

AMERITEK INDUSTRIES
2420 Niagara Lane
Plymouth MN 55447

The Golden Retriever
Operational and training
Manual

FCC ID: QCY90010

Issue A

Phone 763-475-7002

1-800-781-8582

Fax 763-475-2293

MACHINE OVERVIEW:

The Golden Retriever is a quality machine designed to help retrieve shopping carts by supplying the power to push them (or pull when supplied with the optional equipment) in a long line. The machine's purpose is to relieve much of the physical labor for this task and also to speed up cart collection while using fewer attendants.

The Golden Retriever pushes the chain of carts while the cart attendant walks along side, at the front, guiding in the desired direction. A hand-held remote is used to control the speed, apply the brakes or honk the horn.

UNPACKING THE GOLDEN RETRIEVER:

The machine is either delivered to the destination, ready to use, or is shipped on a pallet.

The following items are included in the shipment:

- 1) The Machine
- 2) Battery Charger
- 3) Hand held remote control
- 4) Manual, Operational and training

If supplied on a pallet, examine the machine and all the packages that are attached. Look for any signs of damage caused during the shipping. If something appears to be wrong, call the shipping company or Ameritek Industries immediately before proceeding with the unpacking. Ideally this examination should take place while the delivery truck driver is still on the premises so he can verify any damage if found.

Cut all the straps holding the machine and packages on the pallet.

Remove the loose packages from the pallet and set them aside.

The machine is heavy and should be removed with forethought to avoid any damage or injuries.

If a fork lift is available, the machine can be lifted off the pallet and set on the floor by an experienced operator. The fork lift truck should approach the machine from the front with the forks positioned to be inside the two 16 inch drive wheels and on either side of the rear swivel wheel.



Picture A

Lift the machine up about 6 inches and pull the pallet out from underneath. Set the machine on the floor. See picture A.

If a fork lift vehicle is not available, make a ramp of plywood 3/4 inch thick approximately 12 inches wide and 30 inches long. Pull the brake release lever at the back of the machine, and pull the machine backwards, down the ramp and onto the floor. See picture B.

**Use caution to avoid getting feet or
hands caught under the ramp**

Lift up on the handles, if necessary, to help get the swivel wheel over the 3/4 inch step in the ramp.

Do not attempt to drive the machine off the pallet.



Picture B

Properly dispose of the pallet and strapping materials.

PREPARING FOR OPERATION

The battery charger, used with the Golden Retriever, is supplied in a separate cardboard box. Remove it from the box, taking care to read and save the charger's instruction documents.

The remote control is also supplied in a cardboard box. It has its own set of instructions that must be saved for training and future reference.

The machine comes with a key-lock switch. Two keys are supplied for this switch. They are attached, with a plastic cord, to the red emergency switch button on the steering column. Cut this plastic cord with a knife or a scissors. Do not attempt to break this cord, it is too strong. Both keys should be placed under management control to avoid losing them and to prevent unauthorized use of the machine.

The Golden Retriever will need a “home” location, in the store, where it can be recharged each evening. This location must have a 120 volt AC outlet that is active 24 hours of the day. An outlet that is turned off with the lights, or when the store is closed, will not allow over-night charging.

The charger should be put on a shelf, about 4 feet off the floor, with an electrical receptacle within reach of the AC cord supplied on the charger. If an extension cord is required, make sure it is no more than 10 feet long and uses at least a number 16 gauge wire with standard grounding connections.

The charger can be plugged into a receptacle permanently, even if the machine is not connected. Whenever the charger’s cable is plugged into the machine, the charging sequence will begin per the instructions.

