

REV.2017-09-11

OPERATOR'S INSTRUCTION MANUAL

Cleveland CycleWerks Misfit 250 Gen II



SAVE THIS MANUAL FOR FUTURE REFERENCE

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Dear Customer,

Thank you for choosing Cleveland CycleWerks. We know you have many choices of motorcycles that you could have chosen; your show of confidence in Cleveland is appreciated. Our designers, engineers and entire staff have placed a considerable amount of passion and knowledge into the development and manufacturing of the vehicle that you have chosen. We only manufacture bikes that we want to ride!

We do our best to provide a trouble free and exceptional product from the factory. We recommend that you strictly follow the instructions given in this manual, paying close attention to the run-in period of this motor vehicle.

The instructions contained in this manual will help you make the most of your motorcycle's performance and operational life. This manual provides useful information on how to take care of your vehicle, and also describes routine maintenance operations.

For any servicing or assistance that you may need, please contact our authorized dealer and/or service centers.

Cleveland CycleWerks makes every attempt possible to verify the accuracy of our owner's manuals, we understand mistakes happen, as manuals are written during the development of the vehicle, specifications and variations do occur between writing the manual and production, we clearly state this and note that variations may happen between the manual and production. Every country has a unique set of laws and statutes, your countries model may vary slightly from the images or descriptions, due to each individual country's compliance regulations.

The information contained herein is valid at the time of printing. Cleveland CycleWerks reserves the right to make changes required by the future development of the above mentioned products. We do our best to verify the accuracy of this manual, but mistakes do happen, no liability is accepted for mistakes during the drafting of this manual.

For your safety and the reliability of your vehicle, use original **CLEVELAND CYCLEWERKS** spare parts **ONLY**.

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Owner's Manual

- This manual should be considered a permanent part of the motorcycle and should remain with the motorcycle if it is resold.
- No part of this publication may be reproduced without written permission.

IMPORTANT

PLEASE READ THIS MANUAL CAREFULLY AND COMPLETELY BEFORE GOING ON YOUR FIRST RIDE. IT CONTAINS A GREAT DEAL OF INFORMATION AND ADVICE, WHICH WILL HELP YOU USE AND HANDLE YOUR MOTORCYCLE PROPERLY.

This vehicle has a minimum age requirement of 16. Always wear necessary and properly fitting protective gear when operating this vehicle.

Obtain, review and follow all laws and regulations pertaining to owning and operating a vehicle before using this product.

Cleveland CycleWerks reserves the right to modify any equipment, technical specifications, colors, materials, services offered and rendered, and the like so as to adapt them to local conditions without previous announcement and without giving reasons, or to cancel any of the above items without substituting them with others. It shall be acceptable to stop manufacturing a certain model without prior notice. In the event of such modifications, please ask your local Cleveland CycleWerks dealer for information.

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SAFETY SYMBOLS

This document provides directions on operating and maintaining your motorcycle. This manual contains important safety information. Please read this manual over carefully before using your motorcycle.

Your personal safety, and the safety of those around you, is extremely important. Operating this motorcycle safely is an important responsibility. Cleveland CycleWerks has provided operating procedures and other information on labels in this manual to help you make informed decisions about safety. This information will alert you to potential hazards that could harm you or others.

It is not practical or possible to warn you about all possible hazards associated with operating and maintaining a motorcycle. You must use your own good judgment and common sense. In many cases "common sense" seems to be less and less common. Please use solid judgment, do not ride above your ability and respect the fact that you are a sack of water traveling through space at a high rate of speed. Respect the bike, respect the road and use caution.

Safety information will come in a variety of different forms, including:

- Safety Labels on the Motorcycle.
- Safety Messages preceded by a safety symbol A and one of these signal words below:

Sections of text in this manual, which are particularly important in terms of safety or possible damage to the motorcycle, are marked with the following symbols:



You CAN be KILLED or SERIOUSLY INJURED if you do not follow instructions.

You CAN be KILLED or SERIOUSLY INJURED if you do not follow instructions.

You CAN be INJURED if you do not follow instructions.

- Safety Headings such as important safety reminders and/or precautions.
- Safety Section such as motorcycle safety.
- Instructions how to use the motorcycle properly and safely.

This manual is filled with important safety information - please read it carefully.

If you take responsibility for safety, properly maintain your motorcycle and understand the challenges you may encounter while riding, your Cleveland CycleWerks motorcycle will provide many years of use and enjoyment. Listed below are some important safety measures you should take when riding.

M WARNING Before Riding. Carefully read this manual to familiarize yourself with the controls, characteristics, functions and limits of the motorcycle.

WARNING <u>Never</u> attach a sidecar, a trailer or any other accessory to the motorcycle. Do Not modify the vehicle in any way. Failure to observe this prescription may make the vehicle unstable and cause serious accidents and/or injury.

A DANGER <u>Never Ride Without a Helmet.</u> The following statement is a proven fact: "**Helmets** significantly reduce the number and severity of head injuries." Never ride your motorcycle without a helmet. Even a crash at slow speed can result in a fatal head injury if you are not wearing a helmet. Cleveland CycleWerks strongly recommends wearing a helmet that has been certified for safety by helmet testing organizations that are independent from the helmet manufacturer. We also recommend that you wear eye protection, boots, gloves, and other protective gear such as riding pants.

A DANGER <u>Carrying a Passenger.</u> This motorcycle has been designed for one rider and one passenger. Riding with a passenger can interfere with your ability to operate and/or control the motorcycle and may result in serious injury or death. Riding with a passenger also affects your braking distance and control, please use caution when riding with a passenger.

MARNING <u>Ride Within Your Limits</u>. Never attempt to ride your motorcycle in a manner that is beyond your skill level. It takes time to learn proper riding skills. Learn to ride your motorcycle step by step. Start by practicing in safe areas at slow speeds and gradually build your skill level. Instruction from an experienced rider(s) is highly recommended. Remember that alcohol, drug use, fatigue and ignorance can reduce your ability to make good decisions and ride safely.

▲ WARNING Be Alert for Hazards. The terrain or road in which you ride can present many hazards. Always "scan" the terrain or road ahead of you continually. Watch for unexpected turns, sand, water, potholes, debris and other hazards. Always maintain a speed slow enough to allow you enough time to see and react to hazards. Vehicle operators often do not see motorcycles, please use caution at intersections. Be alert to pedestrians that may be on or near the road. ▲ DANGER Do Not Drink and Ride. Even one drink can impair your ability to ride a motorcycle safely. Each additional drink will make the impairment worse. Do not drink and ride. Do not let your friend's drink and ride. You can be arrested and charged with Driving Under the Influence (DUI) if you are riding a motorcycle while intoxicated. Many countries have a 0 drink policy for operating a motor vehicle.

CAUTION Maintain Your Motorcycle. To ensure maximum reliability and to maintain the motorcycle in perfect working condition, it is essential to perform the service detailed in the Maintenance Schedule and to follow the direction provided in this manual. For further information, please contact your authorized dealer and/or service center that possess the necessary technical skills to care for your vehicle.

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<u>III DO NOT</u> use the motorcycle or try to service it if you do not possess the necessary skills, if you have never turned a wrench, please entrust your safety to a motorcycle service professional!!!

- Full control of the motorcycle is necessary for safe riding. Concentration and good physical condition are essential for riding a motorcycle. The road and weather conditions must also be taken in to consideration, as speed and steering can be affected by all of the above.
- ALWAYS wear a helmet, even if you go for a short ride.
- Always wear suitable clothes, especially when traveling at night. (Motorcycle garments with reflective bands are recommended for night riding).
- When traveling during daytime, keep the low beam light on if allowed by local laws.
- NEVER wear garments that could adversely affect control and handling of your motorcycle.
- When refueling, switch off the engine, refrain from smoking, and avoid spilling fuel onto the tank and the hot exhaust pipe.
- When refueling, avoid inhaling harmful fuel vapors. If fuel comes in contact with skin or clothes, immediately wash with soap and water and change the contaminated garments.
- Some parts of the motorcycle become very hot during use. Avoid contact with these parts and keep the motorcycle out of the reach of children, especially when hot. Always wear long trousers when riding.
- Always park the motorcycle safely and avoid leaving it unattended while the ignition key is in the ignition, on the motorcycle. Use the steering lock to deter theft.
- Park the motorcycle where it is visible, and not in danger of passing traffic.
- To prevent the vehicle from tipping over, never park on soft or uneven ground.
- DO NOT start the motorcycle in an enclosed area. Exhaust fumes are toxic and can quickly saturate the air causing potential death.
- Before starting the engine in a closed place, ensure that the area is well ventilated.
- While the vehicle is in motion, keep your feet on the appropriate foot pegs.
- While riding, keep both hands on the handlebars at all times.
- Maximum performance of the standard brake pads and tires is obtained on dry roads. Take caution when riding on wet roads as adhesion is greatly reduced.

