

Warning

EMX Racer

**BEFORE RIDING THIS MODEL, PLEASE
TAKE THE TIME TO READ THIS NOTICE.**

DUE TO THE HIGH PERFORMANCE BUILT INTO THIS MODEL, THE MOTOR RECEIVES HIGH AMPERAGE INSTANTLY THROUGH THE PULSE MODULATED CONTROLLER MOUNTED IN THE STEERING COLUMN. AS YOU ADVANCE THE THROTTLE, THE RESPONSE IS LINEAR AS WITH A GAS ENGINE. AS THE THROTTLE SETTING ADVANCES, SO DOES THE VOLTAGE FROM 0 TO 36. AT ONE THIRD THROTTLE THE MOTOR IS ONLY SEEING 12 VOLTS AND A LOW 20 AMPS. AT FULL THROTTLE IT SEES 36 VOLTS AND CAN DRAW UP TO 185 AMPS IN A STALL MODE.

AN ELECTRIC MOTOR CANNOT BE RESTRICTED, OR HELD BACK IN A STALL SITUATION WITHOUT IMMEDIATE HEAT BUILD UP IN THE ARMATURE WINDINGS. TAKE ANY ELECTRIC DRILL, HOLD THE POWER ON, AND LOAD IT DOWN TO A STALL SITUATION. THE ARMATURE WILL BE DESTROYED IN SECONDS.

THE EMX MOTOR HAS A BUILT IN COOLING FAN TO DISPERSE HEAT. IT IS IMPERATIVE THAT THE MACHINE IS ALLOWED TO SPOOL UP IN ORDER TO PREVENT HEAT BUILD UP. REPETITIVE FULL POWER ACCELERATING FROM A STANDSTILL, AND STOPPING WITHOUT ALLOWING THE MOTOR TO REACH AND HOLD FULL R.P.M. FOR A PERIOD, WILL ALLOW HEAT BUILD UP AND DESTROY THE ARMATURE.

WHEN RIDING IN STEEP TERRAIN, WET GRASS, OR SOFT PACK THAT MAY LOAD THE MACHINE DOWN TO THE EXTENT THAT IT CANNOT REACH TOP SPEED, REDUCE THE THROTTLE SETTING TO MATCH THE ACTUAL SPEED THAT THE SCOOTER CAN COMFORTABLY MAINTAIN. THIS WILL ENSURE LONG LIFE FOR YOUR MOTOR AND SAVE YOU FROM HAVING TO BUY A NEW MOTOR.

UNPACKING YOUR EMX

Unpacking your EMX and securing the handlebars is best accomplished with two people. No additional tools are needed other than a 13 mm wrench and the (Allen wrench which is included and placed for shipping with the keys).

Carefully unpack your EMX from the cardboard container. Be careful not to scratch the bodywork by allowing the detached handlebars to hit the EMX. after complete removal from the box, unwrap the packing around the handlebars. Remove the Allen wrench from the packing material. Use this wrench to remove the four Allen head bolts holding the top half of the steering stem to the bottom half. Remove this top half and properly fit the handlebars into the upright forward position. While holding the handlebars in this position, replace the top half of the steering stem and carefully put the bolts back into the four holes. Tighten the four bolts securely.

To swivel the stem, turn center 13mm bolt one rotation counterclockwise and tap the bolt head lightly to free wedge. Do not loosen all the way or wedge will fall down the tube and scooter will have to be inverted to retrieve this part. Check the position of the handlebars to make sure they are placed properly for comfortable riding. Loosen the bolts and reposition the handlebars forward or back if adjustment is needed. Note,(the stem head should face forward.)

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INTRODUCTION

IMPORTANT! SAFETY FIRST!!

This owner's manual is written in layman's terms and is meant as a helpful guide to enjoying your ELECTRIC MOTO CROSS (EMX). Please take the time to carefully read this short instruction guide. If you have any questions or suggestions for us, please contact us during normal business hours (Pacific Time). We appreciate your comments. The telephone number is on the back cover of this manual.

