BEEN PRE-ADJUSTED AND TAMPERING THEM IS STRICTLY FORBIDDEN!

ATTENTION !! IT IS ABSOLUTELY FORBIDDEN TO MAKE ANY CHANGES IN THE CONSTRUCTION OF THIS MACHINE WHICH CAN WEAKEN THE SAFETY OR CONSTRUCTION.

17. Basic troubleshooting

FAULT	POSSIBLE CAUSE	SOLUTION
Support legs are very stiff to move back and forth.	A) Dust / dirt buildup on the sliding surfaces of the support legs.	A) Clean all dirt / dust and reapply PTFE spray grease to support leg sliding surfaces.
Forks suddenly stopped lifting / lowering.	A) Battery charge is too low to operate hydraulic aggregat.	A) Check battery status and charge the battery either with provided charger or car charging cable.
Lifts per charge has dramatically decreased.	A) Battery has been fully discharged repeatedly causing irreversible damage. B) Battery has worn due to age.	A) Replace the battery and advice personnel to avoid deep discharge.
Battery Level Indicator won't turn ON with the machine.	A) Faulty battery level indicator.	A) Contact your InnoLIFT dealer for replacement.
Hydraulic aggregat makes odd noise when used.	A) Air in the hydraulic system.	A) Lift and lower the forks couple of times from maximum to minimum to clear the air from the system.
The machine has suddenly become unstable.	A) Bent support leg.	A) Carefully check support legs for any bending and contact your dealer for replacement.
InnoLIFT no longer automatically stops on the edge of the loading platform during unloading.	A) Support leg's rubber stoppers are too worn.	A) Change the stoppers or contact your InnoLIFT dealer for replacement and prevent the machine from being used until fixed.

18. Hazardous waste

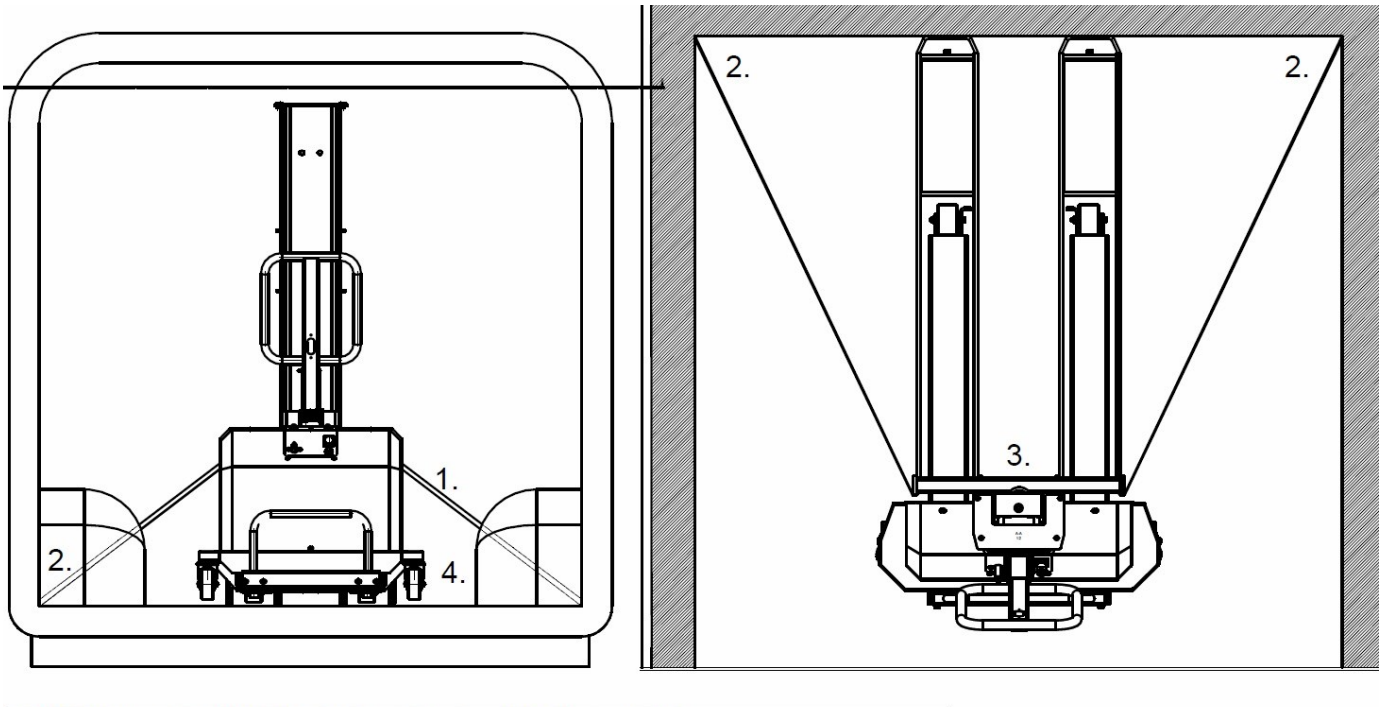
Hydraulic oil and battery are hazardous waste which must be disposed according to relevant regulations. The machine itself is not hazardous waste and can be used for recycling.

19. Spare parts and service

Frendix Oy will serve you in any kind of spare part or service matters concerning this machine. When you order spare parts, please inform the spare part and machine number and the model.

Spare part orders and maintenance request can be sent to:
service@frendix.fi

20. Tranporting InnoLIFT



Transportation

1: InnoLIFT must be tied down with cargo strap when transporting as shown in the picture, InnoLIFT is placed at the center of the car, forks resting on the wall.

2: Tie the cargo strap on the side hooks on the ground level.

3: Cargo strap should be string to the carriage.

4: Remember to lower the carriage all the way to the floor so that the wheels lift up.

When transporting with load InnoLIFT and the load should be strapped down.

21. Maintenance register

service@frendix.fi receives maintenance requests.

Model and Serial number: .....

	Date	Signature	Attention.
1. Final Inspection completed	.....	.....	.....
2. Next maintenance is required to be performed within 12 months	.....	.....	.....
Comments:			
.....	.....	.....	.....
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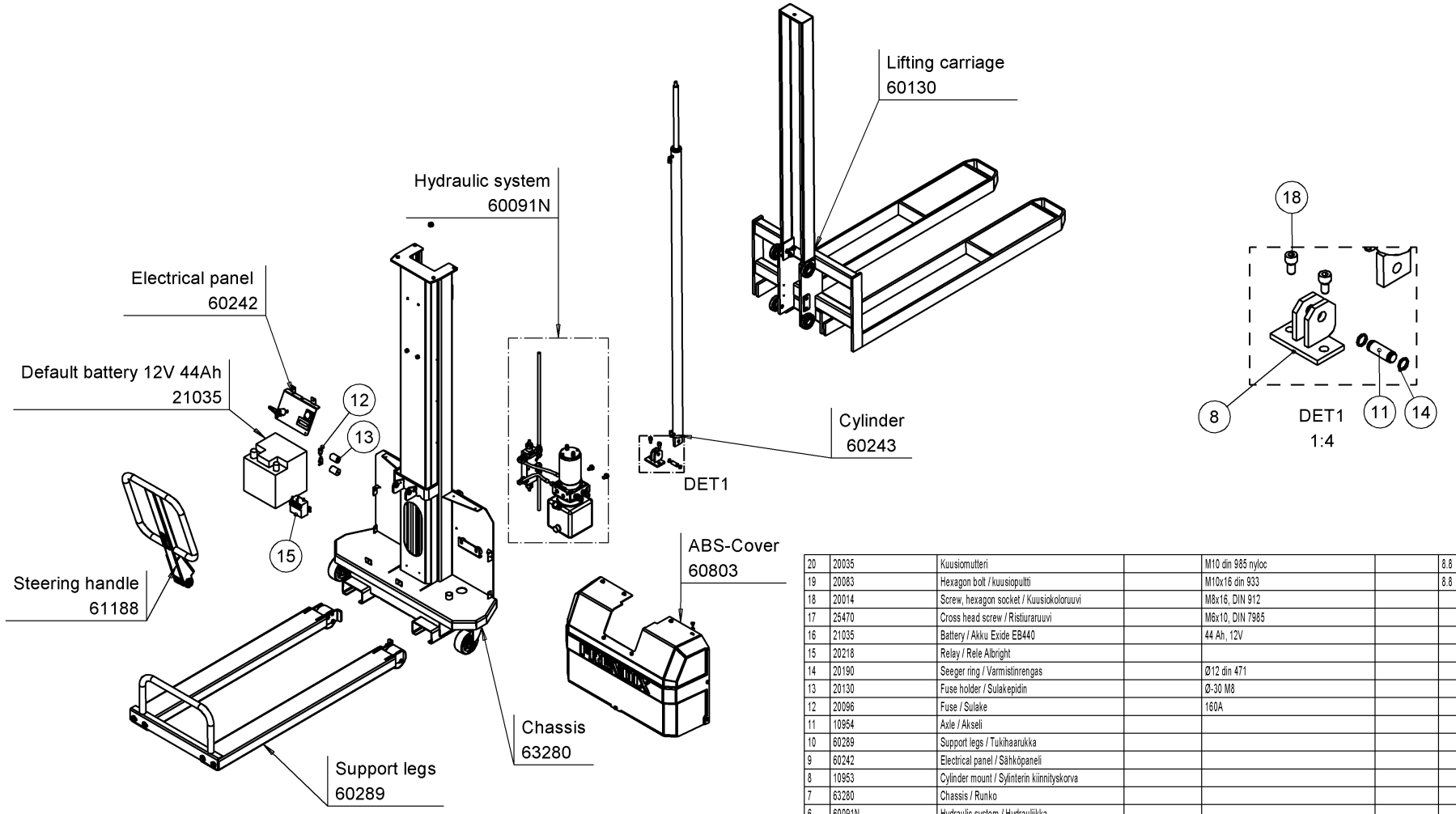
FRENDIX OY

SPARE PARTS
VARAOSALISTA

60164

Final assembly
Innolift Version 7

2022-09-07



Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	PCs
20	20035	Kuusiomutteri		M10 din 985 nyloc		8.8	1
19	20083	Hexagon bolt / kuusiopultti		M10x16 din 933		8.8	2
18	20014	Screw, hexagon socket / Kuusiokoloruuvi		M8x16, DIN 912			2
17	25470	Cross head screw / Ristiuraruuvi		M6x10, DIN 7985			5
16	21035	Battery / Akku Exide EB440		44 Ah, 12V			1
15	20218	Relay / Rele Albright					1
14	20190	Seeger ring / Varmistinrengas		Ø12 din 471			2
13	20130	Fuse holder / Sulakepidin		Ø-30 M8			2
12	20096	Fuse / Sulake		160A			1
11	10954	Axle / Akseli					1
10	60289	Support legs / Tukihaarukka					1
9	60242	Electrical panel / Sähköpaneli					1
8	10953	Cylinder mount / Sylinterin kiinnityskorva					1
7	63280	Chassis / Runko					1
6	60091N	Hydraulic system / Hydrauliikka					1
4	60803	ABS-plastic cover, ABS-muovikotelo					1
3	60243	Lifting cylinder / Sylinteri					1
2	61188	Steering handle / Ohjausaisa					1
1	60130IM	Lifting carriage / Nostokelkka					1