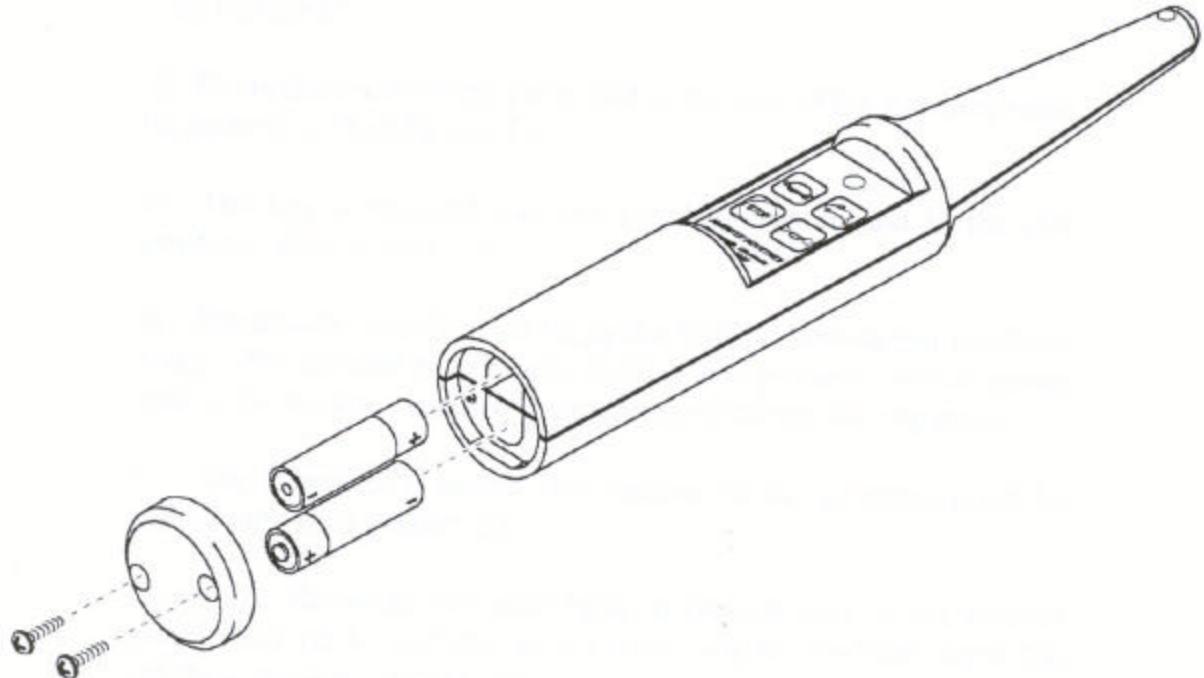
Although the batteries are charged before shipment, it is recommended the machine be placed on the charger for at least 8 hours before beginning full-time usage.



See Picture C

NOTE: The charger should be mounted on a shelf independent of the machine.

The hand held remote control is supplied with a new set of AA batteries and these should be sufficient for several months of operation. See the remote's instructions.



CAUTION: Changes or modifications not expressly approved by Ameritek Industries, for compliance, could void the user's authority to operate the equipment.

Ameritek Industries LLC

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This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference, and, 2) This device must accept any interference received including interference that may cause undesired operation.

OPERATING THE GOLDEN RETRIEVER

Manual control

There are several conditions that must be met before the machine can be operated.

- 1) The batteries are charged
- 2) The mode switch is in the center, “manual operation” position. (See Picture D)
- 3) The brake lever on the lower left at the rear of the machine must be pushed in. (See Picture E)
- 4) The key is inserted into the key lock switch and in the ON position. (See Picture D)
- 5) The throttle handle must be in the OFF or zero-speed position.
Note: *The throttle is normally held in this position with a spring unless the throttle shaft has been damaged during the shipment.*
- 6) The Emergency switch (red button on the column) must be pulled out. (See Picture D)

Generally, the small red pilot light, at the left side of the control panel, will be lit and the strobe light will be flashing when the machine has been turned ON.

If the machine does not become active, remove the cover and make sure the three connectors at the base of the steering column are plugged in. There is a remote possibility these could become disconnected during shipping. If this fails to correct the fault, call your local dealer, or Ameritek Industries, for assistance.

The Golden Retriever Control Panel

There are five(5) items on the control panel which provide most of the electronic controls for operating the Golden Retriever.

1) BATTERY. This is a small red light which indicates the following:

a) Light is on steady indicates the machine is turned on and ready to operate.

b) Light is flashing when the batteries require charging.

