

Yes, you can.®



Yes, you can.®



*Invacare*® **Solar**  

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**User Guide**

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## **INTRODUCTION**

**Thank you and congratulations on purchasing your new Invacare Mobility Scooter. It is designed to provide you with transportation indoors and outdoors.**

We pride ourselves on providing safe and comfortable products. Our goal is to ensure your complete satisfaction with our product. We are certain that you will enjoy your Invacare mobility scooter.

Please read and observe all warnings and instructions given in the owner's manual before operating this scooter. Also, retain this booklet for future reference.

If you have any questions, you can contact:

**Invacare Ltd**  
**South Road, Bridgend, Mid Glamorgan, Cf31 3PY, UK**  
**Tel +44 - (0) 1656 647327**  
**Fax +44 - (0) 1656 649016**

or your local dealer:

## **IMPORTANT PRECAUTIONS**

- Only one person at a time can ride a Invacare Mobility Scooter.
- Maximum load is 115 kgs/ 250 pounds.
- Turn key off before getting on or off your scooter.
- Always drive carefully with your feet on the floorboard and be aware of others in your area.
- Always use pedestrian crossings where possible. Take extreme care crossing roads.
- Do not drive on slopes exceeding 8 degrees, and take extreme care when turning on slopes.
- Do not use full power when turning sharp corners.
- Do not drive the scooter unless the seat and the tiller are locked and secured in the driving position.
- Do not use the scooter if the rear anti-tip wheels are damaged or removed.
- Take great care and use low speeds for backing up, riding downhill, uneven surfaces and kerb climbing.
- Scooter may not operate well in high humidity.
- Never put your scooter in neutral on slopes.
- Follow all traffic laws when you ride in the vicinity of public roads.
- Our recommendations may occasionally differ from those of your Therapeutic Adviser or physician, as they have a better understanding of your abilities. Where this is the case, you must follow their advice, they are better placed to tell you what is suitable for you and what is not.
- Do not use your scooter when your driving ability is impaired by medication.
- Under no circumstances should the scooters top speed be increased, to do so will infringe Road Traffic Act Regulations.
- Please make sure that the seat and all moving parts are secure before mounting the scooter.
- Do not carry heavy objects on the scooter.
- Do not hang bags off the back of the backrest. Do not use the scooter on stairs or escalators.

## **SAFETY INFORMATION ON ELECTROMAGNETIC INTERFERENCE (EMI)**

This electric vehicle was successfully tested in accordance with international standards as to its compliance with EMI regulations. However, Electromagnetic Fields, such as those generated by radio and television transmitters, and cellular phones, can influence the function of the electric vehicle. Also, the electrics used in our vehicles can generate a low level of EMI, which however remain within the tolerances permitted by law. For these reasons we ask you to please observe the following precautions:

### **DANGER OF MALFUNCTION DUE TO EMI**

- Do not switch on or operate portable transceivers or communication devices when the vehicle is switched on.
- Avoid getting near strong radio and television transmitters
- In case the vehicle should be set in motion unintentionally or the brakes are released, switch it off immediately.
- Adding electrical accessories and other components or modifying the vehicle in any way can make it susceptible to EMI. Keep in mind that there is no sure way to determine the effect such modifications will have on the overall immunity of the electric system.
- Report all occurrences of unintentional movement of the vehicle, or release of the electronic brakes to the manufacturer.

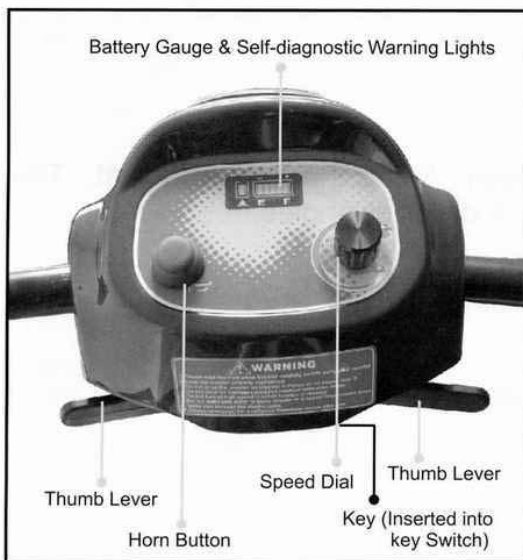
### **HEAT AND FIRE WARNING**

The scooter is made of metal and plastic materials and, as with all products, it can absorb heat from the sun when exposed to sunlight. This can result in the surfaces of the scooter becoming hot, so take care in using it and touching the surfaces if it is left or used in such circumstances.

