PMPJ

Stealth's User Manual and Maintenance Guide for the 9 Pin Precision Mini Proportional Joystick

Stealth Products strives for 100% customer satisfaction. Your complete satisfaction is important. Please contact us with feedback or suggested changes that will improve the quality and usability of our proportional drive products. You may reach us at:

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30175 Hannover, Germany

General

Read and understand all instructions prior to the use of the product. Failure to adhere to instructions and warnings in this document may result in property damage, injury, or death. Product misuse due to failure of the following instructions will void the warranty.

Immediately discontinue use if any function is compromised, parts are missing, loose, or shows signs of excessive wear. Consult with your supplier for repair, adjustment, or replacement.

If this document contains information you do not understand, or there are concerns about safety or operation, contact your supplier.

Important Information!

All persons responsible for fitting, adjustment, and daily use of the devices discussed in these instructions must be familiar with and understand all safety aspects of the devices mentioned. In order for our products to be use successfully, you must:

- Read and understand all instructions and warnings.
- Maintain our products according to our instructions on care and maintenance.
- Devices should be installed and adjusted by a trained technician.

Supplier Reference

Supplier: _____

Telephone: _____

Address: _____

                    _____

Purchase Date: _____

Model: _____

Before you install or begin using the PMPJ, it is important that you read and understand the content of these installation and operating instructions. The installation instructions will guide you through the options and possibilities with the product.

Instructions are written with the expressed intent of use with standard configurations. They also contain important safety and maintenance information, as well as describe possible problems that can arise during use. For further assistance, or more advanced applications, please contact your supplier or Stealth Products at (512) 715-9995 or toll free at 1-800-965-9229.

Always keep the operating instructions in a safe place so they may be referenced as necessary.

All information, pictures, illustrations, and specifications are based on the product information that was available at the time of printing. Pictures and illustrations shown in these instructions are representative examples and are not intended to be exact depictions of the various parts of the product.

Ordering Documentation

You can download additional copies of this user manual on the Stealth website:

https://stlpro.site/stealth-docs

and search: *PMPJ User Manual* in the search bar at the top of the page.

Our products are designed, manufactured, and produced to the highest of standards. If any defect in material or workmanship is found, Stealth Products will repair or replace the product at our discretion. Any implied warranty, including the implied warranties of merchantability and fitness for a particular purpose, shall not extend beyond the duration of this warranty. Stealth Products, LLC does not warrant damage due to, but not limited to:

- Misuse, abuse, or misapplication of products.
- Modification or product without written approval from Stealth Products, LLC.
- Any alteration or lack of serial number, where applicable, will automatically void this warranty.
- Stealth Products, LLC is liable for replacement parts only.
- Stealth Products, LLC is not liable for any incurred labor costs.

No person is authorized to alter, extend, or waive the warranties of Stealth Products, LLC.

Stealth Products warrants against failure due to defective materials or workmanship:

Covers: 2 years

Hardware: 5 years

Electronics: 3 years

In Case of Product Failure

In the event of product failure covered by our warranty, please follow the procedures outlined below:

1. Call Stealth at +1 (512) 715-9995 or toll free +1-800-965-9229.
2. Request the Returns Department or obtain an RA from the Returns Department and follow department or documentation instructions.

Warning Labels   6.1

Warnings are included for the safety of the user, client, operator and property. Please read and understand what the signal words **SAFETY, NOTICE, CAUTION, WARNING** and **DANGER** mean, how they could affect the user, those around the user, and property.

⚠ DANGER	Identifies an **imminent** situation which (if not avoided) will result in **severe injury**, **death**, and **property damage**.
⚠ WARNING	Identifies a **potential** situation which (if not avoided) will result in **severe injury**, **death**, and **property damage**.
⚠ CAUTION	Identifies a **potential** situation which (if not avoided) will result in **minor** to **moderate injury**, and **property damage**.
NOTICE	Identifies important information not related to injury, but possible **property damage**.
SAFETY	Indicates steps or instructions for safe practices, reminders of safe procedures, or important safety equipment that may be necessary.

Limited Liability   6.2

Stealth Products, LLC accepts no liability for personal injury or damage to property that may arise from the failure of the user or other persons to follow the recommendations, warnings, and instructions in this manual.

Testing   6.3

Initial setup and driving should be done in an open area free of obstacles until the user is fully capable of driving safely.

