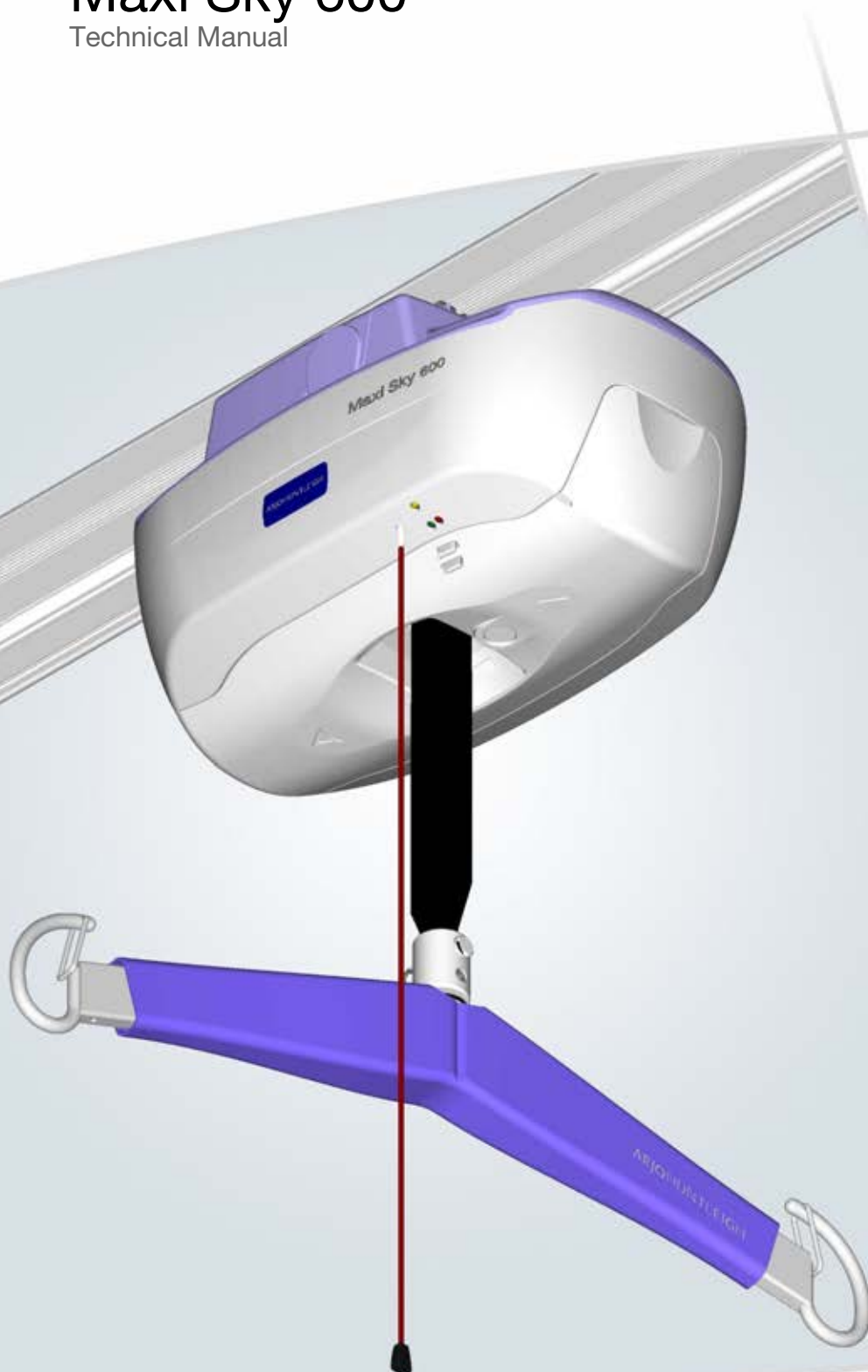


Maxi Sky 600

Technical Manual



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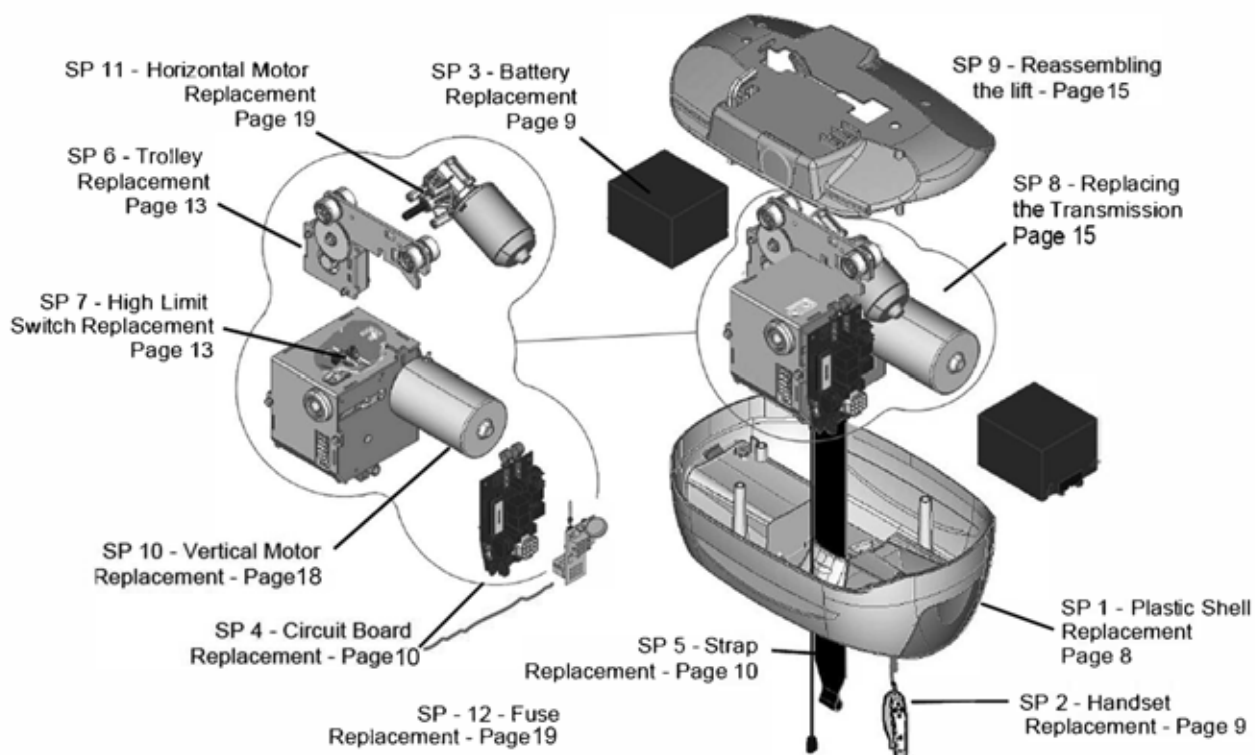
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Quick Index for Replacement Part Service Procedures



General Information

ArjoHuntleigh designs and manufactures quality engineered patient lifting equipment for the care of the elderly and disabled in home care, nursing homes and other health care facilities.

Please take the time to read the entire manual, including the section on “Safety Instructions and Warnings”. Your manual contains important information that will allow you to take advantage of the many characteristics of your ArjoHuntleigh patient lift.

ArjoHuntleigh Credentials:

- **CE mark (European Union Listing)**
- **Global operations for in-warranty and out-of-warranty service support for the Maxi Sky 600.**
- **Each finished Maxi Sky 600 unit is individually tested in our laboratory.**
- **Maximum lifting capacity is 272 kg (600 lb). Its engineering safety factor exceeds that of European Standards.**
- **Complete range of patient lift slings and supports designed and manufactured by ArjoHuntleigh using medical quality materials and fabrics.**
- **FDA Quality System Regulations**

COMPLIANT WITH:

CAN/CSA-C22.2
CSA-Z323.5.98
IEC 60601-1
UL 60601-1
ISO 10535

Introduction

How to use this Manual

WARNING: Do not attempt to use this equipment without understanding this manual.

To ensure a safe operation of the Maxi Sky 600, read the entire manual carefully, especially the section on “Safety Instructions and Warnings”, before installing, operating, or servicing this equipment.

Refer to this manual as required. If anything is not completely understood, please contact your supplier for more details. Failure to comply with warnings in this manual may result in injury.

NOTE: ArjoHuntleigh is constantly improving its products. For this reason, it may be possible to encounter product modifications without the revision of this manual or that the contents of this manual changes without prior notice to users.

You can obtain additional copies of this manual by contacting your supplier. Include the User Manual product number (see front page) and equipment identification number.

Equipment Identification

The unit's identification number (specification, model, serial number) appears on a silver nameplate attached to front end of the plastic housing on the lift.

Safety Instructions

Instructions and Warnings

Please read the following important information.

General

WARNING: Read the following instructions to avoid serious injury. Read the Operating and Product Care manual before installing, operating and servicing this equipment.

- ArjoHuntleigh ceiling lifts and track system must be installed by an authorized contractor or installer.
- Only a certified technician or installer can remove and reinstall the lift into the track.
- The installation is capable of accepting at least 340 kg (750 lb).
- ArjoHuntleigh ceiling lifts are specifically designed for use with Kwiktrak ceiling rail systems, and ArjoHuntleigh slings and accessories.
- Use all controls and safety features only according to the manner specified in the User Manual. Never attempt to force a control or button on the lift.
- DO NOT install the charger in a shower, bath or other areas with high humidity.

CAUTION: Keep all components of the lift clean and dry, and have electrical and mechanical safety checkpoints performed as instructed in the "Maintenance" section of the User Manual.

- Replace any precautionary or instruction labels that cannot be easily read.
- Avoid violent impact during transportation.

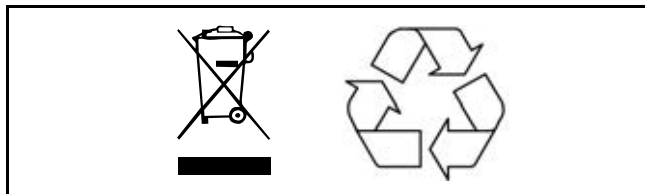
Shock Prevention

- DO NOT touch or use a lift with bare conductors or a damaged power cord. Electrically live equipment can electrocute a patient. If the lift or charger has any exposed or damaged wires, contact your local dealer immediately.
- Do not splash or expose electric parts of the device to water or moisture.
- Check nameplate for voltage and frequency requirements. These requirements differ by country. Do not attempt to use the lift in an area that has a different voltage and cycle requirement.

Fire and Explosion Prevention

WARNING: Dispose of the batteries safely. Batteries may explode, leak and cause personal injuries if disposed improperly. If battery acid comes into contact with skin or eyes, flush immediately with water.

- Do not dispose of batteries in fire.
- Do not short the battery terminals.
- For recycling and disposal of the batteries, the rules according to the WEEE directive (Waste of Electronic and Electrical Components) as well as local laws and regulations must be followed. When returning batteries, insulate their terminals with adhesive tape. Otherwise, the residual electricity in used batteries may cause fire or explosion. The figure below shows the symbols for disposal and recycling.



Safe Working Load

The Maxi Sky 600 has been designed with a lifting capacity of 272 kg (600 lb).

Part Designation

Lift Cassette and Charger Station

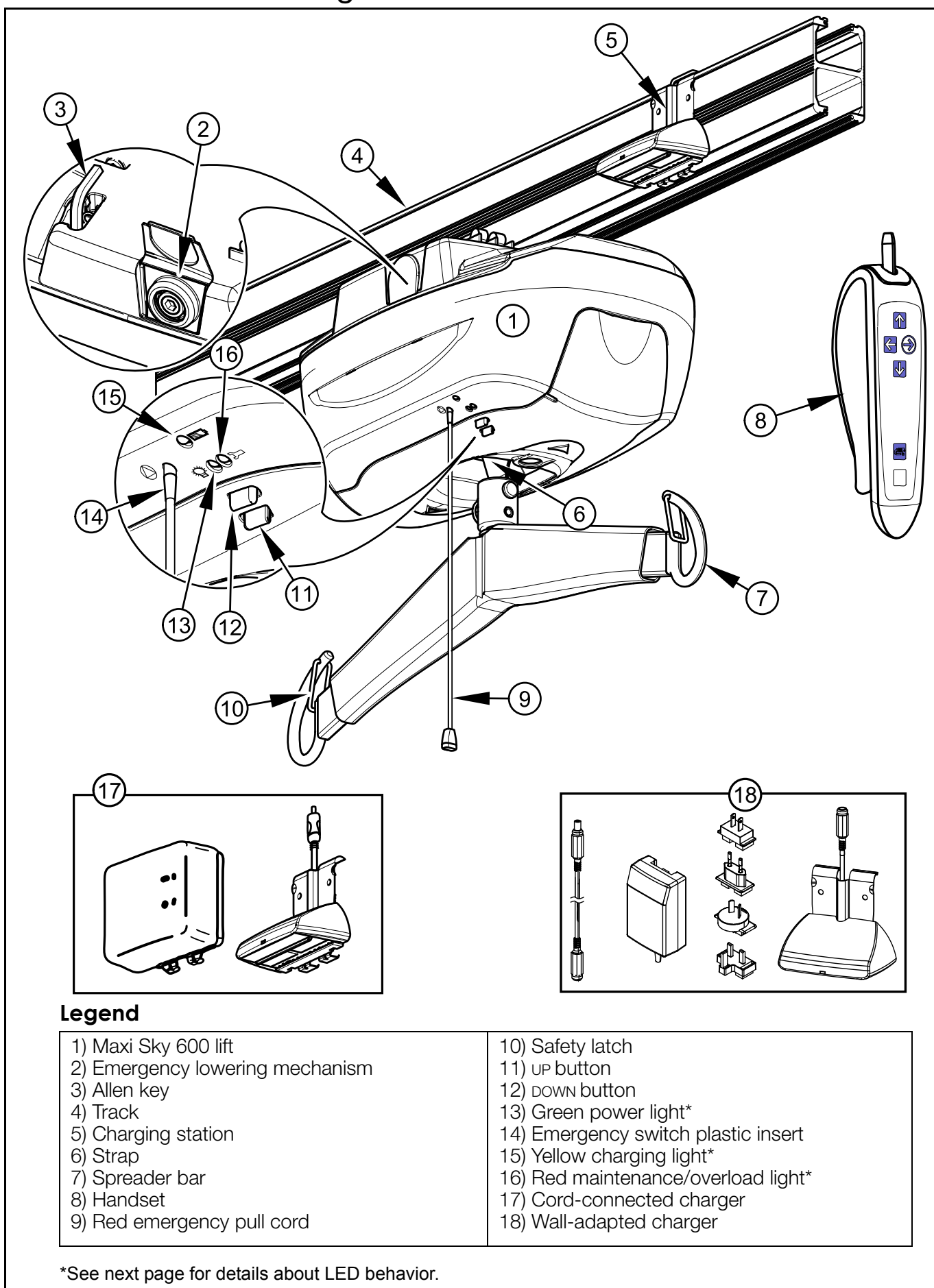


Fig. 1

Part Designation

LED Behavior

The following refers to the figure on the previous page:

- The yellow charging light flashes while charging and turns solid when charge is completed.
- The green power light illuminates once the lift is on and ready for use; the green light flashes when the batteries are low.
- The red light illuminates to confirm that the lift is in the programming mode.
- The red light also illuminates in the normal mode when the lift goes into overheat protection caused by overuse.
- The red light flashes when servicing is required (contact customer service).

Hand Control

The Maxi Sky 600 hand control can be infrared or wired.

Universal Charger

The Maxi Sky 600 comes equipped with a universal charging system that can be customized to fit the AC voltage outlets wherever they are sold.

Service Procedures

Required Maintenance

The Maxi Sky 600 is equipped with an electronic monitor. This red light will flash when a maintenance inspection is necessary to ensure the durability of the unit and the security of the patient and user.

Once this monitor's red light begins to flash, please contact your distributor/representative in order to perform the necessary maintenance inspection requirements.

Service Procedure #1 - Removing the Plastic Shell from Chassis

- 1) Turn off the lift by gently pulling the red cord.
- 2) Remove the spreader bar.
- 3) Place the Maxi Sky 600 on a solid table with the trolley facing downwards. Use pieces of wood under each side of the trolley to stabilize it and prevent it from moving. Make sure not to damage the contact blades.
- 4) Unsnap and completely remove the panel by pushing on both ends (see Fig. 2), this will expose the batteries.
- 5) Disconnect the batteries. Remove them by unscrewing the 4 screws using a Torx T-20 screwdriver (see Fig. 3).

