



OWNER'S MANUAL 2017

**20.0 ECO
20.0 RACING**

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A WORD ABOUT THIS OWNER'S MANUAL AND SAFETY

Firstly, 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. 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. Please do not allow the machine to be used or adjusted by other children or adults. There are likely to be many children asking for a ride. DO NOT ALLOW THIS TO HAPPEN. 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.

Our machines are virtually silent, and can be used in many places that gasoline bikes can't.

They are brilliant for practicing in back yards; front yards, garages, and even indoors! OSET Mini 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.** OSETs may only be ridden in safe areas where all laws are being followed and all required permissions are given.

OSET's are amazingly capable, and can be used from the earliest stages of learning to ride all the way through to National Children's Motorcycle Trials 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.

PLEASE READ THIS OWNER'S MANUAL PRIOR TO OPERATIONS!

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

PARENTS/GUARDIANS

If a child will operate your OSET, it is YOUR RESPONSIBILITY to set up the machine, and make sure it is operated correctly and safely. Your OSET features a speed dial that sets the speed from a walking pace to top speed. It also has a throttle response 'map' dial. This will set the throttle response from very slow, up to very fast. The most important dial is the power dial; the OSET controller is capable of outputting a lot of power.

This power should be treated with respect and must be learned. ALWAYS start the rider at the slowest speed, response and power settings. Even with a slow response, a lot of power is available, and the rider must learn how to control it. These controls must be set by the responsible supervising adult. Never allow the child to alter the settings, or to ride without suitable supervision.

Instructing and practicing in a controlled situation will allow the child to learn how to operate the machine safely, and under control. The child's enjoyment will be greatly enhanced if they feel safe during the initial learning process. Please follow the instructions contained in this manual before operating the machine.

SERVICE/WARRANTY

For all questions regarding your OSET Electric Bike, please contact your local retailer/distributor.

See distributor contact information on the osetbikes.com web site.

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.

This Owner's Manual uses the following symbols and terms to call your attention to Warnings, Cautions and Notes:

Term:

WARNING!

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

Term:

CAUTION

Meaning: This term calls attention to a Caution. A Caution indicates a potentially hazardous situation which, if not avoided, may result in 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.

Term:

NOTE

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

Please read, understand and follow all Warning, Caution and Note notices on your OSET electric bike and those included in this Manual.

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

SAFE OPERATION

WARNING!

It is illegal and hazardous to use this vehicle on streets and thoroughfares. Use on streets exposes the rider to hazards from motorists and other vehicles. Use on streets can lead to accidents resulting in death or serious injury, and property damage. Check local laws and regulations to find out where and how you may use this product legally.

WARNING!

This vehicle must be used in the presence of adult supervision to ensure that safe riding practices are established and followed. Even though a child is of the recommended age to use this vehicle, not all children have the strength, skills or judgment needed to operate this vehicle safely. A parent should supervise their child's operation of this vehicle at all times. Parents should permit continued use of this vehicle only if they determine that their child has the ability and judgment to operate the vehicle safely.

WARNING!

• OPERATOR ONLY! NO PASSENGERS!

- Long hair, loose clothing or items worn by the rider must be covered to prevent entanglement in moving parts of the vehicle or surroundings while riding.
- Do not exceed the weight limit. Heavier riders may significantly reduce performance and /or render the vehicle unstable and/or over-tax the brakes and other control devices. Heavier riders may cause structural damage not covered by the warranty.
 - Do not touch any moving or hot parts.
 - Do not ride at night or under other low visibility conditions.
 - Do not immerse this vehicle in water.
- Do not ride on steep or uneven surfaces. Steep or uneven surfaces greatly increase the likelihood of loss-of-control and a fall.
 - Do not ride faster than conditions permit for safe operation. Excess speed greatly increases the likelihood of loss-of-control and a fall.
- The rider should be securely seated on the vehicle ready to ride with the kickstand up before turning on the vehicle.

SAFE OPERATION

WARNING!

A high quality helmet approved by your country's governing body is the single most effective way to reduce the severity of an injury in the event of an accident.

ALWAYS use an approved helmet when riding this vehicle. As this vehicle is intended for OFF-ROAD use, there is a very high likelihood that dirt and other debris will be thrown into the air, presenting the risk of eye injury if protective eyewear is not used.

OFF-ROAD riding presents many hazards such as loose dirt and gravel, obstacles and other difficult-to-see-and-avoid conditions. The possibility of a fall is high. Wear gloves, wrist, knee and elbow protection. Failure to use appropriate safety equipment greatly increases the likelihood of death or serious injury in the event of an accident.

WARNING!

