DRIVE DeVilbiss Healthcare’s Levantar and Gravis Floor Lifts

Item #s FLP500, FLNP500, FLP600, FLNP600

User Instruction Manual

To avoid injury, read user manual prior to use.

Warning-Lift Operation

DO NOT operate this product without first reading and understanding this user manual. Damage or injury may result from improper use of this product.

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The Drive DeVilbiss Healthcare's Levantar and Gravis Resident/Patient Floor Lifts

1. Introduction: About Your Lift

The Drive DeVilbiss Healthcare's Levantar and Gravis floor lifts have a fresh contemporary look with curved boom and mast and V-shaped legs which ensure a remarkable stability compared to similar lifts. Without comprising safety, this feature makes it is possible to have a lifting capacity of:

Product #	Product Name	Power/Manual Base	Weight Capacity
FLNP500	LEVANTAR	Manual	500 lbs
FLP500	LEVANTAR	Power	500 lbs
FLNP600	GRAVIS	Manual	600 lbs
FLP600	GRAVIS	Power	600 lbs

Each Levantar/Gravis lift is fully assembled, load tested and certified before being packed/shipped. The packing is specifically designed for both export and domestic shipment to ensure the safe arrival of the lift. A number of documents are supplied in a packet with each lift and should be kept safely for future reference.

• TEST CERTIFICATE **• USER MANUAL**

The TEST CERTIFICATE is an important document and should be kept for reference purposes.
To properly maintain your lift please refer to the maintenance schedule included in this document. If you are at all unsure what your country's servicing requirements are, please check with your dealer and/or a local government agency.

2. Statement of Intended Use

The intended use of this lifting device is for the safe lifting and transfer of an individual from one resting surface to another (such as a bed to a wheelchair). Drive DeVilbiss Healthcare recommends that the transfer of a patient is fully risk assessed and conducted safely over a short distance only.

Drive DeVilbiss Healthcare patient lifts may be safely operated by a single appropriately trained and experienced caregiver, in accordance with ISO 10535:2006. However, there are circumstances (including but not limited to the patient's medical, psychological or behavioral condition, as well as the caregiver's training, experience or physical limitations) that may require two people to safely operate the lift. It is the responsibility of each facility or caregiver to determine if more than one person is required to safely operate the lift at the time of transfer, depending on these circumstances. It is also the responsibility of each facility or caregiver to ensure that the lift is only operated without additional assistance, if circumstances safely allow, by someone who: (1) has thoroughly studied the instructions for use for both the lift and any accessories; (2) has adequate training and experience to determine that the lift may be safely operated without additional assistance; and (3) can operate the lift without assistance.The Drive DeVilbiss Healthcare's Levantar and Gravis lifts are suitable for patients in the SITTING, SITTING/RECUMBENT and RECUMBENT positions.

The Drive DeVilbiss Healthcare Levantar/Gravis is an electrically operated patient lift, designed to support and promote safe patient handling and transfer for both the patient and caregiver.

The Drive DeVilbiss Healthcare's Levantar and Gravis lifts incorporates a 6-point cradle with safety sling spring clips as standard and is designed to be used in conjunction with, and only, Drive DeVilbiss branded range of slings. A 4-point cradle option is available as an add-on accessory.

Expected Service Life

Drive DeVilbiss Healthcare's Levantar and Gravis lifts are designed and tested for a minimum service life of fifteen (15) years, subject to the use and maintenance procedures stated in this manual. Use, other than in accordance with these instructions, may compromise service life.

3) Assembly Instructions

Carton Contents

Place the carton in a clear working area and open carefully. The carton contains:

• DRIVE DEVILBISS HEALTHCARE LEVANTAR OR GRAVIS FLOOR LIFT
MAST, BOOM, BASE, “U” SHAPPED PUSH HANDLE
• WALLET CONTAINING DOCUMENTS
• HAND CONTROL
• BATTERY PACK
• CHARGING CORD
• DESK TOP CHARGER/STAND
• FOR THOSE LIFTS THAT HAVE A MANUAL BASE – LEGS ADJUSTMENT HANDLE

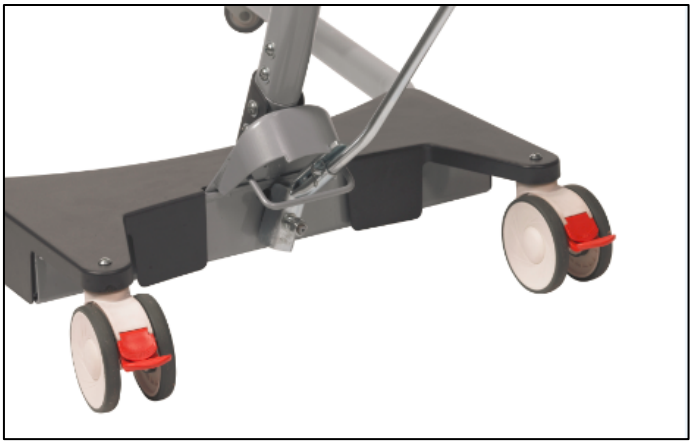
Warning

The Drive DeVilbiss Healthcare’s Levantar and Gravis lifts are heavy and will need to be lifted with care. You may need assistance to lift the product from the carton.