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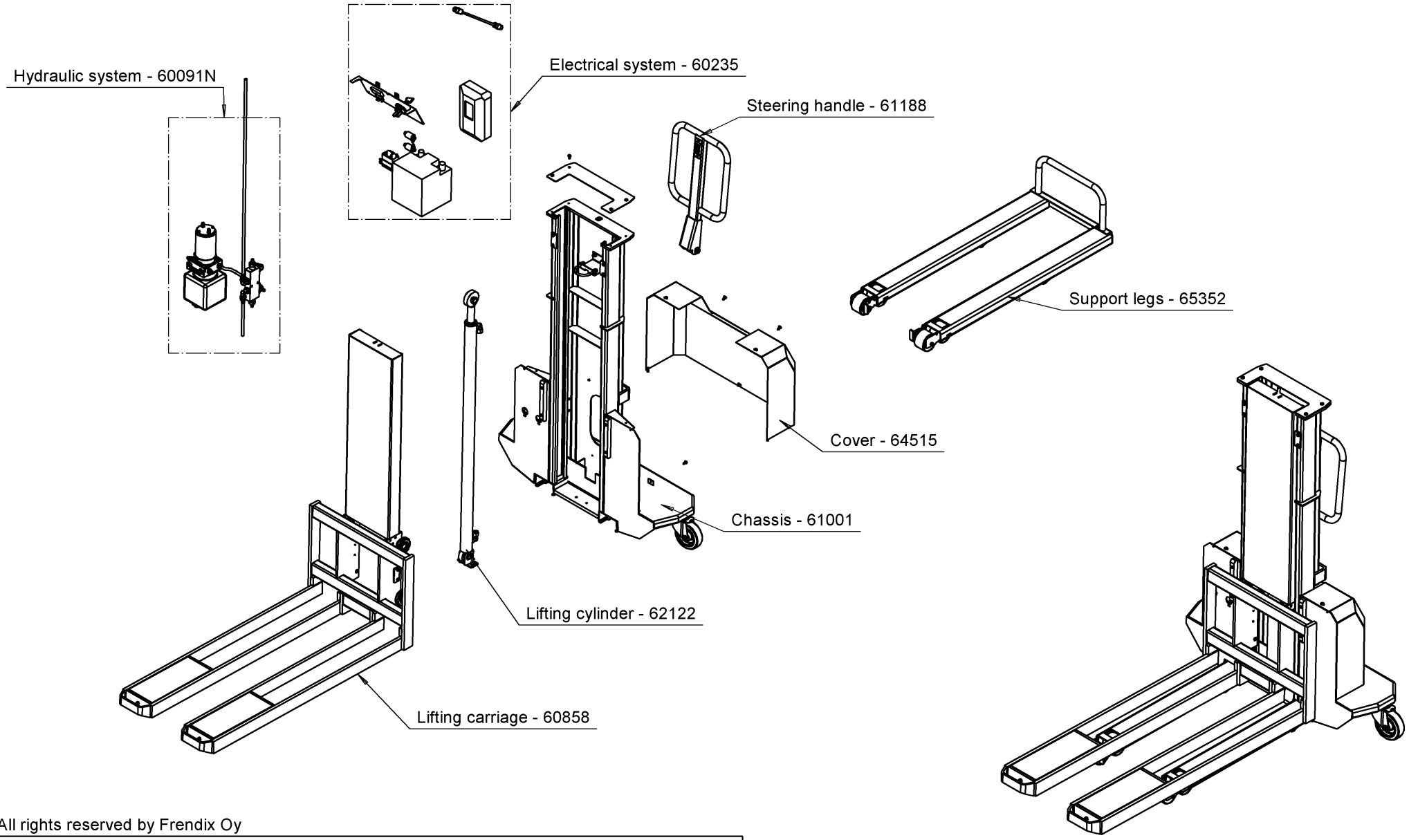

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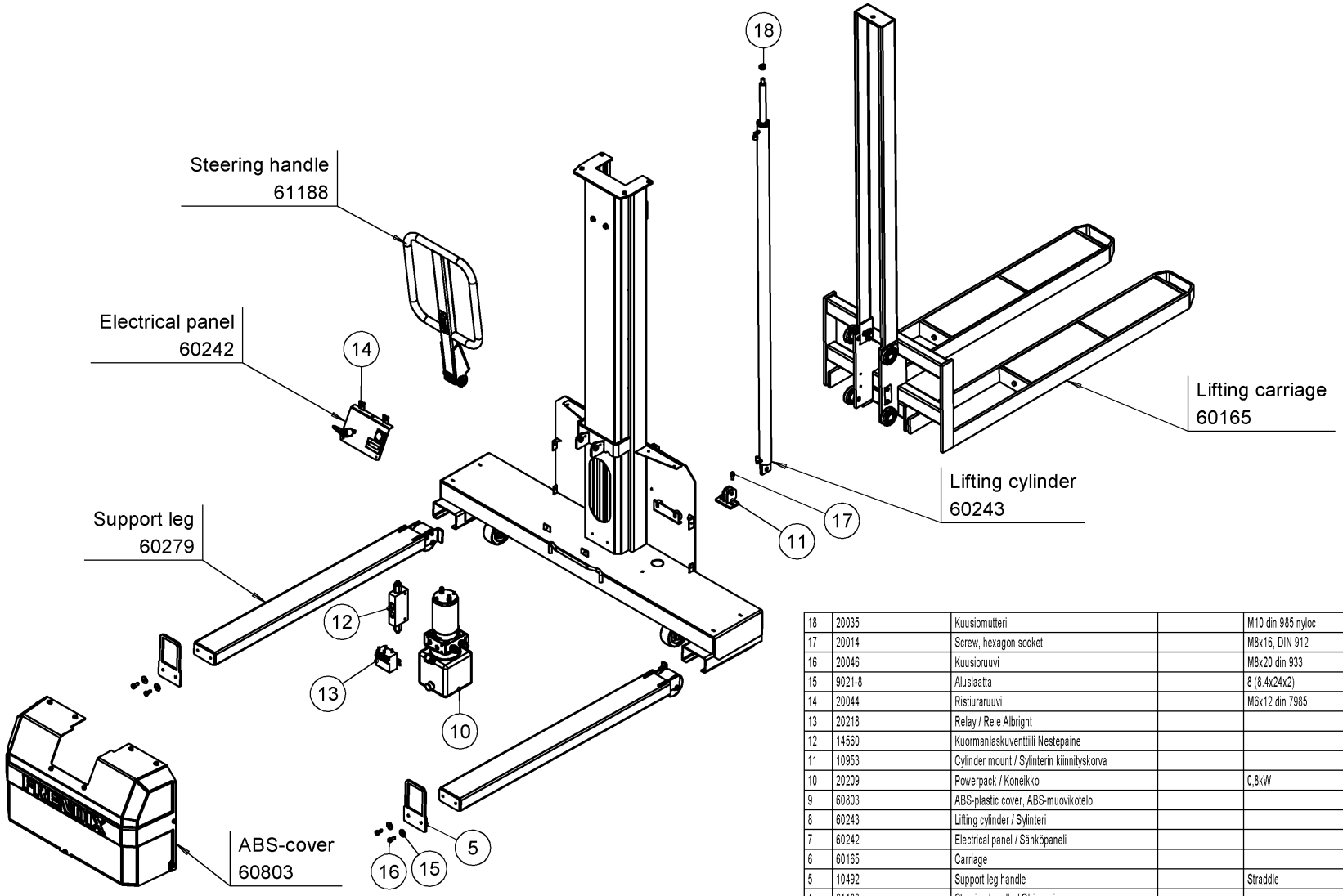
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	PCs



18	20035	Kuusiomutteri		M10 din 985 nyloc		8.8	1
17	20014	Screw, hexagon socket		M8x16, DIN 912			2
16	20046	Kuusioruuvi		M8x20 din 933		8.8	4
15	9021-8	Aluslaatta		8 (8.4x24x2)		Teräs	4
14	20044	Ristiuraruuvi		M6x12 din 7985		8.8	2
13	20218	Relay / Rele Albright					1
12	14560	Kuormanlaskuventtiili Nestepaine					1
11	10953	Cylinder mount / Sylinterin kiinnityskorva					1
10	20209	Powerpack / Koneikko		0,8kW			1
9	60803	ABS-plastic cover, ABS-muovikotelo					1
8	60243	Lifting cylinder / Sylinteri					1
7	60242	Electrical panel / Sähköpaneli					1
6	60165	Carriage					1
5	10492	Support leg handle		Straddle			2
4	61188	Steering handle / Ohjausaisa					1
3	60302_IXL	Innolift Straddle V7					1
2	60279	Support leg, complete / Tukijalka, kasattu		L=1064mm			1
1	60279	Support leg, complete / Tukijalka, kasattu		L=1064mm			1
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	PCs

