



QUICKART M3-M3 HD



SERVICE MANUAL

QuickART
Electric Utility Machine

MANUFACTURED BY:

Dane Technologies, Inc.
7105 Northland Terrace
Minneapolis, MN 55428

Phone: 763-544-7779
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Part No. 970-049

Rev. Date: 5-19-06

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Owners Manual

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QUICKART

INTRODUCTION

Thank you for purchasing the Dane Technologies QuickKART. With proper operation and maintenance, the QuickKART will provide years of dependable service. This manual contains information, which will assist in the training, operation and maintenance of the QuickKART. Please read it thoroughly and review it regularly.

The QuickKART is a tool, which will increase workplace safety and productivity. Those goals will only be accomplished if all employees using the QuickKART are thoroughly trained in the safe operation of the QuickKART. We urge all of our clients to develop and implement a training and certification program for all employees using and supervising the use of the QuickKART. This manual, our training program and our training video are provided to assist you in developing your own operator's certification program.

If you have questions regarding the safe operation or maintenance of the QuickKART, which are not covered in this manual, please contact us at our toll-free service line: 888-544-7779.

Daniel T. Johnson
President and CEO

QuickKART M3-M3 HD Owner's Manual

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Note on radio equipment used:

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.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The abbreviation IC, before the Canadian Registration Number signifies that registration was performed based on a Declaration of Conformity indicating that Industry Canada technical specifications were met. It does not imply that Industry Canada approved the equipment.

The CE mark, if present, declares that this equipment meets relevant EU Directives and Standards.

OVERVIEW OF OPERATION

The QuickKART is an electrically powered shopping cart collection machine. It has several unique and patented features, which allow it to be used safely and simply in the shopping cart collection process.

The QuickKART is a productivity-enhancing tool, which will be most effective when it is well maintained and used responsibly. Training of employees is very important. Please read and review this manual. We strongly recommend that a training and operator certification program be developed and implemented to assure adequate training and safe operation.

The QuickKART provides the pushing power for a single employee to safely and easily move a maximum of 30 shopping carts from the parking lot into the store. Its ability to operate in Radio Mode allows a single employee to steer the chain of carts from the front of the cart line while controlling the QuickKART as it pushes and follows from behind.

The QuickKART has proven its ability to work in all types of weather ranging from extreme heat or cold to rain and snow. The QuickKART will dependably in winter weather as cold as -20 degrees. It will also push carts through loose snow. On packed snow the QuickKART M3 and M3 HD will push 10 to 20 carts. Winter operation can be enhanced with the use of optional snow tires.

The QuickKART operates on a 36-volt battery system. It will operate for up to ten hours on a single charge. Cold weather will reduce operating time. It will require eight to ten hours

to fully recharge the batteries. Storing and charging the QuickKART in a warm area will increase the operating time.

Each hand-held remote control transmitter operates on a unique pre-programmed code. For the QuickKART to operate in the Radio Mode, the receiver, which is under the hood, must be programmed to match the hand held transmitter, see page 24 for details. The LED on the remote will start to flash red when the battery is running low, then cease to operate when the battery needs replacing. After battery replacement, the remote needs to be reprogrammed; see page 24 for details.

QUICKART M3-M3 HD WARNINGS & SAFETY NOTES

Please read and understand all the information included in this manual and the service instructions prior to operating or servicing the QuickKART. In addition, make certain all operators have been given and passed the certified operators course before using the QuickKART.

IMPORTANT SAFETY NOTE: THE RED BATTERY PLUG MUST BE DISCONNECTED FROM THE BATTERIES ANY TIME MAINTENANCE IS BEING PERFORMED UNDER THE COVER

1. The QuickKART is designed to push shopping carts. Any other use of the QuickKART is prohibited unless specifically endorsed by the manufacturer. Improper usage and operation of the QuickKART may void the warranty.
2. Federal regulations require that you be at least 16 years old to operate powered equipment.
3. Do not operate the QuickKART unless you meet the minimum operator requirements set down by federal and state regulations, and corporate policy.
4. Do not operate the QuickKART unless you have reviewed and understood the training materials provided by your employer, passed the QuickKART test included in the QuickKART operators manual, and have demonstrated the skills necessary to operate the QuickKART safely.
5. Never carry passengers on the QuickKART M3 or M3 HD!
6. The QuickKART is equipped with a brake that automatically engages when the machine is turned off or not in motion. To avoid an accident, **do not leave the machine parked or unattended on slopes**. When the QuickKART is to be left unattended or in storage, turn it "OFF" and remove the key.
7. Do not use long extension cords. Use the 10-foot cord supplied with the machine. Find a location for recharging that is close to an electrical outlet receptacle. If another cord must be used, it must be 16 gauge or larger and no more than 10 feet in length.
8. Do not plug more than one machine into an extension cord or electrical outlet receptacle, use one outlet for each machine.
9. Do not leave the QuickKART unattended while it is turned "ON".
10. Operate the QuickKART at a safe speed; go only as fast as safety considerations allow. Take into consideration the location of store entrances, sidewalks, pedestrian and vehicle traffic, driveways, and parking lot layout.

11. Always operate in slow speed when near store guests. Operating conditions, such as wet or slippery pavement or slopes can affect the stopping distance of the QuickKART. Do not push more carts than the individual operator can safely control when those conditions are present. **Do not exceed 30 carts at a time under any circumstance. Refer to your store policy for the maximum cart number.**
12. Verify all warning and emergency labels are legible and mounted in correct areas shown on drawings shown on page 18.
13. Do not drive over curbs or the edges of hardened surfaces higher than one inch.
14. Always look behind the QuickKART before and while operating in reverse.
15. Batteries must be fully charged initially before using the QuickKART.
16. The electrolyte in a storage battery is an acid, which can cause severe burns to the skin and eyes. Wear appropriate protective clothing when working with batteries. Treat all electrolyte spills with an extended flushing with clear water. Contact a physician immediately if contact is made with battery acid.
17. Three types of batteries may be used in the QuickKART: Standard, Maintenance free and AGM. Please check your batteries to see which kind you have, the standard battery needs maintenance, and the others do not.
 - a. Standard batteries do require regular maintenance. Check the batteries weekly to add distilled water to the batteries.
 - b. Maintenance free batteries contain liquid and may have caps for filling and very rarely need filling.
 - c. AGM batteries have no free liquid and do not require maintenance.
18. Hydrogen gas is formed when charging the batteries. Use a location with adequate ventilation when charging QuickKART batteries. Never smoke near batteries. Do not charge batteries in an area with open flame or where there is electrical equipment that could cause an electrical arc.
19. Do not lay metal objects (wrenches, screwdrivers, etc.) on any of the batteries to prevent electrical short circuits.
20. Batteries are heavy. Always use care and proper lifting technique to avoid injury when removing or replacing batteries.
21. Make sure QuickKART is properly secured when changing tires. (See instructions on page 28.)
22. An optional strap is available to tether the carts together. To view the procedure to strap the carts see the illustration on page 20.

UNPACKING THE QUICKART M3-M3 HD

- 1) The QuickKART M3-M3 HD is typically shipped on a wooden pallet. It may come with addition individual components that are packaged inside the QuickKART. Care must be taken not to damage them during the unpacking. The components are:

- a) **QuickKART**, the basic electric machine with two keys,
- b) **A box including:** a Remote Control



Transmitter, to remotely control the QuickKART, and Cart Coupler Hardware (yokes for the cart coupler).

- c) Options may be strapped to the pallet.
- 2) Remove the material covering the QuickKART and components. Take care not to bend the antenna under the handlebar when removing the covering. Cut the banding material, which holds the QuickKART to the pallet.
- 3) Raise the hood to find a small box containing the remote control, and cart coupler hardware. Remove this box and set it aside.
- 4) To remove the QuickKART from the pallet, use a sturdy wooden board(s) to create a ramp. Insert the key and turn it counter-clockwise to place the QuickKART in "manual mode". Turn the RH thumb wheel clockwise slowly and guide the QuickKART forward, down the ramp to the floor.
- 5) **Turn "OFF" the QuickKART**
- 6) To attach the cart coupler yokes, select a typical cart from the store and then refer to the diagrams on page 21 and following.
- 7) Each hand-held remote control transmitter operates on a unique pre-programmed code. For the QuickKART to operate in the Radio Mode, the receiver must be programmed to match the hand held transmitter. See page 24 for directions on how to program the remote control transmitter.

ORIENTATION TO THE QUICKKART M3-M3 HD

CONTROL PANEL: (See diagram on page 13.) At the back of the Control Panel are controls and indicator to operate the QuickKART.

On the left is the **Horn** button, pressing the **HORN** button will sound the horn loudly as long as it is pressed. Next is the **Battery Level Meter** showing the percent of battery capacity. When the batteries are fully charged, the light on the right will be lit. As the QuickKART is used throughout the day, that light will go out and the next will come on. Each light (indicating 10%) will slowly go out becoming fewer as the batteries discharge. When the 20% capacity light starts to flash on and off, it means there are approximately 4 minutes of remaining power before the QuickKART automatically shuts down. The charging level is most accurately shown when the QuickKART is pushing carts. *If the QuickKART does shut down, turn the key off for a few minutes, then on again. This may allow time to reach the charging station.* Recharge the batteries for at least 8 to 10 hours or until fully recharged.

A large red **EMERGENCY** shut off button is located on the center back of the control panel. (See top and side views of the QuickKART on page 14 and following.) This is located to provide easy access to stop the machine. *To restart the machine after the*

EMERGENCY shut off button has been activated, pull out the button, turn off the key switch, wait 1 second, then turn it back on.

The far right of the control panel also includes two LEDs: The **Controller Status LED** indicates that the QuickKART is turned on and will indicate problems with QuickKART or the controller. A typical QuickKART fault of the Emergency Shut-off switch engaged is indicated by a flashing LED. *To restart the machine after the "EMERGENCY" shut off button has been activated, pull out the button, turn off the key switch, wait 1 second, then turn it back on.* The **Radio Mode LED** indicates that the Radio Mode is on. It also indicates a radio transmission signal by flashing very fast.

The **Keyswitch**, on the right side of the control panel, can be turned to "**MANUAL**" for manual operation or to "**RADIO**" for remote operation. Turning the key straight up turns the QuickKART off. Wait 1 second before turning the QuickKART on again. The Radio Mode for cart collection allows operation only in the forward direction.

Underneath the LH rear corner of the control panel is the **Radio Learn** button. This button is pressed as part of the remote programming operation.

MANUAL MODE: Manual Mode is defined as operating the QuickKART while walking behind the QuickKART M3-M3 HD. Turning the key counter-clockwise turns the QuickKART on and places it in manual mode. Steering is controlled from the handle bar. Turning the thumb wheel throttle controls speed and direction. With respect to the RH thumb wheel; counter-clockwise is reverse, clockwise is forward. Rotating the thumb wheel farther increases the speed. Releasing the thumb wheel stops the machine.

RADIO MODE: (See diagram on page 12.) Radio Mode is defined as operating the QuickKART with the remote control while standing or walking alongside the lead cart of the cart chain coupled to the QuickKART M3-M3 HD. Turning the top of the key clockwise turns the QuickKART on and places it in Radio Mode. Guiding the lead cart in the desired direction controls steering. Forward speed, brakes and horn are operated with the hand held radio remote control. While in Radio Mode, the QuickKART will only move forward.

STEERING: In Manual Mode, the QuickKART M3-M3 HD is turned by exerting light pressure on the handlebars, to the left or right, similar to steering a bicycle. In Radio Mode, guiding the lead cart in the desired direction controls steering.

ACCELERATION AND BRAKING: The thumb wheel throttle located on the handle bar controls Acceleration and braking of the QuickKART in the Manual Mode. The QuickKART speed is controlled by twisting or rotating the throttle thumb wheel, similar to turning a speed knob. Braking action occurs as pressure is released. Braking force can be controlled for quick or gradual stops. Twisting the thumb wheel slowly brings the QuickKART to a gradual stop. Releasing it rapidly stops the QuickKART very quickly. Maximum braking force is applied when the throttle is fully released.

When the QuickKART M3 or M3 HD is stopped, the parking brake automatically engages. This prevents the QuickKART from rolling on slopes or being pushed manually. If it is necessary to push the QuickKART (i.e. dead battery or machine not working), the parking

brake can be released by opening the cover and pulling the release lever marked "**Brake Release**" on the lower right corner at the back of the machine. Once the parking brake is released, the QuickKART will not operate until the parking brake is pushed back in. It is recommended that the brake be released only if batteries are dead and manual pushing is required.

OPERATION OF THE QUICKART M3-M3 HD

MANUAL MODE:

To operate the QuickKART M3-M3 HD in the Manual Mode, perform the following steps:

1. Insert the key into the key-switch located on the control panel. Turn the key counter-clockwise to turn the QuickKART "on" in Manual Mode.
2. An LED on the control panel will show the controller status (see illustration on page 13). Confirm that all systems are working properly.
3. In manual operation, while standing behind the machine, both hands on the handles, slowly twist the RH thumb wheel throttle control clockwise and the QuickKART will start to move forward. Slowly release the pressure on the throttle control and the QuickKART will slow to a stop. A few seconds after the throttle control is fully released, the electronic brakes will be applied. When moving forward or backward, a sudden release of the throttle control will cause the automatic brake to bring the QuickKART to a controlled stop.
4. To change the direction of travel, slowly twist the thumb wheel throttle in the opposite direction and the QuickKART will start to move to move in that direction.
5. To turn the power off, turn the key to a straight up position. Note: Do not leave the machine "ON" and do not leave the key in the switch when unattended.
6. The collection of shopping carts begins by walking the QuickKART into the parking lot to a location where customers have left carts. To attach the first cart, open the locking U-pin on the left side of the cart coupler assembly. Position the rear of the first shopping cart so that its vertical rear frame is aligned with the yoke openings on the coupler assembly. Lift the cart slightly off the ground and move it sideways until it engages both coupler yokes. Then, put the locking U-pin back into place to secure the shopping cart. The coupler yokes can be adjusted up and down and from side to side to accommodate various types and sizes of shopping carts. See illustration on page 21 and following. Additional shopping carts can now be collected to form a train of a maximum of 30 carts.

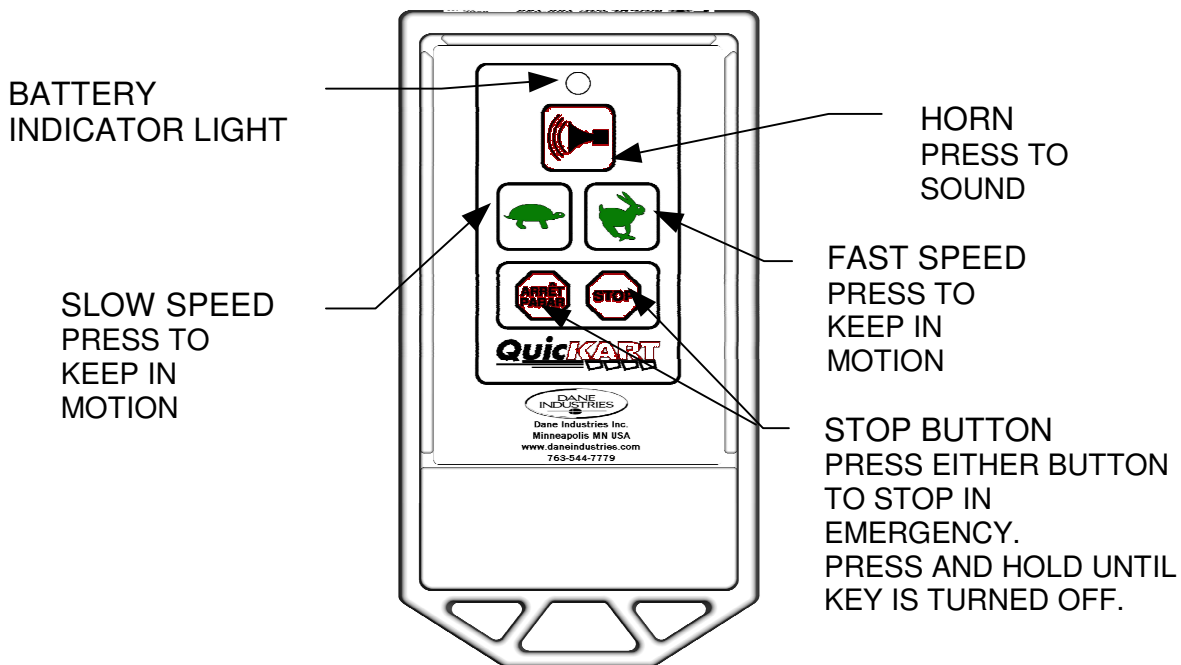
RADIO MODE:

The QuickKART can be operated in the Radio Mode by turning the keyswitch to the "**Radio**" position.

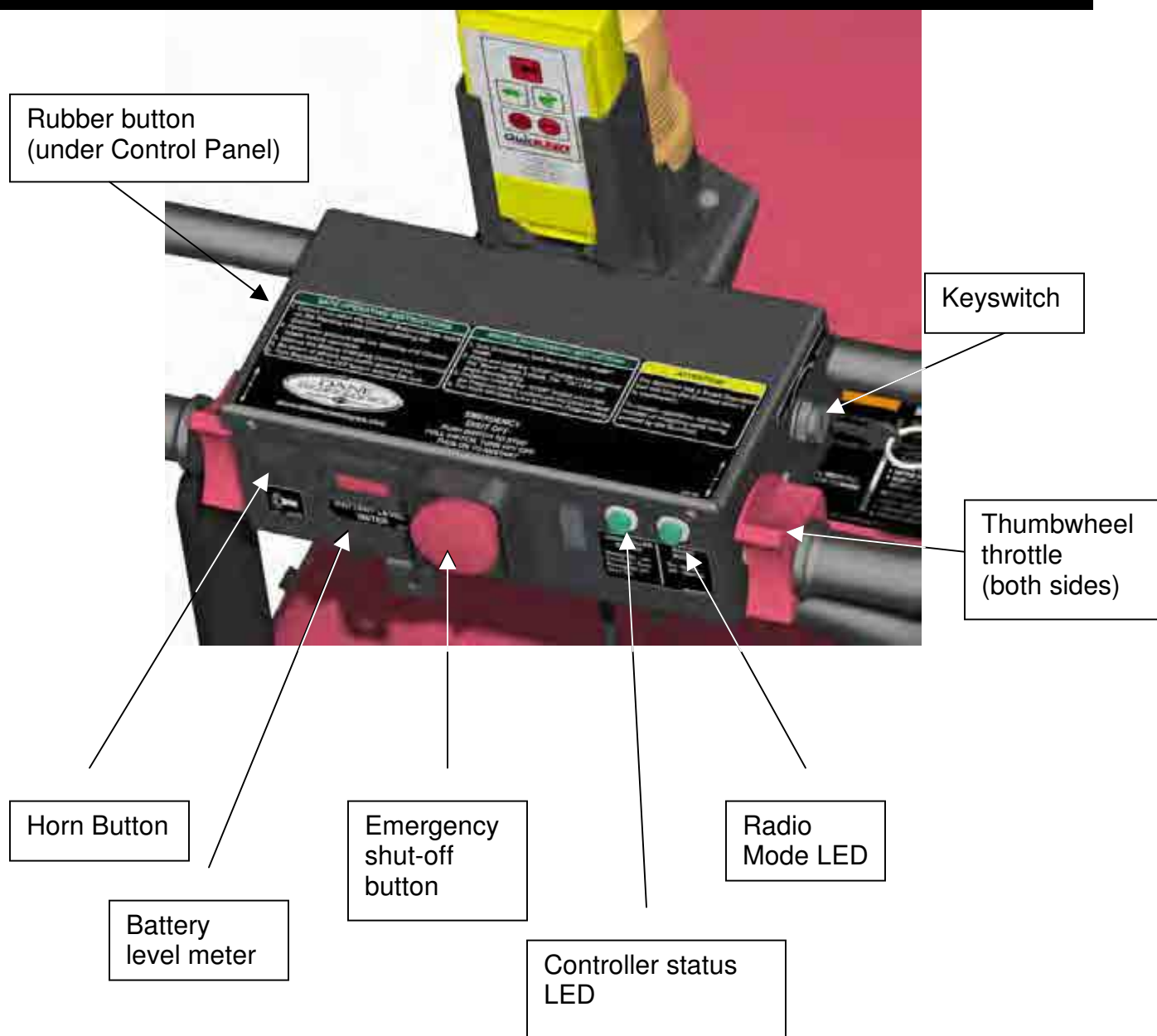
1. While in Radio Mode, only one person is needed to collect shopping carts. This person gathers the carts and adds them to the train while using the remote control to control forward speed, braking and the warning horn. It is recommended that carts be formed into a line and then the machine brought up to the line in the "**SLOW**" speed and stopped and then started again to nest the carts. Continue to use the "**SLOW**" speed while operating near entrances and near store guests. **Never** use the "**FAST**" Radio speed near guests, the entrance or within the store.

2. **NEVER** press on the remote buttons unless you are at the front of the cart chain and controlling the lead cart. **NEVER** advance additional carts into the store unless you are at the front of the cart chain. The "**SLOW**" speed is 1.0mph. The "**FAST**" speed allows movement at a safe walking pace of 2.7 mph as carts are returned to the store.
3. Only one button of the remote control is usable at a time. Press the "**SLOW**" or "**FAST**" button for the speed desired for the current conditions. The QuickKART will briefly coast when the control buttons are released, helping to prevent a separation of carts. If a sudden stop is required, press the "**STOP**" button. Sudden stops without a cart restraint strap will require the operator to hold back the lead cart at the front of the train to prevent cart separation.
4. In an emergency, press and hold the stop button until you walk over and shut off the key.
5. The QuickKART M3-M3 HD follows the train of shopping carts as guided by the cart attendant. The actual turning radius of the cart chain is a function of the design of the shopping carts being used. The tighter the carts nest together the longer the turning radius will be. After some experience the QuickKART operator will become familiar with this and be able to judge what turns will be practical. In practice the operator places one hand on the cart, at the front of the train, walking along side and guiding the cart in the desired direction. The other hand is used to operate the hand held remote control transmitter. When turning the cart chain it is easier to maintain safe footing by leaning against the lead cart rather than pulling.
6. After delivering the carts to the store, stop the QuickKART and remove the carts and manually push them into the store.