Under most conditions the light will start flashing when the machine is put into motion, when the batteries are being used. If the batteries are severely discharged, the light will flash when the machine is turned on. Put the machine on the charger when this happens.

2) HORN. Press this switch at the top to sound the horn. If the horn fails to work, notify the store manager so it can be repaired during the next visit from a service technician.

3) FUNCTION. There are three positions for the function switch:

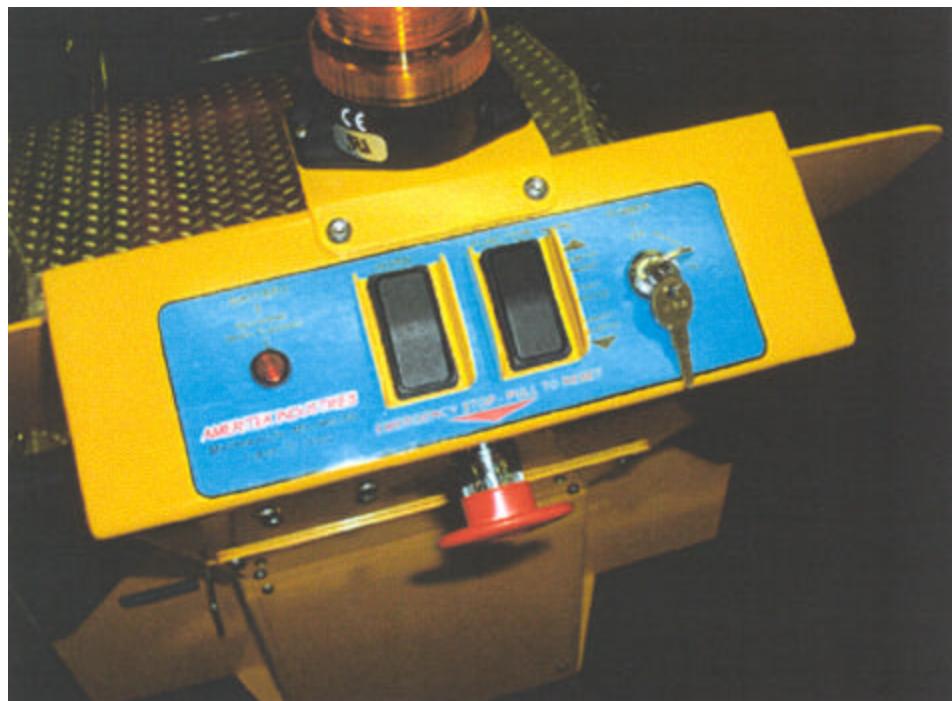
a) The center position is for manual forward operation. This switch must also be in the center position before the machine can be turned on.

b) Press the switch IN at the bottom and the machine will operate in the reverse direction. Note: The speed the machine is restricted to 1 MPH when operating in reverse.

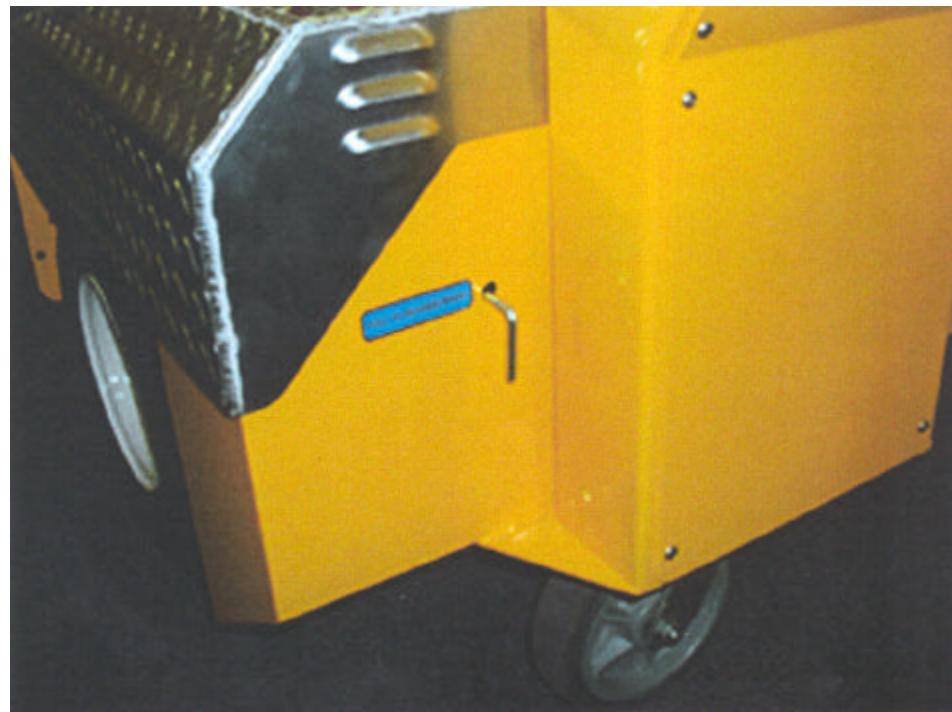
c) Press the switch IN at the top and the machine will operate when using the remote control. See REMOTE OPERATION section of manual.