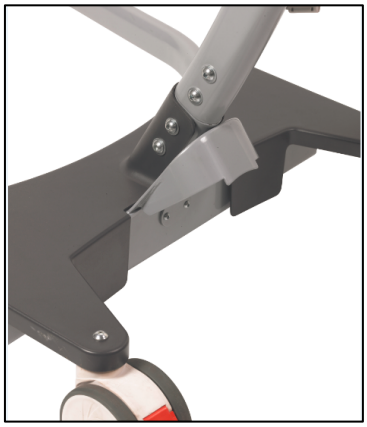
Assembly Instructions – Assembly video is available go to
https://drivemedical.desk.com/customer/portal/topics/759701-pateint-room/articles

1. Remove all the parts from the carton and place on the floor, taking care to protect the finish from damage.

Place the base in a clear space and apply the rear brakes. If you are assembling a unit with a power base, connect the two power base connectors before sliding mast into base. Be careful not damaging the wire connectors.

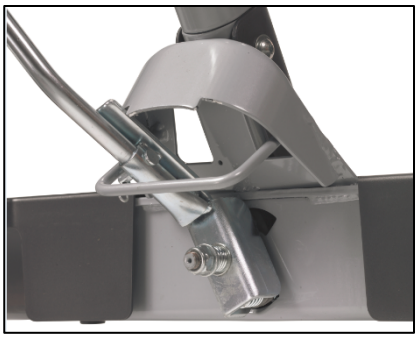


2. Fit the mast and boom assembly into the base socket



3. Secure the mast and boom assembly to the base with the four attachment bolts

4. If you are assembling the manual base, connect the manual leg adjustment handle to the base.



Warning

Avoid trapping fingers. Keep fingers away from the end of the mast when inserting into the base socket. Full engagement of the mast is indicated by the label on the side of the mast. The electric leg operation will not function unless the mast is fully engaged.

6. Line the handle assembly up to the rear of the mast and attach using the four screws provided. The screws needed to attach the handle are kept in the user instruction wallet for safe keeping.

7. Fit power pack to the lift and make sure the latch holding the pack in place is fully engaged. "Click" in place.

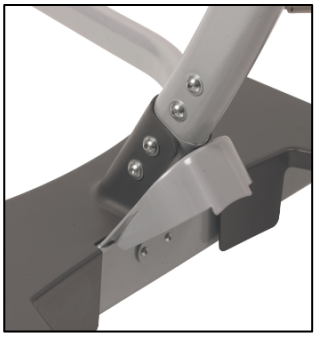
7. Plug the handset and actuator cables into the bottom of the controller. Refer to the figures on page 13 for correct positions.

Disassembly

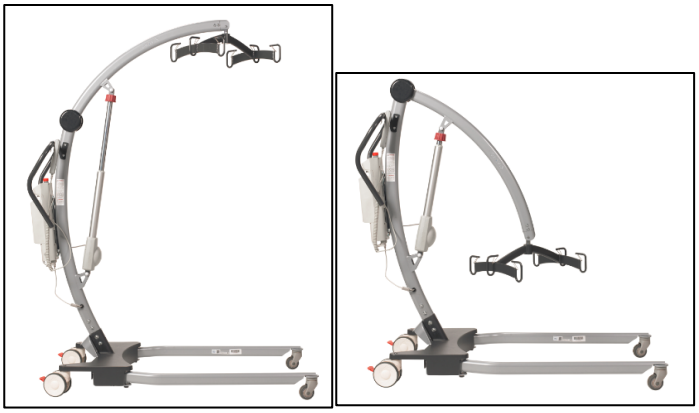
The lift should not be disassembled unless for service, repair or transport if necessary. If disassembly is required, simply follow the assembly instructions in reverse sequence.

ALWAYS CHECK THE FOLLOWING BEFORE OPERATION

- The mast is fully locked into position.

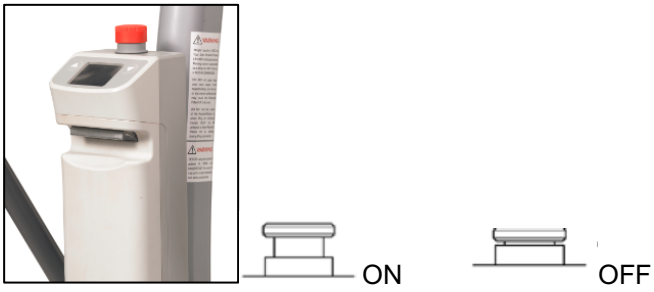


- Confirm the boom rises and lowers (This is done via the hand control and/or control module).



- The legs of the lift open and close satisfactorily (This is done via the hand control and/or control module).

- The red Emergency Stop Button is located on the top of the control box and is activated by pressing in. This will cut all power to the lift and only be reset by twisting the button counter clockwise and releasing.



4) Safety Precautions

Please read and follow the safety precautions listed below. The operation and use of Drive DeVilbiss patient lifts are simple and straightforward. Following these few basic safety precautions will make lifting operations easy and trouble free.