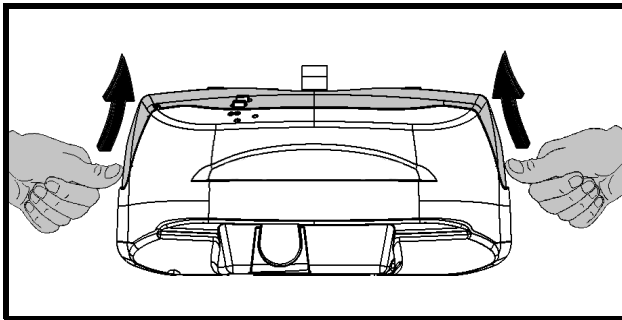


Fig. 2

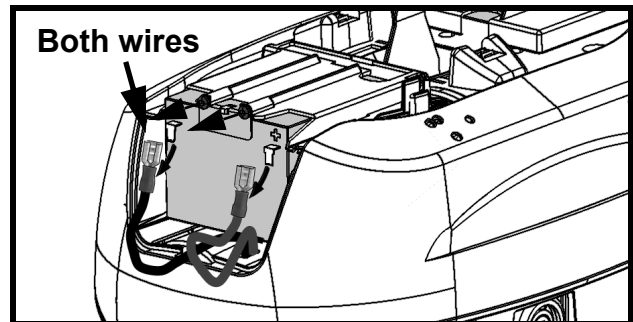


Fig. 3

- 6) Unplug the hand control from the main circuit board (see Fig. 4).
- 7) Remove the alternate up/down buttons (see Fig. 5).

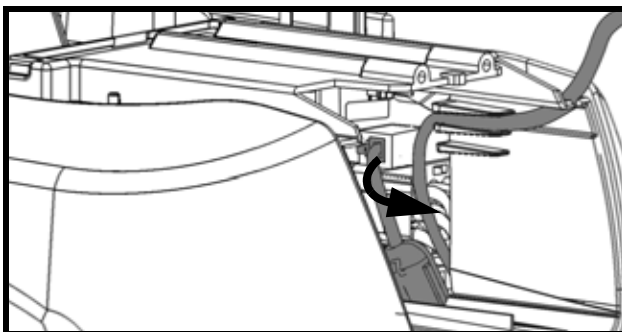


Fig. 4

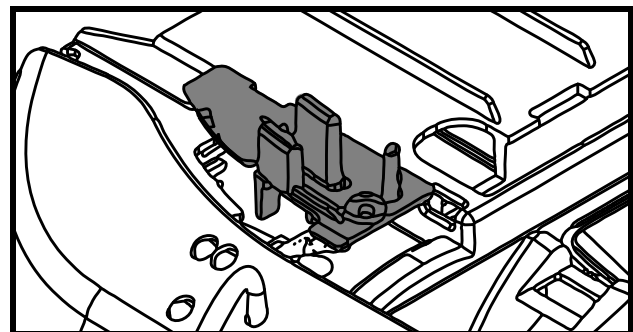


Fig. 5

- 8) Unscrew the 4 plastic screws (A) and the 4 metal tapping screws (B) with a Torx-T20 screwdriver (see Fig. 6).

Service Procedures

- 9) Remove the bottom shell by routing the battery wires, the strap and the emergency cord through their respective openings (see Fig. 7).

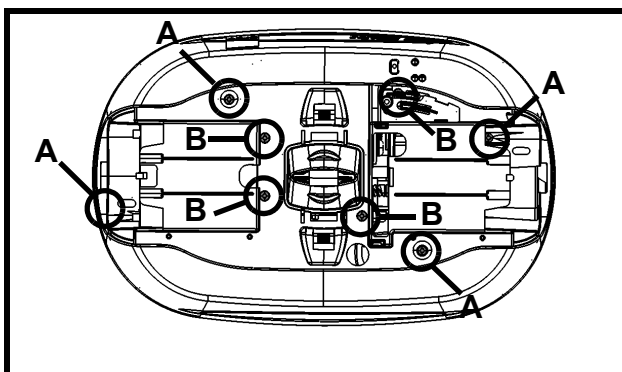


Fig. 6

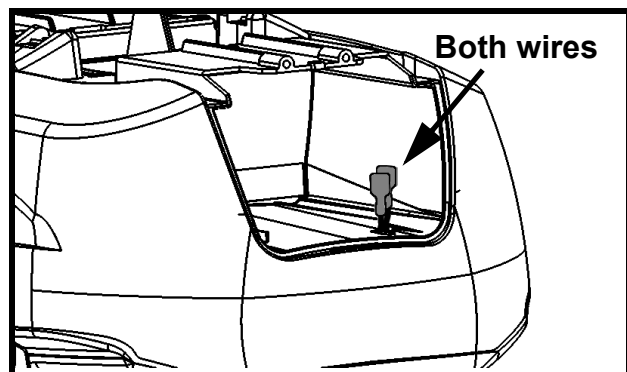


Fig. 7

- 10) Remove the top shell by passing the wheels of the trolley through the slot (see Fig. 8).

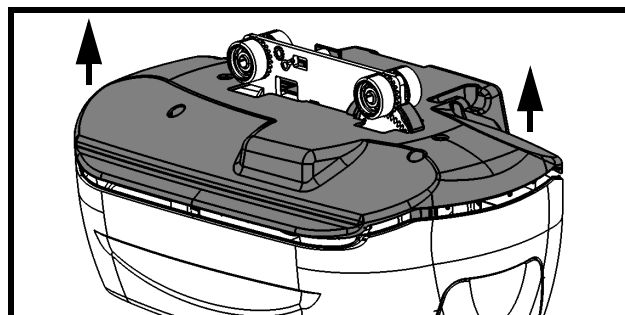


Fig. 8

Service Procedure #2- Replacing the Handset

- 1) Access the handset connector by performing service procedure #1, steps 3 to 6.
- 2) Replace the handset with a new one and reassemble the unit by performing service procedure #9 from step 7.

Service Procedure #3 - Replacing the Batteries

- 1) Turn off the lift by gently pulling the red cord.
- 2) Unsnap and completely remove the bottom panel by pushing on both ends (see Fig. 2).
- 3) Disconnect the batteries (see Fig. 9).
- 4) Unscrew the 4 screws using a T-20 Torx screwdriver.
- 5) Pull out the batteries.
- 6) Connect the new batteries. Make sure to respect the polarity by matching wire colors with the marks on the batteries (red to red [+], black to black [-]).
- 7) Screw the support plates back in.
- 8) Reassemble the bottom cover by performing service procedure #9 from step 9.

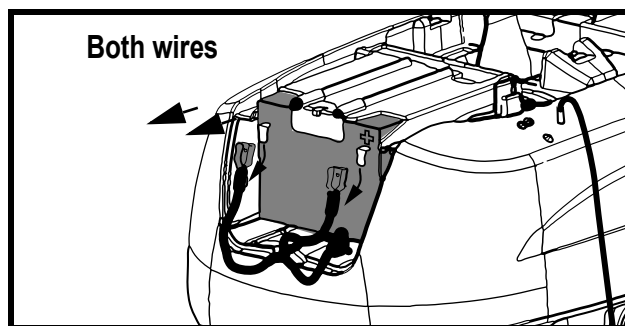


Fig. 9

DO NOT ATTEMPT TO USE A BATTERY NOT AUTHORIZED BY ArjoHuntleigh.

ArjoHuntleigh batteries are specially designed for ArjoHuntleigh charging systems. Attempting to use an unauthorized battery may seriously damage the lift and/or the charger.

Service Procedures

Service Procedure #4 - Main Circuit Board Replacement

- 1) Remove the plastic shell from the chassis by performing service procedure #1, steps 1 to 9.
- 2) Disconnect the main connector (see Fig. 10).
- 3) Unscrew the 3 hexagonal screws using of an 8 mm socket (5/16) (see Fig. 10).
- 4) Remove the circuit board and replace it with the new one.
- 5) Insert the new circuit board and screw it in.
- 6) Reassemble the unit by performing service procedure #9.

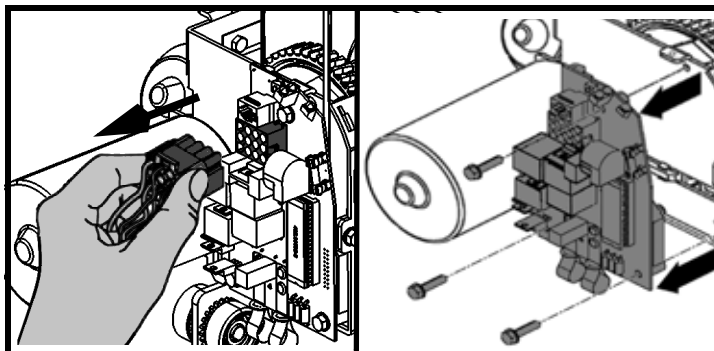


Fig. 10

THE LIFT MUST BE TESTED WITH SWL AFTER BEING REASSEMBLED.
Refer to Programming Manual 001-14154-33 to adjust maximum lifting capacity.

Service Procedure #4A - Brake Board Circuit Board Replacement (for units equipped with Brake Board circuit)

- 1) Remove the plastic shell from the chassis.
- 2) Disconnect the Brake Board from the Main Circuit Connector (see Fig. 10_a).
- 3) Disconnect the main cable connector from the Brake Board.
- 4) Insert the small jumper connector (402-00967) into J3 of the new Brake Board Circuit.
- 5) Insert the main cable connector to the new Brake Board.
- 6) Insert the new Brake Board into the Main Circuit (see Fig 10_b).
- 7) Reassemble the unit by performing service procedure #9.

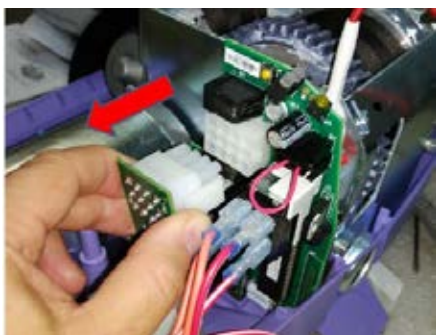


Figure 10_a

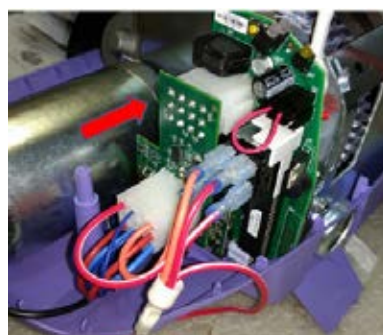


Figure 10_b

THE LIFT MUST BE TESTED WITH SWL AFTER BEING REASSEMBLED.
Refer to Programming Manual 001-14154-33 to adjust maximum lifting capacity.

Service Procedure #5 - Replacing the Strap

- 1) Remove the plastic shell by performing service procedure #1, steps 1 to 9.
- 2) Disconnect the main connector from circuit board. This will open the motor circuit and allows the motor to turn more easily (see Fig. 11).
- 3) Disengage the transmission with an 8 mm Allen key (see Fig. 12).
 - a. While restraining the drum with one hand, turn the worm gear shaft counter-clockwise using the 8 mm allen key, until the worm gear is disengaged completely from the drum.

Service Procedures

- b. Unwind the strap completely.

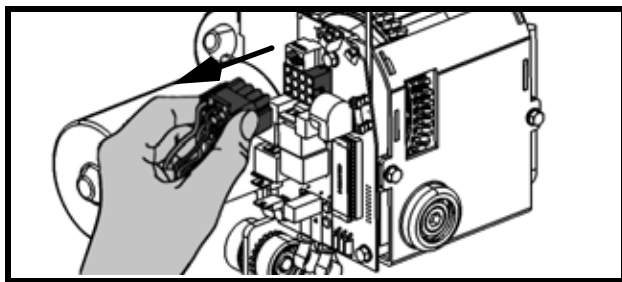


Fig. 11

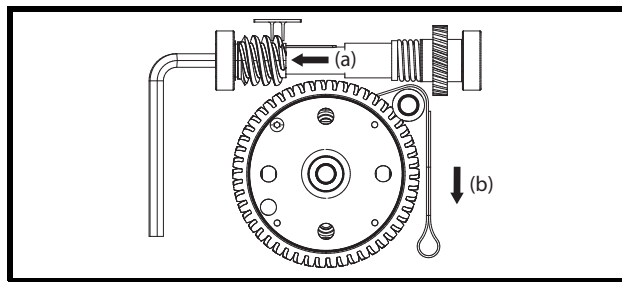


Fig. 12

- 4) Rotate the drum to align the strap bolt with the large hole on the frame (see Fig. 13).
- 5) Completely unscrew the strap bolt with a 6 mm Allen key and remove the old strap.

FOR LIFTS EQUIPPED WITH LIMIT PLATE (200.14070)

- 6) Guide the new strap between the limit plate and the plastic roller making sure to place the folded part facing the limit plate (see Fig. 14 and Fig. 15).

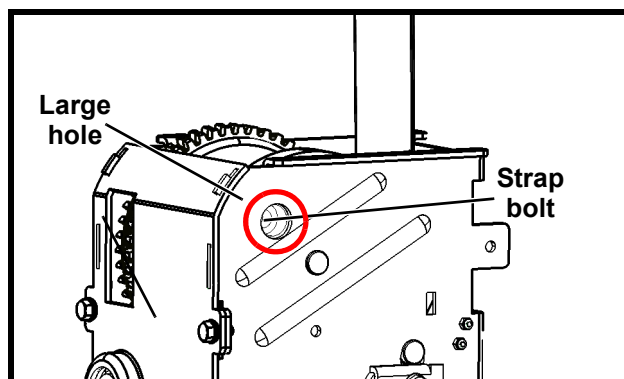


Fig. 13

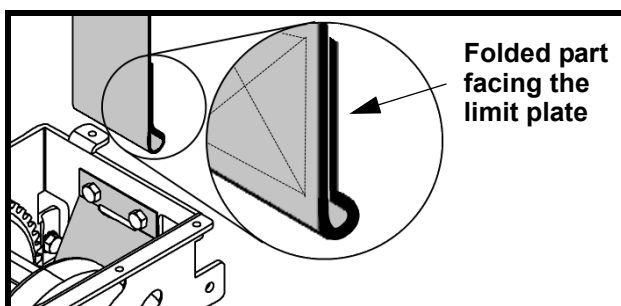


Fig. 14

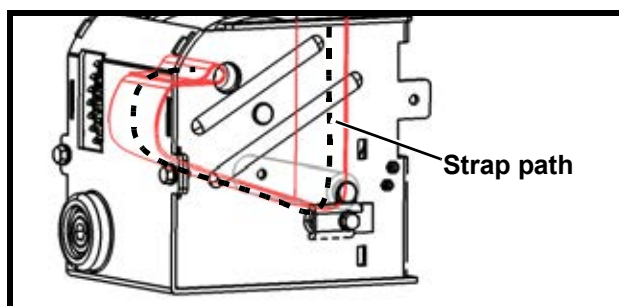


Fig. 15

- 7) Align the loop of the strap with the hole of the retaining bolt.
- 8) Reinsert the bolt and tighten.
- 9) Rewind the strap. Make sure it is in the correct winding direction (see Fig. 16).
- 10) Grease the drum teeth with food-grade grease (refer to "Parts List" manual for part number).

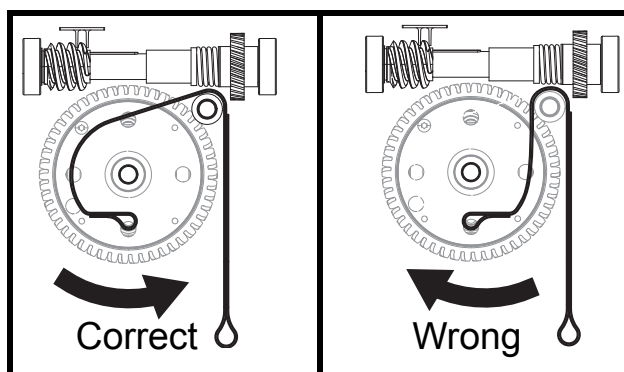


Fig. 16

Service Procedures

- 11) Engage the transmission by turning the main shaft clockwise with the 8 mm Allen key (see Fig. 17).
- 12) Reassemble the lift by performing service procedure #9.

FOR LIFTS EQUIPPED WITH THE HIGH LIMIT SWITCH KIT (700-14075)

- 6) Unscrew the high limit switch kit assembly's 2 socket head cap screws with a 4 mm Allen key.
- 7) Slide out the upper limit kit assembly.
- 8) Unscrew the 2 T-20 Torx screws (see Fig. 18).
- 9) Guide the new strap between the two halves of the high switch limit kit. Make sure that the folded part is facing away from the drum (see Fig. 19). See Fig. 15 regarding the strap path through to the drum.
- 10) Join the kit's two halves together again using the T-20 Torx screws.
- 11) Lower the high limit switch kit into place and reinstall the socket head screws (see Fig. 20).