4) POWER. The key must be inserted into this key-switch in order to operate the machine. The key must be removed when the machine is left unattended to prevent unauthorized usage.

5) EMERGENCY STOP. The switch is at the center of the steering column, below the control panel. It must be pulled OUT in order for the machine to operate. To stop the machine from operating, and bring it to a sudden stop, push this switch IN.



Picture D



Picture E

Practice manual operation:

To put the Golden Retriever in motion, turn the rubber grips. There is one on either side of the steering column. The speed is controlled by the amount the grips are rotated. Start out slowly and get a feel of how the machine handles in manual control. Releasing the grips will cause the machine to come to a sudden stop. Experience will help in developing a smooth operation. The maximum forward speed is about 3.0 MPH.

To reverse the machine, press the mode switch on the control panel so it is in the “reverse” position. The machine will now move backward with a reduced maximum speed, about 1 MPH.

Note: When the machine is in motion, while in manual mode, the strobe light will turn off automatically. This feature prevents the operator from being blinded by the flashing. When the throttle is released, the strobe will resume flashing, after a short delay.

If it is necessary to move the Golden Retriever, and the key is not available, pull out the brake release rod (see Picture E) at the lower left side of the steering column. This will release the mechanical parking brake and allow the machine to be moved by pushing or pulling. Always keep the brake release lever to its IN position at all times except as noted.

It is best to practice moving the Golden Retriever around the parking lot prior to retrieving shopping carts.

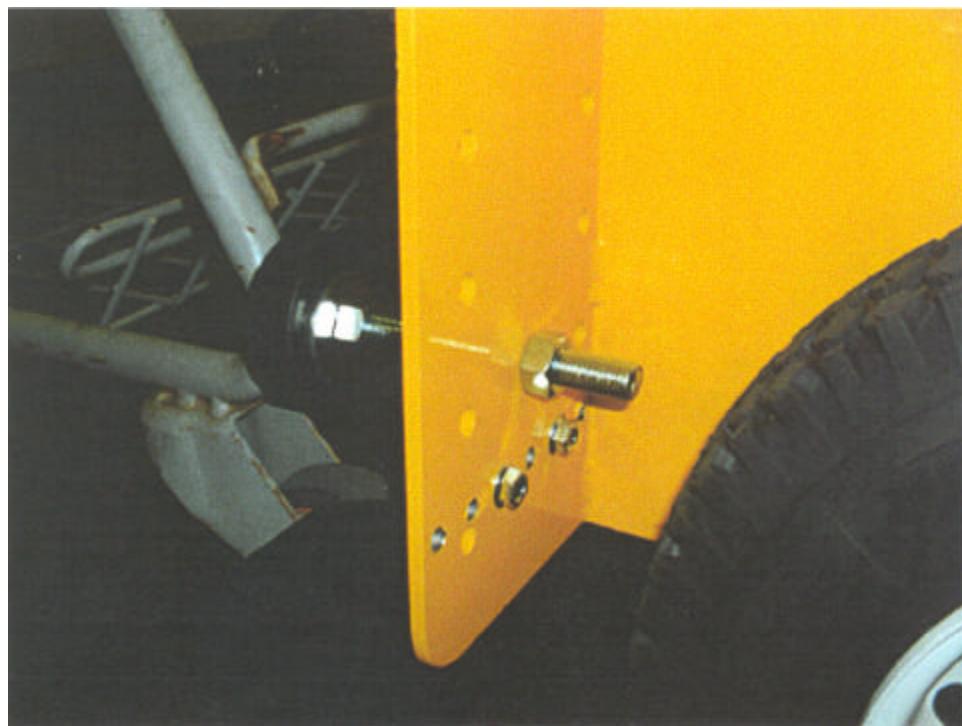
In normal usage, the manual operation is only used to move the machine in and about the store or bringing it into the parking lot to a shopping cart staging area.