READ AND UNDERSTAND THE USER INSTRUCTION MANUAL BEFORE USING THE DRIVE DEVILBISS HEALTHCARE'S LEVANTART OR GRAVIS LIFTS

WARNING: Important safety information for hazards that might cause serious injury.

CAUTION: Information for preventing damage to the product.

NOTE: Information to which you should pay special attention.

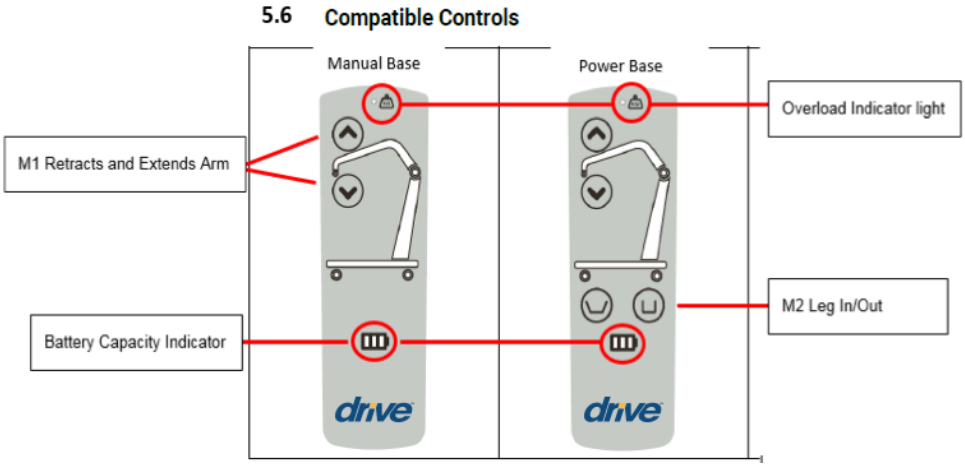
WARNING

- DO NOT lift a patient unless you are trained and competent to do so.
- ALWAYS carry out the DAILY CHECK LIST before using the lift.
- DO NOT exceed the safe working load of the lift.
- ALWAYS plan your lifting operations before commencing
- ALWAYS familiarize yourself with the operating control and safety features of a lift before lifting a patient
- Use ONLY Drive DeVilbiss branded slings
- DO NOT use a sling unless it is recommended for use with the lift
- ALWAYS check the sling is suitable for the particular patient and is of the correct size and capacity
- ENSURE sling loops are pulled completely through spring clips and rest securely on cradle hooks
- NEVER use a sling which is frayed or damaged
- ALWAYS fit the sling according to the instructions provided (user instructions).
- ALWAYS check the safe working load of the lift is suitable for the weight of the patient.
- When the patient is two inches above the lifting surface check all sling connection points to ensure all are secure
- ALWAYS carry out lifting operations according to the instructions in the user manual.
- NEVER disconnect or bypass a control or safety feature because it seems easier to operate the lift
- DO NOT lock the wheels when lifting from the floor
- DO NOT attempt to maneuver the lift by pushing on the mast, boom or patient

- ALWAYS maneuver the lift with the handle provided. A foot push pad is also provided
- DO NOT push a loaded lift at speeds, which exceed a slow walking pace (2.6 ft/sec)
- DO NOT push the lift over uneven or rough ground. Particularly if loaded
- DO NOT attempt to push/pull a loaded lift over a floor obstruction
- NEVER force an operating/safety control. All controls are easy to use and do not require excessive force.
- DO NOT park a loaded lift on ANY sloping surface.
- DO NOT use electric lifts in a shower.
- DO NOT use or store in a wet or corrosive environment: shower, bath or pool locations.
- DO NOT charge batteries in a bathroom or shower room.
- DO NOT place or store batteries under direct sunlight or near a heat source.
- YOUR lift is for patient lifting. DO NOT use it, or allow it to be used, for any other purpose.
- DO NOT bump the lift down steps, loaded or unloaded.
- DO NOT attempt to negotiate a loaded lift on a slope, which exceeds 1:12 (aprox. 5 degrees)
- DO NOT attempt to negotiate a slope without a second helper being present.
- DO NOT use a loaded lift on thick pile carpet.
- NEVER operate the lift with loose or missing parts or fasteners.
- INSPECT all precautionary labels on the lift. Order and replace if cannot be easily read.

5) Operation instruction

A) **Handset** is indicated with pictogram indicating up/down and close/open, it has expandable spiral cord.



- **Leg adjustment**

  The legs on the Drive Devilbiss Healthcare Levantar or Gravis lifts are available with either powered or manually adjustable for width. The legs can be opened to enable access around armchairs or wheelchairs. For transferring and navigating narrow doorways and passages the lift legs should be in the closed position.

  Electric leg adjustment is achieved by pressing the appropriate buttons on the hand set. The legs will be locked automatically whenever the hand control switch is released.

  Manual leg adjustment, legs width will be engaged by operating width control handle.