MODIFICATIONS

Any modifications made to the motorcycle (alteration(s) and/or removal of components) can make the vehicle unsafe or unlawful. Modifying the motorcycle will immediately void the warranty offered and implied by your local distributor, and relieves Cleveland CycleWerks, and our distribution partners of any liability.

Modifying this motorcycle or using parts not manufactured by Cleveland CycleWerks can make your motorcycle unsafe. Before you consider making any modifications or adding an accessory, please read the following information carefully.

Improper accessories or modifications can cause a crash in which you can be seriously hurt or killed. Follow all instructions in this owner's manual regarding any accessories.

MARNING Cleveland CycleWerks strongly recommends that you do not remove any original equipment or modify your motorcycle in any way that may alter the design and/or operation. Such a change could drastically impair the stability, handling, acceleration, and braking capabilities of the motorcycle and cause a crash. Do not make any modifications to the exhaust system, noise control system or emission control components. This is illegal in every country that we sell motor vehicles.

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ACCESSORY INSTALLATION

The use of non-genuine parts and/or accessories can make the vehicle unsafe by reducing its handling, stability and the effectiveness of the braking system. For this reason, the installation of any non-genuine accessory makes the warranty offered by your distributor void and relieves Cleveland CycleWerks and its distribution partner of all liability.

FAMILIARIZE YOURSELF WITH THE VEHICLE

The rider's ability and their mechanical skills form the basis of riding safety. It is advisable to practice riding in a closed course, to familiarize yourself with the vehicle, it's operation, and controls. Motorcycle riding is a learned skill, compounding over a long period of time. Valentino Rossi did not become "The Doctor" overnight.

Remember: practice makes perfect, one solid turn leads to the next and in time you become a better rider.

We highly recommend track day riding with instruction. Many riders may consider themselves not eligible or experienced enough for track riding, but we have found the opposite to be true. A rider at a proper track day event, with the proper classroom and on-course training will make you a better rider on and off the track. You will learn valuable skills; such as, how to avoid target fixation, proper throttle and braking controls, proper body position and how it affects the motorcycles handling. Most importantly, you are learning these skills on a closed course, which is controlled, and without fear of learning the skills on the street where pedestrians, gravel, dogs, cars, intersections, etc., are distracting you from obtaining the skills necessary for proper vehicle control. Get on the track, obtain proper training and enjoy a lifelong love affair with motorcycling!

🔥 WARNING

! WARNING !

Operating, servicing and maintaining a passenger vehicle can expose you to chemicals such as lead, phthalates, engine exhaust and carbon monoxide that are known to the State of California cause cancer, birth defects or other reproductive harm.

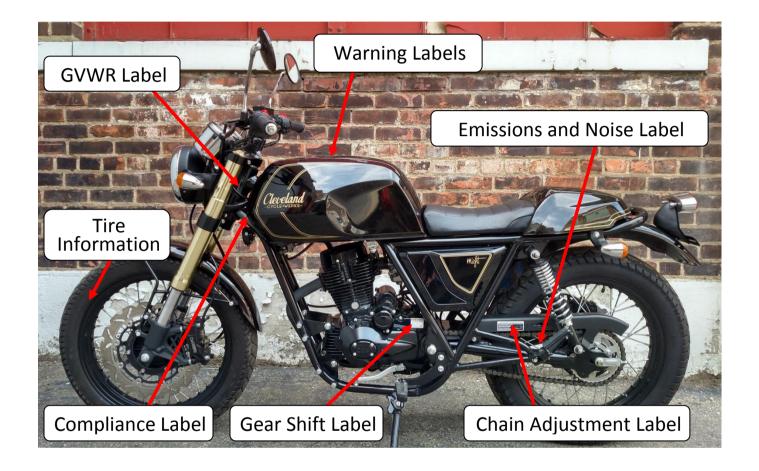
To minimize exposure, avoid breathing exhaust, service your vehicle in a well-vented area and wear gloves or wash your hands frequently when servicing your vehicle.

For more information go to: www.P65Warnings.ca.gov/PassengerVehicle.

SAFETY LABEL LOCATIONS

This page will show you where to find the safety labels on your motorcycle. You will find that some labels warn you of potential hazards. Others will provide important safety and maintenance information. Please read them carefully and do not remove them. If your label wears off from riding or becomes hard to read, contact your Cleveland CycleWerks dealer for a replacement.

NOTE: Some labels may not be in the exact location indicated.



:IMPORTANT WARRANTY INFORMATION:

YOUR WARRANTY IS OFFERED AND SERVICED DIRECTLY BY THE IMPORTER / DISTRIBUTOR WITHIN EACH COUNTRY. CLEVELAND CYCLEWERKS DOES NOT SERVICE OR EXTEND A WARRANTY DIRECTLY TO CUSTOMERS, YOU MUST GO THROUGH YOUR DISTRIBUTOR.

WARRANTY PROCESS: CUSTOMER > CONTACT DEALER > DEALER CONTACTS DISTRIBUTOR.

This document does not express, extend, or imply that Cleveland CycleWerks is directly or indirectly offering a warranty for the product in your country. All warranties are offered and have to go through the distributor in each respective country.

Cleveland CycleWerks Distributor / Importer of Record, warrants that this product is free of defects in material and workmanship.

PLEASE REFERENCE YOUR WARRANTY AND SERVICE BOOKLET FOR MORE INFORMATION & EMISSIONS WARRANTY

TO RECIEVE SERVICE: Contact your nearest Cleveland CycleWerks service center and/or dealer. The cost of transportation of the product to and from the service center and/or dealer must be paid by the owner.

No service center and/or dealer is authorized to modify this warranty.

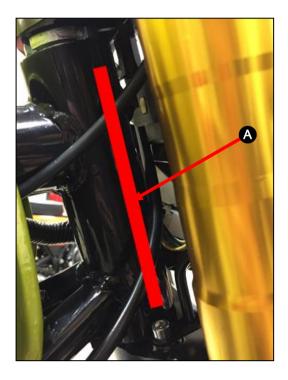
EMISSIONS CONTROL SYSTEMS

Tampering with noise & emissions control systems is prohibited Owners are warned that the law prohibits:

- A. The removal or rendering inoperative by any person other than for purposes of maintenance, repair or replacement, of any device or element of design incorporated into any new vehicle for the purpose of noise and/or emissions control prior to its sale or delivery to the ultimate
- purchaser or while it is in use; and **B** The use of the vehicle after such device or element of design has been removed of
- **B.** The use of the vehicle after such devise or element of design has been removed or rendered inoperative by any person.

VEHICLE IDENTIFICATION





SERIAL NUMBER LOCATIONS

VIN – Chassis Number

The VIN number identifies the motorcycle. When placing orders for spare parts, you may be required to provide the VIN, engine serial number and the color of the motorcycle.

The VIN number is located in one of three places on the chassis.

- 1. Right side of frame on compliance sticker.
- 2. Left side of frame on compliance sticker.
- 3. Steering head tube A right side of frame.



Engine Model & Serial Number

The engine model number and serial number is stamped on the left side of the engine below the countershaft sprocket.

For future reference, please write the information of your motorcycle in the boxes below:

Chassis (VIN) Number	
Engine Number	
Dealer	
Body Color	

COMPONENT LOCATIONS



COMPONENT OVERVIEW





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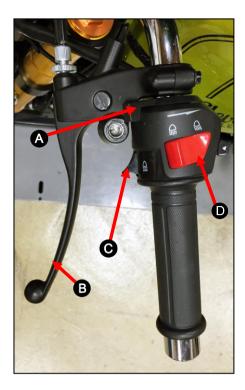
COMPONENT LOCATIONS

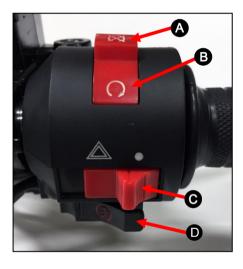


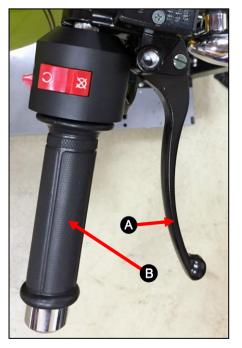
HAND CONTROLS AND INSTRUMENTS











HANDLEBAR CONTROLS

Choke Lever

When the choke lever **A** is forward, the choke is **OFF**. When the lever is in the rear position, the choke is **ON**. When pulled rearward, the butterfly valve in the carburetor is closed. The engine takes in additional fuel resulting in a rich fuel and air mixture ratio, which is needed for a cold start. When releasing the choke lever forward, the cylinder is open again. The choke should be released once the motor is warm. **DO NOT RIDE WITH THE CHOKE ON! Clutch Lever**

The Clutch lever **B** is located on the left side of the handlebar.