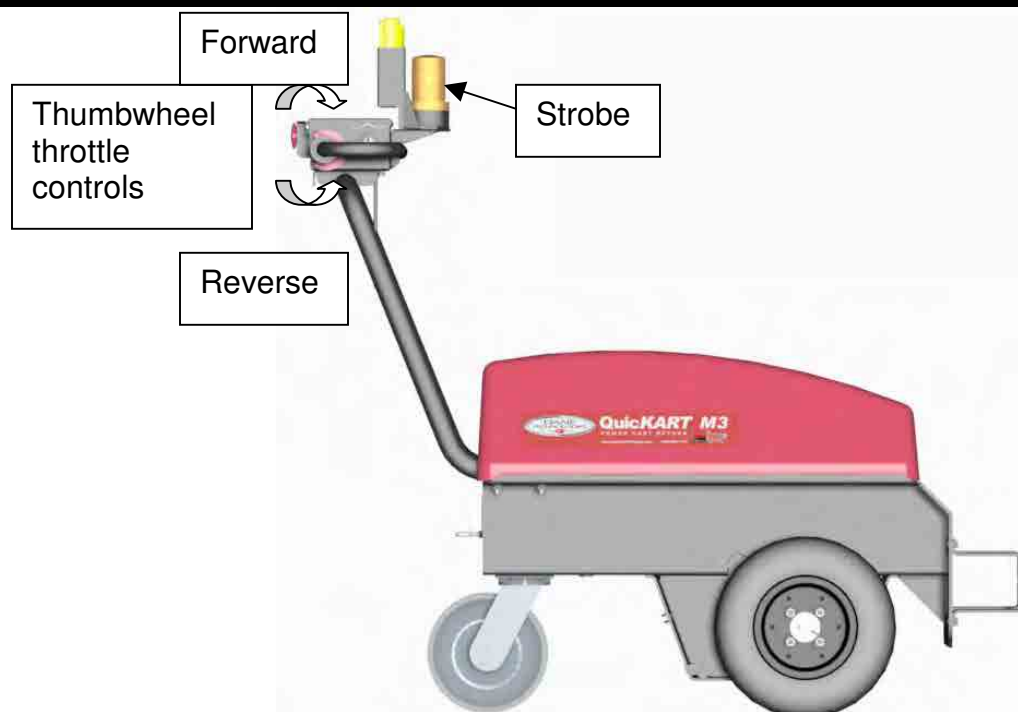
REMOTE CONTROL



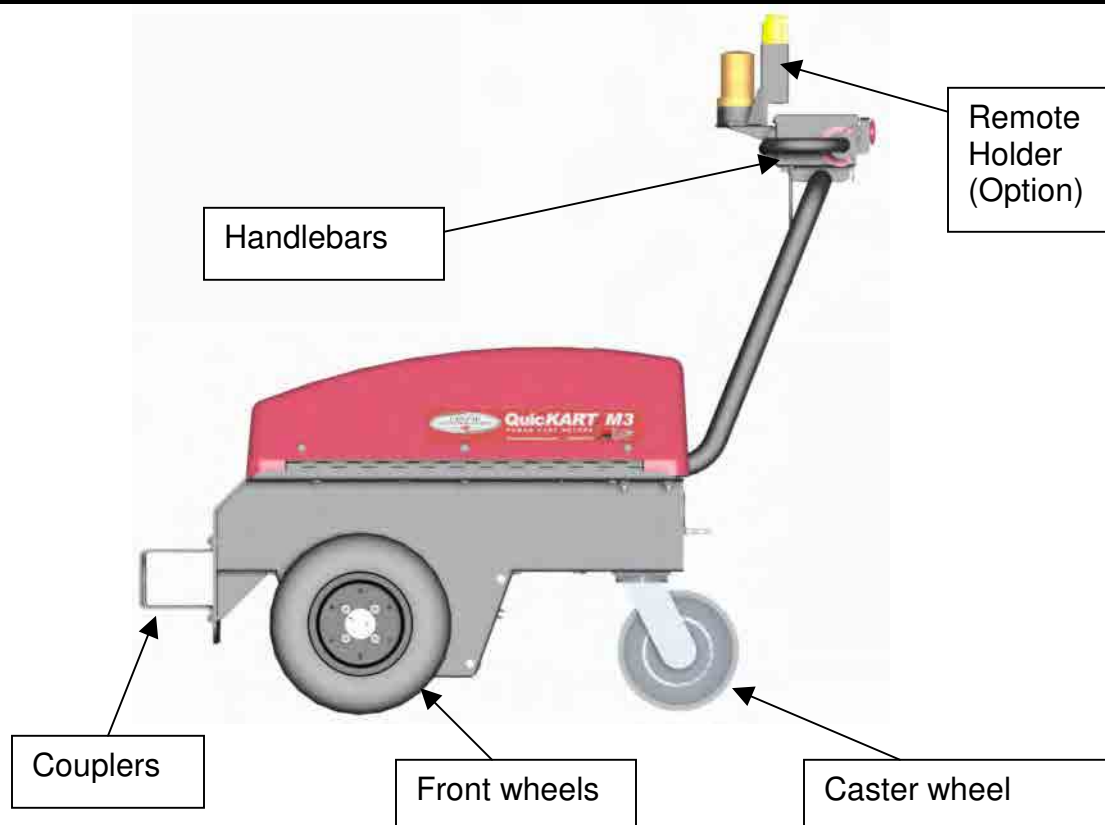
CONTROL PANEL



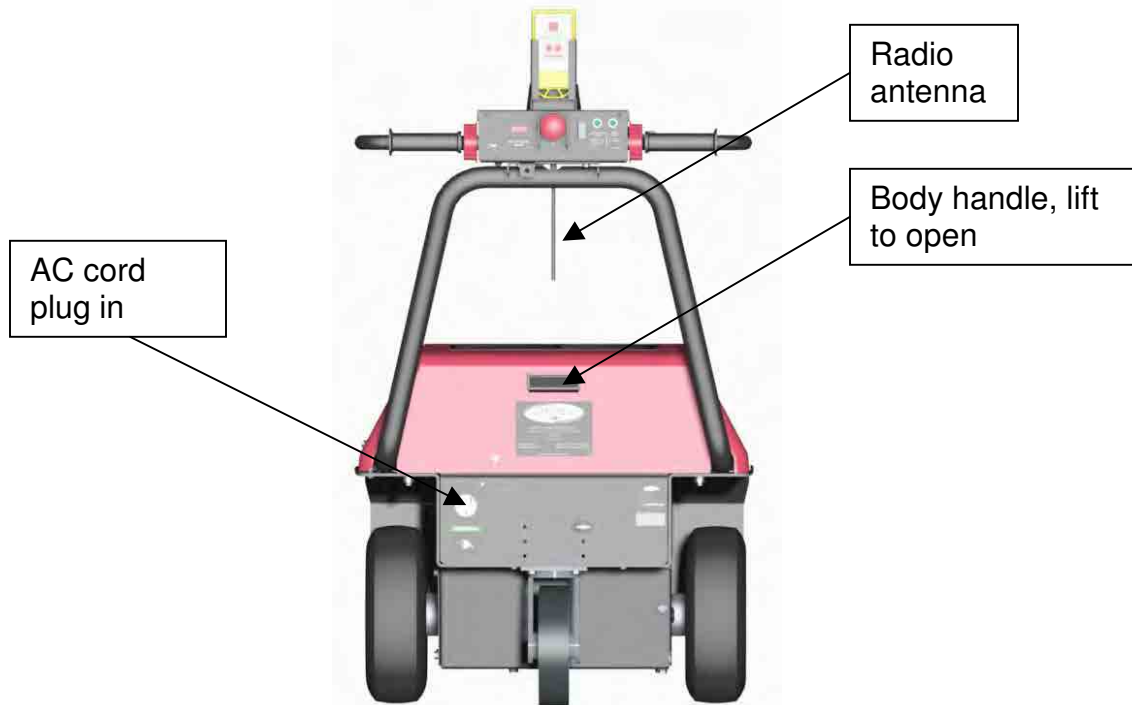
QUICKART M3-M3 HD – RIGHT SIDE VIEW



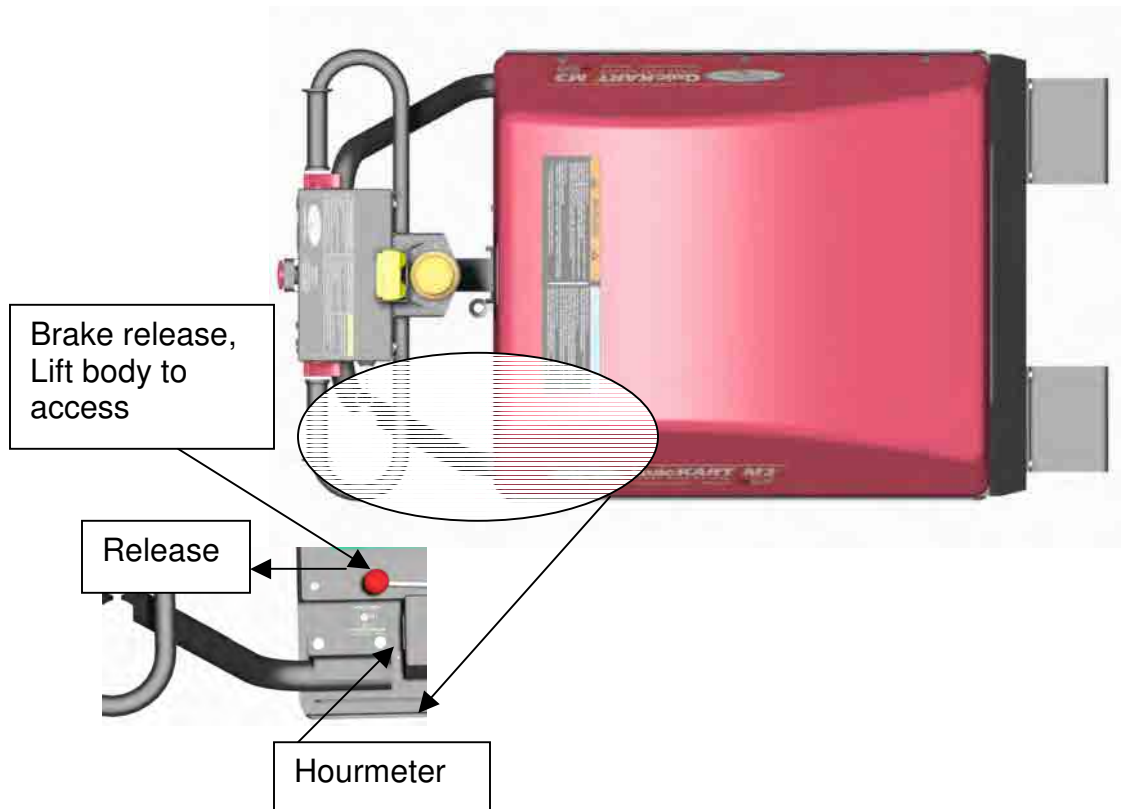
QUICKART M3-M3 HD – LEFT SIDE VIEW



QUICKART M3-M3 HD – REAR VIEW



QUICKART M3-M3 HD – TOP VIEW



QUICKART M3-M3 HD LABELS



500-039



500-208



500-206



500-205



500-237

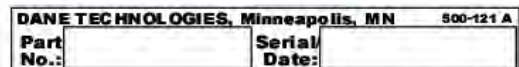


500-040

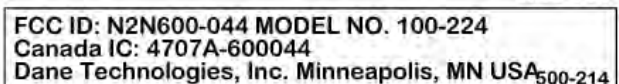


500-041

500-042 30 CARTS
500-139 20 CARTS



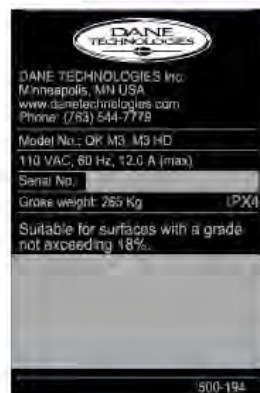
500-121



500-214



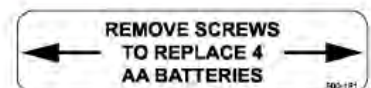
500-125



500-194



500-197



500-181



DANE TECHNOLOGIES

QuicKART M3

POWER CART RETURN

www.danetechnologies.com 1-888-544-7779



500-210 for colored bodies, 500-216 for white bodies



DANE TECHNOLOGIES

QuicKART M3 HD

POWER CART RETURN

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500-211 for colored bodies, 500-217 for white bodies

SAFE OPERATING INSTRUCTIONS	REMOTE PROGRAMMING INSTRUCTIONS	ATTENTION!
1. Ensure you meet the Operator Requirements listed on the Warning Label before operating the QuicKart. 2. Familiarize yourself with the Warning and Caution labels before operation. 3. Unplug the Battery Charging Cord before operation. 4. Be aware of people and traffic around you. 5. Turn Keyswitch to OFF before leaving the unit.	1. Turn QuicKart on, turn key switch to "Radio" mode. 2. Press and hold the "STOP" button while pressing the "Horn" button 3 times. The "Tx" LED will begin flashing RED. 3. Continue holding the "STOP" button and press the Program button underneath the Control Panel. 4. The Horn will beep twice to confirm Programming.	The QuicKart has a Smart Regulator that will stop the QuicKart when it is overloaded. To resume operation, reduce the number of shopping carts being pushed by the QuicKart.



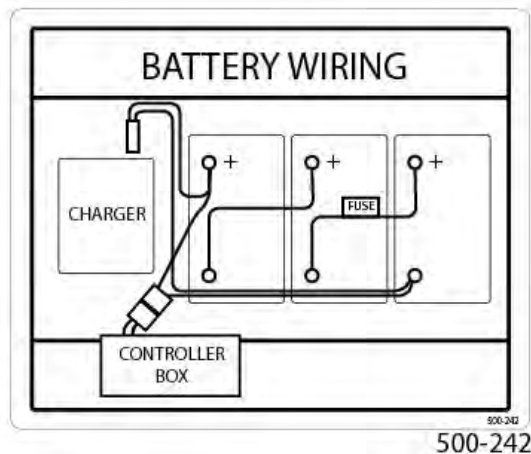
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EMERGENCY SHUT OFF

PUSH SWITCH TO STOP
PULL SWITCH, TURN KEY OFF
THEN ON TO RESTART

500-191

500-191



500-242



DANE TECHNOLOGIES, INC.

Manufactured under one or more of the following patents:
U.S. 5,934,694
U.S. 6,220,379
All other patents pending.

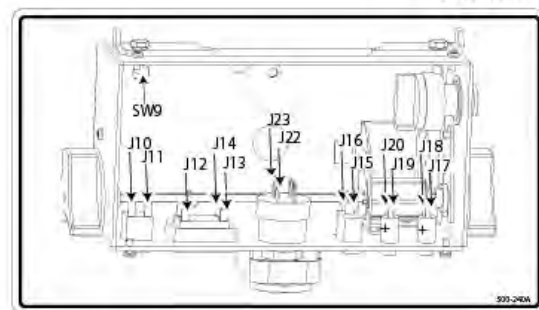
MINNEAPOLIS
MINNESOTA, USA

1-888-544-7779 within the USA
763-544-7779 outside the USA

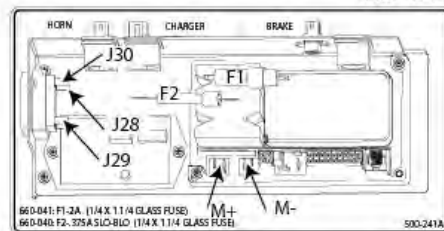
www.danetechnologies.com

500-215

500-215



500-240



500-241

QUICKART M3-M3 HD LABEL LOCATIONS

BILL OF MATERIAL

INDEX	PART NO.	REV	DESCRIPTION	QTY
1	500-039	B	LABEL, AUTOMATIC BRAKE RELEASE	1
2	500-040	B	LABEL, AC CHARGER PLUG	1
3	500-041	A	LABEL, QK MAINTENANCE WARNING	1
4	500-191		LABEL, QUICKART MK II CONTROL PANEL	1
5	500-204		LABEL, ARRAY, MK II CONTROL PANEL	1
6	500-205		LABEL, KEY SWITCH	1
7	500-206		LABEL, HORN SWITCH	1
8	500-208		LABEL, CONTROLLER/RADIO STATUS	1
9	500-209		LABEL, BATTERY LEVEL METER	1
10	500-210		LABEL, QK M3 BODY	2
11	500-215		LABEL, DANE TECH LOGO-QK-PAT'S	1
12	500-237		LABEL, M3/M3 HD MODEL INFO, UL	1
13	500-250	-	LABEL, ARRAY, WIRING	1
14	500-240		LABEL, M3/M3 HD CONTRL PNL WIRING	1
15	500-241		LABEL, M3/M3 HD CTRL BOX	1
16	500-242		LABEL, M3/M3 HD BATTERY WIRING	1

DETAIL A
LABEL KIT 500-204
SCALE 3/16

SEE DETAIL A

UNDER CONTROLLER BOX COVER

DECALS UNDER COVER

DANE TECHNOLOGIES Inc.
7105 Northland Terrace
Bloomington Park, MN 55428

PHONE: (763) 544-7779
FAX: (763) 544-4234

TITLE: LABEL KIT, QUICKART M3

DWG/PART NO. 501-027 SCALE 3/32 SHEET 1 OF 1

DWG DATE 11-Apr-05 DRN BY ALD MATL AS SPECIFIED ABOVE

ECO 294 TOLERANCES 0.X = ±0.030 0.XXX = ±0.005
0.XX = ±0.010 ANGLE = 0.2°
UNLESS OTHERWISE SPECIFIED

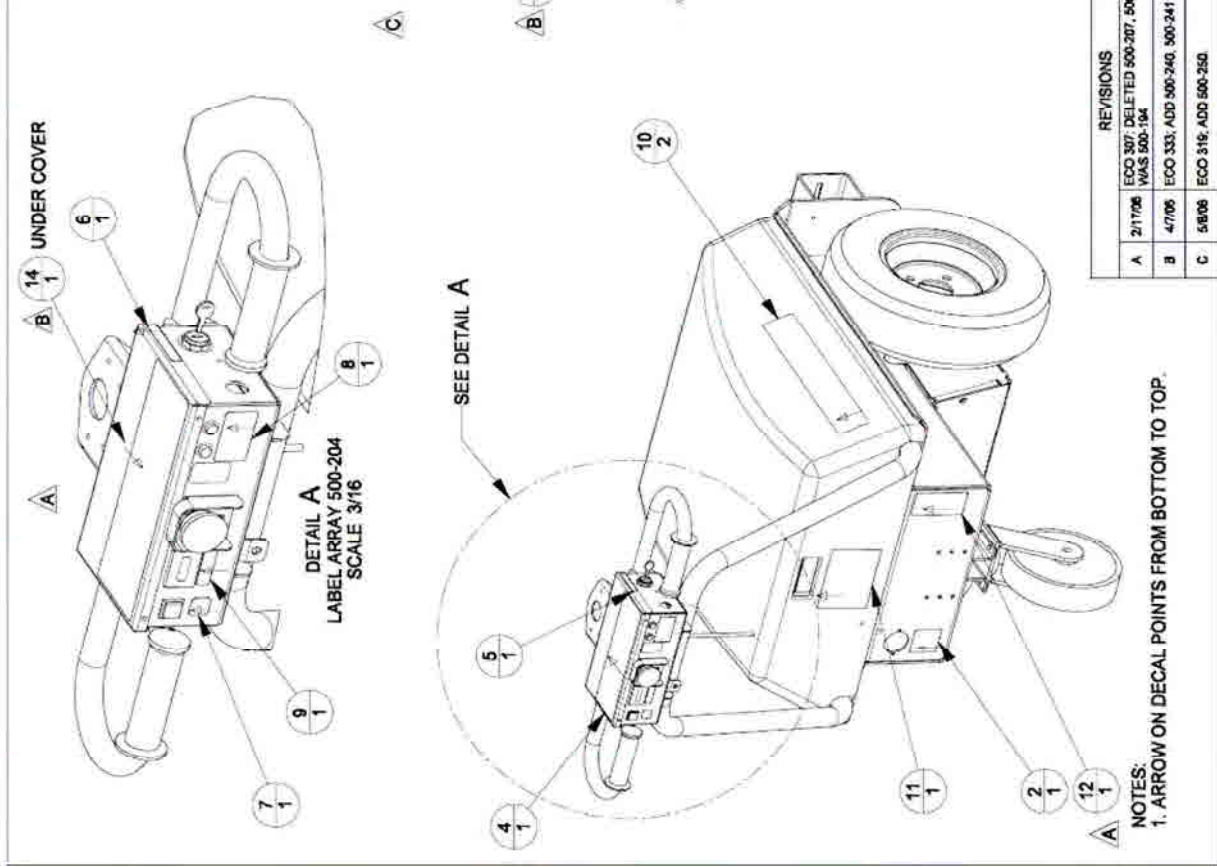
REVISIONS

REV	DESCRIPTION
A	ECO 307 DELETED 500-207, 500-237 WAS 500-194
B	ECO 333 ADD 500-240, 500-241 AND 500-242
C	ECO 319 ADD 500-250

NOTES:

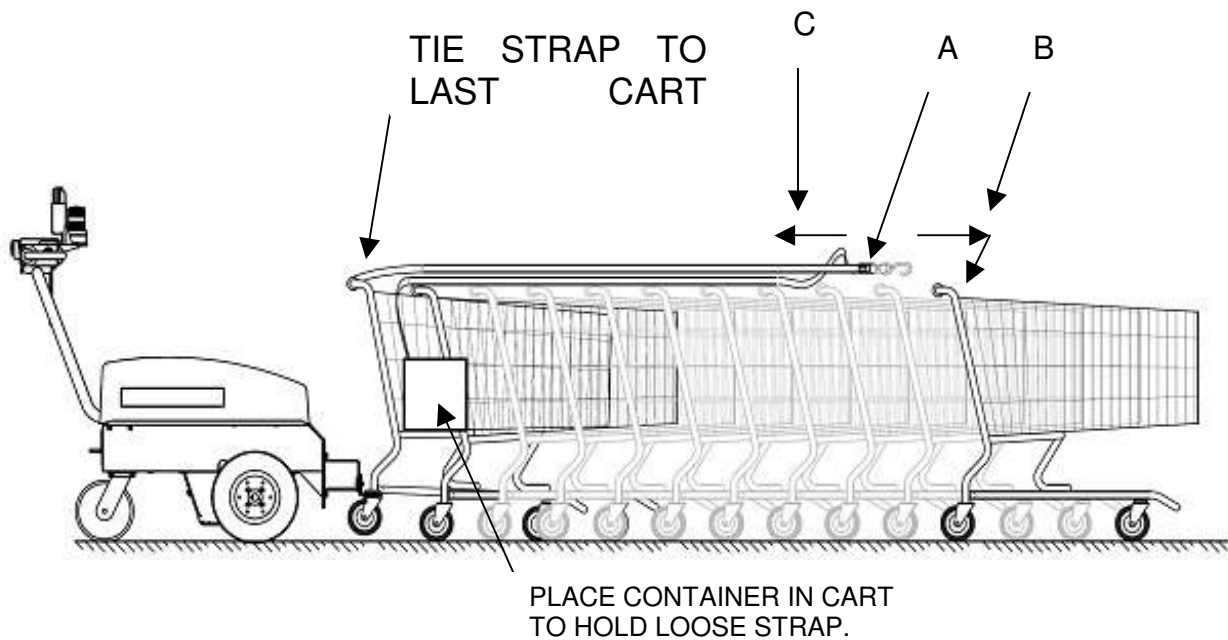
1. ARROW ON DECAL POINTS FROM BOTTOM TO TOP.

BILL OF MATERIAL				
INDEX	PART NO.	REV	DESCRIPTION	QTY
1	500-039	B	LABEL, AUTOMATIC BRAKE RELEASE	1
2	500-040	B	LABEL, AC CHARGER PLUG	1
3	500-041	A	LABEL, QK MAINTENANCE WARNING	1
4	500-191		LABEL, QUICKART MK II CONTROL PANEL	1
5	500-204		LABEL ARRAY, MK II CONTROL PANEL	1
6	500-205		LABEL, KEY SWITCH	1
7	500-206		LABEL, HORN SWITCH	1
8	500-208		LABEL, CONTROLLER/RADIO STATUS	1
9	500-209		LABEL, BATTERY LEVEL METER	1
10	500-211		LABEL, QK M3 HD BODY	2
11	500-215		LABEL, DANE TECH LOGO-QK-PAT'S	1
12	500-237		LABEL, M3/M3 HD MODEL INFO, UL	1
13	500-250	-	LABEL ARRAY, WIRING	1
14	500-240		LABEL, M3/M3 HD CONTRL PNL WIRING	1
15	500-241		LABEL, M3/M3 HD CTRL BOX	1
16	500-242		LABEL, M3/M3 HD BATTERY WIRING	1



DANE TECHNOLOGIES Inc. 7105 Northland Terrace Minneapolis, MN 55428		PHONE (763) 544-7778 FAX (763) 544-4234	
TITLE LABEL KIT, QK M3 HD BODY		SHEET 1 OF 1	
DWG PART NO. 501-028		SCALE 3/32	
DWG DATE 11-Apr-05		DRN BY ALD	
ECO 294		MATERIAL AS SPECIFIED ABOVE	
		TOLERANCES 0.XX = ±0.030 0.XXX = ±0.005 0.XX = ±0.010 ANGLE = .02 UNLESS OTHERWISE SPECIFIED	
		REV C	

QUICKART M3-M3 HD CART STRAP ACCESSORY



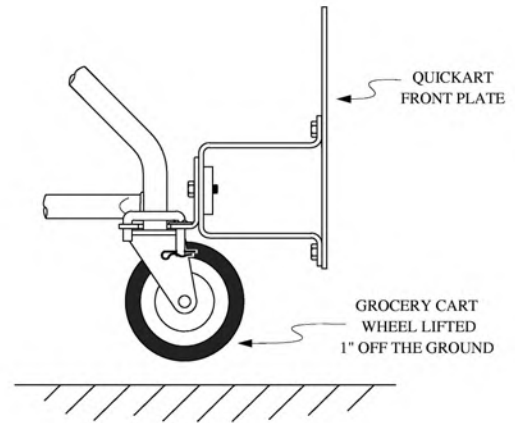
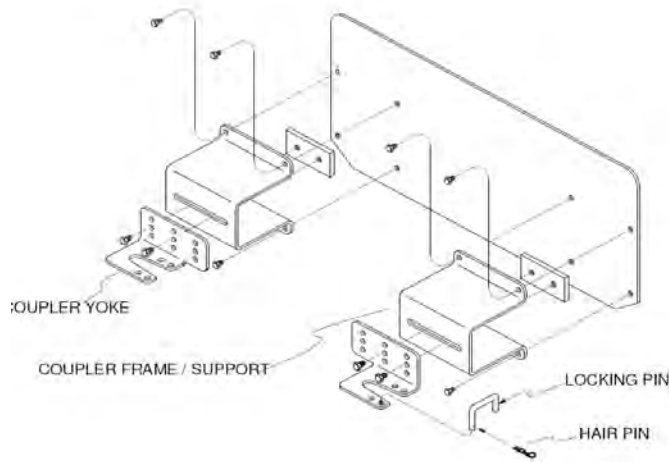
Moving strap after adding carts:

- A. Release strap latch with one hand to allow strap to slide.
- B. With other hand, remove hook from handlebar and move to added cart(s).
- C. Let go of latch. While still holding hook, pull loose end of strap to tighten.

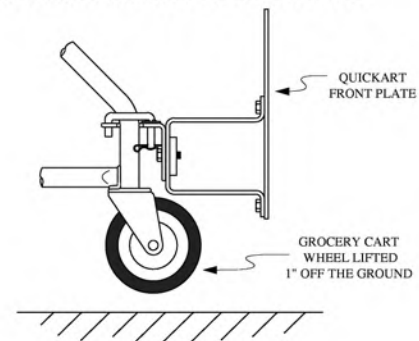
Removing carts:

1. Release strap latch with one hand to allow strap to slide.
2. With other hand, remove hook from handlebar.
3. Let go of latch. While still holding hook, pull loose end of strap repeatedly to shorten strap while walking toward QuickART.
4. Hook latch and hook assembly to side of last cart.
5. Starting with the strap end, bunch up loose strap and place in container.

CART COUPLER AND STANDARD YOKES ASSEMBLY ATTACHING THE COLLECTION CART



OPTIONAL METHOD OF CART ATTACHMENT



ATTACHING THE COLLECTION CART WITH DROP-IN YOKES



Fig 1. Affix Left (220-094) and Right (220-095) Drop-In Yokes to QuickKART as shown above using 4 Bolts (400-013) provided.



Fig 2. Use the second set of holes for best results.



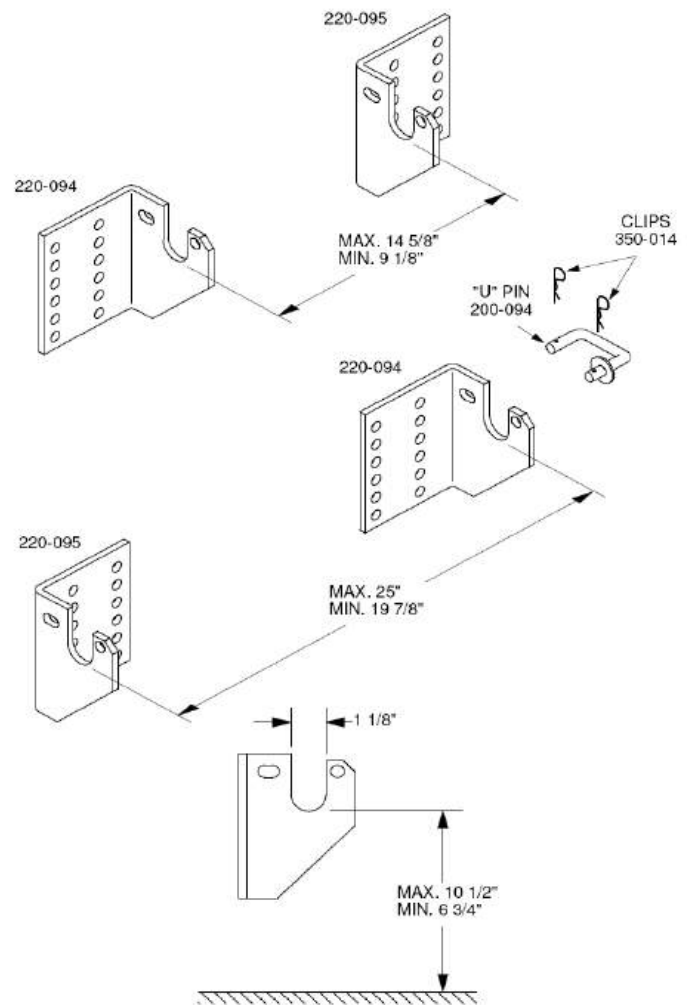
Fig 3. Style 1 Cart. Place rearmost horizontal bar in Yoke grooves.



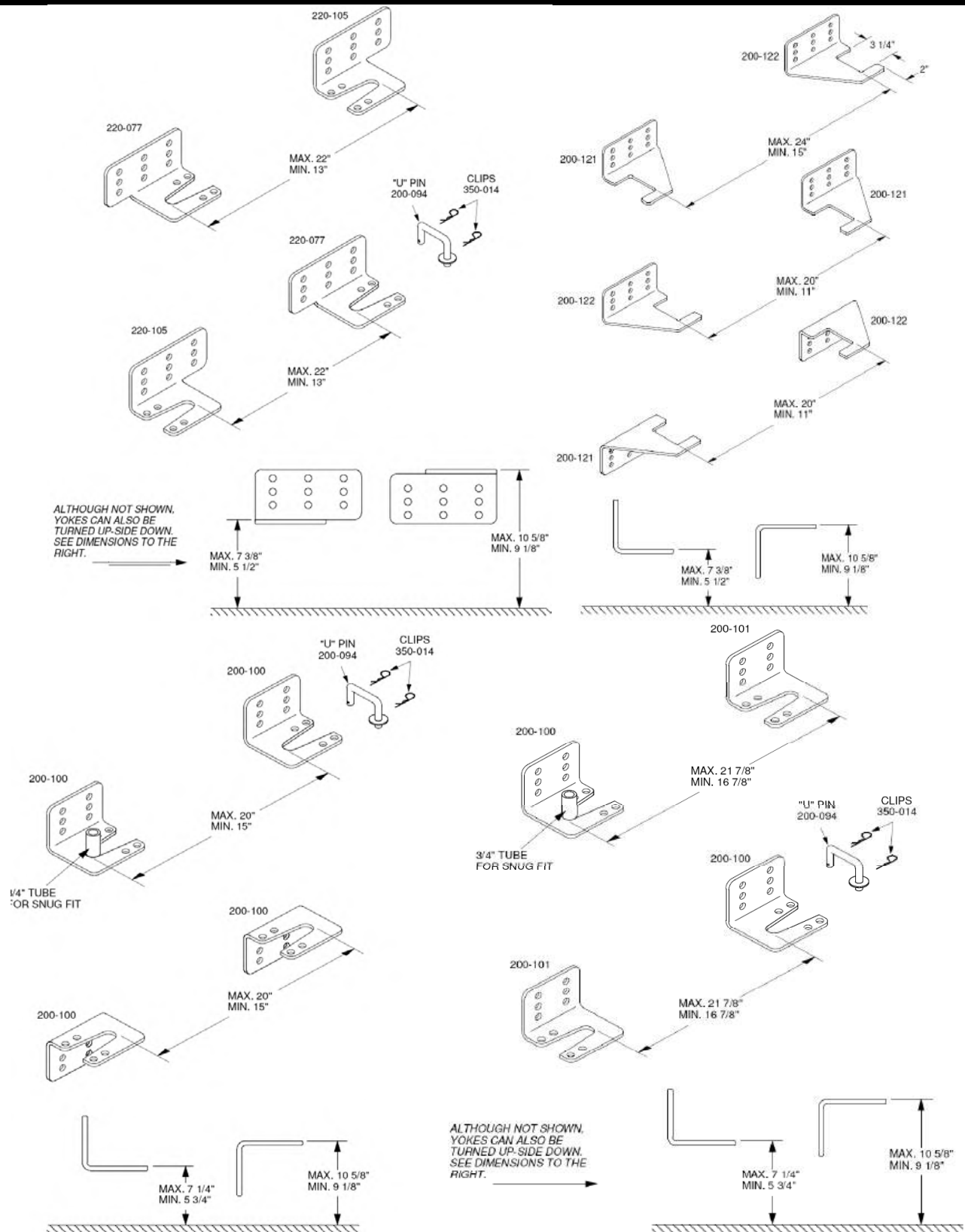
Fig 4. Style 2 Cart. Place horizontal bar in Yoke grooves.