NOTE: Do not allow anyone to ride on the cover of the machine. This is dangerous and could result in serious injury.

To use the Golden Retriever for cart retrieval, it is necessary to attach one shopping cart to the front using hardware supplied with the machine. This “attached” shopping cart can be left permanently on the machine if there is space for it when in storage or charging.



Picture F



Picture G

The cart coupling mechanism consists of two major parts:

- A) The two cup assemblies to hold the two rear wheels of the shopping cart off the ground, shown in picture F.
- B) The two rubber bumpers that provide the means to apply the pushing force on the cart(s). See picture F and G

The major adjustments are very simple and easy to accomplish. The hinge for the two cups must be bolted to the front of the Golden Retriever so they are the correct distance apart, matching the spacing of the two rear shopping-cart wheels. Two long bolts hold the wheel cups to these hinges. The hardware is supplied for this installation.

The rubber bumpers must be positioned so they push on the vertical posts on the shopping cart. The requirement is that these round rubber bumpers push the cart, not the wheels. The bumper's threaded rods are inserted into holes, which are in alignment with the vertical posts on the shopping cart, then adjusted IN or OUT so they are in constant contact and applying pressure. (See Fig. G) Hex nuts on the inside and outside of the metal frame are used to lock this shaft into position. Any excess threaded rod extending into the wheel well can be cut off if there is a chance it will interfere with the drive wheels.

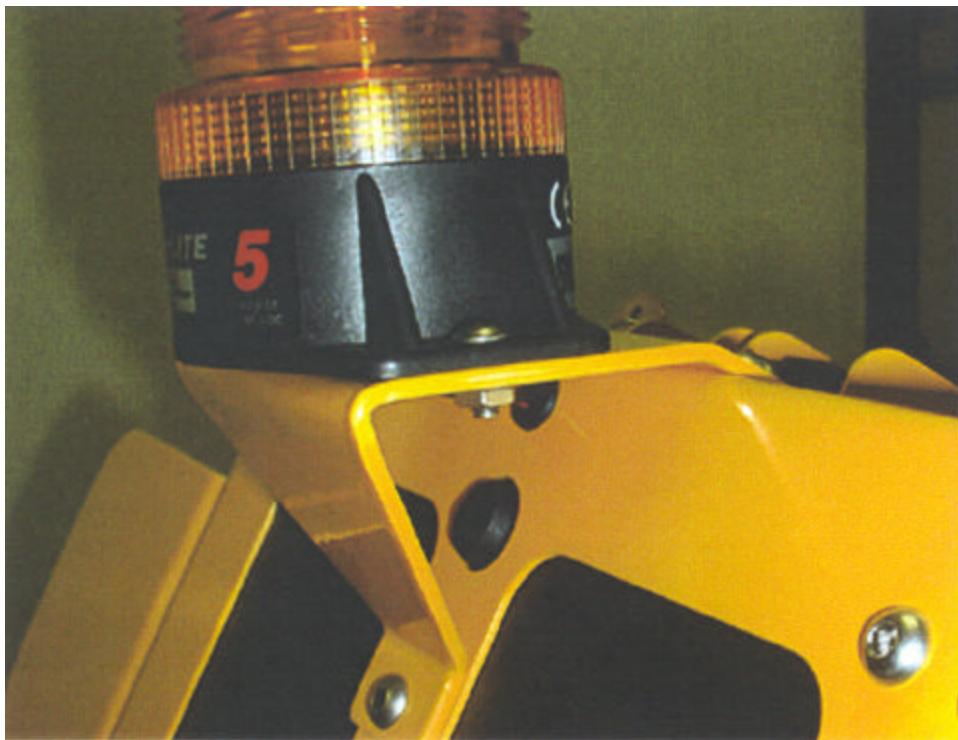
Two "retainer" bolts are supplied, that fits into the wheel cups, holding the shopping cart's wheels from coming out. These are the same size bolts that are used on the wheel cup hinges.