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

Before each ride, make sure that all bolts and nuts are fastened securely and that the tires are properly inflated. Before each ride, check that the throttle and brake controls are operating freely. Adjust and lubricate the drive chain as necessary. See pages 18-31 of this manual for additional details regarding service, repair and maintenance. Check the OSET web site for maintenance guides.

This vehicle should be returned for periodic maintenance to your selling dealer AT LEAST once per year, but more frequently if used under severe conditions.

WARNING!

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

It's up to you. We've done everything we can to supply you with a safe and reliable product. Please read, understand and practice the following guidelines for safe operation of your OSET electric trials bike:

Always follow the Pre-Ride Checklist before every ride.

Do not operate your OSET if any damage is apparent.

Immediately contact your local retailer/distributor or OSET Customer Service.

- **Supervision:** Riders must be supervised by responsible adults at all times. The rider should never be beyond eye and voice range. 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:** There is no single factor that works better at reducing the severity of injuries sustained in accidents more than a quality helmet. Please don't ever allow your OSET to be ridden without one. Riders should also wear suitable riding gear - 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.
- **One Rider Only:** Your bike was engineered to carry one rider and **NO** (0) passengers. Carrying a passenger would overload the machine and alter the handling. Do not allow this to happen.
- **Do not overload the bike:** OSET's are designed for small, lightweight riders. 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, state, and federal laws regarding the riding and use of this machine.
- **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. Don't ride in the rain or snow. 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.
- **Maintenance:** It worked fine when we put it in the box: please maintain your bike. There are instructions here in this manual. We haven't figured out how to make a bike that takes care of itself.

Check the brakes and the tires and the tightness of all those important fasteners before each and every ride. Pretend that you're a pilot doing a walk-around of his airplane before taking-off. The pilot knows that his life depends on the airworthiness of his airplane; the rider's life depends on the preparedness of their bike.

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.

- **Batteries:** We have equipped your OSET electric bike with sealed lead-acid batteries. We have devoted an entire chapter of this manual to the batteries. Please read and understand this important information. As always, if you have any questions, please don't hesitate to contact us.
- **Read this manual cover to cover:** There is a lot of important information that you need to know. Do not guess how to adjust the machine, charge it or ride it. We have recommendations that will instruct how to set-up, maintain, and ride your OSET. Please read them thoroughly.
- **Call us with questions or problems:** We can be reached at the numbers listed on the back cover of this manual. You can also get assistance from the OSET dealers.

IN SUMMARY

1. **SUPERVISION.** A responsible adult must supervise at all times.
2. **WEAR A HELMET & SAFETY GEAR.** The rider must wear a helmet & appropriate safety gear EVERY TIME.
3. **NO PASSENGERS.**
4. **DO NOT EXCEED THE WEIGHT LIMITATIONS OF THE MACHINE.**
5. **OBEY ALL LAWS**
6. **RIDING CONDITIONS.** Braking and traction are significantly reduced in wet or slippery conditions. Terrain varies, so be responsible!
7. **DO NOT RIDE** in low light conditions.
8. **PLEASE MAINTAIN YOUR BIKE.**
9. **CARE FOR YOUR BATTERIES.**
10. **READ, STUDY AND UNDERSTAND THIS ENTIRE MANUAL.**
11. **If you don't understand any aspect of the use and care of your bike, PLEASE call OSET Customer Service.**

WARNING!

OSET Bikes are designed to operate at specific voltages only. Use of any other battery with a voltage higher than that specified will result in motor failure. OSET CORP considers such modifications and/or changes to its products to be a material alteration of any such products, thereby voiding any warranties and/or guarantees in their entirety and will not be responsible for any injuries, death and /or other damage(s) caused by any such modifications.

BIKE SPECIFICATION - 20.0 ECO

Performance:

- Maximum Speed - 17 mph
- Weight Limit (Rider) - 100 lbs (45.5kg)

Gearing:

- 10T front sprocket, 86T rear. #219 chain.

Motor:

- 1200w 48v OSET Neodymium magnet DC motor.

Chassis:

- Frame & Swing Arm - Steel frame & swing arm.
- Suspension (Front) - Telescopic air fork, adjustable rebound
- Suspension (Rear) - Spring & oil type, adjustable rebound.
- Wheels - 19" Aluminium alloy, 36H alloy hubs.
- Tires - 2.5 x 20.0" front & rear.
- Brakes - Hydraulic disc, 160mm front & rear.
- Foot pegs - Cast Alloy.
- Handlebars - Alloy.

Controller:

- 48 volt, 100 amp pulse width modulating, with inline relay and fuse.
- External speed dial, power dial and throttle 'map/response' dial.

