



**OWNER'S MANUAL**  
20.0 RACING Mk.2

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# WARNINGS, SYMBOLS & NOTES

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 37:2012



## **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**

# IMPORTANT

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.**

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# SAFETY ADVICE

|   |   |
|---|---|
|  | <div data-bbox="476 172 528 220"></div> <div data-bbox="546 177 706 212"><b>WARNING</b></div> <div data-bbox="359 240 897 295"><b>Risk of burning.</b> Allow bike to cool before touching hot surfaces.</div> |
|---|---|

## 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 motor gets too hot the controller will limit the power to the motor until the temperature reduces to a safe level. If the motor temperature reaches a level which may damage the motor then all power to the motor will be removed. Allow the bike to cool for 15 minutes , turn the bike off/on and you will be able to resume riding.

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.

# SAFETY RESPONSIBILITIES

**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.

# SERIAL NUMBER

The individual identifying serial number of the product can be found on the left hand side of the head tube of the frame, as shown below.

- A.

Bike Category/Wheel size

XX

X

X

XXXX

XXX

XXXX
- B.

Bike Designation

A

B

C

D

E

F
- C.

Bike Specification
- D.

Year of manufacture
- E.

Batch ID
- F.

Unique Serial



It is highly recommended to record the frame number and store this in a safe location and use when contacting your local dealer or OSET customer services.

The motor serial number can be found on the motor as shown in the image above.

## OSET Electric Bike - Model: 20.0R (Lead acid)

The OSET 20.0R (Lead acid), is an electrically propelled motorcycle for off-road, sports trials motorcycle competition use, under adult supervision only, suitable for riders aged 8-12 years. It uses a 48V Nominal electrical system, paired with a 1200W brushed motor.

The product is powered by four 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.



|                               |  |
|-------------------------------|--|
| <b>Maximum Speed:</b>         | 17mph  |
| <b>Weight Limit (Rider):</b>  | 110 lbs (50kg)   |
| <b>Wheelbase:</b>             | 41.3" (1050mm)   |
| <b>Seat Height:</b>           | 21.6" (550mm)  |
| <b>Ground Clearance:</b>      | 11.4" (290mm)  |
| <b>Handlebar Height:</b>      | 38.6" (980mm)  |
| <b>Weight:</b>                | 42.9kg (with batteries)  |
| <b>Overall length:</b>        | 1570mm   |
| <b>Gearing:</b>               | 10T front sprocket, 86T rear. #219 chain.  |
| <b>Motor:</b>                 | 1200W 48V OSET Neodymium magnet DC.<br>Duty classification: S1, Thermal class: F, Temperature range: -15°C-100°C |
| <b>Frame &amp; Swing Arm:</b> | Steel frame & alloy swing arm  |
| <b>Suspension (Front):</b>    | Telescopic air fork, adjustable rebound.   |
| <b>Suspension (Rear):</b>     | Spring & oil type, adjustable rebound.   |
| <b>Wheels:</b>                | Aluminium alloy rims, 19" bicycle front & 14" motorcycle rear  |
| <b>Brakes:</b>                | Hydraulic disc, 180mm front & 160mm rear.  |
| <b>Foot pegs:</b>             | Cast Alloy.  |
| <b>Handlebars:</b>            | Alloy.   |
| <b>Tyres:</b>                 | 2.50" x 20.0" front and 3.0" x 14.0" rear.   |
| <b>Controller:</b>            | RB7, 48 volt, 100 amp pulse width modulating, thermal protection and inline relay and fuse.                      |
| <b>Throttle:</b>              | Twist type with LED battery charge indicator.  |
| <b>Batteries:</b>             | 4 X 12 volt 10 amp hour sealed lead acid AGM.  |
| <b>Keys:</b>                  | Key Switch and handlebar magnetic kill switch..  |
| <b>Dials:</b>                 | Tuneable throttle response, power and speed adjustment.  |
| <b>Ports:</b>                 | 48v charger port   |

## OSET Electric Bike - Model: 20.0 Racing Lithium

The OSET 20.0 Racing is an electrically propelled motorcycle for off-road, sports trials motorcycle competition use, suitable for riders aged 8-12 years. It uses a 48V DC electrical system, paired with a 1200W brushed motor.