FRENDIX OY

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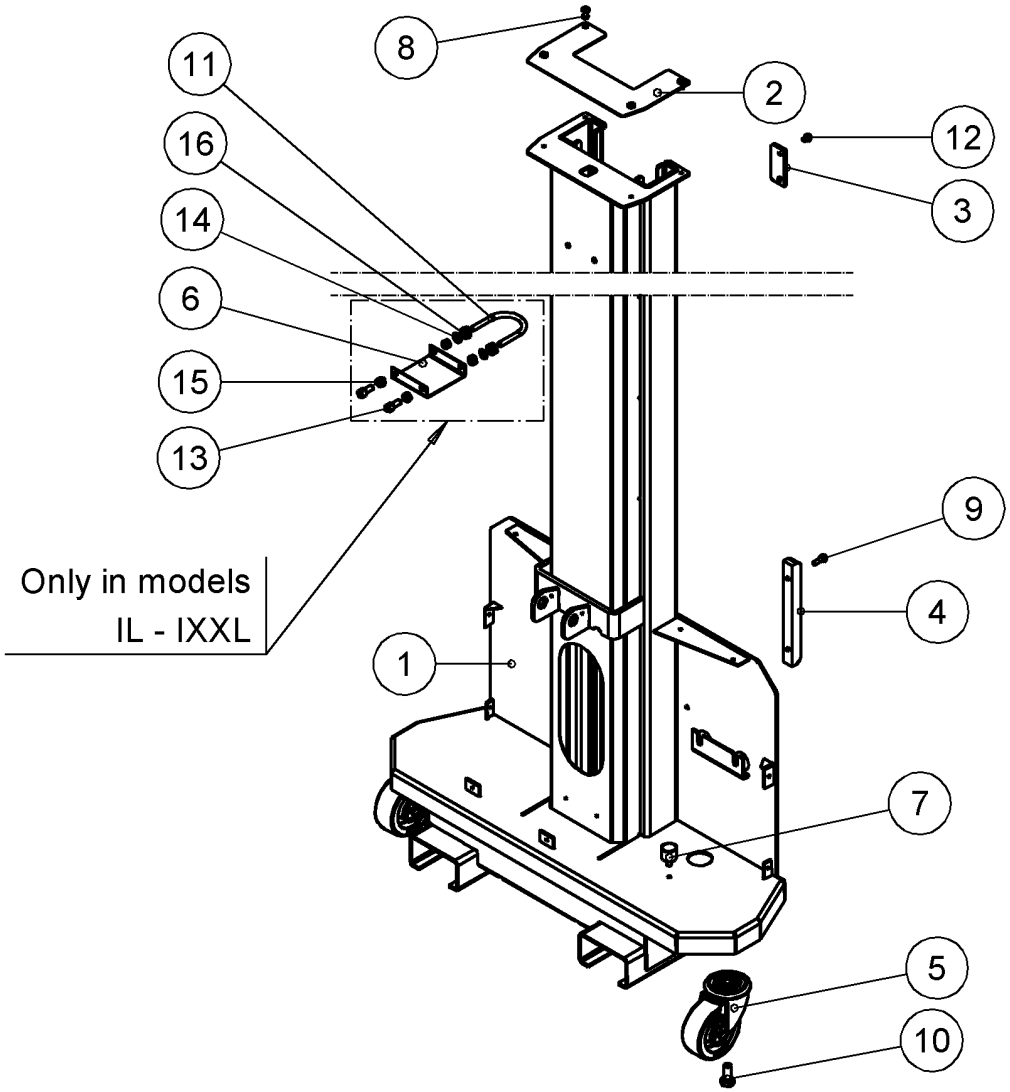
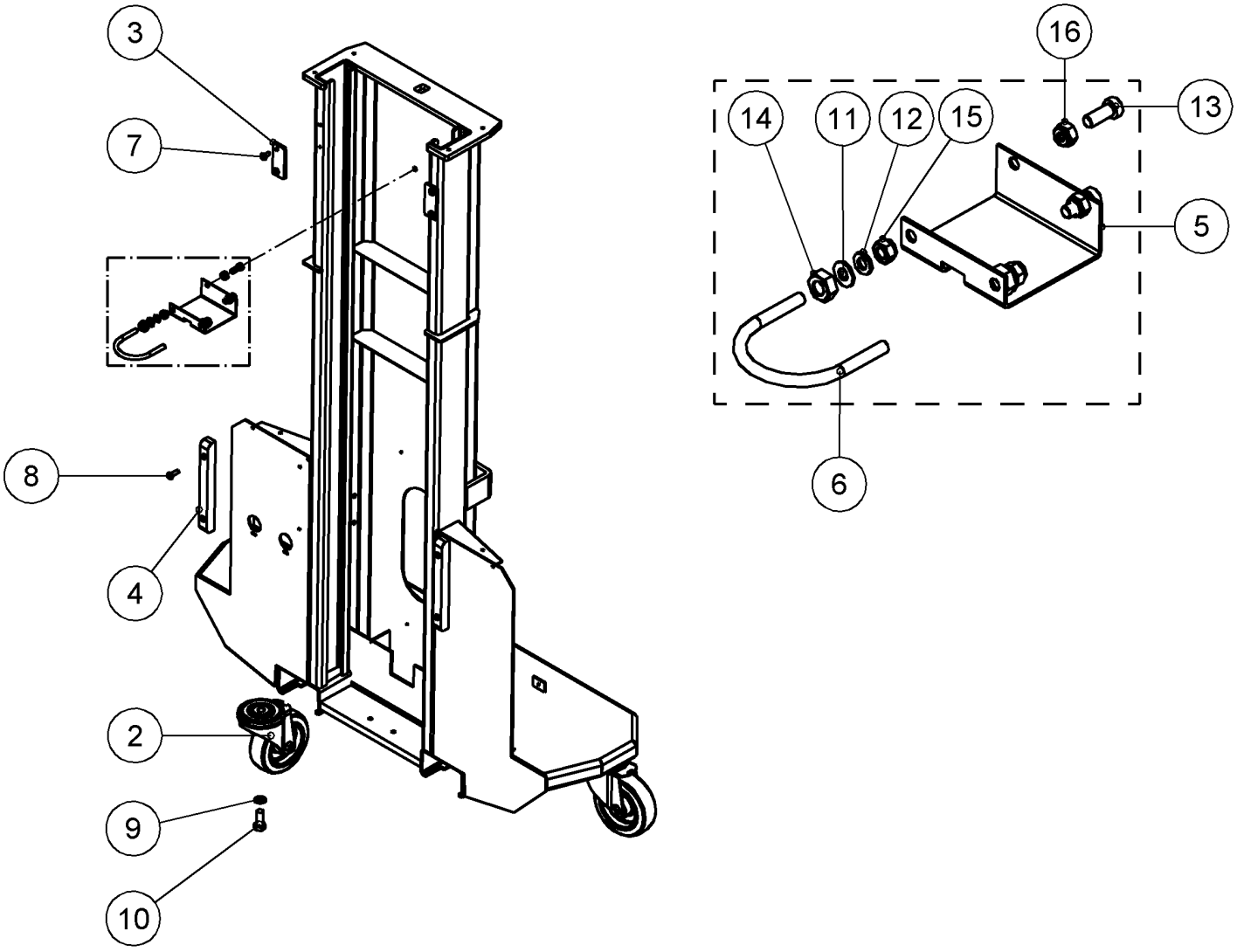
SPARE PARTS 63280 Chassis assembly IXL



16	20028	Nut / Mutteri		M10, DIN 934		10.8	2
15	21844	Nut, Nyloc / Lukitusmutteri	ISO 10511	M8			4
14	21255	Washer / Aluslevy	DIN-522	8x20			2
13	20296	Hexagon socket screw / Kuusiokoloruuvi	ISO_4762	M6x16		A2	2
12	28782	Cross head screw / Ristiuraruuvi	DIN_7985	M6x8, DIN 7985		8.8	4
11	20109	Cylinder clamp / Kierrepanta					1
10	21256	Hexagonal bolt / Kuusiopultti	DIN 933	M12x30, DIN 933			2
9	20045	Cross head screw / Ristiuraruuvi		M6x20, DIN 7985		8.8	4
8	20044	Cross head screw / Ristiuraruuvi		M6x12, DIN 7985		8.8	4
7	20185	Rubber Stopper / Kumistoppari		Ø20x15 M8			1
6	11185	Cylinder support / Sylinterin tuki					1
5	20320	Castor wheel / Lenkkipyörä					2
4	17560	Stopper, front / Etustoppari		20x20x200			2
3	11041	Side guide / Sivuohjain		5x30-70			2
2	11034	Top plate / Yläpeitelevy					1
1	11900IXL	Chassis / Runko IXL					1

Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs

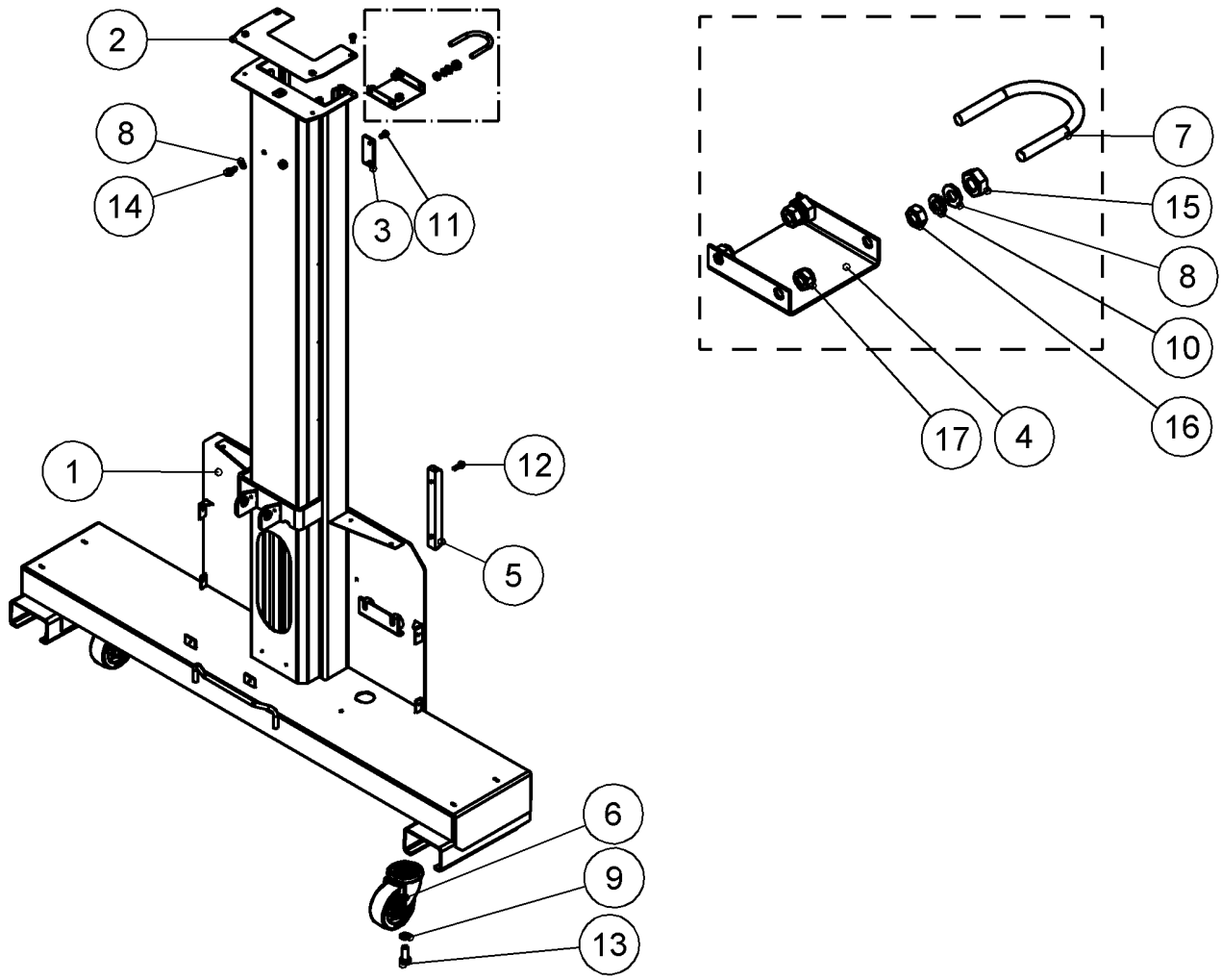
SPARE PARTS 61001 Chassis



15	21844	Mutteri, Nyloc	ISO 10511	M8			4
14	20028	Kuusiomutteri		M10 din 934		10.8	2
13	20105	Kuusiokoloruuvi	DIN 6912	M8x20			2
12	20038	Jousialuslevy		M8 din 127		8.8	2
11	21255	Aluslaatta	DIN-125	8x20			2
10	21256	Ruuvi	DIN933	M12x30			2
9	20031	Jousilaatta	DIN127	A12 (12.2x21.1x2.5)		Teräs	2
8	20045	Ristiuraruuvi		M6x20 din 7985		8.8	4
7	20044	Ristiuraruuvi		M6x12 din 7985		8.8	4
6	18421	Kierrepanta, D=72					1
5	18212	Cylinder support					1
4	17560	Stopper, front / Etustoppari		20x20x200			2
3	11041	Side guide / Sivuohjain		5x30-70			2
2	20252	Castor wheel					2
1	11805	Chassis IL1000.1000					1

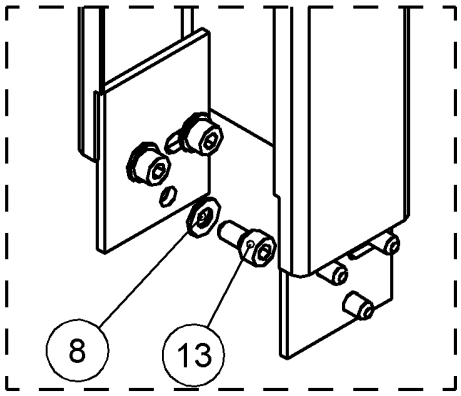
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs

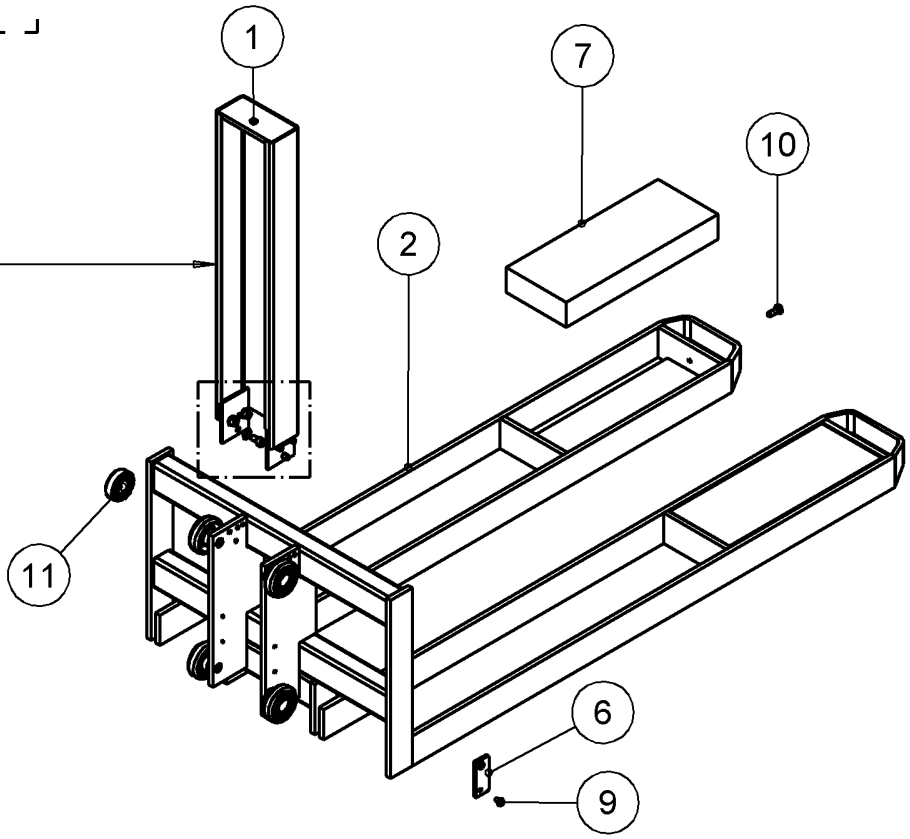
SPARE PARTS 60302_IXL Innolift Self Loader



Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
17	21844	Mutteri, Nyloc	ISO 10511	M8			2
16	20034	Mutteri	DIN 934	M8			2
15	20028	Kuusiomutteri		M10 din 934		10.8	2
14	20014	Kuusioruuvi	EN 24017	M8x16			2
13	21256	Ruuvi	DIN933	M12x30			2
12	20045	Ristiuraruuvi		M6x20 din 7985		8.8	4
11	20044	Ristiuraruuvi		M6x12 din 7985		8.8	8
10	20038	Jousialuslevy		M8 din 127		8.8	2
9	20031	Jousilaatta	DIN127	A12 (12.2x21.1x2.5)		Teräs	2
8	21255	Aluslaatta	DIN-125	8x20			4
7	20109	Kierrepanta Innolift					1
6	20320	Castor wheel / Lenkkipyörä					2
5	17560	Stopper, front / Etustoppari		20x20x200			2
4	11185	Cylinder support / Sylinterin tuki					1
3	11041	Side guide / Sivuohjain		5x30-70			2
2	11034	Top plate / Yläpeitelevy					1
1	12052IXL	Masto vakioitu hitsattu					1

SPARE PARTS 60130 Lifting carriage

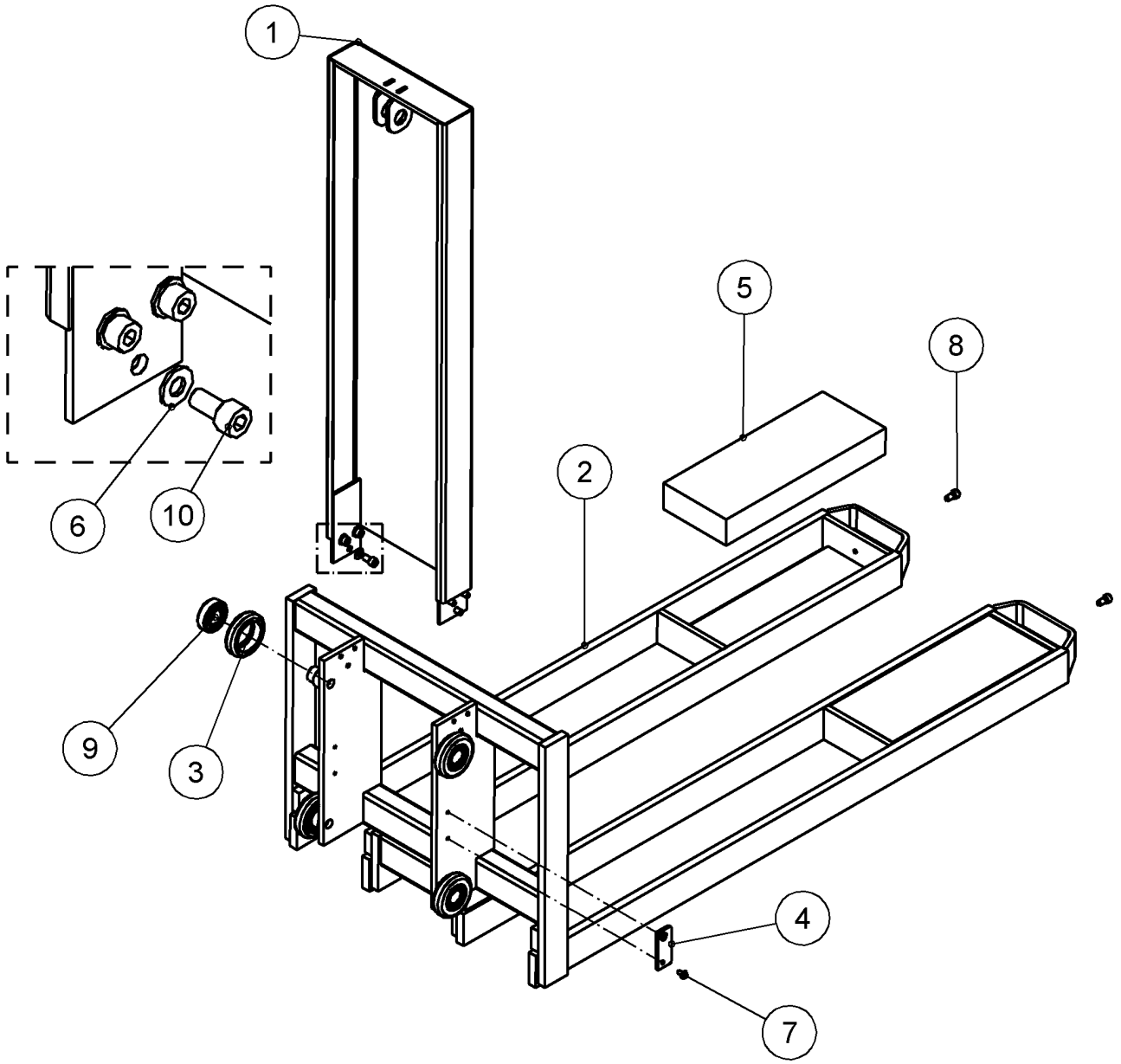




Model	Part ID
IS600	11534.650
IM600	11534.750
IL600	11534.950
IXL500	11534.1200
IXXL400	11534.1400

Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
13	20014	Screw, hexagon socket / Kuusiokoloruuvi	ISO_4762	M8x16, DIN 912			6
11	20112	Bearing / Laakeri		6205 zz			4
10	20046	Hexagon bolt / Kuusiopultti	EN24017	M8x20 DIN 933		8.8	2
9	25470	Cross head screw / Ristiuraruuvi		M6x10, DIN 7985			4
8	21255	Washer / Aluslevy	DIN-125A	8.4			6
7	15490	Weight / Paino					2
6	11041	Side guide / Sivuohjain		5x30-70			2
3	11113	Roller / Johderulla					4
2	16418	Carriage welded / Nostokelkka hitsattu					1
1	11534.650	Vertical pillar / Pystypilari IS600					1

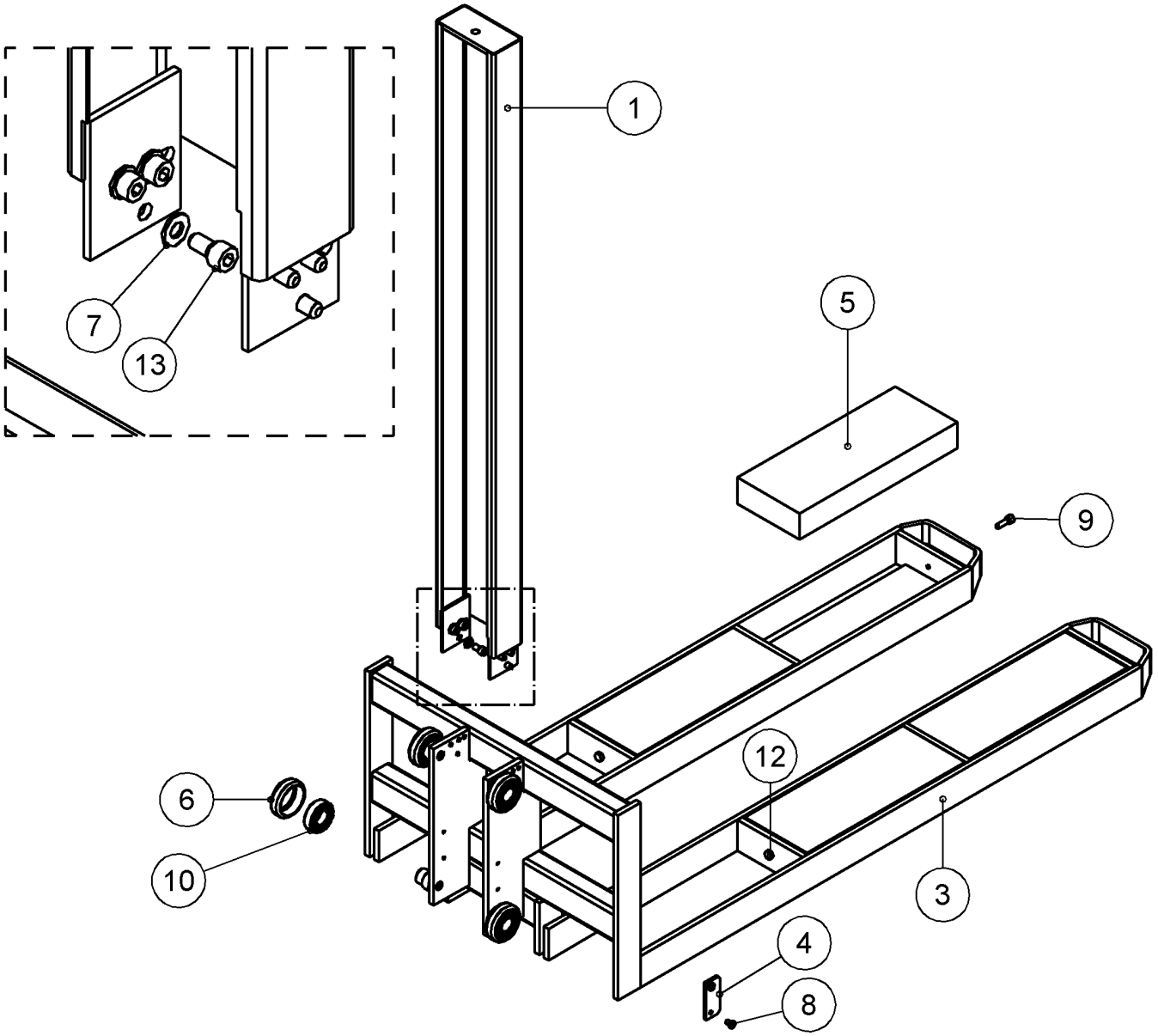
SPARE PARTS 60858 Lifting Carriage



10	20014	Kuusiokoloruuvi	DIN912	M8x16		12.9	6
9	20112	Laakeri		6205 zz		Teräs	4
8	20047	Screw, Hexagonal		M8x30		A2	2
7	25470	Ristiuraruuvi	DIN7985H	M6x10		8.8	4
6	21255	Aluslaatta	DIN125	M8			6
5	15490	Weight / Paino					2
4	11041	Side guide / Sivuohjain		5x30-70			2
3	13258	Roller		d73,5x19			4
2	17518	Nostokelkka, hitsattu		Innolift 1000kg			1
1	17519IL	Pystypilari hitsattu, IL1000.1000		h=956			1

Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs

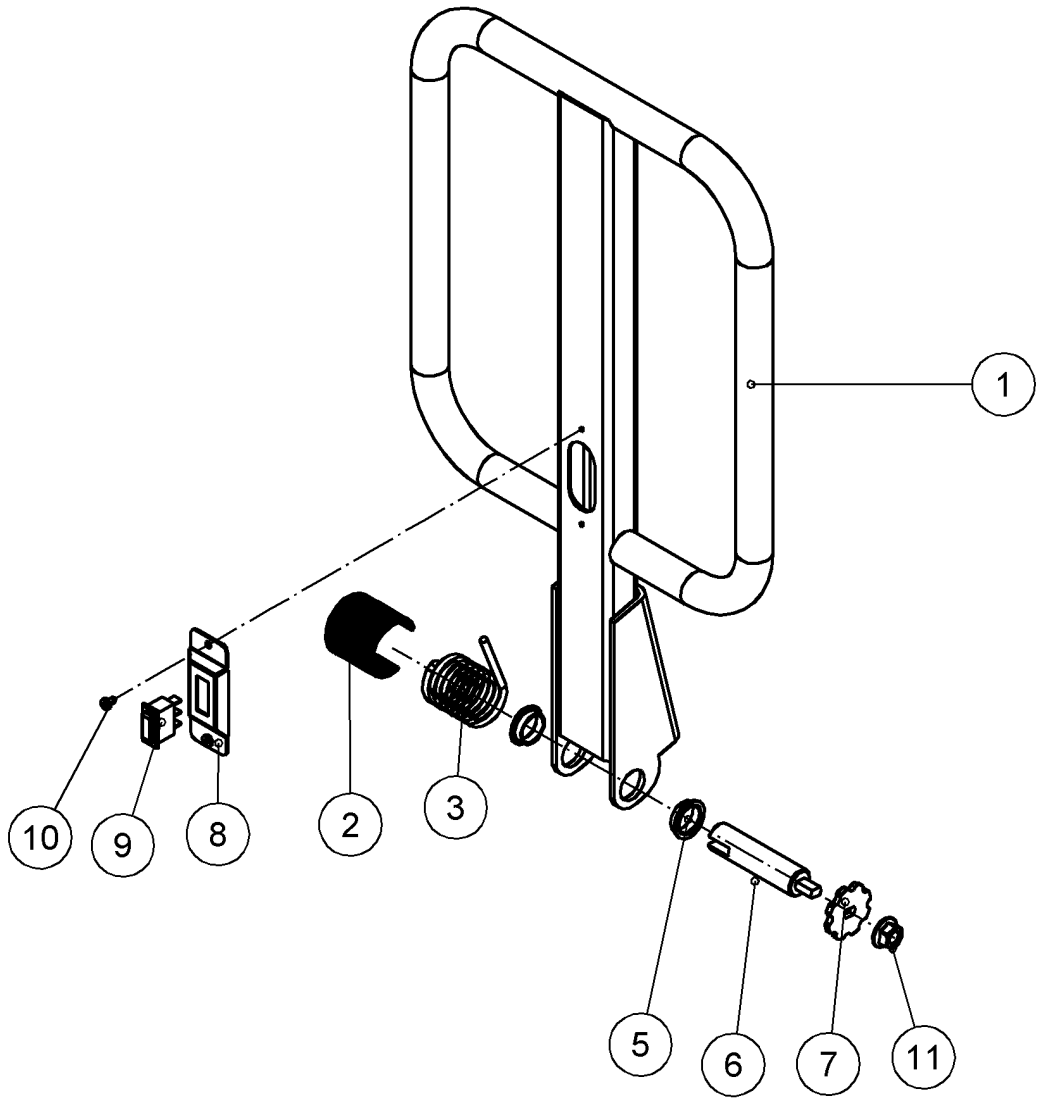
SPARE PARTS 60165 Lifting carriage



13	20014	Kuusiokoloruuvi	ISO_4762	M8x16			6
12	20046	Kuusioruuvi	DIN933	M8x20		8.8	2
10	20112	Laakeri		6205 zz		Teräs	4
9	20171	Kuusiokoloruuvi		M8x25 din 912		8.8	2
8	25470	Ruuvi	DIN7985H	M6x10		8.8	4
7	21255	Aluslevy	DIN125	M8			6
6	11113	Roller / Johderulla					4
5	15490	Weight / Paino					4
4	11041	Side guide / Sivuohjain		5x30-70			2
3	24011	Lifting carriage, double weights					1
1	11534-1200	Vertical pillar / Pystypilari IXL500					1

Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs

SPARE PARTS 61188 Steering Handle



Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
11	20237	Flange nut, serrated / Mutteri, laippa, rihlattu	DIN 6923	M10			1
10	20182	Cross head screw / Ristiuraruuvi	DIN 7985	M4x6		8.8	4
9	26716	Rocker switch / Keinukytkin					2
8	17035	Rocker sw. bracket / Keinukytkimen levy					2
7	18775	Spring adjustment cogwheel / Aisajousen säätöratas		Ø40mm x 4mm			1
6	18773	Axle / Akseli		Ø20mm x 93mm, M10			1
5	20127	Flanged bushing / Laipallinen holkki		Ø23mm, Ø28mm x 6mm			2
3	20281	Steering handle spring / Aisan jousi		Ø28mm, Ø38mm x 45mm			1
2	18777	PVC-Spring cover / Jousen PVC-suojus		44mm x 42mm			1
1	16433	Steering handle / Ohjausaisa					1

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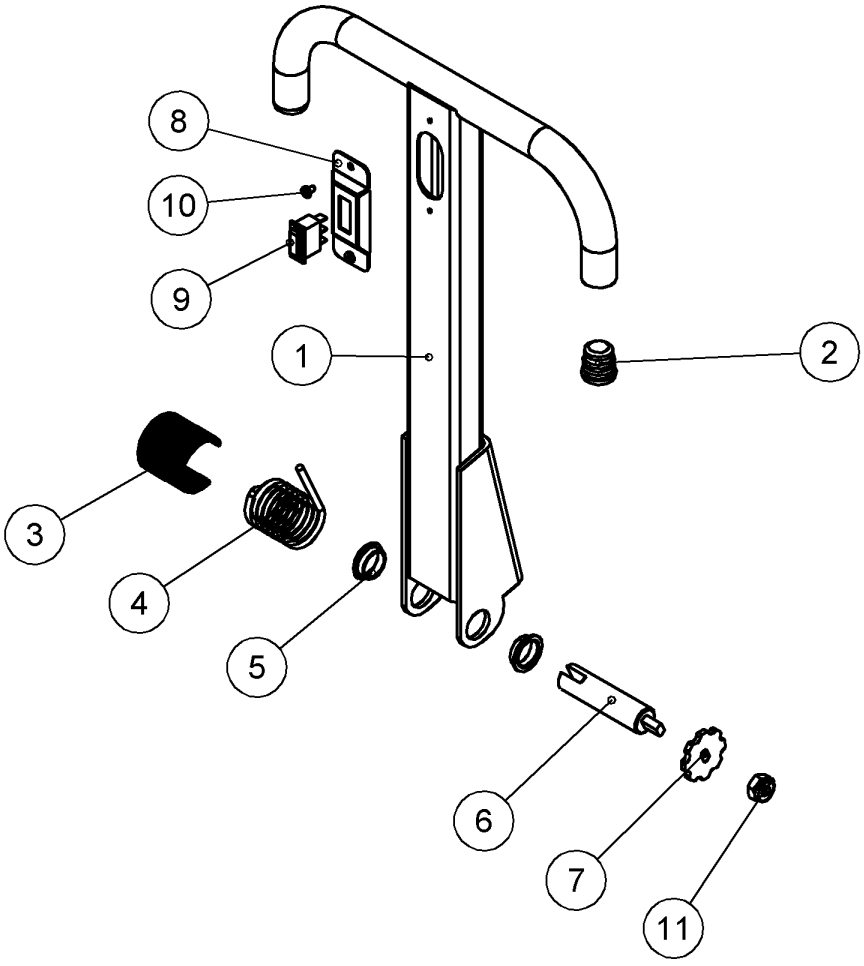
SPARE PARTS 61189 Handle, IS, ISJ



Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
11	21844	Nut / Mutteri, Nyloc	ISO 10511	M10			1
10	20182	Ristiuraruuvi / Crosshead screw	DIN 7985	M4x6		8.8	2
9	26716	Rocker switch / Keinukytkin					1
8	17035	Rocker sw. bracket / Keinukytkimen levy					1
7	18775	Spring adjustment cogwheel / Aisajousen säätöratas		Ø40mm x 4mm			1
6	18773	Axle / Akseli		Ø20mm x 93mm, M10			1
5	20127	Flanged bushing / Laipallinen holkki		Ø23mm, Ø28mm x 6mm			2
4	20281	Steering handle spring / Aisan jousi		Ø28mm, Ø38mm x 45mm			1
3	18777	PVC-Spring cover / Jousen PVC-suojus		44mm x 42mm			1
2	15400	Plug / Tulppa		Sisätulppa S-25-H			2
1	IS,ISJ	Ohjausaisa					1