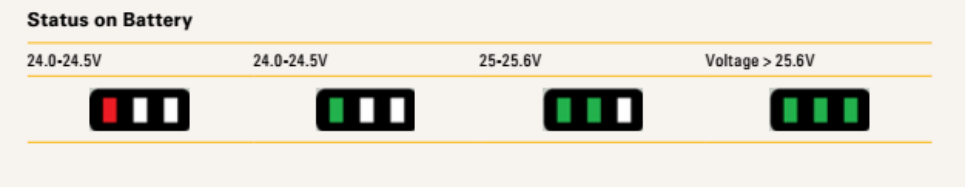
- **Castors and Braking**

  The lift has two braked castors which can be applied for parking. When lifting, DO NOT lock the castors, the castors should be left free and un-braked. The lift will then be able to move to the center of gravity of the lift. If the brakes are applied, it is possible that the patient will swing to the center of gravity and this may prove disconcerting and uncomfortable, or the lift may tilt over and cause injury to patient.

- **Raising and lowering the boom**

  The movement of the boom is achieved by a powerful electric actuator, which is controlled by a simple hand set unit. The hand set has two buttons with directional arrows UP and DOWN. The actuator stops automatically at the limit of travel in both directions. The hand control plugs into a socket at the base of the control box. There is a hook on the back of the hand control, which allows it to be hanged on the mast or boom when not in use.

- **Battery capacity**



- **Redundant controls**

  There are also raising and lowering buttons on the control module. These are located next the emergency stop button and can be used to lower/raise the patient if necessary or should the hand control fail.

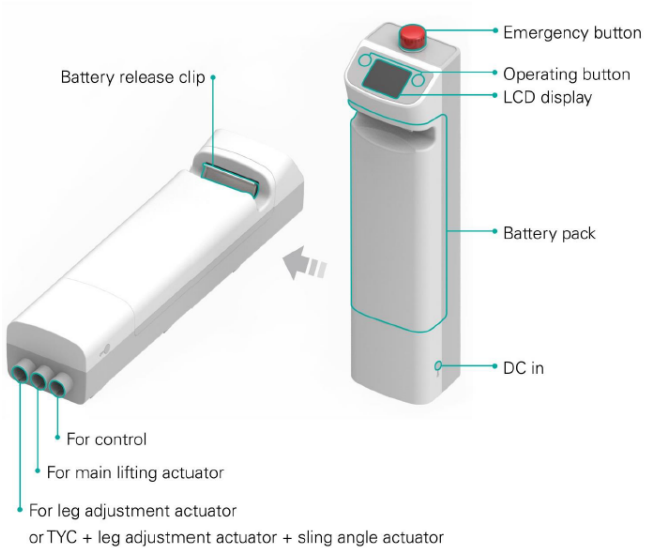
B) Mechanical Emergency Down

In the case of a complete electrical failure, the electrical actuator is fitted with a mechanical lowering device on top of actuator, it its twisted by hand to activate lowering. A slow decent will commence. Repeat this process until the patient has been safely lowered.

⚠WARNING

If this manual lowering is used, the lift MUST be subsequently checked out by a qualified engineer.

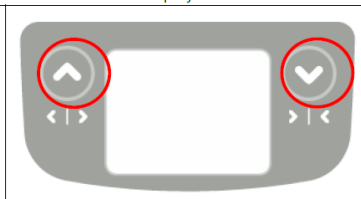
C) Smart/Safety Control Module



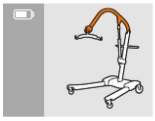
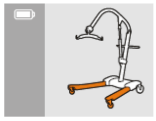
Intended Use

The Drive DeVilbiss Smart/Safety control module has an LCD screen, redundant controls for operation if the hand control becomes inoperable, battery and an emergency stop button.

Below is an example of the TC12 with an LCD display:

Left button: Pressing the left button for more than 0.5 seconds will begin actuator extension.		**Right button:** Pressing the right button for more than 0.5 seconds will begin actuator retraction.

If you press either button for less than 0.5 seconds, you can access the following screens:

• Raise or lower the hoist 	• Adjust the distance between the hoist legs 	• Remaining battery capacity

Main features:

a. Raise/Lower Hoist, Legs open/close (with power base only)

b. Visual battery capacity read out will alarm when battery is at lower capacity

c. Control box is equipped with overload protection for the lifting and leg spreading function.

d. Emergency stop button disconnects power supply. Battery cannot be charged if emergency button is in lower, pressed position.

e. Charger is integrated in the control box or can be charged externally using the charging stand included.

If the following notifications appear, please follow the procedures listed below to troubleshoot:

Maintenance notification: Check the state of the hoist and actuators	
Low battery capacity: Recharge battery. If it does not hold a proper charge, the battery will need to be replaced.	
Overload alarm: Weight has exceeded the set maximum limit. Remove weight from the hoist and retry.	
Force interference: When the primary motor retracts (hoist lowers), if any force interference occurs, an electrical push only mode will be activated and the hoist will stop working. Remove the interference immediately.	

