

# AMIGO OPERATIONAL MANUAL AT3 AND AT5

Manager to Read this Manual BEFORE Product is Floor-Operational



Serial Number:

Date of Purchase:

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**AMIGO AT3** 



**AMIGO AT5** 

# **Dear Facility Manager:**

Thank you for purchasing an Amigo power operated vehicle. Please read this manual carefully before anyone operates the product. We suggest you review operational and safety tips with your staff so they are properly trained to show your quests how to safely operate this equipment.

Since Amigo Mobility's beginnings in 1968 and the introduction of the first commercial motorized cart in 1970, our ability to provide an affordable, durable and user-friendly solution to your motorized cart needs is backed by over 40 years of *Improving Lives Through Mobility®*.

If you have any questions or would like to learn more about ordering parts electronically, please contact our customer service staff at:

**800-248-9131 • 989-777-0910** or e-mail **service@myamigo.com** 

Hours of operation are
7:30 AM through 8:00 PM EST,
Monday - Friday

# SAFETY FIRST

# For your convenience and understanding, signal words are defined below:



WARNING IS USED TO INDICATE THE PRESENCE OF A HAZARD, WHICH CAN CAUSE SEVERE PERSONAL INJURY, DEATH OR SUBSTANTIAL PROPERTY DAMAGE IF THE WARNING IS IGNORED.



CAUTION IS USED TO INDICATE THE PRESENCE OF A HAZARD, WHICH WILL OR CAN CAUSE MINOR PERSONAL INJURY OR PROPERTY DAMAGE IF THE WARNING IS IGNORED.

#### **Precautions**

**Do not** allow operation in parking lots or other areas with vehicular traffic.

Make sure the Amigo is always turned "OFF" when stopped or rider is getting on or off vehicle.

Front stability wheel attachments on the Amigo provide additional stability. The stability wheel attachments, mounted below the platform, must not be removed.

**Do not** expose the Amigo to spray-on cleaning solutions and excessive moisture, such as spraying it with a hose or leaving it uncovered in rain or snow.

# Safety Usage Sign

(located on basket)

#### Part numbers:

**English** - 11858

French - 11960

**Spanish** - 11961

#### ○ WARNING: USE AT YOUR OWN RISK! ○

READ ALL INSTRUCTIONS BEFORE OPERATING TO AVOID PERSONAL INJURY **USE CAUTION WHEN OPERATING IN REVERSE** 

#### USER WEIGHT CAPACITY: 500 LB / 227 KG





**BASKET CAPACITY:** 75 LB / 34 KG **MIDSIZE** 

- 1. If you are not familiar with using this cart, please ask for assistance.
- 2. Use extra caution getting on or off cart. Cart is on wheels and may roll.
- 3. Turn power OFF before entering or exiting the seat. USE CAUTION!
- 4. You must be seated to operate cart. DO NOT STAND ON PLATFORM.
- 5. Keep feet and legs on platform while operating.
- 6. Handle is for steering. DO NOT use as an assist for transferring.
- 7. NO CHILDREN IN BASKET; ONE RIDER ONLY.
- 8. DO NOT operate on ramps more than one inch (2.5 cm) rise over 12 inches (30 cm) of length.
- 9. DRIVE SLOW while turning and on inclines.
- 10. DO NOT use brake release or freewheeling option on inclines.
- 11. DO NOT reverse direction abruptly or back onto any surface change.

#### **OPERATING INSTRUCTIONS: PLEASE READ BEFORE OPERATING**

WARNING: DISCONNECT CHARGING CORD BEFORE OPERATION

- 1. This cart is equipped with an ON/OFF switch or key. Turn cart on by pressing ON, or turn key counterclockwise.
- 2. To move forward, pull right hand control toward you. To reverse, pull the left hand control toward you.
- 3. In an emergency, push the ON/OFF switch to OFF, or release controls.
- 4. Stop cart completely BEFORE changing directions.

- 5. If you need assistance getting to your vehicle, ask a facility employee.
- 6. Under no circumstances are carts to be taken off the premises.

SERVICE ASSISTANCE: 1.800.248.9131

or 989.777.0910 • service@myamigo.com

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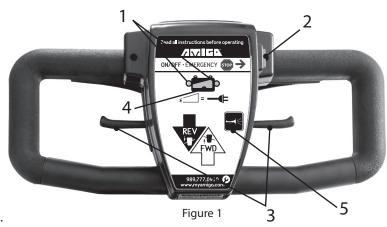
# **OPERATING THE AMIGO AT3/AT5**

#### **Handle Controls**

The Amigo handle includes forward/reverse hand control levers, battery gauge and diagnostic light LEDs (Figure 1). The Amigo should be parked and turned "OFF" while not in use.

