Invacare® Formula™ CG Seating

en **Power Wheelchair Seat: Tilt, Recline, Elevate, Tilt/Recline**
User Manual

This manual MUST be given to the user of the product.
BEFORE using this product, read this manual and save for future reference.

INVACARE®

Yes, you can.®

Contents

1 General

1.1 Symbols

Signal symbols and/or words are used in this manual and apply to hazards or unsafe practices which could result in personal injury or property damage. See the information below for definitions of the signal words.

DANGER!
– Danger indicates a imminently hazardous situation which, if not avoided, could result in death or serious injury.

WARNING!
– Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION!
– Caution indicates a potentially hazardous situation which, if not avoided, may result in property damage or minor injury or both.

IMPORTANT
– Indicates a hazardous situation that could result in damage to property if it is not avoided.

Gives useful tips, recommendations and information for efficient, trouble-free use.

1.2 Reference Documents

Refer to the wheelchair base user manual for additional safety and operation information.

Refer to the table below for part numbers of additional documents which are referenced in this manual.

MANUAL	PART NUMBER
MK6i™ Electronics Programming Guide	1141471

1.3 Restriction of Sale

Federal law restricts this device to sale by/on the order of a physician licensed by the law of the state in which he/she practices.

1.4 Intended Use

The intended use of the device is to provide mobility to persons limited to a sitting position.

1.5 Indications For Use

The indication for use of the Formula CG Power Wheelchair Seat is to provide mobility to persons limited to a sitting position.

1.6 General Guidelines

The safety section contains important information for the safe operation and use of this product.

WARNING!
Risk of Death, Injury or Damage
Improper use of this product may cause injury or damage
– If you are unable to understand the warnings, cautions or instructions, contact a health care professional or dealer before attempting to use this equipment.
– DO NOT use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as user manual, service manuals or instruction sheets supplied with this product or optional equipment.

Continued use of the wheelchair with damaged parts could lead to the wheelchair malfunctioning, causing injury to the user and/or caregiver.
– Check all wheelchair components and carton for damage and test components before use. In case of damage or if the wheelchair is not working properly, contact a qualified technician or Invacare for repair.

WARNING!
Risk of Serious Injury or Damage
Use of non-Invacare accessories may result in serious injury or damage.
– Invacare products are specifically designed and manufactured for use in conjunction with Invacare accessories. Accessories designed by other manufacturers have not been tested by Invacare and are not recommended for use with Invacare products.
– DO NOT use non-Invacare accessories.
– To obtain Invacare accessories, contact Invacare by phone or at www.invacare.com

DANGER!
Risk of Death, Serious Injury, or Damage
Use of incorrect or improper replacement (service) parts may cause death, serious injury, or damage.
– Replacement parts MUST match original Invacare parts.
– ALWAYS provide the wheelchair serial number to assist in ordering the correct replacement parts.

WARNING!
Risk of Serious Injury or Damage
Attaching hardware that is loosely secured could cause loss of stability resulting in serious injury or damage.
– After ANY adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

WARNING!
Risk of Serious Injury or Damage
Loss of power due to loose electrical connections could cause the wheelchair to suddenly stop resulting in serious injury or damage.
– ALWAYS ensure that all electrical connections are tightly connected so they don't vibrate loose.

DANGER!
Risk of Death, Serious Injury, or Damage
Lighted cigarettes dropped onto an upholstered seating system can cause a fire resulting in death, serious injury, or damage.
Wheelchair occupants are at particular risk of death or serious injury from these fires and resulting fumes because they may not have the ability to move away from the wheelchair.
– DO NOT smoke while using this wheelchair.

WARNING!
Risk of Injury, Damage or Death
Improper monitoring or maintenance may cause injury, damage or death due to ingestion or choking on parts or materials.
– Closely supervise children, pets, or people with physical/mental disabilities.

WARNING!
Risk of Injury or Damage
Improper mounting or maintenance of the Sip n' Puff control including the mouthpiece and breath tube may cause injury or damage.
Water inside the Sip n' Puff interface module may cause damage to the unit.
Excessive saliva residue in the mouthpiece/straw can reduce performance.
Blockages, a clogged saliva trap or air leaks in the system may cause Sip N' Puff not to function properly.
– Ensure moving parts of the wheelchair, including the operation of powered seating, DO NOT pinch or damage the Sip n' Puff tubing.
– Saliva trap MUST be installed to reduce risk of water or saliva entering the Sip n' Puff interface module.
– Occasionally flush the mouthpiece to remove saliva residue.
– The mouthpiece/straw MUST be completely dry before installation.
– If Sip n' Puff does not function properly, inspect system for blockages, clogged saliva trap or air leaks. As necessary, replace mouthpiece, breath tube and saliva trap.

Contact your Invacare dealer/provider for more information about maintaining and troubleshooting the Sip n' Puff system.

WARNING!
Risk of Injury, Damage or Death
Exposure to liquids may cause injury, damage or death.
– DO NOT expose electrical connections to sources of liquid or dampness. This includes, but is not limited to, water, body fluids or cleaning agents.
– DO NOT expose battery charger or other accessories to sources of liquid or dampness.
– Wheelchairs that are used by incontinent users and/or are frequently exposed to water/liquids may require replacement and inspection of electrical components more frequently than normal schedule dictates.
– Electrical components damaged by corrosion MUST be replaced immediately.

CAUTION!
Risk of Damage
Operating the wheelchair in rain or dampness may cause the wheelchair to malfunction electrically and mechanically; may cause the wheelchair to prematurely rust or may damage the upholstery.
– DO NOT leave wheelchair in a rain storm of any kind.
– DO NOT use wheelchair in a shower.
– DO NOT leave wheelchair in a damp area for any length of time.
– Check to ensure that the battery covers are secured in place, joystick boot is NOT torn or cracked where water can enter and that all electrical connections are secure at all times. DO NOT use if the joystick boot is torn or cracked. If the joystick boot becomes torn or cracked, replace IMMEDIATELY.

Leakage current has been tested in accordance to ISO 7176–14:2008.

Invacare has tested its power wheelchairs in accordance with RESNA Section 9 “Rain Test”.

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.

As a manufacturer of wheelchairs, Invacare endeavors to supply a wide variety of wheelchairs to meet many needs of the end user. However, final selection of the type of wheelchair to be used by an individual rests solely with the user and his/her healthcare professional capable of making such a selection. Invacare recommends working with a qualified rehab technology provider, such as an ATP, (Assisstive Technology Professional).

1.6.1 Set Up

DANGER!
Risk of Death, Serious Injury, or Damage
Continued use of the wheelchair that is not set to the correct specifications may cause erratic behavior of the wheelchair resulting in death, serious injury, or damage.
– Performance adjustments should only be made by professionals of the healthcare field or persons fully conversant with this process and the driver's capabilities.
– After the wheelchair has been set up/adjusted, check to make sure that the wheelchair performs to the specifications entered during the set up procedure. If the wheelchair does not perform to specifications, turn the wheelchair Off immediately and reenter set up specifications. Contact Invacare, if wheelchair still does not perform to correct specifications.

WARNING!
Risk of Serious Injury or Damage
Moving the seating system from the factory setting may reduce driver control, wheelchair stability, traction and increase caster wear resulting in serious injury or damage.
– Move the seating system ONLY when necessary to fit the wheelchair to the user.
– If the seating system must be moved, ALWAYS inspect the wheelchair to ensure the front rigging DOES NOT interfere with the front casters.
– If the seating system must be moved, ALWAYS inspect to ensure the wheelchair DOES NOT easily tip forward or backward.

WARNING!
– DO NOT connect any medical devices such as ventilators, life support machines, etc. directly to the batteries used to power the wheelchair. This could cause unexpected failure of the device and the wheelchair.

DANGER!
Risk of Death, Serious Injury, or Damage
Missing attaching hardware could cause instability resulting in death, serious injury or damage.
– Ensure all attaching hardware is present and tightened securely.

WARNING!
Risk of Serious Injury
Sharp edges can cause serious injury.
– Be mindful that some parts may have sharp edges. Use caution when encountering these sharp edges.

WARNING!
Risk of Serious Injury
Hot surfaces can cause severe burns.
– Be mindful of potential hot surfaces and avoid touching.

WARNING!
Risk of Injury, Damage or Death
Improper routing of cord(s) may cause a tripping, entanglement or strangulation hazard that may result in injury, damage or death.
– Ensure all cord(s) are routed and secured properly.
– Ensure there are no loops of excess cable extending away from the chair.
– Close supervision and attention is needed when operating the wheelchair near children, pets or people with physical/mental disabilities.

WARNING!
Risk of Injury, Damage or Death
Pinched or severed cord(s) may be a shock or fire hazard and may cause injury, damage or death.
– Ensure all cord(s) are routed and secured properly.
– Inspect cord(s) periodically for proper routing, pinching, chafing or other similar wear.
– Replace any damaged cords immediately.

1.6.2 Transport in Vehicles

Refer to wheelchair base user manual for additional safety and operation information.

WARNING!
Risk of Injury, Damage or Death
Failure to observe and follow transport warnings and instructions may result in injury, damage or death.
– Wheelchair occupants should transfer into the vehicle seat and use the OEM (Original Equipment Manufacturer) vehicle-installed restraint system.
– Ensure wheelchair is secured using proper restraint systems. Use ONLY Wheelchair Tie-down and Occupant Restraint Systems (WTORS) which meet the requirements of the SAE (Society of Automotive Engineers) J2249 Recommended Practice during travel in a motor vehicle.
– Wheelchair-mounted accessories, including but not limited to IV poles, trays, respiratory equipment, backpacks, and other personal items should be removed and secured separately.
– Spill proof batteries, such as “gel cells”, should be installed on wheelchair to be used during travel in a motor vehicle.
– Contact Invacare Corporation with any questions about using this wheelchair for seating in a motor vehicle.

WARNING!
Risk of Injury, Damage or Death
Improper installation or service may result in injury, damage or death.
– Transport ready packages are not retrofittable to existing models and are not field serviceable.
– DO NOT overtighten hardware.

WARNING!
Risk of Injury, Damage or Death
Alteration or substitution may result in injury, damage or death.
– DO NOT alter or substitute product parts, components or systems.

WARNING!
Risk of Injury, Damage or Death
Damaged parts due to collision or impact may result in injury, damage or death.
– Seek immediate attention and service if wheelchair is involved in a collision or impact event. This includes, but is not limited to, vehicle accidents, mishandling and impact events where the wheelchair strikes something or is struck by something that may cause damage.
– Ensure your wheelchair is working properly and is inspected by a qualified Invacare technician if the wheelchair is involved in a collision or impact event.

ANSI = American National Standards Institute, RESNA= Rehabilitation Engineering and Assistive Technology Society of North America.

Wheelchair Transport Brackets (TRBKTS)

TRBKTS includes four factory-installed wheelchair transport brackets.

As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type. It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation system.

WARNING!
Risk of Injury, Damage or Death
Improper use of wheelchair transport brackets (TRBKTS) may result in injury, damage or death.
– Use these transport brackets only to secure an unoccupied wheelchair during transport.
– Ensure wheelchair is secured using proper restraint systems. Wheelchair transport brackets have not been crash-tested in accordance with ANSI/RESNA WC Vol I Section 19 Frontal Impact Test requirements for wheelchairs.
– Only use the transport brackets for the purposes described in this manual.

Transport Ready Option (TRRO)

As of January 1, 2017, Transport Ready Option (TRRO) has been discontinued on this product. Please contact your dealer or Invacare for legacy information or to answer questions regarding TRRO.

As of this date, the Department of Transportation has not approved any tie-down systems for transportation of a user while in a wheelchair, in a moving vehicle of any type. It is Invacare's position that users of wheelchairs should be transferred into appropriate seating in vehicles for transportation and use be made of the restraints made available by the auto industry. Invacare cannot and does not recommend any wheelchair transportation system.

WARNING!
Risk of Injury, Damage or Death
Failure to observe and follow transport warnings and instructions may result in injury, damage or death.
- Use ONLY Wheelchair Tie-down and Occupant Restraint Systems (WTORS) which meet the requirements of the SAE (Society of Automotive Engineers) J2249 Recommended Practice during travel in a motor vehicle.
- The wheelchair MUST be in a forward facing position during travel in a motor vehicle.
- Only use the transport brackets included with TRRO for the purposes described in this manual.
- This wheelchair is equipped, and has been dynamically tested to rely on WHEELCHAIR-ANCHORED pelvic belts. If desired, VEHICLE-ANCHORED pelvic belts may be used.
- Use both pelvic and upper-torso belts.

WARNING!
Risk of Injury, Damage or Death
Lack or improper use of wheelchair transport systems may result in injury, damage or death.
- Use both pelvic and upper torso belts.
- The pelvic belt that is provided by Invacare has been tested for use in a motor vehicle on this wheelchair only. Do not replace the pelvic belt with a different style pelvic belt.

TRRO includes four factory-installed transport brackets and a wheelchair anchored pelvic belt.

- The wheelchair has been tested for seating in a motor vehicle with the factory installed seating system only.
- This wheelchair has been dynamically tested in a forward-facing mode with the specified crash test dummy restrained by BOTH pelvic and upper-torso belt(s) (shoulder belts), and that BOTH pelvic and upper torso belt(s) should be used to reduce the possibility of head an chest impacts with vehicle components.
- TRRO has been crash-tested in accordance with ANSI/RESNA WC Vol 1 Section 19 Frontal Impact Test requirements for wheelchairs with a 130 lb (59 kg) crash test dummy, which corresponds to a person with a weight of 125 lb (57 kg) to 165 lb (75 kg) for Junior seat sizes or a 168 lb (76 kg) crash dummy, which corresponds to a person with a weight of 165 lb (75 kg) to 300 lbs (136 kg) for Adult seat sizes.

1.6.3 Powered Seating

WARNING!

– This seating system has been custom designed and will be assembled to the wheelchair base before delivery to the user. The information contained in this manual is for maintaining and adjusting the seating system. There are very few adjustments that can safely be made by the user. If there is a procedure or adjustment that needs to be performed on the seating system that is not in this manual, DO NOT perform that procedure. Have the seating system serviced by a qualified technician.
– Use caution when driving in a tilted position.
– DO NOT operate the seating system while on an incline.
– DO NOT operate the seating system while the wheelchair is moving.

WARNING!

Risk of Death or Serious Injury

Operating the wheelchair with the seat tilted/reclined/back angle position beyond 20° can cause instability resulting in death or serious injury from the wheelchair tipping over.

– NEVER operate the wheelchair or elevate/lower the seat while in any tilted/reclined/back angle position over 20° relative to the vertical position. If the drive lock-out does not stop the wheelchair from operating or the seat from elevating/lowering in a tilt/recline/back angle position over 20° relative to vertical, DO NOT operate the wheelchair or elevate/lower the seat. DO NOT attempt to adjust the drive lock-out. Have the wheelchair serviced by a qualified technician.
– The wheelchair user MUST have a clear line of sight to drive safely. On initial chair delivery and after adjusting the back angle, drive lock-out switch tilt system or recline system, tilt and recline the seat back to the farthest driving position IMMEDIATELY before drive lock-out engages and ensure there is a clear line of sight present in which to drive the wheelchair. If a clear line of sight is not present, have the back angle repositioned or readjust the lockout angle such that safe driving with a clear line of sight is achieved.

WARNING!
- Use only the controls listed in this manual to activate the tilt functions. Specific actuator controls are noted for each function or combination throughout this manual. DO NOT USE any other actuator controls. Such devices may result in excess heating and cause damage to the actuator and associated wiring and could cause a fire, death, physical injury or property damage. If such devices are used, Invacare shall not be liable and the limited warranty is void.
- Specific actuator controls are noted for each function or combination throughout this manual.
- DO NOT operate tilt seat around children.
- ALWAYS keep hands and feet out from underneath tilt seat - otherwise serious injury may result.
- DO NOT tip the seating system/wheelchair without assistance.
- DO NOT store items under seat.
- Cables must be routed and secured properly to ensure that cables DO NOT become entangled and damaged during normal operation of seating system.

WARNING!
- Systems equipped with power legrests only - Never allow items to become trapped between the legrest assemblies. Otherwise, damage to the power legrest could occur.

1.6.4 Repair or Service Information (Dealers and/or Qualified Technicians)

WARNING!
Risk of Injury, Damage or Death
Improper setup, service, adjustment or programming may cause injury, damage or death.
- Qualified technician MUST setup, service and program the wheelchair.
- DO NOT allow non-qualified individuals to perform any work or adjustments on the wheelchair.
- DO NOT setup or service the wheelchair while occupied except for programming or unless otherwise noted.
- Turn off power BEFORE adjusting or servicing the wheelchair. Note that some safety features will be disabled.
- Ensure all hardware is securely tightened after setup, service or adjustments.
- Warranty is void if non-qualified individuals perform any work on this product.

DANGER!
Risk of Death, Serious Injury, or Damage
Corroded electrical components due to water and/or liquid exposure, or incontinent users can result in death, serious injury, or damage.
– Minimize exposure of electrical components to water and/or liquids. Electrical components damaged by corrosion MUST be replaced immediately.
– Wheelchairs that are used by incontinent users and/or are frequently exposed to water/liquids may require replacement of electrical components more frequently.

WARNING!
Risk of Injury, Damage or Death
Improper installation or service may result in injury, damage or death.
– Transport ready packages are not retrofittable to existing models and are not field serviceable.
– DO NOT overtighten hardware.

2 Safety Handling

2.1 Safety and Handling

Refer to wheelchair base user manual for additional safety and operation information.

DANGER!
Risk of Death, Serious Injury, or Damage
Misuse of the wheelchair may cause component failure and/or the wheelchair to start smoking, sparking, or burning. Death, serious injury, or damage may occur due to fire.
– DO NOT use the wheelchair other than its intended purpose. If the wheelchair starts smoking, sparking, or burning, discontinue using the wheelchair and seek service IMMEDIATELY.

DANGER!
Risk of Death or Serious Injury
Not wearing your seat positioning strap could result in death or serious injury.
– ALWAYS wear your seat positioning strap. Your seat positioning strap helps reduce the possibility of a fall from the wheelchair. The seat positioning strap is a positioning belt only. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, seat positioning strap MUST be replaced IMMEDIATELY.

WARNING!
Risk of Injury, Damage or Death
Use of the wheelchair while judgement or ability is impaired may result in injury, damage or death.
– DO NOT operate the wheelchair under the influence of alcohol, medications or other substances that impair judgement or function.
– Changing medications may affect your ability to operate the wheelchair. Discuss the impact on your ability to operate the wheelchair with a health care professional when changing medications.
– DO NOT operate the wheelchair under conditions where judgement or function may be impaired. This may include but is not limited to lack of sleep or poor sight.
– Always be aware of your surroundings.

WARNING!
Risk of Injury, Damage or Death
Misuse of wheelchair may result in injury, damage or death.
– DO NOT operate wheelchair on roads, streets or other roadways.
– DO NOT operate wheelchair when vision is impaired by poor lighting such as unlit rooms, during the night or similar situations.
– ALWAYS be aware of motor vehicles and your surroundings.
– DO NOT operate the wheelchair under the influence of alcohol, medications or other substances that impair judgement or function.

WARNING!
Risk of Injury, Damage or Death
Conditions such as restlessness, mental deterioration, dementia, seizure disorders (uncontrolled body movement) or sleeping problems may cause injury, damage or death.
– Monitor patients with these conditions frequently.
– Close supervision and attention is needed when operating the wheelchair near children, pets or people with physical/mental disabilities.

WARNING!
Risk of Injury or Damage
To avoid injury or damage from moving parts:
– ALWAYS keep hands and fingers clear of moving parts.
– Closely supervise children, pets, or people with physical/mental disabilities.

WARNING!
Risk of Injury or Damage
Improper operation may change the normal balance, center of gravity or weight distribution of the wheelchair causing injury or damage.
– Determine and establish your particular safety limits. Practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional before attempting active use of the wheelchair.
– ALWAYS shift your weight in the direction you are turning. Shifting your weight in the opposite direction of the turn may cause the inside drive wheel to lose traction.