Headlight Switches

The high beam flasher \bigcirc flashes the high beam temporarily to get the attention unatentive vehicles, or to temporarily see an item in your pathway. The toggle switch, \bigcirc will toggle between high and low beam.

Engine Start / Stop Switches

The stop switch (A) turns off the engine. When this button is pressed forward, it will turn off the running motor, and prevent it from starting. When in the rear position, (B) the motor can run.

Emergency Flasher Switch

When parked on the side of the road, or you are in need of extra visability, push this switch to the left, **O** for the flashers to illuminate.

Engine Start Switch

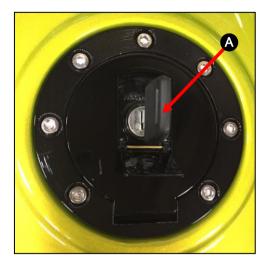
Press this button **D** momentarily to turn over the engine for starting. Do not hold this switch down for more than 10 seconds at a time.

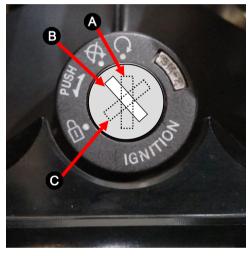
Hand Brake Lever & Throttle

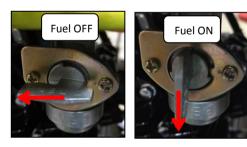
The front brake lever **A** and throttle **B** are mounted on the right side of the handlebar.

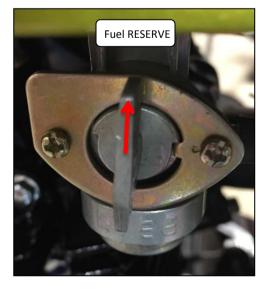
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FUEL CAP / IGNITION / PETCOCK

Fuel Cap

To Open: Insert ignition key A and turn clockwise. **To Close:** Turn the key clockwise and push down on the cap, it should sit flush when closed completely.

A DANGER NOTE: Do not fill the gas tank to the top of the fuel cap. This motorcycle is equipped with an EVAP system. Overfilling will cause this system to flood and potentially cause damage, poor performance, and stalling issues from vapor lock.

Keyed Ignition Switch

The ignition key is used to supply power from the battery to the electrical components of the motorcycle in the "ON" position (A). Turn the switch to the "OFF" position (B) when you are finished riding, or if you wish to stop the engine.

This motorcycle is equipped with a steering lock.

Turn the handlebars full right or left, push the key IN and turn to position **(c)** to lock the steering for security.

Fuel Valve (Petcock)

Location: bottom of gas tank, riders left side.

OFF - In this position, the fuel valve is closed. No fuel flows from tank to the carburetor. The lever will be parallel to the ground when off

ON - In this position, the fuel valve in open. Fuel flows from the tank to the carburetor. The fuel tank empties down to the reserve level. The Arrow will be pointing up, towards the sky. In this position, you are as free as a bird!

RESERVE - In this position, you will have extra fuel in the case that you run out, or forget to fill up. Never begin your ride with the reserve on, this would remove your safety net, and you do not want to get stranded. Down towards the earth, the gas gods are telling you to refill: listen to the gas gods.

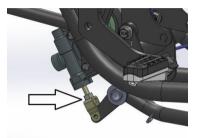




FOOT CONTROLS

Foot Brake Pedal

The brake Pedal A is located on the rider's right side of the motorcycle. Depress to apply the rear brake to slow or stop the motorcycle. Small adjustments to the height of the pedal may be made at the adjuster:



Kick Start Lever

The kick start lever (A) is mounted on the right side of the engine. All bikes are equipped with an electric starter. If you want to do your best James Dean impression have at it. Also useful to turn over the bike when you forget to turn off your headlight at the Café' you're racing to.



Shift Lever

The shift lever **A** is on the rider's left side of the motorcycle. The gear positions are shown in the illustration in the **Clutch and Shifting Gears** section page 23.



Side Stand

To deploy, push the side stand A to the ground and tilt the motorcycle to rider's left. Make sure the bike is on solid ground and the position is secure.

NOTE: The motorcycle has a side stand safety switch that will not allow the bike to start in gear with the side stand down!



WEIGHT CAPACITY

How much weight you put on your motorcycle, and how you load it, are important to your safety. Anytime you ride with a passenger or cargo, you should be aware of the following information.

Maximum weight capacity: (Gross Vehicle weight Rating) GVWR 324Kg/ 714 lbs. Maximum weight capacity: 145kg. /320 lbs.

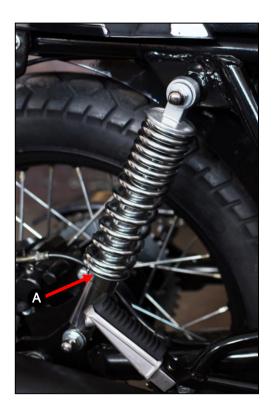
(Includes the weight of the rider, passenger, all cargo, and all accessories)

Your motorcycle is primarily intended for transporting you and a passenger. Riding with excessive weight can adversely affect the handling, acceleration and braking performance of the motorcycle. Do not exceed the recommended maximum weight capacity of the motorcycle:

Overloading or improper loading can cause a crash and you can be seriously hurt or killed. Follow all load limits and other loading guidelines in this manual.

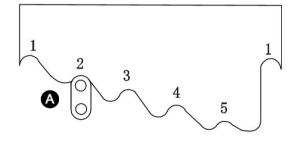
SUSPENSION ADJUSTMENT (REAR)

The rear suspension of your motorcycle has adjustment for spring preload. More preload will give a higher ride height for heavy loads; less preload will be a softer ride for lighter loads.



When adjusting the spring preload (A), you are moving the spring seat. This will decrease or increase the initial spring force, which will lower or raise the motorcycle rear ride height.

- 1. Use a C-spanner and move the spring platform to one of five positions.
- 2. Turn clockwise to increase the preload.
- 3. Turn counterclockwise to decrease the preload.





Before you ride, you must be absolutely sure that you and your motorcycle are ready to ride. To help you prepare, this section of the manual will discuss how to evaluate your riding readiness and how to perform our recommended pre-ride inspection of your motorcycle

Are You Ready to Ride?

Before you ride your motorcycle for the first time, we strongly recommend the following:

- 1. Completely read this manual.
- 2. Be sure that you have read and understand all the safety messages and labels.
- 3. Be sure that you understand how to operate all of the motorcycle's controls.

Before each ride, we strongly recommend the following:

- 1. The rider is in good physical and mental condition.
- 2. The rider is free of alcohol and other drugs.
- **3.** The rider is wearing an approved motorcycle helmet with a tight chin strap, eye protection and protective clothing.

PROTECTIVE GEAR & APPAREL

For your safety, we strongly recommend that you always wear an approved helmet, eye protection, boots, gloves, long trousers and a long sleeved shirt or jacket whenever you ride. Although complete protection is not possible, wearing the proper gear can reduce the chance of and severity of injuries when you ride.

Helmets & Eye Protection – Your helmet is your most important piece of riding gear because it offers the best protection against head injuries. A good helmet will be approved by a testing organization independent of the helmet manufacturer and will have a chin strap that can be tightened securely. Open-face helmets offer some protection, but a full-face helmet offers the most protection. When purchasing a helmet, regardless of style, look for DOT (Department of Transportation) sticker (USA only) or SNELL, or ECE approval. If the helmet has been tested by an independent organization such as the Snell Institute, you will usually find their logo on a tag inside the padding of the helmet, or on the outside of the shell, located on the rear of the helmet.