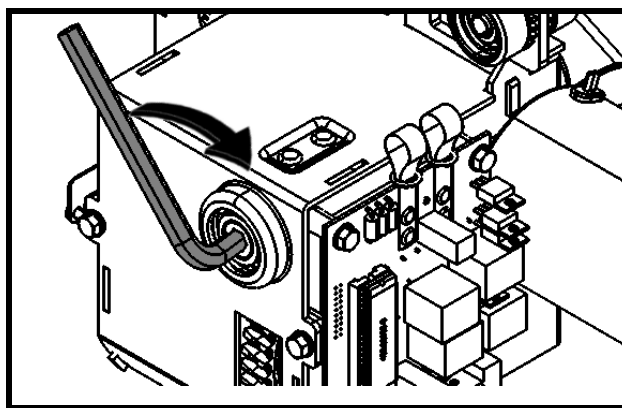


Fig. 17

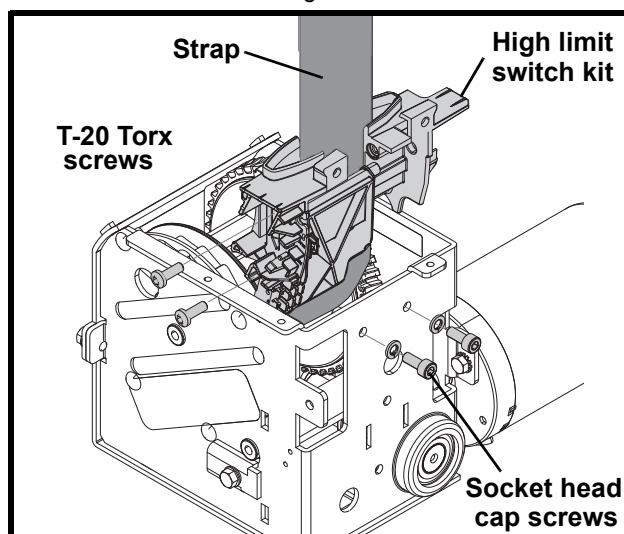


Fig. 18

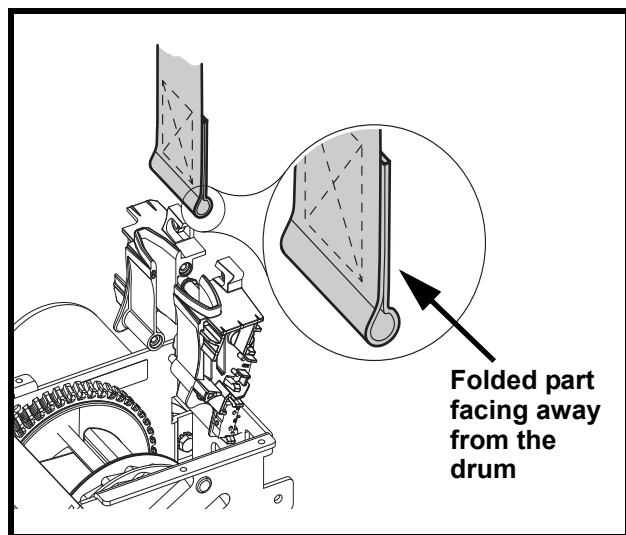


Fig. 19

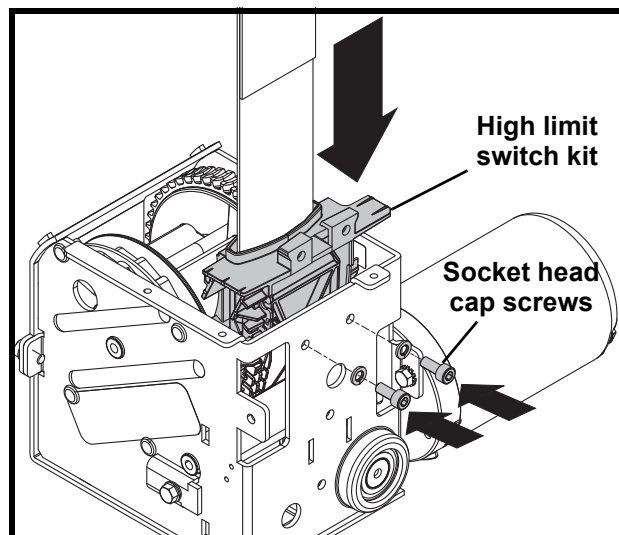


Fig. 20

- 12) Align the loop of the strap with the hole of the retaining bolt.
- 13) Reinsert the bolt and tighten.
- 14) Rewind the strap. Make sure it is in the proper winding direction (see Fig. 16).
- 15) Grease the drum teeth with food-grade grease (refer to "Parts List" manual for part number).
- 16) Reinstall the upper limit assembly to the frame.
- 17) Engage the transmission by turning the main shaft clockwise with the 8 mm Allen key (see Fig. 17).
- 18) Reassemble the lift by performing service procedure #9.

Service Procedures

Service Procedure #6 - Replacing the Trolley

- 1) Remove the plastic shell from the chassis by performing service procedure #1, steps 1 to 9.
- 2) Unfold the locking tab which is used to secure the trolley.
- 3) Remove the trolley locking device with an 8 mm socket (see Fig. 21).
- 4) Remove the trolley from the assembly (see Fig. 22).
- 5) Unscrew the bolts belonging to the left/right motor support and remove it from the old trolley (see Fig. 23).

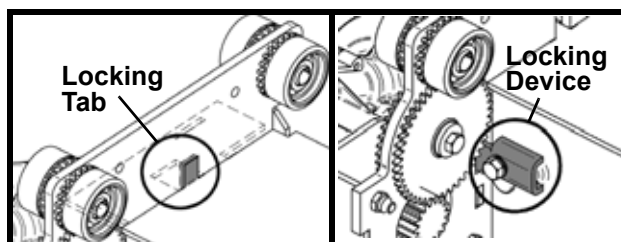


Fig. 21

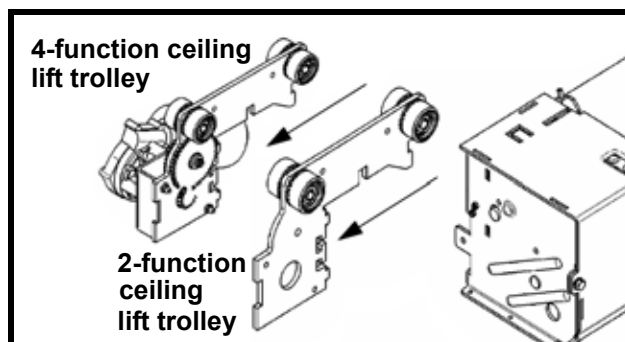


Fig. 22

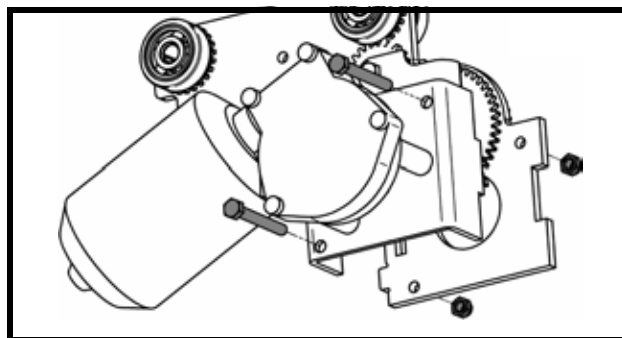


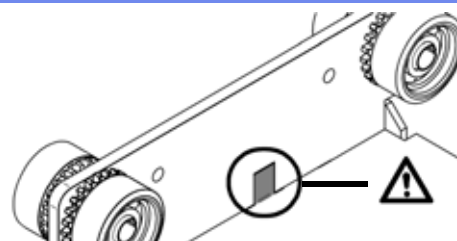
Fig. 23

- 6) Install the motor assembly on the new trolley.
- 7) Assemble the new trolley to the lift.
- 8) Reinstall the locking device and fold the locking tab back in its initial position.

WARNING:

It is really important to remember to carry out this step to avoid any damage to the product which may result in injury to yourself or others.

This operation could only be performed a maximum of four times per chassis.



- 9) Reassemble the lift by performing service procedure #9.
- 10) Before putting the lift back in service, perform a weight load test: Attach a weight equivalent to the ceiling lift's SWL to the spreader bar, refer to the specifications sheet of the ceiling lift user's manual or the label on the lift to determine the SWL rating. Press the UP button to verify if the unit can lift the load up until the strap is fully wound. Lower the weight and remove it from the spreader bar.

Service Procedure #7 - Replacing the High Limit Switch

- 1) Remove the plastic shell from the chassis by performing service procedure #1, steps 1 to 9.
- 2) Disconnect the main connector from the circuit board.
- 3) With an extractor tool (#005.00374), remove the two blue limit switch wires from the main connector (position numbers 4 and 8) (see Fig. 24).

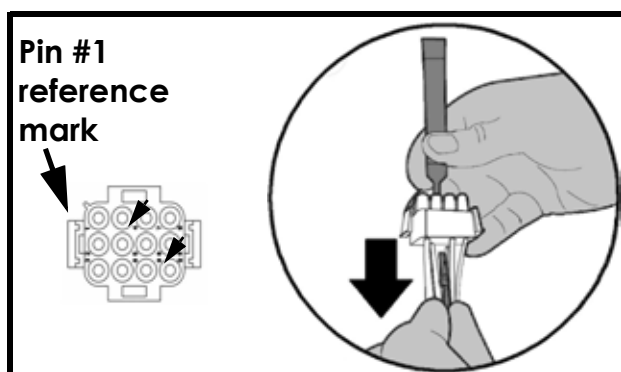


Fig. 24

Service Procedures

FOR LIFTS EQUIPPED WITH LIMIT PLATE (200.14070)

- 4) Unscrew the two locknuts holding the limit switch plate (A) using an 8 mm socket tool and an 8 mm (5/16) wrench (see Fig. 25).
- 5) Unscrew the two nuts of the limit switch (B) using a 3/16 in or 5-mm socket (see Fig. 25).
- 6) Install the new limit switch in the same position as the original. Ensure that the limit switch wires pass through the round opening in the frame.
- 7) Replace the limit plate between the frame and the strap and tighten the two bolts. Test the system by pushing the double thickness of the strap between the strap roller and the plate. If the installation is correct, you should hear the switch clicking.
- 8) Reconnect the two blue wires of the limit switch to the main connector.
- 9) Perform service procedure #9 to reassemble the unit.

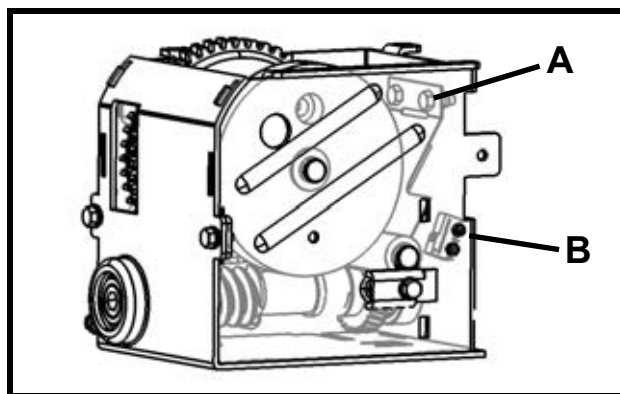


Fig. 25

FOR LIFTS EQUIPPED WITH THE HIGH LIMIT SWITCH KIT (700-14075)

- 4) Loosen the high limit switch kit assembly by removing the 2 socket head cap screws with the 4 mm Allen key (see Fig. 26).
- 5) Slide out the high limit kit assembly kit.
- 6) Unscrew the 2 T-20 Torx screws (see Fig. 26).
- 7) Route the new strap between the two halves of the high switch limit kit.
- 8) Join the kit's two halves together again using the T-20 Torx screws.
- 9) Lower the high limit switch kit into place and reinstall the socket head screws (see).
- 10) Test the system by pushing the double thickness of the strap. If the installation is correct, you should hear the switch clicking.
- 11) Reconnect the two blue wires of the limit switch to the main connector, making sure they pass through the rectangular opening in the chassis.
- 12) Perform service procedure #9 to reassemble the unit.

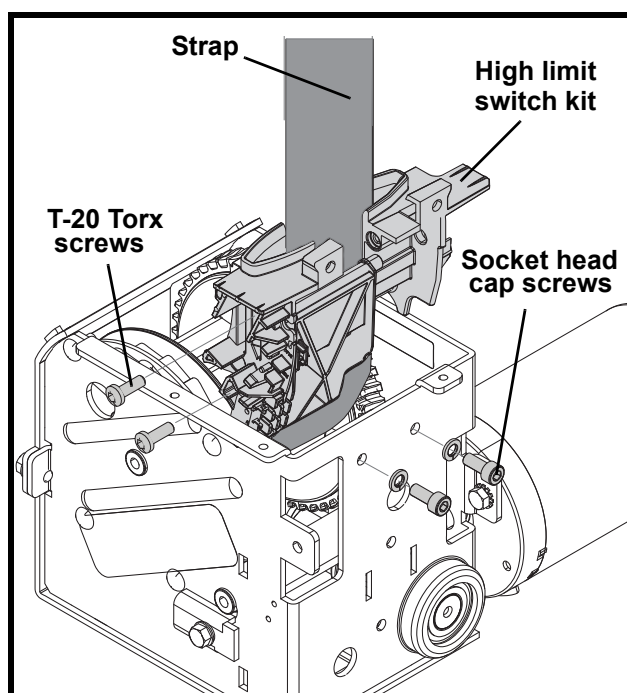


Fig. 26

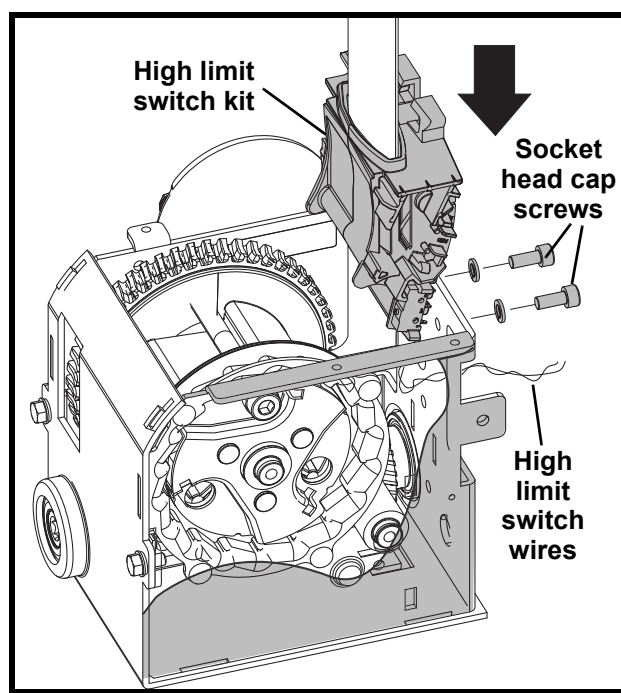


Fig. 27

Service Procedures

Service Procedure #8 - Replacing the Transmission

- 1) Remove the plastic shell from the chassis by performing service procedure #1, steps 1 to 9.
- 2) Remove the circuit board (refer to service procedure #4 steps 2 to 3).
- 3) Remove the high limit switch (refer to service procedure #7 step 3 to 5).
- 4) Remove the trolley (refer to service procedure #6 steps 2 to 4).
- 5) Copy the serial number of the unit in the blank area on the label already applied on the new transmission (see Fig. 28).
- 6) Reinstall the trolley to the new transmission assembly (refer to service procedure # 6 steps 7 and 8).
- 7) Lubricate the drum if necessary.
- 8) Reinstall the circuit board.
- 9) Refer to the service procedure #9 to reassemble the plastic housing.
- 10) Before putting the lift back in service, perform a weight load test: Attach a weight equivalent to the ceiling lift's SWL (272 kg/600 lb) to the spreader bar. Press the UP button to verify if the unit can lift the load up until the strap is fully wound. Lower the weight and remove it from the spreader bar.

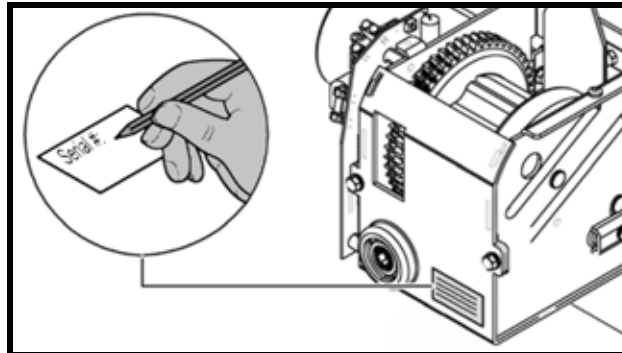


Fig. 28

Service Procedure #9 - Reassembling the Plastic Shell to the Chassis.

- 1) Plug the main connector to the main board (see Fig. 29).
- 2) Install the main shell. Pass the strap through the center opening of the main shell and the red cord through the opening on the side of the shell (see Fig. 30).