The seat and backrest material have been tested to ensure compliance with ISO requirements for cigarette and match flame equivalent and are non-flammable, but care must be exercised if using cigarettes or other smoking products, or sources of heat, not to drop them on the seat or back where they can become trapped between contact points on the scooter.

## IDENTIFICATION OF PARTS

Before attempting to drive this scooter on your own, it is important that you familiarize yourself with the controls, and how to operate.



## FUNCTION OF PARTS

### TOP CONTROL PANEL

- **Speed Dial**

The Rabbit means fast and the turtle means slow. By turning this knob, you can control the total speed transferred to the thumb controls.

- **Self Diagnostic Warning Lights**

Flashing of lights indicates there is a problem with the scooter. See page 17 for more information.

- **Battery Gauge**

There are five yellow LED lights. When all LED are on, the batteries are fully charged. When only two lights are on, the batteries need to be recharged.

### ADJACENT TO TOP CONTROL PANEL

- **Thumb Lever**

Pushing the right thumb lever moves the scooter forward. Pushing the left thumb lever moves the scooter backward. (This can be reversed if required by local dealer.) Releasing both engages the automatic brake. This lever is also your accelerator. The further you depress the thumb lever, the faster you will go. (*NOTE*: subject to the position of the rabbit/turtle control).

### AT BASE OF TILLER

- **Tiller Angle Adjustment**

Pushing downward on the lever to loosen. Move the tiller to adjust. The lever will lock the tiller automatically in 3 different angles.

### BELOW SEAT

- **Seat Lock Knob**

Turn the seat lock knob counterclockwise to loose. Turn it clockwise to lock the seat in position.

- **Seat Rotation Lever**

Pull the lever up to rotate the seat. Please be careful when getting on or off the scooter with the seat in a swiveled position. The stability of the scooter may be compromised.

- **Seat Height Adjuster**

There are five holes on the seat tube to adjust the seat height. Be sure the bolt is tightened at its new height.

- **Armrest width Adjustment Thumbscrews**

Loosen the two thumbscrews to adjust the arm width; tighten again to lock in the desired position.

## REAR BODY

- **Rear Compartment Cover**

Open the compartment cover to access the on board charger.

- **Anti-tip wheels**

Helps keep the scooter from tipping over.

- **Free-Wheeling Lever**

To push the scooter for short distances, put it in freewheel mode by pulling up on the free-wheeling lever to disable the drive system and the brake system. Push the free-wheeling lever down to re-engage the drive and the brake system; this takes the scooter out of freewheel mode.



## OPERATING YOUR SCOOTER

Before beginning your journey with your new scooter, make sure that the scooter is on a level surface and clear of any obstacles. Although your scooter is able to climb slopes, it is safer to practice on a level surface.

You can make the following adjustments to increase your comfort when driving:

- adjust seat height and location.
- adjust the armrest width.
- Adjust the tiller angle.

1. Before operating your scooter, check the following:
  - free-wheeling device is in drive position.
  - speed dial is at the picture of the turtle.
2. Sit on scooter and turn on the key. All battery gauge LED Lights should be lit. The self-diagnostic warning lights should not be blinking.
3. When your hands rest comfortably on the handlebars, the thumb control levers should be within reach. The right lever moves the scooter forward, the left one moves it backward. When you release the thumb lever, the scooter will stop.

**NOTE: This scooter has an automatic braking systems. Release the thumb control and the brakes will stop the scooter.**

4. Steer the scooter by turning the whole tiller in the direction your want to go.
5. Practice driving where there are no obstacles. Start at the slowest speed and drive forward and backward; make some turns. As you get more comfortable you can increase the speed by turning the speed dial toward the picture of the rabbit.
6. If only two-battery gauge LED lights are lit, you should plan to recharge the batteries very soon.

7. If the scooter stops and does not function, locate the circuit breaker on the top of the battery pack. Push it and try the scooter again.
8. When you are finished riding, turn off the key before getting off.
9. If you are finished riding for the day, immediately recharge the batteries. See **CHARGING THE BATTERIES**, page 13, 14 and 15.