Additional Riding Gear – In addition to your helmet and eye protection, we also recommend:

- 1. Sturdy motorcycle boots to help protect your feet, ankles and lower legs.
- **2.** Good quality motorcycle gloves to protect your hands and wrists.
- **3.** Sturdy riding trousers, do not wear shorts.

WARNING

NOT WEARING A HELMET INCREASES THE CHANCE OF SERIOUS INJURY OR DEATH IN A CRASH. BE SURE YOU ALWAYS WEAR YOUR HELMET AND OTHER PROTECTIVE APPAREL WHEN YOU RIDE.



PRE-RIDE INSPECTION

Before each and every ride you take, it is extremely important that you inspect the motorcycle and make sure any problems you find are corrected. A pre-ride inspection is a must because riding, especially in rough road conditions (Cleveland roads) can be very tough on a motorcycle and you do not want to injure yourself, or break down far from help. A pre-ride inspection is essential!

MARNING

Improperly maintaining your motorcycle or failing to correct a problem before riding can cause a crash in which you can be seriously hurt or killed. Always perform a pre-ride inspection before any ride and correct any problem.

Check the following items before you get on the motorcycle:

Tires – Use a tire pressure gauge to check the air pressure. Inflate or deflate as needed. Also check for signs of damage, dry rotting or excessive wear.

Spokes & Rims – Make sure all of the spokes are tight. Inspect the rims to be sure they are not bent.

Leaks – Look under the motorcycle for signs of leaking fluids such as engine oil or gasoline. **Engine Oil** – Check the level of engine oil and add if needed.

Fuel – Check the level of fuel in the fuel tank and add fuel if needed. Be sure the fuel cap is closed securely.

Drive Chain – Inspect the drive chain condition and slack. Adjust and lubricate if needed. Also check the chain guide for wear and replace if and when it is worn. For detailed instructions on drive chain slack adjustment, see the Maintenance section of this manual.

Brake Hoses – Inspect the brake hoses for leaks and replace if needed.

Nuts & Bolts – Inspect all accessible nuts and bolts. Tighten them if it is needed.

Spark Plug & Cap – Check the spark plug for looseness. Tighten if needed. Be sure the cap is pushed on the spark plug and it is tight.

Check the following items after you get on the motorcycle:

Throttle – Check the throttle free-play and adjust if needed. Rotate the throttle to be sure it moves easily and freely. Make sure that it snaps back to its closed position automatically when you release it in all steering positions.

Brakes – Step on the rear brake pedal and pull in the front brake lever to be sure the brakes are working properly.

Clutch – Check that the clutch lever disengages the transmission when pulled in towards the handle bar.

Remember; be sure to correct any problems you find or have your Cleveland CycleWerks dealer correct it before you ride.

This section of the manual gives basic information on how to begin riding your motorcycle. In this section, we will cover how to start and stop the engine, how to use the throttle and brakes, how to use the clutch and shift gears, and tasks you need to perform when you are finished riding.

FUEL (GASOLINE)

Fuel Recommendation –

The engine in your motorcycle has been designed to run on unleaded gasoline with a pump octane rating of **87** (AKI USA) / **91** (RON/EU) or higher for the best performance. Most service stations will display the octane rating above each pump. Cleveland CycleWerks recommends use of gasoline with an **87** (AKI USA) / **91** (RON/EU) or higher to ensure maximum performance and reliability.

Use of a lower octane gasoline can cause pre-detonation in the engine. When this occurs, you will hear a persistent "pinging" or "spark knock" which can cause engine damage. If pinging occurs, typically heard first under a heavy load, switch brands of gasoline and be sure you are using the proper octane rating. Use of leaded fuel is forbidden, as it will render useless the exhaust catalysts and cause high exhaust emissions.

Ethanol content in the fuel may harm the rubber gaskets and cause water corrosion in the fuel system. Avoid using fuel mixed with ethanol, if possible. Mixture ratios of up to 10% ethanol (E10) can be used without damage to the engine

Never use stale or contaminated gasoline. Never use gasoline that has been mixed with oil. Avoid getting dust, dirt and water into the fuel tank.

REFUELING PROCEDURE

- **1.** Before refueling your motorcycle, check around the fuel tank, fuel valve (petcock) and carburetor for leaks, repair as necessary. Do not ride the motorcycle with a fuel leak.
- 2. Inspect the fuel hose. Replace the fuel hose if it is dry rotted, cracked or if there are signs of deterioration.
- 3. Insert the key and turn clockwise to open the fuel cap.
- 4. Add fuel to the tank until the level reaches about 1 inch (30mm) below the bottom of the filler neck of the tank. Do not overfill the fuel tank, fuel expands when the fuel tank is heated by the engine, sunlight or ambient air, this expansion can cause a spill or overflow condition.
- **5.** ONCE AGAIN, DO NOT OVERFILL THE FUEL TANK. All US and EU Models are equipped with a EVAP system, and overfilling the fuel tank will allow gasoline to enter this system, causing stalling, poor operation, and potential system damage. Do not overfill the fuel tank.
- 6. Push down on the fuel cap until it is fully closed and remove the key.

WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling gasoline. Always stop the engine. Only handle gasoline outdoors. Clean all spills immediately.

OPERATION & RIDING



RUNING IN A NEW ENGINE

Run-In (Break-in) Period

The first 300miles/500km. is the most important in the life of your motorcycle. During this period, the metal parts of the engine bed in to final operating clearances. Proper operation during this runin period will help assure maximum life and performance from your new motorcycle. The following guidelines explain proper run-in procedures.

Maximum Engine Speed Recommendation

The table below shows the maximum engine speed recommendation during the run-in period.

Initial 50 km (30 MILES)	Below 5000 rpm
Up to 150 km (93 MILES)	Below 8000 rpm

Vary the Engine Speed

Vary the engine speed during the Run-in period. This allows the parts to "load" (aiding the mating process) and the "unload" (allowing the parts to cool). Although it is essential to place some stress on the engine components during run in, you must be careful not to excessively load the engine.

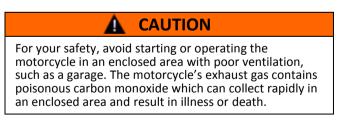
First Service

After the run in period (500miles/800km), a first service is required. This will include an oil change, inspection of the valve clearance, check of all adjustments and checking all fasteners for tightness. It is recommended that an authorized Cleveland CycleWerks Dealer perform this service. See the Inspection and Maintenance Schedule on page 27.

SAFE RIDE PRECAUTIONS

Before riding this motorcycle, be sure you have read this entire manual up to this point including the section titled "Important Safety Information" (Pg. 5 - 8) & "Before Riding" (Pg. 18-18).

Even if you have ridden other motorcycles in the past, take time to get familiar with the way the motorcycle works and handles. Always practice in a safe area until you have built your skill level to a point at which it is safe to ride.



OPERATION & RIDING

STARTING PROCEDURE

Cold Starting Procedure

- 1. Turn the fuel valve (petcock) to the "ON" position.
- 2. Turn the key switch to the "ON" position
- 3. Be sure that the Stop switch on the right handle bar is in the RUN position. See Page 14.
- 4. Make sure the transmission is in the neutral position (the neutral light will illuminate) and the side stand retracted (UP). The Motorcycle is equipped with a side stand safety switch. This will prevent the engine from running while in gear with the side stand down.
- 5. Pull the choke lever towards the rear of the bike if the motor is cold.
- 6. Pull in and hold the clutch lever. The starter motor will not crank unless the clutch is pulled in.
- 7. Open the throttle 1/8 to 1/4 open.
- Press the start button on the right side if the handle bar, and crank for no more than 10 seconds. Alternatively, swing out the kick starter and kick down vigorously with your right foot. (
- 9. When the engine starts, maintain engine speed of about 2000-3000RPM with the throttle to warm the engine. After 1 minute or less, close the choke lever on the handle bar.(Forward position)
- **10.** Blip the throttle to check for a responsive engine. When the engine revs up freely, you are ready to ride.

Starting When the Engine Is Warm

No choke is required if the engine is already warm.

CAUTION

DO NOT ride your motorcycle at full load and full throttle until the engine is warm. High loads and RPM can damage a COLD engine.

STOPPING THE ENGINE

To stop the engine, shift into neutral and push the engine **STOP** switch (a) on the right side of the handle bar, or switch the ignition key to **OFF.** Be sure to switch **OFF** the ignition key when not riding. If riding is finished for the day, turn the fuel valve (petcock) to OFF.