The product is powered by a sealed 48V lithium ion battery with charging, discharging and diagnostic ports. 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.



|                               |  |
|-------------------------------|--|
| <b>Maximum Speed:</b>         | 17mph  |
| <b>Weight Limit (Rider):</b>  | 110 lbs (50kg)   |
| <b>Wheelbase:</b>             | 41.3" (1050mm)   |
| <b>Seat Height:</b>           | 21.6" (550mm)  |
| <b>Ground Clearance:</b>      | 11.4" (290mm)  |
| <b>Handlebar Height:</b>      | 38.6" (980mm)  |
| <b>Weight:</b>                | 34.7kg (with battery)  |
| <b>Overall length:</b>        | 1570mm   |
| <b>Gearing:</b>               | 10T front sprocket, 86T rear. #219 chain.  |
| <b>Motor:</b>                 | 1200W 48V OSET Neodymium magnet DC.<br>Duty classification: S1, Thermal class: F, Temperature range: -15°C-100°C |
| <b>Frame &amp; Swing Arm:</b> | Steel frame & alloy swing arm  |
| <b>Suspension (Front):</b>    | Telescopic air fork, adjustable rebound.   |
| <b>Suspension (Rear):</b>     | Spring & oil type, adjustable rebound.   |
| <b>Wheels:</b>                | Aluminium alloy rims, 19" bicycle front & 14" motorcycle rear  |
| <b>Brakes:</b>                | Hydraulic disc, 180mm front & 160mm rear.  |
| <b>Foot pegs:</b>             | Cast Alloy.  |
| <b>Handlebars:</b>            | Alloy.   |
| <b>Tyres:</b>                 | 2.50" x 20.0" front and 3.0" x 14.0" MC rear.  |
| <b>Controller:</b>            | RB7, 48 volt, 100 amp pulse width modulating, thermal protection and inline relay and fuse.                      |
| <b>Throttle:</b>              | Twist type with LED battery charge indicator.  |
| <b>Batteries:</b>             | 1x sealed 48V lithium battery with charging, discharging and diagnostic ports.                                   |
| <b>Keys:</b>                  | Key Switch and handlebar magnetic kill switch.   |
| <b>Dials:</b>                 | Tuneable throttle response, power and speed adjustment.  |

# UNPACKING AND ASSEMBLY

## 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                    |



## **DANGER**

**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.**

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
  - 1x Disc guard
  - 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
  - 1x Manual for brakes

# 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 18.*
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 hex) - so it will move side to side so as to aid fitting of wheel.
8. Using the 8mm Allen hex 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.)

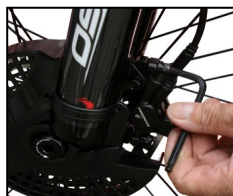
9. Position wheel between forks being careful not to dislodge hub spacers. If spacers are not fitted find these from accessory box & fit to wheel ensuring outer retaining washer with O-ring is pressed right home.

(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). **It is good practice to apply some white grease to the axle.**

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)
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.

(7.)



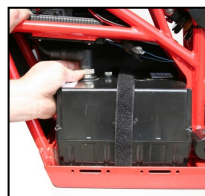
(8.)



(9.)



(10.)



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 lead acid batteries as indicated in (picture 9). For lithium batteries please reference (picture 10)
15. Unpack charger from its box and read manual. Charge the batteries while thoroughly reading the complete owners manual. For lead acid See page 21, Lithium batteries 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.

# SWITCHES

## 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.



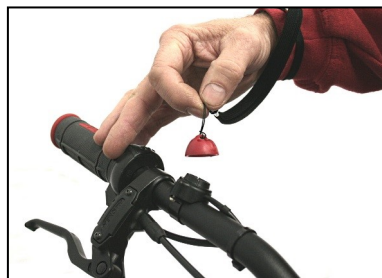
## KILL SWITCH

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.



# DIALS & INDICATORS

## 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

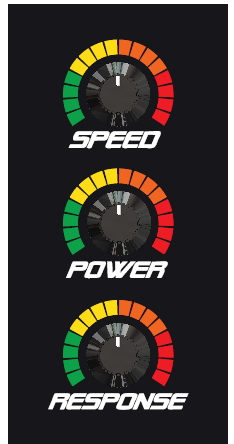
This is the most important adjustability feature on the bike and must ALWAYS start with the lowest setting, and make changes in very small increments. It may appear that the highest power will be suitable for an advanced rider, but it must be understood that there is a lot of power available.