**Keep in mind these rules:**

- Release thumb levers and allow scooter to stop completely before changing from forward to reverse, or reverse to forward.
- When turning a corner, swing the front wheels wide, because the back wheels will turn more tightly.
- Use the scooter only where it would be safe to walk.
- Use low speeds for reverse, downhills, ramps, kerbs, or uneven surfaces.

**Other Operating Information**

**Hill climbing:** You may need to use a higher speed. For a higher speed, set the speed control in the proximity of the rabbit.

**Down slopes:** To proceed down steep slopes slowly, set speed control in proximity of the turtle. This enables driver control, as the closer the speed control is set toward the turtle, the slower the scooter will travel. However, this scooter will not self accelerate down hills due to the automatic braking taking effect should you attempt to drive too fast.

**Kerb climbing:** Approach slowly at right angles to the kerb. A direct approach is needed. Do not attempt greater than a 50 mm kerb.

If Self-Diagnostic Warning Lights start to blink, identify the problem from the chart on page 17 and take action.

If the scooter breaks down and must be moved, get off the scooter, pull the Free-Wheeling Lever up to disable the drive system and brake system, move the scooter slowly to a safe location, and **push the free-wheeling lever down to take the scooter out of freewheel mode.**

**NOTE: As a safety feature, an automatic speed reducer engages if the scooter is pushed quickly when the free-Wheeling lever is in freewheel mode.**

Do not attempt a gradient of over 8 degrees.

We do not recommend turning the scooter on slopes, but if this is necessary turn the scooter speed down to its minimum (the turtle position) before proceeding.

When turning the scooter it is advisable to turn the speed down.

Do not attempt to climb kerbs or slopes if the surface is rough, wet or slippery.

If you are in the situation where the scooter fails to climb a kerb or slope and just stops, then turn the scooter off and then on again. Set the speed to turtle and drive the scooter back down.

Do not transverse the obstacle or try to turn the machine around.

***Rain test:*** Invacare has tested it's scooters in accordance with ISO 7176 part 9. This provides the end user sufficient time to remove the scooter from a rain storm and retain operation.

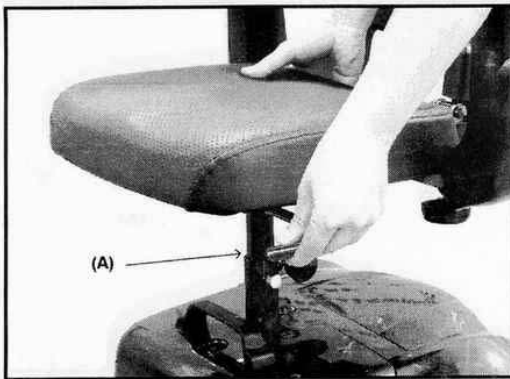
Do not leave scooters in Rain storms of any kind with out additional protection.

Do not leave the scooter in a damp area for any length of time. Direct exposure to rain or dampness may cause the scooter to malfunction electronically and may cause it to prematurely rust.

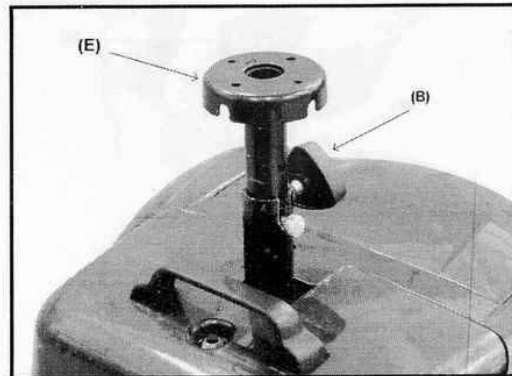
## DISASSEMBLING YOUR SCOOTER

Extreme care must be taken when assembling or disassembling the scooter. Please take care near any moving parts and finger traps, between opening and closing parts.

Taking apart your scooter enables you to save space when keeping it in storage or to carry it along in your vehicle when going away from home. Having the scooter disassembled is easier than ever since no tools are required. Please follow these steps:



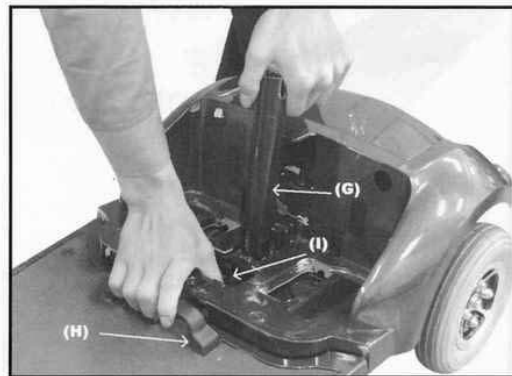
**Figure 1.** Remove the seat by pulling up the Seat Rotation Lever (A). Then lift up away from the scooter.



