

Attendant controller

Co-pilot

Owner's manual



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Service

There are no user-serviceable parts contained in the Co-pilot. Please contact your Dealer if service is required.

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General Introduction

General

Instead of a normal maneuvering system, Permobil's Co-pilot Attendant Controller system uses a fixed control handle with built-in power sensors and a safety bracket which works as a hold-to-run handle. When the safety bracket is activated, the wheelchair can easily be moved by pushing or pulling it in the desired direction using the steering handle.

The Co-pilot is compactly designed and the handle is easy to fold away when the wheelchair is operated with its normal maneuvering system.

From an ergonomic point of view, the Co-pilot is a considerable improvement compared to systems previously found on the market. Safety is also given top priority.

To enable you to draw the greatest benefit from your Co-pilot, we ask you to read carefully through these operating instructions, especially the safety rules.

If you have problems, look in the "Tips and Troubleshooting" section.

Keep these instructions together with all the other accessories to your wheelchair.

Specifications

All data and specifications given in these instructions were correct when the product was delivered to you. Since we at Permobil work constantly to develop and improve our products, we reserve the right to make alterations without previous announcement.

Safety instructions

General

Co-pilot is a Attendant Controller system designed for installation on Permobil powered wheelchairs.

Incorrect use may lead to injury to the user or damage to the wheelchair. To minimize these risks, please read the instructions carefully, paying special attention to the safety rules and caution notices.

Any unauthorized alterations to the Co-pilot may increase the risk of accidents. Follow the recommendations in the Handling section exactly to prevent accidents during use.

Any alterations or adjustments made to Co-pilot's operating system must be carried out by an authorized service engineer. Always contact an authorized service engineer if you are uncertain.

NB! If the Co-pilot is not working, it is easiest to move the wheelchair using the normal control system. Use the change-over switch on the attendant controller panel and ensure that the normal control system is not disconnected. Alternatively, on level ground, it is possible to release the brakes and move the wheelchair manually. Please see the chassis owner's manual for details.

Warning



WARNING !

Please show great caution where this warning symbol appears. There is a risk of personal injury.



WARNING !

Never use the Attendant Controller to move the wheelchair manually using muscle power, always let the drive motor on the chair do all the work. Applying strong physical force to the Attendant Controller system can damage the equipment. When moving the wheelchair manually, store the Co-Pilot (see page 14) and use the wheelchair's push handles.



WARNING !

Make sure that the control handle is not pressed when Co-pilot starts up. To ensure that the Attendant Controller system always functions optimally, the control handle is automatically calibrated when the power is turned on. It is therefore important that the control handle should be free from external influences during the first seconds after the Co-pilot starts up.



WARNING !

If there is any risk that the user can fall out of the wheelchair during rapid maneuvers, such as braking suddenly, a positioning belt must be mounted on the seat.

Design & Function

General

The Co-pilot Attendant controller system is fixed to the back support of the wheelchair. Its position can be adjusted to ensure optimal comfort while maneuvering.

- | | |
|-------------------------------|-------------------|
| 1. Attendant controller panel | 3. Safety brace |
| 2. Locking lever | 4. Control handle |

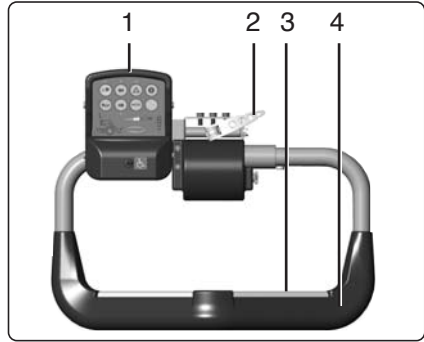


Fig. 1. Co-pilot Attendant controller system.

Height and Tilt Adjustment

By releasing the locking lever the height of the control handle can be adjusted, see fig. 2.

In the same way the Attendant controller system can be tilted down and causes no obstruction when the wheelchair is operated by the normal maneuvering system.