Throttle:

- Twist type with LED battery charge indicator.

Batteries:

- 4 X 12 volt 10 amp hour sealed lead acid AGM. 4 batteries in series.
- Dimensions - 151mm x 65mm x 110mm (each).

Keys, Dials and Ports:

- Key Switch and handle bar on/off rocker switch.
- Throttle map/response dial. Tuneable response.
- Speed dial. Speed adjustment.
- Power dial. Overall power adjustment.

Size:

- Wheelbase - 41.3" (1050mm)
- Seat Height - 21.6" (550mm)
- Ground Clearance - 11.4" (290mm)
- Handlebar Height - 38.6" (980mm)



BIKE SPECIFICATION - 20.0 RACING

Performance:

- Maximum Speed - 17 mph
- Weight Limit (Rider) - 110 lbs (50kg)

Gearing:

- 10T front sprocket, 82T carrier rear. #219 chain.

Motor:

- 1200w 48v OSET Neodymium magnet DC motor.

Chassis:

- Frame & Swing Arm - Steel frame & aluminium swing arm.
- Suspension (Front) - Telescopic air fork, adjustable rebound
- Suspension (Rear) - Spring & oil type, adjustable rebound.
- Wheels - 19" Aluminium alloy front wheel, 36H alloy hub.
- 14" Competition rear wheel, 36H alloy hub.
- Tires - 2.5" x 20.0" front & 3.5" x 14.0" rear.
- Brakes - Hydraulic disc, 180mm front & 160mm rear.
- Foot pegs - Forged Alloy.
- Handlebars - Alloy.

Controller:

- 48 volt, 100 amp pulse width modulating, with inline relay and fuse.
- External speed dial, power dial and throttle 'map/response' dial.

Throttle:

- Twist type with LED battery charge indicator.

Batteries:

- 4 X 12 volt 10 amp hour sealed lead acid AGM. 4 batteries in series.
- Dimensions - 151mm x 65mm x 110mm (each).

Keys, Dials and Ports:

- Key Switch and magnetic kill switch lanyard.
- Throttle map/response dial. Tuneable response.
- Speed dial. Speed adjustment.
- Power dial. Overall power adjustment.

Size:

- Wheelbase - 41.3" (1050mm)
- Seat Height - 21.6" (550mm)
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- Handlebar Height - 38.6" (980mm)



NOTE

Many factors affect speed and range capabilities. Terrain, average speed, rider weight, tire pressures, wind, hills, etc. all have an impact.

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UNPACKING AND ASSEMBLY

WARNING!

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. 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.

WARNING!

There are no user serviceable elements incorporated into the motor, motor controller, batteries, battery charger, throttle, or wiring harness 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 condition. If you cannot resolve a problem using this owner's manual, contact your OSET authorized dealer, or call the OSET Customer Service Department for assistance.

NOTE

If you purchased your OSET at a local retailer your machine may be fully adjusted and ready to ride. 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.

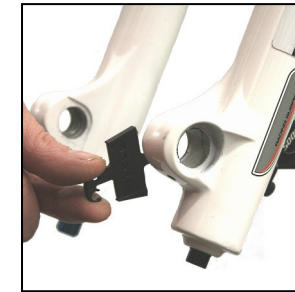
1. Remove your OSET & Accessory pack from the box and check contents against the following list:
 - 1x Bike less front wheel
 - 1x Front wheel
 - 1x Accessory Box containing:
 - 1x Front mudguard (fender)
 - 1x Rear mudguard
 - 1x Battery charger c/w power lead & manual
 - 3x Battery link wires 48V
 - 1x Disc guard
 - 1x Disc guard clamp washer
 - 1x Number board
 - 4x Black cable ties
 - 2x Front wheel spacer (these maybe already attached to front wheel)
 - 1x Hex Key set (Allen keys)
 - 1x Spanner (8 & 10mm)
 - 1x Manual for forks
 - 1x Manual for rear shock

UNPACKING AND ASSEMBLY

2. Place your OSET on a solid & level stand, with both wheels off the ground.
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 22.*
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 wrench) - so it will move side to side so as to aid fitting of wheel.
8. Using the 8mm Allen wrench remove the axle by first unscrewing and removing locking Allen bolt. This is on right side when sitting on the bike and unscrews clockwise (left hand thread). Remove axle from the fork legs. This is unscrewed anti clockwise.



(4.)



(5.)



(6.)