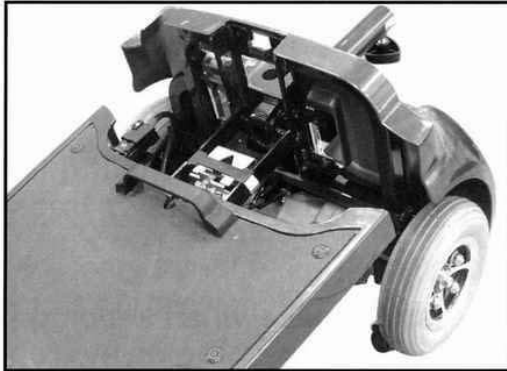
**Figure 2.** Loosen the seat Lock Knob (B) and lift up the Seat Height Adj. Tube (E) from the scooter.



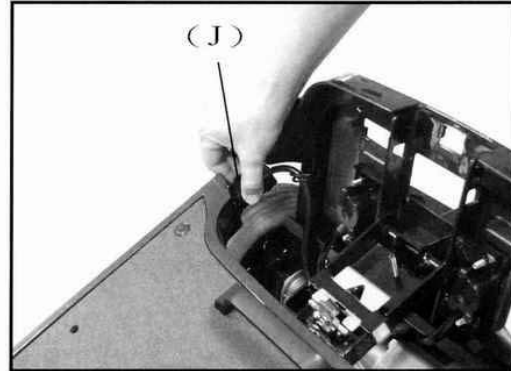
**Figure 3.** Use the battery pack handle (F) to pull the battery pack up and off the scooter. Batteries are heavy. When lifting please adopt the correct lifting posture to avoid injury. Ask for assistance if necessary.



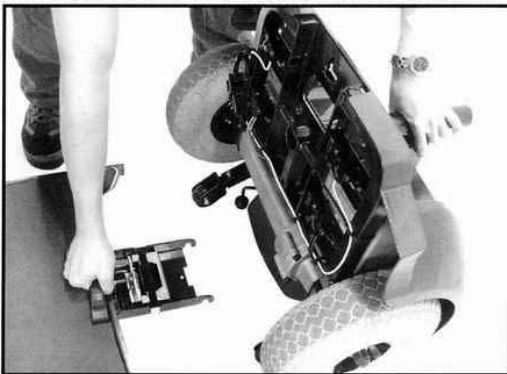
**Figure 4.** Hold the Seat Receiving Post (G) and the Handle (H) on the floorboard. Squeeze the Release Lever (I) to unlock the device.



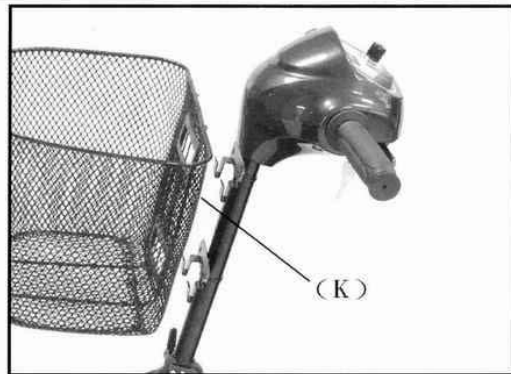
**Figure 5.**  
Push back on the seat post to pivot rearward until the rear section standing vertically on it's bumper.



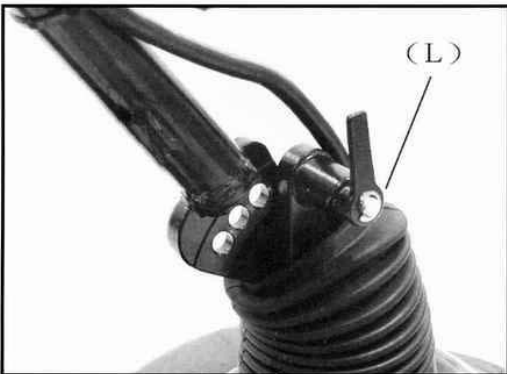
**Figure 6.**  
Unplug the front-to-rear harness (J).