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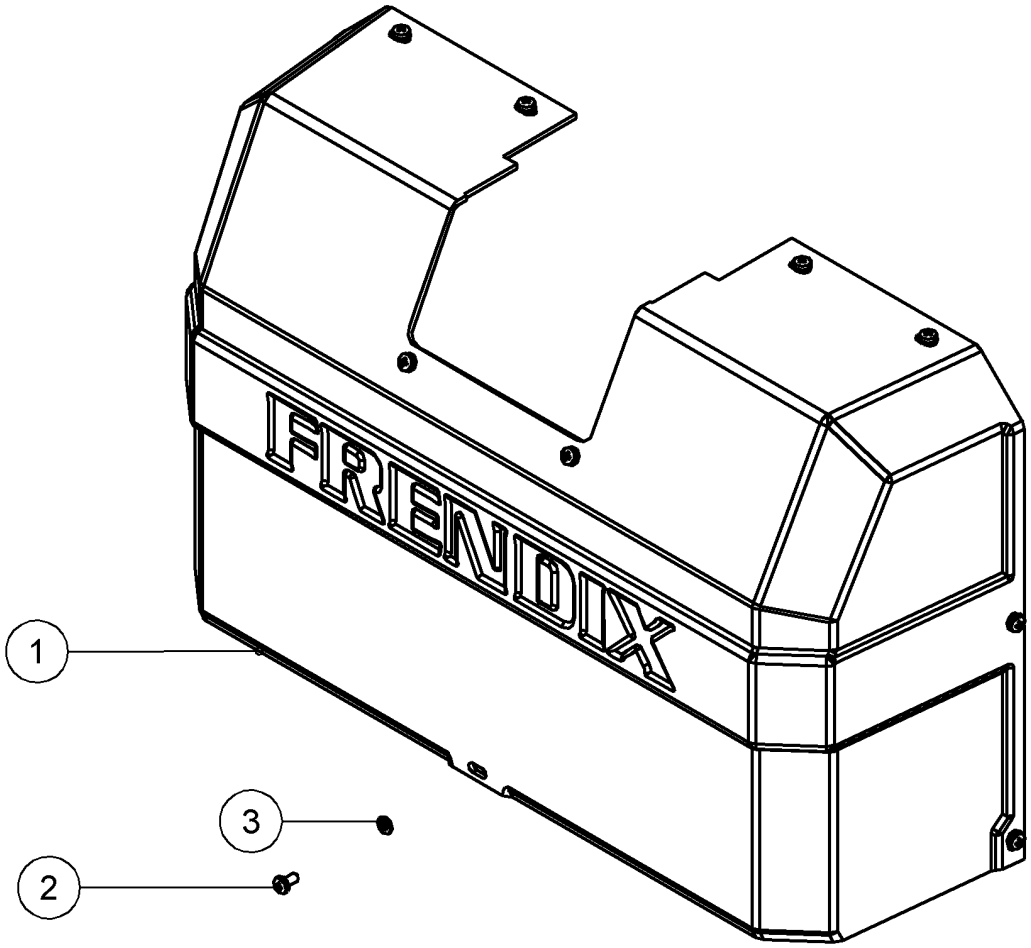
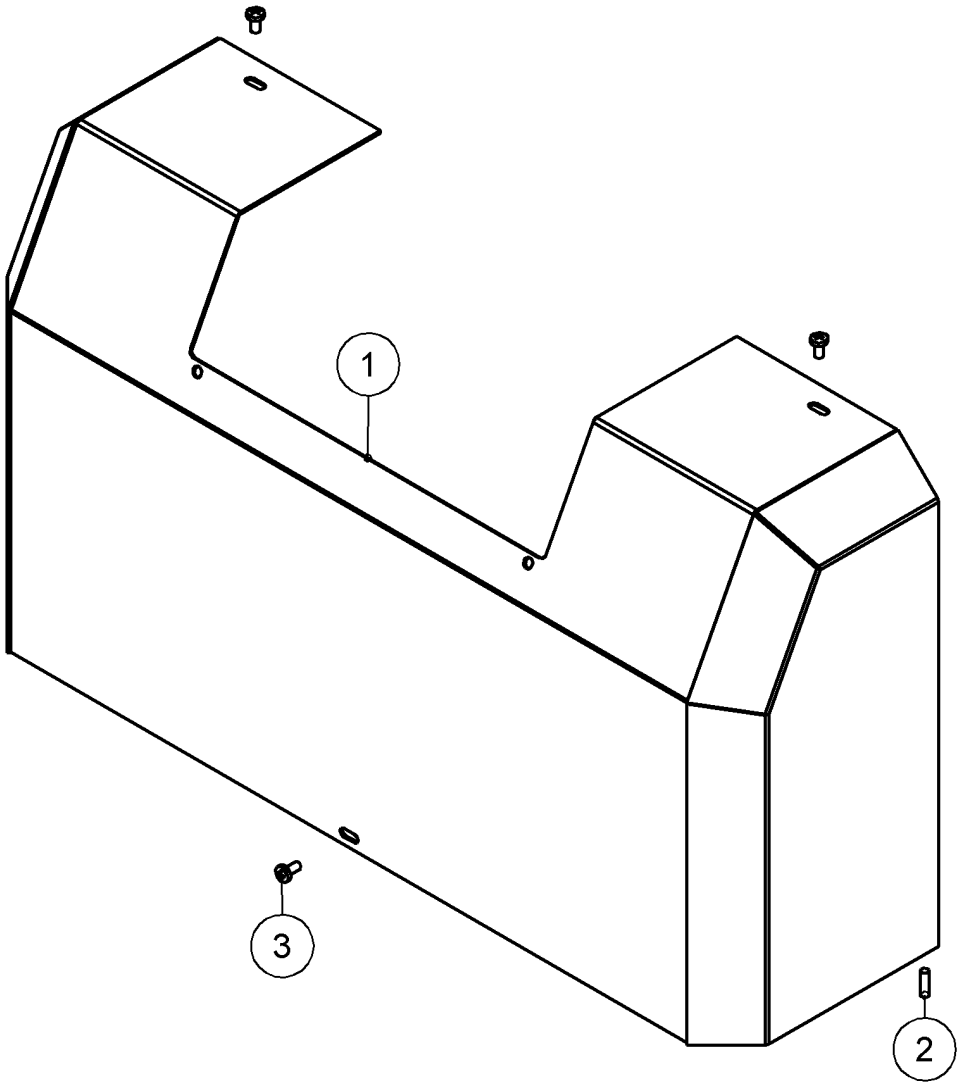
SPARE PARTS 60803 ABS cover



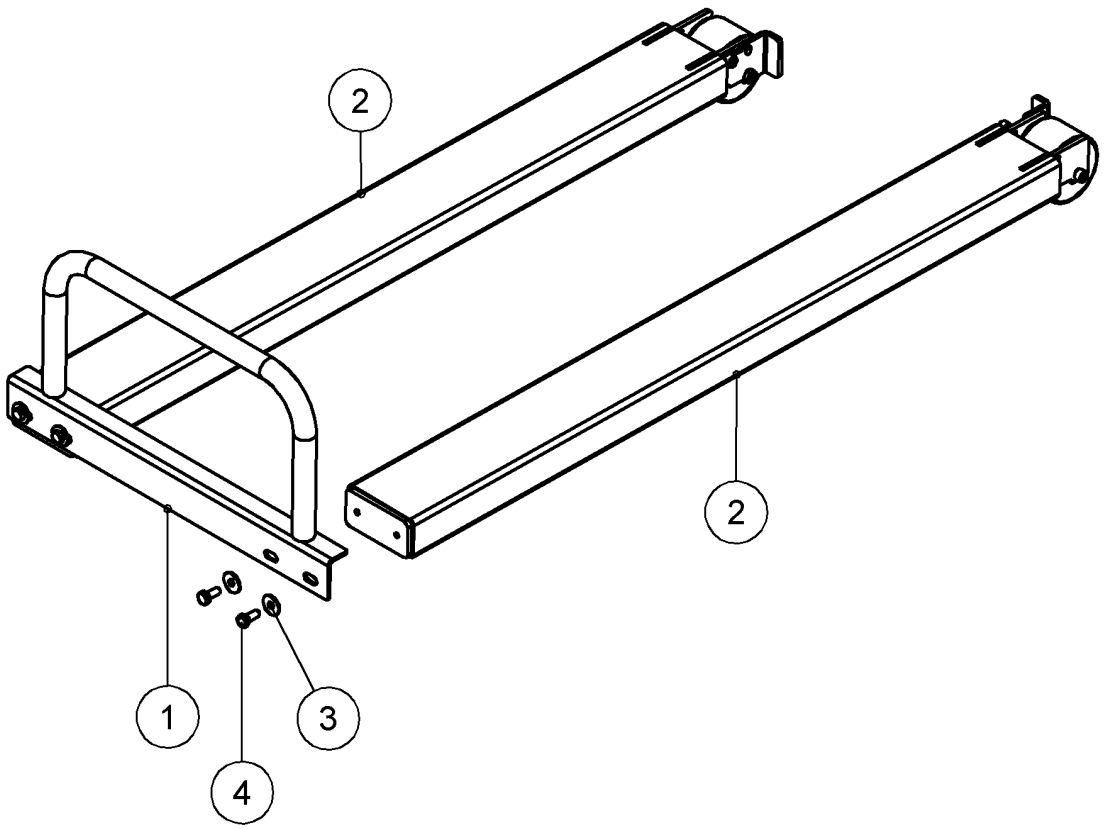
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
3	20155	Washer / Aluslevy		M6, DIN 125		8.8	11
2	20044	Cross head screw / Ristiuraruuvi		M6x12, DIN 7985		8.8	11
1	24007	ABS-plastic cover / ABS-muovikotelo					1

SPARE PARTS 64515 Cover



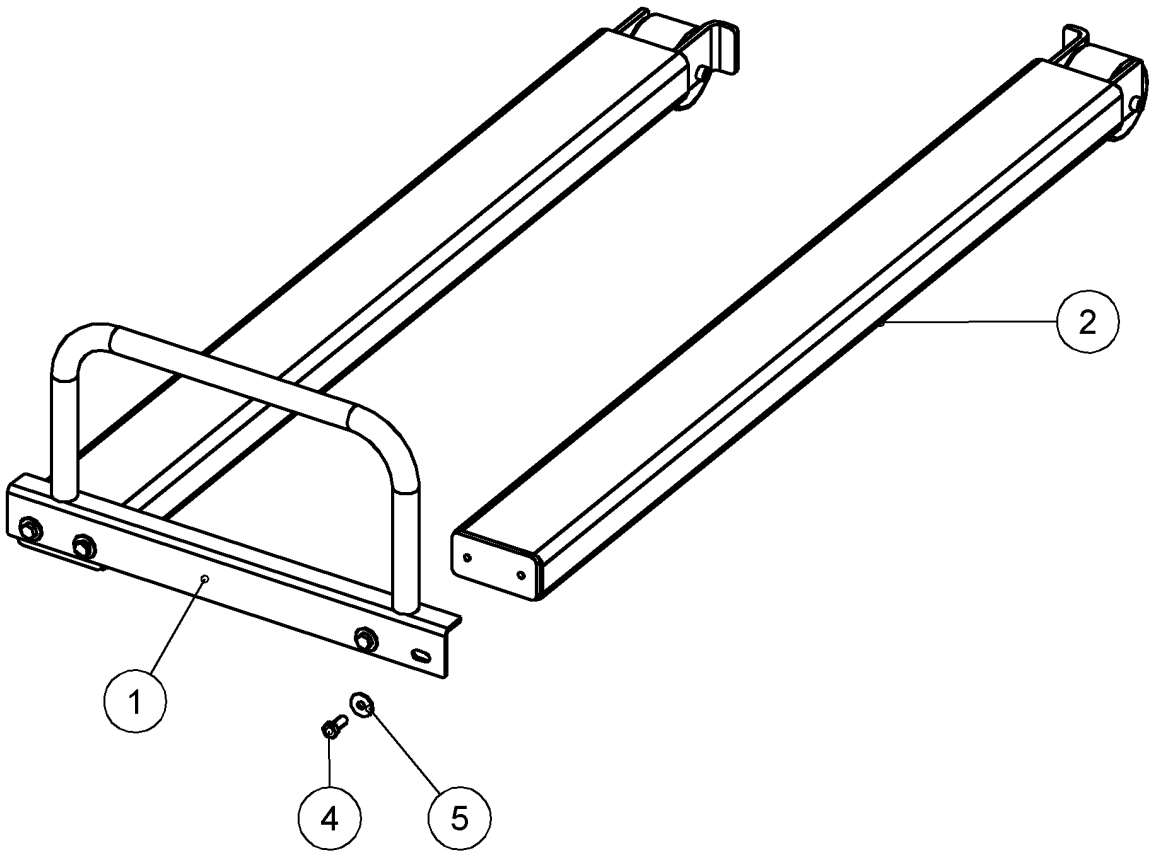
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
3	20044	Ristiuraruuvi		M6x12 din 7985		8.8	3
2	21491-20	Tappi					2
1	18620	Cover					1