The PMPJ should always be tested without any person sitting in the wheelchair until every alteration of the physical installation or adjustment of the joystick is complete.

Parts & Accessories Included: **7.1**

- IDPMP-9
- 2 #10-32 x 3/8" Button Head Screws

Mounting Options   **7.2**

Mounting options for the 9 pin Stealth Mini Proportional Joystick includes:

- Gatlin Mount
- Bib Mount
- Swing Away Arm
- Arms Mount

Stealth's PMPJ joystick (or referred to as IDPMP-9) housing with a 9 pin connector comes with two threaded holes for mounting.

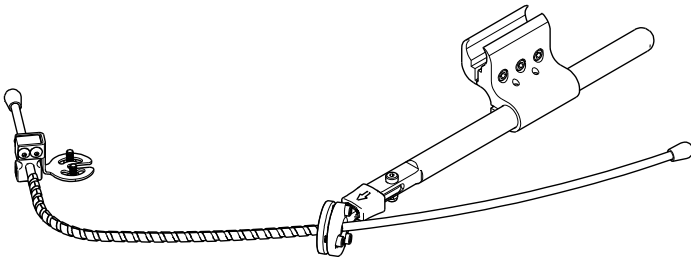The following pictures feature the part numbers and mounts that are necessary for mounting the joystick:

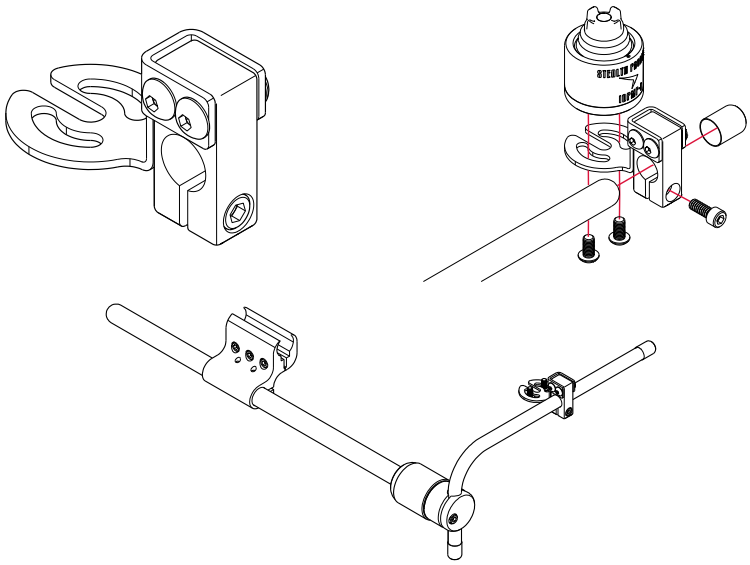**SM671**   **SM670 Swing Away Arm**
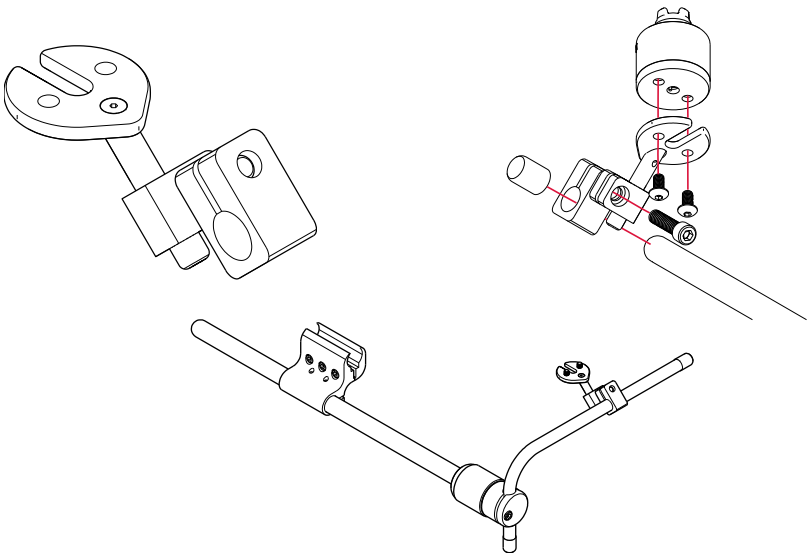
ARM260-PMPJ