Always remember that the EMX is NOT a toy. The operator of this vehicle must give it the same respect as any motorized vehicle. This vehicle is intended for off-road use and must be used legally. Some jurisdictions, however, may allow the EMX to be ridden on the street. All statutory and licensing requirements, as well as laws regarding mandatory equipment and protective riding gear, must be complied with before attempting to ride the EMX on any public street.

The EMX is designed for operator use only and not for passengers. The operator should wear an approved helmet, proper eye protection, and protective clothing. Alcohol and drugs impair your judgment and reaction time. DO NOT DRINK AND DRIVE!!!

The EMX is an environmentally friendly recreation vehicle. The EMX is extremely quiet and does not produce fumes, allowing it to be ridden indoors or in environmentally sensitive areas. Permission to ride on any private property should be secured first, before attempting to ride the EMX on such property. The EMX is a new type of vehicle and most people will not be familiar with its advantages. It may help to explain the environmentally friendly nature of the EMX when seeking permission to ride the vehicle on private property. The EMX tires are extremely wide which allows the rider's weight to be distributed over a larger area and prevents most grassy areas from being damaged from riding the EMX. Care should always be taken to not damage the terrain and always respect other people while riding.

The EMX vehicle does require balance and coordination to turn and maneuver. Read this manual carefully and make sure you understand all of the EMX's controls and capabilities. Use of proper operating procedures is essential for safe fun.

SPECIFICATIONS

DIMENSIONS

length	42.25 inches
wheel base	31.25 inches
extended height	52.50 inches
folded height	20.00 inches
platform width	14.50 inches
platform height	12.50 inches

PERFORMANCE

turning radius	6 ft.
top speed	approx. 17 mph (Racer 25-30 mph)
running duration	approx. 1-6 Hrs. subject to speed, weight and terrain

OTHER SPECIFICATIONS

weight (including batteries) (excluding Racer)	approx. 100 lbs.
front tire	11.0x4.50-5
rear tire	11.5x7.50-5
brake	rear drum
gearing	8.33/1
charging system	110v AC - 24v DC, 5 AMP
Racer	110v AC - 36v DC, 7 AMP
throttle	pulse modulated linear controller with stainless steel potentiometer
handlebars	chrome
wheels	aluminum
body	fiberglass
fork and rear arms	aluminum
motor	24v 750 watts current 50 Amps nominal speed 2800 RPM continuous torque 250 N.CM
Racer	36v 1500 watts
batteries	2-12v gel cell maintenance free
Racer	3-12v A.G.M. maintenance free

SAFETY FEATURES

**horn (not on Racer), steering column microswitch cut-off, non-skid platform,
wide tires for easy balance, warning labels**

**(BADSEY RESERVES THE RIGHT TO CHANGE DESIGN SPECIFICATIONS
AND OR PRODUCT FEATURES AT ANY TIME WITHOUT PRIOR NOTICE)**

PRE-RIDE INSPECTION CHECKLIST

Prior to riding the EMX:

- * Check the pressure of the tires, as improper inflation could severely alter handling and stability. The front tire should have a tire pressure of 20 psi and the rear tire should be kept at a pressure of 25 psi. For riders over 200 lbs., increase rear tire to 30 psi (Do not exceed 35 psi)(If rear sprocket touches the ground on left hand turns, tire pressure is too low.)**
- * Make sure the drive chain has the proper tension and the EMX wheels move freely forward before turning on the ignition.**
- * Check operation of the rear brake to make sure it is functioning properly. The brake should firmly stop the rotation of the rear wheel when fully applied, yet should not rub or inhibit rotation of the wheel when fully released.**
- * Check to make sure that the brake cable did not bend or kink up at the bottom of the steering column near the hinge. If the steering column is not carefully folded and unfolded, the brake cable might get caught where it passes through the bottom of the steering column and the hole in the top of the main body. When placing the steering column in the upright position, always make sure that the brake cable is not kinked or stuck. This can create a drag on free wheeling that will make it appear as if the brake is applied. It is good practice to check the position of this section of the cable when the steering column is being folded.**
- * Check for free movement of the throttle lever. Make sure that the throttle cable is not sticking. Also check to make sure nothing is stored in the steering column that could interfere with the movement of the lever connected to the stainless steel potentiometer box which is located on the left side of the steering column.**
- * Check to see if the steering column is securely locked into the upright position before turning on the EMX or it will not run. Ensure that the slider tube is pushed completely down.**
- * Make sure the charger cord is unplugged and safely stowed away before turning the ignition switch on.**
- * Check the steering action. It should be smooth, but not loose, and the control cables must not bind.**
- * Check nuts, bolts, fasteners, steering components, axles, and controls to be sure that they are tight and in good condition.**