Fig 5. Affix Locking Pins to complete Lead Cart Installation.



OTHER YOKE ASSEMBLIES



PROGRAMMING THE REMOTE CONTROL

Each hand-held remote control transmitter operates on a unique pre-programmed code. For the QuickKART to operate in the Radio Mode, the receiver must be programmed to match the hand held remote control. Every time the batteries in the remote control are replaced, the remote control needs to be reprogrammed to match the receiver. If the QuickKART stops responding to the remote control there may be something wrong with the transmitter. Check the status of the remote battery by depressing one of the remote buttons. If the green LED light on the transmitter does not illuminate, change the battery and reprogram the remote control as follows:

1. Turn the QuickKART to "**RADIO**". Hold remote about arms length from the antenna.
2. Press and continue to hold the Stop button on the hand-held remote (page 12)
3. Press the Horn button on the hand-held remote three times. (page 12) The LED on the remote changes color from green to red and flashes fast.
4. Press the Rubber button located on the underside of the CONTROL PANEL (see page 13)
5. The horn should sound twice indicating the reprogram is complete. Release the Stop button and the QuickKART is ready for operation. The remote LED should turn back to green color.

If the horn did not sound, retry the above steps making sure that the switch on the control panel is on "**RADIO**". If the horn still did not sound, you can also determine if the reprogram was successful by pressing the slow button on the remote to see if the QuickKART now responds to the remote signal.

BATTERY CHARGING

Three, 12-volt, Deep Cycle batteries power the QuickKART M3-M3 HD. Under normal usage they will power the QuickKART for 10 or more hours, when the ambient temperatures are above approximately 40 degrees F. Colder temperatures will reduce the operating time of the batteries and increase the charging time. To optimize battery power, store and charge the QuickKART in a room with a temperature of at least 50 degrees F.

To recharge the batteries:

FIRST, park the QuickKART in a well-ventilated location near an electrical outlet. The QuickKART must be turned off and the key removed. Plug the 10-foot extension cord into the connector located at the lower left rear of the QuickKART, see page 15. Use special care to ensure the extension cord is properly seated inside the connector. Failure to do so can cause improper charging or damage to the battery charger.

SECOND, connect the charger's 10-foot power extension cord into a wall receptacle. The battery charger will automatically shut off when the batteries are fully charged. This takes between eight to ten hours for fully discharged batteries.

The LEDs on the charger tell you the status of the charge process. Flashing yellow, start of charge. Solid yellow, maximum charge. Flashing green, tapering charge. Solid green, charge complete; Ready to use.

The charger continues to monitor the condition of the battery and top off the charge after the green light is on. The charger should be connected any time the QuickKART is not being used.

Make sure the power to the wall receptacle is not turned off during the nightly recharging time.

The extension cord must be unplugged before the QuickKART will move.

To put the QuickKART back into service, after the batteries are fully charged, disconnect the charger's power extension cord from the wall receptacle and from the lower receptacle at the lower left rear of the QuickKART. Store the extension cord in an appropriate location.

WARNING Do not use long extension cords. Use the 10-foot cord supplied with the machine. Find a location for re-charging that is close to an electrical outlet receptacle. If another cord must be used, it must be 16 gauge or larger and no more than 10 feet in length.

WARNING Do not plug more than one machine into an extension cord or electrical outlet receptacle, use one outlet for each machine.

QUICKART M3-M3 HD IMPORTANT MAINTENANCE NOTES

Check the QuickKART daily, for safe operation.

Routine maintenance should only be performed by those permitted by federal and state age regulations. Repairs should only be completed by Dane Technologies or an authorized service technician. Federal law requires that you must be at least 18 years old to service the batteries of the QuickKART.

General condition: Keep the QuickKART free from the accumulation of grease, dirt, and other materials.

If the QuickKART malfunctions in any way, turn it off and remove the key. Immediately report the malfunction to the appropriate store manager as well as Dane Technologies. Do not use the QuickKART until it has been repaired by an authorized service technician.

WARNING

Do not permit open flame, sparks or smoking during maintenance. Adequate ventilation is essential for safety. Do not lay metal objects on the batteries.

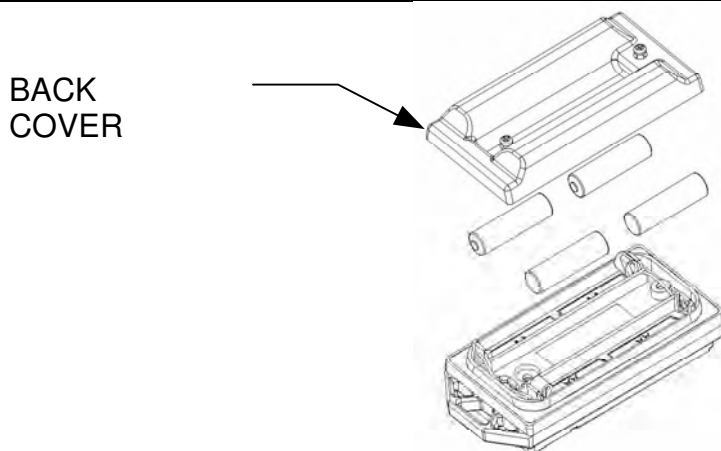
D= Daily, M= Monthly, S-A = Semi-annually, Y=Yearly >>>	D	M	S-A	Y
Inspect throttle, turn keyswitch to "Manual". The cart should not move. Check that the RH thumb wheel throttle moves freely in a CW then CCW direction. The cart should move forward then reverse.	X			
Test the parking brake system. With the keyswitch "Off", try to move the machine. The brake should keep the drive wheels from rotating.	X			
Test the Emergency shut-off button. With the keyswitch in "Manual" or "Remote", pressing the Emergency shut-off will disable all controls and stop the machine.	X			
Strobe Light: Check for damage and proper operation.	X			
Remote: Check for damage. With the keyswitch in "Remote", check operation with all buttons. The remote should operate up to 100' from the machine.	X			
Charge batteries overnight, every night.	X			
Check couplers and yokes for unsafe wear, loose or missing fasteners, and safe connection.	X			
Batteries: Inspect loose connections, frayed insulation, and corrosion. Clean away corrosion. Check charger operation, see page 24.		X		
Wiring: Inspect all wiring and electrical connections for loose connections, frayed or deteriorated insulation, exposed wire, and broken or missing hardware.		X		
Maintenance Type Batteries: Check water levels, add distilled water after charging as necessary.		X		
Check body for damage. Check all bolts, fasteners and connections for tightness and wear.		X		
Check tires and caster wheel for wear, bent rims and missing or loose lug nuts.		X		
Check the antenna for damage.		X		
Check tires and caster wheel for wear, bent rims and missing or loose lug nuts.		X		
Check the machine for damaged or missing labels.		X		
Apply grease to rear swivel wheel using a standard grease gun, two places.			X	
Check the AC charger cord for frayed or deteriorated insulation and exposed wire.			X	
Have your authorized service center check your QuickKART completely.				X

REMOTE CONTROL: BATTERY CHANGING

Refer to Diagrams below.

1. The remote control is to be taken apart only when the batteries need replacing. There are no adjustments or switches inside the module. As long as the small light on the remote is green the battery does not need replacing. If the light is red the battery does need to be replaced.
2. Before opening the remote turn off the QuickKART that had been using this remote. If another remote is being used by this QuickKART it is OK to proceed.
3. To open the remote control, place the control panel face down on a table top and use a medium size Phillips screw driver to remove the two (2) screws from the remote's back cover.
4. After the screws are removed, leave the remote face down and remove the back cover.
5. To replace the batteries, take out the old batteries and replace them with new, ensuring that the new batteries are inserted as diagramed inside the battery compartment.
6. Properly dispose of the old batteries in an environmentally correct depository.
7. Examine the inside of the remote for any signs of condensation or water. If signs of moisture are present, allow the compartment to dry fully before replacing the back.
8. Before replacing the back, ensure that the gray rectangular gasket around the edge of the battery compartment is in good condition. If the gasket is damaged, return the remote to Dane Technologies for repair.
9. Ensure that the red and black wires leading away from the battery terminals and the black wire at the opposite end of the remote are intact. If they are broken, return the remote to Dane Technologies for repair.
10. The QuickKART should be "off". Before replacing the back, ensure the remote panel light comes on when a stop button is pressed.
11. Replace the back with the two Phillips screws.
12. Reprogram the remote control as described on page 24.

REMOTE CONTROL: BATTERY CHANGING DIAGRAM



CHANGING FRONT TIRES

Turn QuickKART off and remove key.

QuickKART must be on a flat surface. Make sure the parking brake is functional and on.

Use protective eyewear at all times.

Block the opposite drive tire to stop it from rolling.

Slightly loosen the four (4) lug nuts, about 1/2 turn, from the wheel needing service. Use a 9/16-inch socket on the QUICKART M3 12-inch tires. Use a 5/8-inch socket on the 16-inch tires for the QUICKART M3 HD . **IMPORTANT:** Do not remove any of the nuts; only slightly loosen them while the wheel is still on the ground.

Use a jack to lift the front of the QuickKART off the ground approximately 2 to 3 inches.

Insert a sturdy and stable block under the frame to hold it securely in this elevated position.

Unscrew the four front wheel lug nuts and place them in a location where they will not become lost. Remove the wheel. The new or repaired wheel is placed back on the front hub with the tire stem facing out. Replace the 4 lug nuts with the beveled side toward the inside and tighten.

Using the jack, lift the QuickKART off the supporting block. Remove the block and use the jack to lower the QuickKART to the ground. Tighten the 4 lug nuts again ensuring that they are tightened to a minimum of 50 foot-pounds torque.

CHANGING REAR TIRE

Turn QuickKART off and remove key.

QuickKART must be on a flat surface. Make sure the parking brake is functional and on.

Use protective eyewear at all times.

Lift the back of the QuickKART so the rear castered wheel is approximately 2 inches off the ground. This is accomplished by using a jack under the rear frame of the QuickKART, in the center. Once the QuickKART is lifted, place a sturdy and stable block in each corner then lower the jack so the weight of the QuickKART is resting on the blocks. Also place blocks on the front wheels to keep the QuickKART from rolling.

With a 9/16" wrench, remove the four bolts holding the caster assembly to the frame.

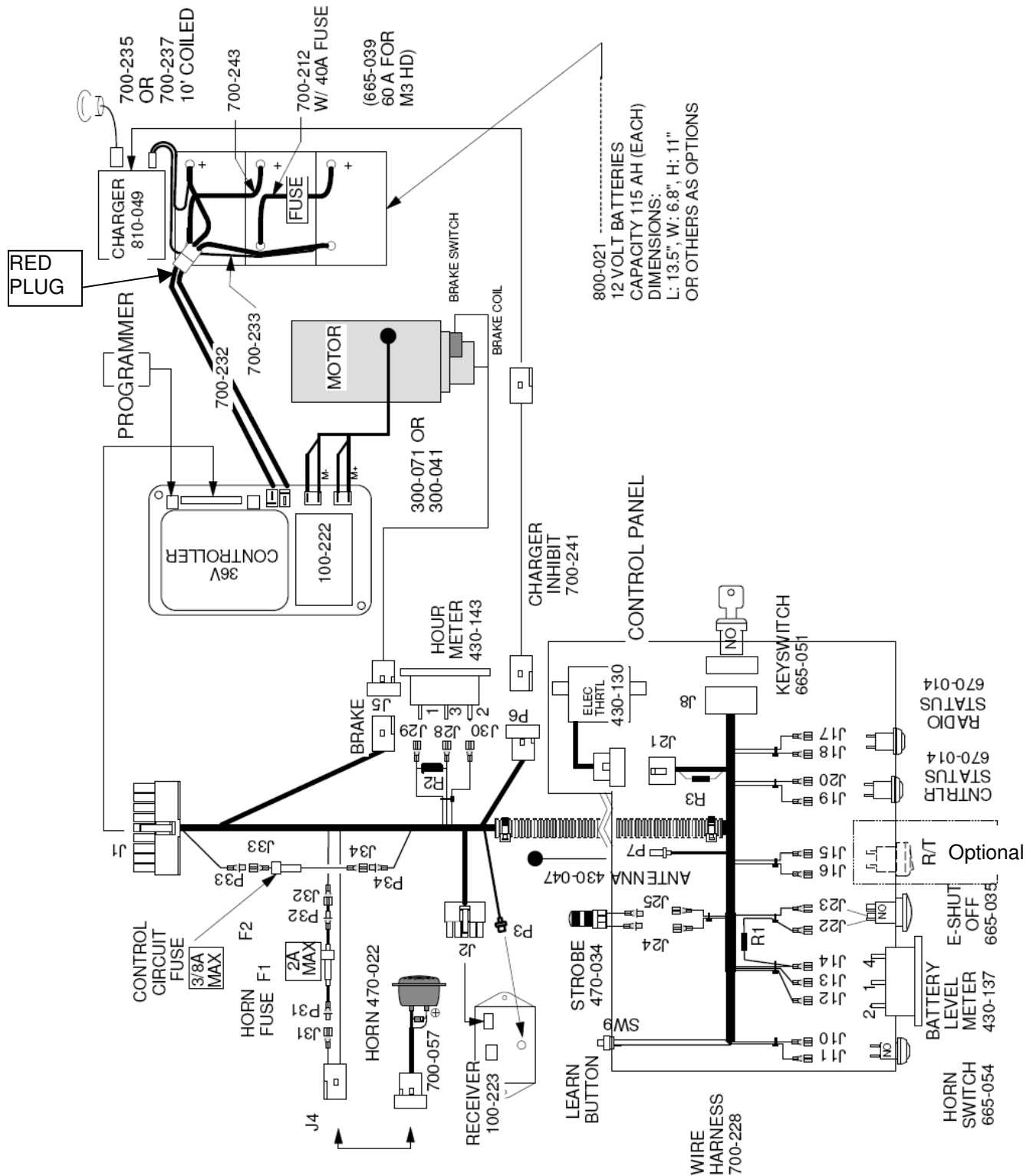
Save the hardware and use it when replacing the wheel.

When replacing the caster assembly, reuse the saved hardware. Insert bolts, apply nuts and tighten.

Using the jack, lift the QuickKART off the supporting blocks, remove the blocks then lower the QuickKART to the ground.

Note: Variations in the hardware configuration may occur. Save all hardware and use it as it was removed when replacing wheel.

SYSTEM WIRING DIAGRAM



TECHNICAL SPECIFICATIONS

Weight (with batteries)	485 pounds (220 kg) [QK M3] 500 pounds (227 kg) [QK M3 HD]
Length	50 inches (1.97 meters)
Width	27.25 inches (1.07 meters) [QK M3] 27.5 inches (1.08 meters) [QK M3 HD]
Height (to handles)	38.5 inches (1.52 meters) [QK M3] 40.5 inches (1.59 meters) [QK M3 HD]
Height (to top of strobe) [QK M3]	45 inches (1.77 meters) [QK M3] 47 inches (1.85 meters) [QK M3 HD]
(with breakaway extended strobe) [QK M3]	52 inches (2.05 meters) [QK M3] 54 inches (2.13 meters) [QK M3 HD]
Front wheel tread	22 inches (.87 meters) [QK M3] 22.5 inches (.88 meters) [QK M3 HD]
Wheel base	21.5 inches (.85 meters) forward 16 inches (.63 meters) reverse
Inside turning radius	less than 2 feet (.94 meters)
Tires, front 3.50/4.10 x 6 4.80 x 8	12 inches (.47 meters) diameter [QK M3] 16 inches (.63 meters) diameter [QK M3 HD]
Tires, rear	8 inches (.31 meters) diameter
Chassis	Welded steel with powder coating
Body	ABS Plastic
Safety:	40 Amp fuse on QK M3 60 Amp fuse on QK M3 HD Automobile type horn Strobe warning light Emergency shut-off switch Automatic brake Unique Radio security code
Brakes	Spring applied, electrically or manually released
Electrical system	Three 12-volt batteries, 115 amp hours each
Charger	Input 120 VAC 36 VDC, 15 amperes max.
Speed----- Forward	0 – 3.1 MPH max. (programmable)
----- Reverse	0 – 1.0 MPH max. (programmable)
----- Radio SLOW	1.0 MPH
----- Radio FAST	2.7 MPH

REMOTE CONTROL:

Power Requirement: 4 Standard 1.5 volt AA radio batteries,
Range: 100 feet maximum



DECLARATION OF CONFORMITY

The EU Directives covered by this Declaration:

Electromagnetic Compatibility Directive, 89/336/EEC Council Directive as amended by Council Directive 92/31/EEC & 93/68/EEC
Low Voltage Directive 73/23/EEC
Radio & Telecommunications Terminal Equipment Directive, 1999/5/EC

The Basis Upon Which Conformity Is Being Declared:

The products identified above comply with the requirements of the above EU directives by meeting the following standards:

CENELEC EN 55022: 2003
ETSI EN 300 220-3 (2000-09)
ETSI EN 301 489-1 V1.4.1 (2002-08)
ETSI EN 301 489-3 V1.4.1 (2002-08)
ETSI EN 300 220-3 V1.1.1 (2000-09)
CENELEC EN 50371: 2002
CENELEC EN60335-1
BSI BS EN12895:2000

The Products Covered by this Declaration:

QUICKART M3
QUICKART M3 HD
QUICKART M3/M3 HD – INDUSTRIAL

Date and Place of Issue of Declaration of Conformity:

Dane Technologies
7105 Northland Terrace
Brooklyn Park, MN 55428

Manufacturer:

Same as Above

Authorized Representative/Distributor in Europe:

Dean Rolland, Managing Director
Symonds
Wern Trading Estate
Rogerstone, Newport
NP10 9XX

Signature

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directives and Standards. The CE mark was first applied in: 2006

Signed James Wiff, Sr. Vice President - Engineering, Dane Technologies.



QUICKART WARRANTY

- 1) **Parts:** One (1) Year Limited Warranty from date of shipment.
- 2) **Labor:** Ninety (90) Day Limited Warranty from date of shipment.
- 3) **Batteries:** Covered by the manufacturer's warranty.

PARTS – Limited Warranty

All parts except batteries (covered by battery manufacturer's warranty), tires, and circuit breakers needing resetting are warranted by Dane Technologies to be free of defects in material and workmanship for a period of one (1) year from date of shipment. This warranty **does not include** tire wear or wear and tear caused by abuse, negligence, freight damage or damage caused by improper use or care, or by external sources such as fires, floods or other acts of God.

Should any component fail during the first year of ownership except those mentioned as not under warranty, the component in question is to be returned to Dane Technologies or to an authorized Dane Technologies representative for inspection. If the component has failed due to a defect in material or workmanship, it will be exchanged or repaired at the discretion of Dane Technologies at no charge to the QuickKART owner.

Dane Technologies, Inc. will cover the costs of shipping parts covered under warranty to the customer based on UPS standard ground rates.

2) LABOR – Limited Warranty

Dane Technologies will cover labor charges for work performed in the field for ninety (90) days from the date of shipment as a result of defects in materials or workmanship. Charges incurred for failure to charge and maintain the batteries in the QuickKART or change the battery in the hand held remote are exempted. Non-warranty service performed during the same visit as for warranty service is not covered by the warranty.

2/20/06



QUICKART M3-M3 HD TRAINING MANUAL

Prepared by Dane Technologies
Rev. Date: 5-19-06

QUICKART M3-M3 HD OPERATOR TRAINING MANUAL

BASIC INFORMATION

Purpose of QuickKART: The task of collecting shopping carts from the parking lot and returning them to the cart storage area/room is a job that can be time consuming, monotonous and expose associates to injuries such as sprains and strains. The QuickKART is a battery powered machine that assists in the collection of shopping carts. By utilizing the QuickKART to collect shopping carts the collection process becomes more efficient, enjoyable and greatly reduces the need for associates to manually push carts.

Trainer's Guide: The Trainer's Guide which follows is designed to provide a step by step approach to presenting a QuickKART Operator Training and Certification Program for employees. This guide will aid you in training associates on the proper operation of the QuickKART.

Operator Requirements: Those employees who may be expected to operate the QuickKART must be trained and authorized to operate it before being permitted to use it. Successful completion of the training program and quiz shall qualify as being trained and authorized.

No one under the age of 16 years old may be permitted to operate the QuickKART. Do not operate the QuickKART unless you meet the minimum operator requirements set down by federal and state regulations, and corporate policy.

Any associate involved in an accident or injury involving the QuickKART must be retrained.

Training: Training is an important way of making sure all associates understand how the QuickKART operates and how to use it to collect shopping carts from the parking lot.

There are several different ways we can learn. Some people learn more quickly from watching a videotape or DVD, and reading while others may require hands on training and/or more time and attention. Take the time to answer all questions and clarify the material.

Training Documentation: The Operator Training Program includes a Quiz and Performance Skills Certification. Those associates who successfully pass both of these sections are permitted to operate the QuickKART. Copies of this documentation are to be kept in the associate's personnel file/training file.

Maintenance Requirements: Those associates who may be expected to perform routine maintenance must review the Owner's/Operator's Manual and follow instructions outlined in the manual for each task.

Following Routine Preventative Maintenance Procedures as outlined in the QuickKART Owner's Manual will help prevent mechanical breakdown and costly repairs.

TRAINER'S GUIDE

Program Preparation: The following items should be considered when preparing for the QuickKART Training Program:

1. Obtain a quiet area/room in which to conduct the training. Ensure that the temperature is comfortable and area is well ventilated.
2. Schedule the training session and be sure all participants are notified either in writing or verbally.
3. Assemble the following materials:
 - Color TV/Monitor.
 - VHS Player/DVD player.
 - Dane Technologies QuickKART Training Video / DVD.
 - Pencils.
 - Sufficient copies of Quiz for QuickKART Training
 - Best Cart Collection Route for your store.
 - OPTIONAL: Transparency of Quiz Answer Key
 - OPTIONAL: Overhead.
4. Review the following material:
 - Basic Information regarding QuickKART Operator Training
 - Training Script for QuickKART
 - Dane Technologies QuickKART Training Video / DVD.
5. The trainer needs to be familiar with the QuickKART and comfortable with the actual operation and use of the QuickKART.
6. Practice presenting the program if you have not done it before or if it has been a considerable length of time since you last presented it.

Presentation:

1. Set-up and test the TV, VCR/DVD and videotape/DVD before the training session is scheduled to begin. Be sure the videotape is rewound.
2. Prepare all materials and set-up chairs and tables so that they are arranged appropriately.
3. Remember to encourage associates to take an active role in their learning.

CLASSROOM TRAINING SCRIPT:

Welcome:

I would like to thank you for coming to this training.

Introduction:

During the next hour you will be learning how to operate the QuickKART, which is an electronically powered shopping cart collection machine.

Purpose of Machine:

The purpose of the QuickKART is to make the cart collection process easier, more efficient and enjoyable.

Review of Topics:

As part of this training we will:

1. View a videotape/DVD on the operation of the QuickKART which is approximately 12 minutes long.

2. Briefly discuss some specific operating procedures for the machine.
3. Take a quiz on the proper operation of the machine.
4. Review proper answers to the quiz.
5. Go outside and show you how to run the machine, have each of you operate it and then qualify you on the operation of the QuickKART.

Videotape Introduction: To begin, let's view a videotape/DVD that was provided by Dane Technologies, which is the developer of the QuickKART. The video will introduce you to the machine and show you how to properly operate it.

Play Tape / DVD: (Dim lights and present videotape/DVD).

Summarize Important Operating Practices: The videotape addressed those things you need to know in order to operate the machine properly and safely. However, there are some operating issues we feel are worth repeating as well as some additional operating procedures that need to be addressed.

QUICKART M3-M3 HD IMPORTANT OPERATING PROCEDURES

Review of procedures for trainees:

1. Before operating the QuickKART, check to be sure all tires look in good condition, check that the light is flashing, steering is ok and parking brake works. If any problems are identified, do not operate machine--remove key and notify supervisor.
2. When proceeding down a sloped lot with a chain of carts, walk to the side of the front cart and hold back on the lead cart or use strap to prevent carts from separating. Proceed at a pace that will allow you to stop carts fairly quickly should the need arise.
3. Never stand or walk in front of carts being pushed or attempt to stop carts by standing in front of a chain of carts.
4. When passing through a narrow area with chain of carts, allow enough room between carts and any fixed object so that you don't become wedged between them.
5. Never allow anyone to ride on shopping carts when collecting carts. Slowly stop the QuickKART and politely ask the person to get off.
6. When approaching employees or customers with a chain of carts, slow down and allow them to pass where possible; otherwise, politely indicate, "Excuse me please, cart collection passing through. Thank you."
7. The person who is directing the chain of carts must always be in possession of the remote control transmitter and in control of the speed of the QuickKART and chain of shopping carts.

8. Never attempt to “steer” a line of carts by using the handlebar on the machine. Always use the remote control and lead from the front when two or more carts are loaded at the front of the QuickKART.
9. If for any reason the QuickKART does not stop properly or is not completely under your control, press the Emergency shut-off button on the control panel, remove key and notify your supervisor immediately.
10. When battery level on the QuickKART control panel indicates 20% or less, drive it to the designated parking area and plug it into the electrical receptacle for recharging. This will help to keep the batteries charged. Parking area must be in a large, well-ventilated area to prevent buildup of explosive hydrogen gas. Do not smoke or permit any open flame or spark sources nearby when charging batteries. The unit may be charged at any time it is not being used.
11. If the remote control unit for the QuickKART does not work, check to be certain the QuickKART mode is set for Remote. If it still does not work the batteries may need to be replaced. Last, make sure that the hand held remote is programmed to the machine.
12. Remember when collecting carts and returning them to the store that you physically have to steer and stop the carts. Adjust your speed so that you maintain control of the carts and can react quickly to pedestrian and vehicle traffic.
13. As you turn corners from the front of the line of carts, make sure that the QuickKART clears objects such as curbs or posts.
14. The speed of the QuickKART in the Manual Mode is determined by how far you turn the thumb wheel throttle. Braking is done by releasing the thumb wheel throttle. The quicker you release the throttle the faster the QuickKART stops.
15. Upon approaching the cart storage room/area with a chain of shopping carts, stop using the QuickKART to push the carts and manually push no more than 10 carts or the corporate policy at a time through the cart room door(s) and into the cart room. Do not use the QuickKART to push the carts through the cart room door as this can be a congested or narrow area.
16. Avoid blocking the drive lane areas with shopping carts. Select an approach to the cart room that won’t cause shopping carts and the QuickKART to protrude into the drive lane when stopped and manually pushing carts into the cart room.
17. Always use caution on wet or slippery pavement. Stopping distances are greater and the risk of slip and falls increase. In these conditions, reduce the number of carts to a number that can be managed safely.
18. Always operate the QuickKART safely and courteously. Do not assume that drivers or pedestrians will see you and stop.