SBM851

GAT486

GAT497

Connecting The Joystick 9.1

The IDPMP-9 plugs directly into the power chair's control interface using the supplied DB-9 connector. Depending on the type of interface, the location port varies.
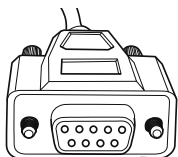
9-Pin Connector	Q-Logic Drive Control System	Q-Logic SCIM	R-net Omni Specialty Control Interface
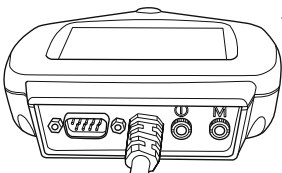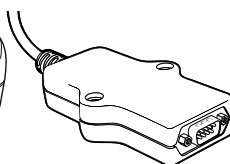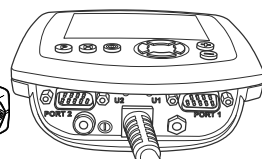
Joystick Operation 9.2

The IDPMP-9 gives the user ability to operate their wheelchair drive parameters with smooth and precise control in 360°.

NOTICE
Ensure the wheelchair and IDPMP-9 are correctly setup and adjusted to the user's needs.

⚠ CAUTION
If the IDPMP-9 does not perform as specified, turn off the wheelchair and repeat setup or contact your supplier.

Joystick Setup 9.3

It is important to properly install the IDPMP-9 for the user. Take care during the assessment to identify the joystick placement and allow maximum user access and control. Do not position the joystick where the hand may be obstructed from moving in any direction.

Joystick Directions   **9.4**

The front divot represents the front of the joystick, or *Forward* as the
factory setting.

Backward

Right   Left

Forward

Front Divot
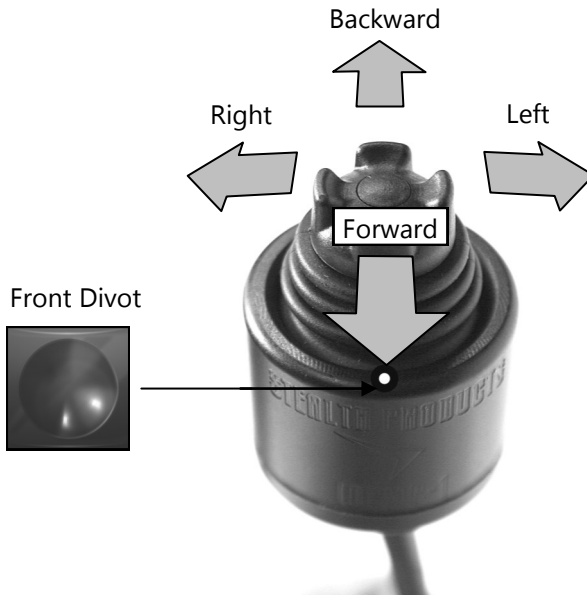
System Setup   **9.5**

⚠ **WARNING**	All setups should be performed by a trained technician.

⚠ **CAUTION**
Manually disengage drive motors prior to setting up chair's electronics.

⚠ **CAUTION**	Refer to power chair's user manual for important instructions.

⚠ **CAUTION**	Always use a slow speed when first operating the IDPMP-9.

Q-Logic™ Programmer Setup   **10.1**

Bookmark Buttons

Select *Options* in the main menu. Button actions are displayed on screen above corresponding buttons. In other menus, hold button to bookmark settings, and press button to quickly go to bookmark.

Navigation:

Arrows navigate the main menu. *Up & Down* to navigate menus, *Right* to open a menu item and *Left* to return to previous menu.

Plus & Minus

Toggle settings or changes values of the highlighted parameter.

Note: Q-Logic™ Enhanced Display and Q-Logic™ Handheld Programmer required.

Help Button

Displays information about options selected on screen.

1. Plug in the Q-Logic™ Handheld Programmer to the Q-Logic™ Enhanced Display or to the standalone joystick if the SCIM (Specialty Control Input Module) is in use.

2. On the Q-Logic™ Programmer, navigate with the *Left & Right* buttons ◁▷ to *Program Adjustments Σ Specialty Control ▷ Active Device.*

3. Toggle with the *Plus & Minus* buttons ± from *Active Device* to *Proportional.*

4. Unplug the Q-Logic™ Handheld Programmer and *Turn Off* the system.

NOTICE

For new chairs that have never been programmed, a power cycle will need to be done after the joystick has been calibrated and before the joystick throw can be adjusted.