STARTING AND MOUNTING THE SPORT MODEL

1. Proper standing position:

The EMX is designed to carry one operator only. It is not designed to carry any passengers. The rider should stand on the platform positioning his/her feet forward of the back wheel. The rider should also lean slightly forward and increase the throttle smoothly and slowly to ensure stability of the vehicle.

2. Proper apparel:

The rider must wear a helmet such as a good quality bicycle helmet. The helmet should be worn at all times. The rider should never operate the EMX without shoes. Clothing that covers the rider's arms and legs should be worn. Riding gloves are recommended for hand protection. Glasses are recommended for eye protection.

3. No DRINKING and RIDING:

The use of alcohol or drugs may impair the operator's abilities. This vehicle should never be operated by anyone taking medication or by anyone under the influence of drugs or alcohol. This vehicle requires balance and should not be ridden by anyone with a medical problem which impairs their balance or coordination.

4. Age and proper supervision:

The EMX is **NOT A TOY**. The riding of the EMX is **NOT** recommended for children under the age of 14.

5. Obey all laws & regulations:

THE EMX IS DESIGNED FOR OFF-ROAD USE ONLY. The vehicle is designed for turf, dirt, or on privately owned areas where permission has been granted. All laws and regulations concerning the use of the EMX should always be followed. The EMX is not equipped with proper hardware to operate legally on public roads. Various jurisdictions, states and municipalities have differing requirements for equipment licensing and the legal operation of street legal vehicles.

STARTING AND MOUNTING THE SPORT EMX

Before attempting to ride the EMX, make sure the rider thoroughly reads and understands this manual.

He or she should review the pre-ride check list to make sure the vehicle is ready to ride.

If the EMX is in the folded position, the handlebars should be carefully lifted into the upright position and the fiberglass steering column should be firmly slid down into the secured position. The steering column must be securely locked into the upright position before riding or the EMX will not run.

The EMX steering column is equipped with a microswitch which cuts out power if the steering column is not securely down. On rare occasions this may happen when the EMX is ridden over a severe bump. If the EMX cuts out after riding over a bump, simply push the steering column down firmly and the EMX should restart. Make sure the thumb throttle is fully released when re-locking the steering column.

Check that the handlebars are tightly clamped by the upper and bottom halves of the steering stem. Also check to make sure the center bolt holding the entire steering stem is properly tightened.

Place the proper key into the ON/OFF ignition and turn the key to the ON position. Always remember to turn the key to the OFF position when finished riding.

The suggested starting procedure begins with the operator placing one foot on the middle of the EMX platform and the other foot firmly on the ground Next to the EMX. The operator then places his/her hands on the handlebar grips and grabs hold onto the handlebars. To begin movement, the operator SLOWLY AND GRADUALLY pushes the thumb throttle forward while gently pushing forward with the foot which has been on the ground . As the EMX slowly moves forward, the operator lifts the remaining foot and places it firmly on the EMX platform. (In the case of the custom and cruiser models, a twist throttle is fitted.)

AT ALL TIMES, THE OPERATOR SHOULD MOVE THE THUMB THROTTLE SLOWLY AND GRADUALLY WHILE STANDING UPRIGHT IN THE MIDDLE OF THE PLATFORM. KEEPING WEIGHT FORWARD ON THE PLATFORM WILL HELP PREVENT AN UNDESIRED LIFTING OF THE

FRONT WHEEL OR “WHEELIE”, SHOULD THE OPERATOR APPLY TOO MUCH THROTTLE.

The EMX (except for the Racer) is a slow speed vehicle and is easy to control by the throttle. The EMX is a skill machine, so the operator should take the proper time to become comfortable with the EMX controls and characteristics. The EMX has been designed to provide fun yet challenging riding without the added risks of high speeds. The EMX is a powered vehicle and should always be treated with respect.

The EMX should not be ridden by anyone under the age of 14 or by anyone that has any physical impairment which might increase the risk of injury. The EMX is easy to balance due to its wide tires but balance is still important to its proper use. The operator should never attempt to operate the EMX while taking any drugs or under the influence of any intoxicant.

STARTING & MOUNTING THE CUSTOM EMX

The Custom EMX incorporates a seat which must be securely locked into place before riding. The battery lid must be unlocked with the proper key and removed before attempting to install the detachable seat. Once the battery lid has been removed, the end of the seat post should be placed into the post hole in the EMX platform. The seat should be facing forward. The plunger pin, inside the battery compartment, should be pulled out as far as possible while lowering the seat post down into the bottom of the post shaft. The plunger pin can then be released and the pin should pass through a location hole in the seat post itself. Some rotation or “wiggling” of the seat post might be necessary to align the pin and the post hole properly. The operator must make sure that the seat post is securely locked into place before riding. The battery lid should then be replaced and locked into the position with the key. The key should then be removed from the lid. The opposite procedure is used to remove the seat.

RIDING AND TURNING

Riding and turning the EMX requires balance and coordination. The same principals that apply to turning a bicycle apply to turning the EMX. At very low speeds, a turn can be accomplished by simply turning the handlebars in the direction of the turn. At every other speed, turning the EMX is accomplished by a coordinated effort of turning the handlebars and shifting the operator's weight (leaning) into the direction of the turn. Extremely sharp turns should be avoided.

The EMX should be ridden on relatively firm surfaces. Hard well packed dirt, low grass, paved, or gravel areas are acceptable surfaces for riding. The EMX should not be ridden on sand or loose dirt. The EMX should also be kept away from water. Riding the EMX Sport properly will require some practice and time should be spent learning to master the EMX in a non-congested area. Proper coordination of the controls and operator's balance will provide for hours of fun and safe operation of the EMX. The operator should ALWAYS STAND FORWARD AND KEEP HIS/HER WEIGHT FORWARD TO PREVENT THE EMX FROM LIFTING THE FRONT WHEEL AND BEGINNING A "WHEELIE" UNLESS PROPER SKILL HAS BEEN ACQUIRED AND THE "WHEELIE" IS INTENDED.

THE EMX CAN BE MADE TO "WHEELIE". THE OPERATOR SHOULD BE WELL TRAINED BEFORE ATTEMPTING ANY TRICKS SUCH AS A "WHEELIE".

NOTE:

The Super Sport ("Racer") is only for ADVANCED-SKILLED ADULT RIDERS. It produces instant torque and rapid acceleration.

STOPPING AND PARKING

Stopping the EMX is accomplished by completely releasing the thumb or custom twist throttle and applying sufficient pull to the brake lever which operates the drum on the rear wheel.

When parking the EMX, always turn the ignition key to the OFF position and remove the ignition key. Then, either fold down the steering column in preparation for storage, or use the optional side kickstand when parking the EMX. Always park the EMX in a secure place so as to prevent tipping or rolling. A cable type lock can be used to lock the fork to a pole or rack. Locking a cable through one of the rear side arm holes is the best method of securing the scooter.

LOADING AND STORAGE

The ignition key should be turned to the OFF position at all times when the EMX is not being ridden. The ignition key should be removed before folding the steering column. Always fold the steering column before attempting to load the EMX into a vehicle, boat, or airplane for transportation. The column should be folded before attempting to lift the EMX. NEVER ATTEMPT TO LIFT THE EMX BY THE STEERING COLUMN. Once the steering column is folded, a bungee cord should be used to hold the folded column in place. The EMX is now ready for transport or storage.

It is best to have two people lift the EMX for loading. If one person is lifting the EMX, one hand should be used to lift under the front of the deck, and the other hand should lift under the rear of the deck. Use your legs for lifting so as not to injure your back. A carrying bag should be purchased for the EMX , and the loaded EMX should be placed in a secure place so as not to bounce around and tip over, as this could damage the bodywork.

The EMX should be stored indoors in a dry place so as to prevent weather damage and corrosion. The EMX should be allowed to completely dry before using if it is inadvertently soaked with water as this could cause a fuse to blow or could damage the electric motor.

RE-CHARGING

EMX units (1996 models forward) custom and sport 24 volt models with built-in smart chargers can be left plugged in for indefinite periods. It is however, recommended that they be unplugged after charging is completed (average of 5 to 6 hours full recharge time). The Racer model with external charger should also be unplugged when gauge reads zero. However,

- * no harm will occur if plugged in permanently, as this is also a smart charger.**
- * The scooter can be charged regardless of the handlebar position.**

CAUTIONS

- 1. ALWAYS RIDE RESPONSIBLY AND RESPECT OTHER PEOPLE'S PROPERTY AND RIGHTS.**
- 2. DO NOT RIDE THE EMX WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.**
- 3. THE EMX IS NOT A TOY AND SHOULD NOT BE RIDDEN BY CHILDREN UNDER THE AGE OF 14. ALL NEW RIDERS SHOULD READ THIS MANUAL OR AT LEAST BE GIVEN PROPER INSTRUCTIONS.**
- 4. THE EMX SHOULD BE RIDDEN BY THE OPERATOR ONLY, NO PASSENGERS.**
- 5. THE OPERATOR SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND APPAREL. A BICYCLE HELMET, ATHLETIC SHOES, CLOTHING PROTECTING THE ARMS AND LEGS, EYE PROTECTION, KNEE AND ARM PADS ARE HIGHLY RECOMMENDED.**
- 6. THE STEERING COLUMN SHOULD ALWAYS BE SECURELY SET IN PLACE BY FIRMLY PUSHING THE COLUMN BODYWORK DOWN WHEN PREPARING TO RIDE.**
- 7. MAKE SURE THAT THE STEERING COLUMN BODYWORK IS PULLED UP ALL THE WAY BEFORE ATTEMPTING TO FOLD THE COLUMN DOWN.**
- 8. ALWAYS REMOVE THE IGNITION KEY WHEN NOT RIDING THE EMX.**
- 9. ALWAYS REMOVE THE IGNITION KEY WHEN RECHARGING THE EMX.**
- 10. NEVER IMMERSE THE EMX IN WATER AND AVOID RIDING THE EMX IN OR NEAR WATER.**
- 11. NEVER PLUG OR UNPLUG THE AC CORD WITH WET HANDS OR WHILE STANDING IN WATER.**

12. KEEP WEIGHT FORWARD AND PUSH THE THUMB THROTTLE SLOWLY AND GENTLY TO AVOID LIFTING THE FRONT WHEEL OFF THE GROUND. SAME FOR THE CUSTOM TWIST THROTTLE, ROTATE SLOWLY.

13. OBEY ALL LAWS AND REGULATIONS.

14. ACCESSORIES AND MODIFICATIONS MAY ADVERSELY EFFECT THE HANDLING AND STABILITY OF THE EMX. NON APROVED ACCESSORY INSTALLATIONS OR UNAUTHORIZED MODIFICATIONS COULD RESULT IN INJURY.

15. ALWAYS RELEASE THE THROTTLE WHEN APPLYING THE BRAKE. NEVER APPLY THE THROTTLE WHEN THE EMX IS THOROUGHLY STUCK OR BLOCKED FROM MOVING. THE MOTOR CAN OVERLOAD AND BLOW THE MAIN FUSE. PROLONGED RUNNING OF THE MOTOR WHILE THE EMX IS STUCK OR BLOCKED FROM MOVING COULD OVERHEAT THE MOTOR AND CAUSE PERMANENT DAMAGE TO THE MOTOR AS WELL AS BURNING SOME WIRES.

MAINTENANCE

1. The drive chain should be lightly sprayed with bicycle or motorcycle chain lube weekly. Wipe off any excess oil after spraying. Be careful not to get oil on the tires as this could cause a loss of traction. Do not allow lubricant to get into brake drum.
2. Air pressure in the front and rear tires should be kept at 20 psi for front tire and 25 psi for rear tire. Be careful not to over inflate the tires. The tires are tubeless and the wheel assembly consists of two piece rims bolted together with an O ring squeezed between them for a seal. Tire changing should be done by a skilled person. **ALL AIR MUST BE OUT OF THE TIRE BEFORE ATTEMPTING TO UNBOLT THE TWO RIM HALVES.** The wheel and tire assembly must be removed from the vehicle before attempting to disassemble.
3. Carefully cleaning the EMX regularly with a non-abrasive cleaner and an appropriate aluminum polish will keep the EMX in top shape. Avoid spraying water at the EMX. A damp sponge or cloth is best for cleaning.
4. The rear brake cable can be adjusted by turning the screw type adjustment located on brake lever counter-clockwise for tightening and clockwise for increased play. If this adjustment fails to set the tightness adequately, screw the adjustment at the brake lever back in and pull cable thru clamp at the rear wheel.
5. It may be necessary to occasionally clean and lubricate the inner steering column tube near the hinge to ensure that the outer sliding tube moves freely when folding and unfolding the steering column. It is best to use a Teflon type lubricant. Wipe off any excess spray. Do not lubricate below hinge as this could go past head set bearing and allow steering locking wedge to loosen.
6. All fusing devices are located in the battery compartment. The EMX has a main fuse which is located on the batteries and must be replaced when blown. Always trace the cause of the fuse blowing before using the EMX again. The fuse or circuit breaker on the left side (as you look straight at the mounting panel) is for all 12v uses, such as the horn and accessory lights. The electronic relay is also tied into this fusing device. The circuit breaker on the right side of the mounting panel is for the AC input to the built in charger. The circuit breakers may be reset. Always trace the cause of any circuit breakers switching before continuing to use the EMX.
7. If the batteries are removed from the vehicle, **MAKE SURE THAT THE CORRECT WIRING IS PERFORMED AND MAKE SURE THE MAIN FUSE IS CORRECTLY INSTALLED. IF A SHORT CIRCUIT WERE TO OCCUR WITHOUT THE FUSE INSTALLED, A FIRE COULD RESULT.**

LIMITED ONE YEAR WARRANTY

Badsey Industrial Group makes every effort to ensure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 12 months from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence, or from an accident, repairs or alterations done outside our facilities, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

Should anything go wrong with any Badsey product whether under warranty or not, call Badsey Industrial Group Inc. for a R.A.N. (return authorization number). We will not accept any shipment without a R.A.N. printed on the package. Many times the product problem can be solved over the phone. To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

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

**DUE TO THE HIGH PERFORMANCE NATURE OF THE PRODUCT
THE SUPER SPORT " RACER" IS NOT COVERED UNDER
THIS WARRANTY**

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EMX CHECKLIST & TROUBLE SHOOTING GUIDE

AFTER UNPACKING:

Scooter won't run:

- A) Check that the steering column is all the way down when the handlebars are vertical.**
- B) Check that the throttle lever at the end of cable is returning all the way to the bottom stop. If not, loosen adjuster screw and allow spring loaded lever to return to OFF position. (Re-tighten screw.)**

With the key switch ON, as you move the throttle lever to ON, you should hear a solid "clonk" from inside the scooter body. This is the relay feeding power to the speed controller system. If the scooter still will not run, bridge the two battery terminals that are connected by the fuse block at the back of batteries (do not bridge front terminals).

If scooter only works when this is done, it means that the 60 amp fuse located in the black holder needs replacing.