QUICKART M3-M3 HD WARNINGS AND SAFETY NOTES

The manufacturer of the QuickKART provides the following warnings and safety notes:

1. When the QuickKART is to be left unattended or in storage, always turn the key to the “off” position and remove the key. Also, do not leave the QuickKART unattended while in Remote Mode.
2. Operate the machine only as fast as safety considerations will allow, taking into consideration the location of store entrances, driveways and parking lot layout.
3. Always take operating conditions, such as wet or slippery pavement, into consideration. Do not push more carts than the individual operator can safely control given those conditions. Do not exceed 30 carts under any conditions.
4. Do not drive off from curbs or edges of hardened surfaces of over 1 inch high.
5. Do not use long extension cords. Use the 10-foot cord supplied with the machine. Find a location for re-charging that is close to an electrical outlet receptacle. If another cord must be used, it must be 16 gauge or larger and no more than 10 feet in length.
6. Do not plug more than one machine into an extension cord or electrical outlet receptacle, use one outlet for each machine.
7. Only one operator should operate the QuickKART at any time.
8. During Manual operation, the operator of the QuickKART must stand behind the QuickKART. Never ride on the QuickKART.
9. During manual operation, do not attempt to turn the machine from the rear when pushing more than one shopping cart.
10. Always look behind the QuickKART before and while operating in reverse.
11. The QuickKART is intended to push shopping carts. Any other use of the machine is prohibited unless specifically endorsed by the manufacturer.
12. Hydrogen gas is formed when charging the batteries. Use adequate ventilation when charging batteries. Never smoke near batteries. Do not charge batteries in an area with open flame or around electrical equipment that could cause an electrical arc.
13. **Even though you likely won't be performing maintenance of the QuickKART you should still know that the battery cable, with the red connector, must be disconnected any time maintenance is being performed under the cover!**

14. The electrolyte in a storage battery is an acid which can cause severe burns to the skin and eyes. Treat all electrolyte spills with an extended flushing with clear water. Contact a physician immediately. Always use protective eyewear, (chemical splash goggles or face shield), when handling the batteries.
15. Do not lay any metal objects, wrenches, screwdrivers, etc., on any of the batteries to prevent electrical short circuits.
16. Wear appropriate protective clothing when working with batteries. Electrolyte can cause severe burns to the eyes, skin and clothing.
17. Batteries are heavy. Proper care must be taken when lifting to avoid injury.
18. Improper usage and operation of the QuickKART may void the warranty.

Question and Answer:

Are there any questions?

Collect Handouts:

(If handouts provided collect them at this time for reuse at next training session).

Quiz:

If no other questions, I will pass out a quiz that I would like you to complete. Please be sure to write you name, store location and date on the quiz.

When you are finished with the quiz, please turn it over and wait until everyone is done with it.

Correct Quiz:

Since everyone is done with his or her quiz, please switch quizzes with a person next to you or behind you. (If only one associate is being trained, correct the answers as you review them with the associate.) As we review the quiz, please correct the one you have. (Use Answer Key).

Review Best Answers to Quiz:

Add Score:

Please add up the number of correct answers and write it at the top of the quiz.

Collect Quizzes:

(Collect and keep quizzes at hand for follow-up procedure after hands-on training. Remember to take the quizzes with you for the demonstration and performance training section).

Review Cart Collection Route for Store:

This cart collection shows the suggested routes that should be taken for this store for ease of returning carts to cart room and avoid blocking the drive lane. Note the pattern and direction of approach to cart room. As you become proficient with the cart collection process you may find alternative collection routes that work equally as well or better.

Proceed to Cart Room or where the QuickKART is stored:

At this point; I need everyone to proceed to the front cart room where I will show you how to run the machine.

DEMONSTRATION TRAINING SCRIPT:

**Show How To Turn The Machine On:
Perform Actual Inspection of QuickKART:**

In order to start the machine the key switch located on the control panel is turned clockwise.
As indicated in our training; check tire wear, check that flashing light works, check charge level, and check braking before moving off.

**Show the Location of The Throttle:
Drive Machine to Cart Corral:
Explain How to Connect Cart to Cart Coupler:**

With the machine set in the Manual Mode by twisting the thumb wheel throttle the machine will move forward.
If you will follow me as I drive over to the cart corral I will continue to show you how the machine operates.
In order to connect a shopping cart to the cart coupler, lift up on the rear of the cart and slide rear legs of the cart into slots on the cart coupler and place the locking pin in the closed position so that it securely holds the shopping cart in place.

Remote Control Transmitter:

At this point rotate the keyswitch to "Remote" the QuickKART Control Panel. **Note:** *As a safety feature, rotate the keyswitch to "Off" for 1 second before rotating to "Remote". Rotating the keyswitch immediately from "Manual" to "Remote" or back will cause a fault and require the keyswitch be turned "Off" for 1 second.*

Collect carts and nest them into the cart/chain of carts on the front of the QuickKART.

Explain and Physically Direct Carts to Next Cart Corral:

While standing to the side of the lead cart, put your thumb over the turtle switch on the hand held remote control. Press turtle to start the chain of carts moving forward and quickly slide your finger over to the rabbit switch to increase the speed of the machine as conditions permit.

Stopping:

As you approach your destination, slide your finger back to the turtle button or just let your finger off the button. Remember that you need to hold back the lead cart since you are acting as the brake for the chain of carts. To make the QuickKART stop faster you can press the stop button on the remote control. However, you will still need to hold back the carts.

Quick Stop:

Collect Maximum of 30 Carts:

We continue to add up to 30 carts. If the slope of the lot is steep or snow or ice has accumulated, limit the carts to a manageable number.

Proceed to Cart Room:

Since we now have a large chain of carts we will proceed back to the cart room.

Show and Explain How To Get Carts Inside:

Now that we are just outside the cart room, we need to stop using the QuickKART and proceed with manually pushing a maximum of ten (10) at time into the cart room. You can still use the QuickKART to advance the chain of shopping carts up to the cart room doors.

Back-Up Machine:

To back up the QuickKART, rotate the keyswitch to manual, rotate the RH thumb wheel throttle counter-

**Explain How to Switch
To Forward:**

clockwise to back up. Looking backward, back it up until you can proceed forward.
To go forward, rotate the RH thumb wheel throttle clockwise.

New Cart Collection Cycle:
cycle.

You are now ready to perform another cart collection

**Disconnect Cart from
Cart Coupler:**

Once we have gotten all the carts in the cart room and are done for the shift, disconnect the cart from the cart coupler using the reverse of the procedure used to connect it.

Charging:

(Show where QuickKART is parked and how to charge the batteries.)

PERFORMANCE TRAINING:

Hands-On Training:

Have each trainee go through an entire cart collection process while you observe to be sure each person can operate the machine properly. If unable to perform the process competently, show them the process once again and then recheck. Use the Performance Training Check-Off on the bottom of the quiz to document results of each trainee's operation of the QuickKART.

FOLLOW-UP:

Check the quiz and ensure each associate passed with an 80% score or better. If not, those associates need to repeat the training. Answering 13 or more questions correctly is a score of 80% or better.

Be sure you record on the bottom of the associate's quiz whether they displayed the ability to operate the QuickKART based on their hands-on training.
Place quiz in associate's personnel file.

QuickKART M3 and M3 HD Preventive Maintenance

Date: _____
 Store: _____
 Location: _____

Meter Hours: _____
 Labels Condition: _____
 Serial Number: _____

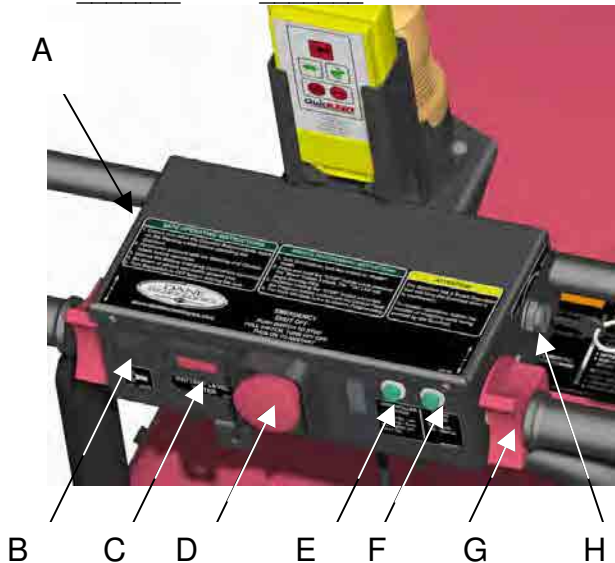
D= Daily, M= Monthly, S-A = Semi-annually, Y=Yearly >>>	D	M	S-A	Y	OK
Inspect throttle, turn keyswitch to "Manual". The cart should not move. Check that the RH thumb wheel throttle moves freely in a CW then CCW direction. The cart should move forward then reverse.	X				
Test the parking brake system. With the keyswitch "Off", try to move the machine. The brake should keep the drive wheels from rotating.	X				
Test the Emergency shut-off button. With the keyswitch in "Manual" or "Remote", pressing the Emergency shut-off will disable all controls and stop the machine.	X				
Strobe Light: Check for damage and proper operation.	X				
Remote: Check for damage. With the keyswitch in "Remote", check operation with all buttons. The remote should operate up to 100' from the machine.	X				
Charge batteries overnight, every night.	X				
Check couplers and yokes for unsafe wear, loose or missing fasteners, and safe connection.	X				
Batteries: Inspect loose connections, frayed insulation, and corrosion. Clean away corrosion. Check charger operation, see page 24.		X			
Wiring: Inspect all wiring and electrical connections for loose connections, frayed or deteriorated insulation, exposed wire, and broken or missing hardware.		X			
Maintenance Type Batteries: Check water levels, add distilled water after charging as necessary.		X			
Check body for damage. Check all bolts, fasteners and connections for tightness and wear.		X			
Check tires and caster wheel for wear, bent rims and missing or loose lug nuts.		X			
Check the antenna for damage.		X			
Check tires and caster wheel for wear, bent rims and missing or loose lug nuts.		X			
Check the machine for damaged or missing labels.		X			
Apply grease to rear swivel wheel using a standard grease gun, two places.			X		
Check the AC charger cord for frayed or deteriorated insulation and exposed wire.			X		
Have your authorized service center check your QuickKART completely.				X	

Any other problems, Comments:

QUICKART M3-M3 HD QUIZ

Your Name: _____ Date: _____ Store Location: _____

- The approximate maximum number of shopping carts that should be pushed by the QuickKART is:
A. 10 B. 20 C. 30 D. 50
- While directing a chain of carts using the QuickKART, the operator should walk to the side of the lead cart and hold it back to prevent the carts from separating and also enable them to be stopped promptly. True _____ False _____
- The QuickKART can be used to push a chain of shopping carts into the cart room.
True _____ False _____
- When approaching customers or employees with a chain of carts being pushed by the QuickKART proceed toward them at your normal operating speed. True _____ False _____
- During manual operation, the brake on the QuickKART is applied by releasing the throttle grip. True _____ False _____
- Before beginning to use the QuickKART, be sure to check (select only one)
A. The condition of the tires. D. Flashing light is working.
B. Battery charge level is greater than 20%. E. All of the above.
C. Brake for proper operation.
- When manually operating the QuickKART, it's acceptable to operate several carts attached to the front of the machine. True _____ False _____
- The QuickKART can be driven off curbs and on grass surfaces. True _____ False _____
- It is OK to leave the QuickKART unattended without removing the key.
True _____ False _____



For each item below, identify its location on the control panel in Figure 1 and write the appropriate letter next to the item.

ITEM DESCRIPTION

Letter

- Thumbwheel
- Key Switch
- Battery Level Meter
- Status Light
- Horn
- Emergency Shut-Off
- Programming Button

Number Correct:

STOP

To be completed by trainer.

PERFORMANCE TRAINING

Observe the associate perform the following tasks and indicate if he/she displayed acceptable operation. For successful completion of training associate must display ability to properly perform all three operating tasks:

Control Panel Use

Ok _____ Unacceptable _____

Manual Operation of QuickKART

Ok _____ Unacceptable _____

Cart Collection in Remote

Ok _____ Unacceptable _____

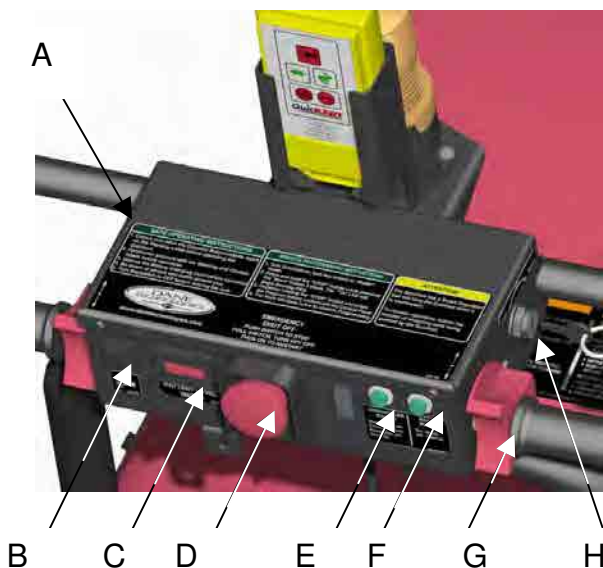
Trainer: _____ Date: _____

If performance training was not successfully completed, do not allow the associate to operate machine on their own until retrained and re-evaluated. If re-evaluated, make note below.

Note: _____

QUICKART M3-M3 HD QUIZ ANSWERS

1. The approximate maximum number of shopping carts that should be pushed by the QuickKART is: A. 10 B. 20 **C. 30** D. 50 Check Store Policy max number.
2. While directing a chain of carts using the QuickKART, the operator should walk to the side of the lead cart and hold it back to prevent the carts from separating and also enable them to be stopped promptly.
True **X** False _____
3. The QuickKART can be used to push a chain of shopping carts into the cart room. True _____ False **X**
4. When approaching customers or employees with a chain of carts being pushed by the QuickKART proceed toward them at your normal operating speed. True _____ False **X**
5. During manual operation, the brake on the QuickKART is applied by releasing the throttle grip. True **X** False _____
6. Before beginning to use the QuickKART, be sure to check (select only one)
A. The condition of the tires. D. Strobe light is working.
B. Battery charge level is greater than 20%. **E. All of the above.**
C. Brake for proper operation.
7. When manually operating the QuickKART, it's acceptable to operate several carts attached to the front of the machine. True _____ False **X**
8. The QuickKART can be driven off curbs and on grass surfaces. True _____ False **X**
9. It is OK to leave the QuickKART unattended without removing the key. True _____ False **X**



For each item below, identify its location on the control panel in Figure 1 and write the appropriate letter next to the item.

ITEM DESCRIPTION

10. Thumbwheel
11. Key Switch
12. Battery Level Meter
13. Status Light
14. Horn
15. Emergency Shut-Off
16. Programming Button

Letter

- | | |
|-------------------------|------------|
| 10. Thumbwheel | G |
| 11. Key Switch | H |
| 12. Battery Level Meter | C |
| 13. Status Light | E,F |
| 14. Horn | B |
| 15. Emergency Shut-Off | D |
| 16. Programming Button | A |

Number Correct: _____

QUICKART QUIZ ANSWER KEY

	<u>NUMBER</u>	<u>CORRECT ANSWER</u>
1.	C	(Approximately thirty (30) carts maximum) Always check corporate policy for maximum number.
2.	TRUE	(Always stand to the side, never in front and hold back on the lead cart.)
3.	FALSE	(Upon reaching the cart room doors, manually push a maximum of 10 carts into the cart room.)
4.	FALSE	(Slow down and wait for them to pass and make presence known)
5.	TRUE	(The twist grip throttle controls speed and braking)
6.	E	(Tires, battery charge, steering and brakes and strobe light)
7.	FALSE	(Only operate manually with one attached cart.)
8.	FALSE	(This could damage machine and is not a safe practice)
9.	FALSE	(Machine must be turned " OFF " and remove the key)
10.	G	(Thumbwheel)
11.	H	(Key Switch)
12.	C	(Battery Level Meter)
13.	E, F	(Controller Status Light, Radio Mode Light)
14.	B	(Horn)
15.	D	(Emergency Shut-off)
16.	A	(Programming Button)

Thirteen or more correct answers produces a score of 80% or better.



DANE TECHNOLOGIES

SERVICE BULLETINS — QK M3

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QuickKART M3-M3 HD System Configuration (985-034)

QK M3 – M3 HD SYSTEM CONFIGURATION

Service Bulletin — #985-034

February, 2006

The QK M3 and QK M3 HD are powerful battery powered machines that use remote control to push shopping carts from the parking lot back to the store.

1. The QuickKART is driven by an **electric motor** through three (3) 12-volt batteries connected in series (36 volts).
2. There is a single 8-inch **castered wheel** in back of the machine, which swivels and rotates when the machine turns. This wheel is of solid rubber construction and rides on roller bearings, which should be greased at least every six months.
3. The **drive axle** is one integrated assembly containing three (3) major components: the DIFFERENTIAL AND AXLE HOUSING (output shafts), the MOTOR, and the BRAKE ASSEMBLY. In general any one of these three components can be replaced separately.
4. The **axle output shafts** are one-inch in diameter and are driven by a differential gear box located near the center of the axle housing. The system is sealed with lifetime lubrication.
5. The **drive motor** is rated at 36 volts D.C. and is capable of a peak of approximately 2 horsepower. The motor is rated for continuous duty at 1.28 horsepower. The motor drives the axle shafts with ratio of 30.87:1.
6. A **brake** is located on the end of the motor, held in place with two 8/32 x 2.1 inch long, cap screws. The brake assembly contains three major components:
7. A micro-switch is mounted on the end of the circular brake housing which detects the position of the manual release arm. When the machine is in normal operation,

the switch is closed. When manual brake release lever, inside the lower right side of the machine, is pulled to the rear, this switch will open and electronics will shut down, preventing the machine from operating without the braking feature. Note: Pulling this manual release lever will keep the brake assembly from locking the motor, allowing the operator to be able to push the machine manually while the QuickKART is turned off. While pushing the QuickKART with the brake released, the motor burns off generated voltage through occasional braking. This can be avoided by pushing the QuickKART slowly.

8. The second and third parts of the brake are an electro-magnet (63 ohms for the QK M3) and the brake disks; a moving metal disk plus a fiber brake disk. The fiber disk has a hexagon center which mates with a hexagon shaft on the end of the motor. Two screws hold the brake assembly to the back bell housing of the motor. This arrangement means the braking action is through the differential gear box. With the lever in a counter-clockwise rotation, viewed from the end, the brake pad is pressed between a fixed and movable plate in the brake housing. When 36 volts are applied to the brake coil, the movable plate releases the brake pad and allows it to turn with the motor. In the QK M3, battery voltage is used to release and a constant 16 volts is used hold the brake.
9. **The frame** is of a one-piece welded construction, using 7-gauge and 1/4" steel. The welded assembly is black powder coated. Most of the bolt holes in the frame are tapped so nuts are not required.
10. Attached to the underside of the frame is a **transaxle support plate**. This plate protects the motor/axle assembly from contamination and impacts when driving over curbs or running over objects. The end plates must be removed if any of the motor/axle parts are to be serviced or replaced.
11. The front **drive wheels** of the QK M3 are 12 inches in diameter with four 5/16-18 bolts holding it to an aluminum hub. The hub is clamped and keyed to the axle. These drive wheels are available as either pneumatic or foam-filled: saw tooth, knobby, tractor, or snow lugs. Tire chains, for traction on ice, are also offered.
12. The standard batteries are deep cycle, maintenance, group 27, rated at 180 minutes of reserve capacity. Other batteries are available.
13. The **strobe** light remains flashing whenever the machine's key switch is turned "on" unless the emergency shut-off switch has been pressed. Re-cycling the key will restart the machine. The strobe light will operate when the manual brake release lever is pulled out. The strobe light bulb can be reached by unscrewing the colored lens.
14. The **radio** system is one of the more sophisticated aspects of the machine. It deals with 4 separate commands (control functions) of which only one-at-a-time is allowed: Stop, Slow, Fast or Horn.
15. The **hand-held remote** has a separate button for each of the four functions. When a button is pressed, an encoded 433 MHz radio signal is sent by the remote and picked up by the receiver. The remote operates on four AA batteries that should have a life of 2 to 3 months under normal conditions. Each hand held remote has a unique built in identification code. To "program" a receiver, one stop button is pressed and held. Next press the horn button three times until the LED light flashes red, fast then press a small button on the left hand bottom of the control panel box. Once the receiver is matched to a specific remote the horn beeps twice, no other

remote will cause it to operate. Then release the stop button. If the remote is changed, the receiver must be re-programmed.

16. The receiver is the small component located inside the controller box. The **receiver** board decodes the signal from the antenna under the handlebars and energizes wires to the controller, which corresponds to the command being issued by the remote. The radio receiver should be able to operate with the remote at a distance of 100 feet.
17. The **steering handle** is made of strong tubing that is formed, welded and powder coated. It contains not only the means for manually operating the machine, but is also fitted with the system's control panel and throttle.
18. The **control panel** is the central operating point for the machine. The control panel box is mounted at the top of the steering handle with 4 bolts. An opening in the bottom of the control panel box matches an opening in the steering handle and is the means for getting a multi-wire cable from the controls to the electronic equipment located under the machine's cover. This box contains a key switch and emergency shut-off switch, both of which are "closed" when in operation. The control panel cover has a label to gives information on proper operation.
19. Keyswitch: **Manual** or **Radio** operation and **Off**.
20. A **thumb wheel throttle** is located on the each side of the control panel and stationary hand-grips are part of the protective bar welded to the handle to protect the grips from damage should the machine come in contact with a wall or the edge of a doorframe. The thumb wheel throttle turns in both directions. Turning the throttle in either direction causes a change of voltage on its output wire from zero volts (machine not moving), to about 4.5 volts (full speed operation). In addition, when in reverse motion, 4.5 volts is on the reverse wire, otherwise it is zero volts. When the keyswitch has selected "radio" operation, the thumbwheel throttles are ignored.
21. Emergency shut-off, push to stop. *To restart the machine after the "EMERGENCY" shut off button has been activated, pull out the button, turn off the key switch, wait 1 second, then turn it back on.*
22. The far right of the control panel are two LEDs: The **Controller Status LED** indicates that the QuickKART is turned on and will indicate problems with QuickKART or the controller.

There are three conditions indicated by this LED

Off: no power to the controller

On: power to the controller, operation normal

Flashing slow, in a sequence: Problems with the controller are indicated by a sequence of flashes. Contact Dane Technologies for assistance.

Pulse code	PGMR text	Code Desc	Extended Desc
1-1	BRK_SHT	EM-brake short error code	Shorted brake, Loose/broken connection to brake, DC motor controller
1-2	BRK_OPN	em-brake open error code	Brake shorted to case, Missing/open brake, Loose/broken connection to brake, DC motor controller
1-3	QSTOP	quick stop error code, if defined	
1-4	DBSTRT	deadband start error code, if defined	
2-1	MTR_SHT	drive motor short error code	Bad motor, Loose/broken connection to motor, DC motor controller
2-2	MTR_OPN	drive motor open error code	Bad motor, Loose/broken connection to motor, Brake manually released, DC motor controller
2-3	P_R_SHT	power relay shorted error code	Defective batteries, DC motor controller
3-1	OTMP	overtemperature condition error code	
5-3	THT_FAIL	throttle fail-band error code	Throttle control pot is off center/open, Loose/broken connection/cable, User interface, DC motor controller

Other controller codes indicate problems with the controller, Contact Dane Technologies for assistance.

23. The **Radio Mode LED** indicates that the Radio mode is on. It also indicates a radio transmission signal by flashing very fast. **Receiver status** diagnostic light will tell you that the receiver is turned on and is getting a signal to cause the machine to move. There are four conditions indicated by this LED.

Off: no power to the receiver or Manual operation.
On: power on the receiver, operation normal; no signal being received
Flashing fast: operation normal, signal being received from transmitter.

Note: Possible remote problems:

- Battery dead - Does the remote indicator light come on when any button is pushed? Is the LED Red? Batteries are low, replace them.
- Battery damaged, replace them.
- Damaged switch, return remote for repair.

Possible receiver problems:

- Receiver not programmed to match transmitter
- Antenna missing
- Damaged receiver
- Wire disconnected

24. **Hour meter** records the length of time the machine is turned on and "moving."

BATTERY CHARGER OPERATION

Battery Charger, 810-049 (120 VAC) and the 810-050 (240 VAC), supplied with the QK M3 machine uses a sophisticated charging algorithm that continually tests the charging process from start to finish. Once the charger's output leads are properly connected to the batteries terminals and the charger is plugged into an AC receptacle, the red AC Power LED lights, the charger waits 3 seconds before starting its 5-stage charging process. These 5-stages are described in the order in which they take place as follows:

1. PRE-QUALIFICATION TEST STAGE ONE

The yellow Charging (LED) flashes on and off. The duration of this stage is dependent on the condition of the batteries. If the batteries have been left in a state of discharge for a long period of time (days to months). The terminal voltage of the batteries has decayed to less than 1.75V per cell, then the charger may require up to 3 hours of pre-qualification controlled charging. This is to determine if the batteries will even accept a charge. The charger will not function if the total voltage of the three batteries is less than 18 volts. Between 18 and 24 volts the charger will slowly charge the batteries. During this extended testing stage, the Yellow LED will flash at a slow rate.

2. CONSTANT CURRENT CHARGE—STAGE TWO

Once the Pre-Qualification Test completes successfully, the yellow Charging LED illuminates continuously indicating that the charger is charging the batteries at the full rated output of 15 amperes. This stage ends when the batteries state of charge is at approximately 50-70%. The voltage during this period will continually increase up to about 41 volts.

3. CONSTANT VOLTAGE CHARGE—STAGE THREE

The green Maintaining LED flashes on and off and the yellow Charging LED flashes fast. This stage is also referred to as the Absorption Charge or Equalization Charge, since the individual cells inside the batteries are forced to become "equalized" in charge. This stage is exited when the state of charge of the battery has approached near, or is at 100% charge. The voltage will peak at about 43.5 volts when the charger disconnects. The charging amps will reduce from 15 to below 2 amps.

4. FLOAT CHARGE—STAGE FOUR

This final stage is signaled with the green Maintaining LED on. The Trickle Charge will begin when the battery voltage slowly decays to about 40 to 40.5 volts. The charger will now deliver about 300MA which will maintain the charge. If an excessive load is at any time applied and the Terminal Voltage has been forced below a preset level, the charger will reinitiate a charge cycle starting with the Constant Current Stage. In this standby "Float" state the charger can be left connected indefinitely (limited only by the practical service life of the battery), until disconnected.