NOTICE

If using Q-Logic™ Specialty Control Input Module (SCIM), you will need any type of mechanical switch to plug into the power port of the standalone joystick to power *On/Off* the chair and ensure the SCIM as master control.

Q-Logic™ Proportional Joystick Setup   10.2

1. Plug in the Q-Logic™ Handheld Programmer to the Q-Logic™ Enhanced Display or to the standalone joystick if the Specialty Control Input Module (SCIM) is in use.

2. On the Q-Logic™ Programmer, navigate with the *Left & Right* buttons ◁▷ to *Program Adjustments Σ Specialty Control ▷ Proportional Σ Joystick Set Ups Σ Proportional.* Here you can fine tune joystick performance and functionalities such as:

- *Center and Axis Deadband*
- *Tremor Suppression*
- *Assign Direction*
- *Joystick Calibration*
- *Switch Operation*

Center Deadband   10.3

The Center Deadband parameter defines how far the joystick must be moved from neutral position to engage moving the power chair. The value corresponds to the diameter of a circle around the joystick center position. No drive or menu instruction will be executed unless the joystick is moved out of this circle.

- Select *m: Center Deadband* option with the navigation's *Up & Down* buttons, ▲▼ then press the *Right* button. ▷
- Use the *Plus & Minus* buttons ± to adjust the *Center Deadband*. Adjustment ranges from 5 to 50%. Press *Left* navigation button ◁ to save.

Axis Deadband   10.4

The Axis Deadband parameter defines how far the joystick has to move to be recognized. This can be helpful if a toggle command has to be made.

- Select *m: Axis Deadband* option with the navigation's *Up & Down* buttons, ⇕ then press the *Right* button. ⅀
- Use the *Plus & Minus* buttons ± to adjust the Axis Deadband. Adjustment ranges from 5 to 50%. Press the *Left* navigation button ⊄ to save.

Tremor Suppression   10.5

The Tremor Suppression sets a neutral range that suppresses possible tremors (trembling of hand or drive surface conditions) on the joystick. Setting from 0 to 100%.

1. Follow *Section 10.1* Steps 1 and 2.
2. Select *m: Tremor Suppression* option with navigation's *Up & Down* buttons, ⇕ then press the *Right* button. ⅀
3. Using the *Plus & Minus* buttons ± , adjust the tremor suppression. To turn back off, adjust to 0%.
4. When finished, press *Left* navigation button to return to menu and *Save.*

NOTICE

When short command is used to operate the power chair, the Tremor Suppression should not be set of 90%, otherwise any short throw will be ignored.

Assign Direction Function   10.6

The Assign Direction Function allows you to set the axis direction. For example, if you want to change *Forward* (X axis 0 to 100) to *Reverse* (X axis 0 to −100) or *Left* (Y axis 0 to −100) to *Right* (Y axis 0 to 100). If you switch *Forward* to *Reverse*, the system will automatically change *Reverse* to *Forward*. Same with *Left* and *Right*. Parameters are measured by percent (%).

1. Follow *Section 10.1* Steps 1 and 2.
2. Select *Assign Direction* option with navigation's *Up & Down* buttons, ⇕ then press the *Right* button. ⅀ Follow screen instructions.
3. When finished, press *OK* to save.

Switch Operations   10.7

The Switch Operations parameter sets the joystick to operate like a switch input, making it not proportional. When the joystick is moved out of neutral, more than 50% of the operating range, it will activate full throttle (100%) corresponding to the desired direction. Switch operations can be set *On* or *Off.*

1. Follow *Section 10.1* Steps 1 and 2.
2. Select *m: Switch Operations* option with navigation's *Up & Down* buttons, ↕ then press the *Right* button. Ɔ Follow screen instructions.
3. Use the *Plus & Minus* buttons ± to toggle *On/Off.*
4. When finished, press the *Left* navigation button ↺ to return to menu and *Save.*

Joystick Calibration   10.8

Calibrating your joystick will set the range of motion for the axes or re-center it to improve operation.

⚠ CAUTION
Calibration MUST be done for the joystick. This is a new safety feature update included in the Q-Logic™ Programmers.