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.

# 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).



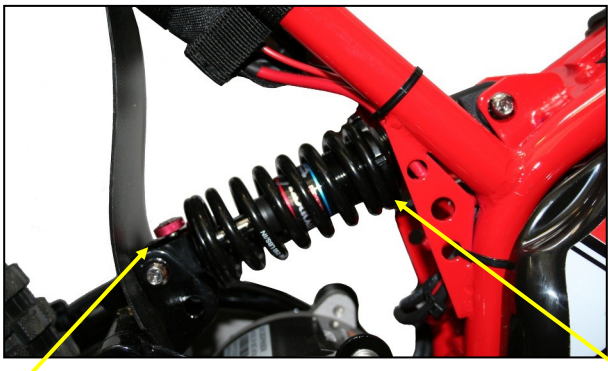
Rebound dial.



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

# WHEEL REMOVAL & INSTALLATION

## FRONT WHEEL

Please refer to the section on assembling your OSET bike (*page 12*) for information on installing the front wheel, and reverse the instructions for removal.

## REAR WHEEL

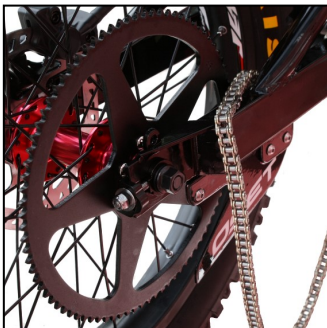
1. Ensure power is switched off and the key removed.
2. Lift the bike onto a block or stand so the wheels are off the ground.
3. Loosen the axle bolts (*see image 1*).
4. Loosen the chain adjustment nuts to the point where the wheel can be pushed forward, and the chain slipped off to the right of the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

# BRAKE ADJUSTMENT

*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 hex, 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.*

# CHAIN ADJUSTMENT

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.

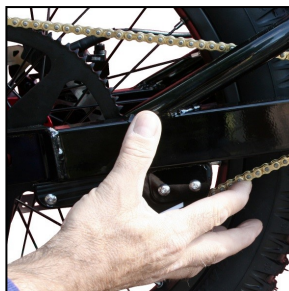
## CHAIN ADJUSTMENT



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 17 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.

# SIDE PANEL & BATTERY REMOVAL



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 - LEAD ACID

- Ensure power is turned off, remove the key.
- With the side panel already removed, disconnect the power leads, removing the main negative connection, intercell connections then the main positive connection (*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.)

# LEAD ACID CHARGING



## **WARNING!**

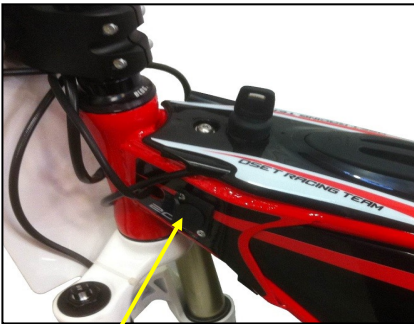
**Use only the battery charger supplied.** Using any other battery charger will void your warranty, may damage the batteries and could cause a fire that may result in property damage and/or possible injury.

- 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 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.



**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 (Lead acid models only)*



*OSET Charger*

# LEAD ACID BATTERY GUIDANCE

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 property damage.**

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 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.

Other factors which can affect the life and run time of your 12V lead acid batteries include: weight of the load carried, times used per week, length of time used per occasion, charging regime, age/condition of equipment and an ambient temperature over 20°C

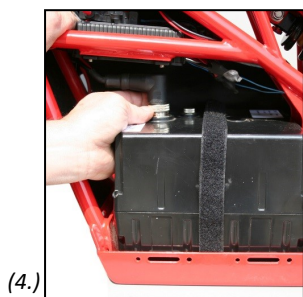
Once your batteries have reached the end of their service life OSET strongly suggest replacing them with another high quality part such as the one supplied with the bike, Yuasa REC10-12. Please contact your local OSET dealer /distributor or OSET customer service for guidance.

# LITHIUM BATTERY REMOVAL & CHARGING

## BATTERY REMOVAL - LITHIUM

- Ensure power is turned off, and remove the key.
- With the side panel already removed, unscrew & disconnect the power lead (*image 4*).
- Next, release the battery retaining strap (*image 5*).
- Finally, carefully lift the battery box out of the bike (*image 6*).

To reinstall battery, reverse the procedure above.



- 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 above ).
- 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 Indicator LED will illuminate **YELLOW** while the charger is charging the battery.
  - The Indicator 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.

It normally takes up to seven hours to charge your batteries from a fully discharged condition. Never overcharge. **Remove from the charger after 10 hours maximum.**



## **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.

- Fully charge the batteries before using your OSET electric bike for the first time. 10 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 battery 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.



**Ensure charger is disconnected from bike before riding.**

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

## **NO LIQUIDS NEAR CHARGER**

OSET electric bikes must be charged indoors. If the battery, charger or any connections become wet, immediately unplug the charger and thoroughly dry all components prior to charging the battery.

## **DO NOT SPRAY WITH WATER**

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.

## **DO NOT EXPOSE TO OPEN FLAMES**

Keep the battery away from excessive heat and/or open flames. Avoid long term exposure to direct rays from the sun. Exposing to open flames will result in damage to the unit leading to possible injury.

*Diagnostic Port (OSET  
Technicians only)*

*Battery Vent, Sealed non serviceable.*



Charging Port

Discharging Port



OSET Charger

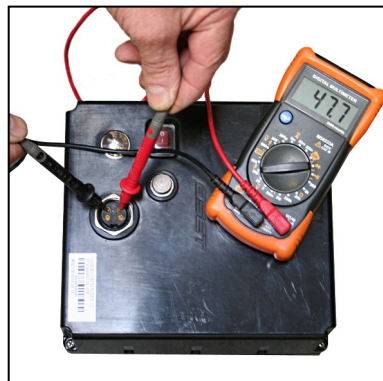
# LITHIUM BATTERY CARE & DISPOSAL

Your OSET features a 48v drive system, for use with a sealed 48V lithium battery. Under **NO** circumstances should this battery box be opened by anyone other than a trained OSET technician. Doing so can damage the battery and/or bike & will void any warranty.

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

In order to test the battery voltage using a multimeter, connect the negative & positive probes to a pair of pins on the discharge port on the battery as shown.

A multimeter is also very useful in diagnosing any electrical problems on the bike.



When testing the battery voltage, you should have a reading of between 36.0 & 54.4V depending on the state of charge of the battery. If you read anything outside of this range, please disconnect the battery immediately and contact your OSET dealer, importer or OSET customer services.



## **DO NOT USE IF BATTERY IS DAMAGED**

If the casing of the battery is damaged call OSET for assistance.



## **DO NOT TOUCH ELECTRICAL CONTACTS**

Failing to adhere to this can cause irreparable damage and lead to possible injury.



## **DO NOT DISSASSEMBLE**

Your OSET battery is not a serviceable item, opening the casing will invalidate your warranty.

## **BATTERY DISPOSAL**

Over time your lithium battery pack's capacity will reduce, until it reaches the end of its service life. This is perfectly normal & to be expected.

Battery packs contain a large amount of valuable raw materials & plastics which can all be recycled if disposed of correctly. Do not dispose of the battery with general household waste.

Contact your local refuse handling center for more details on battery recycling and disposal. If in doubt, please contact OSET for help & advice with disposing of your old batteries.

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: BBCE193



## 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](mailto: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/or property damage.**

# MOTOR CARE & CLEANING

## 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.**

# BUILD CHECK LIST

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

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

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

| TEST RIDE CHECKS  | OK |
|---|----|
| <i>Check both front and rear brakes operate and are adjusted correctly.</i> |    |
| <i>Individually check each potentiometer functions correctly.</i>           |    |

# STORAGE & TRANSPORT

## 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

## 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.

## TROUBLESHOOTING

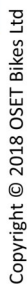
If you have a problem with your OSET it is likely that there is a simple solution to it.