Note: Manual operation is primarily used when the Golden Retriever is moved out into the parking lot, in preparation for picking up shopping carts. Once the Golden Retriever is positioned near a cart corral, Carts are telescoped together to form a chain at the front of the machine. The operator then places the mode switch in the "Remote" position.

Remote operation:

NOTE: Each remote has a unique identification code built into the software. Before a specific remote can be used with a Golden Retriever, it must be “programmed” so there is a communications link.

To do this “programming”, hold down the HORN and STOP buttons on the remote and simultaneously push the small button located under the metal bracket that supports the strobe light. See picture H. When the task is completed, the horn will honk. If for any reason the horn is defective and does not make a sound, try the machine anyway, it may be programmed properly. Programming is necessary whenever a different remote is used and occasionally (not normally) when the batteries are replaced. If a store has more than one remote, and they are used interchangeably, programming will be necessary whenever it is changed.



Picture H

Standing along side the front cart, the operator pushes either the slow “Turtle” (1 MPH) or fast “Rabbit” (3 MPH) button to cause the Golden Retriever to move the chain of carts. The chain of carts is “steered” around the parking lot by applying pressure, left or right, to the leading carts and the chain will follow. Generally the operator will hold the remote in his right hand while firming gripping the front of the leading cart with his left hand. A slight pressure on the front cart will steer the carts around corners with the Golden Retriever following behind.

Note: Do not use the Golden Retriever, at the rear, to steer the chain of carts. It will not work and could cause damage to the machine and some of the attached shopping carts.

When working in the parking lot and moving between cart corrals, the “rabbit” speed will be most convenient, particularly when the operator is experienced. If the parking lot distances are short, there is heavy traffic, or specifically the carts are being pushed into the store, the “turtle” speed is required to assure maximum control of the operation.

The Golden Retriever’s operator must always be aware of the traffic situation when collecting carts. Watch for pedestrians in the machine’s path and cars wanting to back out or move into parking spots. These are the same conditions that apply when pushing carts manually. Always be courteous and conscious of everybody in the vicinity of where you are working.

The Golden Retriever will be a cause for attention, particularly when it first arrives at the store. When answering questions, or talking to interested guests of your store, be aware you may be also tying up traffic. If someone is persistent in their interest in the machine’s operation, have them meet you at the entrance of the store so the carts are no longer in a position where they may block traffic.

Do not allow unauthorized persons to operate the Golden Retriever.

Although the Golden Retriever is strong enough to push more than 40 carts, this is the recommended maximum number to avoid causing congestion in the parking lot. Individual store policies may dictate that some number less than 40 is established as the maximum. In addition, conditions of rain, snow or evening operation should also dictate keeping the chain of carts to a number less than 40.

End of the Day

When the collection of carts has been completed at the end of the day, the Golden Retriever must be moved to a storage location where the charger can be attached. (See Picture C)

The key must be removed from the control panel and the gray plug on the charger's output cord, plugged into the socket at the back right side of the machine. This plug can be inserted only one way. After some self-diagnostic tests are made by the charger, the yellow light will start to flash and, after a few minutes, the meter will show that batteries are being charged. In about 6 to 8 hours the charger will shut down when the batteries are fully charged.