CLUTCH AND SHIFTING GEARS

This motorcycle has five (5) forward gears.

After the engine has been warmed up and the side stand raised:

- 1. Close the throttle and pull in the clutch lever. This will disengage the transmission from the engine.
- 2. Push down the shift lever from its center detent position to first gear. Once the transmission clicks into gear, you may remove your foot and the lever will return to the center detent position.
- 3. Open the throttle to raise the engine speed (3000-4000RPM) and slowly release the clutch lever. When the clutch engages and begins to move the motorcycle forward, hold the clutch lever position and wait for the motorcycle to roll forward. When the motorcycle is rolling forward, you may release the clutch lever fully. You may now open the throttle to accelerate.
- 4. To continue to accelerate to a higher speed, close the throttle and pull in the clutch lever at the same time. Pull up the shift lever until it clicks into the next higher gear. After shifting, release the clutch lever and re-open the throttle
- 5. To continue shifting up to each higher gear, repeat step 4.
- 6. To shift down to a lower gear, close the throttle and pull in the clutch lever. Push down the shift lever until you feel it click into the next lower gear. Release the clutch lever smoothly.
- 7. For best fuel economy and smooth operation, follow the suggested Shift Schedule.

\	NOTICE
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Remember to close the throttle before shifting gears. Improper shifting may damage the engine, transmission, and drive train.

250cc Shift Schedule			
Ace 250, Heist 250, Misfit 250			
Shifting up schedule			
From 1st into 2nd 12mph (20km/h)			
From 2nd into 3rd 19mph (30km/h)			
From 3rd into 4th 25mph (40km/h)			
From 4th into 5th 31mph (50km/h)			
Shifting down schedule			
From 5th to 4th 31mph (50km/h)			
From 4th to 3rd 25mph (40km/h)			
From 3rd to 2nd 19mph (30km/h)			
From 2nd to 1st 12mph (20km/h)			
Disengage the clutch when speeds drop			
below 6mph (10km/h)			

Tips on shifting gears:

 Up-shift into a higher gear when you hear the engine speed (RPM) get too high. Maximum engine speed is 9000RPM. The engine will be damaged if the engine speed is above 9000RPM.

5

2

1

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- Downshift to a lower gear when you feel the engine lugging at a low RPM. Cruising engine speeds should not be below 3000RPM.
- The transmission neutral gear is a half-step above first gear. When coming to a stop, down shift progressively to first gear and shift up a half-step into neutral. The neutral light will illuminate on the tachometer.
- To prevent transmission damage, do not coast or tow the motorcycle for long distances with the engine off.



BRAKING TECHNIQUE (Good Road Conditions)

To slow or stop the motorcycle, close the throttle and apply the front brake lever and rear brake pedal smoothly. To prevent the engine from stalling, always pull in and hold the clutch lever when slowing to a complete stop unless you are in neutral. If your speed is reduced a significant amount, you may need to downshift to a lower gear.

For maximum braking, close the throttle and firmly apply both the front and rear brake. On a motorcycle, with good road conditions, the front brake accounts for 70% of the total stopping power of the motorcycle. The rear brake only accounts for 30%. This is because of the weight transfer that occurs when you apply the brakes. When you must stop quickly, you must use the front brake together with the rear brake.

Remember that you can apply more brake to the front wheel than you can to the rear wheel before it will lock up and cause a skid. Finding the proper balance between the amount of front and rear brake pressure you use will come with experience. Attempting an abrupt stop with only the rear brake will likely cause a skid.

Applying the brakes too hard or too fast can cause the wheels to lock and cause a skid, reducing your control of the motorcycle. If this happens, release the brake controls and steer straight ahead until you regain control of the motorcycle. Once you have control, reapply the brakes with less force.

When a motorcycle is leaned over going through a turn, road traction is reduced. Generally, reduce your speed and complete your braking before you begin a turn.

BRAKING TECHNIQUE (Slippery Road Conditions)

When riding in wet conditions, or on loose surfaces such as mud or sand, your ability to maneuver and stop the motorcycle will be reduced. For your safety, exercise extreme caution when riding under wet, rainy, and/or muddy conditions. All of your actions should be done in a smooth and steady manner under these conditions. Apply both front and rear brakes evenly. Rapid acceleration, braking, or turning can cause the tires to slip or skid, causing a crash.

PARKING

Lower the side stand and lean the motorcycle over to the left on the stand. Avoid pointing the motorcycle downhill, or it may roll forward off the side stand. For extra security, turn the handle bars to the left. Switch the ignition key to OFF. If you are through riding for the day, turn the fuel valve (petcock) to the "OFF" position (lever pointing back). Always park the motorcycle on a flat level surface.

If you will be storing the motorcycle for a long period of time, (more than three weeks) drain the fuel from the carburetor, to prevent varnish from forming:

- 1. Turn the fuel valve (petcock) to OFF.
- 2. Place a suitable drain pan under the carburetor drain hose.
- 3. Open the drain screw (A) 2 turns and allow the fuel to drain.
- 4. Close the drain screw.



MAINTAINING YOUR CLEVELAND MOTORCYCLE

CLEVELROD . (In

Keeping your motorcycle in good operating condition is absolutely essential to your safety. It is critical to ensure your motorcycle's longevity. Proper maintenance is required to achieve maximum performance and avoid breakdowns, so you will ultimately have more fun. To help keep your motorcycle well maintained, this section includes a maintenance schedule for required servicing and step-by-step instructions on how to perform specific maintenance tasks. In this section you will also find important safety precautions, information on oils, and tips for keeping your Cleveland CycleWerks motorcycle in top shape.

The service intervals in this section are based on average riding conditions. More frequent service is needed if you subject your motorcycle to severe use, or ride in unusually wet and dusty areas. Frequent checks of the air cleaner are very important to help you avoid engine damage.

Remember, proper maintenance is the responsibility of the owner. Be sure to inspect your motorcycle before each ride and follow the maintenance schedule in this section.

IMPORTANT SAFETY PRECAUTIONS

WARNING

Improperly maintaining this motorcycle or failing to correct a problem before you ride can cause a crash in which you can be seriously injured or killed. Always follow the inspection and maintenance schedule recommended in this manual.

WARNING

Failure to properly follow maintenance instructions and precautions can cause you to be seriously hurt or killed. Always follow the procedures and precautions in this manual.

Make sure the engine is off and cooled down before you begin any maintenance or repairs. This will help eliminate the following hazards:

- 1. Carbon Monoxide Poisoning From Engine Exhaust Be sure you have adequate ventilation whenever you operate the engine.
- Burns From Hot Motorcycle Parts Let the engine and exhaust system cool off before you touch them.
- 3. Injury From Moving Parts Do not run the engine unless your hands and body parts are clear from danger, or risk of injury.

Read all instructions before you begin a procedure. Make sure you have all of the tools and skills required. To help prevent the motorcycle from falling over, park it on a firm, level surface, using the side stand or a maintenance stand to provide support. To reduce the chance of a fire or explosion, be careful when working around gasoline. Use only a non-flammable (high flash point) solvent such as kerosene to clean parts. Keep cigarettes, sparks, and flames away from all fuel related parts.

To keep your motorcycle safe and reliable when you ride, regular inspections and maintenance service is required.

Below you will find a **Maintenance Schedule** that lists when components need to be inspected or serviced. The maintenance schedule lists items that can be performed with basic mechanical skills and hand tools. In addition, the maintenance schedule will list items that involve more extensive procedures and could require special training, tools and/or equipment.

Each item on the maintenance schedule requires some mechanical knowledge. If you do not feel capable of performing any of the procedures described in this manual or if you need assistance, please contact the nearest Cleveland CycleWerks dealer. If you decide to do your own maintenance, use only genuine replacement parts that you have purchased from a Cleveland CycleWerks distributor/dealer or parts purchased directly from Cleveland CycleWerks. This will ensure the best quality and reliability for your motorcycle.

Always perform the pre-ride inspection described in the **PRE-RIDE INSPECTION** section, page 19, at each scheduled maintenance interval.

After service is completed, keep a record of the service done in the **Maintenance Schedule Record** section, page 58.