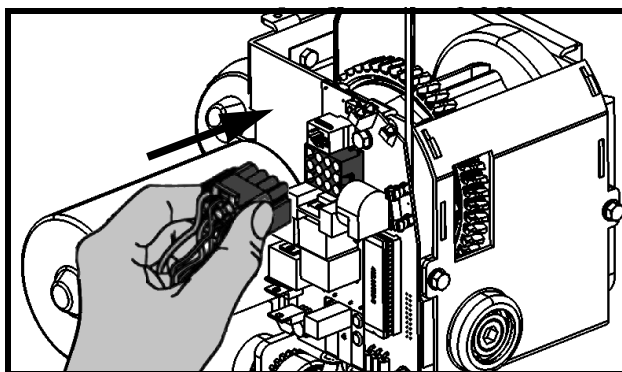


Fig. 29

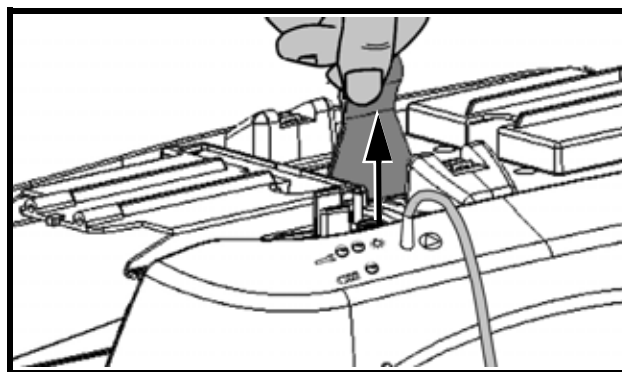


Fig. 30

- 3) Pass the battery wires through their openings (see Fig. 31).
- 4) When replacing the shell, make sure lights are properly aligned (see Fig. 32).

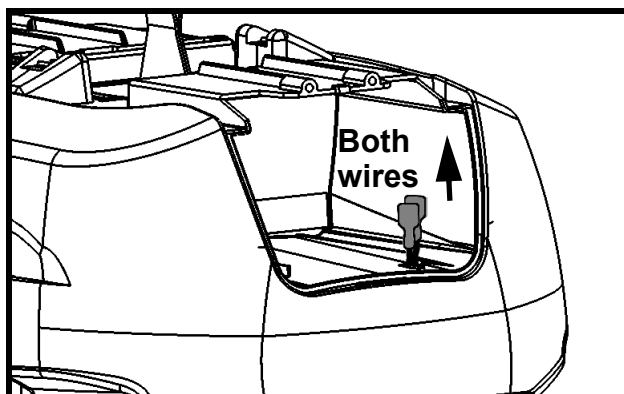


Fig. 31

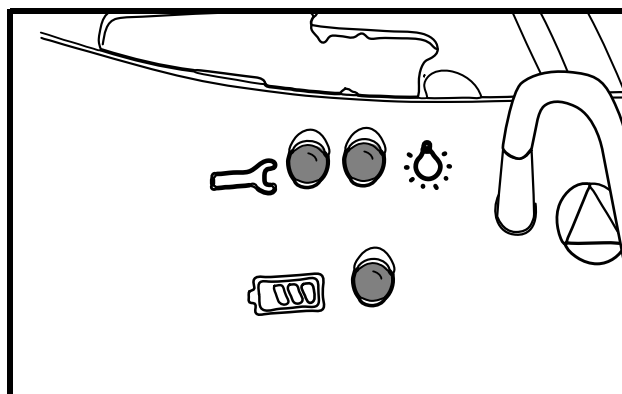


Fig. 32

Service Procedures

- 5) Replace the 8 screws to fix the shell in place, use the long screws for plastic (a) and the shorter ones for metal (b) (see Fig. 33).
- 6) Connect the hand control to the main circuit board making sure that the ferrite is not interfering inside the battery cavity and that the cable is secured passing through the cord grip built inside the main shell (see Fig. 34).
Note: If unit is not equipped with a ferrite, add a ferrite to the cable of the current handset and route the cable as shown on Fig. 35.

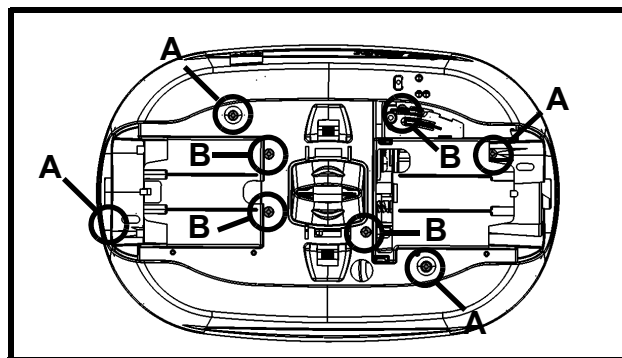


Fig. 33

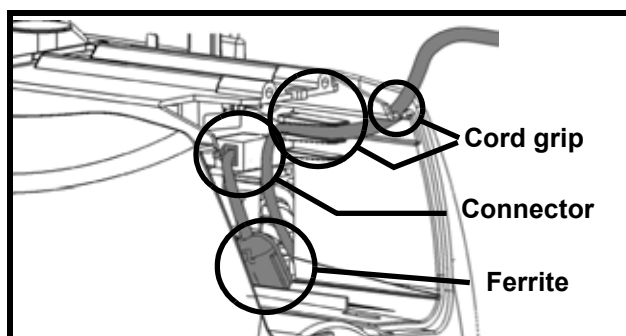


Fig. 34

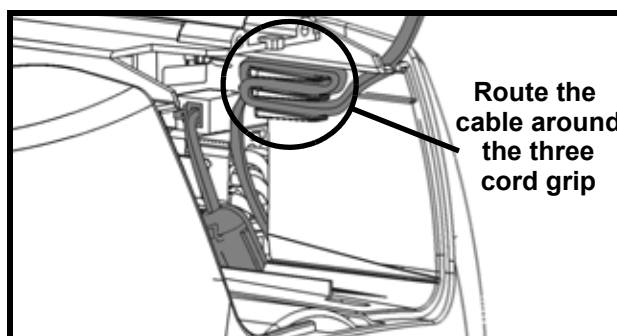


Fig. 35

Service Procedures

- 7) For units equipped with a Brake Board circuit:

Connect the hand control to the main circuit board and insert the ferrite over the brake circuit board (see Fig 34_a).

Route the hand control cable as shown in Fig 35_a.



Figure 34_a



Figure 35_a

- 8) Reinstall the batteries. Screw the holding plates back in place by using a Torx T-20 screwdriver. Reconnect the battery connectors – Match the wire colors (red to red, black to black) (see Fig. 36).
- 9) Reinstall the alternate buttons by snapping it into the opening (see Fig. 37).

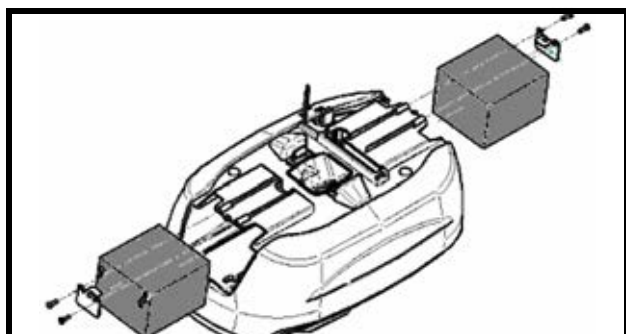


Fig. 36

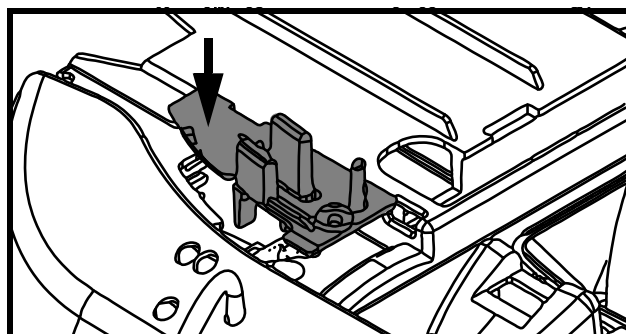


Fig. 37

- 10) Replace the bottom cover. Pass the strap through the center opening. Pass the hand control wire through the small slot and align the up and down buttons.
- 11) Snap the clips on at each end and near the strap opening.
Note: This step only applies to lift with serial Number below XX-XXXX-17750.

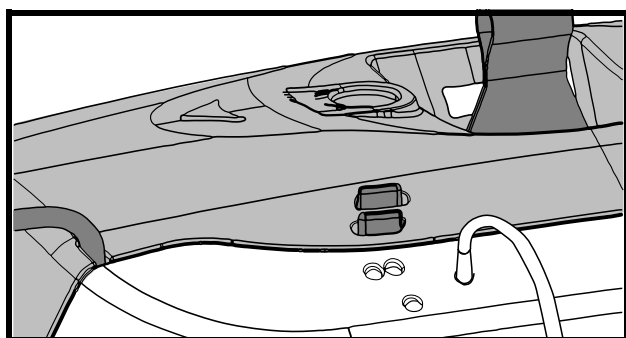


Fig. 38

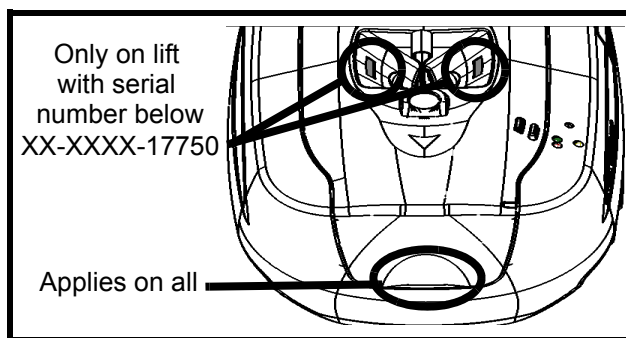


Fig. 39

- 12) Turn on the lift.
Note: For the first use of the unit, apply a 25 kg (50 lb) load to ensure the strap is well wound around the drum. This will prevent any slippage during use.

Service Procedures

Service Procedure #10 - Replacement of Vertical Motor

- 1) Remove the plastic shell from the chassis by performing service procedure #1, steps 1 to 9.
- 2) Disconnect the main connector from the circuit board.
- 3) With an extracting tool (#005.00374), remove the two vertical motor wires from the main connector, position numbers 11 and 12 (see Fig. 40).
- 4) Put a mark on the back of the motor housing to indicate the top of the housing, this mark will be your reference to make sure that the motor is reassembled in the right position (see Fig. 41).
- 5) Remove the 2 screws on the back of the motor using a M8 hex socket and pull the motor assembly out (see Fig. 41).
- 6) Insert the motor assembly into the new transmission housing.

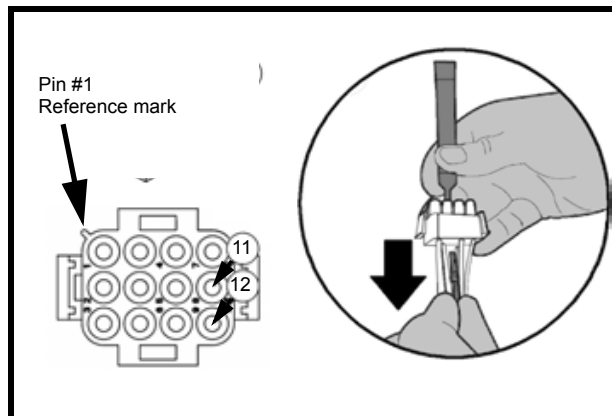


Fig. 40

- Position the rubber grommet into the top groove making sure that the connection point of the wires inside the motor are above the shaft (see Fig. 42).
- Position the motor plate into the side grooves. It is very important to position the motor housing in the same orientation as it was prior to disassembling, i.e. that the mark is positioned upward (see Fig. 41), and making sure that the contact point of the wires inside the motor are placed above the shaft (see Fig. 42).
- Plug the motor wires into the main connector making sure to place the red wire into position #11 and the blue wire into position #12.

Note: If any of those three directives are not respected, this could result in an inversion of the Up/Down commands.

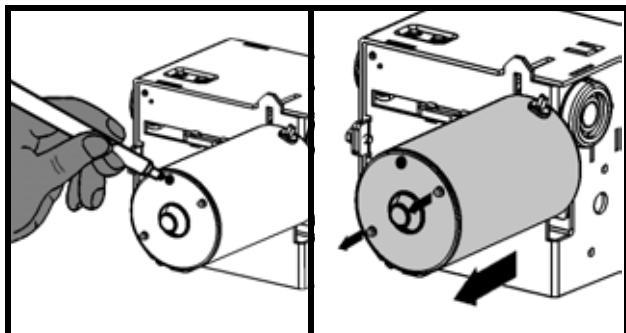


Fig. 41

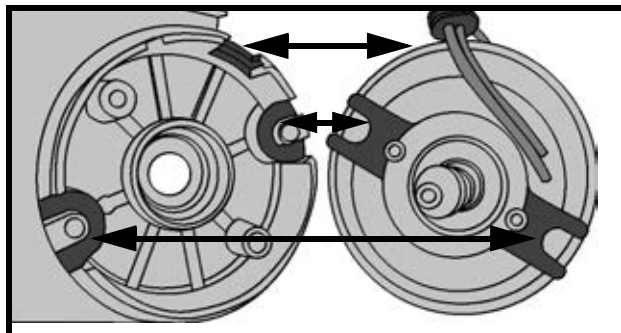


Fig. 42

- 7) Tighten the 2 screws to a torque from 25 to 30 lbf•in (2.8 - 3.4 N•m) to secure the motor in place.
- 8) Reassemble the lift by performing service procedure #9.
- 9) Before putting the lift back in service, perform a weight load test: Attach a weight equivalent to the ceiling lift's SWL to the spreader bar, refer to the specifications sheet of the ceiling lift user's manual or the label on the lift to determine the SWL rating. Press the UP button to verify if the unit can lift the load up until the strap is fully wound. Lower the weight and remove it from the spreader bar.

Service Procedures

Service Procedure #11 - Replacement of Horizontal Motor

- 1) Remove the plastic shell from the chassis by performing service procedure #1, steps 1 to 9.
- 2) Disconnect the main connector from the circuit board.
- 3) With an extractor tool (#005.00374), remove the two wires of the horizontal motor from the main connector (position numbers 3 and 6). (see Fig. 43)
- 4) Remove the 2 screws fastening the motor assembly to trolley.

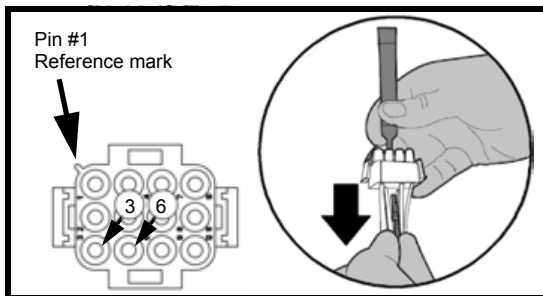


Fig. 43

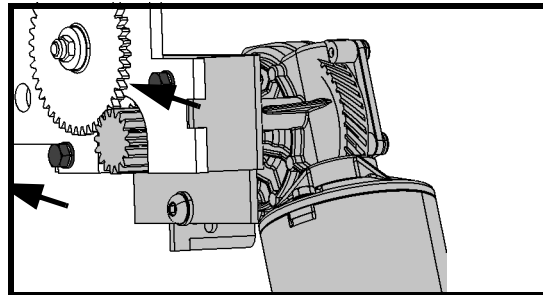


Fig. 44

- 5) Remove the gear from the shaft of the motor; a 12 mm wrench could act as a lever to extract the gear. Make sure the gear stays greased. Use food grade grease if needed (refer to the "Parts list" manual for part number).
- 6) Unscrew the three screws holding the motor using a 4 mm Allen key.

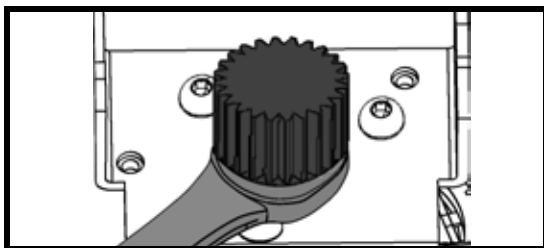


Fig. 45

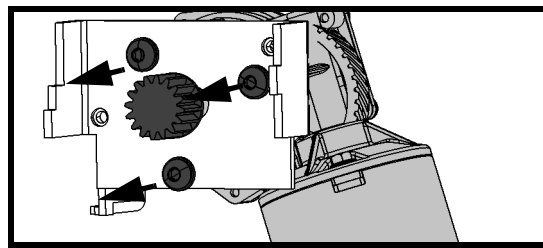


Fig. 46

- 7) Put the replacement motor in place.
- 8) Screw the new motor back onto its support. Replace the gear using a small plastic hammer. Carefully fit the D shaped hole with the D shaped shaft.
- 9) Align the gear with the trolley's gear and screw the motor support back onto the trolley.
- 10) Reconnect the wires to the main connector. Make sure to respect polarity as failure to do so will reverse motor displacement. Refer to main connector diagram on page 19.
- 11) Refer to service procedure #9 to reassemble the unit.