The charger can be used at any time. The batteries need not be completely discharged before the charger is attached. Leaving the charger attached to the machine will not cause a problem, even for days, weeks or months (of course this is an unlikely condition).

If the daily usage is short, the machine can be used for several days without recharging. The red pilot light on the control panel will start flashing to indicate when charging is absolutely necessary. This flashing occurs when the machine is in motion and may stop flashing when the machine is at rest. It is also possible to use the machine for several trips even after the flashing starts, but it is best to move the machine to the charging location within 30 minutes.

Note: There is a point where the battery voltage drops to a point that the machine will automatically stop functioning. This is controlled by the electronics in the motor speed control box. If this happens, while in the parking lot, pull the brake release and push the machine back into the store and connect the charger.

SAFETY CHECKS

There are several routine checks that must be performed by the cart attendants on a regular basis. These simple, but important observations are listed below:

Daily:

- 1) Look to see whether either of the 16-inch drive tires looks low or is flat. Do not operate the machine if this condition exists. See picture I.
- 2) With the brake release lever (picture E) is pushed IN, try to push the machine when it is turned OFF. The brakes, if operating correctly, should keep it from moving. Pull the brake release lever and see whether it moves. If it does, the brakes are operating correctly. *Note: The brake lever must be pushed IN for the machine to operate.*
- 3) Twist the hand throttle, make sure the spring return is working properly. If the return springs are damaged or broken, they need immediate repair or replacement. Notify the store manager.
- 4) With the machine turned on, the strobe should begin flashing. If it does not work, let the store manager know so it can be fixed during the next maintenance visit from the service company.
- 5) Honk the horn with the button on the control panel and the remote. If it does not work, make note to have it fixed.
- 6) Check to see whether the two rubber pads, on the cart coupler, are pressed up against the attached shopping cart. If not, adjust them so there is constant pressure to avoid the machine from pushing on the rear cart wheels.
- 7) If anything seems loose or out of adjustment, report it to management before using the machine.

Monthly

- 1) Check the water in the batteries. It should be above the bottom of the tube that extends down from the cell's opening. Fill up to this level with distilled water. Do not overfill under any condition. See picture J. Note: the water should be at least up to the bottom of the tube extending down from the opening to the cell. It can be filled up to about 1/2 inch below the opening.

If battery fluids are released by over filling, or any other careless activity, use baking soda to neutralize the acid. Do not let acid touch clothing or skin.

- 2) Check the tire pressure. It should be between 15 and 20 pounds.
- 3) Check the back swivel wheel. See picture K. Make sure it swings around freely and the tire turns. There is a fitting on the swivel bearing assembly that should receive grease once a month. (There is a rubber ring at the edges of the bearing housing that should be in place and not cut or broken. This rubber ring keeps contamination out of the bearings and confines the grease to the inside.)
- 4) The bolt at the center of the rear swivel wheel that should receive grease once each month. See picture K
- 5) Check the battery posts. The bolts that hold the cables are stainless steel and resistant to corrosion, but should be cleaned each month and a small amount of grease be put on the posts to help protect them.

Drive wheels. See picture I. These are 16 inch tires which should have a life of six to twelve months. They are available in several tread patterns. The lug-nut wrench is 13/16 inch. Tire pressure 20 lbs nominal. See side of tire for specific recommendation.

The tire and rim are described as a

**4.80 x 8 tubeless tire, mounted on a
8 X 3.75 rim, 4 holes on a 4 inch circle.**

The tread patterns available are normally called:

Sawtooth: Two ply. Has small “sawtooth” shaped grooves in the surface. These are for normal summertime (no snow or ice) parking lots. They will give the best wear because there is more rubber in contact with the ground. The reference Carlisle part number of the tire is 2020.

Diamond Stud: Two ply. Has small diamond shaped knobs on the surface and is a good compromise for all year service where there is little concern about heavy snow falls. The reference Carlisle part number of the tire is 3214.

Snow Hog: Two ply. Has large rubber lugs that give the best grip in snow. They will, however, wear fast when used on hard surfaces. A set of these tires should be kept on hand for use when there is a snow accumulation of more than 1/2 inch. The reference Carlisle part number of the tire is 3210.