5. RECYCLE CHARGE STAGE –FIVE

After completion of the first four stages, the charger will sit in Float Mode. If the charger is left connected to a battery for many weeks/months to maintain the batteries at full charge, the charger will automatically reinitiate a charge cycle routine that starts at the Pre-Qualification Stage, once every 28 days.

6. Detection Fault

The red AC Power LED illuminates continuously if the charger has not detected the connection of a battery of proper polarity and voltage on it's output leads. Once connected, a waiting period of about 3 seconds elapses before the charger recognizes the battery.

GLOSSARY OF TERMS

Drive axle--Front axle including the motor and brake assembly.

Controller box--Electronic speed control mounted on the lower inside of the machine's back panel.

Handle--The black powder coat painted handle at the back of the machine used to steer when operating the machine manually.

Control panel--The black metal box mounted on the handle. Contains the thumbwheel throttles, horn switch, battery voltage indicator the key switch and emergency shut-off switch.

Swivel wheel--The 8 inch tire at the rear of the machine, which will swivel when the machine is turned off a straight path.

Strobe light--The light above the handlebar. Flashes about once each second when the machine is turned on and the E-Shut off not pushed in.

Cart coupler--The forks that grip the shopping cart.

Cover--The body that protects the components inside the machine. It hinges on the left side of the machine.

Thumbwheel Throttle--Located on the each side of the steering handle. In manual control it is twisted to give the required speed, when walking behind the machine, in forward or reverse.

Handgrip--The rubber grip on each side of the steering handle.

Brake release--A lever that releases the brake on the end of the motor by hand. This lever has a red knob, which is on the inside lower right of the back panel. When it is pushed "in or forward" it is in normal operating position. Pulled "out or rearward" will turn off all the electronic controls and release the brake so the QuickKART can be moved by hand.

Hinge--Allows the body to be opened for viewing the insides of the machine. This hinge is made of stainless steel so it will not rust.



DANE TECHNOLOGIES QK M3-M3 HD

EXPLODED VIEW ASSEMBLIES

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680-045	Electrical Schematic, QK M3 Series

Dane Technologies Fastener
Torque Chart

Size	Grade 1 Torque in/lbs	Grade 5 Torque ft/lbs	Grade 8 Torque ft/lbs
#6	5		
#8	8		
#10	12		
1/4		6	9
5/16		13	18
3/8		23	32
7/16		36	51
1/2		55	78
9/16		80	113
5/8		110	156
3/4		195	276

Dane Technologies Inc. 925-001 -
02/2006

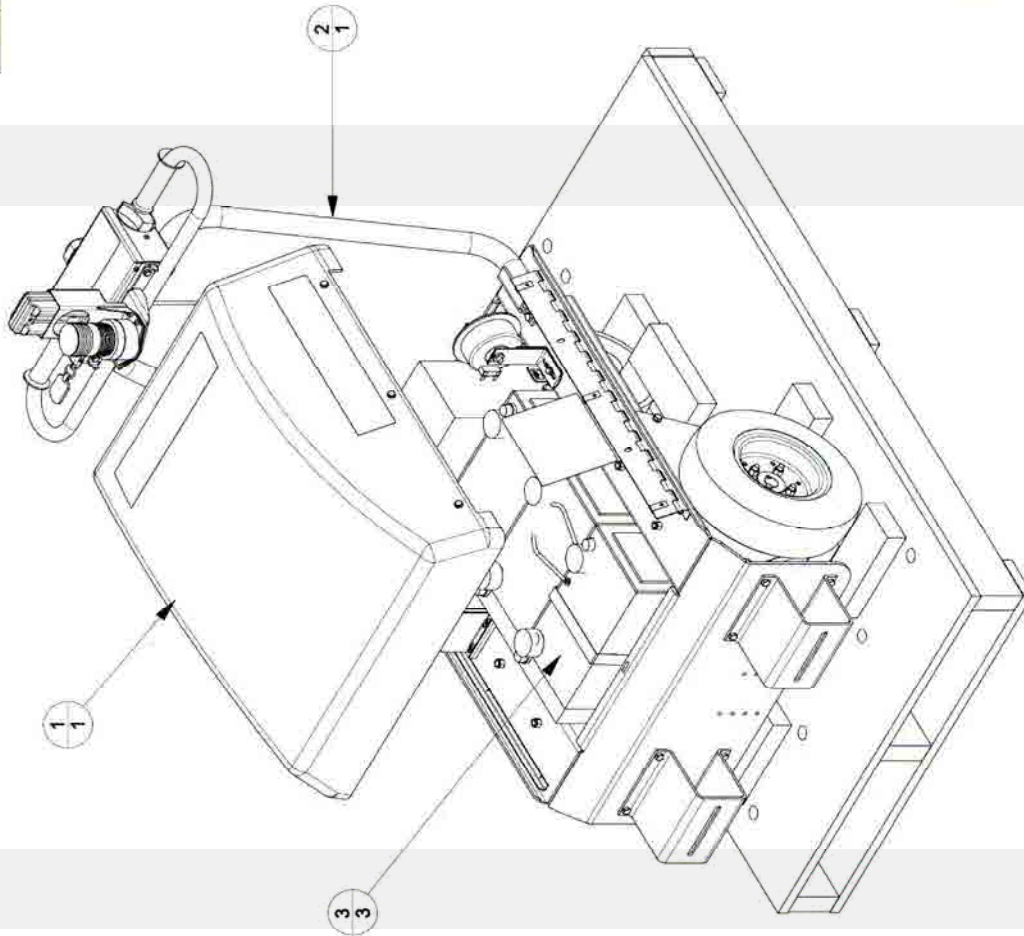
•Tools required-----

- Allen set, #2 Phillips screwdriver, plier
- Sockets/Wrenches, (11/32, 3/8), 7/16, 1/2, 9/16, 5/8, 3/4; torque wrench

•Optional Tools -----

- Needle nose plier, flat blade screwdriver, hammer, Volt/Ohm Meter, Ammeter, Controller reader

BILL OF MATERIAL			
INDEX	PART NO.	REV	DESCRIPTION
1	100-257		QK M3, STANDARD OPTIONS
2	150-033	B	QUICKART M3 BASIC CHASSIS
3	800-008		BATTERY, EXIDE NG-27

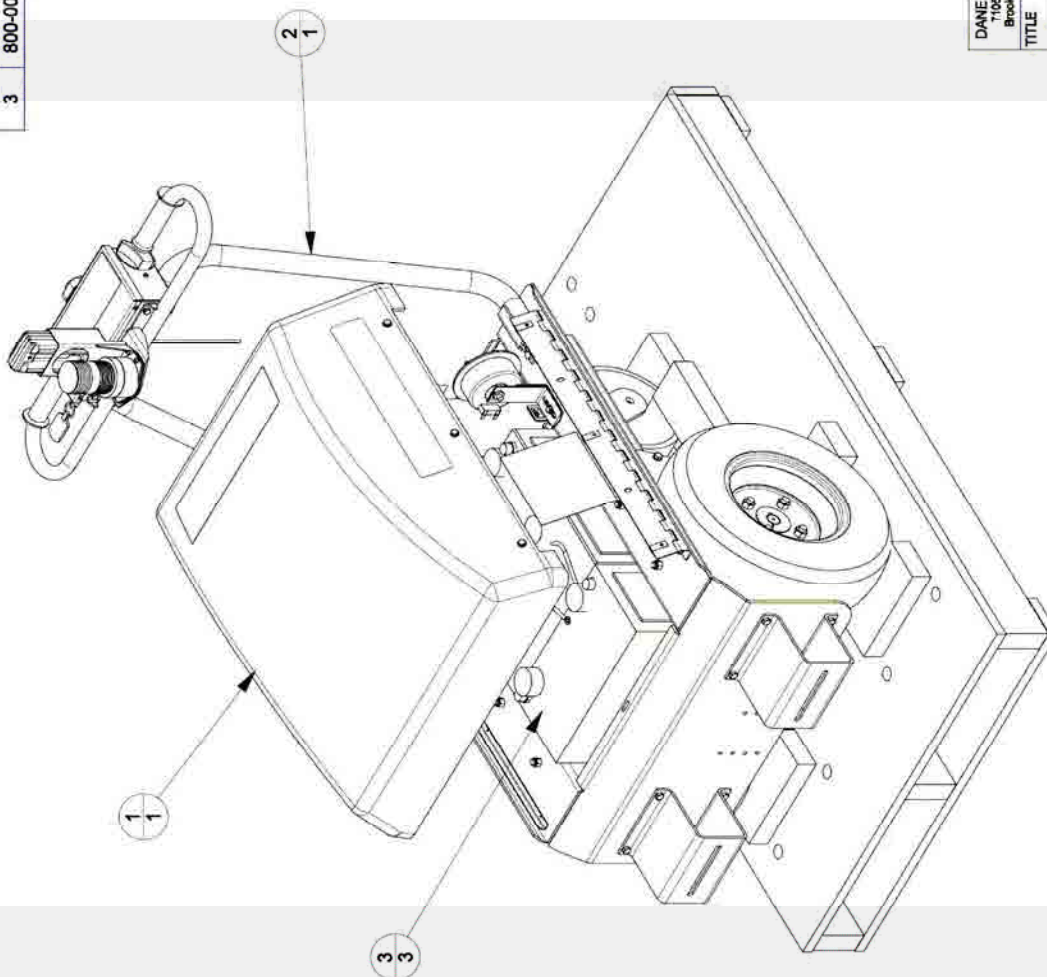


DANE INDUSTRIES Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
DANE INDUSTRIES		QK M3 BASIC CHASSIS, US	
DWG/PART NO.	120-044	SCALE	3/32
DWG DATE	31-Oct-05	DRN BY:	ALD
TOLERANCES		MAT'L AS SPECIFIED ABOVE	
		ECO:	
		0.X = ± 0.030	
		0.XXX = ± 0.005	
		0.XX = ± 0.010	
		ANGLE = 0.2	
		UNLESS OTHERWISE SPECIFIED	
		SHEET 1 of 1	
		294	

017

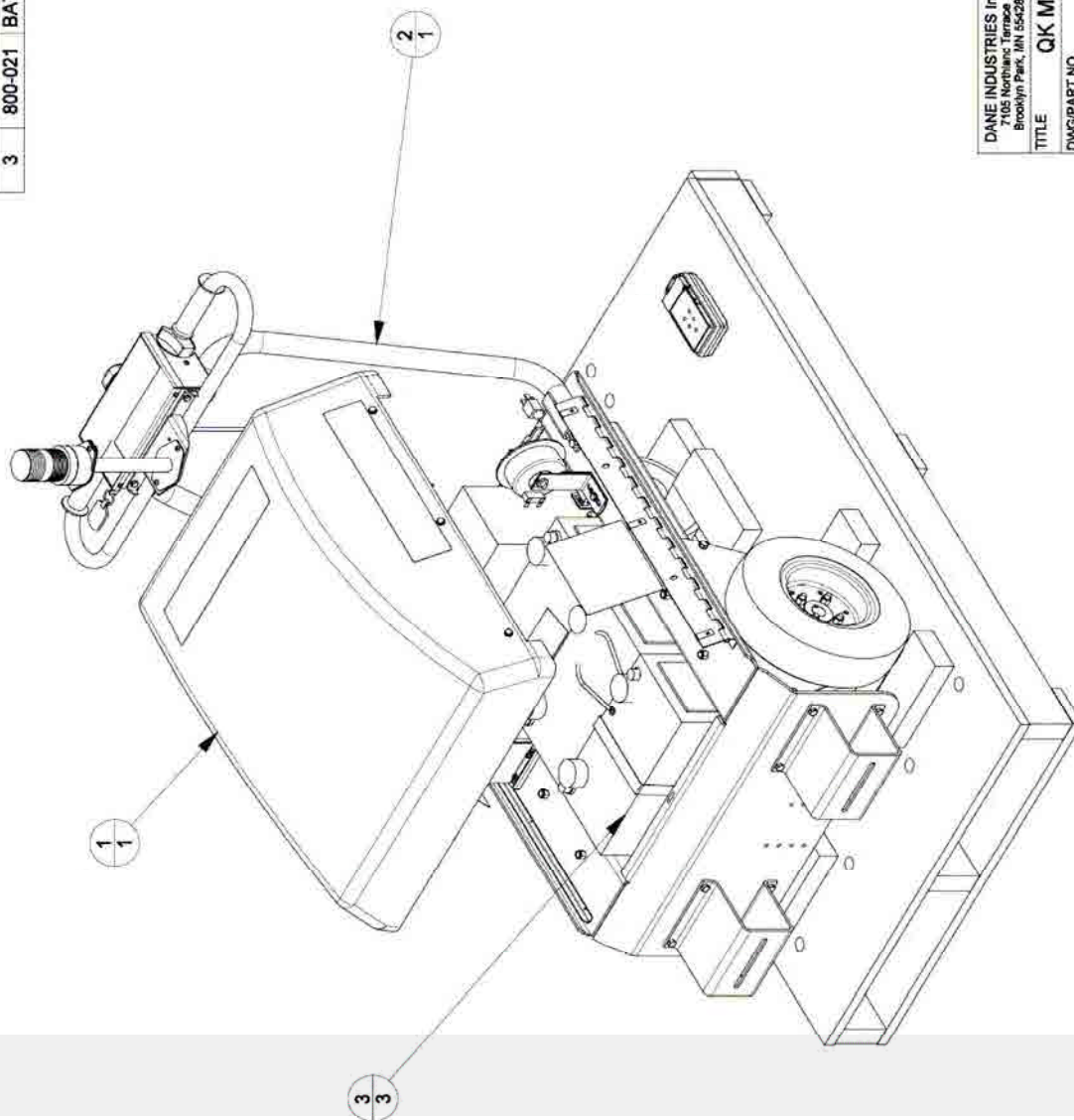
1-2544

BILL OF MATERIAL		
INDEX	PART NO.	DESCRIPTION
1	100-259	QK M3 HD STANDARD OPTIONS
2	150-034	C QUICKART M3 HD, BASIC CHASSIS
3	800-008	BATTERY, EXIDE NG-27



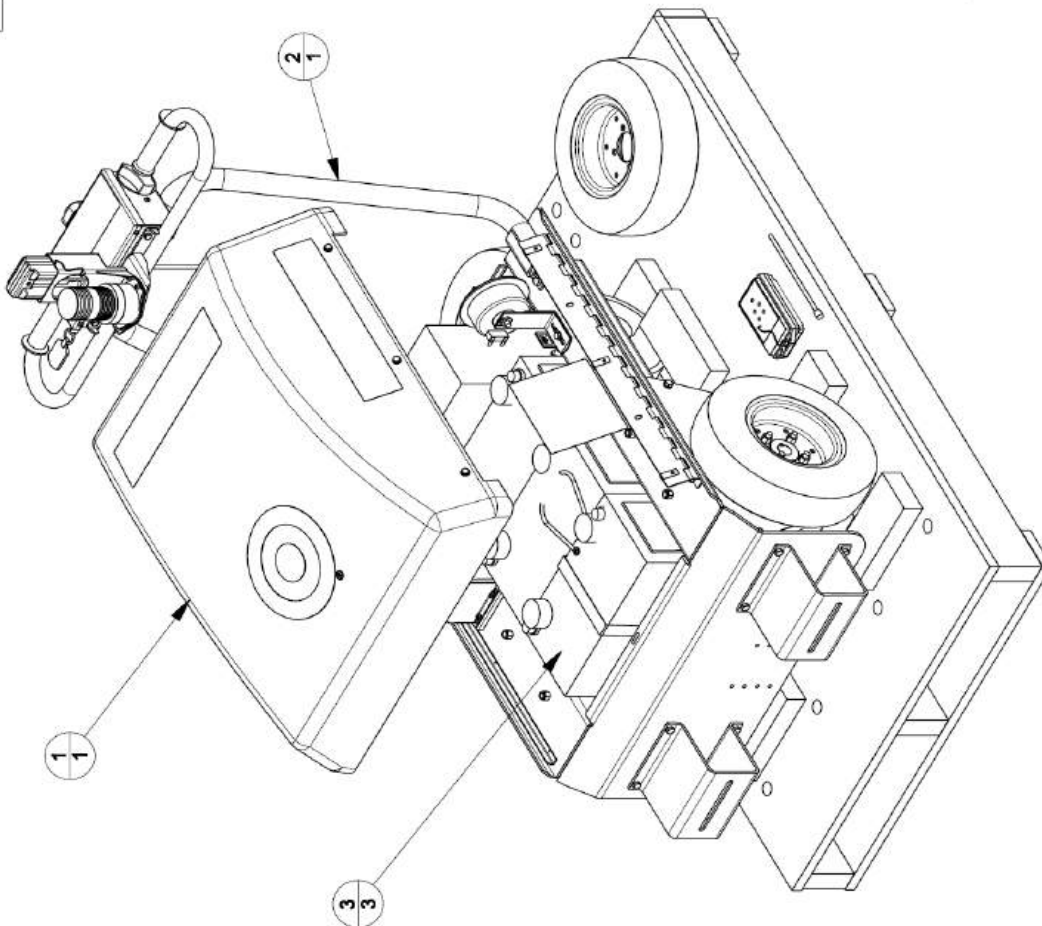
DANE INDUSTRIES INC. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-4234 FAX: (763) 544-4234	
DANE INDUSTRIES		TITLE	
QK M3 HD BASIC CHASSIS, US		SHEET 1 OF 1	
DWG/PART NO.	120-045	SCALE	3/32
DWG DATE	31-Oct-05	DRN BY:	ALD
TOLERANCES		MAT'L AS SPECIFIED ABOVE	
0.X = ±0.030		0.XXX = ±0.005	
0.XX = ±0.010		ANGLE = ±0.2	
		UNLESS OTHERWISE SPECIFIED	
		ECO: 294	

BILL OF MATERIAL			
INDEX	PART NO.	DESCRIPTION	QTY
1	100-258	QK M3 WALMART OPTIONS	1
2	150-033	QUICKART M3 BASIC CHASSIS	1
3	800-021	BATTERY, VOYAGER M30HMF	3



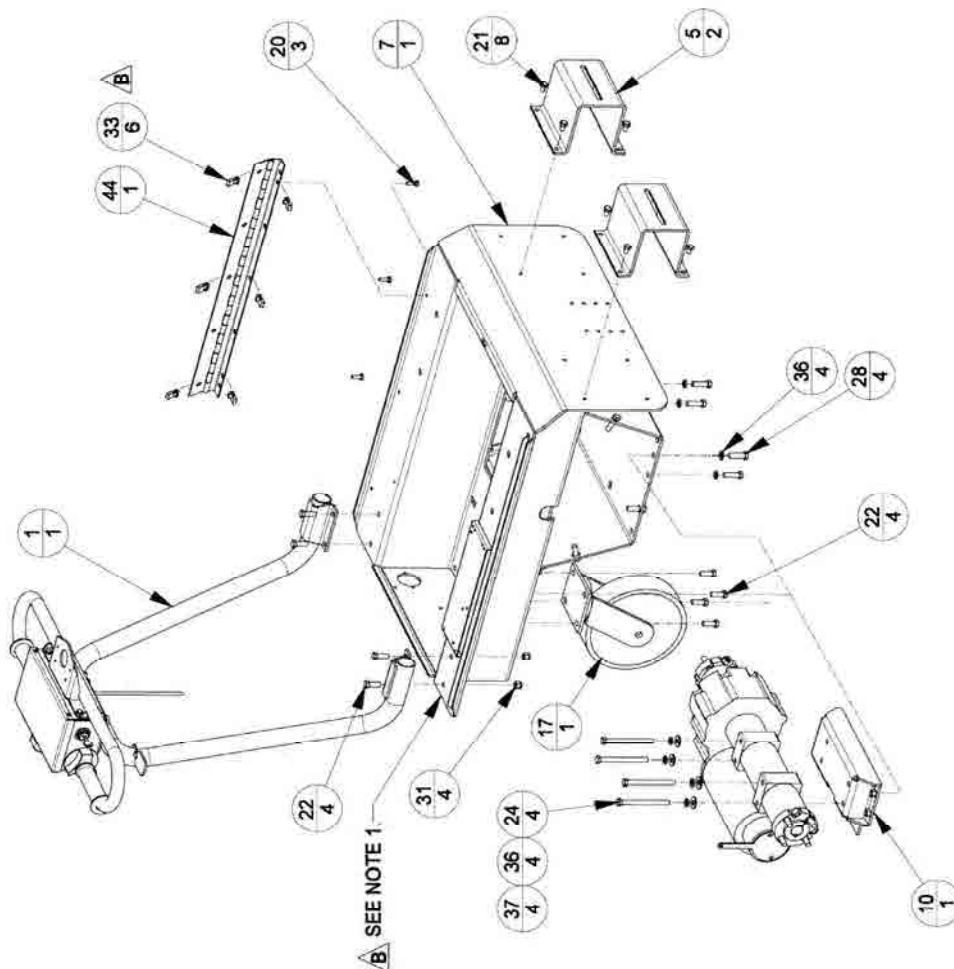
DANE INDUSTRIES, Inc. 7105 Northland Terrace Brooklyn Park, MN 55428				PHONE: (763) 544-7779 FAX: (763) 544-4234	
TITLE		QK M3, WALMART CONFIGURATION		SHEET 1 OF 1	
DWG/PART NO.	120-050	SCALE	3/32		
DWG DATE	31-Oct-05	DRN BY:	ALD	MATERIAL AS SPECIFIED ABOVE	
TOLERANCES		0.X = ±0.030 0.XX = ±0.010		ECO: 294	
		0.XXX = ±0.005 ANGLE = ±0.2			

BILL OF MATERIAL			
INDEX	PART NO.	DESCRIPTION	QTY
1	100-261	QK M3, TARGET OPTIONS CONFIGURATION	1
2	150-033	QUICKART M3 BASIC CHASSIS	1
3	800-021	BATTERY, VOYAGER M30HMF	3



DANE INDUSTRIES INC. 7106 Northland Terrace Brooklyn Park, MN 55428				PHONE: (763) 544-7779 FAX: (763) 544-4234	
TITLE		QK M3, TARGET CONFIGURATION		SHEET 1 OF 1	
DWG/PART NO.		120-051	SCALE 3/32		
DWG DATE 31-Oct-05		DRN BY: ALD	MATERIAL AS SPECIFIED ABOVE		
TOLERANCES		0 X = ±0.030 0.XX = ±0.010		ECO: 294	
		0.XXX = ±0.005 ANGLE = ±0.2			

BILL OF MATERIAL			
INDEX	PART NO.	DESCRIPTION	QTY
1	100-219	HANDLEBARS, QK MKII	1
2	100-222	CONTROLLER, 36V CSI	1
3	100-223	RECEIVER, CSI RF	1
4	100-237	TRANSAXLE, QK-M3 ASSEMBLY	1
5	200-090	COUPLER, FRAME	2
6	200-360	ROD, MKII BRAKE	1
7	210-272	FRAME, QK MARK II	1
8	220-577	BRACKET, HORN	1
9	220-747	COVER, AXLE	1
10	220-817	MOUNT, STATUE MKII	1
11	220-818	COVER, AXLE	1
12	220-819	BATTERY TRAY	1
13	220-825	PLATE, CONTROLLER MOUNT	1
14	220-826	COVER, MK II CONTROLLER	1
15	350-014	HAIRPIN	1
16	360-008	WHEEL, 410/3.50 X 6	2
17	360-016	CASTER, SWIVEL	1
18	370-016	KNOB, RED BRAKE	1
19	400-001	BOLT, 1/4-20 X .5	5
20	400-002	BOLT, 1/4-20 X .75 HHCS G5 ZN	3
21	400-006	BOLT, 5/16-18 X .5	8
22	400-013	BOLT, 3/8-16 X 1, G5 HHCS	8
23	400-050	BOLT, #8-32 X 1.0 PAN, ZN	2
24	400-123	BOLT, 3/8-16 X 4	4
25	400-147	BOLT, 1/4-20 X .375	2
26	400-166	BOLT, #8-32 X .375 PAN, SELF TAP, BK, ZN	9
27	400-188	EYEBOLT, 5/16-18 X 1 ZN	1
28	400-287	BOLT, 3/8-16 X 1.25 GR8 ULTRA-COATED	7
29	400-289	BOLT, 5/16-18 X 1.00 GR8 ULTRA-COATED	4
30	410-010	NUT, 5/16-18 HEX ZN	1



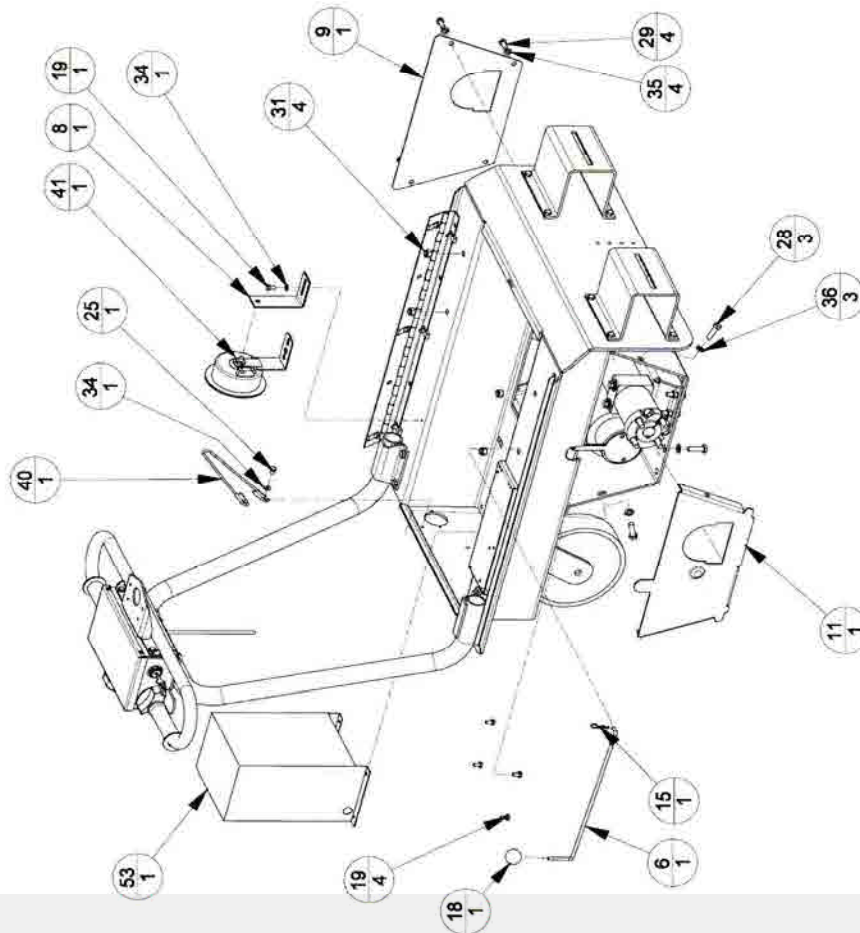
REVISIONS

REV	DATE	DESCRIPTION
A	11/4/05	ECO 263: ADD AND DELETE ITEMS.
B	1/10/06	ECO 264: DEL ITEM 410-068 (3). ITEM 410-069 (6) WAS (3). ADD NOTES.