SPARE PARTS 60289 Support legs



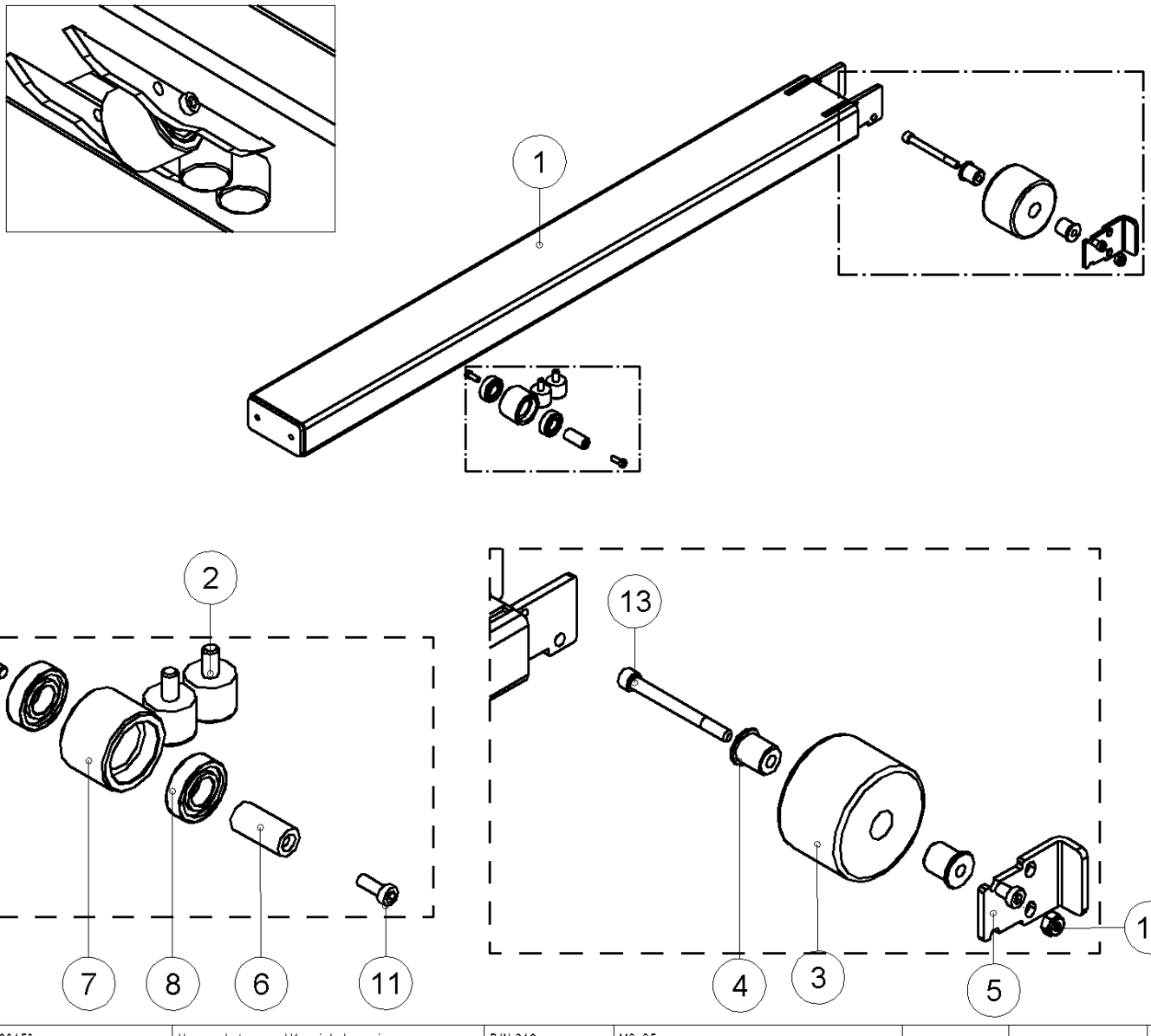
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
4	20046	Hexagon bolt / Kuusiopultti	EN24017	M8x20 DIN 933		8.8	4
3	20188	Body washer / Korialuslevy	DIN9021	Ø8x30 din 9021		Teräs	4
2	60279	Support leg, complete / Tukijalka, kasattu		L=1064mm			1
2	60279	Support leg, complete / Tukijalka, kasattu		L=1064mm			1
1	17222	Pulling handle / Vetokahva		487,5x30x52, s=3mm, 90°			1

SPARE PARTS 65352 Support legs



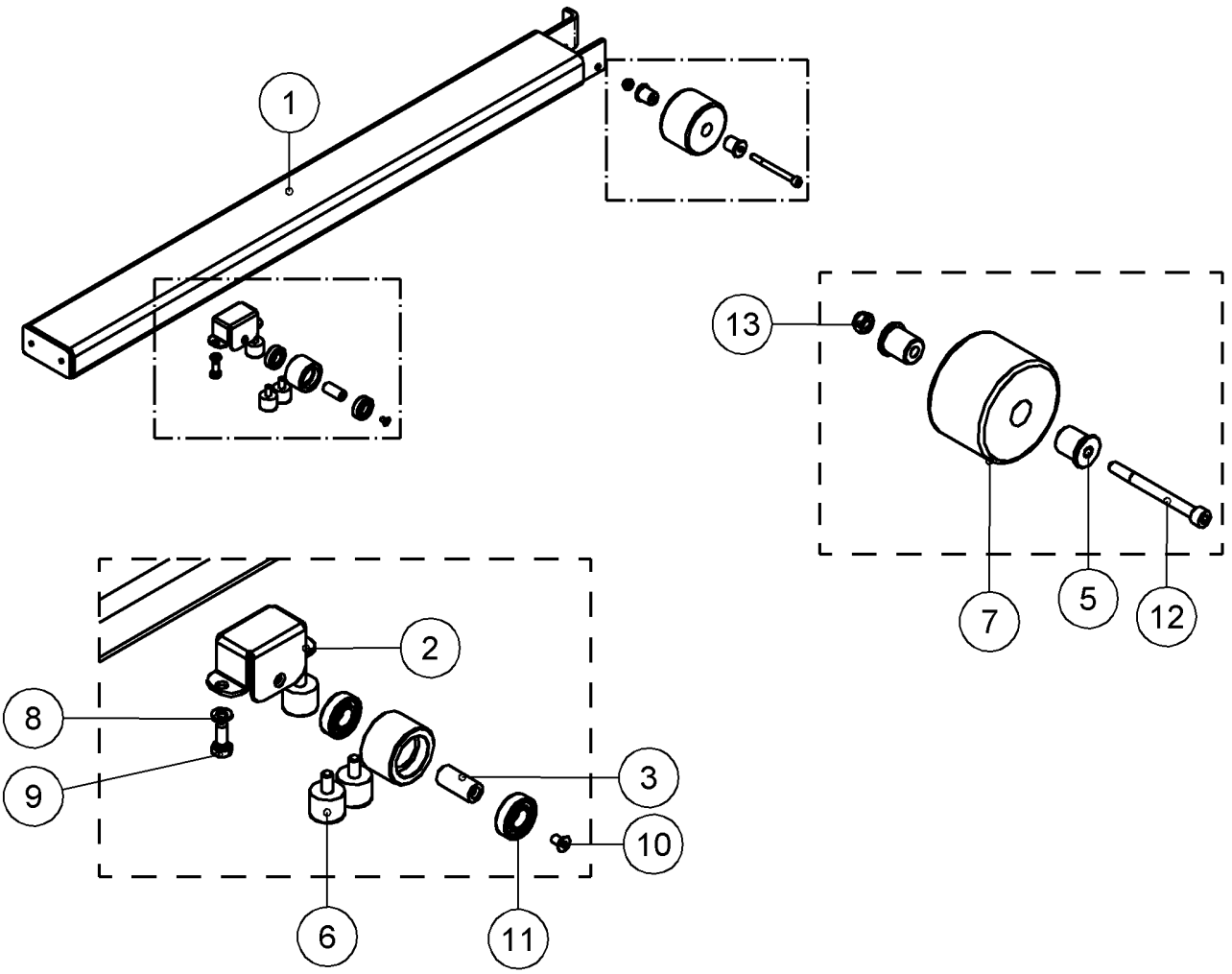
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
5	9021-8	Aluslaatta	DIN9021	8 (8.4x24x2)		Teräs	4
4	20046	DIN_EN_24017-M8x20	DIN 933	M8x20		8.8	4
3	65351	Support leg, 1000kg, complete					2
1	17222	Pulling handle / Vetokahva		487,5x30x52, s=3mm, 90°			1

SPARE PARTS 60279 Support leg complete



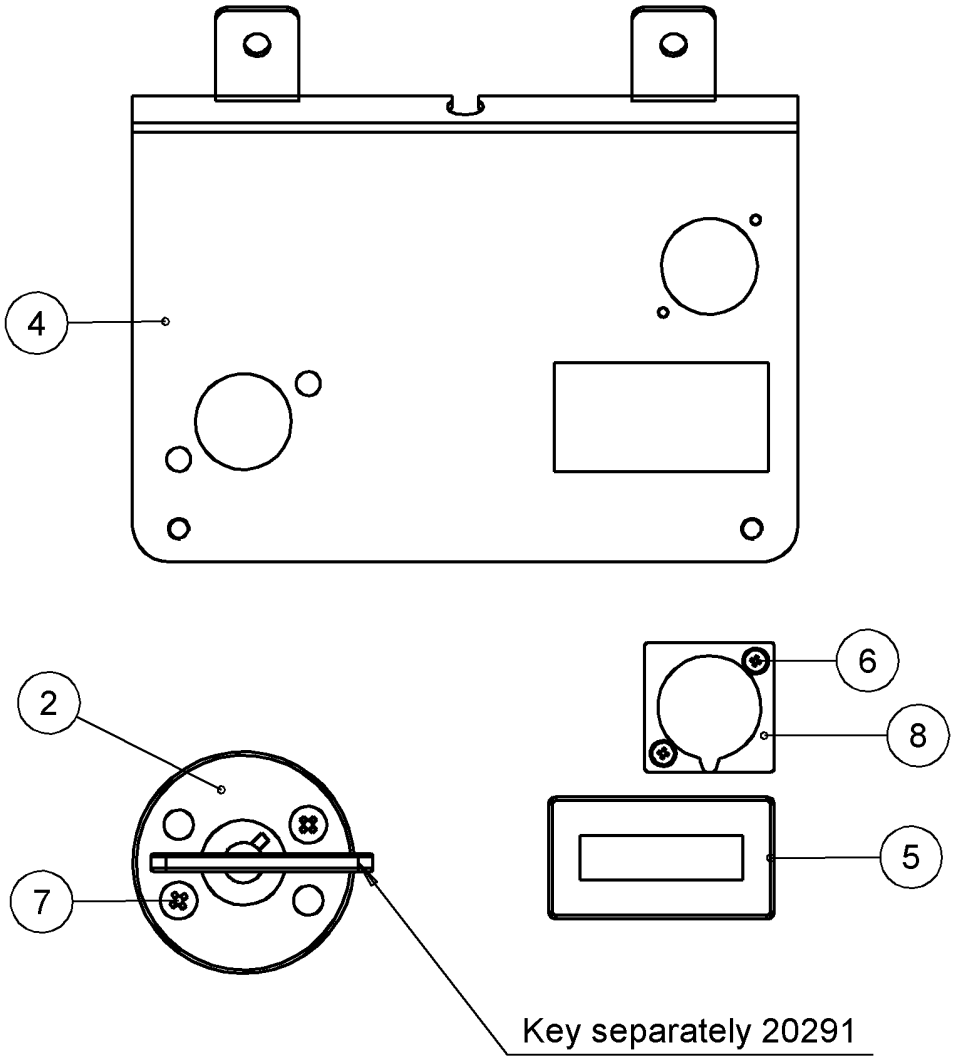
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
13	20150	Hex socket screw / Kuusiokoloruuvi	DIN 912	M8x85			1
12	21844	Nut, Nyloc	ISO 10511	M8			1
11	20396	Ruuvi, kuusikolo, matalakanta		M6x16			2
10	20397	Screw, low, hex socket / Kuusiokoloruuvi, matala		M8x12			1
8	20195	Bearing / Laakeri		6002 RS			2
7	11013A	Middle wheel / Keskipyörä		Ø42-30			1
6	10965	Mid. wheel axle / Keskipyörän akseli		Ø15-31.5			1
5	24033	Removable stopper / Irroitettava stoppari					1
4	27185	Spacer / Holkki		20/8mm			2
3	20321	Wheel, front / Pyörä, E,		80x54			1
2	20185	Rubber Stopper / Kumistoppari		Ø20x15 M8			2
1	11985	Support leg welded, tukipyörähaarukka					1