# **Driving / Stopping**

Driver must be seated to engage seat switch and operate unit. To move forward, pull the right side of the hand control lever toward you (Figure 2). You can also move forward by pushing the left side of the hand control lever away from you. By releasing the control lever, you will come to a stop approximately one second after release. To operate in reverse, pull the left side of the hand control lever toward you or push the right side control lever away from you.



#### Figure 1:

- 1. Diagnostic light LEDs
- 2. On/off rocker switch or key
- 3. Forward & reverse hand control levers
- 4. Battery gauge
- 5. Horn (optional)



# **Manually Moving the AT3/AT5**

Figure 2

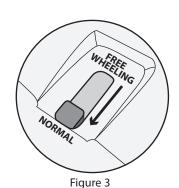
To push by hand, locate the manual brake lever on rear cover. To engage freewheeling, push the manual brake lever forward. To terminate freewheeling, pull the manual brake lever toward the rear of the Amigo (Figure 3). Do not ride Amigo while in freewheeling mode.



RESUME NORMAL DRIVE USE OR TRANSFER ON/OFF THE AMIGO ONLY WHEN IN "NORMAL" MODE.

#### **PUSH TOO FAST (PTF) FEATURE (EFFECTIVE 9/2007)**

With controls on or with controls off (in freewheeling mode), the PTF feature is intended as an anti-theft measure allowing the cart to be pushed only a few feet. Upon reaching the pre-programmed speed, the cart will go into a safety mode and limit how fast and/or how easily it can be pushed.



Manual Brake Lever (located below rear cover)

# **KEEPING THE AMIGO CHARGED**

# **Charger Operating Instructions**

# **To Charge the Amigo AT3/AT5**

Park the Amigo near a grounded AC electrical outlet. Turn the power "OFF" before charging. Charging cord is located on back of the seat. Plug the end into the AC electrical outlet. Ensure the end of the cord is secure in the outlet. Be sure the Amigo is parked close enough to the outlet so you don't stretch the AC cord to its full capacity.

Observe the battery gauge on the handle control panel. The battery gauge is a six bar design showing battery charge level. Bars will stay lit to show charge level. If the batteries are at 50% charge, 3 bars will be lit.

When charging, the bars in the gauge will blink for approximately 30-45 seconds and then go solid as the charge cycle begins. As the charge level goes up, more bars light up until all bars are lit. At the end of the charge cycle, the bars will blink again signaling the batteries are fully charged.

- · Charge when not in use for best battery life.
- It is best to allow the batteries to charge fully.
- For the very first charge, charge for nine (9) hours or overnight if possible.

**Remember:** It is best to keep the batteries fully charged. Extended charging is encouraged and will not overcharge or harm the batteries.

# **Charger Safety Features**

Driving functions are disabled while in the charging mode. This safety feature eliminates the possibility of driving away while the cord is attached.

# **Assuring Long Battery Life & Warranty Protection**

Establish a regular procedure for charging the Valet to assure that they have been fully charged. A multiple outlet strip with a "POWER ON" indicator light could be used. Do not exceed outlet rating. Chargers draw approximately 2 amps each until batteries are charged.

If the Amigo slows down and eventually loses all power within a day's use – and all other systems appear to be functioning normally – the batteries may need replacing. For maximum performance, we recommend purchasing batteries direct from the factory; threaded posts are used and not locally available.

# **Battery Care Recommendations**

- It is highly recommended that you **fully charge** batteries BEFORE storing an Amigo AT3/AT5 to be serviced. A full charge will greatly extend the life of the batteries.
- Discharged batteries left sitting can be damaged to the point of non-recovery.

Amigo warranty covers batteries for defects in product workmanship only. Inadequate/improper charging will cause batteries to sulfate prematurely and is not covered under warranty.



FAILURE TO FOLLOW THESE SAFETY INSTRUCTIONS MAY RESULT IN PERSONAL INJURY OR PROPERTY DAMAGE.