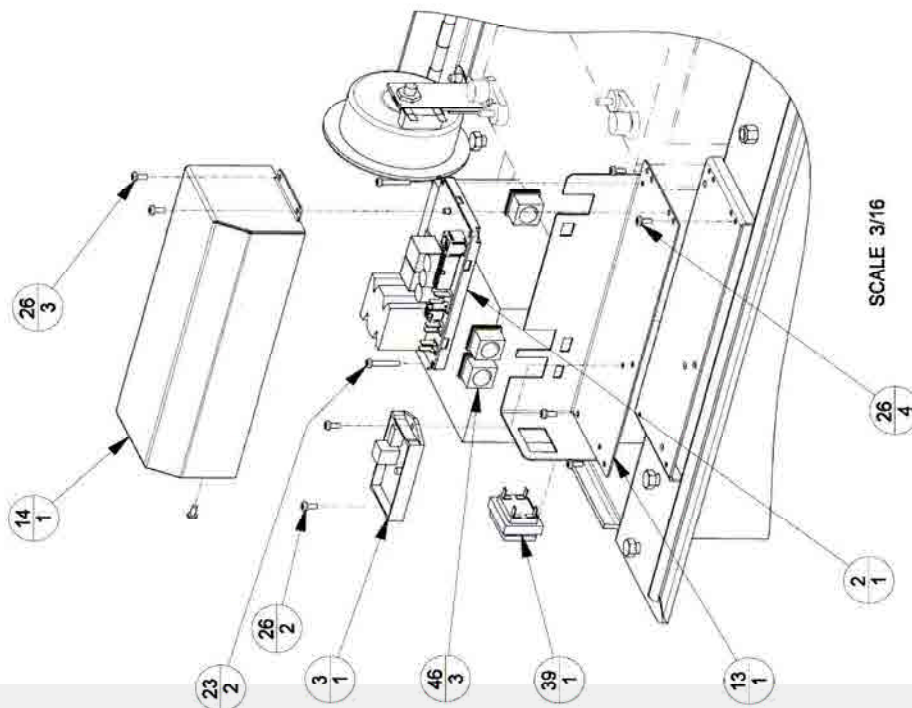
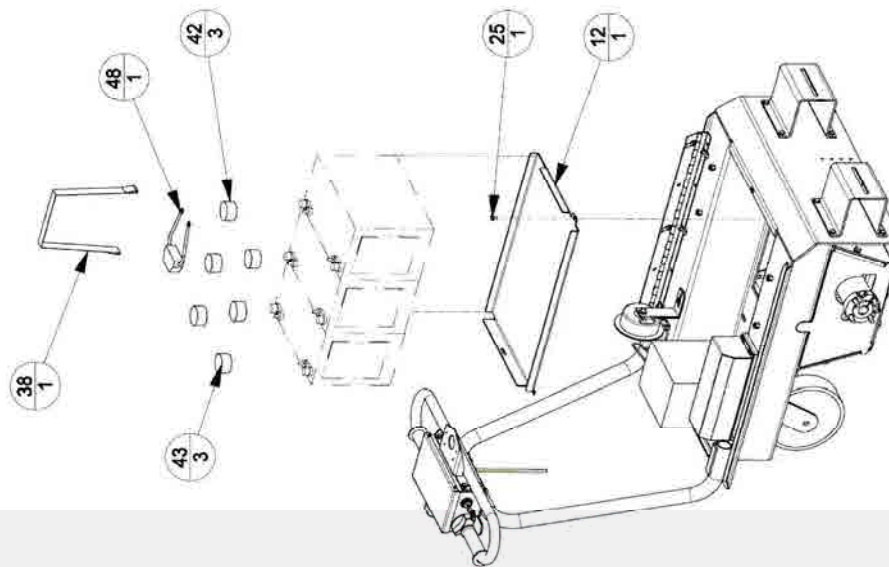
NOTES:
B 1. USE BLACK SILICONE SEALANT UNDERNEATH HANDLEBAR AFTER HANDLEBAR INSTALLED (2 PLCS).

		PHONE: (763) 544-7779 FAX: (763) 544-4234	
DANE INDUSTRIES, Inc. 7106 Northland Terrace Brooklyn Park, MN 55428			
TITLE QUICKKART M3 BASIC CHASSIS			
DWG/PART NO. 150-033		SCALE 5/64	SHEET 1 OF 4
DWG DATE 21-Jul-05		DRN BY: PDH	MAT'L AS SPECIFIED ABOVE
TOLERANCES		ECO: 263	
		O.X = ±0.030 0.XXX = ±0.005 0.XY = ±0.010 ANGLE = ±0.2° UNLESS OTHERWISE SPECIFIED	

BILL OF MATERIAL		
INDEX	PART NO.	DESCRIPTION
31	410-019	NUT, 3/8-16 NYLOCK ZN G5
32	410-034	NUT, 3/8-24 LUG
33	410-069	U-NUT, 1/4-20 TAPPED HOLE TYPE
34	420-001	WASHER, 1/4 SAE STD FLAT ZN
35	420-007	WASHER, 5/16 LOCK ZN
36	420-008	WASHER, 3/8 LOCK ZN
37	420-037	WASHER, 3/8 USS STD FLAT ZN
38	430-001	STRAP, BATTERY HOLD DOWN
39	430-143	HOURMETER, 12 - 48V
40	460-062	CABLE ASSY, QK COVER
41	470-022	HORN WITH TALL BRACKET
42	480-107	BOOT, BATTERY TERMINAL, RED
43	480-110	BOOT, BATTERY TERMINAL, BLACK
44	490-008	HINGE, QUICKART MK II
45	520-008	SILICONE SEALANT, BLACK
46	695-018	STRAIN RELIEF, STRAIGHT THRU
47	700-057	HARNESS, HORN
48	700-212	HARNESS, 40A FUSE
49	700-232	CABLE, CONTROLLER POWER
50	700-233	CABLE, BATTERY/CHARGER CONNECTOR
51	700-241	HARNESS, CHARGER INHIBIT
52	700-243	HARNESS, BATTERY INTERCONNECT, 14 IN
53	810-049	CHARGER, 38V 15A WITH INHIBIT
54	900-001	KEY, FAUB



DANE INDUSTRIES Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
TITLE QUICKART M3 BASIC CHASSIS		SHEET 2 of 4	
DWG/PART NO	150-033	SCALE	5/64
DWG DATE	20-Apr-05	DRN BY:	PDH
TOLERANCES		ECO: 263	
		0.X = ±0.030 0.XXX = ±0.005 0.XX = ±0.010 ANGLE = 0.2° UNLESS OTHERWISE SPECIFIED	



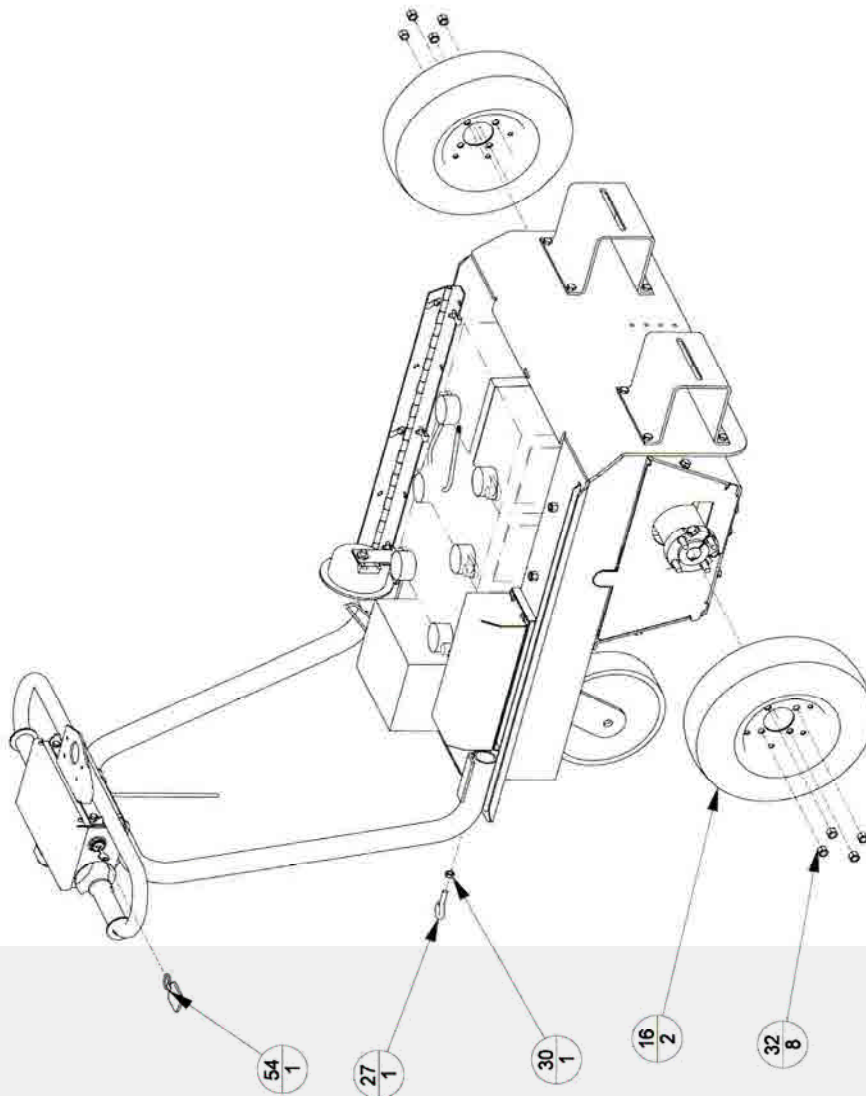
SCALE 3/16

DANE INDUSTRIES, Inc.
7105 Northland Terrace
Brooklyn Park, MN 55428



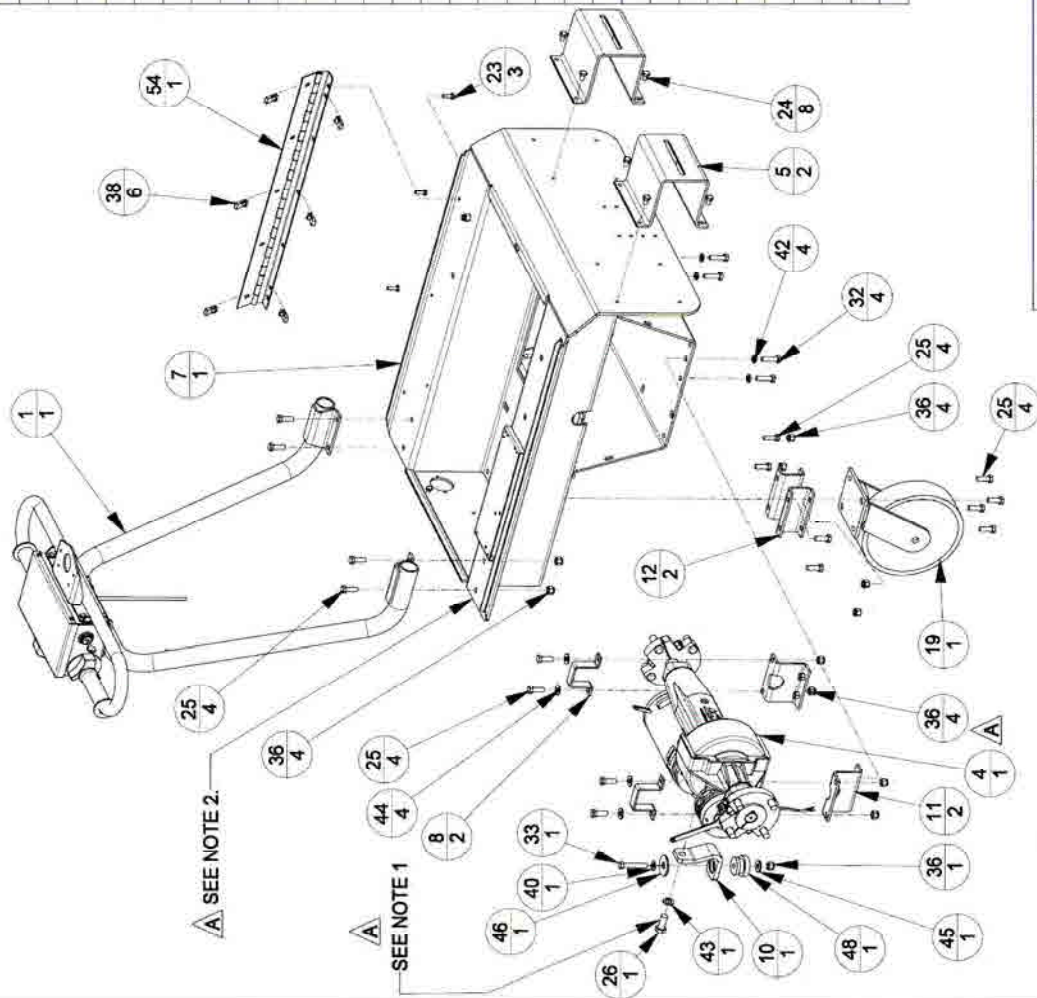
PHONE: (763) 544-7779
FAX: (763) 544-4234

TITLE	QUICKART M3 BASIC CHASSIS			SHEET 3 of 4
DWG/PART NO.	150-033	SCALE	1/16	
DWG DATE	20-Apr-05	DRN BY	PDH	MAT'L AS SPECIFIED ABOVE
TOLERANCES	0.X = ±0.030 0.XXX = ±0.005 0.XX = ±0.010 ANGLE = ±0.2° UNLESS OTHERWISE SPECIFIED			
ECO	263			



DANE INDUSTRIES, Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
DANE INDUSTRIES		SHEET 4 OF 4	
TITLE QUICKKART M3 BASIC CHASSIS		SCALE 3/32	
DWG/PART NO. 150-033		DRN BY: PDH	
DWG DATE 20-Apr-05		MATERIAL: AS SPECIFIED ABOVE	
TOLERANCES		0.X = ±0.030 0.XX = ±0.010 0.XXX = ±0.005 ANGLE = ±0.2° UNLESS OTHERWISE SPECIFIED	
ECO		263	

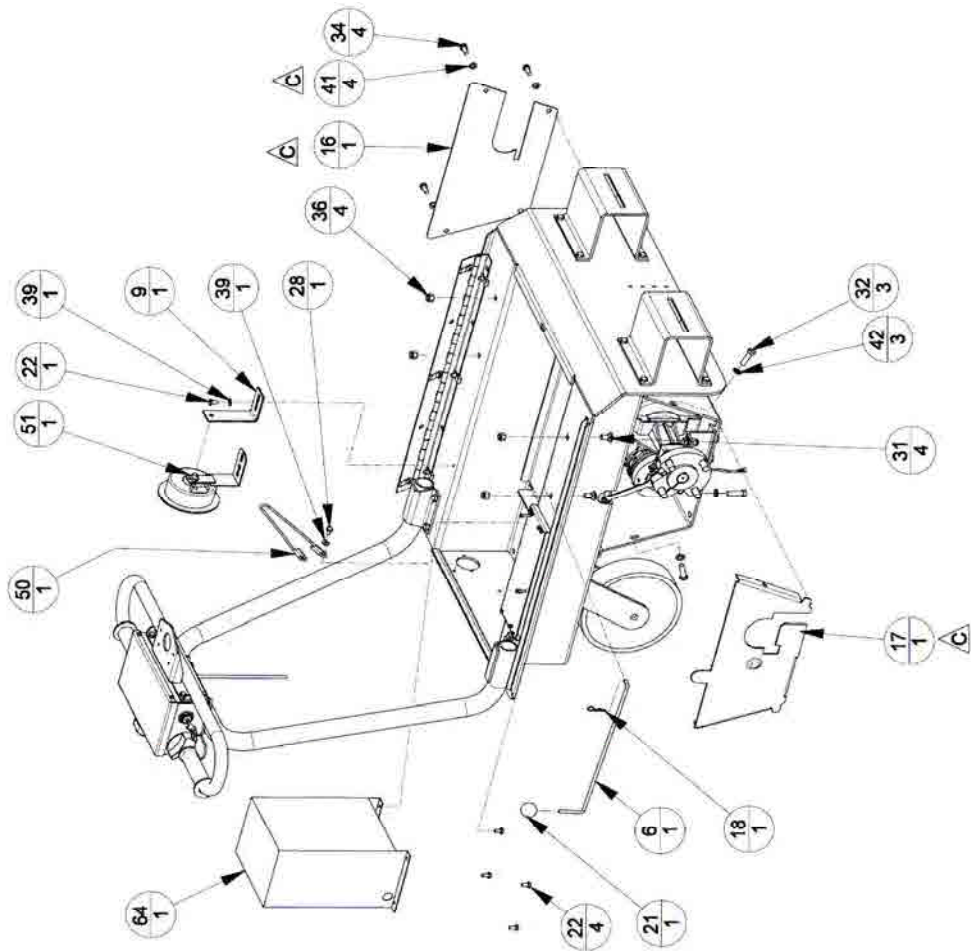
BILL OF MATERIAL			
INDEX	PART NO.	DESCRIPTION	QTY
1	100-219	HANDLEBARS, QK MKII	1
2	100-222	CONTROLLER, 36V CSI	1
3	100-223	RECEIVER, CSI RF	1
4	100-239	TRANSAXLE, WK-M3 HD ASSEMBLY	1
5	200-090	COUPLER, FRAME	2
6	200-360	ROD, MKII BRAKE	1
7	210-272	FRAME, QK MARK II	1
8	220-274	STRAP, ASI MOTOR	2
9	220-577	BRACKET, HORN	1
10	220-615	MOUNT, MOTOR CB1121 - PP3150	1
11	220-746	BRACKET, ASI MOTOR MOUNT	2
12	220-786	CHANNEL, CASTER SPACER	2
13	220-819	BATTERY TRAY	1
14	220-825	PLATE, CONTROLLER MOUNT	1
15	220-826	COVER, MK II CONTROLLER	1
16	220-904	PLATE, HD AXLE COVER LH	1
17	220-905	PLATE, HD AXLE COVER RH	1
18	350-014	HAIRPIN	1
19	360-016	CASTER, SWIVEL	1
20	360-043	TIRE AND RIM, 4.80-8 KNOBBY FOAM FILLED	2
21	370-016	KNOB, RED BRAKE	1
22	400-001	BOLT, 1/4-20 X .5	5
23	400-002	BOLT, 1/4-20 X .75 HHCS G5 ZN	3
24	400-006	BOLT, 5/16-18 X .5	8
25	400-013	BOLT, 3/8-16 X 1, G5 HHCS	16
26	400-022	BOLT, 1/2-13 X 1.25 G5	1
27	400-050	BOLT, #8-32 X 1.0 PAN, ZN	2
28	400-147	BOLT, 1/4-20 X .375	2
29	400-166	BOLT, #8-32 X .375 PAN, SELF TAP, BK, ZN	9
30	400-188	EYEBOLT, 5/16-18 X 1 ZN	1
31	400-281	BOLT, 3/8-16 X .75 CARRIAGE, G5 ZN	4
32	400-287	BOLT, 3/8-16 X 1.25 GR8 ULTRA-COATED	7
33	400-288	BOLT, 3/8-16 X 2.0 GR8 ULTRA-COATED	1
34	400-289	BOLT, 5/16-18 X 1.00 GR8 ULTRA-COATED	4



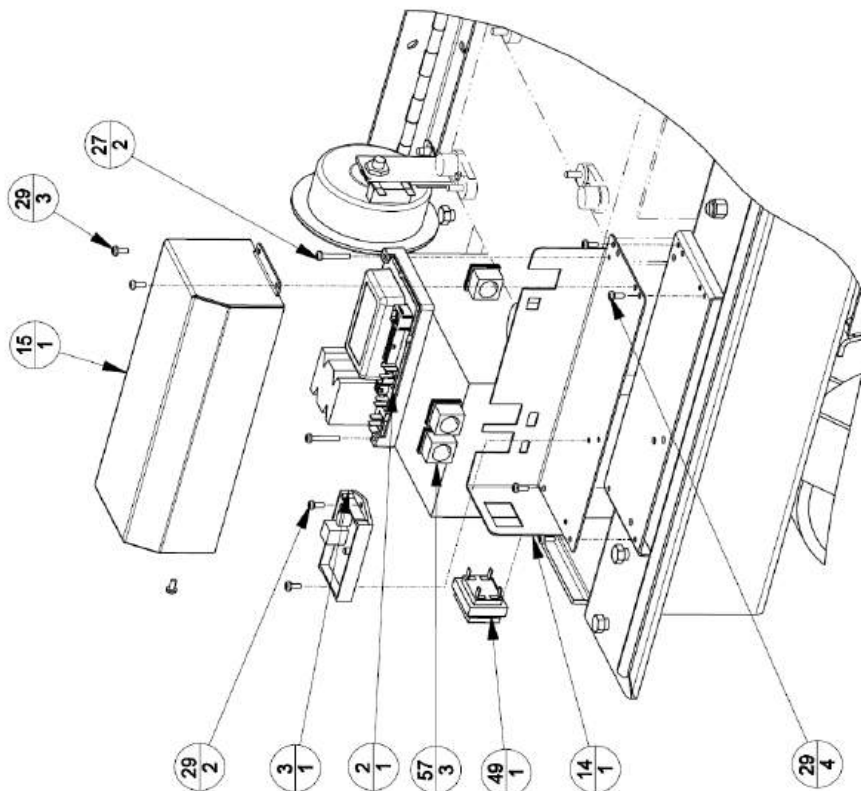
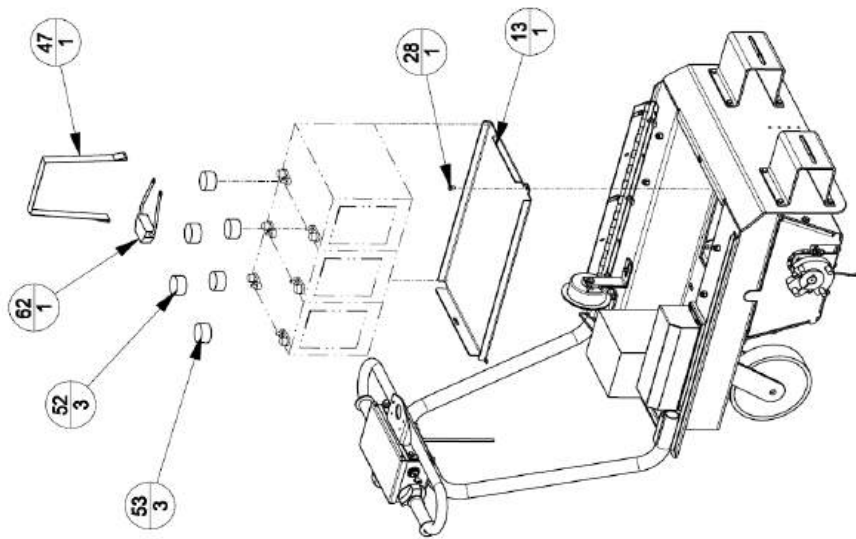
- NOTES:
1. TIGHTEN BOLT TO 27 FT.-LBS. USE RED LOCTITE THREADLOCKER.
 2. USE BLACK SILICONE SEALANT UNDERNEATH HANDLEBAR AFTER HANDLEBAR INSTALLED (2 PLCS).

DANE INDUSTRIES, Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
TITLE: QUICKKART M3 HD, BASIC CHASSIS		SHEET 1 of 4	
DWG/PART NO.	150-034	SCALE	5/8"
DWG DATE	21-Jul-05	DRN BY:	PDH
TOLERANCES		MATERIAL: AS SPECIFIED ABOVE	
ECO 316: 220-904 WAS 220-747.		ECO 263: 0.005 ± 0.005	
ECO 264: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 265: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 266: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 267: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 268: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 269: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 270: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 271: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 272: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 273: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 274: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 275: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 276: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 277: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 278: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 279: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 280: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 281: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 282: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 283: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 284: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 285: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 286: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 287: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 288: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 289: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 290: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 291: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 292: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 293: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 294: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 295: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 296: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 297: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 298: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 299: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	
ECO 300: 220-905 WAS 220-418, 420-007 WAS 420-006. SEE SHT 2		ECO 263: 0.005 ± 0.005	

BILL OF MATERIAL			
INDEX	PART NO.	DESCRIPTION	QTY
35	410-010	NUT, 5/16-18 HEX ZN	1
36	410-019	NUT, 3/8-16 NYLOCK ZN G5	17
37	410-060	NUT, 1/2-13 LUG	8
38	410-069	U-NUT, 1/4-20 TAPPED HOLE TYPE	6
39	420-001	WASHER, 1/4 SAE STD FLAT ZN	2
40	420-003	WASHER, 3/8 SAE STD FLAT ZN	1
41	420-007	WASHER, 5/16 LOCK ZN	4
42	420-008	WASHER, 3/8 LOCK ZN	7
43	420-010	WASHER, 1/2 LOCK ZN	1
44	420-036	WASHER, 5/16 USS STD FLAT ZN	4
45	420-037	WASHER, 3/8 USS STD FLAT ZN	1
46	420-047	WASHER, FLAT 1/2 X 1.75 X .125 ZN	1
47	430-001	STRAP, BATTERY HOLD DOWN	1
48	430-131	ISOLATOR, TECH PROD 60233	1
49	430-143	HOURMETER, 12 - 48V	1
50	460-062	CABLE ASSY, QK COVER	1
51	470-022	HORN WITH TAIL BRACKET	1
52	480-107	BOOT, BATTERY TERMINAL, RED	3
53	480-110	BOOT, BATTERY TERMINAL, BLACK	3
54	490-008	HINGE, QUICKART MK II	1
55	520-008	SILICONE SEALANT, BLACK	AR
56	660-039	FUSE, 60 A	1
57	695-018	STRAIN RELIEF STRAIGHT THRU	3
58	700-057	HARNESS, HORN	1
59	700-232	CABLE, CONTROLLER POWER	1
60	700-233	CABLE, BATTERY/CHARGER CONNECTOR	1
61	700-241	HARNESS, CHARGER INHIBIT	1
62	700-242	HARNESS, 60A FUSE	1
63	700-243	HARNESS, BATTERY INTERCONNECT, 14 IN	1
64	810-049	CHARGER, 36V 15A WITH INHIBIT	1
65	900-001	KEY, FAUB	1

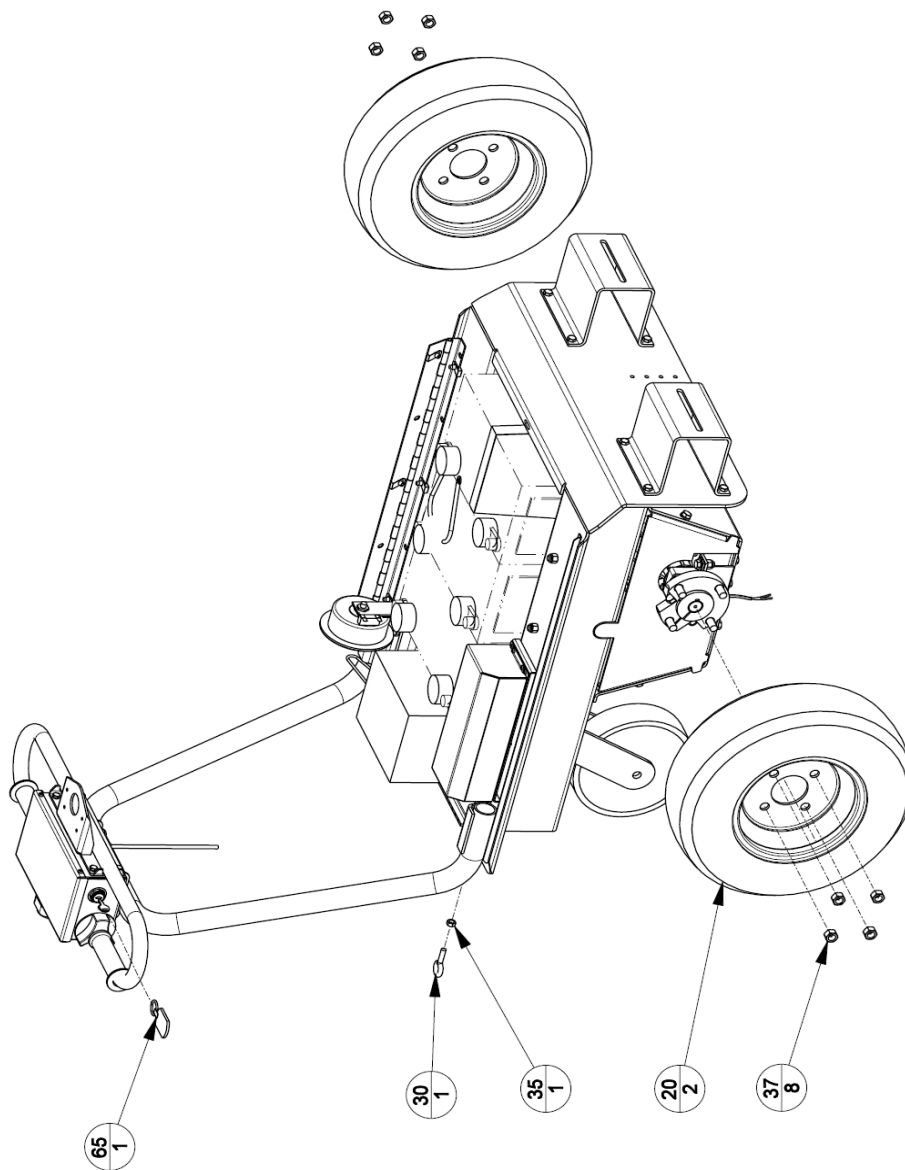


DANE INDUSTRIES, Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
REVISIONS ECO 316: 220-904 WAS 220-747 220-905 WAS 220-818, 420-007 WAS 420-006		TITLE QUICKART M3 HD, BASIC CHASSIS DWG/PART NO. 150-034 DWG DATE 20-Apr-05 DRN BY: PDH MAT'L: AS SPECIFIED ABOVE	
ECO: 0.XX = ±0.000 0.XXX = ±0.005 ANGLE = ±0.2 UNLESS OTHERWISE SPECIFIED		SCALE 5/64 SHEET 2 OF 4	
TOLERANCES		ECO: 263	