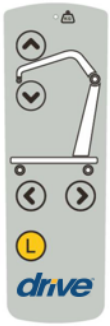
The Smart/Safety Control Module stores useful servicing information about the lift that can be recalled when required. This servicing information includes:

• Number of patient lift cycles • Total work done by actuator

• Number of lift overloads (attempted lifts above the safe working load)

• Number of days since last service interval

The Drive DeVilbiss Smart/Safety control module contains a microprocessor inside making it possible to read out service data via the on-board LCD screen. This information and setting can only be performed by using the Smart/Safety learning hand control (DRIVE Item # SP07-TC12-20171024)



Features

• Data collection in the control box with data display via LCD screen

• Work counter

• Intelligent cycle counter

• Service indicator

• Service interval indicator

• Overload information

• 3 step battery indicators

Benefits

• Improved safety for both patient and care giver

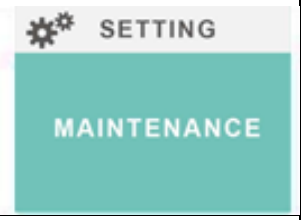
• Accurate service data available at the touch of a button

• Optimized product life time

• Ease of maintenance for engineers and service technicians

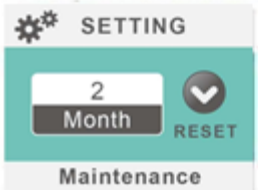
5.1 Maintenance Cycle Setting

1. Press the or buttons to select the maintenance cycle menu.



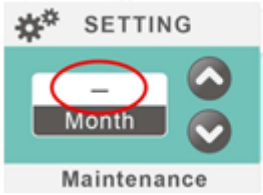
2. Press the or buttons to navigate to the maintenance cycle menu or return to the main menu.

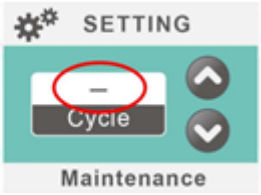
3. Make your maintenance interval selection based on a time period or fixed number of cycles.



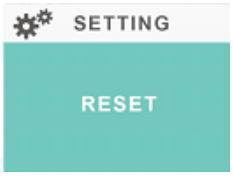
4. Press the or buttons to adjust the time period or cycles.
5. The time interval is adjustable in monthly increments and cycles are adjustable in increments of 1000.

6. If you don't want to set up the maintenance cycle, press the button until the following symbol appears.





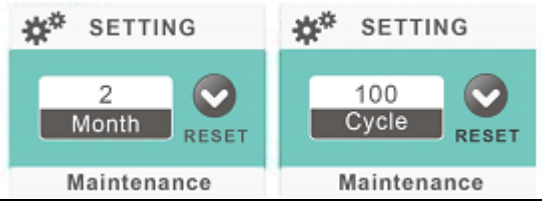
5.2 System Reset

1. Press the or to navigate to the reset menu. 

2. Press the or buttons to select **After Maintenance** or return to the main menu.

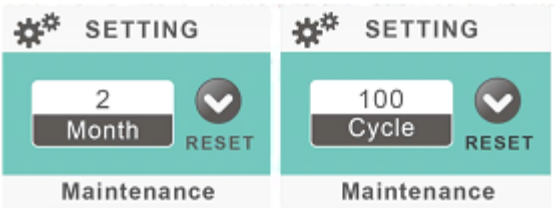
3. **"After Maintenance" System Reset**

Note: The maintenance interval settings are regulated by the number of cycles or months. An example is shown below.

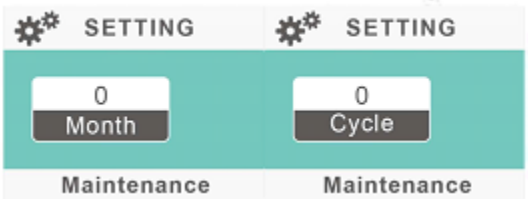


4. **Resetting the maintenance interval to 0**

Before the reset – the display will appear similar to the images shown below.

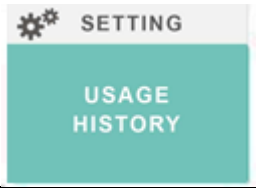


5. To reset the maintenance interval, press and hold the button for 5 seconds. When this process is completed, the values will be reset to zero.
6. After the reset is complete, the screen will appear similar to the images shown below. Note how the default maintenance time or cycle will start from zero (0).

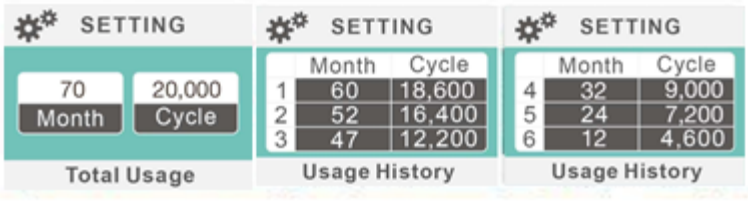


5.3 Usage History

1. Press the or buttons to navigate to the Usage History menu.



2. Press the or buttons to scroll through the usage History information or return to the main menu.



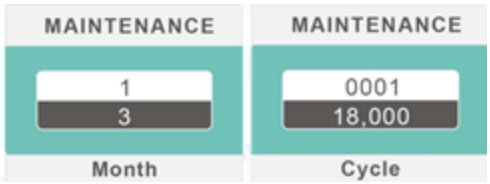
Note: The Usage History menu includes information regarding the total usage and the last five usages.