# **Battery Specifications**

For lithium-ion or gel battery options, contact Amigo Mobility

- 12-volt
- 31 amp-hour minimum
- · AGM (absorbed glass mat)
- Deep cycle
- Terminal type: M6 or 1/4 20 female threaded non - ferrous plated metal
- UL recognized component

# **Battery Charging Precautions**

- Charge batteries supplied on vehicle with Amigo "original equipment charger."
- · Charge batteries fully in a dry location.
- · Clean any corrosion on the connections.
- Examine cord periodically for cracking or damage.
- If you remove the batteries from the Amigo, put them on a surface that cannot be damaged by acid fumes.
   Whenever a battery is charged and discharged through a cycle, it breathes. The breathing of the battery emits acid fumes and may mark surfaces it rests on for long periods of time.
- Never smoke or allow an open flame in the vicinity of the battery.
- Use charger for charging a sealed lead acid battery only. It is not intended to supply power to an extra-low-voltage electrical system or to charge dry cell batteries.
- · Never charge a frozen battery.
- Do not operate the charger in a closed-in area or restrict ventilation in any way.
- Be extra cautious not to drop a metal tool onto the batteries.
- · Remove jewelry and watches.
- · A spark near the battery may cause explosion.

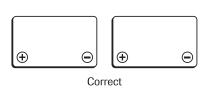
#### To Reduce Risk of Spark:

- 1. Prevent external damage to AC and DC cords.
- 2. Connect DC wires to the batteries before connecting charger AC supply cord to the AC electrical outlet.
- 3. When disconnecting charger, always do so in reverse sequence of connecting procedure.

  Break first connection as far away from battery as possible. Distance reduces the chance of explosion if a spark is generated and gas is present.

# WARNING

TO AVOID DAMAGE TO BATTERIES DURING STORAGE, **DO NOT** PLACE THEM WITH THE POSITIVE (+) AND NEGATIVE (-) TERMINALS NEXT TO EACH OTHER (FIGURE 4).



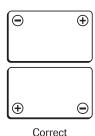




Figure 4

Incorrect

# MAINTENANCE SCHEDULE

# **DAILY**

- Charge when not in use. Extended charging will not overcharge the batteries.
- Check charge cord for damage and wear. Replace if damaged.
- Wipe seat, oval handle and control levers with a mild anti-bacterial surface cleaner.
- Check safety seat switch function stand next to the Amigo, turn on and pull lever the cart should not move. In the event the cart moves, immediately take out of service and call for repair.

## **MONTHLY**

- Clean upholstery, plastic and metal with a mild surface cleaner.
- · Check and tighten any exposed fasteners.
- Check safety seat switch function stand next to the Amigo, turn on and pull lever unit should not move. In the event the unit moves, immediately take out of service and call for repair.
- Check charge cord and charging receptacle ensure prongs are present and cord is free of cuts or tears.
- Check anti-tip wheels. Replace damaged or missing anti-tip wheels.
- · Check forward/reverse levers be sure they move freely and cart remains in place when in neutral.
- · Check basket signs and replace if missing or damaged.
- Check static ground wire located under vehicle, replace if damaged or missing. Wire must be in contact with floor when operating Amigo.

You will get years of dependable operation if you follow the suggested maintenance schedule. For operating questions, contact your local service representative, or call the **Amigo service department** @ **1-800-248-9131** or **989-777-0910**, 7:30 a.m. to 8:00 p.m. (EST) Monday – Friday. Please reference serial number when calling. You may also contact us by **fax** at **1-800-334-7274** or **email** to **service@myamigo.com** 

**Note:** Batteries should last 18-36 months if fully charged daily. Ensuring the AC cord is in good operating condition will assist in extending battery life.



DO NOT EXPOSE THE AMIGO TO SPRAY-ON CLEANING SOLUTIONS AND EXCESSIVE MOISTURE SUCH AS SPRAYING IT WITH A HOSE, OR LEAVING IT IN THE RAIN OR SNOW. EXCESSIVE MOISTURE AROUND THE MICROPROCESSOR CONTROLLER (MPC) OR ELECTRICAL CONNECTIONS MAY CAUSE CONTAMINATION OF ELECTRICAL CIRCUITRY, DAMAGE AND MALFUNCTION, AS WELL AS PERSONAL INJURY. THIS VARIETY OF DAMAGE IS NOT COVERED UNDER THE WARRANTY.