WARNING!
Risk of Serious Injury
Impacting objects in the surrounding environment can cause serious injury.
– When maneuvering the wheelchair around, ALWAYS have assured cleared distance with all objects in environment.

WARNING!
– Always check grips for looseness before using the wheelchair. If loose, contact a qualified technician for instructions.

WARNING!
Risk of Injury or Damage
Unintended movement or operation of wheelchair may cause injury or damage.
– Turn power OFF BEFORE entering or exiting the wheelchair.
– Close supervision and attention is needed when operating the wheelchair near children pets or people with physical/mental disabilities. Turn power off.
– Turn power off when near children, pets or people with physical/mental disabilities.

WARNING!
Risk of Injury, Damage or Death
Damaged parts due to collision or impact may result in injury, damage or death.
- Seek immediate attention and service if wheelchair is involved in a collision or impact event. This includes, but is not limited to, vehicle accidents, mishandling and impact events where the wheelchair strikes something or is struck by something that may cause damage.
- Ensure your wheelchair is working properly and is inspected by a qualified Invacare technician if the wheelchair is involved in a collision or impact event.

2.1.1 Stability and Balance

WARNING!
Risk of Injury, Damage or Death
Improper use of wheelchair may cause instability and may result in injury, damage or death. The stability of the wheelchair is adversely affected by additional weight that shifts the center of gravity.
- This wheelchair has been designed to accommodate one individual. DO NOT operate with additional person(s).
- DO NOT carry heavy objects on your lap while operating the wheelchair.

WARNING!
Risk of Injury or Damage
Improper position and activity, such as reaching, bending or transferring may change the normal balance, center of gravity or weight distribution of the wheelchair causing injury or damage.
- Observe and follow all instructions and warnings regarding reach, weight, balance and positioning.
- Determine and establish your particular safety limits. Practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional before attempting active use of the wheelchair.
- DO NOT move beyond the center of gravity.
- DO NOT lean forward out of the wheelchair any further than the length of the armrests.
- DO NOT attempt to reach objects if you have to move forward in the seat or pick them up from the floor by reaching down between your knees.
- DO NOT shift your weight or sitting position toward the direction you are reaching.
- DO NOT stand on the frame of the wheelchair.
- DO NOT lean over the top of the back of the wheelchair.

2.1.2 Footplates and Front Rigging

WARNING!
Risk of Serious Injury or Damage
Operating the wheelchair with a ground clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.
– ALWAYS maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and ground/floor to ensure proper ground clearance while the wheelchair is in motion. If necessary, adjust the footplates height to achieve proper ground clearance. After footplates height adjustment, if the wheelchair dips forward and the footplates touch the ground while in motion, please contact your dealer for an inspection and avoid use of the wheelchair if possible.

CAUTION!
Risk of Damage
Interference between footrests and front casters may cause damage.
– When determining the depth of the telescoping front frame tubes, make sure the rear of the footrests do not interfere with the movement of the front casters. Otherwise damage to the wheelchair may result or may impede proper operation.

2.1.3 Reaching, Leaning and Bending - Forward

Many activities require the wheelchair user to reach, bend and transfer in and out of the wheelchair. These movements will cause a change to the normal balance, center of gravity, and weight distribution of the wheelchair. To determine and establish your particular safety limits, practice bending, reaching and transferring activities in several combinations in the presence of a qualified healthcare professional before attempting active use of the wheelchair

Engage motor locks and turn power off before reaching, leaning or bending only as far as your arm will extend without changing your sitting position. Position the casters so that they are extended away from the drive wheels and engage wheel locks/motor locks/clutches.

2.1.4 Reaching, Bending - Backward

Position wheelchair as close as possible to the desired object. Position the casters so that they are extended away from the drive wheels to create the longest possible wheelbase, engage the motor

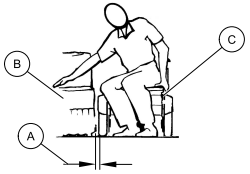
locks and turn power off. Reach back only as far as your arm will extend without changing your sitting position.

2.1.5 Transferring To and From Other Seats

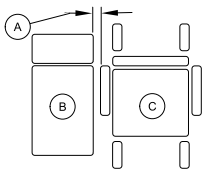
WARNING!
Risk of Serious Injury or Damage
Improper transfer techniques may cause serious injury or damage.
– Before attempting transfers, consult a health care professional to determine proper transfer techniques for the user and type of wheelchair.

WARNING!
Risk of Injury or Damage
Misuse of footplate may cause injury or damage.
– DO NOT stand on footplates.
– Ensure the footplates are in the upward position or swung outward when getting in or out of the wheelchair.

FRONT VIEW



TOP VIEW



Adequate mobility and upper body strength is required to perform this activity independently.

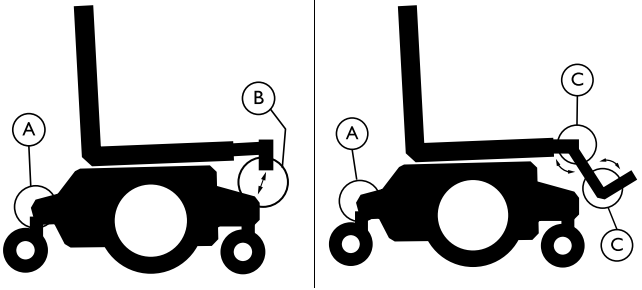
1. Transfer to and from the wheelchair in the presence of a qualified healthcare professional to determine individual safety limits.
2. Turn power button OFF BEFORE entering or exiting the wheelchair.
3. Reduce gap between transfer surface and wheelchair seat to the minimum distance necessary to perform transfer.
4. ALWAYS engage both motor locks and wheel hubs (if equipped) to prevent the wheels from moving before transferring into or from the wheelchair.
5. Align casters parallel to the drive wheels to improve stability during transfer.
6. Invacare strongly recommends ordering wheel locks as an additional safeguard if not present.
7. Flip up footplates or swing footrests outward.
8. Shift body weight into seat with transfer

During independent transfer, little or no seat platform will be beneath you. Use a transfer board if at all possible.

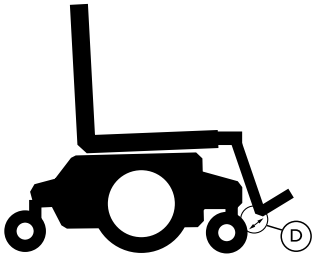
2.1.6 Pinch Points

WARNING!
Risk of Minor to Serious Injury
Pinch points can cause minor to serious injury.
– Be mindful of potential pinch points and use caution when using this product.

WARNING!
Risk of Injury
Pinch points can cause injury.
– Be aware that a pinch point Ⓐ exists between the head tube cap and walking beam.
– Be aware that a pinch point Ⓑ exists between the walking beam/head tube cap and telescoping tube when the wheelchair is at the lowest seat to floor height.
– Be aware that a pinch point Ⓒ may occur when rotating the center mount front rigging assembly.

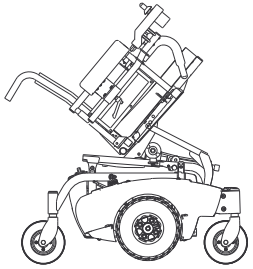


WARNING!
Risk of Injury
Pinch points can cause injury.
A pinch point Ⓓ exists between the center mount footrest and casters.
There is limited clearance between center mount footrest and casters.
– The user's feet MUST remain on the center mount footrest while operating the wheelchair. If the user's feet are allowed to rest off the side of the center mount footrest they may come in contact with the caster possibly resulting in injury.

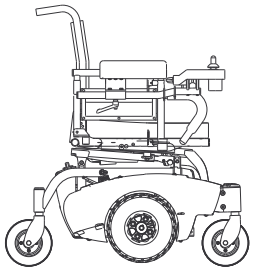


WARNING!
Risk of Injury
Pinch point may occur when returning the tilted seat to the full upright position or when lowering the elevating seat.
Pinch points can cause injury.
– Make sure the hands and body of the occupant, attendants and bystanders are clear of all pinch points before lowering seat or returning the tilted seat to the full upright position.
– DO NOT operate the tilt function near or under a fixed object such as a table or desk.

Full Tilt Position



Full Upright Position



2.1.7 Storage

WARNING!
Risk of Injury, Damage or Death
Storage or use near heat sources and combustible products may result in injury or damage.
– DO NOT store or use wheelchair near open flames or other heat sources.
– DO NOT store or use wheelchair near combustible products.

2.1.8 Weight Training

WARNING!
Risk of Injury or Damage
Invacare DOES NOT recommend the use of its wheelchairs as a weight training apparatus. Invacare wheelchairs have NOT been designed or tested as a seat for any kind of weight training. Using said wheelchair for weight training could result in serious bodily injury to the user, damage to the wheelchair and surrounding property. Also, if occupant uses said wheelchair as a weight training apparatus, Invacare shall NOT be liable for bodily injury and the warranty is void.
– DO NOT use the wheelchair as a weight training apparatus.

3 Electromagnetic Compatibility (EMC) Information

3.1 Electromagnetic Interference (EMI) From Radio Wave Sources

Powered wheelchairs and motorized scooters (in this text, both will be referred to as powered wheelchairs) may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two way radios, and cellular phones. The interference (from radio wave sources) can cause the powered wheelchair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the powered wheelchair's control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each powered wheelchair can resist EMI up to a certain intensity. This is called its "immunity level." The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types:

1. Hand-held Portable transceivers (transmitters/receivers with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, “walkie talkie”, security, fire and police transceivers, cellular telephones, and other personal communication devices).

   Some cellular telephones and similar devices transmit signals while they are ON, even when not being used.

2. Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances and taxis. These usually have the antenna mounted on the outside of the vehicle.
3. Long-range transmitters and transceivers, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

Other types of handheld devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your powered wheelchair.

3.2 Powered Wheelchair Electromagnetic Interference (EMI)

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from handheld radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the powered wheelchair's control system while using these devices. This can affect powered wheelchair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the powered wheelchair.

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect powered wheelchairs and motorized scooters.

FOLLOWING THE WARNINGS LISTED BELOW SHOULD REDUCE THE CHANCE OF UNINTENDED BRAKE RELEASE OR POWERED WHEELCHAIR MOVEMENT WHICH COULD RESULT IN SERIOUS INJURY.

WARNING!

– DO NOT operate handheld transceivers (transmitters receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the powered wheelchair is turned ON;
– Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
– If unintended movement or brake release occurs, turn the powered wheelchair OFF as soon as it is safe;
– Be aware that adding accessories or components, or modifying the powered wheelchair, may make it more susceptible to EMI (Note: There is no easy way to evaluate their effect on the overall immunity of the powered wheelchair); and
– Report all incidents of unintended movement or brake release to Invacare and note whether there is a source of EMI nearby.

WARNING!

Important Information

– 20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994) (the higher the level, the greater the protection);
– This device has been tested to a radiated immunity level of 20 volts per meter.
– The immunity level of the product is unknown.
– Modification of any kind to the electronics of this power wheelchair as manufactured by Invacare may adversely affect the EMI immunity levels.

3.3 Powered Wheelchair Electromagnetic Emissions

CAUTION!

Risk of Injury or Damage

EMC interference affecting other products may result in injury or damage.

To avoid impacting the operation and function of other products:

– Products not specified by Invacare that may be used on or near the wheelchair may be impacted by emissions from this product if they have a sensitivity level that is lower than the recognized standard and provided by this wheelchair. Refer to the manufacturer specifications for any electronic device BEFORE use near this product to determine its level of immunity and potential risk.

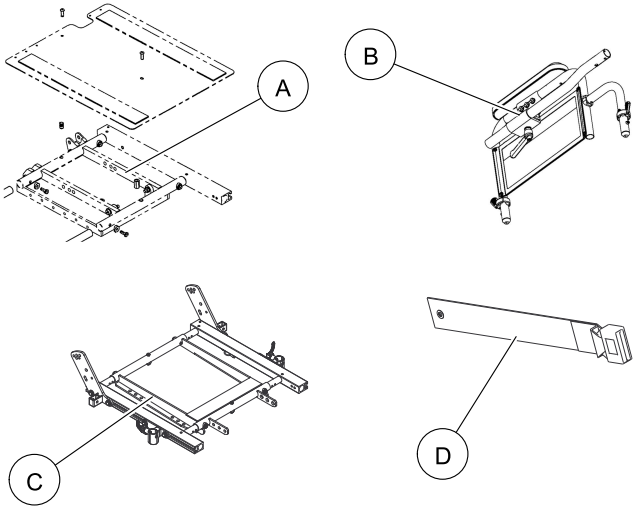
4 Label Locations

4.1 All Wheelchairs

DANGER!
Risk of Injury, Damage or Death
Missing or damaged labels may contribute to injury, damage or death.
– Ensure labels are present and legible.

ITEM	PART NUMBER	DESCRIPTION
A	N/A	Serial Number Label
B	See Note Below	Weight Capacity Label
C	1114823	Repositioning Seat Label
D	1114823	Seat/Chest Positioning Strap Label

Depending on the chair model, weight capacity part number will be one of the following: 111016, 1111019, 1150751, 1150758, 1134858, 1134859.



5 Technical Data

5.1 Specifications

All dimensions are ± .50 inches unless otherwise specified.

5.1.1 Models

Formula CG	

5.1.2 Seat

	Formula CG
Seat Width Range	
Tilt:	16 to 22 inches
Recline, Tilt/Recline:	16 to 22 inches
Elevate:	16 to 22 inches
Tilt/Elevate:	16 to 22 inches
Tilt/Recline/Elevate:	16 to 22 inches
Seat Depth Range (1 inch increments)	
Tilt:	16 to 22 inches
Recline, Tilt/Recline and Elevate:	16 to 22 inches
Seat-to-Floor Height (0° Seat Angle)	
Elevate Only:	TDX SP 18, 19, 20 ± .5 inch, 3G Storm 18.5, 19.5, 20.5 ± .5 inch
Tilt, Recline, Tilt/Recline:	17.5, 18.5 or 19.5 ± .5 inch
Tilt/Elevate, Tilt/Recline/Elevate:	18.5 ± .5 inch
Overall Width (Base)	25 to 27 inches
Overall Height:	53 inches
Overall Length	48 inches in upright position
Back Height Range Contoura: Conventional and Curved Backs:	 22 or 25 or 28 inches 20 to 26 inches
Back Angle Range — Tilt or Elevate:	85° to 105° in 5° increments
Tilt Range — 300 lbs - Tilt, Tilt/Recline, Tilt/Recline/Elevate:	0° to 55°
Recline Range (Relative to the Ground)	90° to 170° ± 3°
Armrests Tilt, Elevate: Recline, Tilt/Recline, Tilt/Recline/Elevate	Flip Back, Adjustable Height (9 to 13 inches) - Desk or Full Length Adjustable Height (11 to 15 inches) - Desk or Full Length
Legrests:	Swingaway Footrests, Manual Elevating Legrests or Power Elevating Legrests
Headrests:	Curved

5.1.3 Weight

	Formula CG
Seat Weight:	
Tilt Only:	94 lbs
Tilt/Recline:	137 lbs

5.1.4 Weight Capacity

WARNING!
Risk of Death or Serious Injury
Exceeding the weight capacity of the wheelchair/seating system could cause instability resulting in death or serious injury.
– DO NOT exceed the weight capacity.

If the seating system is mounted onto a power wheelchair that has a weight capacity greater than 275 lbs, the weight capacity of the power wheelchair is 275 lbs. Example: The power wheelchair has a 300 lb weight capacity, the seating system still has a weight capacity of 275 lbs, so the power wheelchair now has a 275 lb weight capacity.

Weight Capacity Without Heavy Duty Option:	Up to 300 lbs

Weight Capacity is total weight (user weight plus any additional items that the user may require [back pack, etc.]). Example: If weight capacity of the wheelchair is 300 lbs and additional items equal 25 lbs, subtract 25 lbs from 300 lbs this means the maximum weight capacity of the user is 275 lbs.

6 Usage

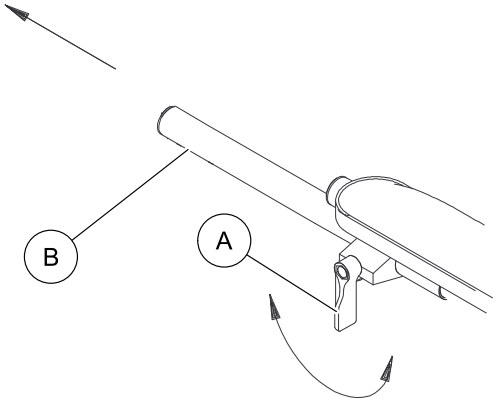
6.1 Operation Warnings

WARNING!
Risk of Injury, Damage or Death
Improper setup, service, adjustment or programming may cause injury, damage or death.
- Qualified technician MUST setup, service and program the wheelchair.
- DO NOT allow non-qualified individuals to perform any work or adjustments on the wheelchair.
- DO NOT setup or service the wheelchair while occupied except for programming or unless otherwise noted.
- Turn off power BEFORE adjusting or servicing the wheelchair. Note that some safety features will be disabled.
- Ensure all hardware is securely tightened after setup, service or adjustments.
- Warranty is void if non-qualified individuals perform any work on this product.

6.2 Preparing the Joystick for Use

WARNING!
Risk of Serious Injury or Damage
Attaching hardware that is loosely secured could cause loss of stability resulting in serious injury or damage.
- After ANY adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

WARNING!
Risk of Injury, Damage or Death
Malfunctioning or damaged joystick may cause unintended/erratic movement resulting in injury, damage or death.
- Ensure the joystick is securely connected to controller.
- DO NOT use if joystick does not spring back to the neutral position or becomes sticky or sluggish.
- DO NOT use if joystick boot is torn or damaged.
- DO NOT use with a broken or missing joystick knob.
- If unintended/erratic movement occurs, stop using the wheelchair immediately and contact a qualified technician.
- Ensure control knobs are secure before using the wheelchair. Stop using the wheelchair immediately and contact a qualified technician if control knobs are not secure.



The joystick is factory installed on the right side of the wheelchair. To reposition the joystick onto the left side of the wheelchair, refer to Repositioning the Joystick in the wheelchair base user manual.

1. Turn the adjustment lock lever Ⓐ to release the adjustment lock from joystick mounting tube Ⓑ.
2. Slide joystick mounting tube to the desired position.
3. Turn the adjustment lock lever to secure the adjustment lock to the joystick mounting tube.

6.3 A Note About Drive Lock-Out

WARNING!
Risk of Death or Serious Injury
Operating the wheelchair with the seat tilted/reclined/back angle position beyond 20° can cause instability resulting in death or serious injury from the wheelchair tipping over.

– NEVER operate the wheelchair or elevate/lower the seat while in any tilted/reclined/back angle position over 20° relative to the vertical position. If the drive lock-out does not stop the wheelchair from operating or the seat from elevating/lowering in a tilt/recline/back angle position over 20° relative to vertical, DO NOT operate the wheelchair or elevate/lower the seat. DO NOT attempt to adjust the drive lock-out. Have the wheelchair serviced by a qualified technician.
– The wheelchair user MUST have a clear line of sight to drive safely. On initial chair delivery and after adjusting the back angle, drive lock-out switch tilt system or recline system, tilt and recline the seat back to the farthest driving position IMMEDIATELY before drive lock-out engages and ensure there is a clear line of sight present in which to drive the wheelchair. If a clear line of sight is not present, have the back angle repositioned or readjust the lockout angle such that safe driving with a clear line of sight is achieved.

One of the following will occur when the drive lock-out feature has been activated:

- CMPJ+ Joysticks Only - ⚠ TILT WARNING or ⚠ SPM Inhibited displays on the joystick or display unit.

- SPJ+ Joysticks Only - Left to right chase alternating with a steady display.

Drive lock-out is a feature designed to prevent the wheelchair from being driven after the seating system has been tilted beyond 20°* relative to the vertical position. The back can be positioned at a 10° relative offset to the seat base, thereby resulting in a back angle potential of 30° before which the drive lock-out is activated. This may affect the wheelchair user's line of sight while driving. Make sure the wheelchair user can see properly to ensure safe driving.