Service Procedure #12 - Fuse Replacement

- 1) Remove the plastic shell from the chassis by performing service procedure #1, steps 1 to 9.
- 2) Locate the fuse and replace it with the same type and amperage (see Fig. 47).
 - Unit equipped with PCB 492.XXX35: Fuse is located on the PCB (A).
 - Unit equipped with PCB 499.XXX72: Fuse is located inside a fuse holder connected between the two batteries (B).

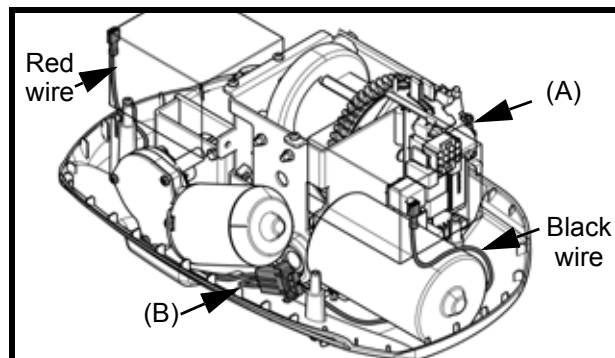


Fig. 47

Service Procedures

Connection Diagram, Main Connector

Please refer to connector diagram for the wire positions.

Circuit Board Connect (492.00035-7)

Position 1: Red / White - 1st Battery (+) terminal;

Position 2: Red - 2nd Battery (+) terminal;

Position 3: Red - Horizontal motor;

Position 4: Blue - High limit switch;

Position 5: Black - 1st Battery (-) terminal;

Position 6: Blue - Horizontal motor;

Position 7: No connection;

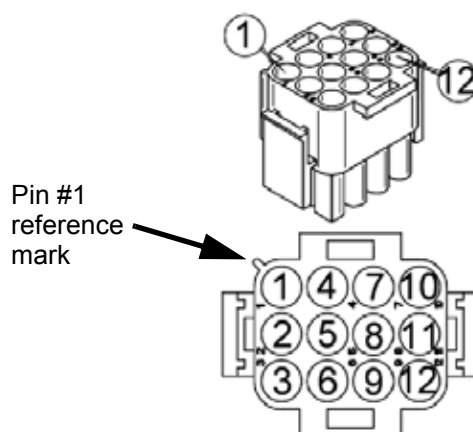
Position 8: Blue - High limit switch;

Position 9: Black / White - Chassis ground;

Position 10: No connection;

Position 11: Red - Vertical motor;

Position 12: Blue - Vertical motor.



Circuit board connector (499-00072)

Position 1: Red / White - On/Off switch;

Position 2: No connection;

Position 3: Blue - Horizontal motor;

Position 4: Blue - High limit switch;

Position 5: No connection;

Position 6: Red - Horizontal motor;

Position 7: No connection;

Position 8: Blue - High limit switch;

Position 9: Black / White - Chassis ground;

Position 10: Orange - On/Off switch;

Position 11: Red - Vertical motor;

Position 12: Blue - Vertical motor.

Service Procedures #13a - 13e for ECS Track System

The Maxi Sky 600 is now available for use with the Kwiktrak Enhanced Charging System. This track system allows the cassette to benefit from automated charging wherever it is on the track. It eliminates the need to send the unit back to a charge station after the patient transfer.

This feature includes new parts that require additional service procedures with which technicians can provide the ceiling lift with maintenance and repair.

Service Procedures

Service Procedure 13a: Emergency Stop/Plastic Insert Switch

The Maxi Sky 600 is now equipped with a different main circuit board, which functions with a new power switch. Previous models were both turned on and off by pulling the red emergency cord. The current model is still turned off by pulling on the red cord. However, to turn the cassette back on again, a plastic insert switch must be pressed upwards instead (see Fig 48).

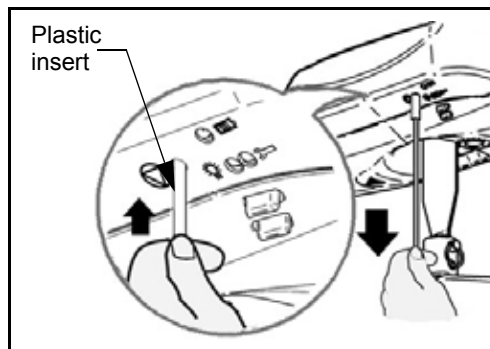


Fig. 48

Service Procedure 13b: Changing the Trolley's ECS Contact Box

- 1) Using pliers to hold the contact box, loosen the two connectors attached to it on either side.
- 2) Once the connectors are removed, slide the contact box out from the opening in the trolley.
- 3) Replace the contact box, and reconnect the wires to it. The connections are not polarity specific and can be attached both ways.

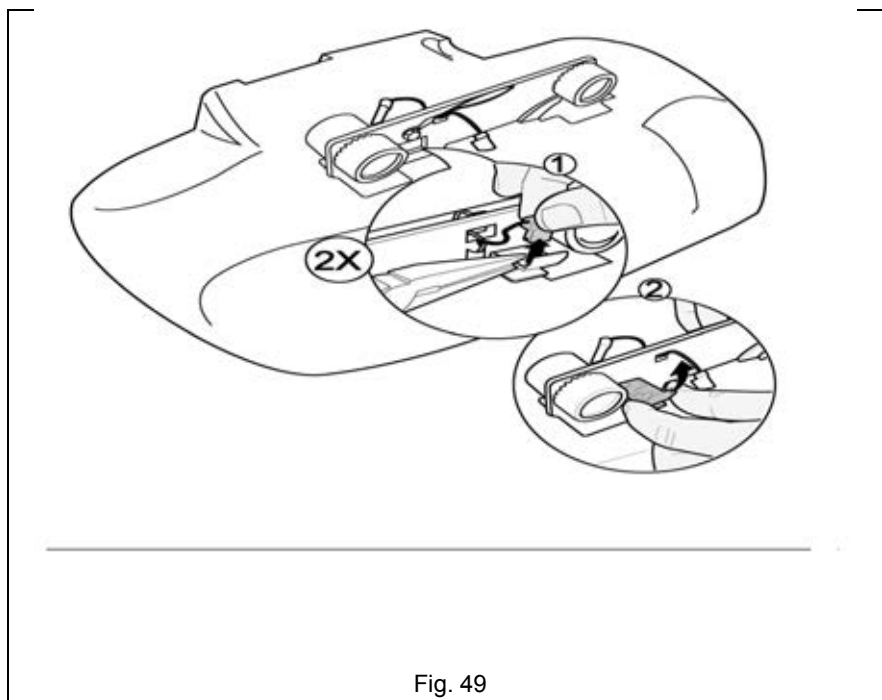


Fig. 49

Service Procedures

Service Procedure 13c: Replacing the ECS Wire Harness

After removing the cassette's plastic bottom panel and its main housing (as per the technical manual):

- ❶ Remove the contact box (see Fig. 49), and remove the clear plastic cable guard from the cassette's trolley using an 8 mm (5/16") socket.
- ❷ Remove the wire harness cable from under the loosened cable guard.
- ❸ Remove the topshell housing to get access to the unit's frame.
- ❹ Unplug the ECS circuit board connector. You can now dispose of the cable.
- ❺ Connect the new ECS wire harness cable to the ECS circuit board.
- ❻ After replacing the upper plastic housing, thread the cable back into the cable guard on the trolley, and reinstall the screw.
- ❼ Reinstall the ECS contact box, and the top shell. Make sure that the unit's "antistatic" wire is oriented so that it will make contact with the track.

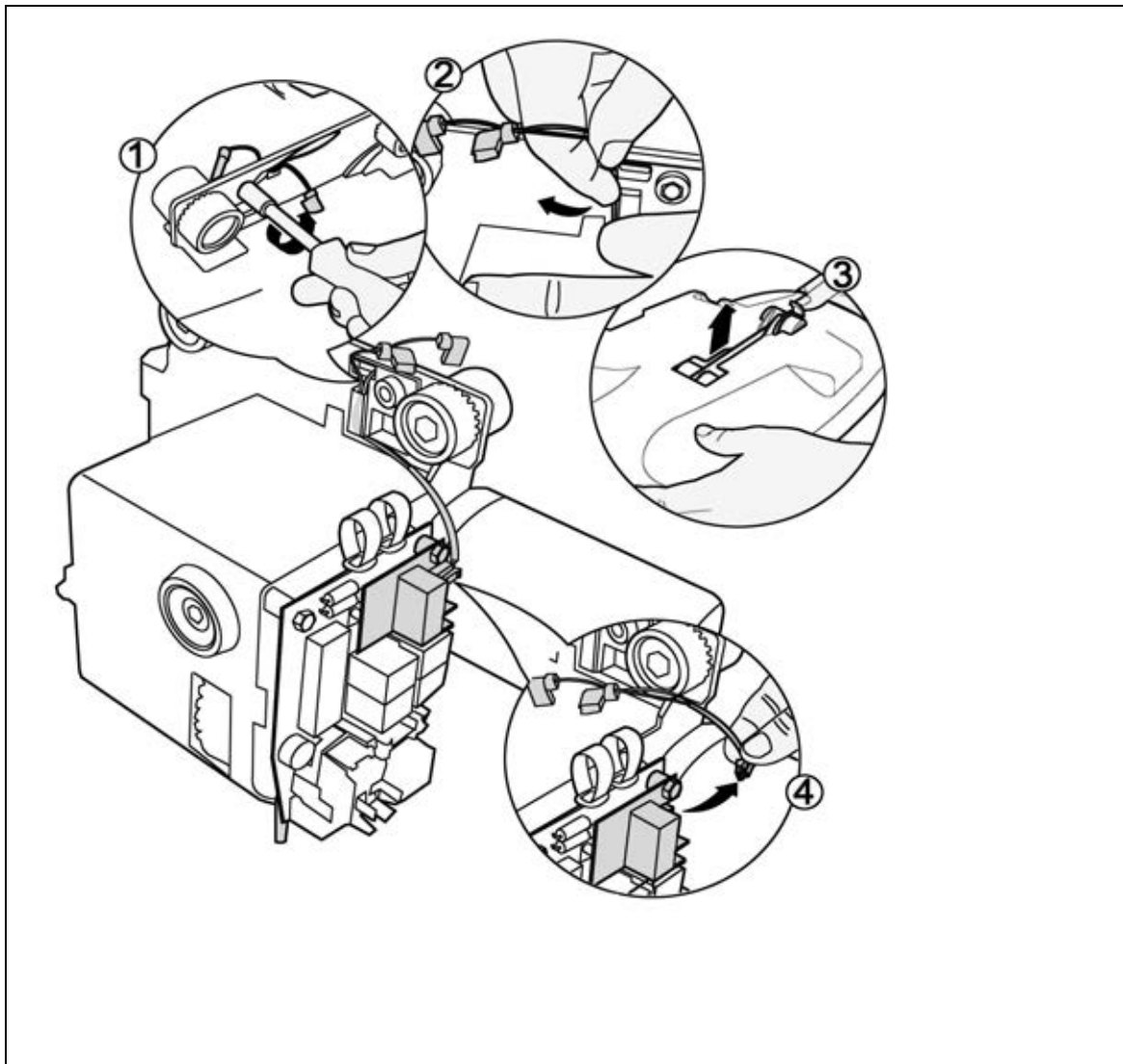


Fig. 50

Service Procedures

Service Procedure 13d: Replacing the ECS Circuit Board

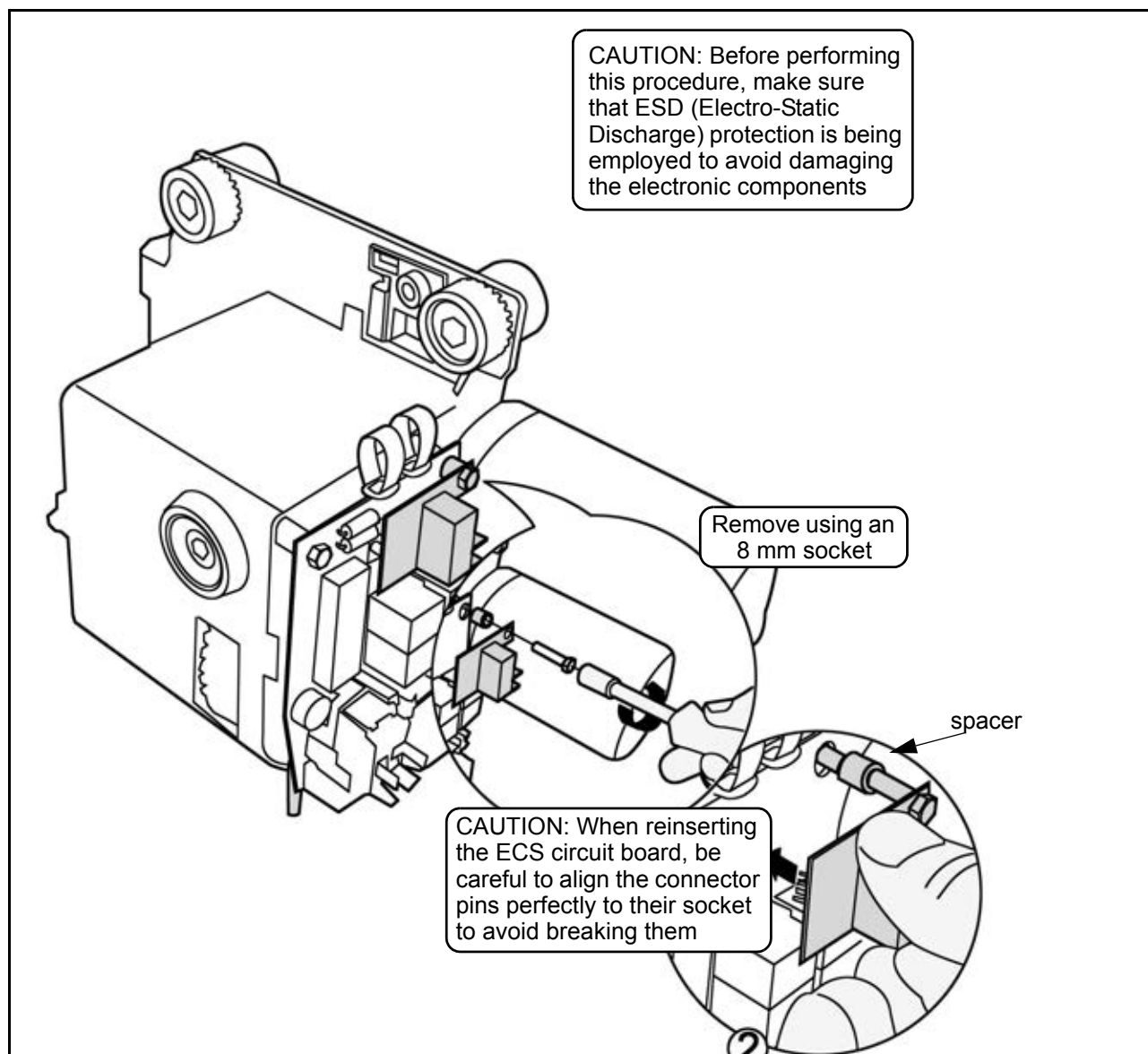


Fig. 51

After getting access to the ECS circuit board, and having unplugged the ECS wire harness (see Fig. 50):

- ❶ Use an 8 mm (5/16") socket to remove the screw securing the ECS circuit board to the cassette's frame and main circuit board.
- ❷ Carefully pull the ECS board from the main circuit board's connector.
- ❸ Install the new ECS board on, coupling it to the main circuit board's connector. Ensure that the spacer is placed between the main and ECS circuit boards (see Fig. 4).
- ❹ Reinstall the screw that secures the ECS board to the frame.

Service Procedures

Service Procedure 13e: Replacing the Plastic Insert for the On/off Switch

After getting access to the cassette's frame and after removing the ECS circuit board (see Fig. 51):

- 1) Unplug the hand set wire from the circuit board.
- 2) Unplug main circuit board connector and the wires to the on/off switch.
- 3) Unscrew the bolts that secure the main circuit board to the frame using an 8 mm (5/16") socket.
- 4) Slide out the plastic insert. Thread the red emergency cord into the new plastic insert.
- 5) Make sure that the plastic insert switch is placed between the circuit and the frame.
- 6) Reinstall the circuit board and circuit board connections (refer to Fig. 5).