MAINTENANCE SCHEDULE

CLEVELAND VI

	Maintena	nce Schedule		
ltem	300 Mile/ 500km First Service *	Every 1800Miles/ 3000km	Every 3600Miles/ 6000km	Every 5400Miles/ 9000km
Fuel System	I	Ι	Ι	R
Fuel Cap and Gasket	I	Ι	Ι	I
EVAP Control System	I		I	
Secondary Air System	I		Ι	
Spark Plug	I		Ι	R
Valve Clearance			I/A	
Engine Oil	R	R	R	R
Oil Filter Screen	С	С	С	С
Centrifugal Oil Filter				С
Air Cleaner	С	С	С	R
Throttle Adjustment	I	I	I	I
Carburetor Choke	I	I	I	I
Clutch	I	I	I	I
Idle Speed	I	I	I	I
Drive Chain	I/L	I/L Every 300 miles/ 500Km.		
Battery	I			I
Brake Pad/Disc Wear	I	Ι	Ι	I
Brake Fluid	I	I	I	R
Headlight Aim	I		_	I
Brake Switches, Horn, Side Stand Switch	I	Ι	Ι	I
Bolts, Nuts, Fasteners	I	I	I	I
Tire Pressure	I/A	I/A	I/A	I/A
Wheels, Spokes	l			l
Steering Head Bearings	I	l	l	А
Suspension	I	I	I	I

Please use this guide as reference to the maintenance schedule mileage chart:

I = Inspect condition and clean, adjust, lubricate, or replace as necessary. Replace more frequently under extreme conditions, heavy use, or in wet or dusty environment.

 $\mathbf{C} = Clean$

 $\mathbf{R} = \text{Replace}$

L = Lubricate

A= Adjust

*First Service is critical and required for Warranty.

** Refer to the Misfit 250 Service Manual.

This section gives instructions for maintaining your motorcycle in top condition.

FUEL SYSTEM

- 1. Inspect the fuel hoses, petcock and carburetor for fuel leaks. Repair as necessary. All fuel hoses should have a metal retaining clip on each end. Fuel leaks are a fire hazard; do not operate the motorcycle with a fuel leak.
- 2. The petcock features a sediment bowl on the bottom. Remove the bowl and clean of water or dirt. Replace the bowl O-ring if it is damaged.
- 3. The fuel filter is a plastic screen inside the fuel tank. Excessive debris caused by poor fuel or rust in the fuel tank may clog the fuel flow. If fuel flow is restricted, the tank may be removed, drained of fuel and the petcock removed to clean or replace the filter screen as necessary.
- 4. Replace the fuel hoses at 5400 mi /9000 km with the original fuel-resistant type.

EVAP CONTROL SYSTEM AND FUEL CAP

- 1. Inspect the charcoal canister and hoses for damage. Inspect the vacuum hoses for damage or leaks, replace if damaged.
- 2. Inspect the fuel cap and gasket for sealing. Replace the gasket if it appears cracked or damaged

SECONDARY AIR SYSTEM

Inspect the hoses for damage. Inspect the vacuum hoses for damage or leaks, replace components if damaged.

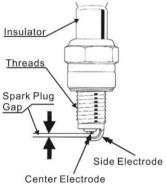
MAINTENANCE

SPARK PLUG

- 1. Before removing the spark plug for inspection, clean any dirt from around spark plug base. Do not allow dirt or debris to fall into the engine.
- 2. Disconnect spark plug cap and remove the spark plug.
- Normal spark plug condition will show a center ceramic insulator from white to light brown color. The insulator should not be cracked or chipped.
 Deposits of black carbon or oil indicate a poor running condition.

Replace the spark plug if it is carbon or oil fouled and rectify the running condition.





- 4. Check the spark plug gap. The spark plug gap should be 0.6 0.7 mm. Always check the gap of a new spark plug before installation.
- 5. Ensure all dirt has been cleaned from spark plug threads. Before installing, a drop of oil or small dab of grease on the threads will aid installation. Install spark plug by hand, and then tighten to 14N-m. This will prevent stripping or cross threading of the threads.

Recommended spark plug: NGK D8EA, TORCH D8TC or equivalent

NOTICE

A

USING A SPARK PLUG WITH AN IMPROPER HEAT RANGE OR INCORRECT REACH CAN CAUSE ENGINE DAMAGE. NOTICE

A

DO NOT OVER-TIGHTEN SPARK PLUGS. TIGHT PLUGS CAN STRIP THREADS. TIGHTEN PLUG TO 14 N·M.

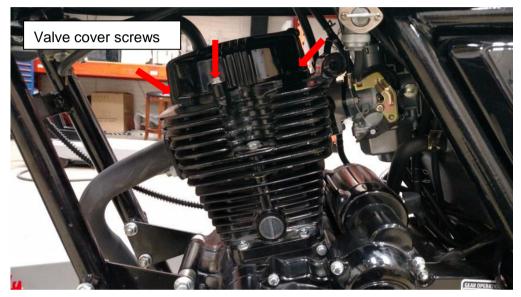


VALVE CLEARANCE

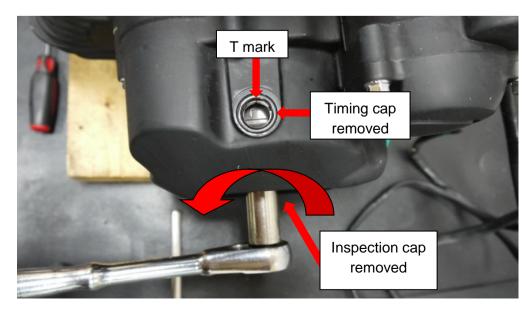
Valve clearances should be inspected and adjusted on a cool engine. The fuel tank may be left in place.

Valve clearance inspection and adjustment

1. Remove the valve cover on top of the engine. It is held on by three screws. Wipe off any dirt or oil on the rubber gasket and the gasket surface of the engine. Do not allow dirt to fall into the engine.



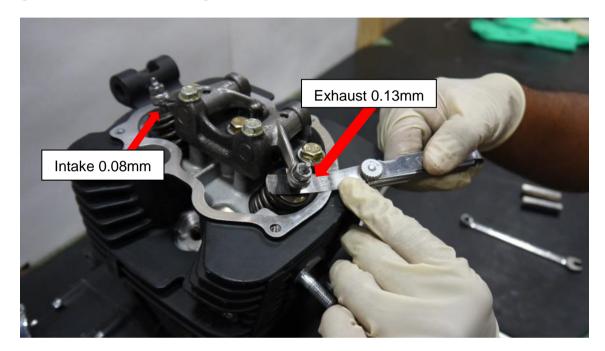
- 2. Remove the **spark plug** to allow the engine to be rotated easily.
- 3. Remove the left side engine timing cap and crankshaft inspection cap. Rotate the engine forward at the crankshaft (counterclockwise as viewed from the left side of the motorcycle) and observe the opening and closing of the valves. After the intake valve closes, continue turning until the T (Top) mark on the flywheel is showing in the timing inspection window. Both intake and exhaust valves should be slightly loose, and the piston at top dead center as viewed through the spark plug hole. The piston will be at top dead center on the compression stroke.



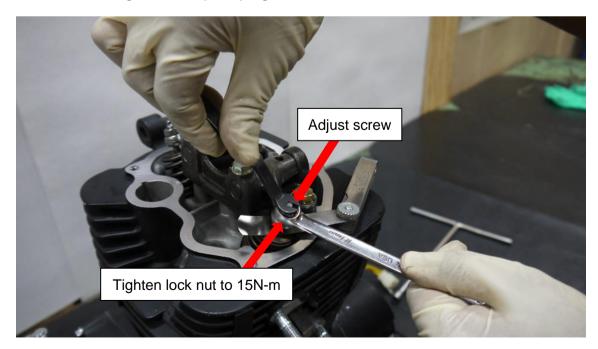


VALVE CLEARANCE

4. Measure the clearance between the valve tip and the adjuster screw with a feeler gauge. Intake should be **0.08mm**, exhaust should be **0.13mm**. If the clearance is too tight or loose, loosen the lock nut and adjust the screw. Tighten the lock nut to **15N-m**, and measure the clearance again. Tightening the lock nut may alter the final clearance, so always measure again after the lock nut is tight.