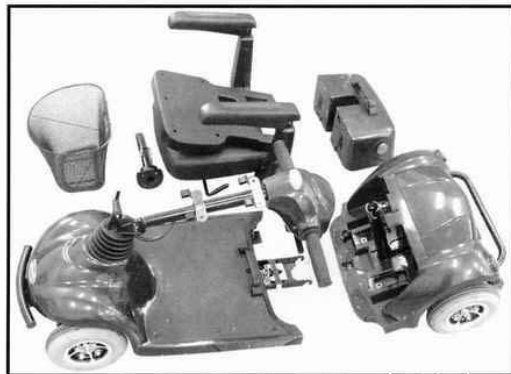
**Figure 7.**  
Hold the handle on the floorboard and lift up front section. Front and rear sections can be separated.



**Figure 8.**  
Remove the Front Basket (K) by lifting.



**Figure 9.**  
Push the Tiller Angle Adjustment Lever (L) downward to adjust the tiller down. Push the lever back up to lock the tiller.



**Figure 10.**  
There are 5 main parts after disassembling the scooter. It consists of the front, rear sections, seat, basket, and battery pack.

## RE-ASSEMBLING YOUR SCOOTER

Before assembly, please inspect all connector, wiring and looms for any evidence of damage. If there is then do not use the scooter and contact your local dealer.

To assemble the scooter, you can repeat the disassembly directions in reverse. Abbreviated directions are given below. Refer to the Figures on pages 10 - 11 to locate the parts.

1. Push the tiller angle adjustment lever downward to adjust the tiller and pull up the lever to lock the tiller into its upright position.
2. Hold the handle on the floorboard to align the curved locking brackets of the front section with the corresponding bar on the rear section.
3. Plug the front-to-rear harness.
4. Hold the seat post slowly pivot the rear section forward until the release lever is rebounded.

**Note: Please ensure all connectors and wiring are not trapped between the body parts and have no damage.**

5. Attach the seat height adj. tube on seat receiving post.

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6. Reinstall the battery pack in the battery compartment.
7. Replace the front basket.
8. Replace the seat and tighten the seat lock knob to secure.

## CHARGING THE BATTERIES

Your Invacare scooter is equipped with two sealed, service free 12V. 12Ah. rechargeable batteries and one 24V/2A charger. Batteries must be charged before using the scooter for the first time and should be recharged after each day's use. Be sure the power switch is in the OFF position and the free-wheeling lever is not in freewheel mode.

1. Insert battery charger cord into the charger connector on the charger output.



Figure 11.

2. Plug the other end of the power cable into a standard electrical wall outlet.
3. The battery charger light will normally be red or yellow at this point (M).

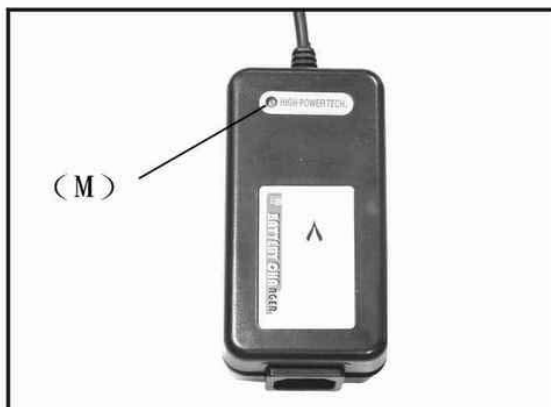


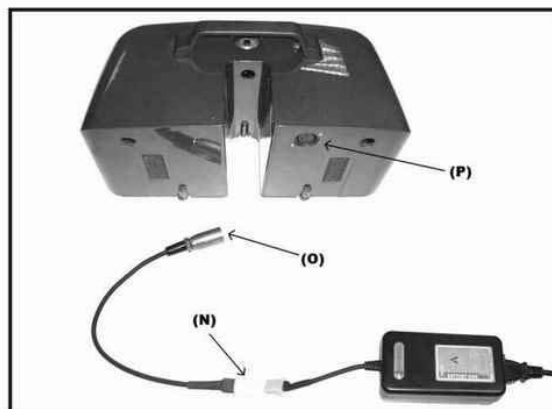
Figure 12.

4. Allow to charge until the battery charger light turns green.
5. After the light turns green, unplug the battery charger from the scooter and wall outlet.
6. If at any time the battery charger light flashes green over 40 minutes, this indicates abnormal charging occurred. You should check that:
  - charger plugs are correctly positioned
  - fuse is not burned out
  - the scooter is turned off
  - if none of these is a problem, contact your authorized dealer.