*20° back angle can be any combination of recline, tilt, back angle and/or surface angle.

For tilt and/or recline angle ranges, refer to Typical Product Parameters.

6.4 Operating Powered Seating Systems

Contact a dealer or Invacare customer service to replace either a powered seating system or controls.

Review section A Note About Drive Lock Out before performing this procedure.

WARNING!
Risk of Injury, Damage or Death
Loss of traction or stability on inclines/grades or ramps may cause injury, damage or death. Lighter weight users may be at an increased risk. Surfaces that may be wet, icy, oily, slippery, painted, treated wood, rotten wood, rusted metal or other similar surfaces or materials may also increase risk.

- DO NOT use on inclines or ramps where surface is uncertain or compromised.
- DO NOT operate the seating system while the wheelchair is moving. Stop before operating seating system.
- DO NOT operate the seating system while on an incline. Operation on an incline may result in increased instability.
- To determine and establish your particular safety limits, practice use of this product on various sloping surfaces in the presence of a qualified healthcare provider before attempting active use of this wheelchair.
- DO NOT use on inclines where line of sight is impaired.
- Travel at a reduced, constant speed and DO NOT make sudden stops or direction changes. Release the joystick and allow the wheelchair to come to a full stop before changing directions. Traveling at high speeds reduces traction and increases stopping distance.
- DO NOT drive in an elevated position while on an incline.
- DO NOT leave elevating legrests in the fully extended position when proceeding down inclines/grades.
- DO NOT leave an unoccupied wheelchair unattended on inclines or ramps.

WARNING!
Risk of Injury or Damage
The wheelchair should drive at a noticeably reduced speed while the seat is elevated. Malfunction or improper operation may cause instability. Injury or damage may occur.

- If the wheelchair DOES NOT drive at a noticeably reduced speed while the seat is elevated, DO NOT operate the wheelchair. Have the wheelchair serviced immediately by a qualified technician.

WARNING!
Risk of Fire, Injury, Death or Damage

- Use only the actuator controls listed in the following chart to activate the tilt/recline/elevate functions. DO NOT USE any other actuator controls. Such devices may result in excess heating and cause damage to the actuator and associated wiring and could cause a fire, death, physical injury or property damage. If such devices are used, Invacare shall not be liable and the limited warranty is void.

SYSTEM TYPE	JOYSTICK	POWERED SEATING CONTROL	
		4 POLE MOTOR	
		SWITCH OPTION	THROUGH THE JOYSTICK (TTJ)
Single Actuator (Tilt Only, Recline Only or Elevate Only)	MK6i SPJ+ w/PSS	Single Function Switch (Egg, Wobble, etc.)	Yes w/SPJ+ w/ACC
	CMPJ+/PSR/ PSF/DISPLAY w/Alternate Control		Yes with SANODE
Multiple Actuator (Tilt/Recline or Single Actuator System with Power Legs)	CMPJ+/PSR/ PSF/DISPLAY w/Alternate Control	4 Way Toggle Quad Push Button	Replace 4WSB with Multiple Actuator Interface Box

6.4.1 Using the Single Function Switch

The powered seating switch will alternate functions (increase tilt angle, decrease tilt angle) after it has been released for a minimum of three seconds.

1. Make sure the wheelchair is on a level surface and that the wheelchair is turned on.
2. Press and hold the powered seating switch to activate the actuator until the seating system is in the desired position.
3. Release the powered seating switch after the desired position is achieved.

6.4.2 Using the MK6i™ SPJ™ + w/ACC Joystick

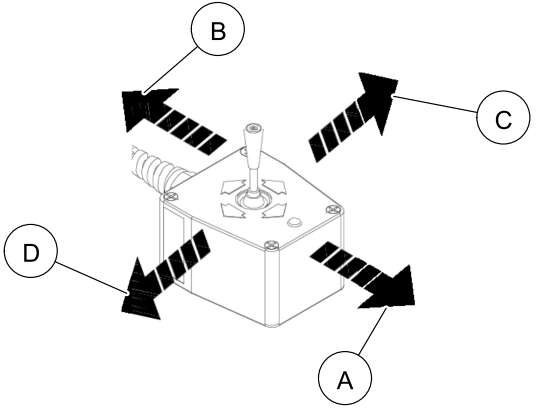
1. Make sure the wheelchair is on a level surface and that the wheelchair is turned on.
2. Press the mode button to switch from driving mode to tilt mode.

   The LED will light up with a circle around it.

3. Move the joystick:

   - Forward - Tilts or reclines the seat back or elevates the seat.
   - Backward - Returns the seat to the upright position or lowers the seat.

6.4.3 Using the Four Way Toggle



1. Make sure the wheelchair is on a level surface.
2. Refer to the chart for the operation of the seating system using a four way toggle.

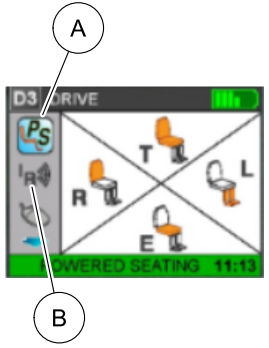
The chart shows the factory programmed settings only. Switch assignments can be reprogrammed.

SEATING SYSTEM	FOUR WAY TOGGLE			
	A	B	C	D
	FORWARD	REAR	LEFT	RIGHT
Formula CG - Tilt Only	Decrease the Tilt Angle	Increase the Tilt Angle	OFF	OFF
Formula CG - Recline with Legs	Decrease the Recline Angle	Increase the Recline Angle	Power Legrest Up	Power Legrest Down
Formula CG - Tilt Recline	Decrease the Tilt Angle & Legs Down	Increase the Tilt Angle & Legs Up	Decrease the Recline Angle	Increase the Recline Angle
Formula CG - Elevate Only	Elevate Up	Elevate Down	OFF	OFF
Formula CG - Tilt Recline Elevate with Legs	Increase Decrease the Tilt Angle	Increase Decrease the Recline Angle and Power Legrest Up Down.	Elevate Up Down	Power Legrest Up Down
Formula CG - Tilt Recline with Legs	Increase Decrease the Tilt Angle	Increase Decrease the Recline Angle and Power Legrest Up Down.	Power Legrest Up	Power Legrest Down
Formula CG - Tilt Elevate	Decrease the Tilt Angle	Increase the Tilt Angle	Elevate Up	Elevate Down
Legs Only	Power Legrest Up	Power Legrest Down	OFF	OFF

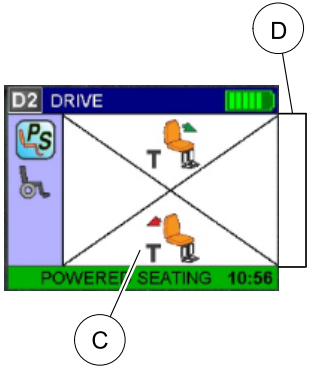
3. Release four way toggle to neutral position.

6.4.4 Using the CMPJ™ + Joystick

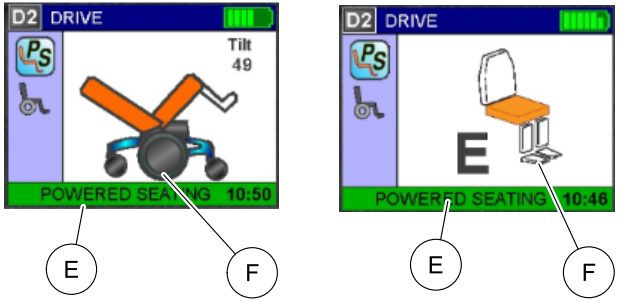
Detail "A" — Selecting The Actuator Control Switch Mode



Detail "B" — Actuator Control Switch Mode Example Screen



Detail "C" — Example Screen During Powered Seating Operation



ITEM	DESCRIPTION	ITEM	DESCRIPTION
A	Actuator Control Switch Mode Icon	D	Operation Icons
B	Mode Icons	E	Text
C	Tilt Down Icon (Move the joystick down to use this function)	F	Icon

1. Make sure the wheelchair is on a level surface.
2. Select a drive that has the Actuator Control Switch Mode icon displayed
3. Select the Actuator Control Switch Mode icon (Detail "A").
4. Four of the following icons will display when Actuator Control Switch Mode is selected:

The location of the icons indicates the joystick direction or quadrant (Detail "B").

Tilt Operations

Recline Operations

Center Mount Leg

Elevate Operations

Right Leg Operations

Left Leg Operations

Recline with Leg Operations

NO ICONS
No powered seating operation has been programmed for this quadrant.

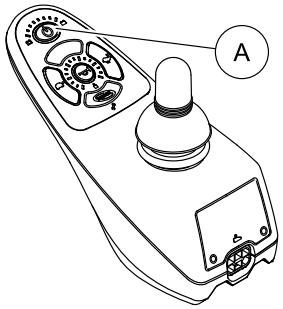
The three icons indicate up/down/, up or down, respectively.

5. Select the desired operation using the joystick or an equivalent switch.

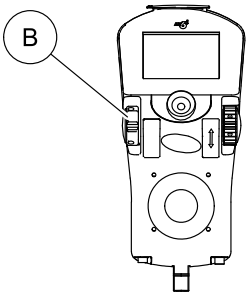
While operating the powered seating system, the selected icon will display on the screen along with text indicating the current operation (Detail "C").

6.5 Turning the Power On/Off

SPJ+ Joysticks



CMPJ+ Joysticks



1. To turn the power On, perform one of the following steps:

Joystick	Action
CMPJ+	Move the On/Off switch Ⓑ Forward to the On position.
SPJ+	Press the On/Off button Ⓐ.

2. Turning the power Off can be achieved by performing one of the following steps:

Joystick	Action
CMPJ+	Move the On/Off switch Ⓑ Back to the Off position.
SPJ+	Press the On/Off button Ⓐ.

6.6 Using the Joystick to Drive the Wheelchair

The joystick is located on the joystick housing and provides smooth control of speed and direction. It is equipped with 360 degrees of mobility for ease of operation. The joystick is spring-loaded, and automatically returns to the upright (neutral) position when released. Pushing the joystick in a given direction causes the wheelchair to move in that direction.

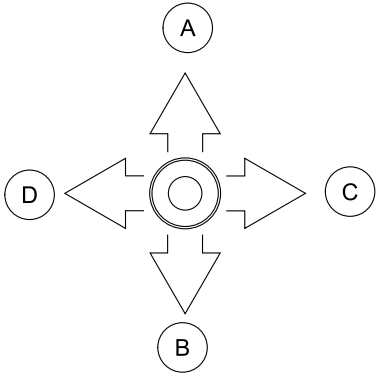
The joystick has proportional drive control, meaning that the further it is pushed from the upright (neutral) position, the faster the wheelchair moves. The maximum speed, however, is limited by the setting of the speed-control knob.

To slow the wheelchair to a stop, simply release the joystick. The wheelchair has automatic speed and direction compensation to minimize corrections.

When first learning to drive, select a slow speed and try to drive the wheelchair as slowly as possible by pushing the joystick slightly forward. This exercise will help you learn to utilize the full potential of the proportional control and allow you to start and stop smoothly.

To drive the wheelchair, perform the following:

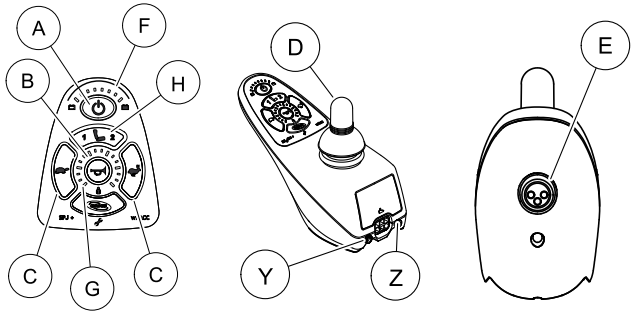
1. Adjust speed control knob to the appropriate setting.
2. Turn the power On. Refer to Turning the Power On/Off.
3. Maneuver the joystick in the following manner:



MOVEMENT	ACTION
FORWARD Ⓐ	Push joystick forward, towards the front of the wheelchair.
REVERSE Ⓑ	Pull joystick back, towards the rear of the wheelchair.
Turn RIGHT Ⓒ	Move joystick toward the right side of the wheelchair.
Turn LEFT Ⓓ	Move joystick toward the left side of the wheelchair.
STOP	Release the joystick and the wheelchair will slow to a stop.

For specific information about the joystick installed on the wheelchair, refer to SPJ+, MK6i SPJ+ w/PSS and MK6i SPJ+ w/ACC Joystick Switches and Indicators or CMPJ+ Joystick Switches and Indicators.

6.7 SPJ+™ , MK6i™ SPJ+ w/PSS and MK6i SPJ+ w/ACC Joystick Switches and Indicators



Ⓨ Additional input for powered seating switch.

Ⓩ Active (if programmed)

6.7.1 On/Off Button

The On/Off button Ⓐ is located at the front of the joystick housing. It is used to turn the wheelchair On and Off.

6.7.2 Speedometer

The speedometer Ⓑ is used to show the maximum speed. The right-most LED indicates current maximum speed setting. The bottom left GREEN LED Ⓖ flashes to indicate that the joystick is in speed limit mode. Speed limit mode limits the drive speed to a pre-programmed value, typically when the seat has been elevated and the wheelchair is required to drive at 20% speed.

6.7.3 Speed Control Buttons

The speed control buttons Ⓒ [tortoise button ( ) and hare button ( )] are used to set and adjust the maximum speed.

1. To adjust the speed, perform one of the following:
   - Adjust Speed in 20% Increments (5 Speed Mode) -

     Press the tortoise button ( ) or hare button ( ) to decrease/increase the speed in 20% increments. The larger bars in the speedometer will light.
   - Adjust Speed in Smaller Increments (VSP Mode) - Perform the following steps:
     a. Press and hold both the tortoise button ( ) and hare button ( ) until the joystick beeps.
     b. Perform one of the following:
        – Press the tortoise button ( ) or hare button ( ) to decrease/increase the speed in 20% increments. The larger bars in the speedometer will light.
        – Press and hold the tortoise button ( ) or hare button ( ) to decrease/increase the speed in smaller increments. The smaller bars in the speedometer will light.

6.7.4 Joystick

The joystick Ⓓ has proportional drive control, meaning that the further the joystick is pushed from the upright (neutral) position, the faster the wheelchair or seat moves. Your top speed, however, is limited by the programmed settings.

To slow the wheelchair to a stop, simply release the joystick. The wheelchair has automatic speed and direction compensation to minimize corrections.

6.7.5 Charger/Programming Input

The charger/programming input Ⓔ is located at the front of the joystick housing. This provides easy access for charging the wheelchair batteries. This port also serves as the Remote Programmer Communication connection. Driving is prevented while the system is charging.

6.7.6 Information Gauge Display

The information gauge display Ⓕ is located on the front of the joystick housing and provides the following information to the user on the status of the wheelchair:

1. Power is On.
2. True state-of-battery-charge, including notification of when the battery requires charging:
   - Green LEDs are lit, indicating well charged batteries.
   - Amber LEDs are lit, indicating batteries are moderately charged. Recharge batteries before taking a long trip.
   - Red LEDs are lit, indicating batteries are running out of charge. Recharge batteries as soon as possible.

The Information Gauge display also serves as a system diagnostic device when a fault is detected by the control module. A specific number of flashes of the LEDs indicate the type of fault detected.

Refer to Information Gauge Display Diagnostics for the diagnostic indications of the wheelchair status.

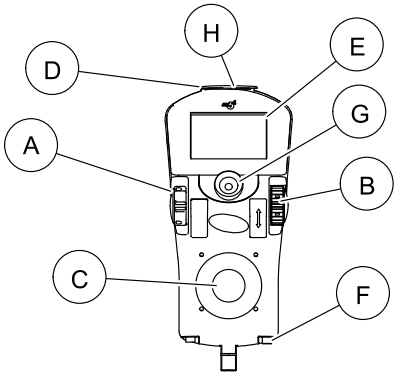
6.7.7 Service Indicator

The AMBER service indicator (🔧) will light when an error or fault occurs.

6.7.8 Mode Button

The mode button Ⓗ is only present on SPJ+ w/ACC joystick

6.8 CMPJ+ Joystick, Switches and Indicators



6.8.1 On/Off - Drive Select Toggle Switch (CMPJ+ Joystick)

The drive select toggle switch Ⓐ is located on the left side, below the LCD. The drive select position is momentary, meaning that it will return to the neutral position after a selection is made.

This switch allows the operator to select the type of operation or performance which best suits a particular control need or situation. The DRIVE 1 program uses performance values which are independent of those used for the DRIVE 2 or 3 or 4 program. As an example, an operator may have a control need for spasticity in the morning and a very different need in the afternoon. DRIVE 1 can be programmed for higher speeds and quicker response while DRIVE

2 can be programmed for slower speeds and less responsiveness or vise versa. The other two drive programs could be indoor and outdoor versions of DRIVE 1 and DRIVE 2.

Selecting the Drive Mode

1. Move the toggle up and release. DRIVE 1 will appear on LCD.
2. Move the toggle up and release again. DRIVE 2 will appear on LCD.
3. Move the toggle up and release again. DRIVE 3 will appear on LCD.
4. Move the toggle up and release again. DRIVE 4 will appear on LCD.
5. Move the toggle up and release one more time to select DRIVE 1.

6.8.2 Speed Control

The speed control knob Ⓑ is located on the side of the joystick housing.

1. Rotate the knob clockwise (forward) to increase the speed of the wheelchair to the programmed max speed.
2. Rotate the knob counterclockwise (backward) to decrease the speed of the wheelchair to the programmed max speed.

6.8.3 Joystick

The joystick Ⓒ has proportional drive control, meaning that the further the joystick is pushed from the upright (neutral) position, the faster the wheelchair or seat moves. Your top speed, however, is limited by the programmed settings.

To slow the wheelchair to a stop, simply release the joystick. The wheelchair has automatic speed and direction compensation to minimize corrections.

6.8.4 Charger/Programming Input

The charger/programming input Ⓓ is located at the front of the joystick housing. This provides easy access for charging the wheelchair batteries. This port also serves as the Remote Programmer Communication connection. Driving is prevented while the system is charging.

6.8.5 LCD Display Screens

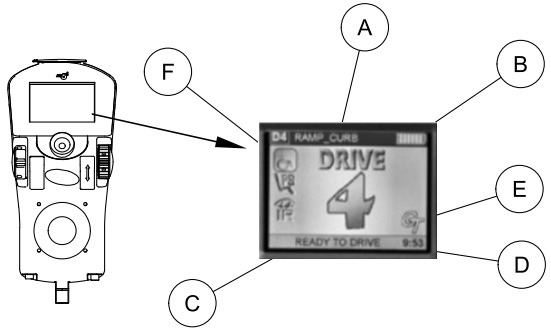
The LCD Display Ⓔ is located in front of the joystick and provides information on the status of the wheelchair through a backlit display. The LCD display is readable in both bright sunlight and complete darkness.

Splash Screen

This screen is displayed at startup of the joystick for about 2 seconds. This screen displays the software version and date information.

After this screen, the joystick displays the Main Screen.

Main Screen



The callouts in this illustration correspond to the LCD Display chart only.

During normal operation, the active drive is displayed in the upper half of the LCD display. Battery charge level is shown in the Battery Gauge Display (BGD) located on the right side of the LCD display. At full charge, solid blocks fill in all ten segments between E (Empty) and F (Full). As the battery becomes discharged, the top most segments will progressively disappear until no segments appear between E and F. At this level, the user should charge the batteries as soon as possible.

The lower half of the LCD display is the Information Center. The Information Center displays current data on the wheelchair.

LCD DISPLAY	
ITEM	**DESCRIPTION**
DRIVE NAME — A	This field shows the currently selected Drive's Name. Available choices are as follows:

Color MPJ+

DRIVE 1	DRIVE 2	DRIVE 3	DRIVE 4	
Drive 1*	Drive 2*	Drive 3*	Drive 4*	** No Drive**

*Drive names can be customized. Actual drive names may display differently.