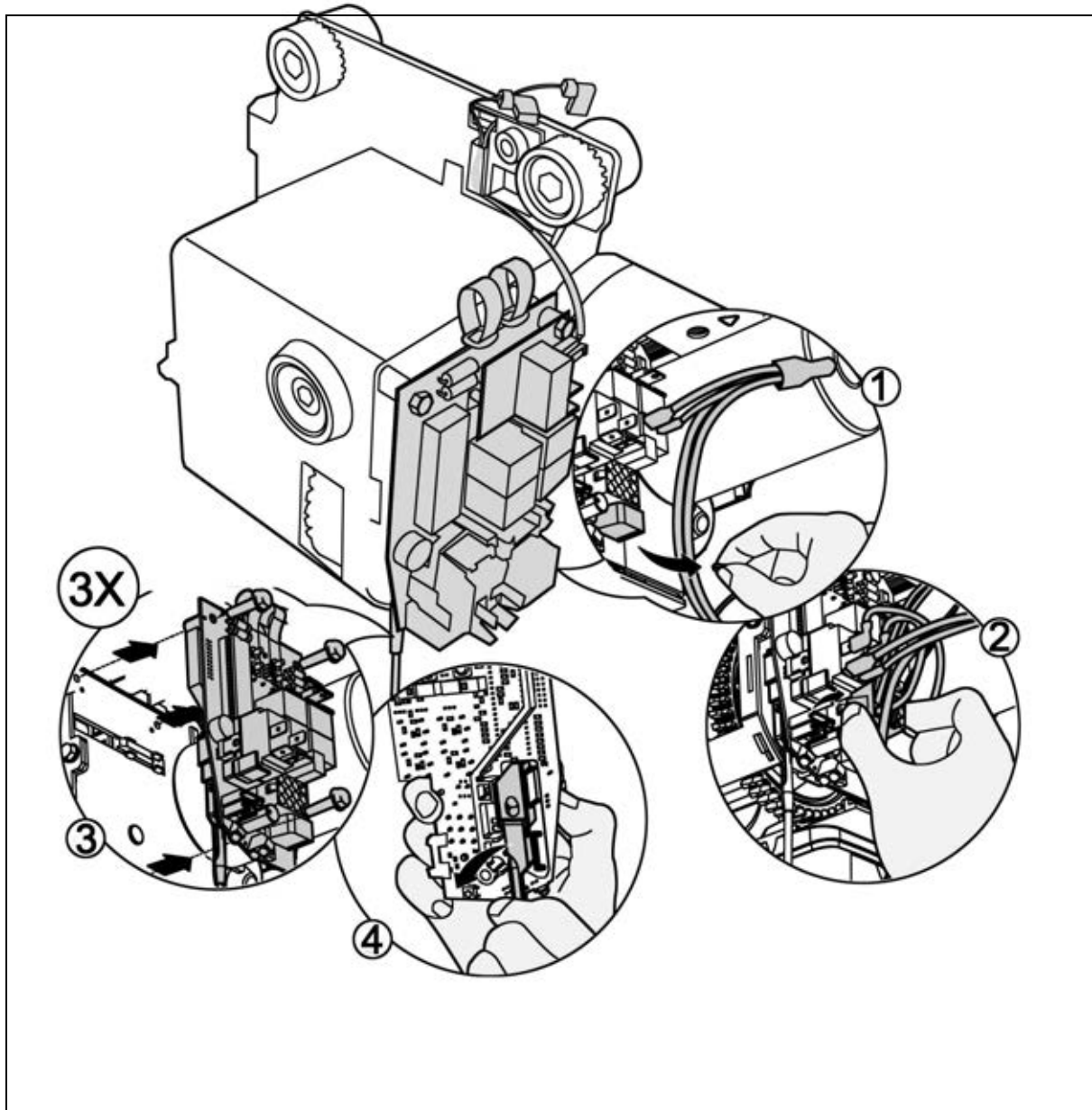


Fig. 52

Service Procedures

Connection Diagram

Main Connector

Main Circuit Connector Wiring Positions

- 1) Red/white - From switch
- 2) Not used
- 3) Red - Lateral motor
- 4) Blue - High limit switch
- 5) Not used
- 6) Blue - Lateral motor
- 7) Not used
- 8) Blue - High limit switch
- 9) Black/white - Battery
- 10) Orange - From switch
- 11) Red - Vertical motor
- 12) Blue - Vertical motor

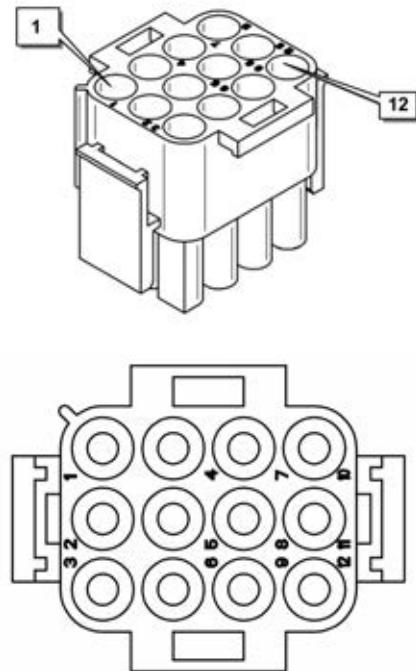


Fig. 53

On/Off Switch

On/Off Toggle Switch Wiring Connections

- 1) Red/white - Main connector position 1
- 2) Orange - Main connector position 10
- 3) Red/white - Cable
- 4) Orange - Cable

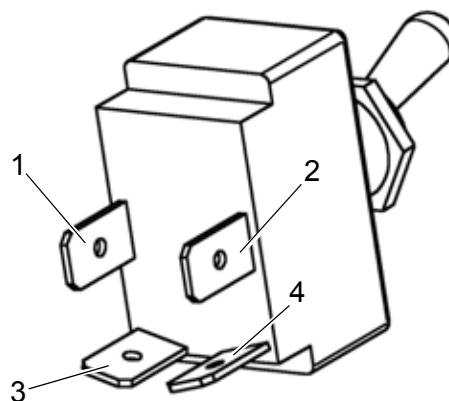


Fig. 54

Care and Maintenance

Preventive Maintenance Schedule

The equipment is subjected to wear and tear, and the following maintenance instructions must be acted upon when specified to ensure that the equipment remains within its original manufacturing specifications. Care and maintenance must be carried out in accordance with the preventive maintenance schedule below.

Customer obligations must be carried out by qualified personnel in accordance with the instructions in this manual.

WARNING: The maintenance described in the following checklist is the minimum that the manufacturer recommends. In some cases more frequent inspections should be carried out. Continuing to use this equipment without conducting regular inspections or when a fault is found will seriously compromise the safety of the user and of the resident. Local regulations and standards may be higher than those of the manufacturer. A load test for the ceiling lift is recommended. Preventive maintenance specified in this manual can prevent accidents and reduce repair costs.

WARNING: Safety related maintenance and authorized service must be carried out by qualified personnel, fully trained in servicing procedures by ArjoHuntleigh and equipped with proper tools. Failure to meet these requirements could result in personal injuries and/or unsafe equipment.

User Inspections

Inspections for lift and track system	FREQUENCY					
	Initially	Before every use	Every two months or 500 cycles	Every four months or 1000 cycles	Every year or 2500 cycles	Every two years or 5000 cycles
Inspect for evidence of external damage, missing parts or broken panels.	X	X				
Make sure that end stoppers and rail caps are in place and tightened.	X	X				
Inspect strap for wear, discoloration or loose threads.		X				
Recharge batteries.		X				
Inspect wheels in rail for damage, rust or cracks. Replace if damaged.					X	
Clean the rail and the clip-on charging station contacts.				X		
Overall inspection by authorized personnel.					X	
Verify emergency stop cord.				X		
Verify emergency lowering device.				X		

Care and Maintenance

	FREQUENCY					
Inspections for spreader bar and slings	Initially	Before every use	Every two months or 500 cycles	Every four months or 1000 cycles	Every year or 2500 cycles	Every two years or 5000 cycles
Inspect all sling parts (attachments, fabric, stitch areas and strap) for signs of wear, discoloration, deterioration or loose threads.		X				
Clean sling as indicated on the tag.	When necessary					
Inspect the spreader bar on the strap of the lift for damage or cracks. Make sure all attachments are properly secured (e.g. split ring).		X				

Inspections by an Authorized Service Technician

	FREQUENCY					
Inspection for lift	Initially	Before every use	Every two months or 500 cycles	Every four months or 1000 cycles	Every year or 2500 cycles	Every two years or 5000 cycles
Replace strap.						X
Inspect frame parts interlock and hardware for malfunction and make sure there are no parts missing.					X	
Inspect gears for wear.					X	
Inspect connecting joints for proper attachment (trolley and spreader bar).					X	
Verify the emergency brake.					X	
Verify emergency lowering mechanism.					X	
Verify alternative UP and DOWN buttons on cassette.					X	
Load test (safe working load -SWL) for ceiling lift recommended.					X	

Care and Maintenance

Inspections for rails	FREQUENCY					
	Initially	Before every use	Every two months or 500 cycles	Every four months or 1000 cycles	Every year or 2500 cycles	Every two years or 5000 cycles
Torque end stoppers to 20 N•m. (15 lbf.ft).	X				X	
Make sure that the bracket locking device is not visible.	X				X	
Make sure rail joints are closed and that the spring pins are centered.	X				X	
Make sure the rail is straight when it is not loaded.	X				X	
Make sure the adjusted load setting of the lift is equal or lower than the safe working load of the installation.	X				X	
Check that the accessories (turntable and exchanger) are complete and correctly maintained.	X				X	
Make sure that the attachments (ceiling brackets, wall post, wall brackets) have not been displaced.	X				X	
Inspect track end stoppers.	X				X	
Required SWL (safe working load) test for tracks	X				X	

WARNING: Always reinstall the rail end stoppers (if removed) after servicing.

Cleaning

To clean the Maxi Sky 600, wipe it down with a damp cloth using warm water and a disinfectant cleaner. Disinfectant wipes, supplied already impregnated with a 70% v/v solution of isopropyl alcohol, can also be used.

Rub the lift vigorously when using the wipes, to promote an effective disinfection of its entire surface. Do not use phenol, chlorine or any other type of solvent that may damage the finish.

To ensure a better rolling surface for the trolley wheels, clean the inside of the track every 4 months. To do so, insert a damp cloth in the opening and slide it from one end of the track to the other.

Care and Maintenance

Strap Inspection

If the strap is damaged or shows signs of wear or discoloration, the acceptable load on the strap before rupture can drop rapidly and present a danger for the resident or caregiver. ArjoHuntleigh recommends a thorough inspection of the straps every 2 months as follows:

- 1) Completely unwind the strap.
- 2) Look for any signs of wear or discoloration (see Fig. 55).

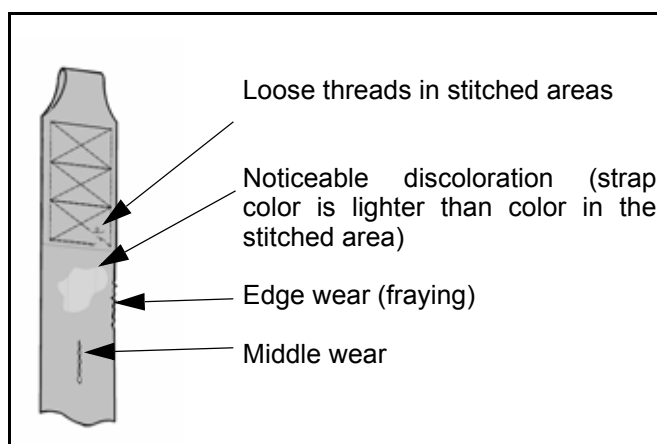


Fig. 55

WARNING: If there is any sign of wear as indicated previously or any other visual defects, the strap must be changed. The manufacturer recommends changing the strap at least every two years. By continuing to use the lift without changing a damaged strap, the safety of the caregiver or resident is greatly compromised.

Emergency Brake Inspection

Units preceding serial number 84854

- 1) Rotate the drum until one of the lock can be accessed from under the unit.
- 2) With a small screwdriver, check if the lock is moving freely and that the spring brings it back to its original position immediately when it is released.
- 3) Repeat procedure for both locks

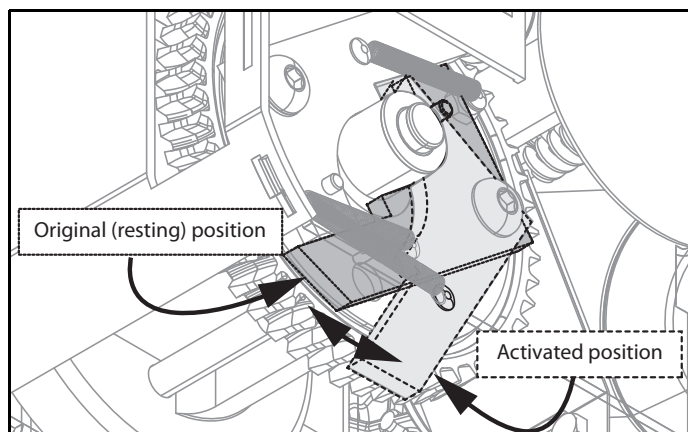


Fig. 56

Units from serial number 84854 and above

- 1) Rotate the drum until one of the lock is align with the large opening on the chassis.
- 2) With a small screwdriver, check if the lock is moving freely and that the spring brings it back to its original position immediately when it is released.
- 3) Repeat procedure for all three locks.

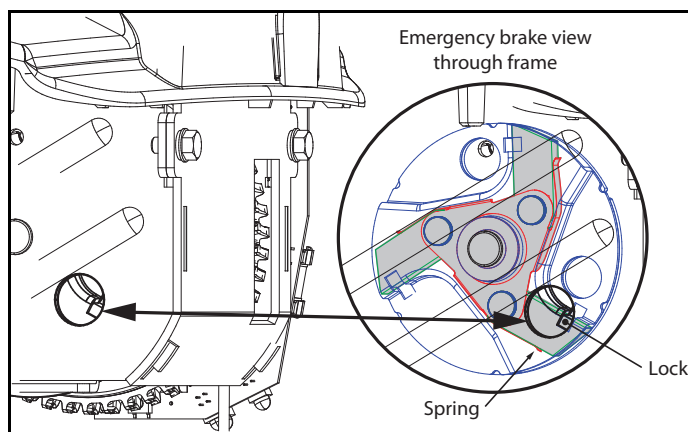
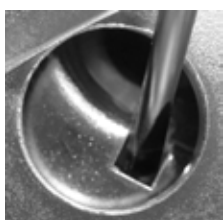


Fig. 57

Care and Maintenance

Handling and Storage

Avoid violent impacts while transporting the lift.

The lift should not remain stored for long periods of time without recharging the batteries.

NOTE: Even if the lift is not used, ArjoHuntleigh recommends charging the batteries at least every two weeks. This will prevent premature aging of batteries.

If you store or ship the Maxi Sky 600, ensure that the power (green light) is turned off beforehand.

Battery Replacement

ArjoHuntleigh uses sealed lead-acid batteries in the Maxi Sky 600 ceiling lifts. ArjoHuntleigh batteries do not have any memory effect. Therefore, batteries should not be completely discharged before recharging.

Replace the battery when there is a noticeable reduction in the number of transfers that can be performed between charges. If you hear the Maxi Sky 600 lift beeping and notice a red light flashing, see the instructions in the “Troubleshooting” section of this manual to determine if it is a problem with the battery.

CAUTION: Do not attempt to use a battery that was not supplied by ArjoHuntleigh. ArjoHuntleigh batteries are specially designed for ArjoHuntleigh charging systems. Attempting to use an unauthorized battery may seriously damage the lift and/or the charger.

Verification of the Charger’s Power Source

If the light does not illuminate when there are batteries correctly installed in the Maxi Sky 600, try the following:

- 1) Make sure that the power cord is correctly plugged into the charger and in the wall AC outlet, and that the green light on the clip-on charging station is on.
- 2) Make sure that there is contact between the contact blades of the lift and the contact plates of the charging station.
- 3) Check the power of the AC outlet on the wall.
- 4) If the charger’s green light does not light up, contact your local ArjoHuntleigh representative for assistance.

Sling Inspection and Care

For maximum resident safety and hygiene, read the following instructions:

Regular Inspections

It is essential that the slings, their straps, loops and attachment clips are carefully inspected before each and every use. If the slings, loops or straps are frayed, or the clips damaged, the sling should be withdrawn from use immediately and replaced.

Sling Laundering

WARNING: The slings should be checked before and after use and, if necessary, washed according to instructions on the sling. This is especially important when using the same equipment for another resident. This minimizes the risk of cross infection.

Before washing the slings equipped with head support pockets, always remove the plastic reinforcement inserts. Always refit the inserts before reusing the sling.

Mechanical pressure should be avoided during the washing and drying procedure (e.g. rolling or pressing), as these can damage parts vital to the safe and comfortable operation of the sling.