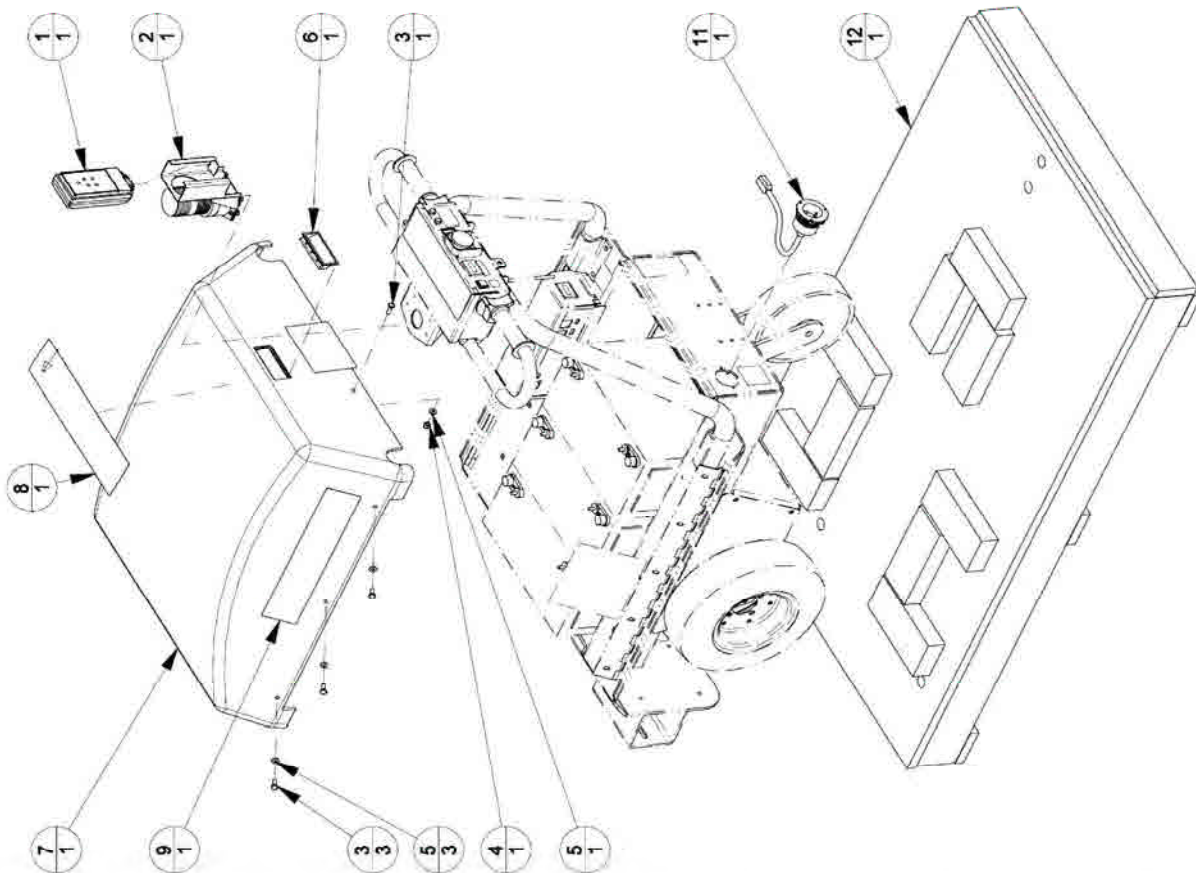
SCALE 3/16

DANE INDUSTRIES, Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
DANE INDUSTRIES			
TITLE	QUICKKART M3 HD, BASIC CHASSIS	SHEET	3 of 4
DWG/PART NO.	150-034	SCALE	1/16
DWG DATE	20-Apr-05	DRN BY:	PDH
TOLERANCES		MATERIAL AS SPECIFIED ABOVE	
		0.X = ±0.030 0.XXX = ±0.005 0.XX = ±0.010 ANGLE = ±0.2 UNLESS OTHERWISE SPECIFIED	
		ECO: 263	



DANE INDUSTRIES, Inc. 7105 Northland Terrace Brooklyn Park, MN 55428			PHONE: (763) 544-7779 FAX: (763) 544-4234	
TITLE QUICKKART M3 HD, BASIC CHASSIS		DWG/PART NO. 150-034	SCALE 3/32	SHEET 4 of 4
DWG DATE 20-Apr-05		DRN BY: PDH MAT'L: AS SPECIFIED ABOVE		
TOLERANCES		0.X = ±0.030 0.XXX = ±0.005 0.XX = ±0.010 ANGLE = ±0.2° UNLESS OTHERWISE SPECIFIED		
				ECO: 263

BILL OF MATERIAL			
INDEX	PART NO.	REV	DESCRIPTION
1	100-224	A	REMOTE, 433 MHZ, AA, MKII
2	100-256		ASSEMBLY, MKII STROBE STD
3	400-002		BOLT, 1/4-20 X .75 HHCS G5 ZN
4	410-020		NUT, 1/4-20 NYLOCK ZN G5
5	420-001		WASHER, 1/4 SAE STD FLAT ZN
6	480-074		HANDLE, PLASTIC SNAP-IN
7	480-097	E	COVER, QUICKART MK II, DANE RED
8	500-042	C	LABEL, QK WARN - OPER. INST. 30 CARTS
9	501-027	B	LABEL KIT, QUICKART M3
10	700-115		CORD, 10 FOOT 16 GAUGE EXTENSION
11	700-235		CORD, CHARGER UL (115VAC)
12	930-005		QK2000 SHIPPING PALLET
			QTY
			1
			1
			4
			1
			4
			1
			1
			1
			1
			1
			1

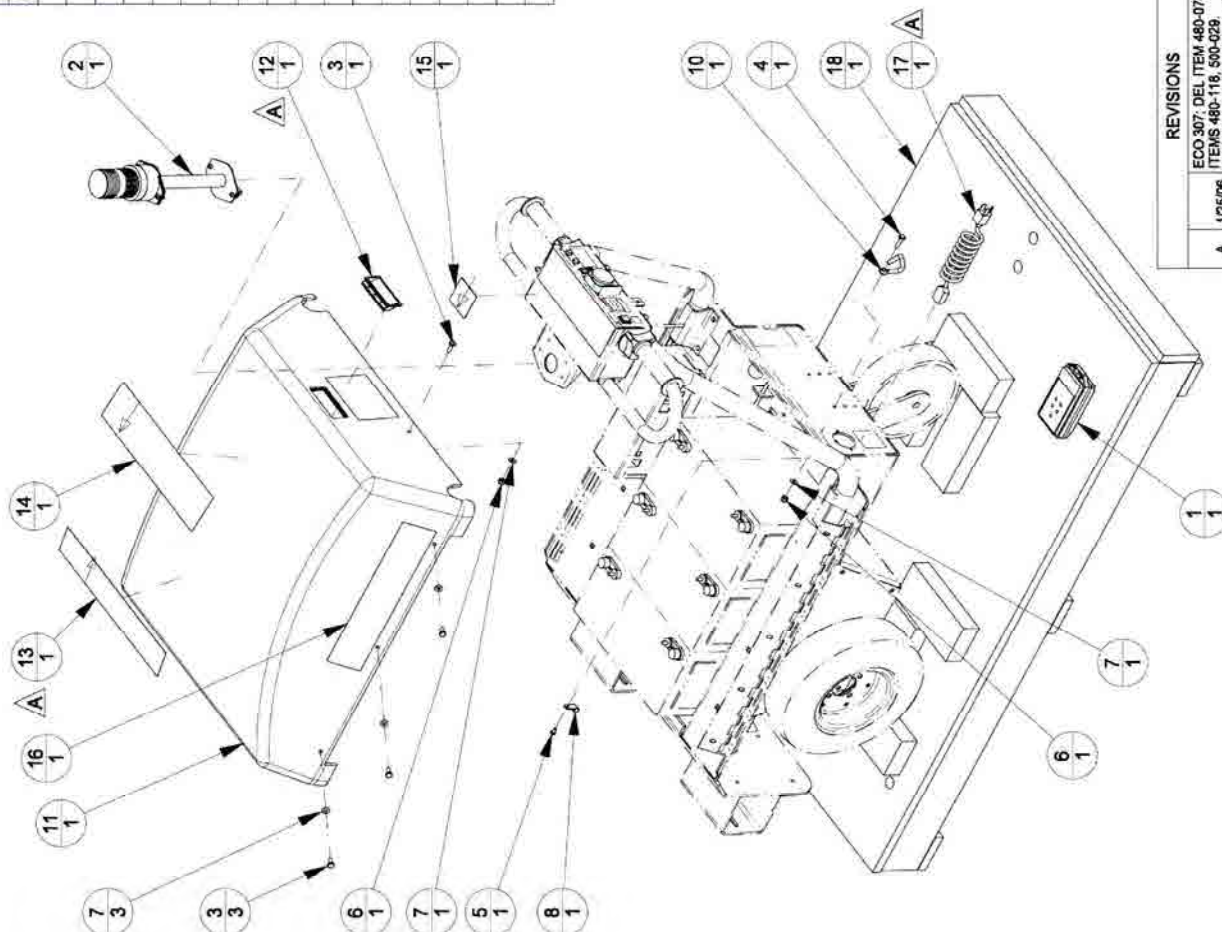


NOTES:
1. ARROW ON DECAL POINTS FROM BOTTOM TO TOP.

DANE INDUSTRIES, INC. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
TITLE		QK M3, STANDARD OPTIONS	
DWG/PART NO.	100-257	SCALE	13/160
DWG DATE	23-Jan-06	DRN BY:	PDH
TOLERANCES		MATERIAL AS SPECIFIED ABOVE	
		0.X = ±0.030	
		0.XXX = ±0.005	
		0.XX = ±0.010	
		ANGLE = ±0.2°	
		UNLESS OTHERWISE SPECIFIED	
		ECO:	294
		SHEET 1 OF 1	

BILL OF MATERIAL				
INDEX	PART NO.	REV	DESCRIPTION	QTY
1	100-224	A	REMOTE, 433 MHZ, AA, MKII	1
2	100-255		ASSEMBLY, MKII STROBE BREAKAWAY	1
3	400-002		BOLT, 1/4-20 X .75 HHCS G5 ZN	4
4	400-003		BOLT, 1/4-20 X 1	1
5	400-199		BOLT, #10-24 X .375 PAN	1
6	410-020		NUT, 1/4-20 NYLOCK ZN G5	2
7	420-001		WASHER, 1/4 SAE STD FLAT ZN	5
8	430-062		CABLE CLAMP, 3/8"	1
9	430-132		STRAP	1
10	430-142		HOOK, IV	1
11	480-097	E	COVER, QUICKART MK II, DANE RED	1
12	480-118		HANDLE, PLASTIC SNAP-IN, WITH VENT	1
13	500-029		LABEL, WALMART LOGO	1
14	500-139	A	LABEL, QK WARN-OPER. INST. 20 CARTS	1
15	500-197		LABEL, WALMART POLICY	1
16	501-027	A	LABEL KIT, QUICKART M3	1
17	700-237		CORD, CHARGER AC, 10 FT COILED	1
18	930-005		QK2000 SHIPPING PALLET	1

NOTES:
 1. INSERT 700-237 CORD THROUGH ITEM 8, Δ
 THEN ATTACH TO CHARGER.
 2. ARROW ON DECAL POINTS FROM BOTTOM TO TOP.



REVISIONS	
A	ECO 307, DEL ITEM 480-074, ADD ITEMS 480-118, 500-029, ADD GRAPHICS FOR 700-237. NOTE 1". ITEM 8, "WAS ITEM 10".

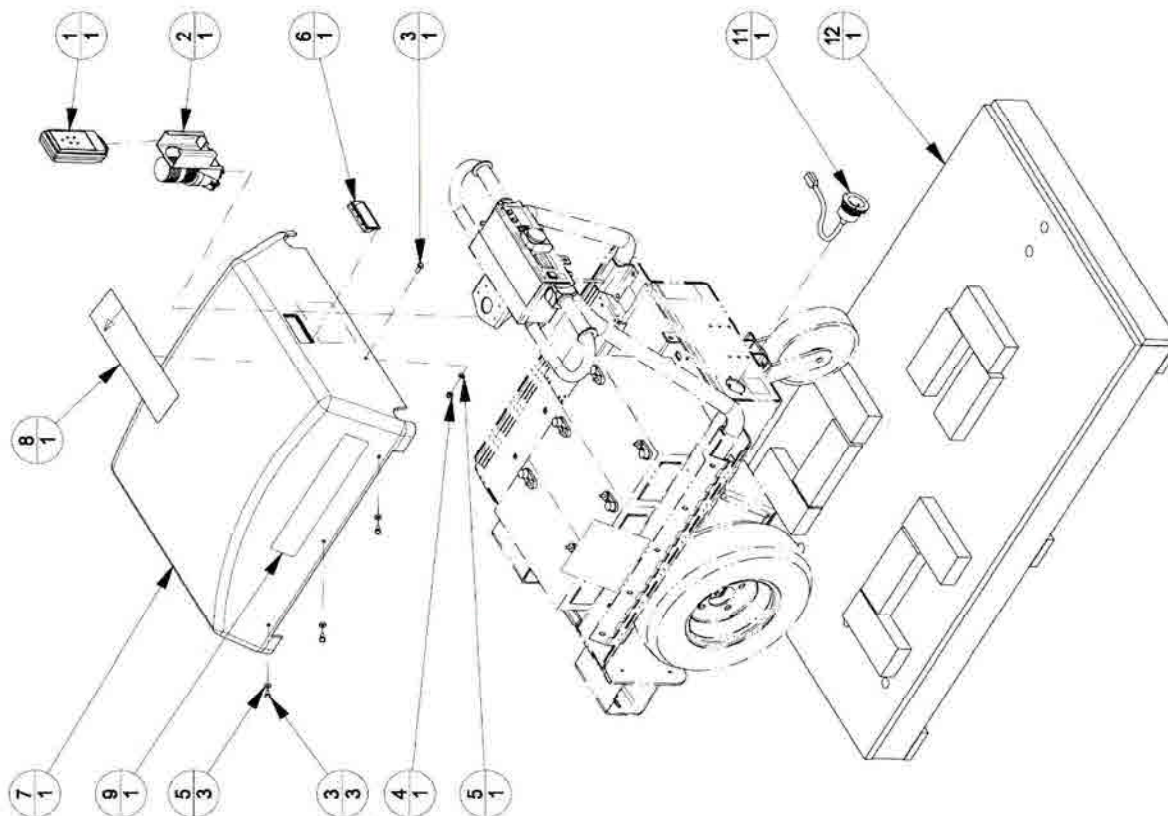
DANE INDUSTRIES, INC.
 1105 Northland Terrace
 Brooklyn Park, MN 55428
 PHONE: (763) 544-7779
 FAX: (763) 544-4234



QK M3 WALMART OPTIONS

TITLE	DWG/PART NO.	SCALE	SHEET
QK M3 WALMART OPTIONS	100-258	1/3/160	1 of 1
DWG DATE	DRN BY:	PDI	MATL: AS SPECIFIED ABOVE
23-Jan-06			
TOLERANCES	0.X = ± 0.030 0.XX = ± 0.010 0.XXX = ± 0.005 ANGLE = ± 0.2 UNLESS OTHERWISE SPECIFIED		
ECO:	294		

BILL OF MATERIAL			
INDEX	PART NO.	REV	DESCRIPTION
1	100-224	A	REMOTE, 433 MHZ, AA, MKII
2	100-256		ASSEMBLY, MKII STROBE STD
3	400-002		BOLT, 1/4-20 X .75 HHCS G5 ZN
4	410-020		NUT, 1/4-20 NYLOCK ZN G5
5	420-001		WASHER, 1/4 SAE STD FLAT ZN
6	480-074		HANDLE, PLASTIC SNAP-IN
7	480-097	E	COVER, QUICKART MK II, DANE RED
8	500-042	C	LABEL, QK WARN - OPER. INST. 30 CARTS
9	501-028	B	LABEL KIT, QK M3 HD BODY
10	700-115		CORD, 10 FOOT 16 GAUGE EXTENSION
11	700-235		CORD, CHARGER UL (115VAC)
12	930-005		QK2000 SHIPPING PALLET
			QTY
			1
			1
			4
			1
			4
			1
			1
			1
			1
			1
			1

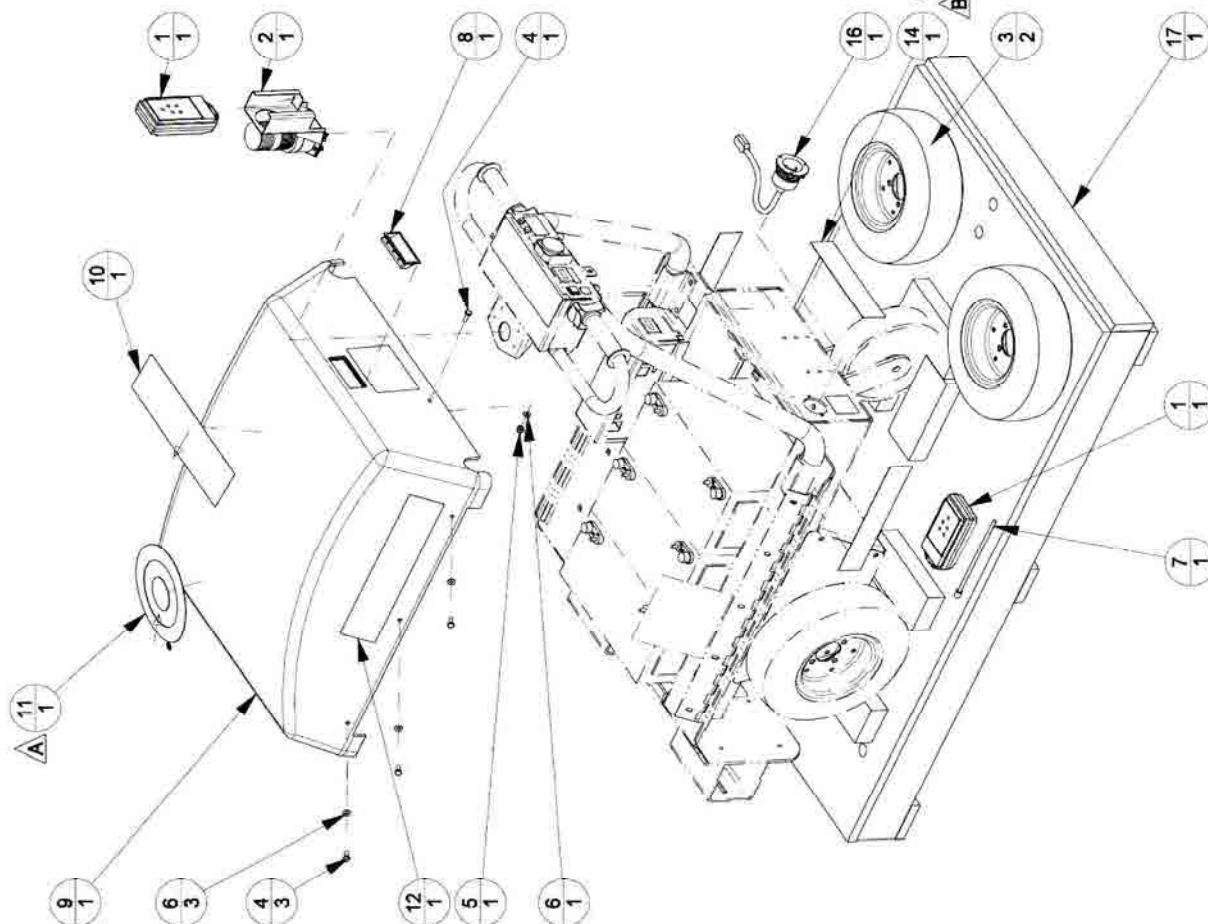


NOTES:
1. ARROW ON DECAL POINTS FROM BOTTOM TO TOP.

DANE INDUSTRIES Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
DANE INDUSTRIES		TITLE	
QK M3 HD STANDARD OPTIONS		SHEET 1 of 1	
DWG/PART NO.	100-259	SCALE	1/1/160
DWG DATE	31-Oct-05	DRN BY:	PDH
TOLERANCES		MATT: AS SPECIFIED ABOVE	
0.X = ±0.030		ECO:	
0.XX = ±0.010		0.XXX = ±0.005	
UNLESS OTHERWISE SPECIFIED		ANGLE = ±0.2°	
		294	

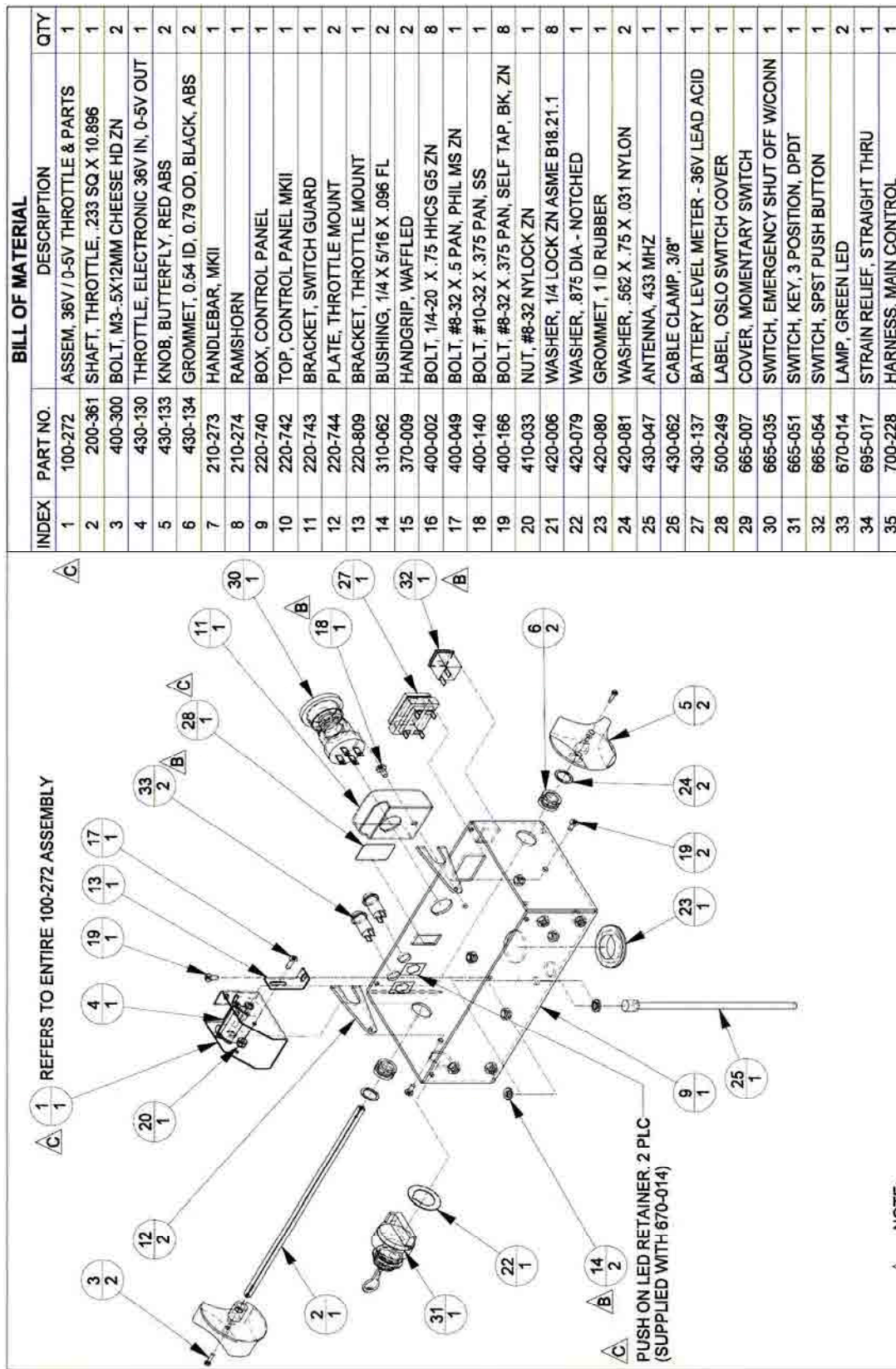
BILL OF MATERIAL			
INDEX	PART NO.	REV	DESCRIPTION
1	100-224	B	REMOTE, 433 MHZ, AA, MKII
2	100-256	A	ASSEMBLY, MKII STROBE STD
3	360-008	B	WHEEL, 410/3.50 X 6
4	400-002		BOLT, 1/4-20 X .75 HHCS G5 ZN
5	410-020		NUT, 1/4-20 NYLOCK ZN G5
6	420-001	-	WASHER, 1/4 SAE STD FLAT ZN
7	430-047		ANTENNA, 433 MHZ
8	480-074		HANDLE, PLASTIC SNAP-IN
9	480-111	C	COVER, QUICKART MK II, TARGET RED
10	500-042	C	LABEL, QK WARN. - OPER. INST. 30 CARTS
11	500-236		LABEL, MODEL INFO, UL
12	501-027	C	LABEL KIT, QUICKART M3
13	685-052		KEYS, EXTRA PAIR M3-M3 HD
14	695-015	-	LABEL, REFLECTIVE STRIPE R/W
15	700-115		CORD, 10 FOOT 16 GAUGE EXTENSION
16	700-235		CORD, CHARGER UL (115VAC)
17	930-005		QK2000 SHIPPING PALLET
			QTY
			2
			1
			2
			4
			1
			4
			1
			1
			1
			1
			1
			1
			2.6'
			1
			1
			1

NOTES:
1. ARROW ON DECAL POINTS FROM BOTTOM TO TOP.