 Inspect the rubber valve cover gasket and inspection cover O-rings for damage, replace if damaged. Reinstall the valve cover, inspection covers and spark plug. Tighten the valve cover bolts to 11N-m. Tighten the spark plug to 18N-



MAINTENANCE



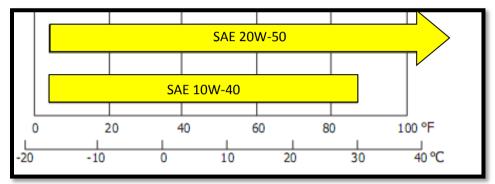
ENGINE OIL

Engine Oil Recommended:

API classification SG or higher except oil labeled as energy conserving on the circular API service label

JASO T 903 Standard MA SAE 20W- 50

The chart below indicates oil for regular air temperatures. Please use this oil/air temperature chart to help you choose the best oil for your climate. We generally recommend **20W-50 Motorcycle Full Synthetic** for year-round. Full synthetic motorcycle oil gives the best performance and engine longevity.



Your motorcycle does not need oil additives. ONLY use the recommended oil. DO NOT use oil with graphite or molybdenum additives; they may adversely affect the clutch operation. DO NOT use motor oils that display the API circular logo that is labeled "energy conserving", they may affect the lubrication and clutch performance.



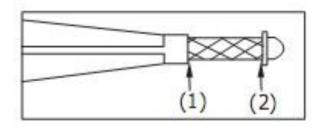
CHECKING & ADDING OIL

Your motorcycle oil level can be checked by either the oil fill cap (dipstick) or by the inspection window.

- 1. The engine must be warm to properly check the oil level. If the engine is cold, start and run the engine at idle for 3-5 minutes, and then turn off the motor.
- **2.** Wait 2-3 minutes to allow the oil to properly distribute throughout the engine.
- **3.** Oil level is checked with the motorcycle held vertical.
- Remove the oil filler dipstick, wipe it clean, and insert it back in to its place but **DO NOT** screw it back in. **OR** Check the oil level in the inspection window.
- Check that the oil level is within the (1) & (2) hash-marks on the dip stick, OR between the upper and lower marks in the inspection window.



- 6. If the oil level is at or near the upper mark (1), you do not need to add oil.
- 7. If the oil level is at or near the lower mark (2), you need to add oil.
- 8. Add the recommended oil until the upper mark (1), is reached. (DO NOT OVERFILL)
- 9. Repeat steps 4 through 8.
- 10. Reinstall the dipstick and check for any leaks.





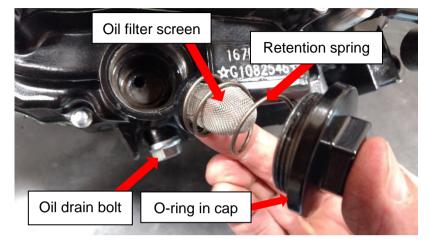
MAINTENANCE



CHANGING OIL & CLEANING OIL FILTER

Changing the oil

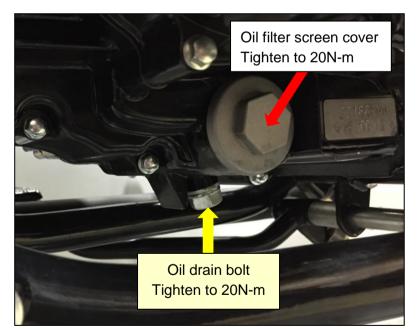
- **1.** Place an oil drain pan under the engine.
- 2. Remove the **oil drain bolt** and crush washer from the bottom of the motor.
- **3.** Remove the oil filter screen cover, screen and retention spring. Let the oil drain thoroughly.





- 4. Clean the **oil filter screen** with a low flash point solvent.
- 5. Reinstall the oil drain bolt with a new crush washer. Tighten **to 20N-m**.
- Reinstall the oil filter screen, retention spring, O-ring and cover. Replace the O-ring if damaged. Tighten to **20N-m**.
- Refill the engine with oil (1.2 liter after draining). Check for leaks after running the engine.

See Checking and adding oil.



MAINTENANCE



AIR FILTER

- 1. Motorcycles equipped with a clamp-on screen air filter may have the filter removed and cleaned with a low flash-point solvent.
- Motorcycles equipped with an airbox may have the filter element removed for service. If dirt is light, the pleated paper type element may be cleaned with compressed air. Excessive air pressure will break down the fibers and clog the paper. Do not use excessive air pressure. Large amounts of dirt or contamination will require that the filter element be replaced.
- 3. Remove the drain plug at the bottom of the airbox and drain any water or oil condensation. Replace the plug after draining.



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IMPROPER COMPLETION OF AIR FILTER MAINTENANCE CAN DAMAGE THE ENGINE AND CAUSE POOR PERFORMANCE.

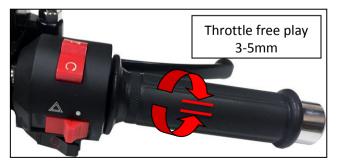
THROTTLE ADJUSTMENT

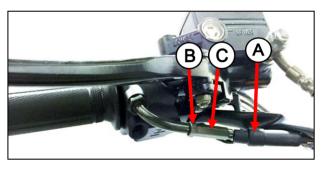
Idle speed is controlled by the speed screw on the carburetor. Throttle cable free-play is required to allow the carburetor slide to fully close against the speed screw during idle.

- 1. Inspect the throttle cable for free movement without binding. Lubricate as necessary. The throttle should close fully by itself when released. Frayed, kinked or rusted cables require replacement.
- 2. Check that free-play at the throttle is 3-5 mm. If adjustment is required, remove the rubber cover (A) to access the adjustment.
- 3. Loosen the lock nut (B) and adjust the barrel (C) for more or less free-play. Tighten the locknut to retain the adjustment.

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4. Check for minimum free-play with the steering at full lock left and right. Adjust for more freeplay if the idle speed increases when at full lock.



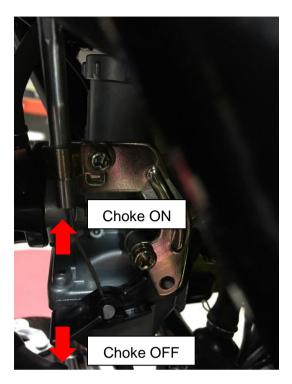


CARBURETOR CHOKE

Choke inspection

Note: Inspection of the carburetor choke system is important for the proper running of the engine. Choke enables the motorcycle to cold start more easily, yet excessive use of the choke will cause carbon fouled spark plugs, poor fuel mileage, and excessive exhaust emissions. Do not operate a warm engine with the choke on.

Operate the choke lever on the handlebar (pull towards the rear) and observe that the cable pulls up the black choke lever on the carburetor to the **ON** position (choke butterfly is closed, restricting air). Push the handlebar choke lever forward to turn **OFF** the choke. The black lever on the carburetor should return to the lower position (choke butterfly is open, allowing full air flow).





CLUTCH

A small amount of free play is necessary in the clutch cable to allow the clutch to fully engage. A clutch cable with no free play may allow the clutch to slip during riding and cause wear and overheating of the clutch plates.

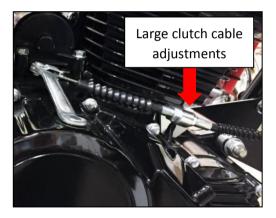
Clutch Cable adjustment.

- Normal free play at the lever end is 5-10mm.
- Small adjustments may be made at the clutch perch adjuster nut and barrel.
- **3.** Large adjustments may be made at the cable bracket on the engine.

Clutch Maintenance.

- Lubricate the lever pivot periodically with grease.
- Lubricate the inner cable with commercial cable lubricant or spray white lithium grease. Use a commercial cable lube tool to inject the lube into the cable.
- Replace the cable if rusted, sticking excessively or frayed.



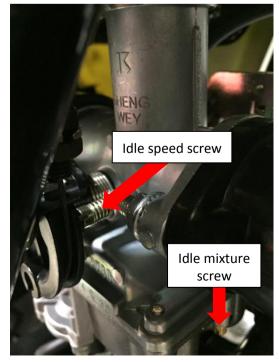


IDLE SPEED

Idle speed (RPM) of the engine is best set after regular service is performed. Valve clearance out of specifications, stale/dirty fuel, varnish or contaminants in the carburetor, dirty air filter, fouled spark plug or tight throttle cable can all adversely affect the engine idle speed. The idle speed must be set after the engine is at full operating temperature.

Idle speed is set with the idle speed screw (slide stop screw) located on the right side of the carburetor. Set engine idle speed to **1500 RPM ±100 RPM**.

The idle mixture screw sets the fuel mixture at idle speeds. The screw is pre-set at the factory and is not adjustable.