9. Position wheel between forks being careful not to dislodge hub spacers. If spacers are not fitted find these from accessory box & fit to wheel ensuring outer retaining washer with O-ring is pressed right home.
(Note the spacer with an engraved line fits onto the disc brake side of the hub
Now re-insert axle & locking axle bolt by reversing the instructions from step 8. (pictures 4 & 5).
10. Fit disc guard onto the fork lower (picture 6) and insert securing bolt from below to secure the guard in place.
11. 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.)

12. Install the front number plate using the supplied 'zip-ties'. This attaches to the handlebars and the forks (picture 8).
13. Check tire pressure of both tires and confirm they are properly inflated to **20-40 psi**. Light riders can use lower pressures.
14. 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).
15. Unpack charger from its box and read manual. Charge the batteries while thoroughly reading the complete owners manual. See page 24.

NOTE

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

WARNING!

The power must be switched to the off position before attaching and plugging in the charger.

WARNING!

Failure to properly install the batteries may result in an accident resulting in death, serious injury and/or property damage. 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.

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 seat cover.

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



KILL SWITCH

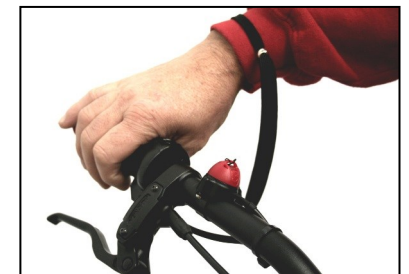
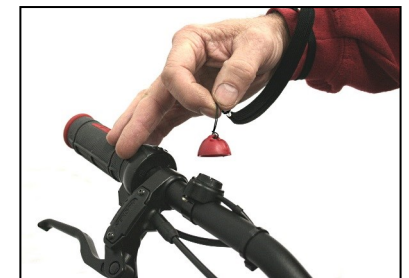
This switch is in addition to the key switch and provides extra functionality. The key switch MUST be in the 'on' position for the magnetic kill switch to operate.

With the key switch in the 'on' position, the kill switch can be used to turn the bike on and off, simply by connecting the red magnetic cap to 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.

Please note, the magnetic kill switch is fitted as standard on the 20.0 Racing. The 20.0 Eco model has a conventional on/off handlebar switch.



DIAL ADJUSTMENT

SPEED DIAL

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.

THIS DIAL IS TO BE ADJUSTED BY A RESPONSIBLE ADULT ONLY.

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.



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.

WARNING!

It is very important to keep everyone clear of the bike when changing and checking the speed and response settings. The dial is sensitive to small adjustments. Do not guess at changes. Always check before the rider gets back on to ensure the desired setting is correct for the abilities of the rider.

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 19 & 21 for wheel alignment information.*

WARNING!

Failure to maintain and adjust the chain and align the wheel correctly could result in the chain jumping off the sprockets, causing a potentially dangerous and damaging condition.

MOTOR CARE



These two pictures show the correct tension. When the tensioner is pushing up on the chain, it should only move between 6 and 16mm.



Axle Nut (15mm)



Chain tensioner nut (13mm)

MOTOR PERFORMANCE & MAINTENANCE

The OSET motor has been designed for high performance. **DO NOT POWER WASH THE MOTOR.** Check that the sprocket bolt is tight periodically. Waterproof grease can be applied around the shaft where it enters the motor for additional protection from the elements. Similarly, a bead of silicone can be applied where the casings join for additional weather protection.

WARNING!

The motor can get hot. It is designed to withstand high temperatures. However, sustained maximum output is not recommended. The motor is designed to withstand pulses of maximum output, not sustained.

SUSPENSION

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 14) for information on installing the front wheel, and reverse the instructions for removal.

REAR WHEEL

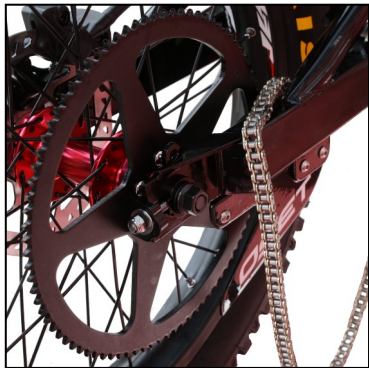
1. Ensure power is switched off and the key removed.
2. Lift the bike onto a block or stand so the wheels are off the ground.
3. Loosen the axle bolts (image 1).
4. Loosen the chain adjustment nuts to the point where the wheel can be pushed forward, and the chain slipped off to the right of the sprockets (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).

A separate owner's manual is provided with full details on brake maintenance and adjustment. Please read for full information.

The brakes are self adjusting to a point, but correct alignment is vital to get the maximum performance. The pads must be equidistant from the disc for maximum efficiency.

Visually inspect the pads as you spin the wheel. Check that alignment is good and pad to disc distance is even. If adjustments are needed follow the instructions below:

- Using an Allen wrench, loosen the calliper mounting bolts, allowing the calliper to move freely from left to right.
- With the wheel raised, pull the brake lever. This will allow the calliper to 'centre' on the disc.
- With the lever still holding the pads tightly on the disc, re-tighten the calliper bolts.
- If the wheel does not spin freely with the brake released and further adjustment is required beyond the limits of the built in adjustment, the calliper position itself can be adjusted further by the use of spacer washers. In this way, the calliper can be lined up perfectly.



Loosen calliper.



Squeeze lever.



Inspect pads.



Adjust lever reach.

SIDE PANEL & BATTERY REMOVAL

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.

REMOVING THE SIDE PANEL



(1.) Release Velcro straps



(2.) Lift side panel clear



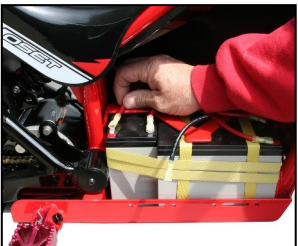
(3.) Side panel removed

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.)



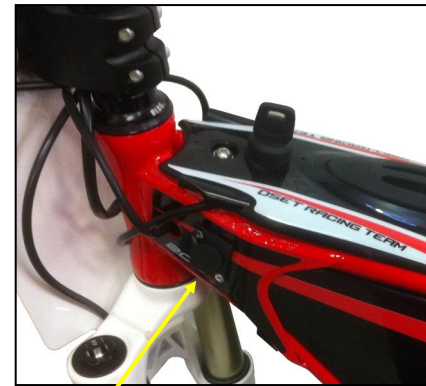
(5.)



(6.)

CHARGING INSTRUCTIONS

- Ensure that the key switch on your OSET is switched OFF & the battery discharge plug is disconnected before connecting the charger to the battery's 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 battery.
- 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 lock 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.



Charging Port



OSET Charger

WARNING!

Use only the supplied battery charger. If you use any other battery charger, you will void the warranty, you may damage the batteries and you could cause a fire that would result in property damage and possible injury or death.

IMPORTANT NOTES ABOUT CHARGING

- It normally takes three to five hours to charge your batteries from a fully discharged condition. Never overcharge. **Remove from the charger after 5 hours maximum.**

- Fully charge the batteries before using your OSET electric bike for the first time. 5 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.

Always connect the charger to the bike before connecting the charger to the AC power source.

Always disconnect the AC power source from the wall socket before disconnecting the charger from the bike.

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

WARNING!

Improper use of the battery charger can result in a fire with property damage and physical injury or death.

CAUTION

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

CAUTION

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

CAUTION

Avoid any contact with water or other 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.

BATTERY USE AND MAINTENANCE

WARNING!

Failure to properly use, charge and store the batteries will void the warranty, and may cause a hazardous situation. **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 or death, and property damage.

WARNING!

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

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!

Never open the battery box. Doing so could damage the battery & will void the warranty.

Your OSET features a 48v drive system, with 4 x 10ah lead acid batteries joined in series to make the 48v. 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 48v 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 10.5—13.0v. 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.



BATTERY DISPOSAL

We are confident that you will enjoy many miles of pleasurable riding with your OSET electric bike batteries. However, batteries do eventually wear out.

When this happens, we urge you to properly dispose of your used batteries.

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

In the USA you can find very useful information regarding used battery drop-off sites from the Rechargeable Battery Recycling Corporation (RBRC) at www.rbrc.org or through their official program www.call2recycle.org.

For UK customers, please visit www.recyclenow.com to find your local recycling centre.

MAINTAINING YOUR OSET

- Keep your OSET clean and dry. Clean using the recommended procedure (*see below*).
- Check all components for tightness and adjustment, including handlebars, levers, axles, chain, brakes.
- Check the wheel spokes for tightness. It is normal for spokes to loosen in operation. PLEASE CHECK after every initial ride, and then regularly afterwards. If you need guidance please consult a skilled wheel builder or call OSET customer service.
- Check the speed, power and response setting before each ride.
- Check the tires for proper inflation. Also, inspect the tires for damage.

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.

Care must be taken when washing. This is an electric machine and water should never reach sensitive components. If a hose is used, cover sensitive parts.

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

WARNING!

Water and electrical components do not mix! 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.