** No Drive selected via the programmer

Battery Level Indicator — B	This symbol shows the Battery Level and will change depending on the available battery power. This indicator is shown on every screen.
Status Message — C	This area displays status or instructions.

Clock — D	Displays current time.
Status Indicator — E	The status indicator will show a "Warning" (exclamation point inside a triangle) indicator when the chair has a condition that requires attention. The status indicator will show a "STOP" sign when a serious condition exists. The chair will not be allowed to operate. The status indicator shows an Attendant Icon if the attendant's override switch is active.

Modes — F	The dotted-box shows the area that contains the available "modes" in the currently selected drive. The modes are programmed for each drive and are based upon the configuration of the chair. These modes are highlighted when the Mode is active. The operator changes modes by pressing the Mode Select Switch. The available modes are as follows:			
 to					
Digital 3 Speed 1 - 3	RIM Mode	No Driving	Automatic Positioning	Powered Seating

				
4-Switch Level 1(L1, L1 Latched)	4-Switch Level 2(L2, L2 Latched)	ECU Output Activated		
				
ASM 2	Infrared	Mouse	Mouse B	

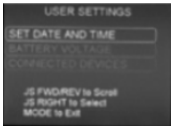
Driving Screen

This screen is shown when the operator issues a drive command and the Drive Icon on the main screen was highlighted.

The Drive's name, warning/info message, status icon and battery indicator are displayed on this screen.

6.8.6 User Settings

Depress the mode button of the CMPJ+ joystick for 10 seconds and the User Settings screen will appear with three choices shown. Move the joystick forward or reverse to scroll through the list. Move the joystick to the right to select a user setting.

User Settings	
	
Set Date and Time	**Battery Voltage**
	
Fault Codes	**Connected Devices**
	

User Settings	
Set Date and Time	SET DATE AND TIME - Sets the clock on the CMPJ+ joystick. Adds date and time stamp to error codes. • Move the joystick Up or Down to change the highlighted value (hour, minute, AM/PM, month, day, year) • Move the joystick Right or Left to select a value or the Set icon. • Highlight the Set icon and move the joystick forward to enter new date and time.
Battery Voltage	BATTERY VOLTAGE - Displays current battery voltage. This is a diagnostic test a user can perform prior to a service call.
Fault Code	FAULT CODES - Displays time and date stamped fault codes. This information can be helpful to a provider prior to making a service call.
Connected Devices	CONNECTED DEVICES - Displays device connections.

Connected Devices Screen

This screen is displayed if the Mode Select switch is held active for about 10 seconds. This screen shows an icon that represents any additional devices that are connected to the chair

ICON	DESCRIPTION	ICON	DESCRIPTION
	Intelligent Tilt Actuator		RIM Control
	Intelligent Recline Actuator		ECU 1/2 and ECU 3/4
	Intelligent Center Leg Actuator		Proportional Attendant Control
	Elevate Actuator		Compact Joystick
	Generic Tilt Actuator		Sip and Puff Control
	Generic Recline Actuator		Digital Attendant Control
	Generic Leg Actuator		Micro Extremity Control
	Generic Right Leg Actuator		Peachtree Control
	Generic Left Leg Actuator		ASL Digital Control

	Intelligent CG Tilt		Generic Analog Control
	Shark Power Module (SPM) Actuator		This is displayed if the controller supports G-Trac
	SANODE or Single Actuator Control Interface		Mouse Only
	4–way Switch Box		IR/Mouse
	Multiple Actuator Control Box		

6.8.7 CMPJ+ Joystick - Programmable Mono Ports 1 and 2 with External Mode Switch

The programmable mono port with external mode switch input is located at the rear of the joystick on the left side. The programmable mono port input offers the choice of three options:

- Remote drive select
- Remote stop/mode (reset) input
- Single actuator input

The single switch functions operate through mono port 1. An optional y-cable allows a second programmable function through mono port 2.

Remote Stop Switch

The remote reset switch may be used to stop the wheelchair if the wheelchair is in motion.

The remote reset switch also functions in the same way as the joystick mode switch when the wheelchair is not in motion. Refer to 6.8.9 Mode Switch (CMPJ+ Joystick, page 45).

6.8.8 Remote On/Off Switch

The remote On/Off switch input is located at the rear of the joystick on the right side and allows the power switch to be operated by an ability switch (normally open momentary switch with mono plug). To use the remote On/Off feature, the Drive Select/On/Off switch must be in the On position. Each activation of the ability switch will alternately turn the joystick On or Off.

6.8.9 Mode Switch (CMPJ+ Joystick)

The mode switch [CMPJ+ Joystick ⓖ] is used to select the operating mode for the wheelchair. The mode switch is located on the joystick. A mode switch is needed whenever any of the following operating modes are programmed:

*In these modes, Standby Select allows the reset switch to be bypassed for users unable to activate the switch.

- Environmental Controls (ECU 1, ECU 2, ECU 3, ECU 4)*
- 3 Speed Mode in Digital 3 Speed (Slow, Medium, Full)
- Sleep Mode
- RIM Mode*
- Remote Drive Selection Mode*
- Tilt/Recline Mode*
- Information Center Display Selection (does not require Reset activation at power up)

If any of the above modes are selected, the control will require activation of the switch immediately after the power switch is turned On in order to enter the drive mode. The second line of the LCD will display - PRESS RESET.

6.8.10 Memory Card Slot

The memory card slot is used with the basic or professional memory card for saving or reading wheelchair parameters.

6.9 When to Charge Batteries

Keep Batteries charged. When possible, DO NOT allow battery charge to empty.

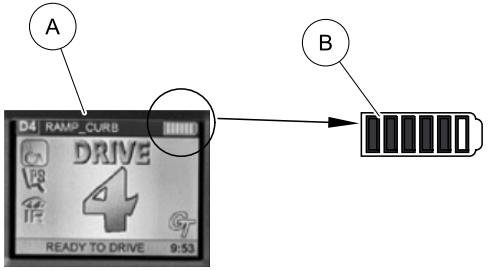
If battery charge becomes so low that no battery indicators are lit, allow the batteries to charge overnight.

6.9.1 SPJ+, SPJ+ w/PSS and SPJ+ w/ACC Joysticks

The Information Gauge Display located on the front of the joystick housing, it provides the state-of-battery charge, including notification of when the battery requires charging. It also provides the following information to the user on the status of the wheelchair:

- Green LEDs are lit, indicating well charged batteries.
- Amber LEDs are lit, indicating batteries are moderately charged. Recharge batteries before taking a long trip.
- Red LEDs are lit, indicating batteries are running out of charge. Recharge batteries as soon as possible.

6.9.2 CMPJ+ Joystick



The far right side of the display screen Ⓐ is the Battery Gauge Display Ⓑ. It provides information on the remaining charge in the batteries.

At full charge, solid blocks fill in battery gauge. As the battery becomes discharged, the segments will progressively disappear starting on the right and moving towards the left a bar at a time until no segments appear. At this level the user should charge the batteries as soon as possible.

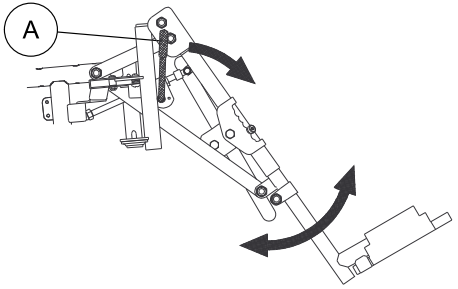
6.10 About Front Riggings

WARNING!
Risk of Serious Injury or Damage
Operating the wheelchair with a ground clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.
– ALWAYS maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and ground/floor to ensure proper ground clearance while the wheelchair is in motion. If necessary, adjust the footplates height to achieve proper ground clearance. After footplates height adjustment, if the wheelchair dips forward and the footplates touch the ground while in motion, please contact your dealer for an inspection and avoid use of the wheelchair if possible.

If the wheelchair is not moving, the front rigging must maintain a minimum of one inch ground clearance - otherwise personal injury and damage may result.

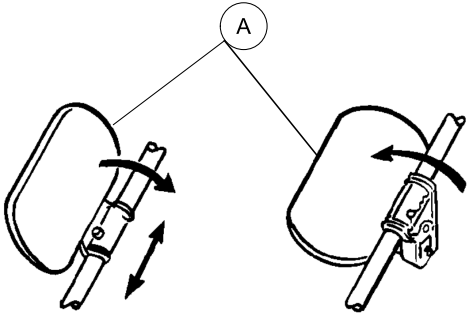
WARNING!
– PINCH POINT EXISTS BETWEEN CENTER MOUNT FOOTREST AND CASTERS - There is limited clearance between center mount footrest and casters. The user's feet MUST remain on the center mount footrest while operating the wheelchair. If the user's feet are allowed to rest off the side of the center mount footrest they may come in contact with the caster possibly resulting in injury.

6.11 Raising/Lowering Elevating Front Riggings



1. Perform one of the following:
   - Raising - Pull back on the release lever Ⓐ and raise front rigging to the desired height.
   - Lowering - Support front rigging with one hand away from the release lever. Push release lever downward with other hand.

6.12 Adjusting Calfpads

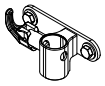
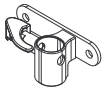


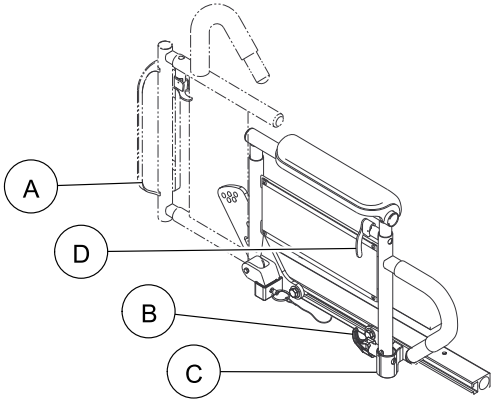
1. Rotate the calfpad Ⓐ towards outside of the wheelchair.
2. Slide the calfpad up or down until the desired position is obtained.

   If one of the top two calf pad adjustment positions is being used, the legrest will need to be raised to avoid interference with the front stabilizers while going over obstacles or going up and down ramps.

3. Rotate the calfpad towards the inside of the wheelchair.

6.13 Positioning Flip Back Armrests

Height Adjustment Lever		Armrest Release Lever	
Locked (Vertical) Position	Unlocked (Horizontal) Position	Locked (Vertical) Position	Unlocked (Horizontal) Position
			



WARNING!
– Make sure the flip back armrest release and height adjustment levers are in the locked position before using the wheelchair.

6.13.1 Positioning Flip Back Armrests for User Transfer

1. Unlock the flip back armrest Ⓐ by position the armrest release lever Ⓑ into the unlocked (horizontal) position.
2. Pull up on the flip back armrest and remove the armrest from the front arm socket Ⓒ.
3. Continue to pull up on the flip back armrest until the armrest is out of the way.
4. Repeat STEPS 1-3 for opposite flip back armrest, if necessary

6.13.2 Positioning Flip Back Armrests for Use

1. Make sure the flip back armrest release lever Ⓑ is in the unlocked (horizontal) position.
2. Install the flip back armrest Ⓐ into the front arm socket Ⓒ.
3. Lock flip back armrest by positioning flip back armrest release lever into the locked (vertical) position.
4. Lift up on flip back armrest to make sure the armrest is locked in place.
5. Repeat STEPS 1-4 for opposite flip back armrest, if necessary.

6.14 Recliner Operation

WARNING!
Risk of Death or Serious Injury
Operating the wheelchair with the seat tilted/reclined/back angle position beyond 20° can cause instability resulting in death or serious injury from the wheelchair tipping over.

– NEVER operate the wheelchair or elevate/lower the seat while in any tilted/reclined/back angle position over 20° relative to the vertical position. If the drive lock-out does not stop the wheelchair from operating or the seat from elevating/lowering in a tilt/recline/back angle position over 20° relative to vertical, DO NOT operate the wheelchair or elevate/lower the seat. DO NOT attempt to adjust the drive lock-out. Have the wheelchair serviced by a qualified technician.
– The wheelchair user MUST have a clear line of sight to drive safely. On initial chair delivery and after adjusting the back angle, drive lock-out switch tilt system or recline system, tilt and recline the seat back to the farthest driving position IMMEDIATELY before drive lock-out engages and ensure there is a clear line of sight present in which to drive the wheelchair. If a clear line of sight is not present, have the back angle repositioned or readjust the lockout angle such that safe driving with a clear line of sight is achieved.

7 Setup/Maintenance

7.1 Setup/Delivery Inspection

Setup/delivery inspection should be performed by dealer at time of delivery/set up.

Initial adjustments should be made to suit your personal body structure needs and preference. Thereafter weekly, monthly and periodic inspections should be performed by user/attendant between the six month service inspections. Refer to User/Attendant Inspection Checklist.

Every six months, and as necessary, take your wheelchair to a qualified technician for a thorough inspection and servicing.

Refer to wheelchair base user manual for additional safety inspection and troubleshooting information.

- ❑ Check all parts for shipping damage. In case of damage, DO NOT use.
- ❑ Ensure clothing guards are secure.
- ❑ Ensure arms are secure but easy to release and adjustment levers engage properly.
- ❑ Ensure adjustable height arms operate and lock securely.
- ❑ Make sure all electrical connections are secure.
- ❑ Make sure drive lock-out operates properly.
- ❑ Make sure elevate systems drive with reduced speed when seat is in elevated position.
- ❑ Check that cables are routed and secured properly to ensure that cables do NOT become entangled and damaged during normal operation of seating system.
- ❑ Ensure proper operation of powered functions (Example: seating and legrests).

7.2 Wear and Tear Information

General Information

Normal wear and tear items and components include but are not limited to: all upholstery items including seat and back upholstery, arm and calf pads, cushions, wheels, tires and casters, all types of batteries, joystick overlays and inductive rubberized protective boots.

Invacare reserves the right to ask for any item back that has an alleged defect in workmanship. Refer to the Warranty section in this manual for specific warranty information.

Refer to the Inspection Checklists for proper preventative maintenance schedule.

This is just a general guideline and does not include items damaged due to abuse and misuse.

Product Type	Product Wear and Tear
Wheelchairs	Wheels, Brake Assembly, Hand Grips
Mobility Hardware and Electronics	Rubber Urethane Tires and Casters, Handgrips, Joystick Inductive Tops, Joystick Overlays, Motors and Gearboxes (if exposed to prolonged moisture, urine, etc.), Stability Lock
Upholstery and Seating	Arm pads, Seat Cushion Foam, Seat Cushion Covers, Back Cushion Foam, Back Cushion Covers, Headrest Foam, Headrest Covers, Footplate Covers, Calf Pad (if applicable)Foam and Cover
Batteries	Lead acid/Lithium, Coin cell (watch type), Gel (6 months)

7.3 Service Life

The expected service life is five years, presuming that the product is used daily and in accordance with safety instructions, maintenance instructions and intended use, stated in this manual.

7.4 User/Attendant Inspection Checklists

Every six months, and as necessary, take your wheelchair to a qualified technician for a thorough inspection and servicing.

Weekly, monthly and periodic inspections should be performed by user/attendant between the six month service inspections.

Regular cleaning will reveal loose or worn parts and enhance the smooth operation of your wheelchair. To operate properly and safely, your wheelchair must be cared for just like any other vehicle. Routine maintenance will extend the life and efficiency of your wheelchair.

Refer to wheelchair base user manual for additional safety inspection and troubleshooting information.

DANGER!
Risk of Injury, Damage or Death
Overinflation of tires may cause tires to explode.
- Inflate tire to the proper tire pressure (P.S.I. / kilopascals) listed on the side wall of the tire.
- Only use wheelchair with tires at proper pressure.
- The wheels and tires should be checked periodically for cracks and wear and should be replaced if necessary.

7.4.1 Inspect/Adjust Weekly

- ❑ Inspect all fasteners.
- ❑ Ensure proper operation of powered functions (Example: seating and legrests).

7.4.2 Inspect/Adjust Monthly

- ❑ Clean upholstery and armrests.
- ❑ Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.

7.4.3 Inspect/Adjust Periodically

- ❑ Inspect all fasteners.
- ❑ Ensure clothing guards are secure.
- ❑ Ensure arms are secure but easy to release and adjustment levers engage properly.
- ❑ Ensure adjustable height arms operate and lock securely.
- ❑ Ensure upholstery does not have any rips or tears.
- ❑ Ensure armrest pad sits flush against arm tube.
- ❑ Inspect foam handgrips for damage. If damaged, have them replaced by a qualified technician.
- ❑ Check center mount front riggings for loose fasteners. Replace/tighten if necessary.
- ❑ Check that all labels are present and legible. Replace if necessary.
- ❑ Make sure drive lock-out operates properly.
- ❑ Make sure elevate systems drive with reduced speed when seat is in elevated position.
- ❑ Make sure tilt mechanism and tilt tracks are clean.
- ❑ Check that spreader bar mounting fasteners are tight.
- ❑ Check back cane mounting fasteners and back mounting fasteners are tight.

7.5 Service Inspection

Every six months take your wheelchair to a qualified technician for a thorough inspection and servicing.

Service inspections MUST be performed by a technician.

Refer to wheelchair base user manual for additional safety inspection and troubleshooting information.

DANGER!
Risk of Injury, Damage or Death
Overinflation of tires may cause tires to explode.
– Inflate tire to the proper tire pressure (P.S.I. / kilopascals) listed on the side wall of the tire.
– Only use wheelchair with tires at proper pressure.
– The wheels and tires should be checked periodically for cracks and wear and should be replaced if necessary.

WARNING!
Risk of Serious Injury or Damage
Attaching hardware that is loosely secured could cause loss of stability resulting in serious injury or damage.
– After ANY adjustments, repair or service and before use, make sure that all attaching hardware is tightened securely.

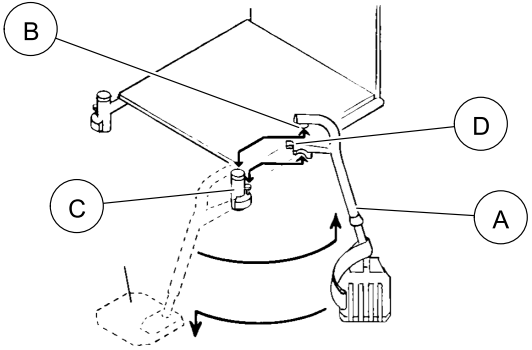
The following are recommended items to inspect during regular service inspections performed by a qualified technician. Actual items to be inspected during the service inspection may vary according to the specific wheelchair:

7.5.1 Six Month Inspection

- ❑ Clean upholstery and armrests.
- ❑ Check that all labels are present and legible. Replace if necessary.
- ❑ Ensure clothing guards are secure.
- ❑ Ensure adjustable height arms operate and lock securely.
- ❑ Ensure upholstery does not have any rips or tears.
- ❑ Ensure armrest pad sits flush against arm tube.
- ❑ Ensure arms are secure but easy to release and adjustment levers engage properly.
- ❑ Inspect seat positioning strap for any signs of wear. Ensure buckle latches. Verify hardware that attaches strap to frame is secure and undamaged. Replace if necessary.
- ❑ Check center mount front riggings for loose fasteners. Replace /tighten if necessary.
- ❑ Check that cables are routed and secured properly to ensure that cables do NOT become entangled and damaged during normal operation of seating system.
- ❑ Ensure proper operation of powered functions (Example: seating and legrests).
- ❑ Inspect electrical components for signs of corrosion. Replace if corroded or damaged.
- ❑ Inspect all fasteners.
- ❑ Inspect TRBKTS fasteners and hardware.
- ❑ Inspect foam handgrips for damage. If damaged, have them replaced by a qualified technician.
- ❑ Check power center mount front riggings for worn/frayed belts and/or loose fasteners. If found, replace these items.
- ❑ Make sure all electrical connections are secure.
- ❑ Make sure drive lock-out operates properly.
- ❑ Check limit switch position.
- ❑ Make sure seating systems with the recline function have the retaining pin in place at the top of each back cane.
- ❑ Make sure all systems, except Elevate Only, have the retaining pin in place at the back of each seat rail.
- ❑ Check that spreader bar mounting fasteners are tight.

- ❑ Check back cane mounting fasteners and back mounting fasteners are tight.

7.6 Installing/Removing 70° Taper Footrest



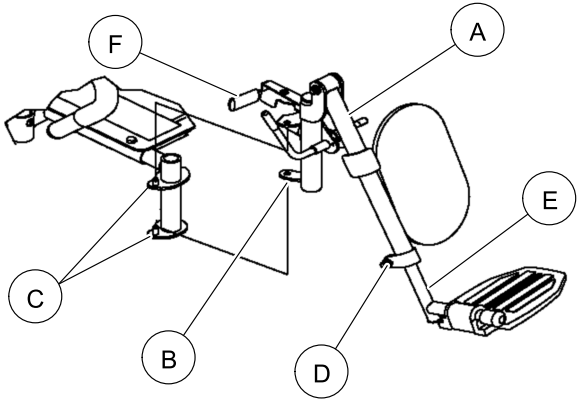
1. Turn the footrest Ⓐ to the side (open footplate is perpendicular to wheelchair).
2. Insert footrest mounting pin Ⓑ into mounting tube Ⓒ.
3. Push the footrest towards the inside of the wheelchair until it locks into place.

   The footplate will be on the inside of the wheelchair when locked in place.

4. Repeat STEPS 1- 3 for the other footrest assembly.
5. To remove the footrest, push the footrest release lever Ⓓ inward, rotate footrest outward.
6. Adjust footrest height, if desired. Refer to Footrest Height Adjustment.

7.7 Installing/Removing Elevating Legrests

7.7.1 Installing



1. Turn legrest Ⓐ to side (open footplate is perpendicular to wheelchair).
2. Install the legrest hinge plates Ⓑ onto the hinge pins Ⓒon the wheelchair frame.
3. Rotate legrest toward the inside of the wheelchair until it locks in place.

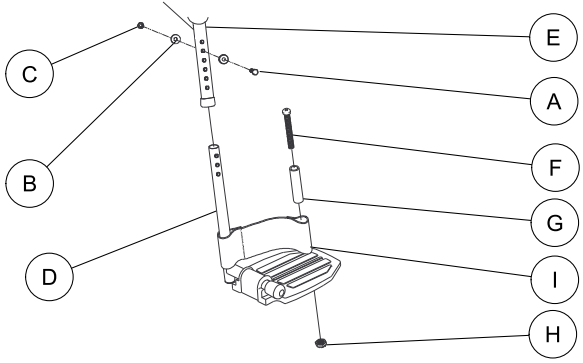
   The footplate will be on the inside of the wheelchair when locked in place.

4. Repeat STEPS 1-3 for the opposite legrest.
5. After the user is seated in wheelchair, adjust footplate to correct height by loosening nut Ⓓ and sliding the lower footrest Ⓔ assembly up or down until desired height is achieved.

7.7.2 Removing

1. Push the legrest release handle Ⓕ toward the inside of the wheelchair (facing the front of the wheelchair) and swing the legrest to the outside of the wheelchair.
2. Lift up on the legrest Ⓐ and remove from the wheelchair.
3. Repeat STEPS 1- 2 for opposite side of wheelchair.

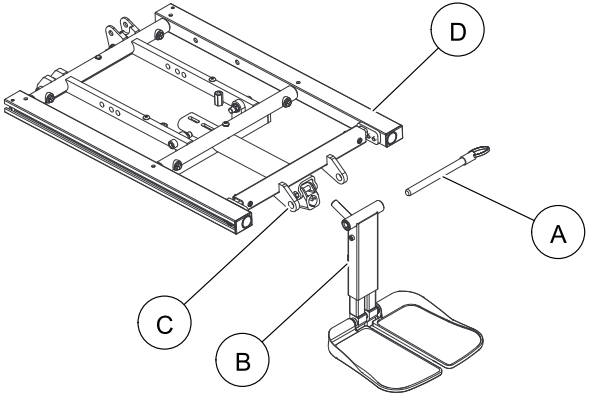
7.8 Replacing Heel Loops



1. Note the position of hex bolt Ⓐ, coved washers Ⓑ and locknut Ⓒ for reinstallation.
2. Remove the hex bolt, coved washers and locknut that secure the lower footrest Ⓓ to the footrest support Ⓔ.
3. Remove the lower footrest.
4. Remove the phillips bolt Ⓕ, spacer Ⓖ and locknut Ⓗ that secure the existing heel loop Ⓘ to the lower footrest.
5. Slide the existing heel loop off the lower footrest.
6. Replace heel loop.
7. Reverse STEPS 1-6 to reassemble.

When securing heel loop to lower footrest, tighten the mounting screw and locknut until the spacer is secure.

7.9 Removing/Installing the Manual Center Mount Footrest



7.9.1 Installing

1. Engage the release lever with one hand, hold the center mount footrest Ⓑ with the other, and insert the center mount footrest into the mounting bracket Ⓒ of the seat frame Ⓓ.
2. Reinstall the rigging pivot pin Ⓐ to secure the center mount footrest to the mounting bracket of the seat frame.

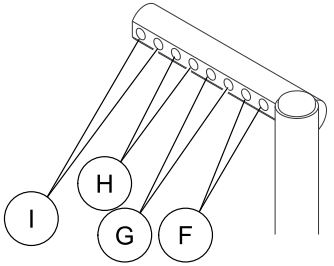
7.9.2 Removing

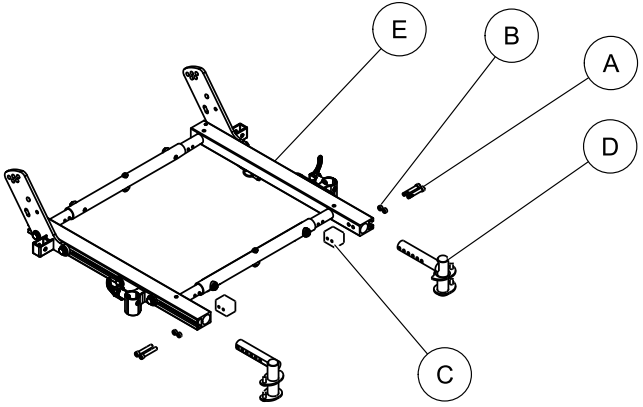
Release lever is not shown. It is located towards the front or center of seat frame.

1. Remove the rigging pivot pin Ⓐ that secures the footrest Ⓑ to the mounting bracket Ⓒ of the seat frame Ⓓ.
2. Hold the footrest with one hand and engage the release lever with the other while simultaneously pulling the center mount footrest out of the mounting bracket of the seat frame.

7.10 Adjusting/Replacing Telescoping Front Rigging Support

DETAIL "A" — MOUNTING POSITIONS FOR RECLINING SEATING SYSTEMS





WARNING!
– If the telescoping tubes need to be extended greater than two inches, then the seat must be repositioned rearward to ensure stability - otherwise injury and/or damage to the wheelchair and surrounding property may result.

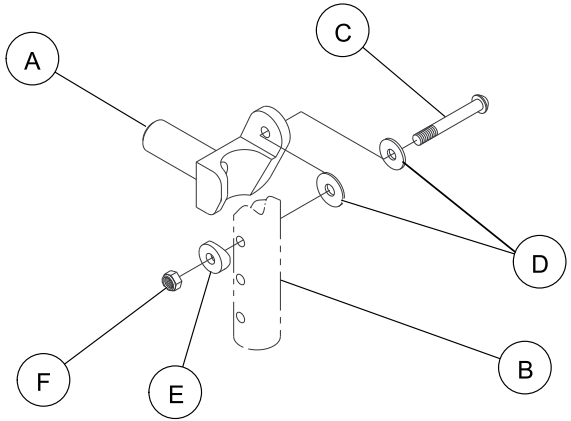
7.10.1 Adjusting Telescoping Front Rigging Support

1. Remove the two cap screws Ⓐ, spacers Ⓑ and threaded blocks Ⓒ securing the telescoping front tube Ⓓ to the side rail Ⓔ.
2. Slide existing telescoping front rigging support to one of six depth positions.
3. Use the existing two cap screws, spacers and threaded blocks to secure the telescoping front tube to the side rail.
4. Repeat steps 1 to 3 on the opposite side, if desired.

7.10.2 Replacing Telescoping Front Rigging Support

1. Remove the two cap screws Ⓐ, spacers Ⓑand threaded blocks Ⓒ securing the telescoping front tube Ⓓ to the side rail Ⓔ.
2. Remove existing telescoping front rigging.
3. Perform one of the following:
   - Reclining Seating Systems Only - Refer to Detail “A” and the list below to determine the mounting position for the new telescoping front tubes.
     – 16 inch and 19 inch Seat Depth Ⓕ
     – 17 inch and 20 inch Seat Depth Ⓖ
     – 18 inch and 21 inch Seat Depth Ⓗ
     – 22 inch Seat Depth Ⓘ
     –
   - Non-reclining Seating Systems - The telescoping front tubes can be positioned using one of six mounting positions. Proceed to step 4.
4. Use the existing two cap screws, spacers and threaded blocks to secure the telescoping front tube to the side rail
5. Repeat steps 1 to 4 on the opposite side, if desired.

7.11 Installing Adjustable Angle Flip-up Footplate Hinge



1. Position footplate hinge Ⓐ on the footrest support tube Ⓑat the desired height.
2. Position mounting screw Ⓒ, washers Ⓓ, spacer Ⓔ, and locknut Ⓕ on the footrest support as shown.
3. Flip the footplate hinge to the up position.

The footplate hinge will fall to the down position.

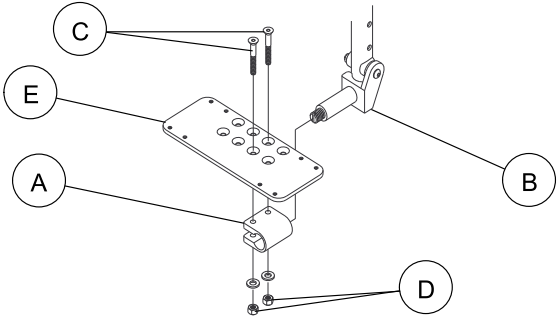
4. Tighten the mounting screw, washer, and locknut that secure the footplate hinge to the footrest support until the footplate hinge remains in the up position.
5. Check the up and down motion of the footplate hinge to make sure the user of the wheelchair can operate the footplates easily.

   If footplate's motion is too tight, loosen the mounting screw and locknut approximately ¼-turn counterclockwise.

   If the footplate's motion is too loose, tighten mounting screw and locknut approximately ¼-turn clockwise.

6. Adjust footplate. Refer to Adjusting Adjustable Angle Flip-Up Footplates.

7.12 Installing Adjustable Angle Flip-up Footplates

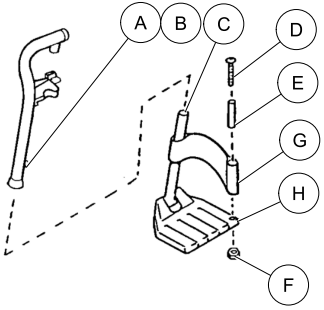


The footplate is pre-assembled and is loosely held together with mounting screws, washers, and locknuts.

The footplate assembly is shown exploded for clarity.

1. Slide the half clamp Ⓐ over the footplate hinge Ⓑ.
2. Hand tighten the two flat screws Ⓒ and locknuts Ⓓ that secure the footplate Ⓔ to the half clamp.
3. Adjust the footplates to the necessary angle and depth for the user. Refer to Adjusting Adjustable Angle Flip-Up Footplates.

7.13 Removing/Installing Heel Loop on Composite Footplate

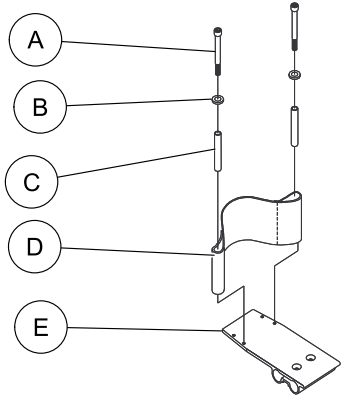


1. Remove the mounting screw Ⓐ and coved washer Ⓑ that secures the lower half of the footrest to the swingaway footrest assembly Ⓒ.
2. Remove the lower footrest assembly.
3. Remove the mounting screw Ⓓ, spacer Ⓔ, and locknut Ⓕ that secure the heel loop Ⓖ to the footplate Ⓗ.

4. Slide heel loop up and off of footrest assembly.
5. To install heel loop, reverse STEPS 1 through 4.

> When securing heel loop to the footrest assembly, tighten mounting screw until the spacer is secure.

7.14 Removing/Installing Heel Loop on Articulating Footplate

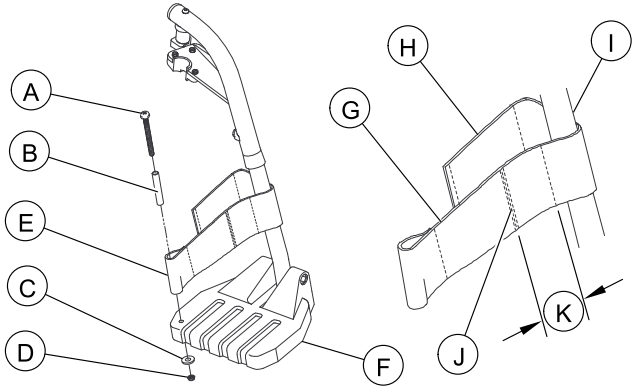


1. Remove the two mounting screws Ⓐ, washers Ⓑ, and spacers Ⓒ that secure the heel loop Ⓓ to the articulating footplate Ⓔ.
2. To install heel loop, reverse STEPS 1

> When securing heel loop to the footrest assembly, tighten mounting screw until the spacer is secure.

7.15 Removing/Installing/Adjusting the Adjustable Heel Loop

> If the user's physical or medical condition and health care provider allows, shoes should be worn when occupying the wheelchair.



7.15.1 Removing the Adjustable Heel Loop

1. Remove the mounting screw Ⓐ, spacer Ⓑ, washer Ⓒ(not used on deluxe flip up footplate) and cap nut Ⓓ securing the adjustable heel loop Ⓔ to the footplate Ⓕ.
2. Pull to release the hook (G) and loop (H) strips securing the adjustable heel loop to the lower footrest tube (I).
3. Remove the adjustable heel loop from the front rigging.

7.15.2 Installing the Adjustable Heel Loop

When installing the adjustable heel loop, wrap the hook and loop strips wrap around the front rigging tube as shown. This will ensure the hook strip is facing towards the rear of the wheelchair.

1. Using the mounting screw Ⓐ, spacer Ⓑ, washer (not used on deluxe flip up footplate) Ⓒ and cap nut Ⓓ secure the adjustable heel loop Ⓔ to the footplate Ⓕ.
2. Secure the hook Ⓖ and loop Ⓗ strips around the lower footrest tube (I). Refer to Adjusting the Adjustable Heel Loop.

7.15.3 Adjusting the Adjustable Heel Loop

1. If necessary, pull to release the hook Ⓖ and loop Ⓗ strips securing the adjustable heel loop Ⓔ to the lower footrest tube Ⓘ.
2. Determine the heel loop length and depth appropriate for the wheelchair user.

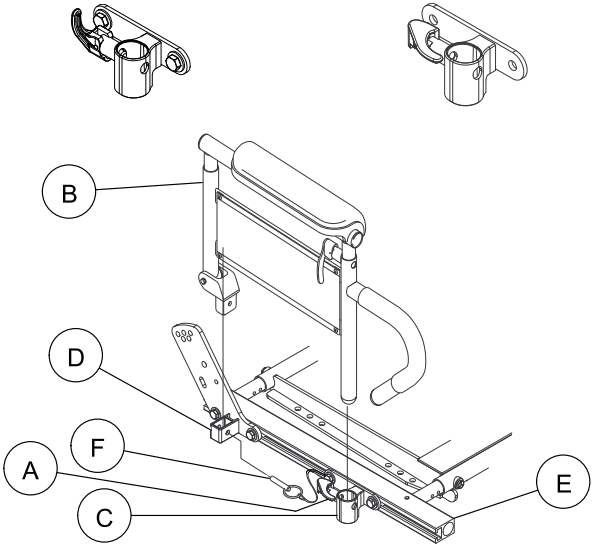
   A red line Ⓙ is included on the hook strip to help indicate when the hook and loop strips overlap by 1-1/2 inches (38 mm) Ⓚ.

3. Ensuring at least 1-1/2 (38 mm) Ⓚ inches of the loop strip connects to the hook strip, firmly press the hook and loop strips together to secure the adjustable heel loop around the lower footrest tube.
4. If necessary, repeat STEPS 1-3 to adjust the remaining adjustable heel loop.

7.16 Installing/Removing Flip Back Armrests

Armrest Release Lever

Locked (Vertical) Position Unlocked (Horizontal) Position



WARNING!

– Make sure the flip back armrest release and height adjustment levers are in the locked position before using the wheelchair.

Flip back armrest release lever Ⓐ MUST be in the unlocked (horizontal) position when placing the flip back armrest into the arm sockets.

7.16.1 Installing

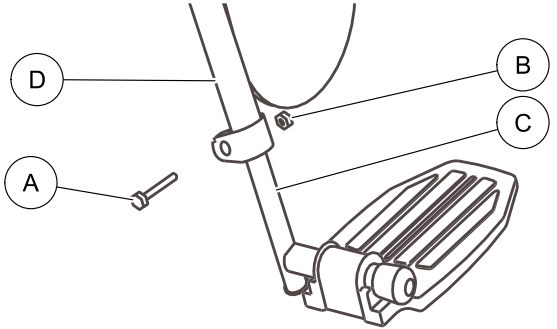
1. Visually inspect to ensure flip back armrest release lever Ⓐ is in the unlocked (horizontal) position.
2. Slide the flip back armrest Ⓑ into the arm sockets (front socket Ⓒ and rear socket Ⓓ) on the seat frame Ⓔ.
3. Install the quick-release pin Ⓕ through the rear arm socket Ⓓ and flip back armrest.
4. Lock the flip back armrest by pressing the flip back armrest release lever into the locked (vertical) position.
5. Repeat STEPS 1-4 for the opposite flip back armrest.

7.16.2 Removing

1. Unlock the flip back armrest Ⓑ by positioning the flip back armrest release lever Ⓐ into the unlocked (horizontal) position.
2. Remove the quick-release pin Ⓕ that secures the flip back armrest to the rear arm socket Ⓓ.
3. Pull up on the flip back armrest and remove the armrest from the arm sockets (front socket Ⓒ and rear socket Ⓓ.
4. Repeat STEPS 1-3 for the opposite flip back armrest, if necessary.

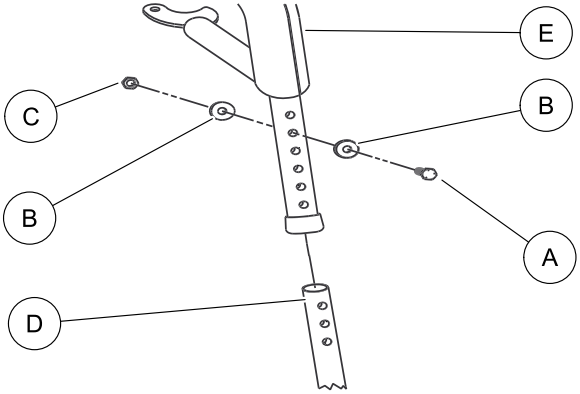
7.17 Footrest Height Adjustment

7.17.1 PH904A and PHAL4A Front Riggings



1. Loosen, but DO NOT remove, the lug bolt and locknut that secure the lower footrest to the footrest support.
2. Reposition the lower footrest to the desired height.
3. Securely tighten the lug bolt and locknut that secure the lower footrest to the footrest support.
4. Repeat STEPS 1-3 for the opposite side of the wheelchair footrest, if necessary.