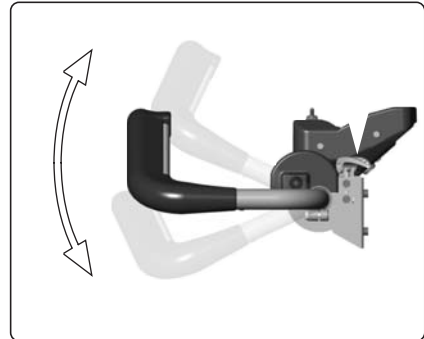


Fig. 2. Height and tilt adjustment.

Removing the Control Handle

If you are not planning to use the Attendant controller system for a period of time, the control handle can be removed, so that it is out of the way when the wheelchair is operated using its normal maneuvering system.

1. Detach the switch from the control handle. It is fitted with two screws, see fig. 3.



Fig. 3. The switch on the control handle is fitted with two screws.

2. Detach the Attendant controller panel by pushing it out to the side, see fig. 4.



Fig. 4. To remove the Attendant controller panel, push it to the side.

3. Detach the control handle by releasing the locking lever and pulling the control handle directly upwards, see fig. 5.



Fig. 5. The control handle is held in place by the locking lever.

4. Place the Attendant controller panel in its case, see fig. 6. The case can be ordered from Permobil, Part no: 309664-00-0.
5. Store the control handle safely, to protect it from damage.

Refitting the Control Handle

1. Refit the control handle and pull the locking lever up, see fig. 5.
2. Take the Attendant controller panel out of the case, and attach it to the control handle, see fig. 4 and 6.
3. Refit the switch on the control handle, see fig. 3.



Fig. 6. Store the Attendant controller panel in its case.

Symbols and Functions

  **Normal Maneuvering System Blocked**


The normal maneuvering system cannot be operated when the change-over switch points to the right towards the wheelchair symbol. The wheelchair can only be operated using the Co-pilot.

When the change-over switch points to the left, the wheelchair can be operated by the Co-pilot or the normal maneuvering system.

NB! Only one control can be "on" at the time.



Fig. 7. Attendant controller panel

 **Lights** (optional equipment)

Press this button to turn the lights of the wheelchair on and off.

 **Caution Symbol**

When this button is pressed the indicator light flashes in the caution symbol on the Attendant controller panel (the red light) and both turning signal lights will flash (the green lights). If your wheelchair has lighting, both turning signal lamps will also flash to attract attention.

NB! This function still works when the start button is disengaged.

 **Turning Signals** (optional equipment)

Press the right or the left button to activate the wheelchair turning signals to show the right direction.

 **Start Button**

This button turns the Co-pilot on or off. To operate the Co-pilot, the start button must be activated.



Horn

When this button is pressed a signal will sound to attract attention.



Charging Indicator

This indicator lights up when the wheelchair batteries are in the process of charging.

NB! *This function will not work when the start button is disengaged.*



Seat Elevated Indicator

This indicator lights up when the seat-lift is elevated.

NB! *Co-Pilot operates best when at highest speed setting. With seat elevated, the chair is in slow mode.*



Speed Regulator

The speed can be set at five levels, and one or more of the indicator lights will light up depending on which speed is selected. When running the wheelchair using the Co-pilot, the speed level with five lights is recommended.

- 1 - 2 Lights = Slow speed
- 3 - 4 Lights = Medium speed
- 5 Lights = Maximum speed



MODE (selector)

This cut-out switch activates the speed regulator and the "Leverman" joystick function.

It is most effective to operate the "Leverman" joystick function using the normal maneuvering system, so it will not be described in detail in this user guide.



Battery Voltage Indicator

The window display on the Attendant controller panel indicates the following voltage levels:

(From left to right):

- Red + Yellow + Green = Fully charged
- Red + Yellow = Half charged
- Red = Charge the batteries



Motor Lock Release Indicator

The indicator lights up when the wheelchair motor lock is released.