| ISSUE   | LIKELY CAUSE  | SOLUTION   |
|---|---|--|
| There are no lights on the throttle.                  | Lanyard not present, key switch not on.<br><br>Batteries not correctly connected. | Check key and lanyard are present and key turned to the 'ON' position.<br><br>Check battery connections.                                   |
| Rear wheel only partially rotates.                    | Faulty relay.<br><br>Main fuse blown.   | Replace relay with known working part.<br><br>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.<br><br>Faulty throttle.<br><br>Faulty controller.                   | Replace relay with known working part.<br><br>Replace throttle with known working part.<br><br>Replace controller with known working part. |
| Poor run time.  | Batteries not fully charged.<br><br>Old batteries.<br><br>Mechanical friction.    | Charge battery for 12 hours.<br><br>Replace batteries.<br><br>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](http://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.



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.

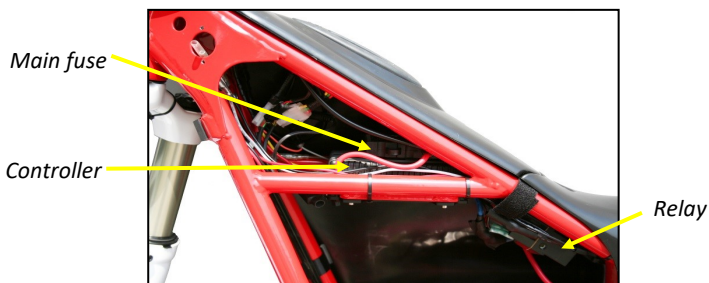
**Lead Acid Batteries:** There are four, 12V, 10ah lead acid batteries included with the OSET bike.

**Lithium Batteries:** Where supplied there is a sealed OSET lithium 48v Li-Ion battery pack.

**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.

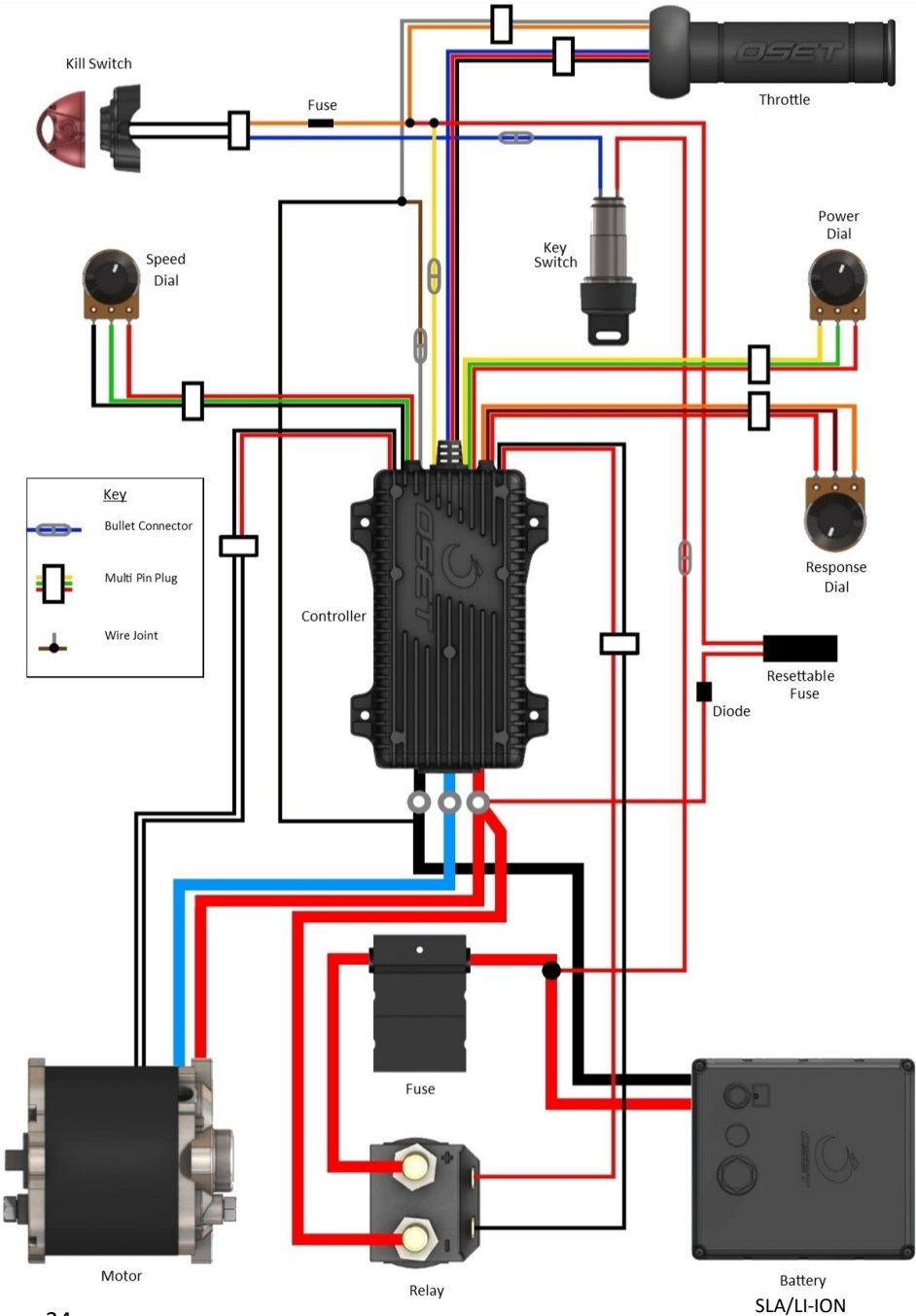
Several other components make up the electrical system, such as the switch, the charge port, the speed switch, the response dial etc.