Care and Maintenance

The stretcher cross straps and suspension straps should be checked and washed if necessary. Washing and drying temperatures must not exceed 80°C (176°F). Wash using normal detergents and do not iron.

Annual Inspection

NOTE: With regard to laundering, slings should not be classified as linen, but as an accessory to a resident transfer lifting and therefore classified as a medical device. Slings should be cleaned and disinfected only in strict accordance with the manufacturer's instructions.

The Maxi Sky 600 and its accessories must be inspected annually by a certified technician.

WARNING: The Maxi Sky 600 and accessories must be serviced every 12 months as a minimum requirement. Do not attempt to do the inspection unless you are certified to do so.

Maintenance Requirements

The Maxi Sky 600 is equipped with an electronic monitor that causes a red light to flash when a maintenance inspection is necessary. Arranging for scheduled inspections ensures the durability of the unit and the security of the resident and user.

Weight Load Test

As stated in the Maxi Sky 600 Instructions for Use, it is recommended that a load test on the ceiling lift at its save working load (SWL) be performed. This annual verification should the verify the following aspects:

- The track system, including its anchors, are still performing as intended and are secure.
- The unit is able to mechanically raise the safe working load.
- The batteries are still in good condition and are able to raise the SWL.

NOTE: The weight to be applied must be equivalent to the maximum capacity of the track.

Testing the Track (SWL Procedure)

- 1) Prepare a safe weight load test trolley (WLT) and make sure it is going to be able to bear the weight load once it is suspended (see Fig. 58).
- 2) Remove the spreader bar from the ceiling lift (see Fig. 59).

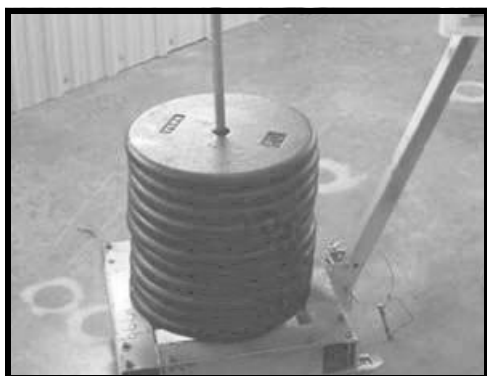


Fig. 58

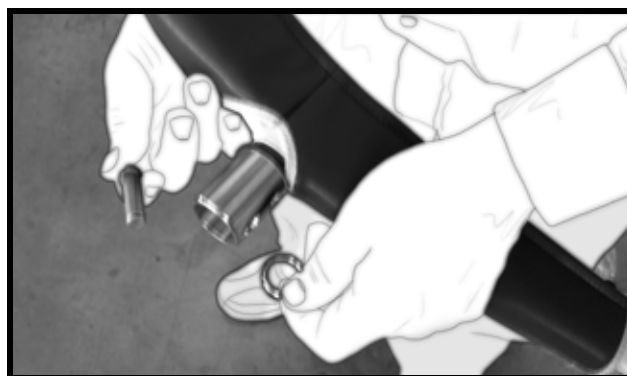


Fig. 59

- 7) Install a rotating laser on a stable location 15 cm (6 in) - 30 cm (12 in) lower than the bottom of the tracks (see Fig. 60). Make sure that the reference line is level.

Care and Maintenance

- 8) Using a measuring tape, measure between the track and the laser line at every track bracket, always taking the same reference point—either the top or the bottom of the track (see Fig. 61).

NOTE: Be sure to use the same measuring tape throughout, as different measuring tapes may have varying looseness in their tape end hooks.



Fig. 60

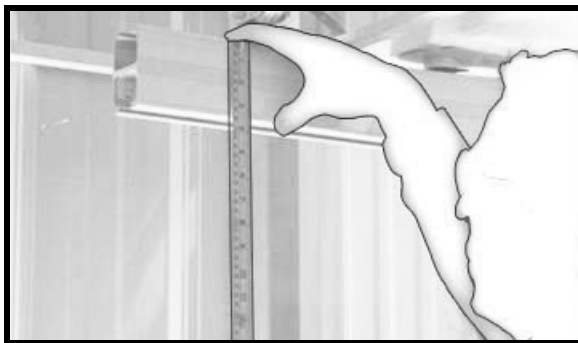


Fig. 61

- 9) With the measurements mentioned above, fill the corresponding column (height unloaded) in the weight load test form (001-11760-EN).

NOTE: Regulatory authorities require the archiving of weight load test documents for future consultation.

- 10) Connect the ceiling lift strap to the WLT trolley using a carabiner (see Fig. 63).



Fig. 62



Fig. 63

WARNING: Never stand with your feet under the trolley during the weight load test.

- 11) DO NOT MOVE YOUR LASER.

Attach the WLT trolley to the carabiner and lift the trolley no more than 50 mm (2 in) from the floor to make sure it no longer touches it (see Fig. 57).

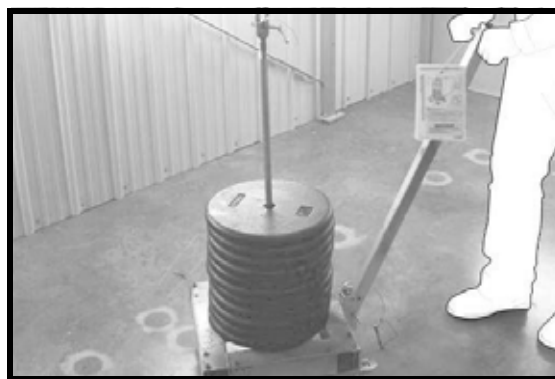


Fig. 64

Care and Maintenance

- 12) Take measurements of the height of the track verses the laser line as you pass under each bracket (see Fig. 65 and Fig. 66).

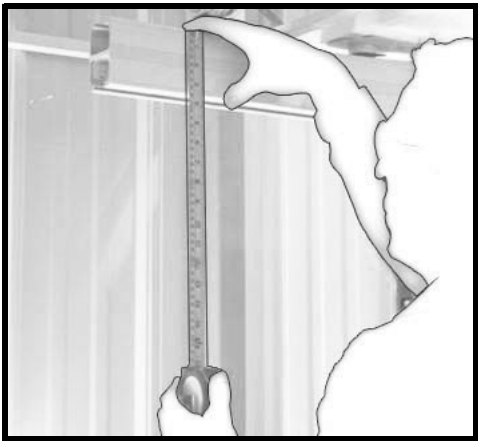


Fig. 65

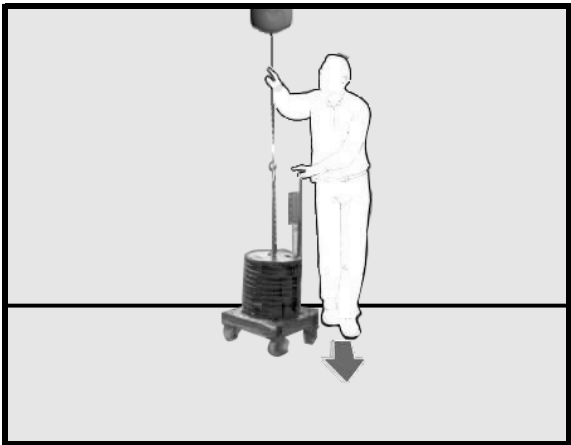


Fig. 66

- 13) With the measurements mentioned above, fill the corresponding column (height loaded) in the weight load test form. Compare the measurements of the track height when loaded and unloaded. Calculate the difference (deflection), and complete the appropriate column in the form. Keep the completed form in order to archive it with the project file.
- 14) Fill out the weight load test sticker (#001.12725.33) and apply it properly on the most visible side of the track, nearest to the transfer location (see Fig. 68).



Fig. 67

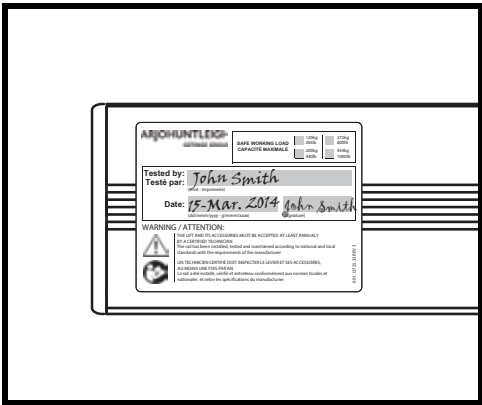


Fig. 68

Care and Maintenance

Testing the Ceiling Lift

Verifying the Soft Start and Soft Stop Features

Without Load

Press the DOWN button on the hand control. Observe as the vertical motor unravels the strap. The motor should not reach its top speed instantly. Top speed should be achieved only after approximately 1 second of time has elapsed.

With Load

- 1) Attach the WLT trolley to the ceiling lift. (Refer to Testing the Track (SWL Procedure) on page 25.)
- 2) Press the UP button on the hand control. Observe as the vertical motor winds up the strap. The motor should not reach its top speed instantly. Top speed should be achieved only after approximately 1 second of time has elapsed.

If the soft start and stop features do not behave as described, please refer to the “Circuit Board Replacement” procedure on page 9.

Verifying the Emergency Stop Feature

- 1) Attach the WLT trolley to the ceiling lift.
- 2) Raise the WLT trolley up to no more than 30 cm (1 ft) with the UP button on the hand control.
- 3) While keeping the UP button pressed, pull on the red emergency stop cord. The ceiling lift should shut down and the raising action should cease.

If the emergency stop feature does not function as described, please refer to the “Circuit Board Replacement” procedure on page 9.

Verifying the Emergency Lowering Device

- 1) Attach the WLT trolley to the ceiling lift.
- 2) Raise the WLT trolley up to no more than 30 cm (1 ft) with the UP button on the hand control.
- 3) Pull the red emergency cord to turn off power.
- 4) Open the small side door to access the lowering mechanism and remove the 8 mm hex key located on the top of the ceiling lift.
- 5) Insert the hex key deep into the socket and turn the hex key counter-clockwise to slowly lower the WLT trolley.
- 6) After a few turns, confirm that the WLT trolley is being lowered.

CAUTION: Do not use a power drill to perform this test as the initial angular velocity of the drill may damage the internal components of the ceiling lift’s transmission.

Verifying the Lifting Capacity of the Ceiling Lift Without Load

Raise the SWL trolley roughly 30 cm (1 ft) off the floor and wait 5 seconds.

- If you hear the current limiter signal, then the current limiter needs adjusting. Refer to the programming manual (#001-14154-33) to adjust the maximum lifting capacity.
- If you hear the low battery signal, then ensure that the batteries are fully charged and repeat the test to determine if the batteries need replacing.

Troubleshooting

WARNING: Only a qualified technician is authorized to open the Maxi Sky 600 ceiling lift cassette. Alterations made to the Maxi Sky 600 ceiling lift cassette by someone other than a certified technician may cause serious injury.

PROBLEM	TO CHECK
The red “service” light is on and flashing.	<ul style="list-style-type: none"> Contact your local ArjoHuntleigh representative to perform maintenance.
The red light is solid.	<ul style="list-style-type: none"> The ceiling lift cassette is under its overheat protection. Wait between 10 to 30 minutes until the red light turns off and press on the “UP” button to use the ceiling lift cassette again.
The unit starts and stops repetitively.	<ul style="list-style-type: none"> If the load is over a safe working load, the unit will not work due to the overload protection on the motor.
The ceiling lift cassette emits a beep during use. The unit may stop lifting but the lowering function can still be used.	<ul style="list-style-type: none"> Batteries are low. Return the ceiling lift cassette to the charging station.
The charger indicator (yellow) on the ceiling lift cassette does not light up when the lift is on the charger.	<ul style="list-style-type: none"> Check that the charger is plugged into a standard outlet, and that the outlet has power. The green light on the clip-on charging station indicates that it is functioning.
When returning to charge, the ceiling lift cassette passes the clip on the charging station, or goes in the wrong direction.	<ul style="list-style-type: none"> Clean the contact blades of the charging station with mild detergent. Pass the ceiling lift cassette through the charging station manually once, then retry the return to charger function.
Batteries are always dead after only a few transfers (3 to 5).	<ul style="list-style-type: none"> Verify the functioning of the ceiling lift charger and the contact plates on the clip-on charging station. Replace batteries with new ones. The life of the current batteries may almost be finished. It is important to always change both batteries at the same time. Contact your local ArjoHuntleigh representative to have the batteries replaced.
The yellow light on the unit is solid, yet the ceiling lift cassette will only perform one or two transfers.	<ul style="list-style-type: none"> Contact your local ArjoHuntleigh representative to have batteries replaced.
The yellow light on the unit is solid, yet the ceiling lift will only work when there is no one on the lift. When trying to transfer someone, the ceiling lift stops.	<ul style="list-style-type: none"> Contact your local ArjoHuntleigh representative to have the batteries replaced.
The ceiling lift does not work when pressing the buttons on the hand control.	<ul style="list-style-type: none"> If the charger light is on, move the ceiling lift away from the charging station in order to operate the lift. If the emergency stop is activated, gently push up on the reset switch plastic insert to turn the unit back on. Check if the buttons on the ceiling lift cassette are working. If so, the problem may be coming from the hand control. If not, check the charge on the ceiling lift. Check if the hand control is plugged properly into the ceiling lift cassette; the hand control may be slightly pulled out from its socket and only appear as though it is plugged in. Remove the plastic cover to check the connection. Slide the ceiling lift over the clip-on charging station. Verify if the yellow light turns on. If, after testing all of the above, the ceiling lift will not operate, contact your local ArjoHuntleigh representative.

Troubleshooting

PROBLEM	TO CHECK
The charging light on the ceiling lift cassette continues flashing yellow and the light does not turn solid even after recharging the unit overnight.	<ul style="list-style-type: none">• If available, try another integrated clip-on charging station from another ceiling lift, or a spare one; Clip it to the rail and charge the unit for 3 hours. If the yellow light is still flashing, contact your local ArjoHuntleigh representative.• Using a voltmeter, test two contact points on the charging station (see Fig. 69). The voltmeter should read between 26 and 30 volts VDC.• If, after testing all of the above, the ceiling lift will not operate, contact your local ArjoHuntleigh representative.
When you press the button to return the ceiling lift to its charger (4-way motor only), the ceiling lift goes past the charger.	<ul style="list-style-type: none">• The charger either has no power or is not working properly (the contacts are defective). See "Troubleshooting" question above.