**NOTE: The time needed to recharge will vary depending on the depletion of the batteries. Charging for longer than necessary will not harm the batteries. They can not be overcharged.**

**You can also charge your batteries off the scooter.**

1. Switch your scooter off at the tiller main switch.
2. Remove the battery boxes from the scooter.
3. Remove the charger from the scooter rear compartment.
4. Connect the charger adaptor (N) to the charger.
5. Insert battery charger output terminal (O) into the battery charging port (P).
6. Please refer to the above charging procedure for the following actions.



**Figure 13.**



**Keep in mind these rules:**

- Fully charge batteries at least once a month, more if you use the scooter regularly. Charge after each trip exceeding 3 kilometers / 1.86 miles.
- If storing your scooter for some time (one month or more) make sure that the batteries are fully charged, and on returning, charge them again before using scooter.

Batteries will only give maximum performance after the scooter has been used, and the batteries have been recharged up to 10 times.

**For Safety, please follow the guidelines below.**

1. DO NOT use the charger if the power cord is damaged.
2. DO NOT use an extension cord when charging your batteries. A risk of fire and/or electric shock could be encountered.
3. DO NOT take apart the charger, as this will void the warranty.
4. Never attempt to open the battery pack if it becomes necessary to replace the batteries. Have a certified technician to handle all repairs, by contacting your dealer.

## CARE AND MAINTENANCE

Taking care of your scooter will keep it in top-notch condition. It is recommended that you get your dealer to provide preventative maintenance service on your scooter on a regularly basis. Here are a few maintenance guidelines:

**BODY COVER:** if your scooter is dirty, use a damp or lightly soapy cloth to wipe it down. Do not use running water to wash or rinse the scooter in order to protect the electrical parts. Polish with an automotive liquid polish.

**SEAT AND ARMREST:** Using a damp cloth helps clean the upholstery. Please note that using the scooter outdoor can reduce the upholstery's material from the sun's rays. As a normal wear and tear condition, this is not covered under the warranty.

**SERVICING:** An authorized dealer should do all maintenance and repair of your scooter that relates to electronics, batteries, motor parts, and tires.

We recommend that you have your scooter inspected and serviced at least once a year.

Also between uses, your scooter is best stored in a dry location under room temperature.

## TROUBLESHOOTING

Here are some suggestions about solving problems you may have with your scooter. There are five LED Self-Diagnostic Warning Lights on the Control Panel. To check the Self-Diagnostic Warning Lights, turn on the key and count the number of blinks on the Warning Lights.

NUMBER OF FLASHES	PROBLEM	SOLUTION
1	Battery needs recharging	Recharge the batteries soon.
2	Battery voltage too low to operate scooter	Must recharge before using. Check battery condition and connections.
3	Battery voltage too high	Check battery condition and connections. Contact your authorized dealer to check your battery charger.
4	Short in motor	Contact your authorized dealer.
5	Brake malfunction	Contact your authorized dealer.
6	Transmission lever not in neutral	Contact your authorized dealer.
7	Transmission lever malfunction	Contact your authorized dealer.
8	Motor problems	Contact your authorized dealer.
9	Other internal errors	Contact your authorized dealer.

## Other Problems

- The scooter will not move when the key is turned on:
  1. Check battery gauge on the control panel. All the LED Lights should be on.
  2. Check the Self-Diagnostic Warning Light. It should be steady. If it is flashing, see chart on page 17 for problem identification.
  3. Check all electrical connections to be sure they are tight. Check the front to rear plug is correctly in place.
  4. Verify the shipping stickers are removed at the bottom of the battery pack.
  5. If none of these correct the problem, contact your authorized dealer.
  
- If charging your scooter over 8 hours and the light on the charger does not change to green, then contact your authorized dealer.