1. Follow *Section 10.1* Steps 1 and 2.
2. Select *Calibrate* option with navigation's *Up & Down* buttons, ↕ then press the *Right* button. Ɔ
3. Programmer will prompt for a calibration of the joystick. Follow directions and spin the joystick head twice in a circle.
4. Calibration will be complete. Press *OK* to save. Exit screen.
5. Power cycle chair.

Joystick Throw   10.9

The throw is the place where the joystick is stopped in a particular direction. Throw distance is the maximum distance/angle the shaft can be moved in a particular direction. The throw should be set to the maximum distance/force the individual utilizing it is capable of.

1. Once the power cycle from Section 10.1 is complete, follow steps 1 and 2
2. Select *Throw* option with navigation's *Up & Down* buttons, ⬍ then press the *Right* button. Σ
3. This setting will turn power chair's system to *IDLE MODE*, press *OK* if prompted. Then follow screen instructions.
4. Angle shaft with individual's maximum force. Press *Plus* button + when complete.
5. When it is complete, you will be prompted to save the new configuration. Press *Yes* to save.

R-Net™ Omni Setup   11.1

Mode

Switch mode to
drive, power seating,
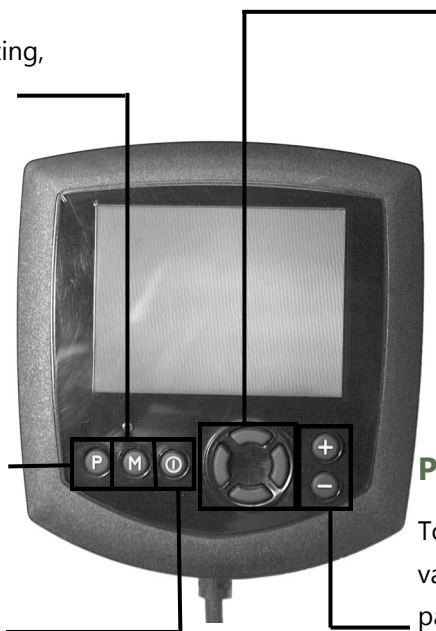or OBP (onboard
programming)

Navigation

Up & Down button to
navigate the menus,
Right button to open a
menu item and *Left*
button to return to
previous menu.

Profile

Switch between
preset drive pro-
files and activate
device as control.

Plus & Minus

Toggle settings or changes
value of the highlighted
parameter.

Power

Turns chair *ON/OFF*.

R-Net™ Programming Dongle

1. Plug in the R-Net™ Programming Dongle in line with the Omni display and chair's electronics, and then power *ON* the chair.

2. Press the *Mode* button until you reach the *OBP (Onboard Programming)* menu. The *OBP* menu will appear as an hourglass while loading.

3. With the navigation buttons, navigate to *Omni* ∑ *Global* ∑ *Sleep 12V* and toggle *Sleep 12V* to *On* with the *Plus & Minus* buttons. ±

4. Navigate back ⊄ to the *Omni* menu , then navigate to *Omni Port 1* (or *Port 2* if the *IDPMP-9* is in *Port 2*).

5. In the *Port* menu, toggle *SID* to *Prp* with the *Plus & Minus* buttons. ±

6. In the *Port* menu, navigate to *Switches.*

7. In the *Switch* menu, toggle *Switch Detect* to *Off* with the *Plus & Minus* buttons.±

8. In the *Switch* menu, toggle *9 Way Detect* to *Off* with the *Plus & Minus* buttons. ±

9. Navigate with the *Left* button ⊄ back to the *Omni* menu, and then navigate to *Profiled.*

10. In the *Profiled* menu, configure a profile to use the port for the IDPMP-9.

11. Power off the chair, remove the R-Net± Programming Dongle, reconnect the Omni Display, and power on the chair.

•   The chair should now be programmed to recognize the IDPMP-9. Be sure to re-engage the motors before operation.

Joystick Calibration   11.2

1. Plug in the R-Net™ Programming Dongle in line with the Omni Display and chair's electronics, then power on the chair.

2. Press the *Mode* button until you reach the*OBP (Onboard Programming)* menu. The *OBP* menu will appear as an hourglass while loading. ∑

3. With the navigation buttons, navigate to *System Joystick Calibration.*

4. The system will ask to set each direction independently by pressing towards that specific direction. For example, *Forward* (0 to 100), *Left* (0 to −100), *Reverse* (0 to −100), and *Right* (0 to 100). Figures are measured by percentage (%).