REVISIONS			
A	1/24/06	ECO 307, DEL ITEM 500-008, ADD ITEM 500-236.	
B	5/6/06	ECO 316 595-015 (2.6) WAS (1), ADDED LENGTH NOTE	

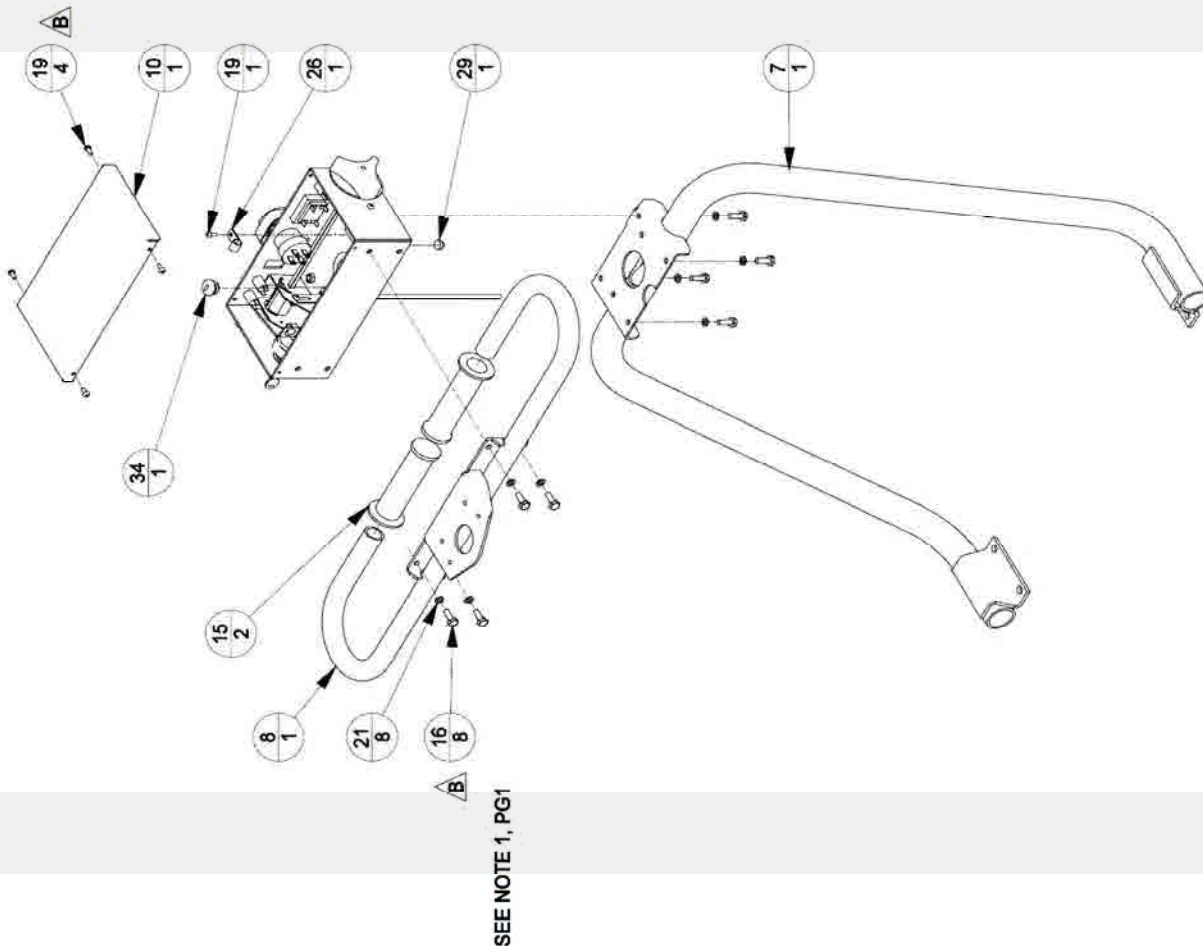
DANE TECHNOLOGIES Inc. 7105 Northland Terrace Brooklyn Park, MN 55428				PHONE: (763) 544-7779 FAX: (763) 544-4234	
TITLE QK M3, TARGET OPTIONS CONFIGURATION					
DWG/PART NO.		100-261		SCALE 13/160 SHEET 1 OF 1	
DWG DATE		23-Jan-06		DRN BY PDH MAT'L AS SPECIFIED ABOVE	
ECO		294		TOLERANCES	
				0.X = ±0.030 0.XXX = ±0.005 0.XX = ±0.010 ANGLE = ±0.2° UNLESS OTHERWISE SPECIFIED	
				REV B	



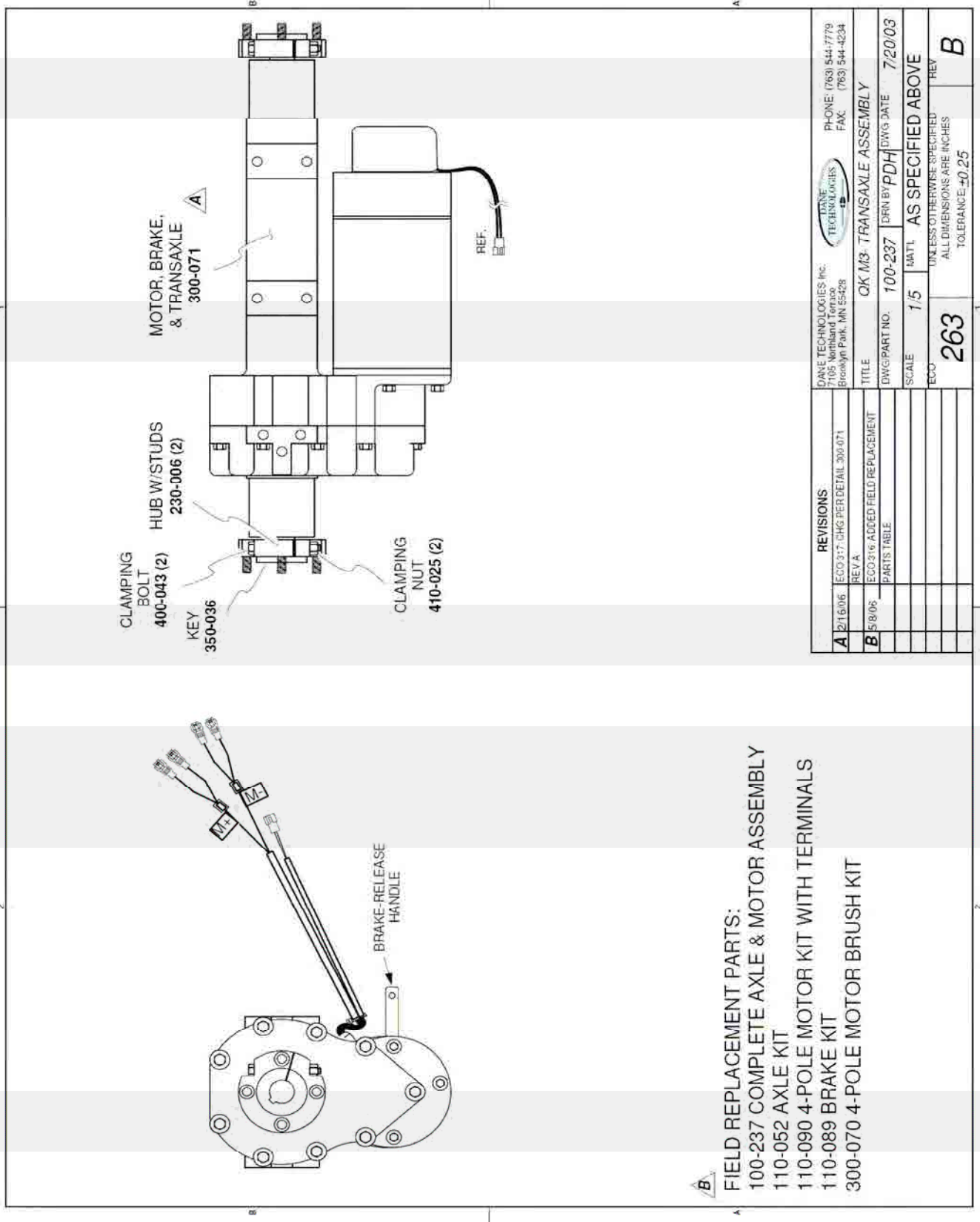
BILL OF MATERIAL			
INDEX	PART NO.	DESCRIPTION	QTY
1	100-272	ASSEM, 36V / 0-5V THROTTLE & PARTS	1
2	200-361	SHAFT, THROTTLE, .233 SQ X 10.896	1
3	400-300	BOLT, M3-.5X12MM CHEESE HD ZN	2
4	430-130	THROTTLE, ELECTRONIC 36V IN, 0-5V OUT	1
5	430-133	KNOB, BUTTERFLY, RED ABS	2
6	430-134	GROMMET, 0.54 ID, 0.79 OD, BLACK, ABS	2
7	210-273	HANDLEBAR, MKII	1
8	210-274	RAMSHORN	1
9	220-740	BOX, CONTROL, PANEL	1
10	220-742	TOP, CONTROL PANEL MKII	1
11	220-743	BRACKET, SWITCH GUARD	1
12	220-744	PLATE, THROTTLE MOUNT	2
13	220-809	BRACKET, THROTTLE MOUNT	1
14	310-062	BUSHING, 1/4 X 5/16 X .096 FL	2
15	370-009	HANDGRIP, WAFFLED	2
16	400-002	BOLT, 1/4-20 X .75 HHCS G5 ZN	8
17	400-049	BOLT, #8-32 X .5 PAN, PHIL MS ZN	1
18	400-140	BOLT, #10-32 X .375 PAN, SS	1
19	400-166	BOLT, #8-32 X .375 PAN, SELF TAP, BK, ZN	8
20	410-033	NUT, #8-32 NYLOCK ZN	1
21	420-006	WASHER, 1/4 LOCK ZN ASME B18.21.1	8
22	420-079	WASHER, .875 DIA - NOTCHED	1
23	420-080	GROMMET, 1 ID RUBBER	1
24	420-081	WASHER, .562 X .75 X .031 NYLON	2
25	430-047	ANTENNA, 433 MHZ	1
26	430-062	CABLE CLAMP, 3/8"	1
27	430-137	BATTERY LEVEL METER - 36V LEAD ACID	1
28	500-249	LABEL, OSLO SWITCH COVER	1
29	665-007	COVER, MOMENTARY SWITCH	1
30	665-035	SWITCH, EMERGENCY SHUT OFF W/CONN	1
31	665-051	SWITCH, KEY, 3 POSITION, DPDT	1
32	665-054	SWITCH, SPST PUSH BUTTON	1
33	670-014	LAMP, GREEN LED	2
34	695-017	STRAIN RELIEF, STRAIGHT THRU	1
35	700-228	HARNESS, MAIN CONTROL	1

DANE INDUSTRIES Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
TITLE HANDLEBARS, QK MKII		SCALE 3/16	
DWG/PART NO. 100-219		SHEET 1 OF 2	
DWG DATE 21-Mar-05		DRN BY: PDH MAT'L AS SPECIFIED ABOVE	
TOLERANCES X = ±0.020 XX = ±0.010 XXX = ±0.005 UNLESS OTHERWISE SPECIFIED		ECO: 263	

REVISIONS	
A	7/5/05 ECO 263: ADDED AND DELETED ITEMS.
B	10/31/05 ECO 263: DEL ITEMS 100-238, 210-295, 350-073, 400-175, 400-207, 400-263, 400-277, 410-056, 430-048, 470-034, 665-003, 665-049, 670-007, 720-061, ADD ITEMS 310-062, 400-166, 400-002, 665-054, 670-014, 400-070 (1) WAS (3), ADDED NOTE 1, SEE SHIT2 AND NOTE 2.
C	2/17/06 ECO 319: ADD 100-272, 500-249 WAS 480-054 WAS 665-031, ADD LED RETAINER NOTE, DEL 400-070 ADD 400-140.



DANE INDUSTRIES Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
DANE INDUSTRIES		HANDLEBARS, QK MKII	
DWG/PART NO.	100-219	SCALE	1/8
DWG DATE	21-Mar-05	DRN BY	PDH
TOLERANCES		MAT'L AS SPECIFIED ABOVE	
		ECO: 263	
		SHEET 2 of 2	
		UNLESS OTHERWISE SPECIFIED	
		0.XX = ±0.010	
		0.XXX = ±0.005	
		ANGLE = ±0.2°	

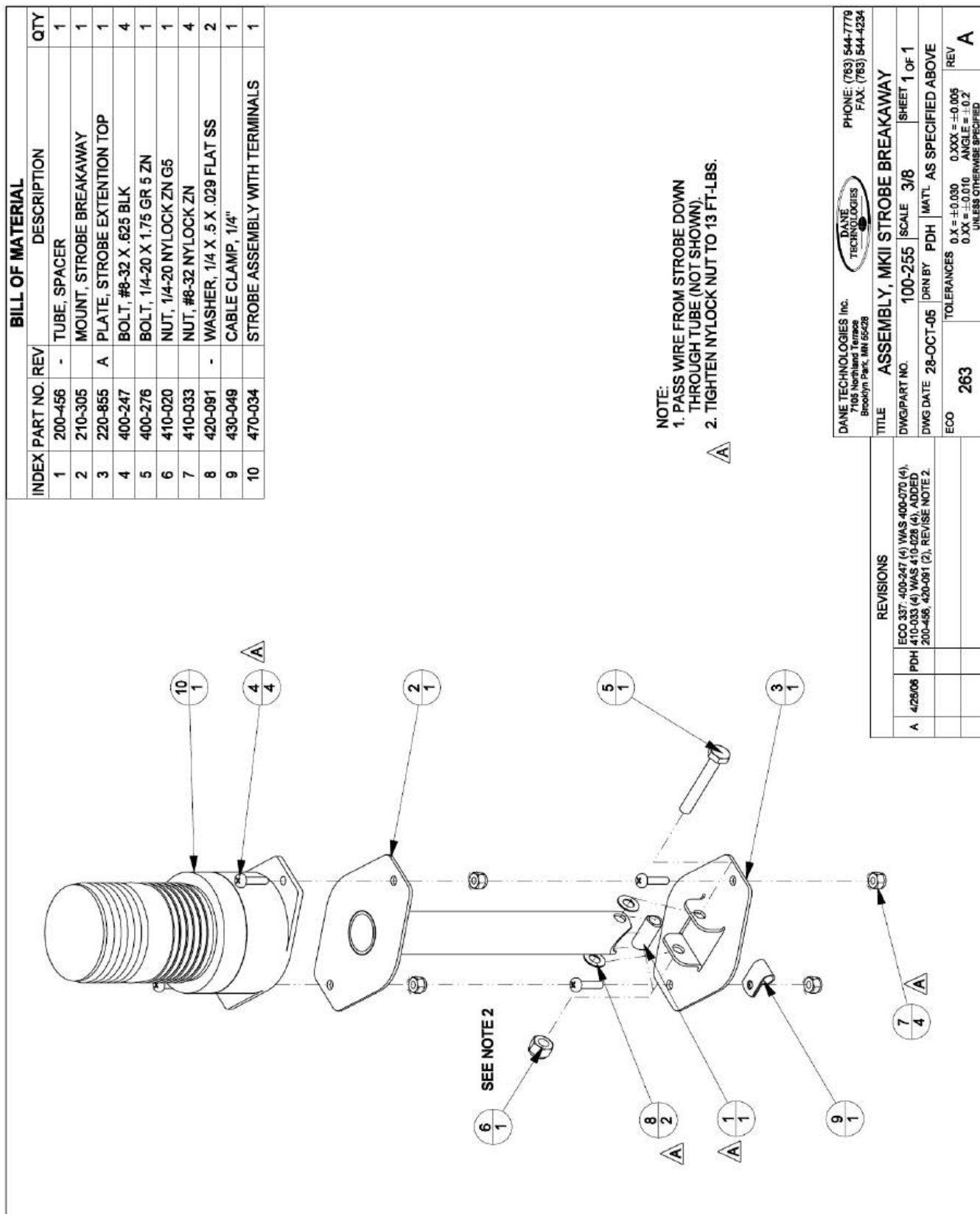


REVISIONS		DANE TECHNOLOGIES, INC. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: 763 544-7779 FAX: 763 544-4234	
A	2/16/06	ECO317: CHG PER DETAIL 300-071	REV A		
B	5/8/06	ECO316: ADDED FIELD REPLACEMENT PARTS TABLE			
		TITLE		OK M3- TRANSAXLE ASSEMBLY	
		DWG/PART NO.		100-237	
		SCALE		1/5	
		ECO		AS SPECIFIED ABOVE	
				UNLESS OTHERWISE SPECIFIED - ALL DIMENSIONS ARE INCHES	
				TOLERANCE: ±0.25	
				REV	
				B	



		PHONE: (763) 544-7779 FAX: (763) 544-4234	
DANE TECHNOLOGIES Inc. 1105 Norland Terrace Brooklyn Park, MN 55428		TITLE: QK M3 HD TRANSAXLE ASSEMBLY	
DWG/PART NO: 100-239		DEN BY: PDH SCALE: 1/5 SHEET: 1 OF 1	
DWG DATE: 7/20/05		MAIL: AS SPECIFIED ABOVE	
RECD: 263		UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE INCHES TOLERANCE: +0.25	
REV: B			

B FIELD REPLACEMENT PARTS:
100-239 COMPLETE AXLE & MOTOR ASSEMBLY
300-042 AXLE KIT
110-088 4-POLE MOTOR KIT WITH TERMINALS
110-087 BRAKE KIT
300-030 4-POLE MOTOR BRUSH KIT



DANE TECHNOLOGIES Inc.
7105 Northland Terrace
Brooklyn Park, MN 55428

PHONE: (763) 544-7779
FAX: (763) 544-4234

TITLE ASSEMBLY, MKII STROBE BREAKAWAY

DWG/PART NO. 100-255

SCALE 3/8

SHEET 1 OF 1

DWG DATE 28-OCT-05

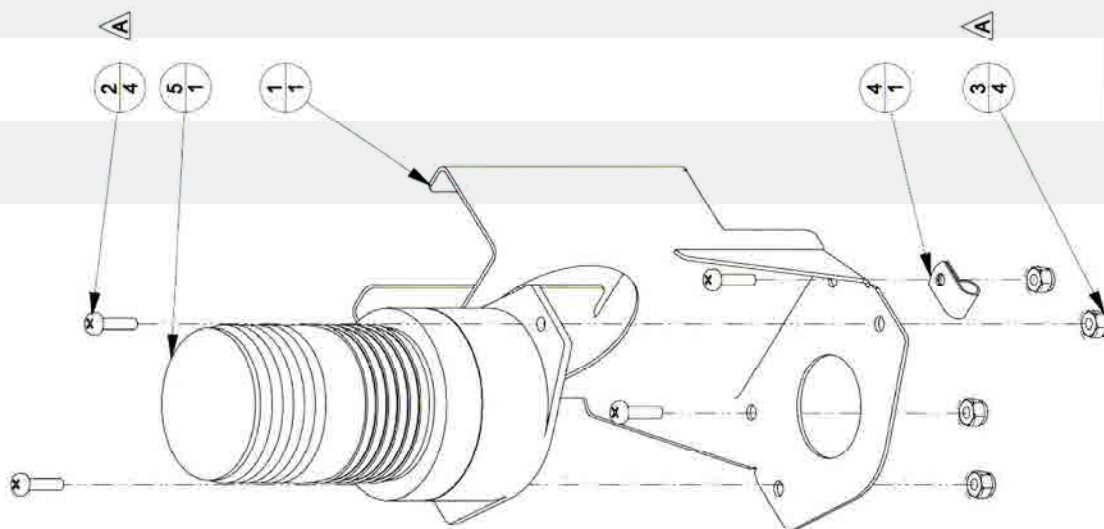
DRN BY PDH

MATL AS SPECIFIED ABOVE

ECO 263

REV A

BILL OF MATERIAL			
INDEX	PART NO.	REV	DESCRIPTION
1	210-295		BRACKET, REMOTE HOLDER
2	400-247		BOLT, #8-32 X .625 BLK
3	410-033		NUT, #8-32 NYLOCK ZN
4	430-049		CABLE CLAMP, 1/4"
5	470-034		STROBE ASSEMBLY WITH TERMINALS



DANE TECHNOLOGIES Inc. 7105 Northland Terrace Brooklyn Park, MN 55428		PHONE: (763) 544-7779 FAX: (763) 544-4234	
DANE TECHNOLOGIES		ASSEMBLY, MKII STROBE STD	
DWG/PART NO.	100-256	SCALE	7/16
DWG DATE	28-Oct-05	DRN BY	PDH
ECO	263	MATL	AS SPECIFIED ABOVE
TOLERANCES		0.XX = ±0.030 0.XXX = ±0.005 ANGLE = 0.2° UNLESS OTHERWISE SPECIFIED	
REV		A	

REVISIONS			
A	5/8/06	PDH	ECO 316 400-247 WAS 400-070, 410-033 WAS 410-028.



Warranty Procedures for our Service Providers

Dane Technologies is focused on delivering high service level to the customer. We appreciate your dedication in supporting our customers and ensuring maximum uptime for the Dane line of products.

The following pages will help to explain how to obtain replacement parts and the process of performing warranty work as well as how to file a warranty claim.

The following pages include:

- Ordering and invoicing procedures
- Recommended parts inventory
- A warranty claim form
- Mandatory return parts for the model in this manual
- Preventive maintenance chart for the model in this manual

This information is to help you and your staff to become familiar with the Dane procedures.

As a service provider for Dane Technologies, you are an important link to our customer. We thank you for helping us serve the customer.

Let me know if you have questions or suggestions to improve the service levels we offer to the customer.

Regards,

Ken Guzel
Vice President – Service
Dane Technologies
888-544-7779 ext.4436
keng@daneindustries.com



ORDERING AND INVOICING PROCEDURES

ORDERING

PARTS:

Call Dane Technologies at 888-544-7779, press #1 or fax 763-582-0442.

Please provide a purchase order # and, if applicable, the location of the customer store and the serial number of the QuickKART.

TECHNICAL SUPPORT:

Call the same phone number and press #2.

SHIPPING / INVOICING

WARRANTY:

If you have the part in stock, use it to repair the customer's QuickKART and take the defective part back to your shop. Order a replacement part from Dane. Please provide the location of the customer store where your part was used so that we can verify warranty coverage. Dane will ship a replacement part and invoice you for it. Along with the part, you will receive a RMA, authorizing the return of the item under warranty. Return the part to Dane along with the Warranty Claim Form. Upon verifying that the part is defective, Dane will issue a credit, canceling the invoice.

NON-WARRANTY:

Again, use a part from your stock if possible. Invoice the customer for your labor and parts.

REMEMBER: Labor warranty is 90 days from purchase date. Parts pricing must agree with the retail price shown on the Dane price list. Order replacement parts for your inventory as described above.

IF YOU DON'T HAVE THE PART IN STOCK:

Order the part from Dane as described above. Please provide a purchase order number, ship-to address if different from your business address, customer store location, and information on the part coming back, if applicable. Communicate with customer store management about delivery time and any other details about when you estimate the QuickKART will be repaired.



Service Provider Recommended Parts Inventory
Suggested Quantities are for every 10 QuickKARTs in your service area.

Part #	Description	TOTAL/10 QK
QuickKART M3 / M3 HD		
100-050	Horn and Harness	1
100-222	Controller, 36V	1
100-223	Receiver, Radio	1
100-224	Remote	1
100-237	Motor/ Axle/ brake assembly M3	1
100-239	Motor/ Axle/ brake assm M3 HD	1
110-058	Strobe Light Assembly	1
110-060	Brush and Spring Kit – M3	2
300-030	Brush and Spring Kit – M3 HD	2
360-008	Tire, 12" Knobby	4
360-016	Swivel Wheel	2
360-043	Tire, 16" Knobby	4
430-047	Antenna	2
430-130	Throttle Assembly – M3 Series	1
430-137	Meter, Battery Level	1
470-017	Strobe Bulb	1
665-036	Emergency Shut-off Switch	1
665-051	Key Switch	1
665-054	Switch, Horn	1
670-014	Lamp, Green Led	1
700-115	Cord, 10' AC Extension	1
700-212	Cable, 40 amp fuse – M3	1
700-228	Harness	1
700-232	Cable, controller power	1
700-242	Cable, 60 amp fuse – M3 HD	1
700-243	Cable, Battery interconnect	1
810-049	Charger, 36 V battery 115VAC	1
810-050	Charger, 36 V battery 240VAC	1

WARRANTY PARTS REQUIRED TO BE RETURNED

The following parts must be returned to Dane Technologies on all warranty claims. Returning the Warranty Claim Form with the parts will ensure prompt, accurate processing. If you have questions, please call **888-544-7779, press #1**.

QuickKART M3 – M3 HD
Part # Description

100-222	Controller, 36V
100-223	Receiver, Radio
100-224	Remote
100-237	Motor/ Axle/ brake assembly - M3
110-052	Gearbox - M3
110-089	Brake - M3
300-070	Motor - M3
100-239	Motor/ Axle/ brake assm M3 HD
300-042	Gearbox - M3 HD
110-087	Brake - M3 HD
110-088	Motor - M3 HD
810-049	Charger, 36 V battery 115VAC
810-050	Charger, 36 V battery 240VAC



7105 Northland Terrace
MINNEAPOLIS, MN. 55428

WARRANTY CLAIM FORM

RMA# _____ Serial # _____ 1K 2K 2500 M3 M3 HD	Customer: _____ City _____ State _____ Contact: _____
--	---

QTY	PART #	DESCRIPTION	CREDIT AMOUNT

Store Name & Number: _____

Circle one:

Returned for warranty

Returned for core credit

Warranty upon inspection

QuickKART M3 and M3 HD Preventive Maintenance

Date: _____
 Store: _____
 Location: _____

Meter Hours: _____
 Labels Condition: _____
 Serial Number: _____

D= Daily, M= Monthly, S-A = Semi-annually, Y=Yearly >>>	D	M	S-A	Y	OK
Inspect throttle, turn keyswitch to "Manual". The cart should not move. Check that the RH thumb wheel throttle moves freely in a CW then CCW direction. The cart should move forward then reverse.	X				
Test the parking brake system. With the keyswitch "Off", try to move the machine. The brake should keep the drive wheels from rotating.	X				
Test the Emergency shut-off button. With the keyswitch in "Manual" or "Remote", pressing the Emergency shut-off will disable all controls and stop the machine.	X				
Strobe Light: Check for damage and proper operation.	X				
Remote: Check for damage. With the keyswitch in "Remote", check operation with all buttons. The remote should operate up to 100' from the machine.	X				
Charge batteries overnight, every night.	X				
Check couplers and yokes for unsafe wear, loose or missing fasteners, and safe connection.	X				
Batteries: Inspect loose connections, frayed insulation, and corrosion. Clean away corrosion. Check charger operation, see page 24.		X			
Wiring: Inspect all wiring and electrical connections for loose connections, frayed or deteriorated insulation, exposed wire, and broken or missing hardware.		X			
Maintenance Type Batteries: Check water levels, add distilled water after charging as necessary.		X			
Check body for damage. Check all bolts, fasteners and connections for tightness and wear.		X			
Check tires and caster wheel for wear, bent rims and missing or loose lug nuts.		X			
Check the antenna for damage.		X			
Check tires and caster wheel for wear, bent rims and missing or loose lug nuts.		X			
Check the machine for damaged or missing labels.		X			
Apply grease to rear swivel wheel using a standard grease gun, two places.			X		
Check the AC charger cord for frayed or deteriorated insulation and exposed wire.			X		
Have your authorized service center check your QuickKART completely.				X	

Any other problems, Comments: