



OWNER'S MANUAL

- 16.0 ECO Mk.1
- 16.0 RACING Mk.1
- 20.0 LITE Mk.1

OSET Corp

425 Kristen Ct, Unit 4
Montrose, CO 81401, USA
303 990-2390

osetbikes.com

info@osetbikes.com



12.2018

INS012878-V2

osetbikes.com
info@osetbikes.com



IEC 37:2010

This Owner's Manual uses the following symbols and terms to call your attention to Dangers, Warnings, Cautions and Notes, please read, understand and follow all of these notices.

 **DANGER**

Meaning: This term calls attention to a Danger. This indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury. Read the text accompanying the Danger to be aware of the specific hazard.

 **WARNING**

Meaning: This term calls attention to a Warning. This indicates a potentially hazardous situation which, if not avoided, could result in serious injury, in addition to property damage. Read the text accompanying the warning to be aware of the specific hazard.

 **CAUTION**

Meaning: This term calls attention to a Caution. This indicates a potentially hazardous situation which, if not avoided, may result in minor injury and/or damage to equipment or inadvertent system failure. Read the text accompanying the Caution to be aware of the specific hazard and avoid damage or system failure.

NOTE

Meaning: This term calls attention to a Note. The text accompanying a Note provides helpful or other important related information.



Prohibited action - safety sign that indicates forbidden behaviour.



Mandatory action - safety sign that indicates a specific course of action to follow.



Warning - safety sign that indicates a specific source of potential harm

If you do not understand any of this important information, please contact your selling dealer/distributor or the OSET Customer Service Department.

This document was prepared in accordance with IEC Guide 37:2010

**WARNING**

Failure to obey all of the warnings & instructions contained in this manual may result in serious injury and permanent damage to your OSET.

**ADULT SUPERVISION REQUIRED**

This vehicle must be used in the presence of adult supervision to ensure that safe riding practices are established and followed.

**NOT SUITABLE FOR CHILDREN UNDER THREE YEARS OF AGE**

This bike is not design to be used by children under 3 years old.

**READ USER MANUAL BEFORE USE**

This manual contains IMPORTANT INFORMATION that every owner must fully understand.

**WEAR A HELMET, BOOTS, GLOVES LONG SLEEVE JERSEY**

The rider must wear a helmet & appropriate safety gear every time. OSET also recommend wearing protective armour. Do not use bike with loose clothing, long exposed hair or laced shoes.

**OFF ROAD USE ONLY!**

OSET Electric Bikes are designed for off road use only and must not be used on public roads or sidewalks. Please check and obey all local laws.

**OPERATOR ONLY - NO PASSENGERS!**

Your OSET is designed for one rider only, more than one rider will over stress the bike.

**NO LIQUIDS NEAR CHARGER PLUG**

OSET electric bikes must be charged indoors, in a well ventilated area.

**DO NOT SPRAY WITH WATER**

Do not clean your bike with water under pressure. Such as a hose, jet wash, power washer or steam cleaner. Do not immerse vehicle in water.

**DO NOT TOUCH MOVING PARTS**

Risk of entrapment and entanglement if moving parts are touched.

**DO NOT TOUCH HOT SURFACES**

The potential hot surfaces are highlighted on page 6.

**DO NOT TOUCH ELECTRICAL CONTACTS**

Your OSET is battery powered, ensure power is isolated before cleaning, maintenance or removing batteries.

**KEEP INSTRUCTIONS FOR FUTURE REFERENCE
THIS OSET IS NOT A TOY**

Thank you for purchasing an OSET Electric Trials Bike.

This is a serious piece of machinery designed for use by children in fully controlled and safe environments. As the purchaser/owner of the machine, YOU are the responsible adult with the task of keeping the rider(s) safe at all times.

This manual contains IMPORTANT INFORMATION that every owner must fully understand to ensure optimum performance from your new OSET, and to ensure safe operation, it is important to fully understand the features of the machine.

If you defer this task to another adult, it is YOUR RESPONSIBILITY to pass this owners manual and all relevant information to whoever will take on this role, and ensure without question that the rider is controlled and taught in a safe manner.

Your OSET is very adjustable and can be specifically set up for the rider. This motorcycle is equipped with a speed limiting device to restrict top speed. Use this device until your child becomes familiar with the operating of the motorcycle. Please do not allow the machine to be used or adjusted by other children or adults. It is likely you know the abilities, levels of concentration and attention span of the child you purchased the machine for. EVERY CHILD IS DIFFERENT and it is impossible for you to properly supervise other children.

Your OSET is driven by a powerful electric motor. The control dials MUST be adjusted to suit the abilities of the rider. Please remember that even when the speed is set to a slow setting, if the power and response are at high setting, the full torque of the bike will still be available. This means that opening the throttle will propel the machine to the set speed very quickly. Your OSET has great capabilities, and can grow with the skills of the rider to very high levels, but it is IMPERITIVE that the responsible adult controls the entire learning process and gives full attention at all times.

IT IS YOUR RESPONSIBILITY TO FORESEE ALL POTENTIAL SITUATIONS AND CONTROL THE RIDING ENVIRONMENT ACCORDINGLY.

This means not just the machine and the rider, but also the riding terrain and environment.

OSET's are amazingly capable competition-ready bikes, and can be used from the earliest stages of learning to ride all the way through to off road competitions. The secret of learning to ride well is being able to ride a lot. OSET's enable this to happen, and can make the learning process very gratifying for both the children and the adults. Thanks again for purchasing an OSET, and we hope you, and your child, will enjoy the ride!

Ian Smith, President, OSET CORP.

IMPORTER CONTACT INFORMATION

Please visit www.osetbikes.com for the latest importer/distributor information list.

Country	Company	Telephone	Email
Argentina	OSET Bikes Argentina	+54 114 890 7036	gonzalo.piperno@gmail.com
Australia	OSET Bikes Down Under	+61 419 634 948	peteg@oset.com.au
Austria	OSET Bikes Austria	+43 676 970 7676	office@osetbikes.at
Belgium	Pro Bike	+32 069 559 607	probike@skynet.be
Chile	OSET Bikes Chile	+56 994 345 379	ventas@oset.cl
Colombia	Moto Europa S.A.S	+57 152 328 99	ptorres@motoeuropa.com.co
Czech Republic	Harness S.R.O	+42 060 420 8299	humpal.j@seznam.cz
Denmark	OSET Bikes Scandinavia	+45 401 046 40	oset@osetbikes.dk
Finland	OSET Bikes Finland	+45 401 046 40	joa.hindren@joainternational.fi
France	TRUSTY	+33 768 377 673	andre@trusty.fr
Germany	OSET Bikes Germany	+49 152 537 98710	info@osetbikes.de
Greece	Athenscircuit Megara	+30 698 555 5590	christos@eurosport-tv.gr
Israel	Zero Motorcycles	+972 73 737 1688	marc@zeromotorcycles.co.il
Italy	F+G Srl	+39 122 333 47	commerciale@fgdistribution.com
Japan	OSET Bikes Japan	+81 782 202 122	kenichi@gdr.jp
Netherlands	Nonstop Motoren Bv	+31 735 325 484	info@nonstopmotoren.com
New Zealand	OSET Bikes New Zealand	+64 456 350 54	sales@oset.co.nz
Norway	OSET Bikes Scandinavia	+45 401 046 40	oset@osetbikes.dk
Portugal	TrialMotor	+351 912 274 018	info@trialmotor.com
Russia	IDS LLC	+7 903 148-28-53	andreynev@gmail.com
South Africa	Midas Construction	+27 824 530 895	dcil@mweb.co.za
Spain	OSET Bikes Spain	+34 629 255 800	mark@osetbikes.es
Sweden	OSET Bikes Scandinavia	+45 401 046 40	oset@osetbikes.dk
Switzerland	OSET Bikes Switzerland	+43 676 970 7676	office@osetbikes.at
Turkey	Rider Moto Co	+90 532 314 9756	salim@rider.com.tr

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HOT SURFACES

During extended periods of use or if your OSET is ridden hard then some parts will get hot, see highlighted areas in the image below.

- Do not touch the brake rotors or motor before they have cooled down.
- Let the bike cool down before carrying out any work.



INTENDED USE

Your OSET has been designed to be used in sports motorcycle trials competitions, or in a supervised and authorised trials practice environment.

Please follow all safety notes in the manual and ensure riders are of the correct age and weight, the bike is correctly maintained, riders are always supervised and the bike is ridden in appropriate conditions.

SAFETY MODE

If the controller believes that an electronic component is behaving abnormally it will enter a safe mode and stop power to the motor. If this occurs, stop riding and check the bike for obvious signs of damage or faults. Once you have resolved the problem to restart the bike you simply need to turn the bike off and on again. If the problem persists please take your bike to an authorised OSET dealer for inspection.

- The purchaser has failed to carry out any necessary maintenance work on the product, in accordance with the accompanying Owners' Manual.
- Faults / Defects were noticed during previous inspections / maintenance work and where not rectified appropriately.
- An inspection or repair has been carried out by third parties not recognised or authorised by OSET.
- An inspection, maintenance or repair has been carried out on the vehicle that violates the technical requirements, specifications and/or Owners' Manual guidance indicated by OSET.
- Spare parts whose use have not been authorised by OSET have been used during maintenance and/or repair work of the vehicle.
- The vehicle has been altered or modified in any way or fitted with components other than those expressly authorised by OSET.
- The vehicle has been used for purposes other than ordinary use as outlined in the Owners' Manual.

Components found to be defective must be returned to OSET, before a warranty replacement part will be issued, unless otherwise authorized by OSET.

Exclusions to this Warranty

This OSET limited warranty does not cover the following items;

- Normal wear and tear of components where the vehicle has been subject to ordinary use.
- Any component which has been directly or indirectly damaged as a result of a fall, crash or other incident.
- Any third-party labor and/or carriage costs involved in the repair of the vehicle. Return shipping of repaired / replacement parts from OSET or their authorized dealer, will be covered free of charge.
- Components considered to be consumable(s) and therefore are excluded from this warranty are as follows; **Grips, Tyres, Inner Tubes, Brake Pads, Brake Discs, Sprockets, Chains, Bearings, Motor Brushes, Seals, Fuses.**
- Lubricants, oils and other fluids are excluded from this warranty.
- Damage to paintwork and/or consequent corrosion due to external causes such as stone chips, salts, industrial fumes and other environmental impact, or inadequate cleaning and maintenance with inappropriate products.
- Phenomena that are a result of the ageing of the vehicle (such as discoloring of surfaces).
- Products used for commercial purposes, i.e. hire rental, demonstrations or for where products have been misused, i.e. stunt riding, etc.
- Warranty claims not submitted by the official claim procedure as set out by OSET.

Various

OSET retain its discretionary right, to decide whether to repair or replace any part found to be defective. Where parts are replaced, ownership of the parts removed shall pass to OSET without any other consideration.

OSET UK Warranty Policy

This document guarantees the original purchaser of a vehicle manufactured by OSET, that the materials and the manufacturing are free of defects. With this document OSET guarantees the customer (hereafter referred to as the 'purchaser'), in accordance with the conditions set out below, a replacement free of charge of any component with a defect in materials or that is the result of faulty manufacture that is detected in a new motorcycle within the period covered by this Warranty, with no limit on the distance covered or hours of use.

This warranty is limited to replacement or repair of defective components and/or complete bike, where found to be defective by OSET and at their sole discretion.

OSET shall in no event be liable or responsible for incidental or consequential losses, damages to person(s), animals, property or other expenses in connection with their products.

Warranty Period

The period covered by this warranty will begin on the date of purchase, to the original purchaser by an OSET authorised dealer and shall last for 6 calendar months from this date.

Official new OSET lithium batteries are covered for a period of 12 calendar months, from the date of purchase by the original purchaser.

The authorised OSET dealer is responsible for any unwarranted faults that become apparent within the period established by Directive 1999/44/EC and specifically the UK Sale and Supply of Goods to Consumers Regulations 2002. Should a fault appear during the first six months of ownership, it will be presumed that the fault existed at the time of delivery. After this period, to the end of the sixth year (England, Wales and Northern Ireland) or fifth year (Scotland), the purchaser must demonstrate that the unwarranted fault existed at the time of delivery.

Any defects or faults in the product **must** initially be brought to the attention of an OSET authorised dealer within the products warranty period. If the last day of this period falls on a Sunday or an official holiday, the warranty period will be extended, such that the last day of the period covered will be the next working day.

The subsequent warranty period of any components repaired and/or replaced within the warranty period, shall end at the expiry date of the original warranty period, dated from the date of purchase of the vehicle concerned.

Claims under warranty for defects/faults not brought to the attention of an authorised OSET dealer before the end of the warranty period, will be excluded.

Obligation of the Purchaser

OSET have the right to **reject** any claims under this warranty in the event that;

- The authorized OSET dealership failed to register the bike with OSET within a reasonable period of time (15 working days). If this occurs and the OSET dealer fails to register the bike with OSET, then the purchaser shall still be covered by the statutory 6-month warranty with sole responsibility being with the dealer who sold the bike. OSET will **not** be liable for replacement part costs
- The purchaser did not first contact their original authorized OSET dealer to report the warranty claim.
- The purchaser is unable to provide sufficient proof of purchase in the event of a warranty claim.

Always follow the Pre-Ride Checklist before every ride.

Do not operate your OSET if any damage is apparent. Immediately contact your authorised OSET retailer/distributor or OSET Customer Service.



Supervision: An adult must **ALWAYS** assess and approve the riding conditions and the bike preparedness before the bike is ridden. Always ensure the rider is cautious, maintaining complete control and a reasonable speed. Ensure the terrain is suited to the skills of the rider.



Helmets & Safety Attire: Do not allow your OSET to be ridden without a helmet approved by your countries' governing body. Riders should also wear suitable riding gloves, eye protection and boots. Boots should **NOT HAVE LACES**. Shoe laces and loose clothing or even long hair could potentially get caught in wheels, chains or sprockets.



Do not overload the bike: Exceeding the weight limitations will adversely affect the handling of the machine, and potentially cause damage.



It's the law; obey it: Obey all laws. OSET bikes are for **OFF-ROAD USE ONLY**. OSET bikes can not be used on public roads or sidewalks. The purchaser, owner, and/or riders of this machine are directly responsible to know and obey all local, regional, and national laws regarding the riding and use of this machine.



Do not sit on the bike when side stand is in the downward position, This can lead to damaging your machine and yourself.



Ensure charger is disconnected from bike before riding. Failure to do so will cause damage to the bike and could result in injury.

Night time: Don't ride after dark or in low light conditions.

Weather & Riding Conditions: Bike brakes don't work well when they're wet. Please be aware that distance to stop may double or triple over the distance that it takes under dry conditions. Ride more slowly and anticipate your stops by applying the brakes **MUCH** earlier. Don't allow children to ride on slopes that are too steep for their ability.

Check the brakes and the tires and the tightness of all those important fasteners before each and every ride.

Before each ride, make sure that all bolts and nuts are fastened securely and that the tires are properly inflated. Check that the throttle and brake controls are operating freely and adjust/lubricate the drive chain as necessary.

Please have your bike checked by a qualified mechanic **AT LEAST** once a year. It's a small investment in the well-being of the rider.

DISPOSAL

We are confident that you will enjoy many years of pleasurable riding with your OSET electric bike however once it has reached the end of its service life it should be disposed of in the correct way and separated for environmental friendly recycling.

For guidance regarding proper disposal please contact your local dealer, distributor or the customer service department at OSET.

Do not dispose of OSET components, batteries or chargers into household waste.

Batteries that are no longer suitable for use can also be directly returned to the dealer you purchased the bike from or to:

Great Britain

OSET Bikes Ltd
Unit 5-6, Highfield Business Park
Sidney Little Road
Saint Leonards-on-Sea
East Sussex TN38 9UB
01424 834440
www.osetbikes.co.uk
info@osetbikes.co.uk

United States of America

OSET Corp
425 Kristen Ct, Unit 4
Montrose
CO 81401
USA
303 990-2390
www.osetbikes.com
info@osetbikes.com

In the USA you can find very useful information regarding recycling through their official program www.call2recycle.org.

For UK customers, please visit www.recyclenow.com to find your local recycling centre and <http://www.batteryback.org/battery-collection.html> for information on battery recycling. For the rest of the world please contact your OSET distributor.

OSET are in over 25 Countries.

Please visit www.osetbikes.com for the latest importer/distributor information list.

www.facebook.com/osetbikes
www.twitter.com/osetbikes

WEEE Producer Environment Agency Reference Number: WEE/MM4649AA

WEEE Compliance Scheme Registration Number: CD01/00956

Battery Producer Environment Agency Reference Number: BPRN06922

Battery Producer Compliance Scheme Registration Number: BBDC193



OSET Electric Bike - Model: 20.0 Lite

The OSET 20.0 Lite is an electrically propelled motorcycle for off-road, sports trials motorcycle competition use, suitable for riders aged 6-9 years. It uses a 36V DC electrical system, paired with a 900W brushed motor.

The product is powered by three 12V 10Ah lead acid battery packs connected in series. User inputs are via a throttle, front and rear brake levers and a magnetic safety kill switch, all mounted on the handlebar, as well as a key ignition switch and dials to adjust the bikes performance.



Maximum Speed:	15 mph
Weight Limit (Rider):	90lbs (41.0kg)
Wheelbase:	38.0" (960mm)
Seat Height:	20.8" (530mm)
Ground Clearance:	11.4" (290mm)
Handlebar Height:	35.4" (900mm)
Weight:	35.4kgs (with batteries)
Overall length:	1480mm
Gearing:	10T front sprocket, 86T rear. #219 chain.
Motor:	900w 36V OSET Neodymium magnet DC motor. Rated: 20A Duty classification: S1, Thermal class: F, Temperature range: -15°C-100°C
Frame & Swing Arm:	Steel frame & swing arm.
Suspension (Front):	Telescopic air fork, adjustable rebound.
Suspension (Rear):	Spring & oil dampened, adjustable rebound.
Wheels:	Aluminium alloy, F: 20" 36H, R: 19"36H
Brakes:	Hydraulic disc, 160mm front & rear.
Foot pegs:	Cast Alloy.
Handlebars:	Alloy.
Tyres:	2.0" x 20.0' front. 2.50" x 20.0" rear.
Controller:	36 volt, 80 amp pulse width modulating, with inline relay and fuse.
Throttle:	Twist type with LED battery charge indicator.
Batteries:	3 X 12 volt 10 amp hour sealed lead acid AGM. 3 batteries in series.
Keys, Dials and Ports:	Key Switch and handlebar magnetic kill switch. Tuneable throttle response, power and speed adjustment. 36v charger port.

RECOMMENDED TORQUE VALUES

Where there are no other torque values stated please use the recommended torque value table shown here.

Thread Size	Recommended Torque Nm
M3	1
M4	2
M5	4
M6	7
M8	17
M10	33
M12	58



Failure to properly assemble and adjust your bike prior to use may result in an accident resulting in death, serious injury and/or property damage.

NOTE

If you purchased your OSET in the carton, please carefully follow the instructions below and any supplemental instructions to finish the assembly and adjustment of your OSET.

If you are uncertain about any aspect of the assembly and adjustment of your bike, seek help from a qualified mechanic or the OSET Customer Service Department.

- Remove your OSET & Accessory pack from the box and check contents against the following list:
 - 1x Bike less front wheel
 - 1x Front wheel
 - 1x Accessory Box containing:
 - 1x Front mudguard (fender)
 - 1x Rear mudguard
 - 1x Battery charger c/w power lead & manual
 - 1x Number board
 - 4x Black cable ties
 - 1x Hex Key set (Allen keys)
 - 1x Spanner (8 & 10mm)
 - 1x Manual for air forks (16.0R & 20.0L)
 - 1x Manual for rear shock
- Place your OSET on a solid & level stand, with both wheels off the ground.

Learning some correct 'Trials' style techniques will put the rider in a great position for all forms of riding that come later. The Trials rider learns how to control the machine at slow speeds, and use correct skills to execute tight turns and other techniques. Many riders tend to think that the way to turn is to simply turn the handlebars. This is natural, but wrong! If tight turns are mastered correctly, many other skills will follow on naturally.

- Riding in a straight line, the rider can practice leaning the bike to one side, then to the other. They will notice that when they do this, the bike will want to turn.
- To execute a tight turn, lean the bike to the inside.
- Weight should be on the 'outside' peg, and the outside knee should be out.
- The foot on the outside peg can pivot out as well.
- The inside arm can be almost straight, the outside arm bent, and the shoulders square on to the angle of the bars.

Turning is the most important technique of all. Once this is mastered, many other techniques will follow. Turning with this level of skill requires full control over the machine. It will not be possible without the rider understanding all the intricacies of balance, body position, and throttle control.



NOTE

A surprising amount of technique can be completely natural for children. In many cases, the riders simply work out what works best, and go with it. Simple instructions like "lean it in" will often initiate everything else being done correctly. The more exaggerated this technique, the better it will work. The aim is to master 'full-lock' turns. If a child can master this, they are likely to become great riders. Very few adults can do this! Viewing Trials instructional videos may also help. Many children can learn simply by watching.

This manual should be enough to get you started. Further techniques can not be covered in this manual. When learning any technique the most important thing is to do so slowly and safely. Remember that OSET bikes are a Trials bike design, and therefore designed and developed for slow speed riding.

Enjoy the ride!

LEARNING TO STAND UP

Once the basics are mastered, the bike response can be adjusted to match the growing skills of the rider. Always use caution when adjusting the bike to faster response settings. Any changes must be small and incremental. Do not change the settings in big chunks on the assumption the rider can handle it. **LEARN SLOWLY!**

Before the rider gets going too fast it's a good idea to get them riding the bike 'correctly'. This means, standing up and in control. Learning to stand up is very difficult if the skill set of the rider does not include good throttle control.

- While the machine is stationary and the rider is on the bike, have an adult stand behind and support the rider at their waist.
- The rider must position themselves correctly, standing in a very neutral position, holding the bars in such a way that their weight is not being supported by their hands.
- When the rider is ready, they can open the throttle, smoothly and in control. An adult should run along and help support when necessary.
- Once up and running in the standing position, it's time to learn some technique.

NOTE

A common error (in our view) is to put children on machines that are too big. Please note how large multi-time World Champion Dougie Lampkin and multi-time US Champ Geoff Aaron are on their bikes. **A bike that seems too small when the rider sits can be just right when they stand in the correct position.** OSET bikes are designed to be ridden standing up. If the machine is too large for the child, they will have no leverage on the bike, and be unable to develop techniques. To develop correct technique, the rider is better off being too big than too small.



3. Remove all the packing materials.
4. Using the supplied Allen keys, make sure the steering stem is in the forward facing position and tighten the top and side bolts securely and evenly.

Secure the handlebars tightly in the steering stem. Double check tightness and alignment. Adjust the brake lever positions and reach to suit the rider. *See page 19.*

5. Fit front mudguard using the bolts, nuts & washers provided (*picture 1*).
6. Remove disk pad spacer (*picture 2* - this item is used for transport only, keep this if you are likely to leave the bike without the front wheel fitted).



(1.)



(2.)



(3.)

7. Loosen top calliper Allen bolts (*picture 3* - using 5mm key) - so it will move side to side so as to aid fitting of wheel.
8. **Fitting Front Wheel: 16.0 Eco**

Position wheel between forks, ensure washers are on the outside of the forks and tighten the 15mm nuts making sure the wheel is central to the forks.

Fitting Front Wheel: 16.0R & 20.0L

Position wheel between forks, with the quick release lever in the open position finger tighten the skewer nut by hand. Release 1.5 – 2.0 turns and push the lever to the closed position. Lever should be in the upright position (*pictures 4 & 5*).



(4.)



(5.)

9. Spin the front wheel and apply the front brake. Do this twice. While holding the front brake on - tighten calliper bolts. This will centre the calliper and help to give even wear of the pads and free running of the front wheel (picture 7).



(7.)



(8.)



(9.)

10. Install the front number plate using the supplied 'zip-ties'. This attaches to the handlebars and the forks (picture 8).
11. Check tire pressure of both tires and confirm they are properly inflated to **20-40 psi**. Light riders can use lower pressures.
12. Batteries are placed in the bike for shipping purposes, but they will need connecting. It is vital that connections are made correctly. The battery strap should be fitted before connecting the main battery leads. Install the batteries as indicated (picture 9).
13. Unpack charger from its box and read manual. Charge the batteries while thoroughly reading the complete owners manual. See page 22.

NOTE

Now your OSET is fully assembled, adjusted and checked. Once the batteries are fully charged, your OSET will be ready to ride safely.

CAUTION

Always start on the slowest settings. Only allow competent riders with full instruction to ride the bike. Do not allow inexperienced riders on the bike before they have demonstrated a complete knowledge of the controls.



After the rider understands the controls and is comfortable with them, it's time for the first ride. For this, the rider must be dressed correctly in suitable safety gear. Boots, gloves, a helmet and eye protection are necessary.

The venue must be flat, open and safe, with no obstacles of any kind. The machine must be set up correctly, with the speed set to its lower setting and the throttle response set to its lowest.

1. Ensure the power is turned off.
2. While an adult supports the bike, the rider can get on.
3. The rider now can reach back with their left foot, and put the side-stand to the up position. Have an adult ready to hold the bike up for this!
4. Encourage the rider to rock the machine from side to side and forward and back, in order to get comfortable with the weight of the bike.
5. The rider can now switch the machine on.
6. Before turning the throttle, the rider's legs can be splayed forward and out like outriggers.
7. The rider can now twist the throttle (as slowly as possible) and go. Encourage them to go and stop, go and stop... using the brakes to stop. Have a supportive hand on the rear fender whenever possible.
8. Once comfortable, the rider can try to ride along and lift their feet onto the pegs as they go.
9. When stopped, turn the power off.

CAUTION

If the rider drops the bike, ensure that the lanyard is removed from the bike and it is turned OFF before lifting the bike. It is good practice to turn the power off whenever there is no rider on the bike.

As the responsible adult, you must ensure that the OSET and its rider are ready to ride, every time. The bike must be set to the abilities of the rider, and you must ALWAYS supervise when, where and how the bike is ridden. Children can lose concentration quickly, and be distracted easily. If the speed or throttle response is set too high then loss of control could result.

BEGINNERS & LEARNERS

With the bike set up correctly, your OSET is ready to ride! For learning riders, please use these tips and instructions. The riders will get the most enjoyment if they feel safe and in control. Do not be tempted to start the riders too quickly. Make sure the speed and response are set to their slowest settings to begin.

STATIONARY LEARNING

1. Ensure the key switch is in the off position.
2. Lift the machine on to a stand or block so the back wheel is an inch or two off the ground. Ensure the bike is stable and cannot be rocked or fall off the stand.
3. Sit the rider on the machine.
4. Explain all the controls:
 - A. Throttle
 - B. Front Brake (right hand side).
 - C. Back Brake (left hand side).Have the rider practice each control, while the power is still off.
5. Explain that it's time to try some stationary practice, with the power turned on. Place the rider's feet either on the pegs, or on the ground. Either way, make sure the rider is wearing boots with no laces, and no loose clothing.
6. Start with both hands on the handlebars.
7. With the power on, and the riders hands on the bars, have the rider practice opening and closing the throttle. The aim is to get some throttle control, and not use it as an 'on-off' switch. This is very important.

DO NOT RIDE UNTIL THIS HAS BEEN LEARNED FULLY.

8. While still practicing the throttle, practice using the rear brake to stop the back wheel. Make sure that this is coordinated. The throttle and brake should not be applied simultaneously.

NOTE

If the rider does not fully understand the controls and demonstrate these skills, do not let them ride. They can try again at a later date when they are ready. The riders must learn at THEIR pace.

KEY SWITCH

The key switch turns the power on and off. When the rider is sitting on the bike, this is located in front of them above the tank cover.

The key is removable and should be removed when the bike is not in use.



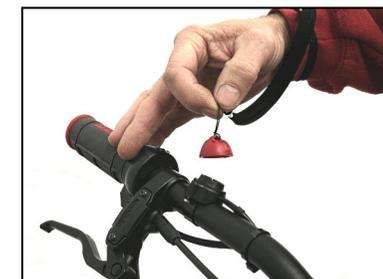
KILL SWITCH

This switch is in addition to the key switch and provides extra functionality. To enter the on position place magnetic top cap on base. The key switch MUST be in the 'on' position for the magnetic kill switch to operate.

With the key switch in the 'on' position, the kill switch can be used to turn the bike on by simply connecting the red magnetic cap to the black base on the handlebar, to turn the bike off using the kill switch remove the magnetic red cap from the black base on the handlebar.

As a safety precaution, if the throttle is applied before the kill switch is connected, the bike will not move.

Always ensure the rider is wearing the kill switch around their wrist and that the cord is tightened firmly.



CHARGE INDICATOR

The battery charge indicator is located on the throttle assembly and shows the state of the batteries. The indicator lights can be checked at any time to determine if the main power is off or on. Always turn the power off and remove the key when the bike is not in use.



DIAL ADJUSTMENT

THESE DIALS ARE TO BE ADJUSTED BY A RESPONSIBLE ADULT ONLY.

SPEED DIAL

Speed limiting device for novice riders

This motorcycle is equipped with a speed limiting device to restrict top speed. Use the device until the rider becomes familiar with operating the motorcycle

The speed dial is located underneath the rubber bung for convenience. This must only be changed by a responsible adult. When dial is turned to the fully clockwise position, the bike will have a maximum speed, when in the anti-clockwise position the speed will be reduced to its minimum.



POWER DIAL

This is the most important adjustability feature on the bike and must ALWAYS start with the lowest setting, and make changes in very small increments. It may appear that the highest power will be suitable for an advanced rider, but it must be understood that there is a lot of power available.

It is a great feature to have such a range available, but it MUST be treated with respect. ALWAYS adjust from lower to higher, in very small increments.



THROTTLE RESPONSE DIAL

It must be treated very carefully as the range of adjustability is enormous. The function of this dial is to adjust the 'response' of the bike. Fully anti-clockwise will give the slowest throttle response. Fully clockwise will give the quickest response.

! CAUTION

Always check the dial settings before the rider gets back on to ensure the desired setting is correct for the abilities of the rider. The dials are sensitive to small adjustments, do not guess at changes.

! WARNING

Keep clear of all moving parts when checking dial settings. Failure to do so could result in serious injury.

1. Set the speed dial to the correct level for the rider.
Low for non-experts and all riders under 10 years old.
ALWAYS CHECK BEFORE RIDING.
2. Set the 'response' dial to the correct level for the rider.
Low for all non-experts and all riders under 10 years old.
ANTI-CLOCKWISE for low. CLOCKWISE for high.
3. Set the 'power' dial to the correct lever for the rider.
Low for non-experts and all riders under 10 years old.
 - A. Ensure everyone is clear of the bike.
 - B. Place the bike on a stand or block, so both wheels are above the ground.
 - C. Switch the bike on.
 - D. Turn speed dial to low. Set to high for experienced/advanced riders over 10 years old ONLY.
ANTI-CLOCKWISE for low. CLOCKWISE for high.

Turn the power dial in very small increments to the desired setting. ALWAYS start the rider on the slowest settings!



! WARNING

Use the lower/slower settings unless the rider is very experienced (and over 10 years old).

L H

SPEED

L H

POWER

L H

RESPONSE

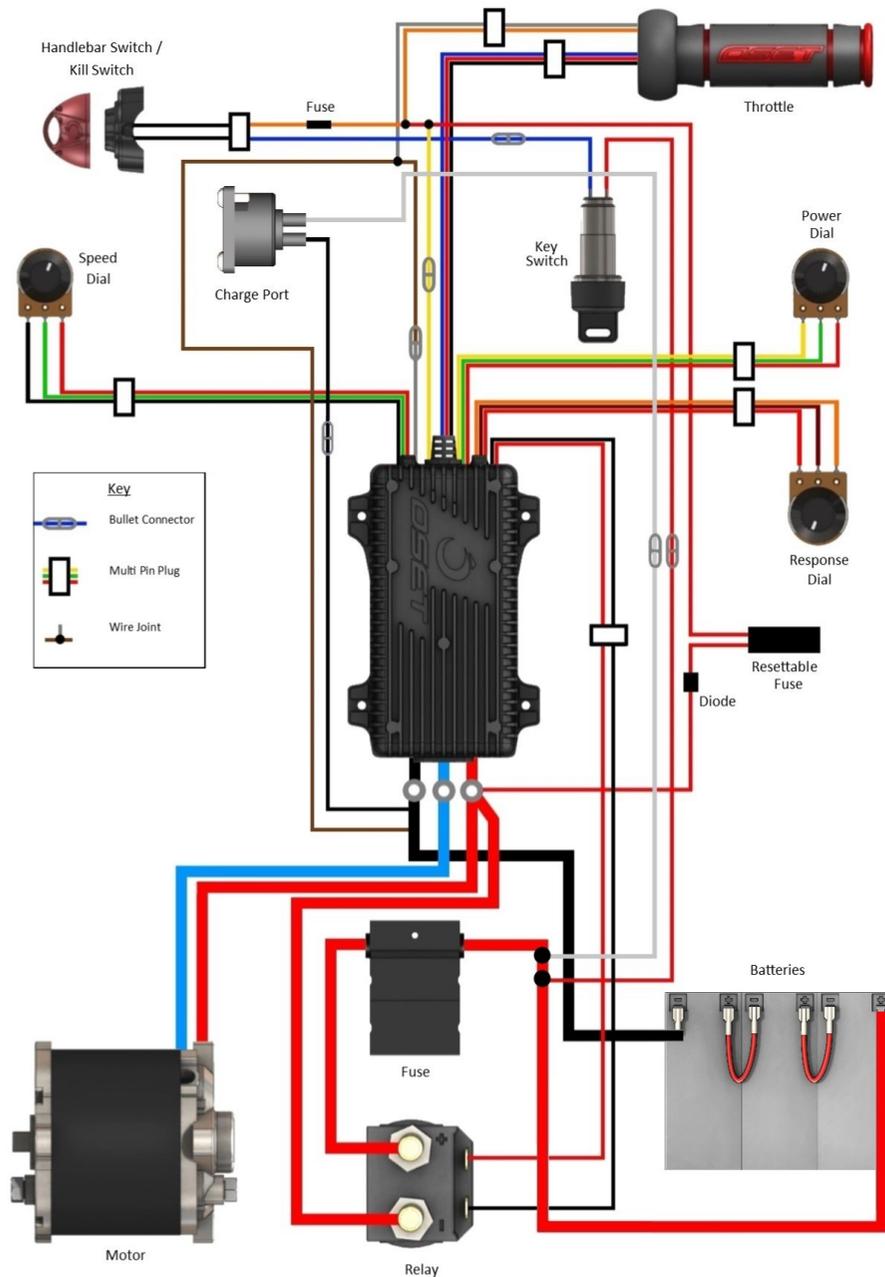
L = LOW
H = HIGH

**RESPONSIBLE ADULT USE ONLY!
READ OWNERS MANUAL!**

4. Check the tires are inflated to between 20 & 40 psi. Light riders can run lower pressures.
5. Check the chain for tightness and lubrication.
6. Set the controls correctly for the rider.
 - A. With the wheels on the ground, sit the rider on the bike.
 - B. Adjust the lever positions so they are easy to reach, and check that the brakes are functioning correctly, and at the desired level. Adjust the 'reach' of the levers to suit the rider. *See page 19.*

! CAUTION

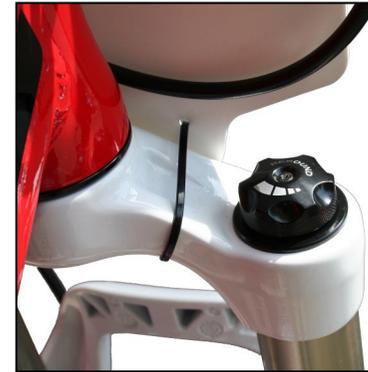
Improper set-up is dangerous! It is your responsibility to set the machine to the ability of the rider. Failure to do so could result in injury and damage to the machine.



OSET's feature adjustable front and rear suspension. The available adjustability is a great feature. Separate owner's manuals are provided. Please read for further information on how to best set up the suspension.

FRONT SUSPENSION FORKS

The front suspension is a 'coil' fork. The fork has simple dial adjustment for rebound, shown below. To adjust the compression, the forks internal air pressure can be changed with use of an air pump (available separately).



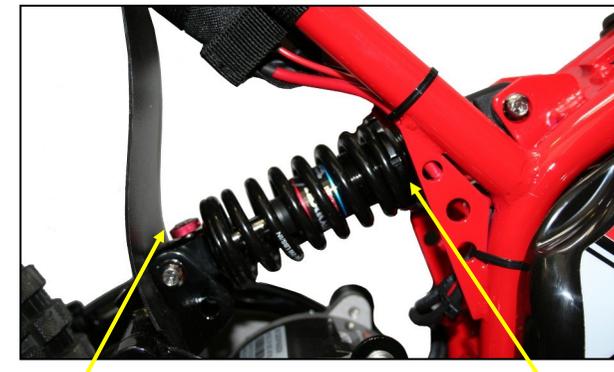
Rebound dial.



Suspension air pump.

REAR SUSPENSION

Your OSET is equipped with a single coil spring type rear shock. For a harder/stiffer ride at the rear tighten the adjustment ring in a clockwise direction. For a softer ride, loosen the adjuster by turning anti-clockwise. It also features a very effective rebound dial. Optional springs are available from OSET to adjust the spring rate.



Rebound Dial

Adjustment ring

FRONT WHEEL

Please refer to the section on assembling your OSET bike (page 13) for information on installing the front wheel, and reverse the instructions for removal.

REAR WHEEL

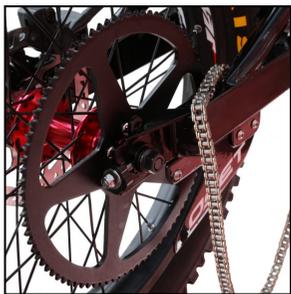
1. Ensure power is switched off and the key removed.
2. Lift the bike onto a block or stand so the wheels are off the ground.
3. Loosen the axle bolts (see image 1).
4. Loosen the chain adjustment nuts to the point where the wheel can be pushed forward, and the chain slipped off to the right of the sprockets (image 2 & 3).
5. Twist the wheel slightly to avoid the calliper plate and pull back on the wheel to remove it.



(1.)



(2.)



(3.)



(4.)

6. To re-install the wheel reverse the above procedures. Ensure the chain is correctly adjusted and lubricated, the wheel is aligned, and all nuts and bolts are tight (image 4).

Your OSET is an electric bike, and features a considerable number of electrical components and wiring. All must be protected from water and dirt! The components are listed below:

Controller: This is the 'brains' of the drive system. It is a sophisticated and complex component and is non-serviceable.

Throttle: This sends an electronic signal to the controller, which is then interpreted to determine the power required and the voltage to be sent to the motor. The throttle is a non-serviceable component. It contains a small circuit board that can be damaged by water. Similarly, the connection between the throttle and controller must be protected from water at all times.

Batteries: There are three, 12V, 10ah lead acid batteries included with the OSET bike.

Motor: The motor is the end of the line where the power is actually delivered. The motor is made up of many components. Any servicing must be carried out by trained technicians only. Please do not attempt to separate or dismantle the motor in any way.

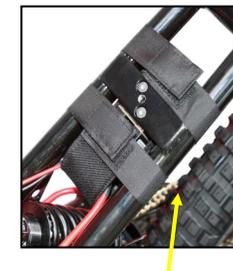
Relay: The relay is activated by the key and kill switches. It makes a connection that allows power to be pulled from the batteries to the controller and ultimately to the motor. The relay has connections that should not be touched unless the batteries are disconnected. The relay is a non-serviceable item.

Several other components make up the electrical system, such as the switch, the charge port, the speed switch, the response dial etc.



Controller

Main fuse



Relay Bag

WARNING

There are no user serviceable elements incorporated into the motor controller, batteries, battery charger, throttle of your OSET electric bike. DO NOT ATTEMPT TO DISASSEMBLE OR ADJUST ANY OF THESE COMPONENTS. Doing so may cause extensive damage to these components, will void your warranty and may cause a hazardous situation. If you cannot resolve a problem using this owners manual, contact your OSET authorized dealer, or call the OSET Customer Service Department for assistance.

The brake levers can be adjusted for 'reach'. Use a small 2mm Allen key. Turn anti-clockwise to bring the reach closer to the bar (for smaller hands).

All brakes need periodic adjustment. If and when your brake shows any decline in efficiency or needs adjustment, it is very strongly recommended you take your bike to your local retailer for maintenance. Improper adjustment of your brake can cause poor braking and could lead to an accident and very serious injury.

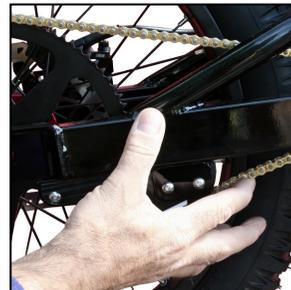
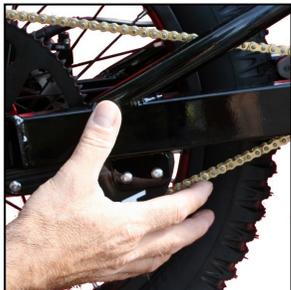
CHAIN ADJUSTMENT



Your OSET features a traditional chain and sprockets. It is direct drive, with no gears. With the motor mounted in the swing arm, suspension movement has no effect on tension. However, the chain does need to be checked and adjusted regularly, especially when the bike is new.

The chain must be checked before every ride and adjusted as necessary. There should be very little slack in the chain. Adjustment is done as follows:

1. Ensure power is turned off.
2. Loosen axle nuts (shown opposite).
3. Turn chain tensioner nuts evenly on both sides. Very small movements can make a big difference. Do not tighten so much there is no slack at all. It should be 'taught', not 'tight'. Rotate wheel by hand and check chain tension.
4. Lubricate the chain & check the sprocket bolts for tightness.
5. Reverse the above procedure, ensuring all bolts are tight.
6. Check the wheel for alignment and the chain for tension. See page 18 for wheel alignment information.



These two pictures show the correct tension. When pushing up on the chain, it should only move between 5 and 10mm.

TROUBLESHOOTING

If you have a problem with your OSET it is likely that there is a simple solution to it.

ISSUE	LIKELY CAUSE	SOLUTION
There are no lights on the throttle.	Lanyard not present, key switch not on. Batteries not correctly connected. Battery voltage too low.	Check key and lanyard are present and key turned to the 'ON' position. Check battery connections. Fully charge batteries.
Rear wheel only partially rotates.	Faulty relay. Main fuse blown.	Replace relay with known working part. Rectify issue and replace fuse.
Bike is has a lack of power and dials have no effect.	Faulty control dials.	Replace control dials with know working parts.
No power at the rear wheel with throttle lights on.	Faulty relay. Faulty throttle. Faulty controller.	Replace relay with known working part. Replace throttle with known working part. Replace controller with known
Poor run time.	Batteries not fully charged. Old batteries. Mechanical friction.	Charge battery for 12 hours. Replace batteries. Check brakes, bearings, chain.

If the above table has not solved your problem, on the next page you will see a diagnostic flow chart, this will help identify what is stopping your bike from running correctly.

There is also a wealth of information and technical videos that can be found on the support section of www.osetbikes.com. These show how to carry out various checks.

If you have any queries please do not hesitate to contact your local dealer or the OSET Customer Service Department.

LONG TERM STORAGE

If you do not plan to use your OSET for an extended period of time (1 month or more):

- Fully charge the batteries before storing.
- Remove batteries from the bike.
- Fully recharge the batteries at least once a month.
- Store the batteries in a cool (50° to 70°F, 10° to 21°C), dry place. Avoid direct exposure from the sun.
- Check tyres are adequately pressurised to prevent cracking.
- Lubricate chain.
- Store the bike in a dry location, ideally on a work stand

If you have any questions about the batteries or their usage, please do not hesitate to contact your local dealer or the OSET Customer Service Department.

AFTER STORAGE

If your bike has been stored for a over 1 month we suggest you carry out some checks before riding it.

- Refit the batteries and fully charge.
- Check key fasteners are correctly tightened: Sprocket bolts, wheels nuts, bar and stem bolts, brake levers and callipers.
- Check throttle freely returns to off position.
- Check chain adjustment.
- Check brakes work and wheels spin freely.
- Check the speed, power and response setting.
- Check the tires for proper inflation. Also, inspect the tires for damage.
- Check safety lanyard operates correctly
- Ensure batteries are fully charged.

TRANSPORT

When your OSET is being transported ensure suitable restraints are used to prevent the bike from falling over or rolling away. If using any carrier, remove batteries from the bike and check the carrier is rated to carry the weight of your OSET.



Axle nut 15mm



Chain tensioner nut 13mm

REMOVING THE SIDE PANEL



(1.) Release Velcro straps



(2.) Lift side panel clear



(3.) Side panel removed

To reinstall the side panel, reverse the procedure above. Ensure fastener is tightened securely.

BATTERY REMOVAL

- Ensure power is turned off and remove the key.
- With the side panel already removed, disconnect the power leads (image 4).
- Next, release the battery retaining strap bolt (image 5).
- Finally, remove the battery retaining strap & batteries (image 6).

To reinstall battery, reverse the procedure above.



(4.)



(5.)



(6.)

WARNING!

Use only the battery charger supplied. Using any other battery charger will void your warranty, may damage the batteries and could cause a fire that may result in property damage and/or possible injury.

- Ensure that the key switch on your OSET is switched OFF before connecting the charger to the bikes' charge port (see guide below).
- Carefully align the connector pins and connect the charger to the battery by plugging the connector into the charger receptacle. Twist the lock ring to secure the charger lead to the bike.
- Plug the charger into the wall outlet.
- Switch the charger on.
- LED Indications:
 - The LED will illuminate **RED** when the charger is plugged into a wall outlet.
 - The LED will illuminate **YELLOW** while the charger is charging the battery.
 - The LED will change to **GREEN** when the battery is fully charged.
- When charging is complete (the Indicator LED is GREEN), switch the charger off, then carefully unplug the charger from the wall socket, then from the battery by twisting the locking ring and pulling the connector out of the charging port.
- Reconnect the battery to the bike and your OSET electric bike is now ready for use.



Ensure charger is disconnected from bike before riding.

Failure to do so will cause damage to the bike and could result in injury.



Charging Port



OSET Charger

If your OSET has not been assembled by an OSET dealer please follow the check list below:

ASSEMBLY CHECKS	OK
Check www.osetbikes.com/support for the latest, relevant technical bulletins.	
Check contents of bike box: manuals, charger, tools, keys, plastics.	
Remove packaging and inspect bike for imperfections.	
Fit handlebars to bike and tighten bolts.	
Fit wheels (where applicable) and tighten correctly.	
Check tyres are seated on the rim correctly and inflated to 20psi.	
Check and adjust chain tension.	
Both brakes are adjusted and functioning correctly.	
Fit battery (where applicable) and connect to wiring harness.	
Check wires and cables are routed correctly.	
Fit any bodywork (where applicable).	
Check and tighten all nuts/bolts in accordance with user manual guidance.	

PRE-RIDE CHECKS	OK
Foot pegs return freely.	
Throttle operation is smooth and returns to zero position freely.	
Steering rotates smoothly, without knocking or snagging wires.	
Suspension functions correctly.	
Magnetic kill switch functions correctly.	

TEST RIDE CHECKS	OK
Check both front and rear brakes operate and are adjusted correctly.	
Individually check each potentiometer functions correctly.	

MOTOR CARE

Your OSET is fitted with a high powered electric motor which has been designed to work in unison with your bike. When riding the motor can become hot, if this happens please give the bike some time to cool down before continuing to ride. This will ensure you get the most out of your bike.

The motor will last 100's of hours before it needs any maintenance, when it does it will only need brushes replacing as they wear when the motor is spinning.

It is strongly recommended that you contact your local dealer/distributor to carry out this procedure as it requires specialist tools.

The OSET motor has been designed for high performance, to supply high amounts of power for short pulses, perfectly matched for trials riding. **DO NOT POWER WASH THE MOTOR.**

CLEANING

Cleaning and maintaining your OSET correctly will provide a more enjoyable ownership and riding experience. By hand cleaning the bike, you can simultaneously inspect all of the components. We recommend cleaning be done with a damp cloth and slow running water.

Always remove batteries from the bike before cleaning

Take care when washing. This is an electric machine and water should never reach sensitive components.

Never use a power washer as it can cause irreparable damage to sensitive components.

Adequately cover the throttle when washing to ensure it is kept dry.



DO NOT SPRAY WITH WATER

Do not clean your bike with water under pressure. Hose, jet wash, power washer, steam cleaner.

WARNING

Do not get water onto the controller, throttle or wiring. Failure to follow this instruction could result in permanent damage, and could cause erratic machine behavior, leading to possible injury or death.

To ensure you get the most out of your bike and batteries, follow these guidelines:

- Fully charge the batteries before using your OSET electric bike for the first time.
- It normally takes 3-5 hours for the light on the charger to turn green. At this stage the charger can be disconnected and the bike used **BUT** best practice is to leave them on charge for up to 12 hours. This will ensure the batteries receive the needed float charge and you will get the most out of them. **Remove from the charger after 12 hours maximum.**
- It is recommended that you fully charge the battery before & after **every** ride and that batteries are never left in a discharged state for an extended length of time.
- Avoid running batteries completely flat as this reduced the life of the batteries. When you are down to the 'empty' light it is time to head home.

CAUTION

The battery charger supplied with your OSET is for **INDOOR** use only.

CAUTION

Do not block the fan vent on the charger while charging the battery. This can cause the charger to overheat.

CAUTION

Avoid any contact with all fluids while charging the battery. If the battery, charger or any connections become wet, immediately unplug the charger and thoroughly dry all components prior to charging the battery.

CAUTION

Keep the battery away from excessive heat and/or open flames. Avoid long term exposure to direct rays from the sun.

CAUTION

Protect the batteries from water or other moisture. If the batteries become wet from rain during use, dry as soon as possible. Remove the batteries from the bike before washing.

CAUTION

To avoid damage to the battery, never subject it to intense physical shock or severe vibration.

WARNING

DO NOT use this battery with any other vehicle or appliance. Use of this battery with any other product will void the warranty, and may create a hazardous condition that could cause a fire resulting in severe injury and/or property damage.

WARNING

Never short circuit the discharge terminals of the batteries, i.e touching the contacts together via a tool, etc. A short circuit will damage the battery and could cause a fire resulting in severe injury and/or property damage.

Your OSET features a 36V drive system, with 3 x 10ah lead acid batteries joined in series to make the 36V. It is very important that the batteries are kept 'balanced'. If one battery is driven to a lower voltage than the others, it can have the knock on effect of it undercharging, while the other batteries in the system overcharge to compensate.

This will have performance repercussions, and will affect the life of the batteries. The charger is treating the batteries as a single 36V battery rather than individual batteries making up a pack.

OSET recommend using a 'multimeter' to monitor the health of the batteries. You will be able to easily and instantly see the charge of each battery. A fully

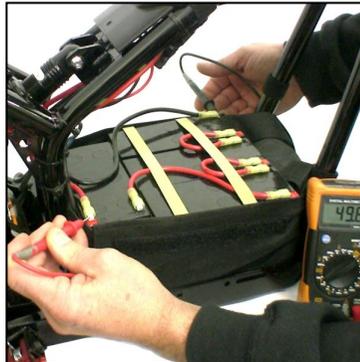
charged battery should read between 12.6V —13.2V on a multimeter. A reading outside of this range could indicate a fault with that battery.

If different batteries show different readings then the ideal course of action would be to 'balance' the batteries (*see below*). The multimeter is also very useful in diagnosing any electrical problems on the bike.

OSET recommend 'balancing' the batteries periodically. This can be done with a 12v smart charger, such as the CTEK charger from OSET. Each 12v battery can be charged individually this way.

To help reduce the need for 'balancing' quite as often, the battery's position within the bike can be rotated periodically. The battery closest to the positive wiring harness of the bike, will be working slightly harder than the others. If the batteries are rotated around every 2-3 months, this should help even out the usage on the batteries & prolong their service life.

Once your batteries have reached the end of their service life OSET strongly suggest replacing them with another high quality part such as the one supplied with the bike, Yuasa REC10-12. Please contact your local OSET dealer /distributor or OSET customer service for guidance.



MAINTAINING YOUR OSET

Before each ride:

- Check key fasteners are correctly tightened: Sprocket bolts, wheels nuts, bar and stem bolts, brake levers and callipers.
- Check throttle freely returns to off position.
- Check chain adjustment.
- Check brakes work and wheels spin freely.
- Check the speed, power and response setting.
- Check the tires for proper inflation. Also, inspect the tires for damage.
- Check safety lanyard operates correctly
- Ensure batteries are fully charged.

After each ride:

- Remove battery, clean and dry your OSET, following OSET's recommended procedure.
- Ensure grips are intact with bar ends covered, replace if needed.
- Check the wheel spokes for tightness. It is normal for spokes to loosen in operation on the first few rides. Please check after the first 5 rides, and then monthly afterwards.

Every 20 hours of riding:

- Remove wheels and inspect bearings. Re-grease front wheel axle.
- Check swing arm axle bearings and grease axle mating face.
- Check ALL bolts for correct tightness. Grease where applicable. (I.e Stem bolts)
- Check wiring for corrosion, defects, re-grease all connections with die electric grease.
- Check wheels are running true and spokes are correctly tightened.
- Inspect chain and sprockets for wear.
- Check brake lines and pads.

Please refer to component manuals for specific service intervals.

If you have any questions about the proper care and maintenance of this vehicle, consult your selling dealer/distributor or contact OSET Customer Service at info@osetbikes.com.

WARNING

Failure to maintain this vehicle in proper operating condition can lead to an accident resulting in death or serious injury, and property damage.