## **Serial Number Locations:**

#### On the AT3 and AT5:

- 1) Back side of tiller underneath handle enclosure (forward/reverse levers) (Figure 5A)
- 2) Right side of lower seat post (toward top) (Figure 5B)

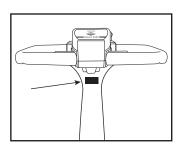


Figure 5A

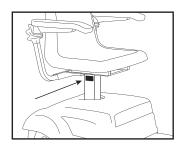


Figure 5B

# **Fasteners Replacement**

Use only Grade 8 (US) or 10.9 DIN (metric) in all applications. (Figure 6) For service and replacement parts, we recommend Amigo authorized parts.

# **Microprocessor Controller (MPC)**

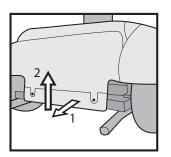
Do not attempt to service the MPC or charger as this will void the warranty on these items.

# METRIC (ISO 898) INCH (SAE J429) Grade: 10.9 Grade: 8 Tensile: 1040 MPa (150,800 psi) Tensile: 150,000 psi

Figure 6

# **Removing the Rear Cover**

Unplug the seat switch wires by grabbing the terminals closest to the seat switch using needle nosed pliers. Using wrench, loosen the bolt located on the front right corner of the seat post. Remove the seat by pulling the seat up. Remove the AC cord from the seat post by using a Phillips screwdriver to remove screw, then pulling AC cord connection out of seat post. Place your fingers under the cover just below the holes in the rear of the cover. Pull cover out and then up (Figure 7A). Pull cover out on each side. Lift cover off (Figure 7B).



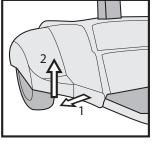


Figure 7A

Figure 7B

# **Circuit Breaker Replacement**

An automatic resetting circuit breaker protects the wiring and battery in the event of a short circuit. If the Amigo stops, check for overloads or short circuits before continuing to operate.

On the AT3 and AT5, the circuit breaker is located under the rear cover. Circuit breaker is attached to the positive terminal on one battery per model (Figure 8). If you suspect the circuit breaker is defective, use a jumper wire between the two terminals of the breaker. If the Amigo runs with the use of a jumper wire in place of circuit breaker, replace the circuit breaker (note: seat switch must be sat on or pressed down for vehicle to run). Use of a jumper wire is for test purposes only.



Circuit Breaker Figure 8 (Part No. 7441)



DO NOT CONTINUE TO OPERATE THE AMIGO UNTIL THE CIRCUIT BREAKER IS REPLACED.

# **Occupant Seat Switch**

The occupant seat switch is located under the Amigo seat. The occupant's weight on the seat activates the switch allowing the Amigo to operate. (The Amigo is non-operational without a seat occupant. Occupant must be seated firmly on seat. Sitting on edges may not activate switch.) If the Amigo will not operate while the occupant is seated, disconnect wire from seat switch. Place a jumper wire between the connections. If the Amigo runs, replace seat switch. If the Amigo does not run, contact a local service representative.



A SEAT SWITCH THAT IS NOT PROPERLY MAINTAINED OR IS DISCONNECTED MAY CAUSE PERSONAL INJURY AND PROPERTY DAMAGE. DO NOT OPERATE AMIGO UNTIL SEAT SWITCH IS REPLACED.

# **ASIC MPC DIAGNOSTIC CODES**

The Amigo is equipped with an ASIC MPC. This controller has a built-in diagnostic feature that will cause the diagnostic light LEDs (located on either side of the battery gauge) to flash a numeric code indicating service issues and to aid in diagnosis. When indicating a service problem, the diagnostic light LEDs will flash, hesitate for a moment, and then flash again. Follow the code listings below to determine the problem. If the code indicates a service problem, contact your local service representative or call the Amigo service department at **1-800-248-9131** for instructions to verify and correct the problem.

Diagnostic codes are for Amigo AT3 and AT5.

**Note:** First solution listed for each diagnostic code will fix problem 80% of the time. Attempt solutions in the order listed.