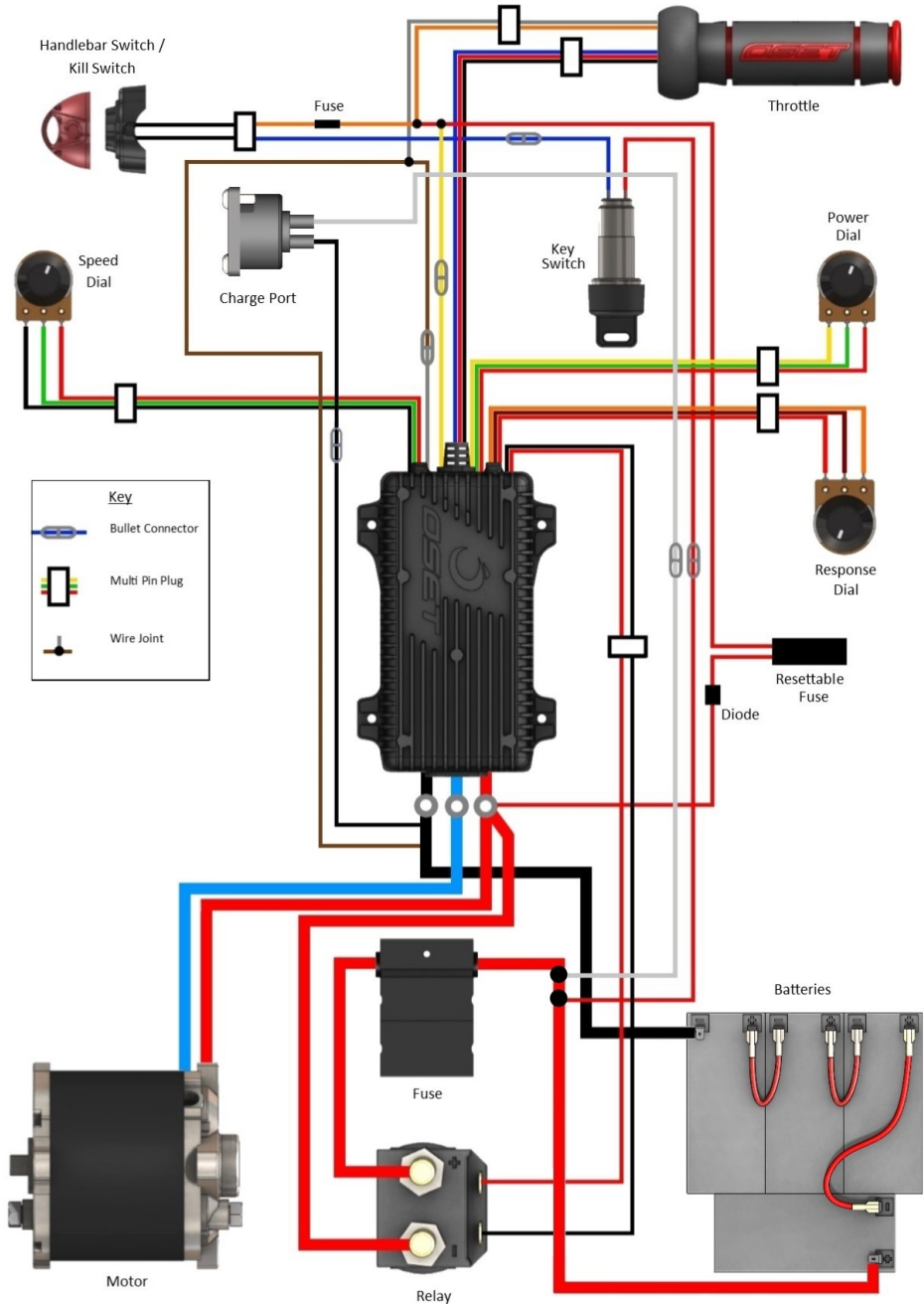
## **WARNING**

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.

# LI-ION WIRING DIAGRAM



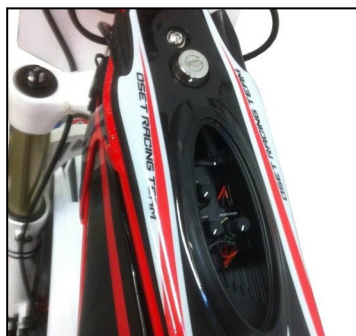
# LEAD ACID WIRING DIAGRAM



# SETTING UP 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.
3. **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 18.*



## **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.**

## 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.

# FIRST RIDE



## **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.**

# 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!

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 house hold 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**  
Units 5-6, Highfield Business Park  
Sidney Little Road  
Saint Leonards-on-Sea  
East Sussex TN38 9UB  
01424 834440  
**[www.osetbikes.co.uk](http://www.osetbikes.co.uk)**  
**[info@osetbikes.co.uk](mailto: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](http://www.osetbikes.com)**  
**[info@osetbikes.com](mailto:info@osetbikes.com)**

In the USA you can find very useful information regarding recycling through their official program [www.call2recycle.org](http://www.call2recycle.org).

For UK customers, please visit [www.recyclenow.com](http://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](http://www.osetbikes.com) for the latest importer/distributor information list.

**[www.Facebook.com/osetbikes](https://www.facebook.com/osetbikes)**

**[www.Twitter.com/osetbikes](https://www.twitter.com/osetbikes)**

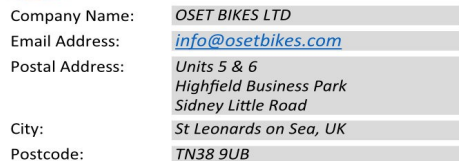