NB! *This function will not work when the start button is disengaged.*

For full information on the motor lock release, please see the operating instructions for the chassis.

Handling

General

The Co-pilot is designed for use both indoors and outdoors. Normal care should be taken when running indoors. Outdoors it is important to remember to run very slowly on steep downhill slopes and take special care when running on uneven terrain, on uphill slopes and when tilting to the side. See the wheelchair operating instructions for more information on rules for operating the wheelchair.

Running

1. Make sure that the wheelchair's normal maneuvering system is turned off. Check that there is no pressure on the Co-pilot handle, for example a person touching it or bags and boxes hanging from it. Turn on the wheelchair by pushing the start button (8:1) on the Attendant controller panel.



WARNING !

Make quite certain that nothing is touching the control handle when you turn on the chair. To ensure that the Attendant controller system always functions optimally, the control handle is automatically calibrated when you turn on the chair. It is important that the handle should not be subjected to any external influence during the first seconds after the Co-pilot is started.

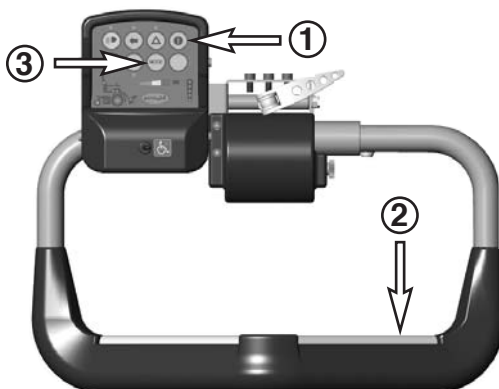


Fig. 8. The control handle.

- | |
|--|
| <ol style="list-style-type: none"> 1. Start button 2. Safety brace 3. MODE button |
|--|

2. To ensure optimal function, the wheelchair should run with speed level 5 selected (5 lights showing on the speed regulator) and the seat lift in its lowest position (with seat elevated, the chair is in slow mode). If the 5 lights do not appear, adjust the speed as follows: press in the safety brace (8:2), then pull the control handle carefully. Just as the chair begins to move, press repeatedly on the MODE button (8:3) to select the required speed level. Release the control handle.

3. Press the safety brace in (8:2), and pull the handle back to run backward, or push the handle forward to run forward. Pull the handle to one side to turn.

NB! No great effort is needed to start and run the chair.

NB! If you need to stop the chair as fast as possible, for example in an emergency, the quickest way to stop the chair is to remove all pressure from the safety brace.



Fig. 9. Control handle



WARNING !

Never use the Attendant controller system to move or steer the wheelchair manually with muscle power. Always let the driving motor on the wheelchair do all the work. Strong physical pressure on the Attendant controller system may damage the equipment.

4. The wheelchair's speed can be regulated continually by sliding or pulling the handle with varying pressure forward or backward. The electronic system in the wheelchair allows it to inch along over curbs. You can run the wheelchair right up to the curb and then run carefully over it. When you run down from an obstacle or on a steep downhill slope, you should run slowly and brake gently. You can brake gently by pushing less strongly on the handle, and when the speed is reduced, you can release the safety brace.

NB! The calibration of your Co-pilot may be affected by external factors such as the temperature of the surroundings. If there is a large temperature difference, e.g. when moving outdoors from indoors, the chair may begin to work heavily or run extremely easily. If this happens, switch off at the start button, see picture 8:1. Then turn on the chair but do not touch the handle - the Co-pilot will be calibrated automatically.

NB! The Co-pilot safety brace cannot be affected by incorrect calibration, and the chair will always stop when the handle is released, regardless of whether the Co-pilot is correctly calibrated or not.

Transport

To minimize the space needed during transport, the Attendant controller system can easily be detached. See also the operating instructions for the chassis and the seat for more information on transport.