CODE	CAUSE	SOLUTIONS
1-1	EM Brake windings or connections are shorted	<ul> <li>(1) Unplug handle cable and plug back in.</li> <li>(2) Check all wiring connections and output.</li> <li>(3) Disconnect brake and cycle key, if code changes to 1-2, replace brake.</li> <li>(4) Replace controller.</li> </ul>
1-2	EM Brake windings or connections are open or EM brake release lever in "freewheeling position"	<ul> <li>(1) Ensure EM brake lever is in normal/drive position</li> <li>(2) Unplug handle cable and plug back in.</li> <li>(3) Check all wiring connections and output.</li> <li>(4) Replace brake.</li> <li>(5) Replace controller.</li> </ul>
2-1	Motor windings or connections are shorted	<ul><li>(1) Check motor wiring connections.</li><li>(2) Disconnect brake and cycle key, if code changes to 2-2, replace motor.</li><li>(3) Replace controller.</li></ul>
2-2	Motor windings or connections are open	<ul> <li>(1) Ensure EM brake lever is in normal/drive position.</li> <li>(2) Check motor wiring connections.</li> <li>(3) Replace motor.</li> <li>(4) Replace controller.</li> </ul>
2-3	Power shortage	(1) Check / replace batteries. (2) Check / replace charger & charge wires. (3) Check / replace controller.
3-1	Over temperature condition	<ul> <li>(1) Allow to sit idle for 15 minutes, restart and see if code disappears.</li> <li>(2) Ensure EM brake and / or motor is not causing excessive amperage draw.</li> <li>(3) Replace controller.</li> </ul>
4-1	Charger is supplying too much voltage during the battery charge cycle	(1) Replace battery charger if voltage is 32 volts or higher. (2) If 31 volts or lower, replace controller.
4-2	Charger not dropping back into "float mode" during battery charge cycle	(1) Replace charger wiring. (2) Replace battery charger. (3) Replace controller.
5-1	Controller drive FETS shorted	(1) Replace controller.
5-2	Controller regenerative braking FETS shorted	(1) Replace controller.
5-3	Hall Effect throttle or throttle circuitry reading fail band fault	<ul> <li>(1) Check to ensure handle cable is in good condition.</li> <li>(2) Check that throttle lever moves freely and returns to center.</li> <li>(3) Replace Hall Effect throttle.</li> </ul>
6-1	Bad software revision	(1) Replace controller.

# WARRANTY

#### **General Warranty Provisions**

Amigo Mobility International, Inc. (AMI) warranties its OEM products to the original purchaser and commences on date of shipment.

The warranties on this page do not cover the failure of any part or accessory due to:

- Shipping damage (call carrier immediately to file claim)
- Abuse, misuse, accidental damage, or acts of nature
- Exceeding the specified weight capacity of the model
- · Improper installation or opening sealed components
- · Modifying the Amigo, or installing accessories not authorized by Amigo

#### **Warranty Coverage:**

AMI will repair or replace a part that is defective in material or workmanship under normal use.

AMI may use factory-recertified parts rather than new parts for some warranty repairs. Warranty replacement parts are covered for the remainder of the original AMI unit warranty.

- Structural components platform, frame & seat post have a limited lifetime warranty (7-years).
- Main components controller, charger, motor, hall effect and transaxle have a 2-year warranty.
- Seats & other components have a 1-year warranty (cuts and tears in seats are not covered by warranty).
- Batteries supplied by AMI are warranted for one year (freight charges are not included after six months). AMI factory-supplied batteries carry AMI brand labels.
  - Damage caused by battery moisture, spillage, or leakage is exclusive of warranty.
- · Labor is covered for six months on a pre-authorized basis implemented by an AMI work order.
- AMI provides an ARS tag with all warranty parts required to be returned to the factory (continental United States only).
- If inspection determines that a returned part is inoperable due to a non-warranty nature, it will be returned at the expense of the service dealer and void the warranty labor reimbursement when in effect.
- Parts purchased separately from the original unit or rebuilt units carry a one (1) year warranty against defects in material and workmanship.

#### International:

International warranty coverage comprises the standard warranty with the exception of the return ARS tag.

#### **Customer Satisfaction:**

Your complete satisfaction is our main goal. If you are not satisfied with any maintenance or repair work completed by a service dealership, please contact us immediately at **1-800-248-9131**, **989-777-0910** or **service@myamigo.com** 

This warranty supercedes and is in lieu of all other warranties, expressed or implied, and no person, agent or dealer is authorized to give any warranties on behalf of AMI, nor to assume for AMI any other liability concerning any of its products unless made in writing and signed by an official of AMI.

This warranty gives you specific rights, with the possibility of other rights, which vary depending upon your locality.

Serial number decal located on back side of tiller underneath handle enclosure (forward/reverse levers) and on right side of seat pedestal (toward top).

# **Notes**



Improving Lives Through Mobility® since 1968

#### AMIGO MOBILITY INTERNATIONAL, INC.

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