## DISCLOSURE FORM

### ISO 7176 PART 15 REQUIREMENTS FOR INFORMATION DISCLOSURE, DOCUMENTATION AND LABELLING

**MODEL DESIGNATION: SOLAR SCOOTER**

ISO TEST METHOD	REQUIREMENT	MIN	MAX	ISO TEST METHOD	REQUIREMENT	MIN	MAX
ISO 7176 Pt 5	Overall Length with Legrest	1045mm	1045mm	ISO 7176 Pt 7	Seat Angle Plane	1	1
ISO 7176 Pt 5	Overall Width	520mm	520mm	ISO 7176 Pt 7	Effective Seat Depth	380mm	380mm
ISO 7176 Pt 5	Folded Length	N/A	N/A	ISO 7176 Pt 7	Effective Seat Width	270mm	270mm
ISO 7176 Pt 5	Folded Width	N/A	N/A	ISO 7176 Pt 7	Seat Surface Height - Front Edge	480mm	580mm
ISO 7176 Pt 5	Folded Height	N/A	N/A	ISO 7176 Pt 7	Backrest Angle	10	10
ISO 7176 Pt 5	Total Weight	42.5Kg	42.5Kg	ISO 7176 Pt 7	Backrest Height	340mm	340mm
				ISO 7176 Pt 7	Footrest to Seat Distance	360mm	460mm
ISO 7176 Pt 1	Static Stability Downhill	30	30	ISO 7176 Pt 7	Leg to Seat Surface Angle	N/A	N/A
ISO 7176 Pt 1	Static Stability Uphill	15	16.5	ISO 7176 Pt 7	Armrest to Seat Distance	230mm	230mm
ISO 7176 Pt 1	Static Stability Sideways	15	16.5	ISO 7176 Pt 7	Front Armrest to Backrest	275mm	275mm
ISO 7176 Pt 4	Energy Consumption Range	9Km	9Km	ISO 7176 Pt 7	Horizontal Location of Axle	30mm	30mm
ISO 7176 Pt 2	Dynamic Stability Uphill	8	8	ISO 7176 Pt 5	Minimum Turning Radius	1250mm	1250mm
ISO 7176 Pt 10	Obstacle Climbing	55mm	65mm	ISO 7176 Pt 5	Turn Around Width Limiting Walls	1435mm	1435mm
ISO 7176 Pt 6	Maximum Speed Forward	6.2Km/hr	6.2Km/hr	ISO 7176 Pt 7	Handrim Diameter	N/A	N/A
ISO 7176 Pt 3	Minimum Braking Distance	1.11m	1.11m				

*The Wheelchair conforms to the following standards :*

ISO 7176 Pt 8	Static, Impact and Fatigue Strength	PASS
ISO 7176 Pt 9	Climatic Tests	PASS
ISO 7176 Pt 14	Power and Controls	PASS
ISO 7176 Pt 16	Resistance to Ignition	PASS

## **WARRANTY TERMS AND CONDITIONS**

### **Standard Invacare Scooter Terms**

This is to certify that your Scooter has a limited warranty by INVACARE Limited, for a period of 2 years.

1. Only Invacare scooters purchased at full price are warranted against defective workmanship and materials.
2. If a defect or fault is discovered the Invacare dealer from whom the scooter was obtained should be notified immediately.
3. The manufacturer will not accept responsibility for damage caused by misuse or non-observance of the instructions set out in the user manual.
4. During the period of the Warranty, any parts that have become defective due to faulty workmanship or materials, will be renewed or repaired without charge by the Invacare dealer.
5. The Warranty will be forfeited should any unauthorized alteration be made to the equipment.
6. The Purchaser's statutory rights under the Consumer Protection Act are not affected.

### **LIMITATION OF LIABILITY**

This Warranty does not extend to the consequential costs resulting from fault clearance, in particular freight and travel costs, loss of earnings, expenses etc.

- Natural wear and tear
- Inappropriate or incorrect use
- Defective assembly or setting-up by the purchaser or third party
- Defective or neglectful treatment
- Use of unsuitable parts

For questions or support, please contact your authorized Invacare dealer. They have the necessary know-how and equipment plus the specialist knowledge concerning your scooter, which enables them to offer you all round satisfactory service.

Should you wish to contact us direct, we are at your service under the address on page one of this user manual.

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**INVACARE® INTERNATIONAL:**

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**Deutschland, Österreich, Switzerland & East Europe:**

Dehmer Straße 66 - D-32549 Bad Oeynhausen

**España:** c/Areny - s/n Poligon Industrial de Celrà - E-17460 Celrà (Girona)

**France:** Les Roches - F-37230 Fondettes

**Italia:** Via dei Pini 62 - I-36016 Thiene (VI)

**Nederland:** Celsiusstraat 46 - NL-6716 BZ Ede

**Norge:** Grensesvingen 9 - N-0603 Oslo

**Portugal:** Rua Senhora de Campanhã 105- P4369 001 Porto

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