WEEE Producer Environment Agency Reference Number: WEE/MM4649AA

WEEE Compliance Scheme Registration Number: CD01/00956

Battery Producer Environment Agency Reference Number: BPRN06922

Battery Producer Compliance Scheme Registration Number: BBCD193





|                        |                                  |
|------------------------|----------------------------------|
| Product Model:         | <i>OSET 20.0 RACING Mk.2 SLA</i> |
| Type:                  | <i>ELECTRIC MOTORCYCLE</i>       |
| Accompanying Products: | <i>HP0180WD 48V CHARGER</i>      |

**The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:**

|  |   |
|--|---|
| EMC Directive 2014/30/EU               | Batteries and Accumulators Directive 2006/66/EC |
| Low Voltage Directive (LVD) 2014/35/EU | RoHS II Directive 2011/65/EU                    |
| Machinery Directive 2006/42/EC         | REACH Regulations 1907/2006                     |
| WEEE Directive 2012/19/EU              |   |

[illegible]

### Role/Function

Date of Issue

Name. Signature

# LIMITED WARRANTY

## **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.*
- *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.*

# IMPORTER CONTACT INFORMATION

Please visit [www.osetbikes.com](http://www.osetbikes.com) for the latest importer/distributor information list.

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



## OSET Corp

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

[osetbikes.com](http://osetbikes.com)

[info@osetbikes.com](mailto:info@osetbikes.com)



04.2019