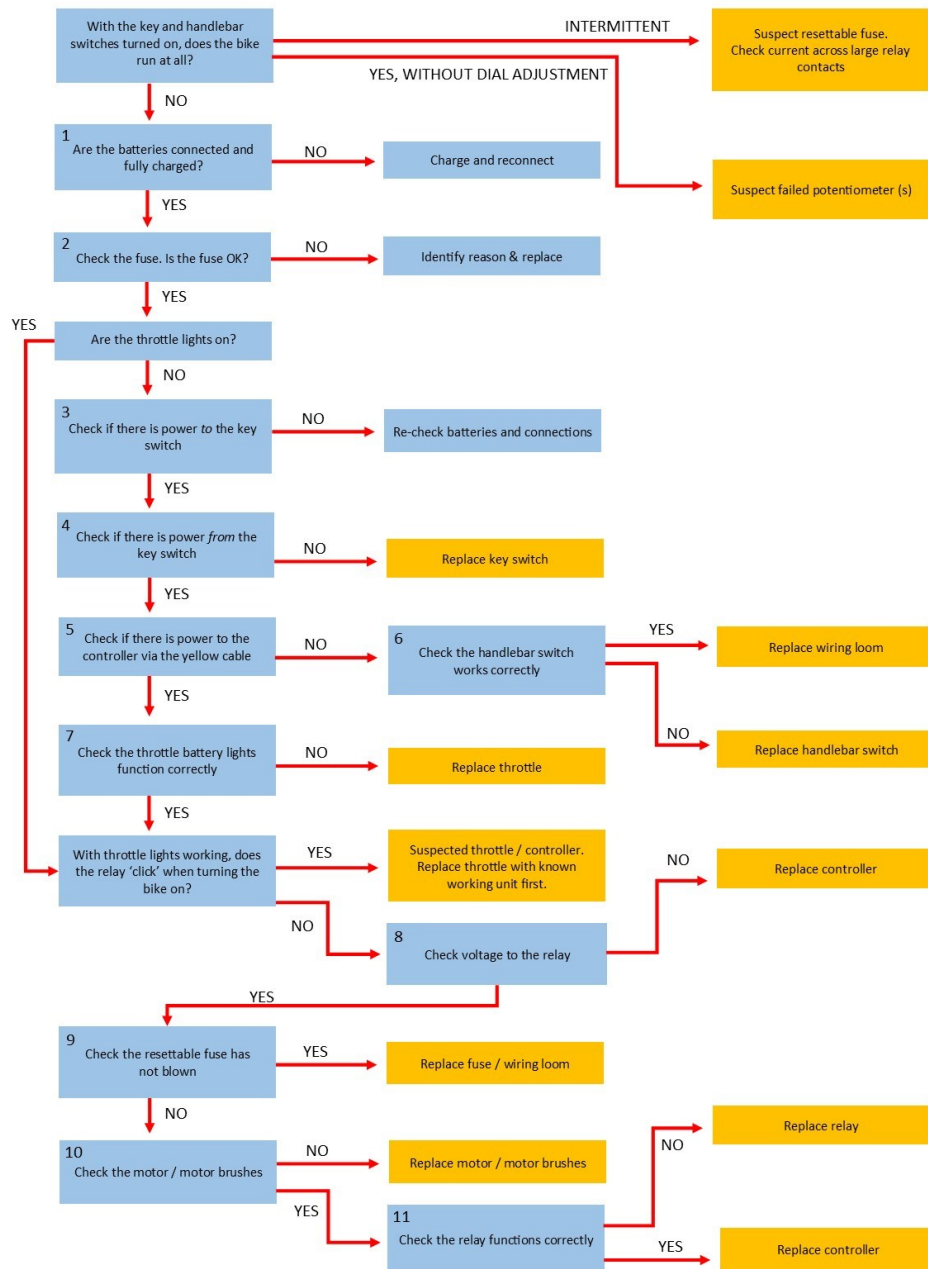
LONG TERM STORAGE

If you do not plan to use your OSET for an extended period of time (1 month or more), remove the batteries from the bike for storage.

- Fully charge the batteries before storing.
- Fully recharge the batteries at least every 60 days of storage.
- Store the batteries in a cool (50° to 70°F, 10° to 21°C), dry place. Avoid direct exposure from the sun.

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.