5.4 TC12 User Guide

Below is an example of the TC12 with an LCD display:

Left button: Pressing the left button for more than 0.5 seconds will begin actuator extension.		**Right button:** Pressing the right button for more than 0.5 seconds will begin actuator retraction.

5.5 Maintenance information



If you do not input a maintenance period, the message below will be shown on the display.

6) Batteries

The batteries are protected from deep discharge by a lower voltage alarm. This will sound when the batteries need recharging and the hand control is being operated. It will not sound independently of the hand control being operated. CAUTION: DO NOT IGNORE THIS WARNING ALARM. Complete the lifting operation and charge the battery pack immediately.

To avoid possible permanent damage to the battery, the battery should be placed on charge as soon as the display indicates the half empty battery symbol.

Charging Instructions

When the power pack needs to be charged:

1. There are two possibilities to charge the battery:
   a. Battery can be charged directly thru control box, connect charger to control box DC jack then you can charge the battery. Please release emergency button before charging. Charge will not be possible if emergency button is locked.
   b. Battery can also be charged on charge stand, remove battery pack from the lift. The pack is retained by a simple latch at the top of the battery pack. Lift the latch and the battery pack will be released.
   Fit the battery pack to the charging stand, connect charger to charge stand DC jack, then you can charge that battery.
2. Charging is automatic and will fully charge the batteries over a period of approximately 3 hours.

Note: After battery is fully charged, even if the charger is left plugged in for extended periods it will not overcharge the battery.

a) Green Light - Indicates main power is on.
b) Orange Light – Indicates battery is being charged.
c) Battery will be fully charged when green light is on after orange light.

Notes: It is recommended that the battery be charged immediately upon receipt.

3. To return the lift to service,
   a. When battery is being charged on control box, simply unplug the charger.
   b. Unplug the charger and remove the battery pack from the charging stand. Fit the battery pack to the lift and make sure the latch holding the battery pack in place is fully engaged. “Click” in place.

4. Charge battery when battery is kept or without being operated for more than 3 months.

It is quite easy and simple to charge battery, but you should follow the charging instructions closely. Please pay particular attention to the following points, they will help a lot to avoid problems with discharged batteries.

- The power system include battery, charger, hand control and control box, actuator are not to be repaired or opened by unauthorized personnel. (Contact your distributor for warranty and repairs).
- Never touch battery/charger terminals with any metal object.
- KEEP the batteries fully charged. Place the battery on the charge whenever it is not in use. If it is more convenient to do so, place on charge every night. The charger will not make the batteries to overcharge.
- NEVER run the batteries completely exhausted. As soon as there is an audible warning sounds, complete the lifting operation in hand and charge battery.
- To avoid possible permanent damage to the battery, the battery should be being charged as soon as the display indicates the half remaining battery symbol.
- NEVER store the battery for long periods without regular charging throughout the storage period. It is suggested to charge battery 3 months once at least.
- Do not leave the battery pack connected with the charger unit unplugged.
- DO NOT leave the charger plugged in with no battery connected.
- NEVER disconnect the charger plug by pulling on the cable.
- BE CAREFUL not to trip over the charger cable lead.
- DO NOT charge batteries in wet environment or a bathroom or shower room.

7) Maintenance Schedule & Daily Checklist

All Drive DeVilbiss products are designed for minimum maintenance, however some safety checks and procedures are required. A schedule of DAILY tasks are detailed below. Daily checks and a yearly service, inspection and test will ensure a lift is kept in optimum safe working condition. A list of spare parts are available upon request.

DAILY CHECK LIST: Drive DeVilbiss Healthcare recommends regular inspection and maintenance. Please refer to the chart below.

Item	Pre-Delivery	Daily	Minor Service (After every 3 Months of Service)	Major Service (After every 6 Months of Service)
PRE-DELIVERY				
• Confirm all components are included.	√			
• Inspect parts for possible damage in transit.	√			
COMPLETE LIFT				
• General inspection of Lift. Visually inspect the patient lift for external damage or wear. Scratches and chips.	√	√	√	√
BASE AND CASTORS				
• Inspect for missing hardware.	√		√	√
• Base opens/closes with ease.	√		√	√
• Inspect castors and axle bolts for tightness. Make sure tightly attached to legs.	√		√	√
• Inspect castors for smooth swivel and roll.	√		√	√
• Check castor brakes operate efficiently.	√		√	√
• Overhaul castors and repack with grease.			√	√
• Check tightness of bolt in leg bushes.				√
• Check linkages are secure in leg adjuster ball joints.				√
MAST				
• Mast MUST be securely assembled to boom.	√		√	√
• Inspect for bends or deflections.	√		√	√
• Check Sling hooks for wear or deflection.	√	√	√	√
ELECTRIC ACTUATOR ASSEMBLY				
• Check hand control and cycle to ensure smooth quiet operation. Lift adjustment on all Lifters. Width also for those with electric leg adjustment.	√	√	√	√
• Emergency lowering function (electric and mechanical)	√	√	√	√
• Check for wear or deterioration.	√		√	√
• Inspect hardware on mast and boom.	√		√	√
• Remove dust and dirt from actuator with cloth.			√	√
BOOM				
• Check all hardware and swivel bar supports.	√		√	√
• Inspect for bends or deflections	√		√	√
• Inspect bolted joints of boom for wear	√		√	√
• Inspect to ensure that the boom is centered between the base legs.	√		√	√