7.17.2 70° and PW93

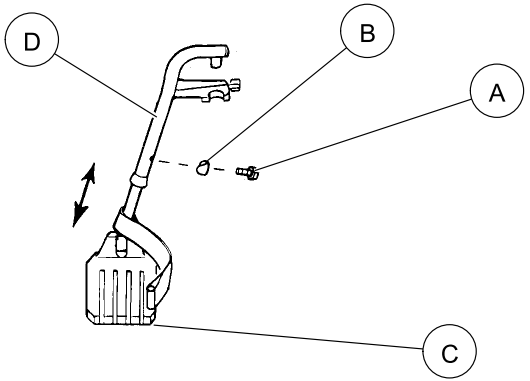


1. Remove any accessory from the footrest(s).

   Lay the footrest on a flat surface to simplify this procedure.

2. Remove the footrest from the wheelchair. Refer to Footrest Height Adjustment.
3. Remove the mounting screw Ⓐ, washers Ⓑ and locknut Ⓒ that secure the lower footrest assembly Ⓓ to the upper footrest support Ⓔ.
4. Reposition the lower footrest to the desired height.
5. Reinstall the mounting screw, washers and locknut that secure the lower footrest to the footrest support and tighten securely.
6. Repeat STEPS 1-5 for the opposite wheelchair footrest, if necessary.
7. Reinstall the footrest(s) onto the wheelchair. Refer to Footrest Height Adjustment.
8. Reinstall any accessory onto the footrest(s).

7.17.3 70° Taper



1. Remove any accessory from the footrest(s).
2. Remove the footrest from the wheelchair. Refer to Footrest Height Adjustment.

   Lay the assembly on a flat surface to improve access to the hardware.

   Note the position of the spacers before disassembly

3. Remove the mounting screw and coved spacer that secures the lower footrest assembly.
4. Position the footrest assembly to the desired height.

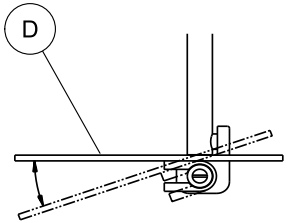
5. Secure lower footrest assembly with existing mounting screw and coved spacer. Securely tighten.

   Make sure spacers are positioned properly when reassembling to prevent damage to the frame mounting tubes.

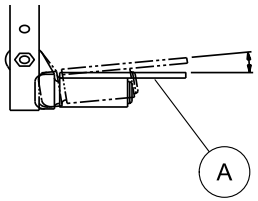
6. Reinstall the footrest(s) onto the wheelchair. Refer to Footrest Height Adjustment.
7. Reinstall any accessory onto the footrest(s).

7.18 Adjusting Adjustable Angle Flip-Up Footplates

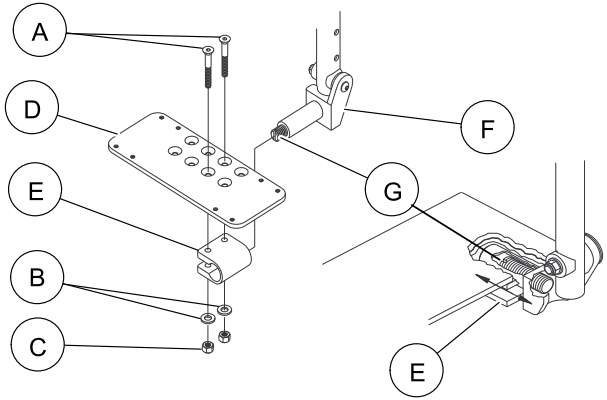
Angle Adjustment



Perpendicular and/or Inversion/Eversion Adjustment



Depth Adjustment



7.18.1 Depth Adjustment

Observe the angle of the footplate for reinstallation.

The settings for positioning the footplates on the half-clamps may vary for each footplate.

1. Remove the two flat screws Ⓐ, washers Ⓑ and locknuts Ⓒ that secure footplate Ⓓ to the half clamp Ⓔ.
2. Move footplate to one of four mounting positions.

   If desired depth is still not obtained, rotate the half clamp 180° on the footplate hinge Ⓕ.

3. Retighten the two flat screws, washers and locknuts.

7.18.2 Angle Adjustment

Observe the angle of the footplate for reinstallation.

The settings for positioning the footplates on the half-clamps may vary for each footplate.

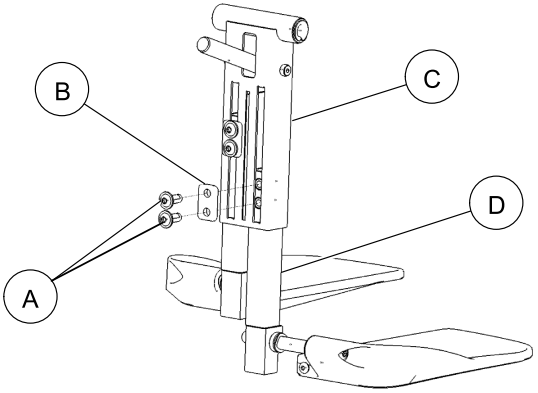
1. Loosen, but DO NOT remove, the two flat screws Ⓐ, washer Ⓑ and locknuts Ⓒ that secure the footplate Ⓓ to the half clamp Ⓔ.
2. Position the footplate to the necessary angle to accommodate the user.
3. Retighten the two flat screws, washers and locknuts.

7.18.3 Perpendicular and/or Inversion/Eversion Adjustment

It is not necessary to remove the footplate to perform this adjustment.

1. Insert a flathead screwdriver through the half clamp Ⓔ on the footplate.
2. Slowly turn nylon adjustment screw Ⓖ in or out until footplate is perpendicular to the footrest assembly or the desired inversion or eversion is obtained.

7.19 Adjusting the Height of the Manual Center Mount Footrest

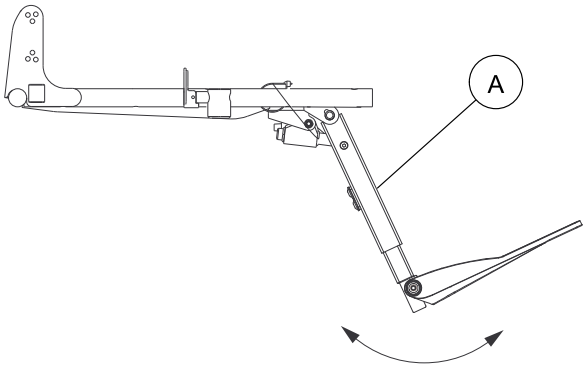


WARNING!
Risk of Serious Injury or Damage
Operating the wheelchair with a ground clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.
– ALWAYS maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and ground/floor to ensure proper ground clearance while the wheelchair is in motion. If necessary, adjust the footplates height to achieve proper ground clearance. After footplates height adjustment, if the wheelchair dips forward and the footplates touch the ground while in motion, please contact your dealer for an inspection and avoid use of the wheelchair if possible.

WARNING!
– PINCH POINT EXISTS BETWEEN CENTER MOUNT FOOTREST AND CASTERS - There is limited clearance between center mount footrest and casters. The user's feet MUST remain on the center mount footrest while operating the wheelchair. If the user's feet are allowed to rest off the side of the center mount footrest they may come in contact with the caster possibly resulting in injury.

1. Remove the two mounting screws Ⓐ that secure the button head cleat Ⓑ to the extension housing Ⓒ.
2. Adjust the footrest extension tube Ⓓ to the desired height.
3. Secure the extension tube to the desired height with the button head cleat and mounting screws. Securely tighten.
4. Repeat steps 1-3 for the other extension tube.

7.20 Adjusting the Angle of the Manual Center Mount Footrest



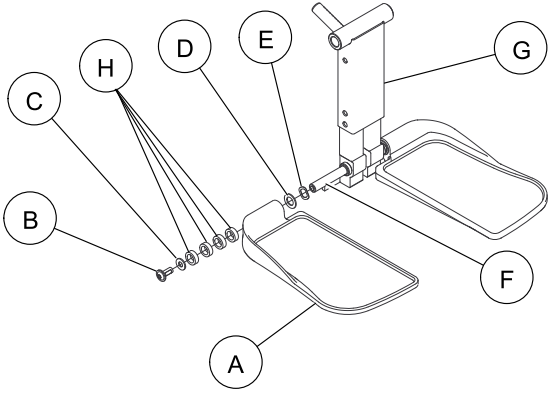
WARNING!
– PINCH POINT EXISTS BETWEEN CENTER MOUNT FOOTREST AND CASTERS - There is limited clearance between center mount footrest and casters. The user's feet MUST remain on the center mount footrest while operating the wheelchair. If the user's feet are allowed to rest off the side of the center mount footrest they may come in contact with the caster possibly resulting in injury.

Release lever located towards the front or center of seat frame.

WARNING!
Risk of Serious Injury or Damage
Operating the wheelchair with a ground clearance of less than 75 mm (3 inches) between the footplates and the ground/floor may cause serious injury or property damage.
– ALWAYS maintain a minimum of 75 mm (3 inches) between the bottom of the footplates and ground/floor to ensure proper ground clearance while the wheelchair is in motion. If necessary, adjust the footplates height to achieve proper ground clearance. After footplates height adjustment, if the wheelchair dips forward and the footplates touch the ground while in motion, please contact your dealer for an inspection and avoid use of the wheelchair if possible.

1. Engage the release lever with one hand (not shown) and move the center mount footrest Ⓐ to the desired angle with the other hand.
2. Disengage the release lever (not shown) to lock the center mount footrest in the new position.

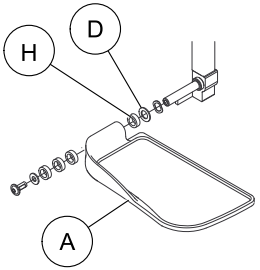
7.21 Adjusting the Footplate Width of the Center Mount Footrest



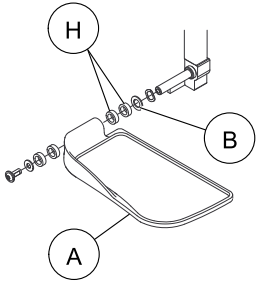
Narrow configuration shown (No Spacers)

1. Flip footplate Ⓐ down
2. Remove the mounting screw Ⓑ, nylon washer Ⓒ, washer Ⓓ and wave washer Ⓔ securing the footplate to the extension tube Ⓕ of the center mount footrest Ⓖ.
3. Reposition the four 1/4 inch spacers Ⓗ between the footplate and washer as necessary to achieve the desired footplate width
4. Using the mounting screw, nylon washer, washer and wave washer, secure the footplate to the extension tube.
5. Repeat STEPS 1 and 4 for the other footplate.

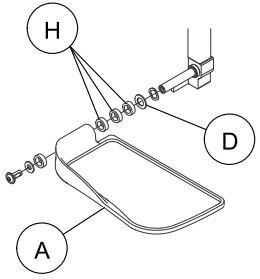
Medium Narrow (One Spacer)



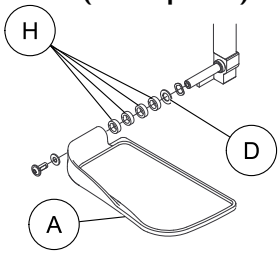
Medium (Two Spacers)



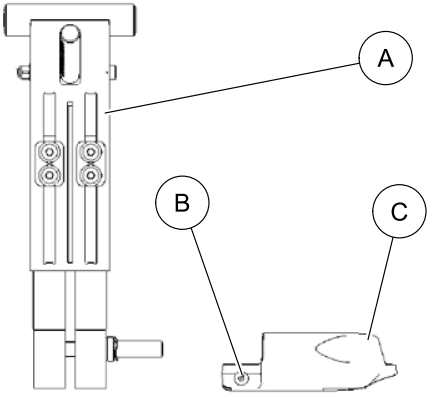
Medium Wide (Three Spacers)



Wide (Four Spacers)



7.22 Adjusting the Footplate Angle

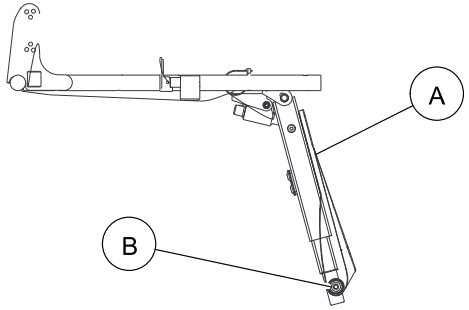


Manual Center Mount Footrest is shown for reference Ⓐ.

Rear view of footplate Ⓒ is shown for clarity.

1. Flip footplate up.
2. Rotate the adjustment screw Ⓑ in or out until the desired angle is achieved.
3. Repeat STEPS 1 and 2 for the other footplate.

7.23 Adjusting the Tension of the Flip Up Footplate



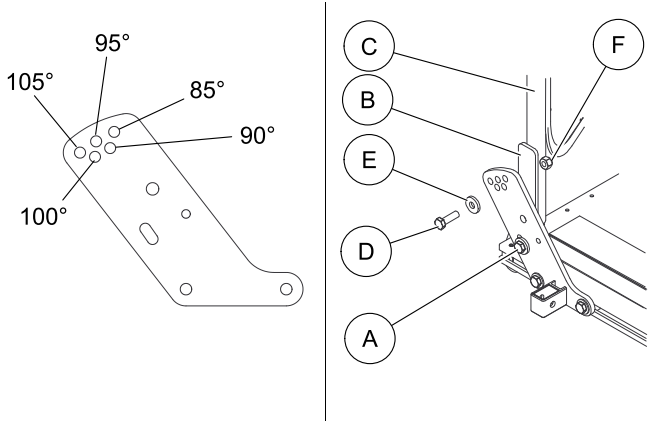
The tension can be adjusted to increase or decrease the rotation effort of the flip up footplates Ⓐ.

1. Loosen the mounting screw Ⓑ on the front rigging angle hinge to decrease the rotation effort.

   DO NOT remove the footplate mounting screw.

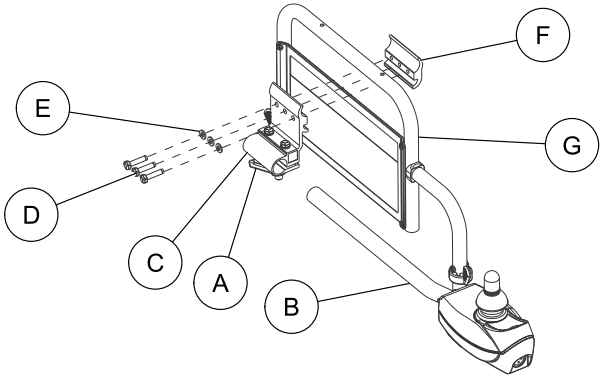
2. Tighten the front rigging angle hinge mounting screw to increase the rotation effort.
3. Repeat STEPS 1 and 2 for the other footplate.

7.24 Adjusting the Back Angle



1. Loosen, but DO NOT remove, the two lower hex screws Ⓐ securing the cane brackets Ⓑ to the back canes Ⓒ.
2. Remove the two upper hex screws Ⓓ, washers Ⓔ and locknuts Ⓕ securing the cane brackets to the back canes.
3. Align the upper mounting holes in the back canes with the desired mounting holes in the cane brackets.
4. Install the two upper hex screws, washers and locknuts to secure the cane brackets to the back canes.
5. Torque the locknuts to 13 ft-lbs.

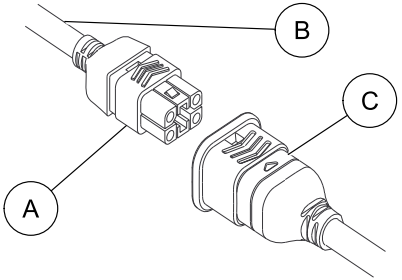
7.25 Repositioning Joystick



1. Turn the adjustment lock lever Ⓐ to release the joystick mounting tube Ⓑ from the joystick mounting bracket Ⓒ.
2. Remove the joystick from the wheelchair.
3. Remove the three hex screws Ⓓ and washers Ⓔ that secures the joystick mounting bracket to the threaded mounting bracket Ⓕ.
4. Reposition threaded mounting bracket on the inside of the opposite arm tube Ⓖ as shown.
5. Using the three hex mounting screws and washers, secure joystick mounting bracket to the threaded mounting bracket.
6. Slide the joystick mounting tube through the joystick mounting bracket to the desired position.
7. Turn the adjustment lock lever to secure the joystick mounting tube into the mounting bracket.

7.26 Disconnecting/Connecting the SPJ+ Joysticks

The joystick connector is located at the rear of the seat frame.



7.26.1 Disconnecting the SPJ+ Joysticks

1. Hold the light grey collar portion Ⓐ of the joystick connector Ⓑ with one hand and the controller connector Ⓒ on the wheelchair in the other and disconnect them by pulling them apart.

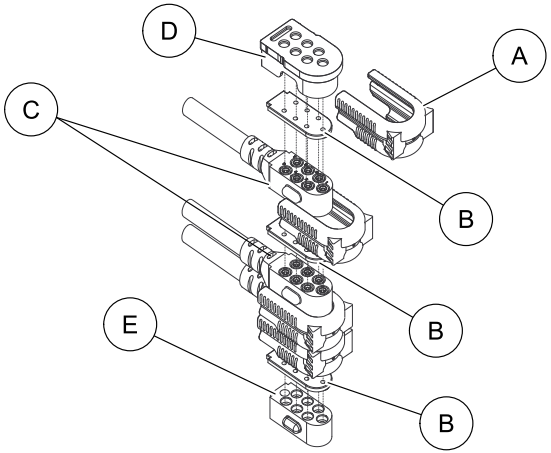
7.26.2 Connecting the SPJ+ Joysticks

WARNING!
– The joystick connector and controller connector fit together in one way only. DO NOT force them together.

1. Hold the light grey collar portion Ⓐ of the joystick connector Ⓑ with one hand and the controller connector Ⓒ on the wheelchair in the other and align them.
2. Lightly push to engage the joystick connector and the controller connector.

7.27 Disconnecting/Connecting the CMPJ+ Joysticks

The joystick connector is located at the rear of the seat frame.



7.27.1 Connecting the CMPJ+ Joysticks

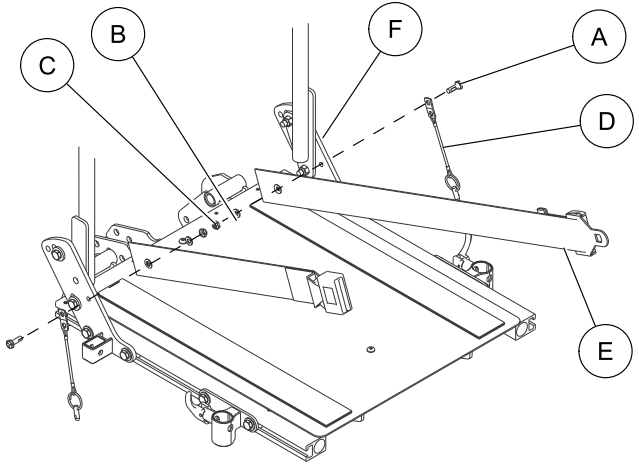
Ensure the gaskets Ⓑ are installed in the top connector cap and between network connectors Ⓒ.

1. Ensure the latch is pulled away from the network connector.
2. Connect the network connector to the other connectors.
3. Top Ⓓ and Bottom Ⓔ Connectors - Install connector caps onto the network connector.
4. Push the latch in to secure the network connectors and caps.
5. If necessary secure excess cable using tie-wraps.

7.27.2 Disconnecting the CMPJ+ Joysticks

1. Pull the latch Ⓐ away from the joystick connector.
2. Disconnect the joystick connector from the remaining connectors.

7.28 Replacing Seat Positioning Strap



DANGER!
Risk of Death or Serious Injury
Not wearing your seat positioning strap could result in death or serious injury.
– ALWAYS wear your seat positioning strap. Your seat positioning strap helps reduce the possibility of a fall from the wheelchair. The seat positioning strap is a positioning belt only. It is not designed for use as a safety device withstanding high stress loads such as auto or aircraft safety belts. If signs of wear appear, seat positioning strap MUST be replaced IMMEDIATELY.