ELECTRICAL DIAGNOSTIC FLOW CHART



WIRING

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

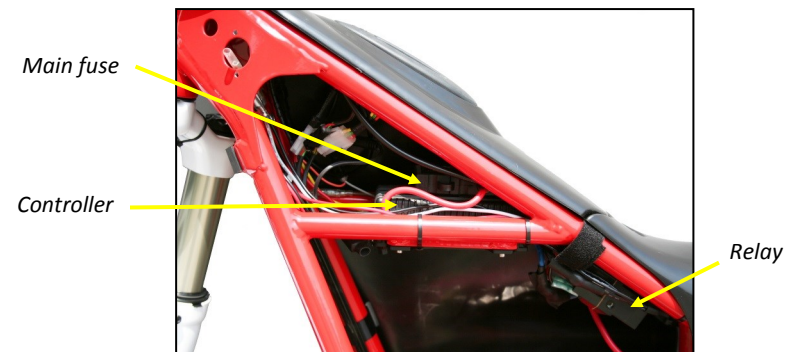
Throttle: This sends an electronic signal to the controller, which is then interpreted to determine the power required and the voltage to be sent to the motor. The throttle is a non-serviceable component. It **must** be protected from water. The throttle contains a small circuit board that can be damaged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

Batteries: There are four, 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 switch. It makes a 48v 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. Shown below.

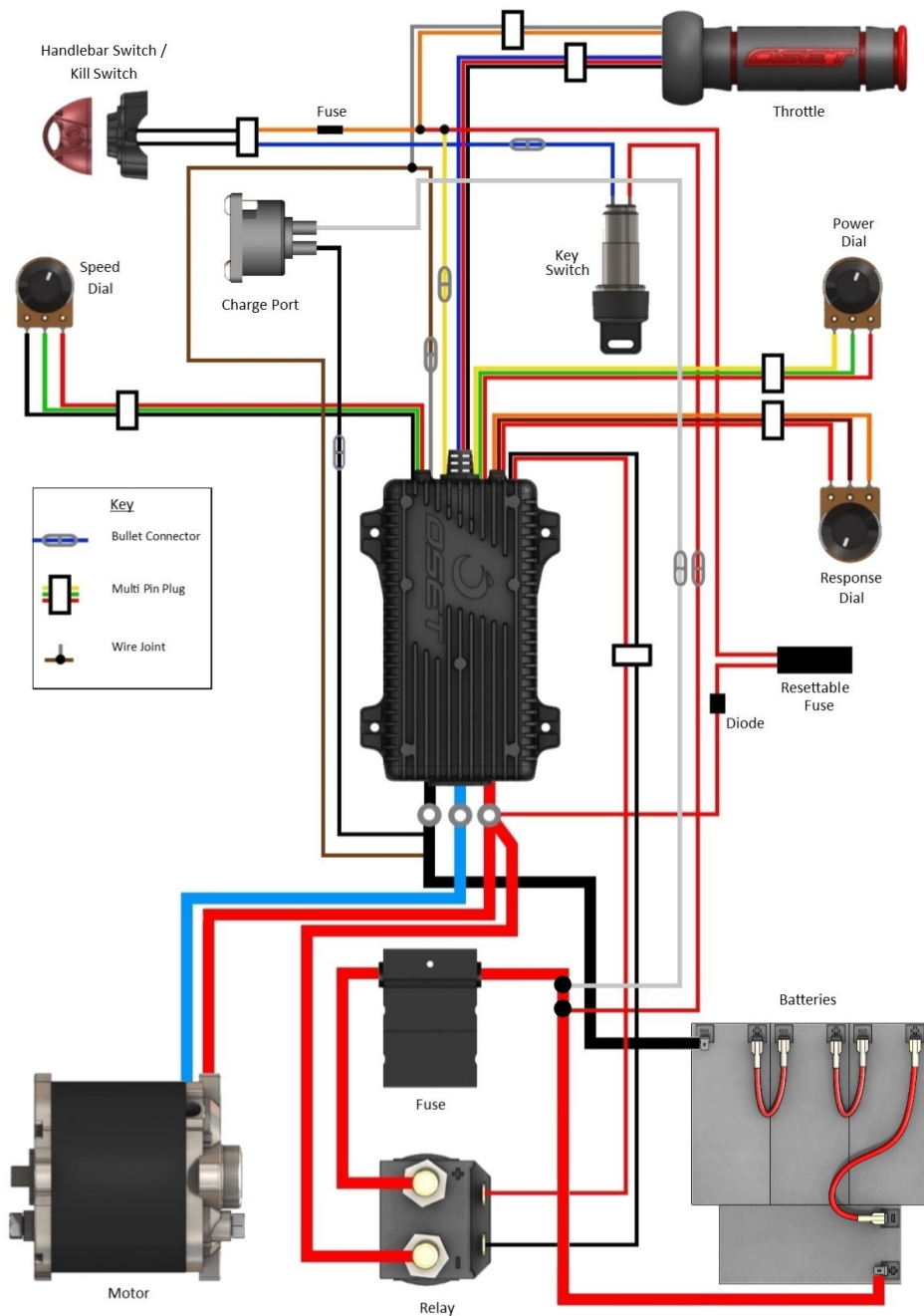
Several other components make up the electrical system, such as the switch, the charge port, the speed switch, the response dial etc.



WARNING!

There are no user serviceable elements incorporated into the motor, controller, batteries, battery charger, throttle, or wiring harness 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 condition. If you cannot resolve a problem using this owners manual, contact your OSET authorized dealer, or call the OSET Customer Service Department for assistance.

WIRING DIAGRAM



SETTING UP YOUR OSET FOR RIDING

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!



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.*

WARNING!

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 serious injury or death, and damage to the machine.

NOTE

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.
UNTIL THESE SKILLS ARE MASTERED, DO NOT LET THE CHILD RIDE THE BIKE!

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.

WARNING!

Do not exceed the abilities of the rider! 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. Always start on the slowest settings.

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.

WARNING!

OFF ROAD USE ONLY!

OSET Mini 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.

CAUTION

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

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.



LEARNING SOME TECHNIQUE

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.

1. 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.
2. To execute a tight turn, lean the bike to the inside.
3. Weight should be on the 'outside' peg, and the outside knee should be out.
4. The foot on the outside peg can pivot out as well.
5. 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!

LIMITED WARRANTY

OSET Electric Dirt Bikes are warranted to the original retail purchaser to be free from defects in materials and workmanship in the frame and components except for batteries, tires, and inner tubes for a period of sixty (60) days from the date of purchase. Batteries are warranted to the original retail purchaser to be free from defects in materials and workmanship for a period of thirty (30) days from the date of purchase. Tires and tubes are warranted to be free of manufacturing and material defects for thirty (30) days. Such tire and tube warranty shall not include flat tires, tire cuts, skid through, over inflation blowouts, or other such misuse or normal hazards. Warranties are limited to repair and/or replacement of bike and/or parts found by OSET to be defective, at the sole discretion of OSET.

OSET Limited Warranties do not cover or apply to the following: Normal wear and tear; any damage, failure and/or loss caused by accident, shipping, misuse, neglect, abuse and/or failure to follow instructions or warnings as stated in the applicable owner's manual or other printed materials provided with the product; damage, failure and/or loss caused by the use of the product for stunt riding, ramp jumping, speed competition, inappropriate off-road use, acrobatics, trick riding or other similar activities, or in any other manner for which such products were not specifically designed. This warranty does not apply to any products or components, mechanical and/or electrical, which have in any way been altered from their original configuration by any person. OSET will not be liable and/or responsible for any damage, failure or loss caused by any unauthorized service or use of unauthorized parts. The OSET Limited Warranty does not cover or apply to any OSET product used for rental or commercial purposes unless the specific product is designated, labeled, or marketed by OSET as acceptable for rental or commercial use. All warranty claims must be made directly to selling retailer. The selling retailer is the primary provider of warranty support and customer service. OSET may choose to perform warranty service at the sole choice of OSET. The original owner of the product must provide proof of purchase prior to approval of any warranty claim. Under no circumstances does this limited warranty include any costs associated with shipment and/or transportation to or from retailer or OSET. OSET, at its sole discretion, has the option of replacing with a new part, a factory recertified part, or repairing any defective product and/or component thereof, or to pay to the owner of such product an amount equal to the original purchase price of such product. The original owner shall pay for all costs of labor associated with any warranty claims. This warranty supersedes all previous warranties. The warranties stated herein are in lieu of and expressly excludes all other warranties not expressly set forth herein, whether express or implied by law or otherwise, including, but not limited to, any warranties for merchantability and/or fitness for any particular purpose. OSET shall in no event be liable or responsible for incidental or consequential losses, damages or expenses in connection with their electric dirt bike products. The liability of OSET hereunder is expressly limited to the replacement of goods complying with this warranty or at the sole election of OSET to the repayment of an amount equivalent to the purchase price of the product in question. CAUTION: Some states or countries may not permit the exclusion or limitation of consequential damages and therefore, such limitations may not apply to the consumer in which such impermissible exclusions are involved.



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(303) 990-2390. info@osetbikes.com. www.osetbikes.com.

OSET CONTACT INFORMATION

WARNING!

BE SAFE!

Never use OSET bikes in unsafe situations! Follow all instructions. Follow all laws.

VISIT THE OSET WEB SITE FOR YOUR COUNTRY TO:

BUY SPARE PARTS AND ACCESSORIES.

READ ARTICLES ON ADVANCED MACHINE SET-UP AND TECHNIQUES.

Importer information can be found on www.osetbikes.com.

OSET CONTACT INFORMATION

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OSET are in over 25 Countries. Please visit www.osetbikes.com for importer/distributor information.



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