Four and six ply tires are also available in the same tire size. These are offered by almost every tire store as a load rating B for 4 ply and load rating C for a 6 ply. These may have a better density of rubber and thus could last longer, but they are only available in a sawtooth type pattern. The Carlisle reference part number for the 4 ply tire is 1502. The Carlisle reference part number for the 6 ply tire is 1504.

Note: Generally these tires are not repairable if they develop a puncture. One solution, when a tire with good tread is punctured, assemble with an inner tube. A tire which goes flat may not be the result of a puncture. Before discarding a flat tire, check for a leaky rim or tire stem.

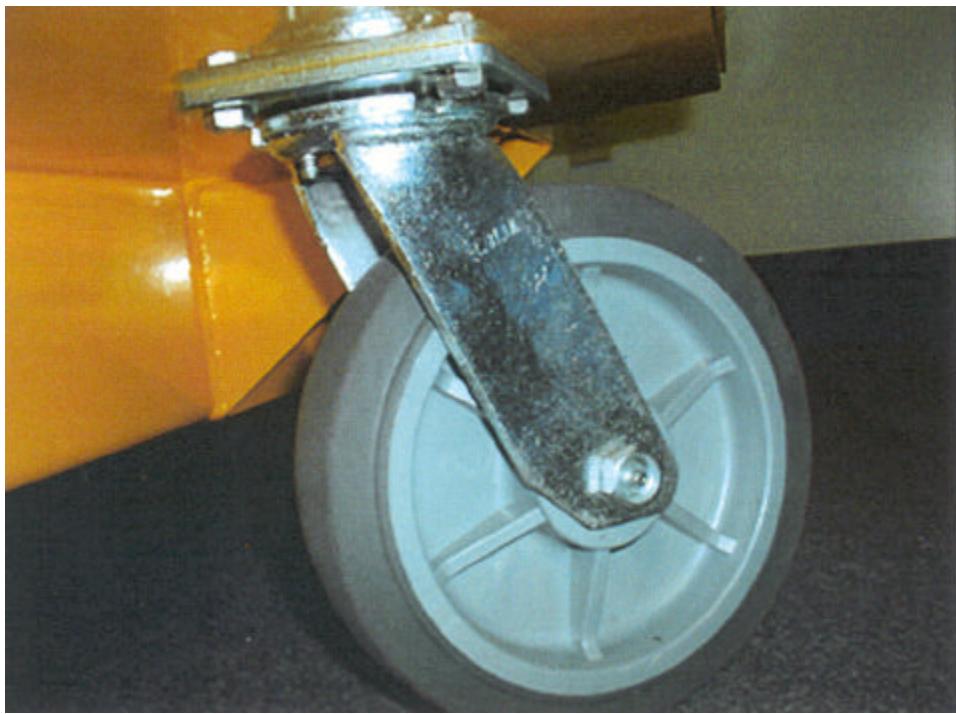


Picture I



Picture J

Pry off cover, exposing three of the six cells in each battery. Fill with distilled water just above the tube in the opening.



Picture K

There are two grease fittings, one on the upper flange and one at the center of the wheel. Use a small grease gun to add monthly.

THE HAND HELD REMOTE

The remote is molded from a strong nylon material and should be resistant to typical rough handling by cart attendants. There is basically only one indicator to observe while it is operating, and that is the light located just above the four button pads. Whenever one of the four buttons is pushed the light on the remote will flash rapidly, about 20 times a second. If the batteries are dead or the remote is not functioning properly, this light will not be activated when any of the buttons are pushed.

To replace the cells (batteries), remove the two screws (Phillips head) from the cap at the end. The two cells will come out by tipping the remote downward. Place two new AA cells in the end. Note: The plus "+" and minus "-" ends of the cell are engraved in the cavity of the battery compartment. If the cells are incorrectly installed, the remote will not work. This can be tested by holding the plastic cap in place (to make electrical contact) and pushing one of the buttons to make sure the light flashes. If it responds correctly, install the two screws.