Item	Pre-Delivery	Daily	Minor Service (After every 3 Months of Service)	Major Service (After every 6 Months of Service)
SLINGS AND HARDWARE				
● CHECK ALL SLING ATTACHMENTS each time it is used to ensure proper connection and patient safety.	√	√	√	√
● Inspect sling material for wear.	√	√	√	√
● Inspect straps for wear.	√	√	√	√
CLEANING				
● Whenever necessary. Clean the lift per CLEANING INSTRUCTIONS in the CARE AND MAINTENANCE section of this manual		√	√	√
SHIFTER HANDLE (Manual Leg Adjustment Only)				
● Operates smoothly.	√		√	√
● Locks adjustable base whenever engaged.	√		√	√
ON COMPLETION OF CHECK or SERVICE				
● Arrange repair/replacement of any faulty parts.	√	√	√	√

8) Contact detail

Communication and service detail: **www.drivemedical.com**

Corporate offices: 99 Seaview Blvd., Port Washington, NY 11050 877.374.8763

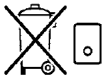
Canada office: 256 Avia Park Drive, Vaughan, Ontario Canada, L4L 9C7 866.752.1363

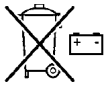
9) KEY SYMBOLS:

The following symbols are used on the charger, control unit and battery:

Type B equipment, as per EN 60601-1

Class 2 equipment

 The disposal of the charging and control unit should not be mixed with general household waste.

 The disposal of batteries should not be mixed with general household waste.

The disposal of electronics should not be mixed with general household waste.

For indoor use

ATTENTION, consult accompanying documents.

WEEE Producers

10) Limited Lifetime Warranty

This warranty covers Drive DeVilbiss Healthcare's Levantar (FLNP500, FLP500) and Gravis (FLNP600, FLP600) lifts only and are guaranteed for a period of Lifetime on Frame, 5 Years on Electronics, 1 year on battery under normal use and service.

Damage caused by use in unsuitable environmental conditions or failure to maintain the product in accordance with user and service instructions is not covered. Any alteration, modification or repair unless performed by or authorized in writing by Drive DeVilbiss Healthcare will void this warranty.

*Lifetime defined as 15 years.

11) Parts:

Drive DeVilbiss Healthcare's Levantar and Gravis lifts contain various parts that wear from normal use. These parts, such as casters are covered for 90 days after date of delivery.

Drive DeVilbiss Healthcare's obligation under this warranty is limited to supplying replacement parts, servicing or replacing, at its option, any product which is found by Drive DeVilbiss Healthcare to be defective.

12. Electromagnetic Emission

<table>
<tr><th colspan="3">Manufacturer’s declaration-electromagnetic emissions</th></tr>
<tr><td colspan="3">The FLP 600, FLNP 500 is intended for use in the electromagnetic environment (for professional healthcare) specified below.
The customer or the user of the FLP 600, FLNP 500 should assure that it is used in such an environment.</td></tr>
<tr><th>Emission test</th><th>Compliance</th><th>Electromagnetic environment-guidance
(for professional healthcare environment)</th></tr>
<tr><td>RF emissions
CISPR 11</td><td>Group 1</td><td>The FLP 600, FLNP 500 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.</td></tr>
<tr><td>RF emissions
CISPR 11</td><td>Class A</td><td rowspan="3">The FLP 600, FLNP 500 is suitable for use
in all establishments other than domestic and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.</td></tr>
<tr><td>Harmonic emissions
IEC 61000-3-2</td><td>Class A</td></tr>
<tr><td>Voltage fluctuations /flicker emissions
IEC 61000-3-3</td><td>Compliance</td></tr>
</table>

Manufacturer's declaration-electromagnetic immunity			
The FLP 600, FLNP 500 is intended for use in the electromagnetic environment (for professional healthcare) specified below. The customer or the user of the FLP 600, FLNP 500 should assure that it is used in such an environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment-guidance (for professional healthcare environment)**
Electrostatic discharge(ESD) IEC 61000-4-2	Contact:±8 kV Air±2 kV,±4 kV,±8 kV,±15 kV	Contact:±8 kV Air±2 kV,±4 kV,±8 kV,±15 kV	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	± 2kV for power supply lines ± 1kV for input/output lines	± 2kV for power supply lines ± 1kV for input/output lines	Mains power quality should be that of a typical professional healthcare environment.
Surge IEC 61000-4-5	± 0.5kV, ±1kV line(s) to line(s) ± 0.5kV, ±1kV,± 2kV line(s) to earth	± 0.5kV, ±1kV line(s) to line(s) ± 0.5kV, ±1kV,± 2kV line(s) to earth	Mains power quality should be that of a typical professional healthcare environment.
Voltage Dips, short interruptions and voltage variations on power supply input lines IEC 61000-4-11	Voltage dips: 0 % U_T; 0,5 cycle 0 % U_T; 1 cycle 70 % U_T; 25/30 cycles Voltage interruptions: 0 % U_T; 250/300 cycle	Voltage dips: 0 % U_T; 0,5 cycle 0 % U_T; 1 cycle 70 % U_T; 25/30 cycles Voltage interruptions: 0 % U_T; 250/300 cycle	Mains power quality should be that of a typical professional healthcare environment. If the user of the FLP 600, FLNP 500 requires continued operation during power mains interruptions, it is recommended that the FLP 600, FLNP 500 be powered from an uninterruptible power supply or a battery.
Power frequency(50, 60 Hz) magnetic field IEC 61000-4-8	30 A/m 50 Hz or 60 Hz	30 A/m 50 Hz and 60 Hz	The FLP 600, FLNP 500 power frequency magnetic fields should be at levels characteristic of a typical location in a typical professional healthcare environment.
NOTE UT is the a.c. mains voltage prior to application of the test level.			