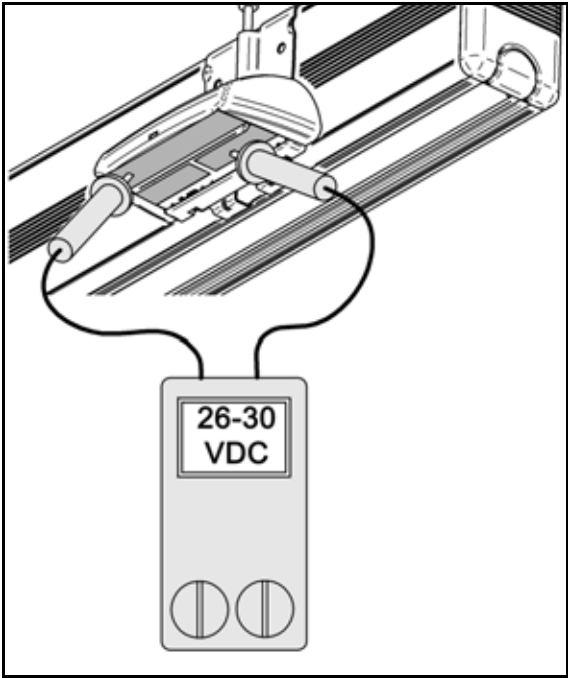
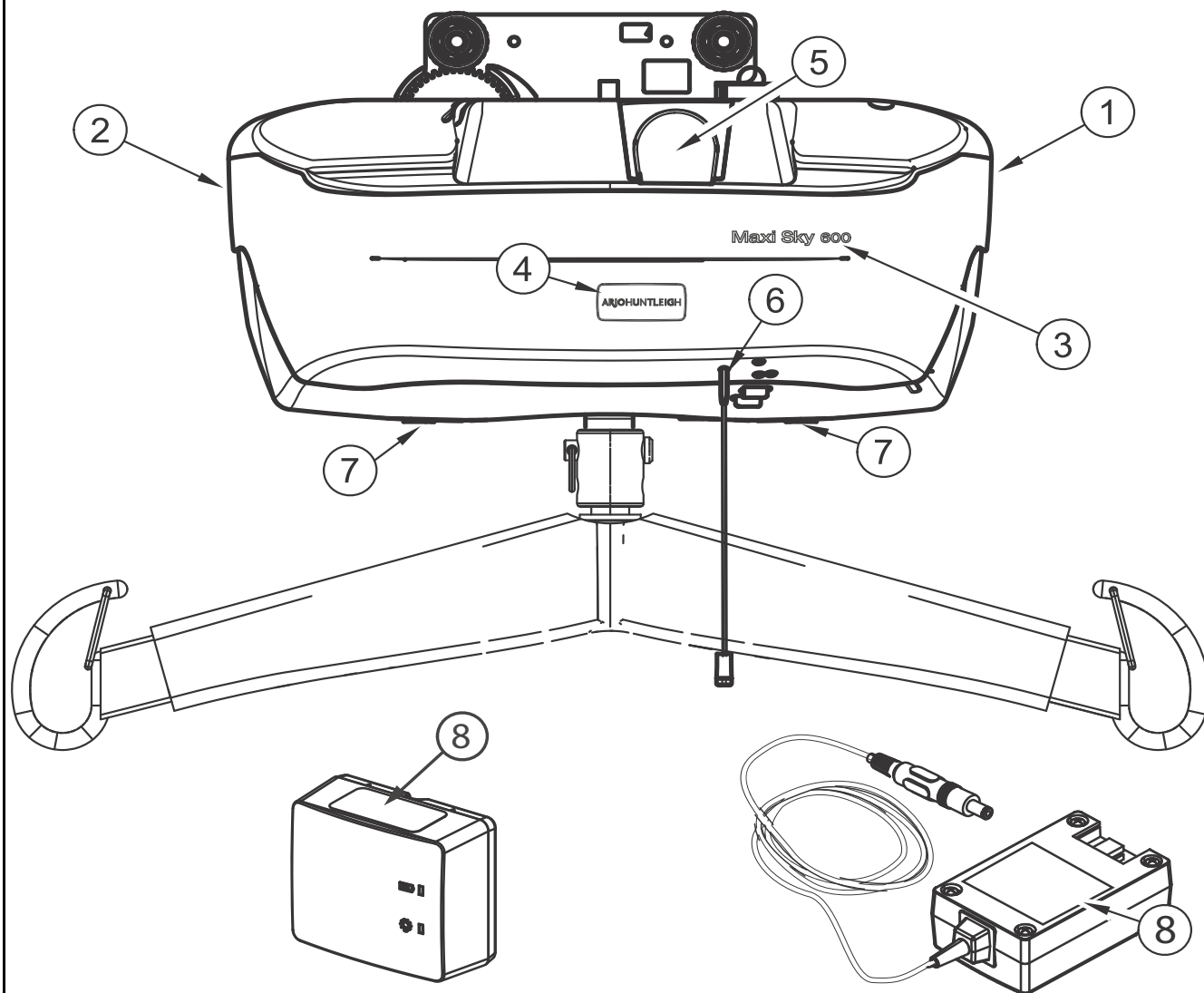


Fig. 69

Labels on the Lift



- 1) Maximum capacity/Service telephone number
- 2) Date of manufacture, serial number, product code
- 3) Product name
- 4) ArjoHuntleigh Logo
- 5) Emergency lowering system access identification
- 6) Emergency stop identification
- 7) Travel direction indicators
- 8) Charger information

Fig. 70

Technical Specification

PRODUCT INFORMATION		Maxi Sky 600
Weight, complete (Four-function model)		12.7 kg (28 lb)
Weight, complete (Two-function model)		11.4 kg (25 lb)
Lifting capacity		272 kg (600 lb)
Strap length		2300 mm (90.6 in)
Lifting speed		6.0 cm/s (2.4 in/s) without load • 3.5 cm/s (1.4 in/s) at 200 kg (440 lb) • 2.8 cm/s (1.1 in/s) at 272 kg (600 lb)
Maximum stroke (from ceiling)		2300 mm (90.6 in)
Horizontal displacement speeds		10, 15, 20 and 25 cm/s. Speed is 20 cm/s (7.9 in/s) by default
Horizontal axis motor		24 VDC, 62 watts
Vertical axis motor		24 VDC, 110 watts
Operating force of control		< 5 N
ELECTRICAL		
Duty cycle		Max 10% (6 min./hour), 1 minute continuously
Rating		24 VDC, 15 A max.
Noise level for either raising or lowering, with or without load		61 dBA max.
Medical equipment		Type BF protection against electrical shock in accordance with IEC 60601-1
The Maxi Sky 600 is compliant with CAN/CSA C22.2 No. 601.1 (SUP1+AM2), UL 60601 1, CAN/CSA-C22.2 No. 60601-1-08, ANSI/AAMI ES60601-1: 2005 and ISO 10535: 2006.		
WARNING: Wireless communications equipment such as wireless home network devices, mobile phones, cordless telephones and their base stations, walkie-talkies, etc. can affect the Maxi Sky 600 and should be kept at least 2.3 m away from it. Cables from potentially strong sources of electromagnetic fields should not be placed near the unit.		
Battery type		Sealed rechargeable valve regulated lead acid battery Constant voltage charge Cycle used 14.1 - 14.4 V Standby use: 13.5 - 13.8 V Initial current: Less than 2.00 A Rating: 12 V, 5 Ah
Battery capacity		Provides up to 120 transfers with a load of 100 kg (220 lb) • up to 70 transfers with a load of 200 kg (440 lb) • up to 35 transfers with a load of 272 kg (600 lb)
Degree of protection - Hand control		700.136XX: IPX4 • 700-138XX: IPX7
Degree of protection - Maxi Sky 600		IP21
Lift - protection class - shock prevention		Internally powered equipment
Battery Charger input		100-240 VAC, 50-60 Hz, 57 - 70 VA.
Battery Charger output		700.15500: 27-29Vdc, 1A max 700-24201: 28.1Vdc, 1A max 700-15567: 24Vdc, 24Va, 1A max
Battery Charger safety protection		Class 2, double insulated

Technical Specification

(Continued)

OPERATION AND STORAGE CONDITIONS	
Ambient temperature range	Operation: 10 to 40 °C Storage: -40 to + 70 °C
Relative humidity range	Operation: 30% to 75% Storage: 10 to 100%, non-condensing
Atmospheric pressure range	Operation: 700 hPa to 1060 hPa (2000 m Max) Storage: 500 hPa to 1060 hPa (2000 m Max)
WARNING: This equipment is not suitable in the presence of flammable anesthetic mixtures with air or oxygen, or with nitrous oxide.	
RECYCLING	
Battery	Sealed lead-acid, rechargeable, recyclable
Package	Cardboard recyclable
The lift	Separated and recycled, according to the European Directive 2002/96/EG (WEEE).

ArjoHuntleigh resident Handling products meet the requirements of Electromagnetic Compatibility (EMC) as stated in clause 12.5 of Annex 1 of the Medical Devices Directive 93/42/EEC.

Lift Dimensions

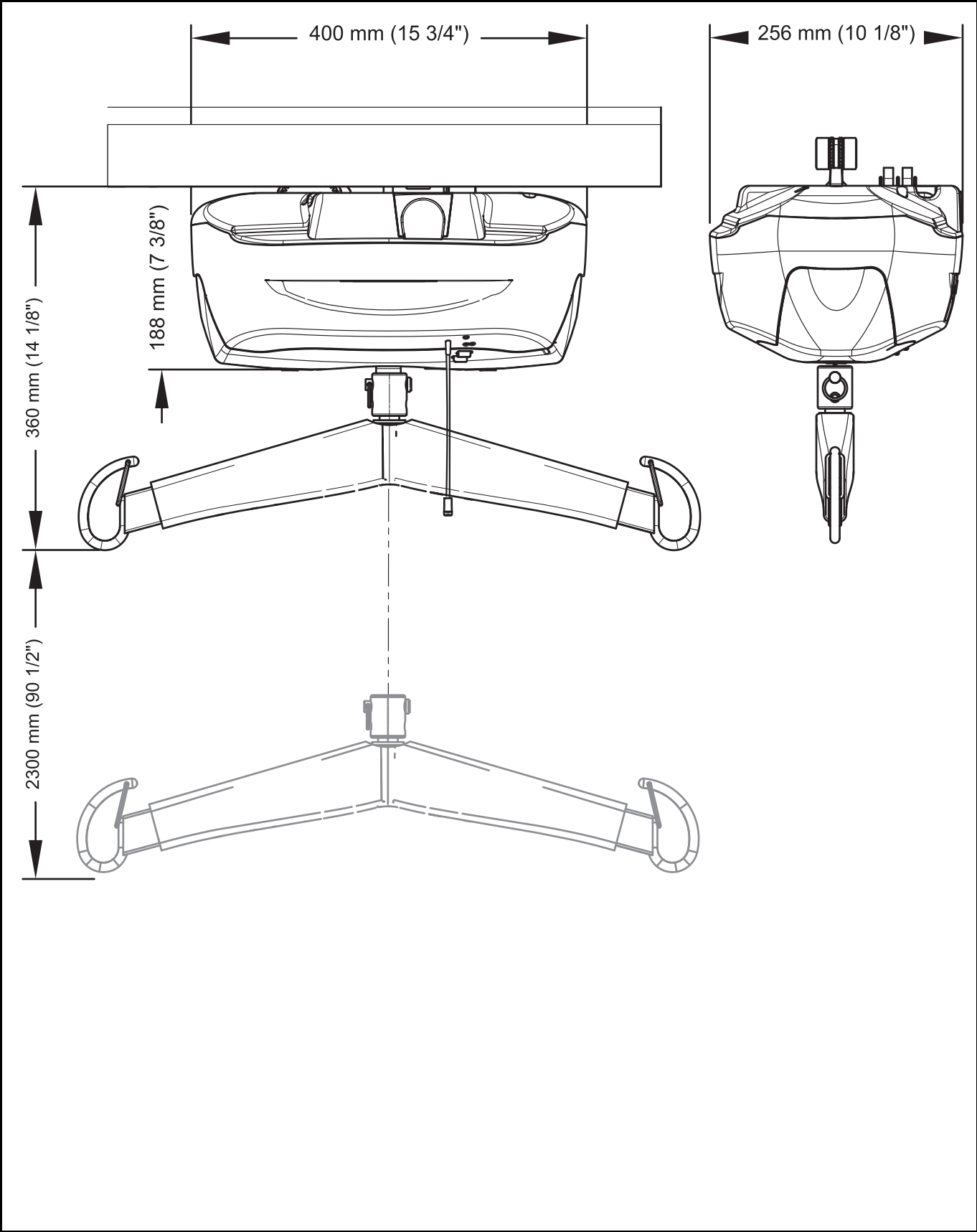


Fig. 71

Electromagnetic Compatibility

Electromagnetic Compliance

The Maxi Sky 600 has been tested for compliance with current regulatory standards regarding its capacity to block EMI (electromagnetic interference) from external sources.

Nonetheless, some procedures can help reduce electromagnetic interferences:

- Use only ArjoHuntleigh cables and spare parts to avoid increased emissions or decreased immunity which can compromise the correct functioning of the equipment.
- Ensure that other devices in patient-monitoring and/or life-support areas comply to accepted emissions standards.
- Maximize the distance between electro-medical devices. High-powered devices may produce EMI that can affect the ceiling lift. Refer to separation distance table further on in this document.

For more information on how to manage the unit's RF electromagnetic environment, please consult the AAMI TIR 18-1997 - Guidance on Electromagnetic Compatibility of Medical Devices for Clinical/Biomedical Engineers.

Electromagnetic Emissions

Guidance and Manufacturer's Declaration Electromagnetic Emissions - For all Equipment and Systems		
The <i>Maxi Sky 600</i> is intended for use in the electromagnetic environment indicated below. The customer or the user of the <i>Maxi Sky 600</i> should assure that it is used in such an environment.		
Emissions test	Compliance	Electromagnetic environment - guidance
RF emissions CISPR 11	Group 1	The <i>Maxi Sky 600</i> uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment. The <i>Maxi Sky 600</i> is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
RF emissions CISPR 11	Class B	
Harmonic emissions IEC 61000-3-2	Complies ¹	
Voltage fluctuations/flicker emissions IEC 61000-3-3	Complies ²	

Notes: ¹ The EUT utilizes less than 75 W. No limits are specified for equipment with less than 75 W input rating.

² The EUT is unlikely to produce significant voltage fluctuations or flicker. No testing required.

Electromagnetic Compatibility


Electromagnetic Immunity

Guidance and Manufacturer's Declaration Electromagnetic Immunity - For all Equipment and Systems			
The <i>Maxi Sky 600</i> is intended for use in electromagnetic environment specified below. The customer or the user of the <i>Maxi Sky 600</i> should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
Electrostatic discharge (ESD) IEC 61000-4-2	±6 kV contact ±8 kV air	±8 kV contact ¹ ±15 kV air ¹	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30%.
Electrical fast transient/burst IEC 61000-4-4	±2 kV for power supply lines ±1 kV for input/output lines	±2 kV for power supply lines ±1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	±1 kV differential mode ±2 kV common mode	±1 kV differential mode ±2 kV common mode	Mains power quality should be that of a typical commercial or hospital environment.
Voltage dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5% <i>UT</i> (>95% dip in <i>UT</i>) for 0.5 cycle 40% <i>UT</i> (60% dip in <i>UT</i>) for 5 cycles 70% <i>UT</i> (30% dip in <i>UT</i>) for 25 cycles <5% <i>UT</i> (>95% dip in <i>UT</i>) for 5 sec.	<5% <i>UT</i> (>95% dip in <i>UT</i>) for 0.5 cycle 40% <i>UT</i> (60% dip in <i>UT</i>) for 5 cycles 70% <i>UT</i> (30% dip in <i>UT</i>) for 25 cycles <5% <i>UT</i> (>95% dip in <i>UT</i>) for 5 sec.	Mains power quality should be that of a typical commercial or hospital environment. If the user of the <i>Maxi Sky 600</i> requires continued operation during power mains interruptions, it is recommended that the <i>Maxi Sky 600</i> be powered from an uninterruptible power supply or a battery. NOTE: <i>UT</i> is the a.c. mains voltage prior to application of the test level.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE: <i>UT</i> is the AC mains voltage prior to application of the test level.			

Notes: ¹ The EUT was tested at 8 kV contact discharge and 15 kV air discharge as per client request.

Electromagnetic Compatibility

(continued)

Guidance and Manufacturer's Declaration Electromagnetic Immunity - For Equipment and Systems that are Not Life-Supporting			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment - guidance
<div>Conducted RF IEC 61000-4-6</div> <div>Radiated RF IEC 61000-4-3</div>	<div>3 Vrms 150 kHz to 80 Mhz outside ISM bands^(a)</div> <div>3 V/m 80 MHz to 2.5 GHz</div>	<div>3 V</div> <div>10 V/m¹ 80 MHz to 2.5 GHz</div>	<div>Portable and mobile RF communications equipment should be used no closer to any part of the <i>Maxi Sky 600</i>, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</div> <div>Recommended separation distance:</div> <div>$d = \left[\frac{3.5}{V_1} \right] \sqrt{P}$$d = \left[\frac{12}{E_1} \right] \sqrt{P} \quad 80 \text{ MHz to } 800 \text{ MHz}$$d = \left[\frac{23}{E_1} \right] \sqrt{P} \quad 800 \text{ MHz to } 2.5 \text{ GHz}$</div> <div>where <i>P</i> is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and <i>d</i> is the recommended separation distance in meters.</div> <div>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^(a) should be less than the compliance level in each frequency range. ^(b)</div> <div>Interference may occur in the vicinity of equipment marked with the following symbol:</div> <div></div>
<div>NOTE 1: At 80 MHz and 800 MHz, the higher frequency range applies.</div> <div>NOTE 2: Theses guidelines may not apply in all situations. Electromagnetic propagation if affected by absorption and reflection from structures, objects and people.</div>			
<div>(a) Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered. If the measured field strength in the location in which the <i>Maxi Sky 600</i> is used exceeds the applicable RF compliance level above, the <i>Maxi Sky 600</i> should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the <i>Maxi Sky 600</i>.</div>			
<div>(b) Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V/m.</div>			
<div>¹ The EUT was tested at 10 V/m.</div>			

Electromagnetic Compatibility

(continued)

Recommended Separation Distance Between Portable and Mobile RF Communications Equipment and the *Maxi Sky 600* - for Equipment and Systems that are not Life-Supporting

Recommended separation distances between portable and mobile RF communications equipment and the *Maxi Sky 600*.

The *Maxi Sky 600* is intended for use in electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the *Maxi Sky 600* can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communication equipment (transmitters) and the *Maxi Sky 600* as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distances according to frequency of transmitter (m)		
	150 kHz to 80 MHz outside ISM bands	80 MHz to 800 MHz	800 MHz to 2.5 GHz
	$d = \left[\frac{3.5}{V_1} \right] \sqrt{P}$	$d = \left[\frac{3.5}{E_1} \right] \sqrt{P}$	$d = \left[\frac{7}{E_1} \right] \sqrt{P}$
0.01	0.12	0.12	0.23
0.1	0.37	0.38	0.73
1	1.17	1.2	2.3
10	3.69	3.8	7.3
100	11.67	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1: At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

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