5. Calibration will be successful when the axis to the referred direction reaches its maximum ⟹ and its counterpart axis is close to 0. For example, *Forward* will look like:

    Forward/reverse 90% > left/right 3%

    ⟹ *Left* will look something like:

    Forward/reverse 5% > left/right −87%

6. When all four axes are calibrated, you will see a green checkmark on the scree.

7. Power off the chair, remove the R-Net™ Programming Dongle, reconnect the Omni Display, and power on the chair.

R-Net™ Proportional Joystick Setup   11.3

1.   Plug in the R-Net™ Programming Dongle in line with the Omni Display and chair's electronics, then power on the chair.

2.   Press the *Mode* button until you reach the *OBP (Onboard Programming)* menu. The *OBP* menu will appear as an hourglass while loading.

3.   With the navigation buttons, navigate to *Controls* Σ *Joystick.* Here you can fine tune joystick performance and functionalities such as:

- *Active Throw Details*

- *Active Orientation and Orientation Details*

- *Deadband*

Throw   11.4

The throw is the place where the joystick gets stopped in a particular direction. Throw distance is the maximum distance/angle the shaft can be moved in a particular direction. The throw should be set to the maximum distance/force the individual utilizing it is capable of.

Active Throw

- Follow the first three steps in *Section 11.3*

- Use the navigation's *Up & Down* buttons, ⇕ select *Active Throw* from the list and press the *Right* button. Σ Select the port with the *Up & Down* buttons ⇕ then the *Right* button Σ again to setup.

- System will guide you through the setup, following the onscreen instructions, move the joystick towards the defined direction with the maximum force possible. Press the *Plus* button + to save and proceed to the next step. Values range from 25% to 100%.

Throw Details

Throw Details will allow you to see all Active Throw setups for all profiles. To select profiles, move navigation buttons (*Left or Right*) ⊄ Σ and to select axis (*Up* or *Down*). ⇕ The selected axis/profile can be adjusted by increments of 1 or in increments of 10 using the *Plus & Minus* buttons ±. For increments of 10, keep *Plus* or *Minus* button ± pressed. Values range from 25% to 100%.

Axis Orientation   11.5

The Axis Orientation allows you to switch the axis behavior. For example, the X-axis (*Forward/Reverse*) can be switched making *Forward* direction *Reverse*.

Active Orientation

1. Follow the first three steps in *Section 11.3.*
2. Using the navigation's *Up & Down* buttons, ⌃⌄ select *Active Direction* from the list and press the *Right* button. ⅀ Then Press *Plus* + for Port 1 or *Minus* - for Port 2 to select port to set up.
3. System will prompt you to set the *Forward* (X-axis) by angling shaft. Automatically, *Reverse* will be set to opposite value. Values available: N (*North/Forward*), W *(West/Left)*, S (*South/Reverse*), or E (*East/Right*).
4. Next you will be prompted to set the *Left* (Y-axis) by angling the shaft. Automatically, *Right* will be set to opposite value. Values same as *Step 3*. Power cycle the chair.

Orientation Details

Orientation Details is similar to Throw Details, but it sets the direction of proportional controllers listed in each profile. Values are set as *Yes/No* to Invert *Forward/Reverse* (InvFR) or *Left/Right* (InvLR). To swap axes, change value on *SWAP* row, either *Yes/No*. Power cycle chair.

Center Deadband   11.6

The Center Deadband parameter defines how far the joystick must be moved from neutral position to engage motors on the power chair. The value corresponds to the diameter of a circle around the joystick center position. No drive or menu instruction will be executed unless the joystick is moved out of this circle.

1. Follow the first three steps in *Section 11.3.*
2. Use the navigation's *Up & Down* buttons, ⌃⌄ select *Deadband* from the list and press the *Right* button. ⅀
3. To select port, use navigation buttons *Left/Right* . ⟨⟨ ⅀ When in desired position, press *Plus* or *Minus* buttons ± to increase or decrease value. Values range from 10% to 50%.