Manufacturer's declaration-electromagnetic immunity			
The FLP 600, FLNP 500 is intended for use in the electromagnetic environment (for professional healthcare) specified below. The customer or the user of the FLP 600, FLNP 500 should assure that it is used in such and environment.			
Immunity test	**IEC 60601 test level**	**Compliance level**	**Electromagnetic environment-guidance (for professional healthcare environment)**
Conducted RF IEC 61000-4-6	3 Vrms: 0,15 MHz – 80 MHz 6 Vrms: in ISM bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz	3 Vrms: 0,15 MHz – 80 MHz 6 Vrms: in ISM bands between 0,15 MHz and 80 MHz 80 % AM at 1 kHz e)	**Portable and mobile RF communications equipment should be used no closer to any part of the** FLP 600, FLNP 500 including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.
Radiated RF IEC 61000-4-3	3 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz	3 V/m 80 MHz – 2,7 GHz 80 % AM at 1 kHz	**Recommended separation distance:** d = 1,2 $\sqrt{P}$ d = 1,2 $\sqrt{P}$ 80MHz to 800 MHz d = 2,3 $\sqrt{P}$ 800MHz to 2,7 GHz Where *P* is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and *d* is the recommended separation distance in meters (m). Interference may occur in the vicinity of equipment marked with the following symbol:
NOTE1 At 80 MHz and 800 MHz, the higher frequency range applies. NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.			

Recommended separation distance between portable and mobile RF communications equipment and the FLP 600, FLNP 500

The FLP 600, FLNP 500 is intended for use in an electromagnetic environment (for professional healthcare) in which radiated RF disturbances are controlled. The customer or the user of the FLP 600, FLNP 500 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the FLP 600, FLNP 500 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	**Separation distance according to frequency of transmitter m**		
	150 kHz to 80 MHz $d = 1,2\sqrt{P}$	**80 MHz to 800 MHz** $d = 1,2\sqrt{P}$	**800 MHz to 2,7 GHz** $d = 2,3\sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance *d* in meters (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.

NOTE1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

13. Technical Specification

Safety Working Load	Levantar 500 lbs, 227 kgs	Gravis 600 lbs, 272 kgs
Below specifications are same for both Levantar and Gravis		
Maximum Overall Length	52” / 1320mm	52” / 1320mm
Maximum Overall Height	76.3” / 1940mm	76.3” / 1940mm
Minimum Overall Height	27.7” / 705mm	26.75” / 680 mm
Maximum height at hook	6.9” / 175mm	6.7” / 170 mm
Minimum height at hook	2.1” / 55mm	2.1” / 55mm
Height at maximum reach	37.8” / 960mm from mast axis 38.8” / 985mm from deepest mast arc	37.8” / 960mm from mast axis 38.8” / 985mm from deepest mast arc
Reach at maximum height	32.4” / 825mm from mast axis 33.4” / 850mm from deepest mast arc	32.4” / 825mm from mast axis 33.4” / 850mm from deepest mast arc
Turn diameter	55.9” / 1420mm	55.9” / 1420mm
External width when open	45.8” / 1165mm	45.8” / 1165mm
Internal width when open	40.3” / 1025mm	40.3” / 1025mm
External width when closed	31.6” / 805mm	31.6” / 805mm
Internal width when closed	26.1” / 665mm	26.1” / 665mm
Height of legs	5.3” / 135mm	5.3” / 135mm
Ground clearance	2.9” / 76mm	2.9” / 76mm
Front caster	3” / 76mm	3” / 76mm
Rear brake caster	5” / 125mm	5” / 125mm
Net weight	132.2 lbs / 60kgs	132.2 lbs / 60kgs
Gross weight	156.5 lbs / 71kg	156.5 lbs / 71kg
Battery Pack weight	7.9 lbs (5.0A) / 3.6 kgs (5.0A) 4.9 lbs (2.9A) /2.2kgs (2.9A)	7.9 lbs (5.0A) / 3.6 kgs (5.0A) 4.9 lbs (2.9A) /2.2kgs (2.9A)
Control box weight	2 lbs / 0.9 kgs	2 lbs / 0.9 kgs
6 hook cradle weight	8.3 lbs / 3.75 kgs	8.3 lbs / 3.75 kgs

Drive DeVilbiss Healthcare

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Made in Taiwan

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