1. Release the back support of the seat. See the seat operating instructions for detailed information.
2. To release the locking lever on the Attendant controller system, pull the handle straight up, see fig. 10.
3. Place the Attendant controller system in a suitable position on the seat. Make sure that the Attendant control system is in a secure position without risk of damage during transport, see fig. 11.



Fig. 10. Release the locking lever on the Attendant controller system.



Fig. 11. During transport, the Attendant controller system can easily be detached.

Maintenance

Cleaning

Clean the Attendant controller system when necessary. Use a damp cloth with a mild soap solution to remove dirt and dust.

NB! Never spray the wheelchair with a hose! It may damage the electronic system.

Inspection

Inspect the cables to the Co-pilot regularly to make sure that they are not damaged.

NB! Always contact a service engineer if you discover a fault. Using faulty equipment may cause damage to the wheelchair as well as injury to the user.

Technical Data

General

Product name Co-pilot

Dimensions and Weight Information

Length excl. seat anchor 11 1/2"

Width excl. seat anchor 15"

Weight incl. anchor for Corpus 5,5 lbs

Electrical System

Voltage 24V

Tips and Troubleshooting

This section explains some situations which can occur and suitable precautions during use of the Co-pilot. The reason may be incorrect handling or system limitations.

Flashing Panel

If the battery scale and the speed scale on any of the panels begin to flash, this indicates an alarm from the system. An alarm may be given for a number of reasons. When the alarm relates to the Co-pilot Attendant controller system, 7 segments on the battery scale will flash. Possible causes of this alarm are outlined below.

If an error alarm appears as described in items 1 – 3 below, turn off the Co-pilot and then turn it on again by pressing the Attendant controller panel start button. Error alarms as described in items 4 – 6 below can be remedied by turning off the panel where the alarm is given.

NB! When the system gives an alarm, the effect of switching it off may be delayed for about six seconds after the start button has been pressed.

Alarms can be caused by:

1. Starting up the Attendant controller panel while the Safety Brace is Activated

If the safety brace is pressed in when the Co-pilot is started by the start button, the Attendant controller panel will give an alarm signal.

2. Pressure too strong on the Co-pilot Handle

If you push or pull too hard on the handle, the Attendant controller panel will give an alarm.

3. Safety Brace Remains Pressed Down with the Wheelchair not Running

If the safety brace remains pressed in for a long period after you have stopped running the wheelchair using the Attendant controller system, the Attendant controller panel will give an alarm.

4. Double Activation

If anyone tries to activate more than one maneuvering system, for example by activating the Attendant controller system when the wheelchair's normal maneuvering system is already activated, one of the panels in the maneuvering system will give an alarm.

5. Activating a Blocked Maneuvering System

If the wheelchair's normal maneuvering is activated when the Attendant controller panel cut-out switch is in the "blocked" position the normal maneuvering panel will give an alarm.

6. Joystick Fault in the Normal Maneuvering System

If the joystick on the normal maneuvering panel has been touched and activated deliberately or by mistake, the normal maneuvering panel will give an alarm.

7. Internal Fault in the Attendant controller System

An alarm appearing on the Attendant controller panel which is not due to one of the causes described above is presumably due to a fault in the equipment.

Problems with Speed Regulation

When the desired speed for the Attendant controller system is being selected by the Mode button, it is possible, if the control handle is operated with too little pressure, to slip over into the position for seat functions (Leverman). If this happens, press once more on the Mode button. Increase the pressure on the handle and then continue the adjustment by pressing the Mode button and increase the speed to the required level.

The Control Handle Twists Up or Down While Running

This may happen when the locking lever on the Attendant controller handle is not securely engaged to set the height or angle. It can be adjusted by turning the nut on the locking lever axle, on the underside of the locking mechanism.

NB! Do not tighten it too much. To prevent damage to the equipment, the handle must be able to move up or down if someone "grips it too firmly".



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