After installation of the IDPMP-9 joystick, execute the following tests before the wheelchair is delivered or put into service, in this order:

- Check the IDPMP-9 for intactness
- Operational Test
- Test Drive
- Stop Test

Check That The IDPMP-9   12.1

- Is not bent or damaged.
- Housing, cabling, and all connectors are not damaged.
- Returns to its default position when moving and releasing the joystick forward, backward, left, and right.

Operational Test   12.2

> ⚠ **WARNING**
>
> Execute this test only on a level surface, in an open area free of obstacles.

1. Activate the wheelchair operating system.
2. Check for any error messages.
3. Move the joystick slowly forward until you hear the parking breaks switch off.

> ⚠ **CAUTION**   The wheelchair may start moving.

4. Immediately release the joystick. You should hear the parking break react within a few seconds.
5. Repeat steps 3 and 4 three times, while slowly moving the joystick towards you, to the left and to the right.

Test Drive   12.3

- Perform a test drive with the wheelchair.
- Check whether the wheelchair and all of its operations are fully functioning in all positions the user may have it configured.
- Check that no cabling or parts may become damaged or hindered in any possible position of the wheelchair.

Stop Test   12.4

- Drive full speed ahead and shut down the wheelchair with the joystick.
- The wheelchair may not suddenly stop, but must slow down to a gradual stop.

Dealer Assistance   13.1

During first time use by the client, it is advised that the dealer or service technician assists and explains the different drive configurations to the customer (the user and/or the attendant). If needed, the dealer can make final adjustments.

User Testing   13.2

It is important that the customer is fully aware of the installation, how to use it, and what can be adjusted in order to gain as much mobility as possible. As a dealer, proceed as follows:

- Explain and show the customer how you have executed the installation, and explain the function of the joystick.

Have the user test all positions of the IDPMP-9:

- Is the IDPMP-9 within easy reach?
- Can the user safely operate the wheelchair with minimal effort?
- Is the placement of the joystick in an optimal position for the user?

Conditions Of Use   13.3

The IDPMP-9 is intended for use as installed by the dealer, in accordance to the installation instructions in this manual.

- The foreseen conditions of use are communicated by the dealer or service technician to the user and/or attendant during the first time use.
- If the conditions of use change significantly, please contact your dealer or a qualified service technician to avoid excessive wear and tear or unintended damage.

Cleaning   14.1

- Positioning accessories can be wiped clean with a damp cloth and mild, non-abrasive cleaner.
- Ensure all cleaners are approved for finished steel, aluminum, plastic, and upholstered surfaces.

⚠ **WARNING** Do not immerse in water or rinse with a water hose.

Disinfecting   14.2

- When needed, surfaced can be wiped with an approved disinfecting product.
- Ensure the disinfectant is approved for finished steel, aluminum, plastic, and upholstered surfaces.

Water Contact   14.3

- Turn off the chair and disconnect the IDPMP-9 from the power chair.
- Thoroughly dry IDPMP-9 with a towel.
- All the joystick to dry for 12 hours in a warm, dry area to allow for unseen moisture to evaporate.
- Check that the IDPMP-9 operates to specifications before use.

Electromagnetic Interference (EMI)   14.4

The IDPMP-9 has been tested to a radiation immunity level of 20 volts per meter.

Electronics may be susceptible to EMI. EMI is the interfering energy emitted from sources such as radio stations, TV stations, radio transmitters, and cellular phones. The interference from radio waves may cause malfunctions and equipment damage.

Daily Maintenance Check   14.5

- Ensure all cords are properly connected and secured and show no signs of damage or wear.

- Ensure that the joystick rubber boot is free of cracks and tears.

- Move the joystick through the four quadrants, checking for smooth movement and its return to the centered position.

- Ensure all switches are functioning as programmed.

Weekly Maintenance Check   14.6

- Check all fasteners and tighten as necessary.

> ⚠️ **WARNING**   Do not overtighten screws.

- Clean all surfaces and disinfect when necessary.

- Check that the mechanical condition, as well as the functions, are operating properly. If it is not, contact your supplier for immediate repairs.

Environment Safety   14.7

- Always operate or store the IDPMP-9 in safe temperature of –40° to +149°F (-40° to +65°C)

- Do not operate or leave the IDPMP-9 in rain, snow, sleet, hail, or damp environment

- Do not expose the IDPMP-9 to water, condensation, icing, or dampness

- Do not operate in the shower

- Do not operate or store near open flame, flammable, or combustible products