SPARE PARTS 65351 Support leg, Assembled



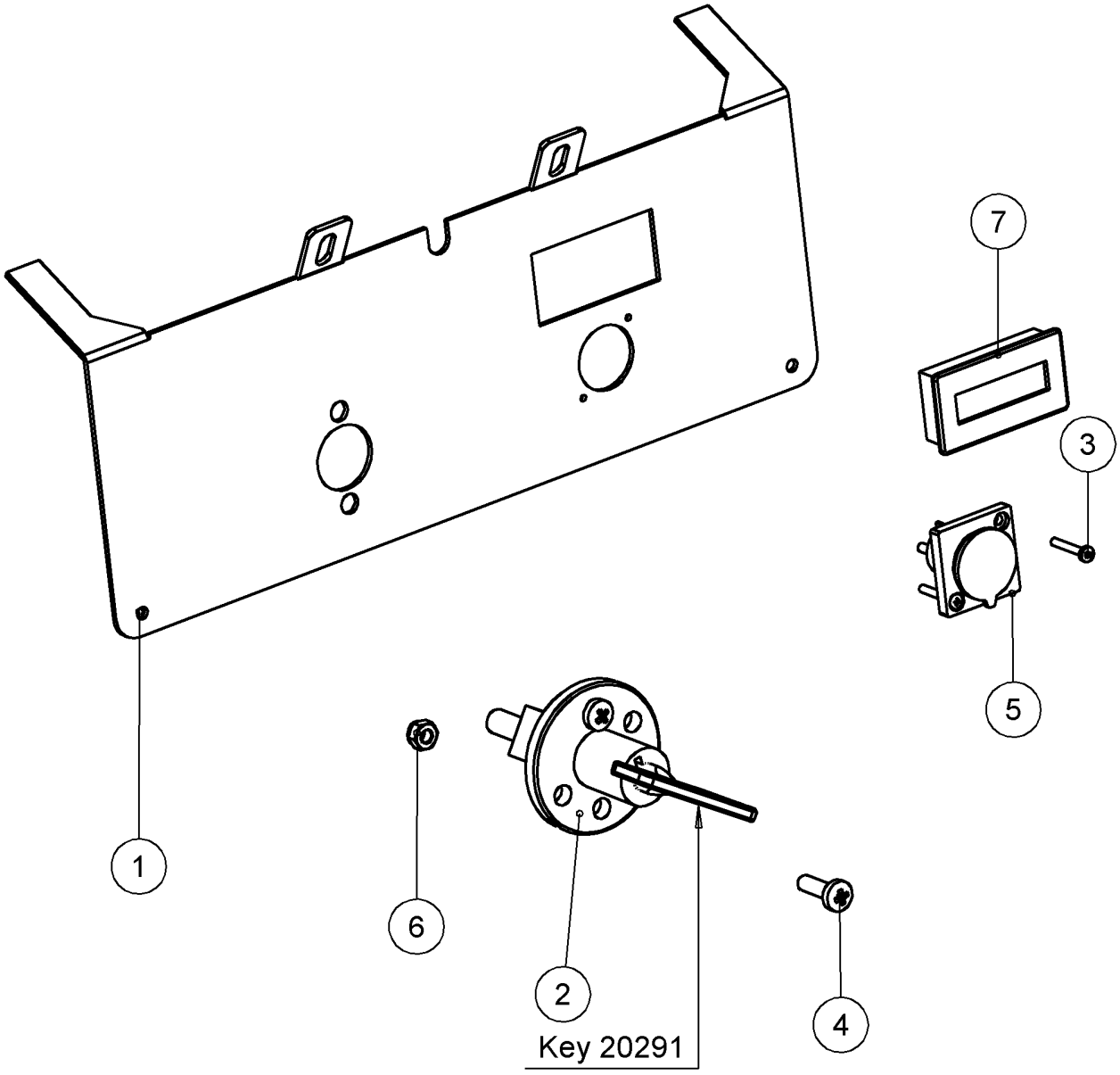
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs
13	21844	Mutteri, Nyloc	ISO 10511	M8			1
12	20150	Bolt	ISO 4762f	M8x85			1
11	20195	Laakeri		6002 zz		Teräs	2
10	20535	Ruuvi	DIN 965	M6x10			2
9	20046	Kuusioruuvi	EN24017	M8x20 din 933		8.8	1
8	20038	Jousilaatta	DIN127	B8 (8.1x14.8x2)		Teräs	2
7	20194	Etupyörä / Front wheel		Ø80-54			1
6	20185	Rubber Stopper / Kumistoppari		Ø20x15 M8			3
5	27185	Spacer / Holkki		20/8mm			2
4	11013	Middle wheel / Keskipyörä		Ø45			1
3	10965	Mid. wheel axle / Keskipyörän akseli					1
2	10945	Chassis for middle wheel		t=3			1
1	18546	Support leg					1

SPARE PARTS 60242 Electrical panel



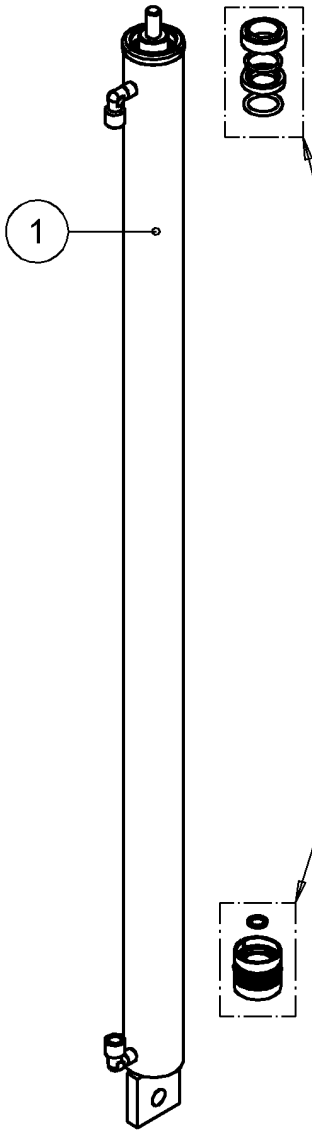
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pos
8	21467	Charging plug female / Latauspistoke		12V			1
7	25478	Cross head screw / Ristiuraruuvi	DIN 7985	M5x16			2
6	20141	Cross head screw / Ristiuraruuvi	DIN 7985	M3x10			2
5	20556	LCD Battery indicator / Akkuvahti					1
4	24006	Electrical panel / Sähköpaneli					1
2	20290	Main switch w/ key / Avaimellinen päävirtakytkin					1

SPARE PARTS 63225 Electrical panel



7	20556	LCD Battery indicator / Akkuvahti					1
6	20033	Kuusiomutteri	DIN 985	M6 [din 985] [iso 10511] nyloc		8.8	2
5	21467	Latauspistoke		12V			1
4	20045	Ristiuraruuvi		M6x20 din 7985		8.8	2
3	20163	Ristiuraruuvi		M3x20 din 7985		8.8	2
2	20290	Main switch w/ key / Avaimellinen päävirtakytkin					1
1	18525	Panel		Innolift 1000kg			1
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs

SPARE PARTS 60243 Lifting cylinder 600kg



Complete cylinder Part ID	
IS600	17485IS
IM600	1745IM
IL600	17485IL
IXL500	17485IXL
IXXL400	17485IXXL

Complete sealing kit
60244

1	17485-2	Cylinder complete / Sylinteri kasattu					1
Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	Pcs

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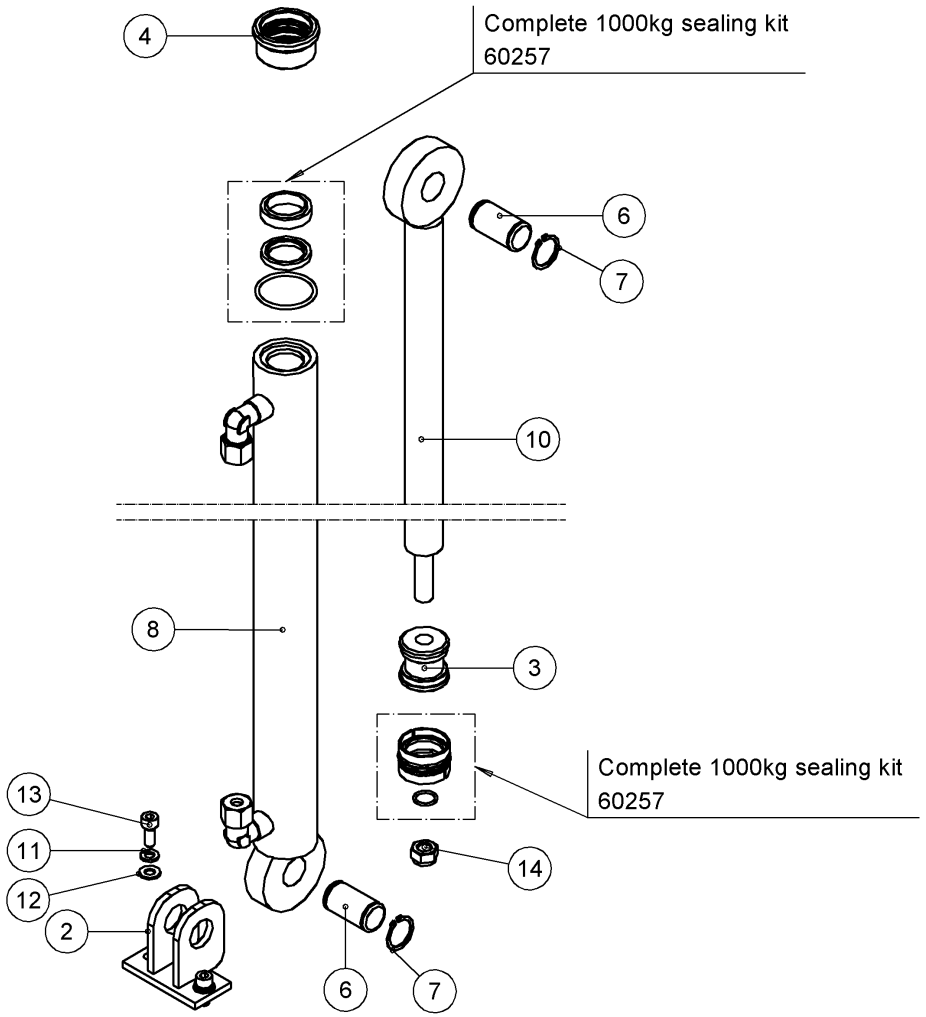
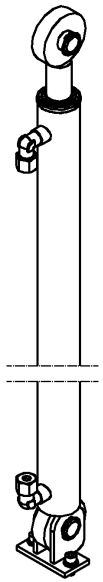
SPARE PARTS
VARAOSALISTA

62122

Lifting cylinder
Innolift 1000kg





Part	Part ID Number	Description	Applied standard	Form, shape or scale	Amount	Grade	PCs
14	20036	Hexagonal bolt		M12 din 985 nyloc		8.8	1
13	20046	Kuusioruuvi		M8x20 din 933		8.8	2
12	21255	Aluslaatta		8x20			2
11	20038	Jousialuslevy		M8 din 127		8.8	2
10	62123-1000	Piston rod		30Ø			1
9	20069	Kulmaliitin					2
8	60158	Cylinder sleeve		60Ø			1
7	20276	Shaft lock					4
6	12586	Akseli, sylinterin kiinnitys		Ø24.5, L= 46			2
5	60246	Seals, 1000kg, lower					1
4	60245	Seals & cap, 1000kg, upper					1
3	20197	Piston					1
2	14568	Kiinnityskorva. Sylinteri					1

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