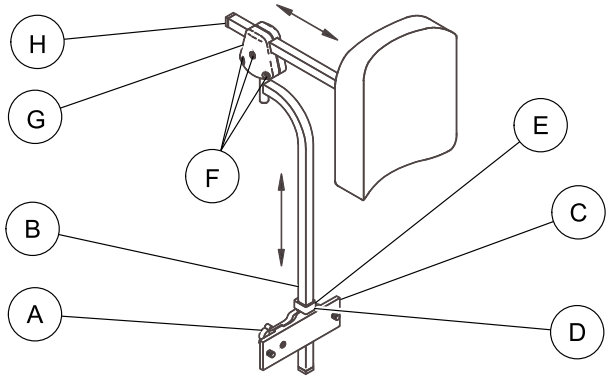
7.28.1 Wheelchairs without TRRO Option

1. Remove the seat cushion from the seat pan.
2. Rotate the flip back armrests up, out of the way. Refer to 6.13 Positioning Flip Back Armrests, page 48.
3. Remove the two mounting screws Ⓐ, washer Ⓑ, and locknuts Ⓒ that secure the quick-release pins Ⓓ and seat positioning straps Ⓔ to the seat frame Ⓕ.
4. Remove the seat positioning straps.
5. Install the two new seat positioning straps inside of the seat frame as shown.
6. Secure the seat positioning strap and quick-release pin to the seat frame with the two mounting screws, washers, and locknuts. Torque to 75 in-lbs.
7. Reinstall the seat cushion onto the seat pan.
8. Lower the flip back armrests down, back into position. Refer to 6.13 Positioning Flip Back Armrests, page 48.

7.28.2 Wheelchairs with TRRO Option

To replace the seat positioning strap, refer to the wheelchair base user manual supplied with the wheelchair.

7.29 Removing/Installing/Adjusting Headrest



WARNING!
– If using a ventilator, verify headrest support does not interfere at all angles. Otherwise, injury or damage may occur.

7.29.1 Removing the Headrest

1. Loosen, but DO NOT remove, the thumb screw Ⓐ that secures the headrest mounting tube Ⓑ to the headrest mounting bracket Ⓒ.
2. Remove the headrest mounting tube from the headrest mounting bracket.

7.29.2 Installing the Headrest

1. Make sure thumb screw Ⓐ is loose.
2. Install the headrest mounting tube Ⓑ until the headrest stop Ⓓ sits on the headrest mounting bracket Ⓒ.
3. If necessary, adjust the height, depth or direction of the headrest.

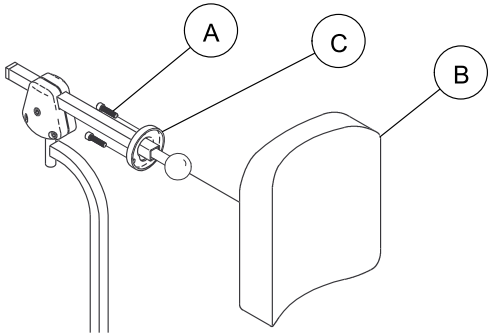
7.29.3 Adjusting Headrest Height

1. Loosen the set screw Ⓔ on the headrest stop.
2. Loosen, but DO NOT remove, the thumb screw Ⓐ that secures the headrest mounting tube Ⓑ to the headrest mounting bracket Ⓒ.
3. Position the headrest to the desired height.
4. Tighten the thumb screw that secures the headrest to the headrest mounting bracket.
5. Tighten the set screw on the headrest stop.
6. If necessary, adjust the depth or direction of the headrest.

7.29.4 Adjusting Headrest Depth/Direction

1. Loosen, but DO NOT remove, the three socket screws Ⓕ that secure the offset fixture Ⓖ to the slide tube Ⓗ.
2. If necessary, reposition the headrest to the desired depth by sliding the headrest towards the front of the wheelchair or towards the rear of the wheelchair.
3. If necessary, reposition the headrest to the desired position (headrest will move in any direction).
4. While holding the headrest in the desired position, securely tighten the three socket screws.
5. If necessary, adjust the height of the headrest.

7.30 Replacing Headrest



ⓘ Only one of two styles of headrests shown for clarity. Both styles of headrest attach the same way.

1. Remove the three socket screws Ⓐ that secure the headrest Ⓑ to the headrest mounting bracket Ⓒ.
2. Position the new headrest on the headrest mounting bracket and secure with the existing three socket screws.
3. If necessary, adjust the height, depth or direction of the headrest.

7.31 About Batteries

This section contains information on batteries used on the TDX SP with elevate. For batteries on other wheelchairs equipped with a Formula CG powered seating system refer to base owner's manual shipped with wheelchair.

DANGER!
Risk of Death or Serious Injury
Failure to observe these warnings can cause an electrical short resulting in death, serious injury, or damage to the electrical system.
– The POSITIVE (+) RED battery cable MUST connect to the POSITIVE (+) battery terminal(s)/post(s).
– The NEGATIVE (-) BLACK battery cable MUST connect to the NEGATIVE (-) battery terminal(s)/post(s).
– NEVER allow any of your tools and/or battery cable(s) to contact BOTH battery post(s) at the same time. An electrical short may occur and serious injury or damage may occur.
– Install protective caps on positive and negative battery terminals.
– Replace cable(s) immediately if cable(s) insulation becomes damaged.
– DO NOT remove fuse or mounting hardware from POSITIVE (+) red battery cable mounting screw.

WARNING!
Risk of Injury or Damage
Improper installation of the battery can result in injury or damage.
– Batteries can weigh up to 52 lbs (23.6 kg). ALWAYS use a battery lifting strap when lifting the battery. It is the most reliable method of carrying a battery and preventing serious injury.

WARNING!
Risk of Injury or Damage
Improper lifting technique may cause injury or damage.
– Use proper lifting techniques, assistance and gear such as straps when available when lifting heavy loads.

WARNING!
Risk of Injury
Exposure to battery acid may result in injury.
– The use of rubber gloves is recommended when working with batteries.
– DO NOT allow the liquid in the battery to come in contact with skin, clothes or other possessions. It is a form of acid and harmful or damaging burns may result. Should the liquid touch your skin, wash the area IMMEDIATELY and thoroughly with cool water. In serious cases or if eye contact is made, seek medical attention IMMEDIATELY.
– DO NOT install/reinstall a battery with a cracked or otherwise damaged case.

Invacare strongly recommends battery installation and replacement be performed by a qualified technician.

Read the installation instructions noted on the battery and in the manual.

Ensure there is no battery acid in the bottom or around the battery box or on the sides of the battery(ies). Neutralize battery acid with baking soda if found.

Clean battery tray and batteries prior to installation.

Use battery lifting strap when available.

Keep batteries in an upright position and avoid tipping.

Use only deep cycle gel cell battery.

Use box wrench when tightening clamps. Do Not wiggle the battery terminals/posts when tightening.

Using the Proper Batteries

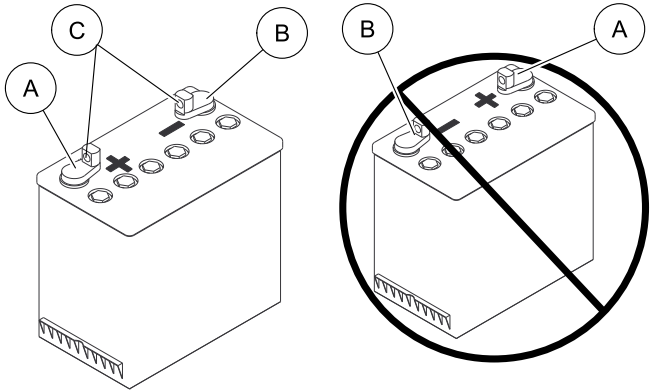
WARNING!
FOR TDX SP WHEELCHAIRS THAT USE 22NF BATTERIES
Improper configuration of battery terminals may cause injury or damage.
- Batteries with terminal configuration as shown MUST be used.
- Terminals MUST have a cross hole in them as shown.
- The POSITIVE (+) RED battery cable MUST connect to the POSITIVE (+) battery terminals/posts.
- The NEGATIVE (-) BLACK battery cable MUST connect to the NEGATIVE (-) battery terminals/posts.
- DO NOT allow any of your tools and/or battery cables to contact both battery terminals at the same time.

CAUTION!
Risk of Damage
Use of wrong battery type or size may cause damage.
- DO NOT force a battery into place.
- Batteries with molded straps or flanges that interfere with proper battery placement should not be used.
- Use batteries listed in this manual for proper replacement.

Failure to use the correct battery size and/or voltage may cause damage to your wheelchair and give you unsatisfactory performance. The warranty and performance specifications contained in this manual are based on the use of deep cycle gel cell batteries. Invacare strongly recommends their use as the power source for this unit.

Carefully read battery/battery charger information prior to installing, servicing or operating your wheelchair.

1. Position battery on ground/flat surface as shown below.
2. Visually inspect the battery to ensure proper polarity:

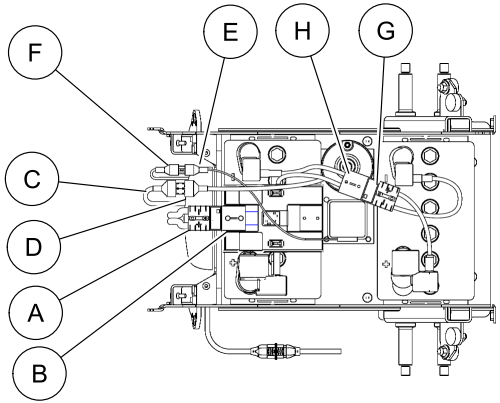


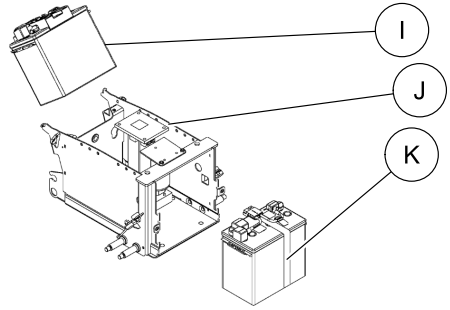
Tools Required

Have the following tools available:

TOOL	QTY	COMMENTS
Battery Lifting Strap	1	Supplied
1/2-inch (6 pt) Box Wrench	1	Not Supplied
7/16-inch (6pt) Box Wrench	1	Not Supplied
3/8-inch (6pt) Box Wrench	1	Not Supplied
Diagonal Cutters	1	Not Supplied

7.32 Installing/Removing the Batteries - TDX SP with Elevating Seat





7.32.1 Removing the Batteries

1. Place the wheelchair in a well ventilated area where work can be performed without risking damage to carpeting or floor covering.
2. Perform one of the following -
   - If there is power in the batteries, elevate the seat to the highest position. Refer to the owner's manual shipped with wheelchair.
   - If there is no power left in the batteries, perform one of the following -
     – If external 12 to 24 volts DC power source is available to elevate the seat, perform of the following:
       ¨ Connect the external power source to the elevate actuator connector. Refer to .
       ¨ Elevate the seat to the highest position. Refer to the owner's manual shipped with wheelchair.
   - If external power source is not available to elevate the seat, remove the seat assembly. Refer to 7.33 Removing/Installing the Seat Assembly (TDX SP with Elevating Seat), page 77.
3. Verify the joystick On/Off switch is in the Off position and disconnect joystick. Refer to 7.26 Disconnecting/Connecting the SPJ+ Joysticks, page 68 or 7.27 Disconnecting/Connecting the CMPJ+ Joysticks, page 69.
4. Remove the rear, front and top shrouds. Refer to
5. Disconnect the following:
   - The battery wiring harness Ⓐ from the controller connector Ⓑ.
   - The drive limit switch Ⓒ from the magnetic switch controller connector Ⓓ.
   - The elevate actuator Ⓔ from the actuator controller connector Ⓕ.
6. Disconnect the front battery lead Ⓖ from the rear battery lead Ⓗ.

7. Pull the actuator lead and magnetic switch lead from under the rear battery handle.
8. Using the battery handle, lift the rear battery Ⓘ up and tilt away from the battery box Ⓙ then pull to remove the rear battery from the wheelchair.
9. From the front of the wheelchair, firmly grasp the front battery strap Ⓚ and pull the front battery Ⓛ forward until the front battery handle can be grasped.
10. Using the battery handle, lift the front battery up and away from the wheelchair.
11. If replacing the batteries, remove the front and rear battery wiring harness. Refer to 7.35 Connecting/Disconnecting Battery Wiring Harness - TDX SP with Elevating Seat Only, page 79.

7.32.2 Installing the Batteries

If replacing the batteries, install the battery wiring harness.

1. If replacing the batteries, install the front and rear battery wiring harness. Refer to 7.35 Connecting/Disconnecting Battery Wiring Harness - TDX SP with Elevating Seat Only, page 79.
2. Using the battery handle and battery strap Ⓚ, position the front battery Ⓛ into the battery box Ⓙ.
3. Using the battery handle, position the rear battery into the battery box.
4. Connect the front battery lead Ⓖ from the rear battery lead Ⓗ
5. Position actuator lead and drive limit switch lead under the rear battery handle.
6. Connect the following:
   - The battery wiring harness Ⓐ to the controller connector Ⓑ.
   - The drive limit switch Ⓒ to the magnetic switch controller connector Ⓓ.
   - The elevator actuator Ⓔ to the actuator controller connector Ⓕ.
7. Install the front top and rear shrouds. Refer to 7.34 Removing/Installing the Wheelchair Shrouds TDX SP, page 78
8. Connect the joystick. Refer to 7.26 Disconnecting/Connecting the SPJ+ Joysticks, page 68 or 7.27 Disconnecting/Connecting the CMPJ+ Joysticks, page 69.
9. Verify the joystick On/Off switch is in the On position and lower the seat.

7.32.3 Actuator Connection Bypass Instructions

1. Remove the three mounting screws securing the rear shroud to the wheelchair frame
2. Remove the rear shroud from the wheelchair.

3. Disconnect the elevator actuator form the actuator controller connector.

   The elevator actuator is marked with a tag reading “Elevate”.

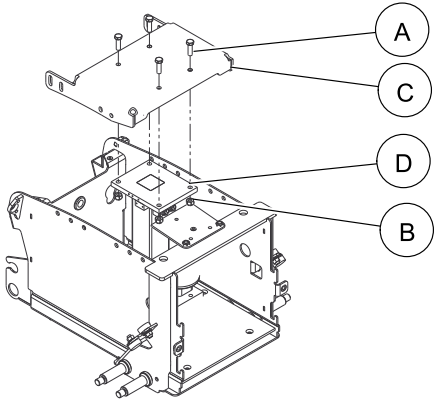
   The elevator actuator is marked with a tag reading “Elevate”.

CAUTION!
– Connect the external power source ONLY to the elevate actuator connector. Connecting the external power source to the actuator controller connector will damage the controller

4. Connect the external power source to the elevate actuator connector.

7.33 Removing/Installing the Seat Assembly (TDX SP with Elevating Seat)

It is strongly recommended that two assistants lift the seat assembly when performing this procedure.



7.33.1 Removing

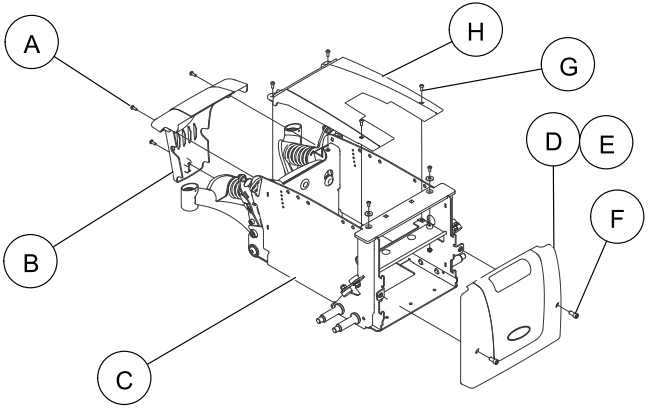
1. Disconnect the joystick. Refer to Disconnecting/Connecting the Joystick.
2. Remove the seat cushion.
3. Remove the two socket screws securing the seat pan to the seat frame.
4. Remove the seat pan from the seat frame.
5. Remove the four mounting bolts Ⓐ and locknuts Ⓑ securing the seat assembly Ⓒ to the actuator post Ⓓ.
6. Remove the seat assembly from the actuator post and set aside.

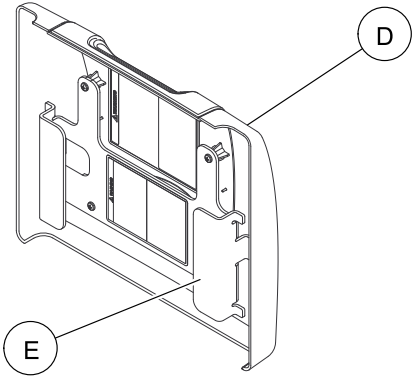
7.33.2 Installing

1. Position the seat assembly Ⓒ onto the actuator post Ⓓ.
2. Using four mounting bolts Ⓐ and locknuts Ⓑ, secure the seat assembly to the actuator post. Securely tighten.
3. Position the seat pan onto the seat frame as shown.

4. Using the two socket screws, secure the seat pan to the seat frame.
5. Install the seat cushion.
6. Connect the joystick. Refer to Disconnecting/Connecting the Joystick

7.34 Removing/Installing the Wheelchair Shrouds TDX SP





7.34.1 Removing/Installing the Rear Shroud

Reverse this procedure to install the rear shroud.

1. Remove the three pan head screws Ⓐ that secure the rear shroud Ⓑ to the base frame Ⓒ.
2. Remove the rear shroud from the base frame.

7.34.2 Removing/Installing the Front Shroud and Battery Retention Bracket

Reverse this procedure to install the front shroud and battery retention bracket.

The front shroud Ⓓ and battery retention bracket Ⓔ are removed from and installed onto the wheelchair frame as a single unit.

1. Remove the two socket head screws Ⓕ securing the front shroud/battery retention bracket to the base frame Ⓒ.
2. Lift up to unhook the battery retention bracket from the base frame and remove the front shroud/battery retention bracket from the base frame.

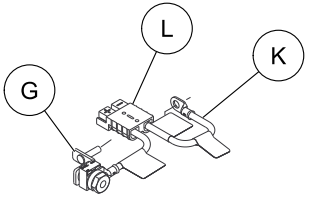
7.34.3 Removing/Installing the Top Shroud

Reverse this procedure to install the top shroud.

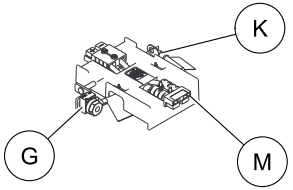
1. Remove the seat from the base frame.
2. Remove the four pan head screws Ⓖ securing the top shroud Ⓗto the base frame Ⓒ.
3. Lifting up, remove the top shroud from the base frame.

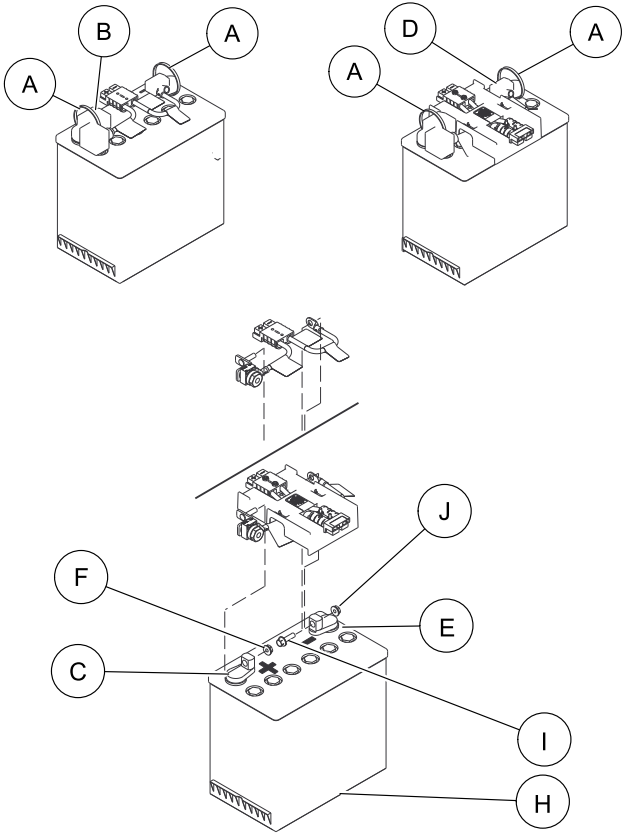
7.35 Connecting/Disconnecting Battery Wiring Harness - TDX SP with Elevating Seat Only

FOR FRONT BATTERY



FOR REAR BATTERY





If replacing the batteries or wiring harness, discard the existing item being replaced and perform STEPS 8-14 using the new batteries or wiring harness.

1. Remove the batteries from the wheelchair.
2. Cut the tie-wraps Ⓐ that secure the battery terminal covers to the battery terminals.
3. Slide the RED battery terminal cover Ⓑ back on the red battery cable to expose the POSITIVE battery terminal Ⓒ.

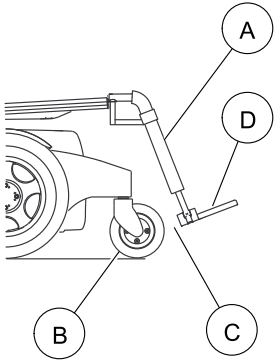
4. Slide the BLACK battery terminal cover Ⓓ back on the Black battery cable to expose NEGATIVE battery terminal Ⓔ.

> **WARNING!**
> **Risk of Death or Serious Injury**
> Failure to observe these warnings can cause an electrical short resulting in death, serious injury, or damage to the electrical system.
> – The POSITIVE (+) RED battery cable MUST connect to the POSITIVE (+) battery terminal(s)/post(s).
> – The NEGATIVE (-) BLACK battery cable MUST connect to the NEGATIVE (-) battery terminal(s)/post(s).
> – NEVER allow any of your tools and/or battery cable(s) to contact BOTH battery post(s) at the same time. An electrical short may occur and serious injury or damage may occur.
> – Install protective caps on positive and negative battery terminals.
> – Replace cable(s) immediately if cable(s) insulation becomes damaged.
> – DO NOT remove fuse or mounting hardware from POSITIVE (+) red battery cable mounting screw.

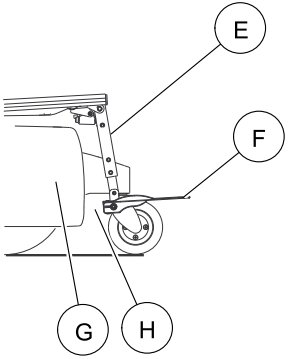
5. Remove the locknut Ⓕ that secures the bracket of the POSITIVE battery cable Ⓖ to the POSITIVE (+) battery post of the battery Ⓗ.
6. Remove the mounting screw Ⓘ and locknut Ⓙ that secures the NEGATIVE battery cable Ⓚ to the NEGATIVE(-) battery post of the battery.
7. Repeat STEPS 2-6 until the existing battery wiring harnesses Ⓛ have been removed.
8. Position battery connector bracket Ⓜor wiring harness onto the 22NF battery as shown.
9. Secure the NEGATIVE battery cable to the NEGATIVE (-) battery post with existing mounting screw and locknut.
10. Secure the bracket of the POSITIVE battery cable to the POSITIVE (+) battery post with existing mounting screw and locknut.
11. Position each battery terminal cover over top of each battery terminal.
12. Secure battery terminal covers in place with one tie-wrap.
13. Repeat STEPS 9-13 to install the remaining wiring harness onto the remaining 22NF battery.
14. Install batteries into wheelchair.

7.36 Checking Seating System Mounting Position

Detail "A" — Swing Away Front Rigging



Detail "B" — Center Mount Front Rigging



For Formula CG Seating System - These instructions apply to Formula CG Tilt, Recline, Tilt/Recline seating systems only.

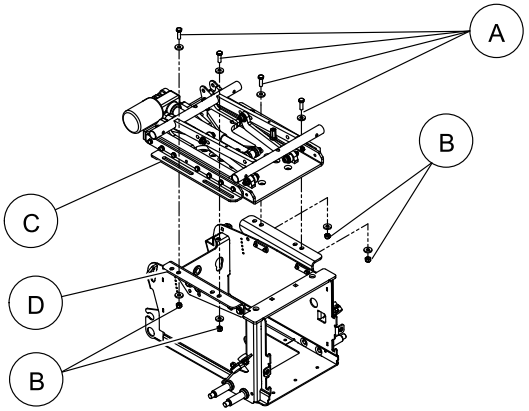
1. Determine mounting position:
   - Wheelchairs with Swing Away Front Rigging Ⓐ —
     a. Rotate front casters Ⓑ forward as if the wheelchair were moving in reverse.

        If wheelchair is equipped with composite footrests, point the front casters toward the footplate.

     b. Measure the gap Ⓒ between the front caster and the footplate Ⓓ. Perform one of the following:
        – Gap is 1 to 1½ inch Gap - Seating system is in the proper mounting position.
        – Gap is Greater than 1½ inches - Seating system is not in the proper mounting position. Proceed to Adjusting Seating System in next section.

   - Wheelchair with Manual or Power Center Mount Front Rigging Ⓔ -
     a. Position center mount front rigging to the lowest setting to position the footplate Ⓕ as close as possible to the front shroud Ⓖ.
     b. Measure the gap Ⓗ between the footplate and the front shroud.
     c. Perform one of the following:
        – Gap is 1 to 1½ inch Gap - Formula CG seating system is in the proper mounting position.
        – Gap is Greater Than 1½ inches - Formula CG seating system is not in the proper mounting position. Proceed to Adjusting Seating System in next section.

7.37 Adjusting the Seating System Mounting Position



For Formula CG Seating System - Applies to Formula CG Tilt, Recline or Tilt/Recline seating systems only.

1. Loosen, but DO NOT remove, the four hex screws Ⓐ and locknuts Ⓑ securing the seat frame mounting bracket Ⓒ to the interface mounting bracket Ⓓ.
2. Perform one of the following to ensure the Formula CG seating system is in the proper mounting position:

   Some front rigging and seat depth combinations may not allow for the 1-inch gap. In this situation, slide the seat frame mounting brackets as far back as possible.

   - Wheelchairs with Swing Away Front Rigging - Slide the seat frame mounting brackets as far as possible towards the rear of the wheelchair. Leave 1 to 1½-inch of clearance between the front riggings and the front casters in all caster positions).
   - Wheelchairs with Manual or Power Center Mount Front Rigging - Slide the seat frame mounting brackets as far as possible towards the rear of the wheelchair Leave 1 to 1½-inch of clearance between the center mount front riggings and the front shroud.
3. Ensure the interface mounting brackets and the seat frame mounting brackets are flush and square.
4. Secure the seat frame mounting brackets to the interface mounting plates. Torque the four hex bolts and locknuts to 13 ft-lbs ± 20%.
5. Cycle the tilt and/or recline functions to verify wiring harnesses DO NOT obstruct the path of the system. If they do, perform one of the following:
   - Wires were damaged during inspection - Replace damaged wires.
   - Wires were not damaged during inspection - Cut tie-wraps and relocate wires to a location where they will not become damaged.

8 Troubleshooting

8.1 Electrical

For additional troubleshooting information and explanation of error codes, refer to the wheelchair base owner's manual and the individual Electronics Manual supplied with each wheelchair.

8.1.1 All Joysticks

SYMPTOM	PROBABLE CAUSE	SOLUTIONS
Wheelchair Power On but does not drive.	System tilted or reclined beyond drive lock-out angle (20°). Motor lock levers are disengaged.	Return to neutral position (upright and completely lowered). Contact Invacare/Dealer for service if this does not solve the problem. Engage motor lock levers. See wheelchair base owner's manual.
Seating system not functioning or working intermittently.	Low batteries. Faulty electrical connection. Seat has been driven under a heavy load for an extended period of time.	Charge batteries. Check all connections. Allow time for the electronics to cool down (Light Duty Use).

8.1.2 SPJ+, SPJ+ w/PSS or SPJ+ w/ACC Joysticks

The joystick information gauge and the service indicator give indications of the type of fault or error detected by the control module. When a fault is detected, the wheelchair may stop and not drive. The LEDs on the information gauge may flash in a particular pattern or the service indicator light will flash. The number or type of flashes indicates the nature of the error. If multiple errors are found, only the first error encountered by the control module will be displayed.

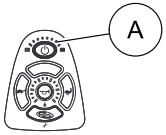
8.1.3 All Joysticks

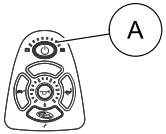
SYMPTOM	PROBABLE CAUSE	SOLUTIONS
Wheelchair Power On but does not drive.	System tilted or reclined beyond drive lock-out angle (20°). Motor lock levers are disengaged.	Return to neutral position (upright and completely lowered). Contact Invacare/Dealer for service if this does not solve the problem. Engage motor lock levers. See wheelchair base owner's manual.
Seating system not functioning or working intermittently.	Low batteries. Faulty electrical connection. Seat has been driven under a heavy load for an extended period of time.	Charge batteries. Check all connections. Allow time for the electronics to cool down (Light Duty Use).

8.1.4 SPJ+, SPJ+ w/PSS or SPJ+ w/ACC Joysticks

The joystick information gauge and the service indicator give indications of the type of fault or error detected by the control module. When a fault is detected, the wheelchair may stop and not drive. The LEDs on the information gauge may flash in a particular pattern or the service indicator light will flash. The number or type of flashes indicates the nature of the error. If multiple errors are found, only the first error encountered by the control module will be displayed.

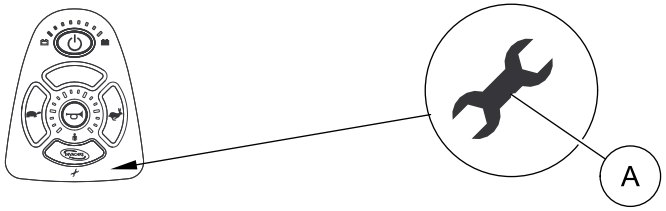
Information Gauge Display Diagnostics

Display 	DESCRIPTION	DEFINITION	COMMENTS
	All LEDs are off.	Power is off.	
	All LEDs are on.	Power is on.	Fewer than three LEDs on implies reduced battery charge.
	Left Red LED is flashing.	Battery charge is low.	The batteries should be charged as soon as possible.

Display 	DESCRIPTION	DEFINITION	COMMENTS
	Left to Right “chase” alternating with steady display.	Joystick is in programming, inhibit and/or charging mode.	The steady LEDs indicate the current state of the battery charge.
	All LEDs are flashing slowly.	Joystick has detected Out-of-Neutral-at-Power-Up mode.	Release the joystick back to Neutral.

Service Indicator Light Diagnostics

ITEM	DESCRIPTION
A	SERVICE INDICATOR LIGHT



NUMBER OF FLASHES	ERROR CODE DESCRIPTION	POSSIBLE SOLUTION
1	User Fault	Release joystick to neutral and try again.
2	Battery Fault	Charge the batteries. Refer to the wheelchair base owner's manual. Check that battery cables are connected properly. If necessary, replace batteries. Refer to the wheelchair base owner's manual..
3	Left Motor Fault	Contact Invacare/Dealer for service.
4	Right Motor Fault	Contact Invacare/Dealer for service.
5	Left Park Brake Fault	Ensure brake lever is in the drive position before turning on the wheelchair. Ensure motor cable is plugged into the controller. Contact Invacare/Dealer for service.

6	Right Park Brake Fault	Ensure brake lever is in the drive position before turning on the wheelchair. Ensure motor cable is plugged into the controller. Contact Invacare/Dealer for service.
7	Remote Fault	Check to make sure joystick is connected properly. Turn Joystick off then on. Contact Invacare/Dealer for service.
8	Controller Fault	Contact Invacare/Dealer for service.
9	Communications Fault	Check joystick cable connections. Check joystick cable and connectors for damage. Contact Invacare/Dealer for service.
10	General Fault	Contact Invacare/Dealer for service.
11	Incompatible or incorrect Remote	Wrong type of remote connected. Contact Invacare/Dealer for service.

8.1.5 CMPJ™ +, PSR+, PSF+ Joysticks or Displays

SYMPTOM	PROBABLE CAUSE	solutions
LEFT BRAKE FAULT or RIGHT BRAKE FAULT displays and wheelchair does not drive.	Motor lock levers disengaged (Error code E9 or E10).	Engage motor lock levers. Refer to owner's manual shiped with wheelchair.
CHARGER PLUGGED IN displays.	Battery charger connected (Error code E28).	Unplug battery charger from the wheelchair. Refer to owner's manual shipped with wheelchair.
BATTERY FAULT displays and the wheelchair does not drive.	Batteries need to be charged (Error code E14).	Charge batteries. Refer to owner's manual shipped with wheelchair. If batteries fail to charge properly, check battery charger or replace batteries.

SYMPTOM	PROBABLE CAUSE	solutions
JOYSTICK TIMEOUT displays and the wheelchair does not drive.	Joystick or input device is disconnected (Error code 32).	Turn off power, reconnect the joystick of input device and turn power on.
JOYSTICK FAULT displays and the wheelchair does not drive.	The joystick or input device is sending a value outside of the reverse, forward, left or right limits (Error codes E01, E02, E03 or E04).	Replace joystick or input device.
NEUTRAL TESTING displays.	The joystick neutral test has failed (Error code E18).	Release the joystick and try to get the joystick back into the center-most position.
BAD JOYSTICK CAL VALUES displays and the wheelchair does not drive.	The joystick calibration values are outside of the expected range (Error code E19).	Recalibrate the joystick (joystick throw procedure).
CTRL NOT CONNECTED	The CMPJ or Display module is not communicating with the control module (Error code E200).	Check the connections between the joystick or display and the controller. Turn the power off and then back on. Replace the controller if necessary.
CTRL COM FAULT displays and the wheelchair drives slowly.	The controller has determined a fault during a previous turn-off process (Error code E41).	Turn the wheelchair off and back on.
MISSING CONFIGURATION displays at power up.	One or more devices have been removed or disconnected from the wheelchair.	Reconnect the device.
ATTENDANT ACTIVE and displays.	The Proportional or Digital Attendant control is active and can be used to drive the chair.	This is normal behavior.
Batteries draw excessive current when charging.	Battery failure. Electrical malfunction.	Have batteries checked for shorted cell. Replace if necessary. Contact Dealer/Invacare for service.

SYMPTOM	PROBABLE CAUSE	solutions
Battery indicator flashes the charge level is low - immediately after recharge.	Battery failure. Malfunctioning battery charger. Electrical malfunction.	Check batteries for shorted cell. Replace if necessary. Contact Dealer/Invacare for Service. Contact Dealer/Invacare for Service.
Battery indicator flashes the charge level is low - too soon after being recharged.	Batteries not charged. Weak batteries.	Have charger checked. Replace batteries if necessary.
Motor “chatters” or runs irregular.	Motor/gearbox malfunction.	Stop use of Wheelchair. Contact Dealer/Invacare for Service.
Joystick erratic or does not respond as desired.	Damaged motor coupling. Electrical malfunction. Controller programmed improperly.	Contact Dealer/Invacare for Service. Contact Dealer/Invacare for Service. Contact Dealer/Invacare to have controller reprogrammed.
Wheelchair does not respond to commands.	Electrical malfunction.	Contact Dealer/Invacare for Service.
Power indicator off - even after recharging.	Poor battery terminal connection.	Have terminals cleaned.

9 Warranty

9.1 Global Limited Warranty (Excluding Canada)

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser who purchases this product within any country excluding CANADA when new and unused from Invacare or a dealer. This warranty is not extended to any other person or entity and is not transferable or assignable to any subsequent purchaser or owner. Coverage under this warranty will end upon any such subsequent sale or other transfer of title to any other person. For product purchased in Canada, please refer to the Canada Limited Warranty.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants the seat frame to be free from defects in materials and workmanship for a period of three (3) years from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty. Invacare warrants all electronics and electrical components (excluding batteries) and powered seating actuators to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty. Invacare warrants all remaining components (excluding all upholstered materials and padded materials) to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty. If within such warranty periods any such product component shall be proven to be defective, the product component shall be repaired or replaced, at Invacare's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you DO NOT receive satisfactory warranty service, please write directly to Invacare at the address on the bottom of the back cover. Provide dealer's name address, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

Limitations and Exclusions: The foregoing warranty shall not apply to serial numbered products if the serial number has been removed or defaced, products subject to negligence, accident, improper operation, maintenance or storage, commercial or institutional use, products modified without Invacare's express written consent (including, but not limited to, modification through the use of unauthorized parts or attachments); products damaged by reason of repairs made to any component without the specific consent of Invacare, or to a product damaged by circumstances beyond Invacare's control, and such evaluation will be solely determined by Invacare. The warranty shall not apply to problems arising from normal wear and tear or failure to adhere to the product instructions. A change in operating noise, particularly relative to motors and gearboxes does not constitute a failure or defect and will not be repaired; all devices will exhibit changes in operating noise due to aging.

The foregoing express warranty is exclusive and in lieu of any other warranties whatsoever, whether express or implied, including the implied warranties of merchantability and fitness for a particular purpose, and the sole remedy for violations of any warranty whatsoever, shall be limited to repair or replacement of the defective product pursuant to the terms contained herein. the application of any implied warranty whatsoever shall not extend beyond the duration of the express warranty provided herein and Invacare shall not be liable for any consequential or incidental damages whatsoever; SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGE, OR LIMITATION OF HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE EXCLUSION AND LIMITATION MAY NOT BE APPLICABLE.

THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.

9.2 Canada Limited Warranty

This warranty is extended only to the original purchaser who purchases this product within Canada when new and unused from Invacare or a dealer. This warranty is not extended to any other person or entity and is not transferable or assignable to any subsequent purchaser or owner. Coverage under this warranty will end upon any such subsequent sale or other transfer of title to any other person.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare warrants the seat frame to be free from defects in materials and workmanship for a period of three (3) years from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty. Invacare warrants all electronics and electrical components (excluding batteries) and powered seating actuators to be free from defects in materials and workmanship for a period of two (2) years from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty. Invacare warrants all remaining components (excluding all upholstered materials and padded materials) to be free from defects in materials and workmanship for a period of one (1) year from the date of purchase from Invacare or a dealer, with a copy of the seller's invoice required for coverage under this warranty. If within such warranty periods any such product component shall be proven to be defective, the product component shall be repaired or replaced, at Invacare's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. Invacare's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your Invacare product. In the event you DO NOT receive satisfactory warranty service, please write directly to Invacare at the address on the bottom of the back cover. Provide dealer's name address, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number. Do not return products to our factory without our prior consent.

Limitations and Exclusions: The foregoing warranty shall not apply to serial numbered products if the serial number has been removed or defaced, products subject to negligence, accident, improper operation, maintenance or storage, commercial or institutional use, products modified without Invacare's express written consent (including, but not limited to, modification through the use of unauthorized parts or attachments); products damaged by reason of repairs made to any component without the specific consent of Invacare, or to a product damaged by circumstances beyond Invacare's control, and such evaluation will be solely determined

by Invacare. The warranty shall not apply to problems arising from normal wear and tear or failure to adhere to the product instructions. A change in operating noise, particularly relative to motors and gearboxes does not constitute a failure or defect and will not be repaired; all devices will exhibit changes in operating noise due to aging.

The foregoing express warranty is exclusive and in lieu of any other warranties whatsoever, whether express or implied, including the implied warranties of merchantability and fitness for a particular purpose, and the sole remedy for violations of any warranty whatsoever, shall be limited to repair or replacement of the defective product pursuant to the terms contained herein. the application of any implied warranty whatsoever shall not extend beyond the duration of the express warranty provided herein and Invacare shall not be liable for any consequential or incidental damages whatsoever; SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGE, OR LIMITATION OF HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE EXCLUSION AND LIMITATION MAY NOT BE APPLICABLE.

THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.

Notes

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