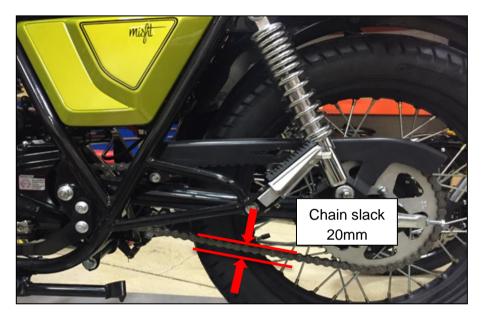


DRIVE CHAIN

Before the drive chain is serviced, be sure the motorcycle is parked on a level surface and the engine is turned **OFF**. Be sure the transmission is in neutral. It is not necessary to remove or replace the chain to perform recommended maintenance service.

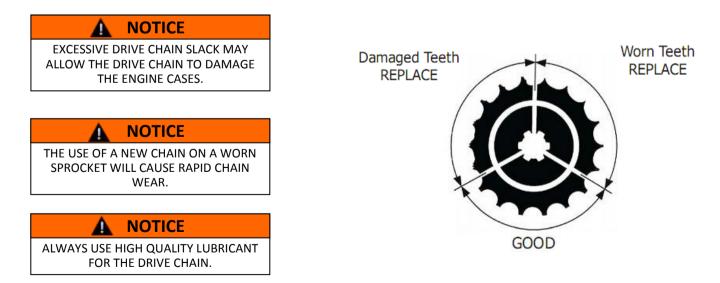
Chain inspection

- Check the slack in the lower drive chain midway between the sprockets. Push upward on the chain with a finger. The vertical movement should measure 20 mm.
- 2. Inspect the drive chain for the following: damaged rollers, dry or rusted links, kinked or binding links and excessive wear. Replace a chain with excessive stretch or damage.
- Lubricate the drive chain if it appears dry or shows signs of rust.



4. Inspect the front and rear sprockets for excessive wear or damage. If needed, replace any worn or damaged sprockets.

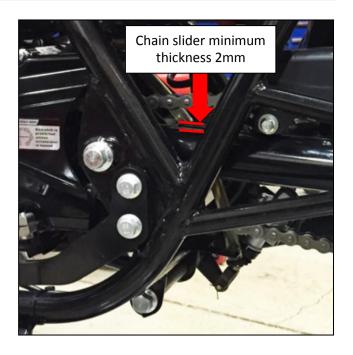
Use the diagram below to determine if the sprockets need to be replaced. Never use a new chain with a damaged or worn sprocket. The worn sprocket will prematurely wear out the new chain.





Chain slider inspection

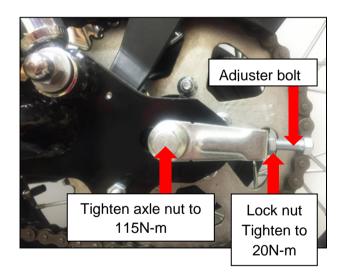
Inspect the chain **slider** for wear. Minimum thickness is **2.0mm**. Replace if worn down to minimum thickness.



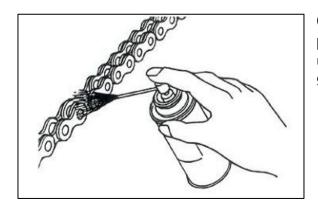
Chain adjustment

Follow the procedure below to adjust the drive chain slack. Be sure that the motorcycle is parked on a level surface and the engine is turned **OFF**.

- 1. Loosen the rear axle nut.
- 2. Loosen the adjuster bolt lock nuts on both the right and left side of motorcycle.
- Turn the adjusting bolts in to decrease slack in the chain, or out to decrease slack. Push the wheel forward to be sure that the adjuster bolts are touching the swing arm.
- Make sure the right and left side are aligned the same. Tighten the axle nut to 115 N-m. Tighten the lock nuts to 20N-m.
- 5. Re-check chain slack and re-adjust if necessary.



Chain lubrication



Commercial motorcycle chain lubricants may be purchased at most motorcycle shops and should be used instead of motor oil. Chain lube or gear oil (80w or 90w) is recommended.

Saturate each joint so that the lubricant penetrates the space between each surface of the link plates and rollers. Wipe off excess lube with a rag.

BATTERY

The Misfit is equipped with an Absorbed Glass Mat (AGM) maintenance free battery. The battery electrolyte (acid) is filled at the time of battery commission and is not serviceable. Do not attempt to open an AGM battery and fill with electrolyte.

Battery inspection/charging

Remove the seat and check that the **battery terminal bolts are tight and the cables not loose**. Measure the battery voltage, engine off, with a volt meter. Normal static battery voltage should be **12.6VDC minimum**. If below this voltage, charge the battery. The battery may be charged at a rate of between **0.5-2.0A-h** at a voltage of **13.8 - 14.5 volts** to properly charge the AGM battery.

Inspect the battery for acid leaks, corroded terminals or other damage. Replace the battery if it is leaking or damaged. If acid is present, clean the motorcycle with soap and water. Acid may damage paint, metal and plastic. Clean corroded terminals and protect with spray white lithium grease.

🛕 CAUTION

BATTERY ACID CAN CAUSE SEVERE BURNS. WEAR EYE PROTECTION AND RUBBER GLOVES IF ACID IS PRESENT AND NEEDS TO BE CLEANED OFF THE MOTORCYCLE.

Battery type: YTX9-BS (12V 9Ah)

BRAKE SYSTEM

Brake fluid inspection/filling-front

- Move the handlebars until the brake master cylinder is level. Brake fluid level should be between the LOWER level in the window and the top of the window. Fluid should be a clear color. If the fluid is yellow or brown, this indicates that the fluid is contaminated and needs to be changed.
- If the fluid level is low, clean any dirt from the reservoir cap and remove the cap by removing the 2 Philips head screws.
- Remove the rubber diaphragm and wipe clean of any fluid. Clean the cap and diaphragm with contact cleaner and dry. Any spilled fluid must be cleaned immediately.
- 4. Add **DOT 4 brake fluid** to the reservoir until the top level is reached. (DO NOT OVERFILL)
- 5. Replace the diaphragm, cap and screws.

NOTICE

USE ONLY DOT 4 BRAKE FLUID FROM A SEALED CONTAINER. AN OPEN CONTAINER MAY HAVE THE FLIUD CONTAMINATED WITH WATER ABSORBED FROM THE ATMOSPHERE



DO NOT SPILL BRAKE FLUID ON PAINTED SURFACES OR IT WILL DAMAGE THE PAINT. CLEAN ANY SPILLS IMMEDIATELY.

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Brake fluid inspection/filling-rear

- Remove the right side motorcycle cover to access the rear brake fluid reservoir. Brake fluid level should be between the LOWER level and the UPPER level. Fluid should be a clear color. If the fluid is yellow or brown, this indicates that the fluid is contaminated and needs to be changed.
- 2. If the fluid level is low, clean all dirt and dust from the reservoir cap and remove the cap.
- Remove the rubber diaphragm and wipe clean of any fluid. Clean the cap and diaphragm with contact cleaner and dry. Any spilled fluid must be cleaned immediately.



- 4. Add **DOT 4 brake fluid** to the reservoir until the **UPPER** level is reached. (DO NOT OVERFILL)
- 5. Replace the diaphragm and cap.

NOTICE

USE ONLY DOT 4 BRAKE FLUID FROM A SEALED CONTAINER. AN OPEN CONTAINER MAY HAVE THE FLIUD CONTAMINATED WITH WATER ABSORBED FROM THE ATMOSPHERE NOTICE

Δ

DO NOT SPILL BRAKE FLUID ON PAINTED SURFACES OR IT WILL DAMAGE THE PAINT. CLEAN ANY SPILLS IMMEDIATELY.

Brake pad/rotor wear

- 1. Inspect the front and rear brake pads for minimum thickness of the friction material.
- 2. If the material is worn down to a thickness of 1 mm, both pads need to be replaced. (Never replace only one pad).
- 3. If one side has worn down more extensively than the other, the caliper may need to be serviced.
- 4. Inspect the brake rotors for severe galling or uneven surface, indicating damage. Replace the rotors if damaged or warped. Measure the rotors for wear. **Minimum thickness is 4.5mm front and 3.5mm rear.**



LIGHTING, HORN, SAFETY SWITCHES

Inspect the functioning of the following electric components:

- > Headlight high beam, low beam, pilot (parking) lamp.
- > Turn signals, front and rear. Turn indicator light in the instruments.
- > Emergency (hazard) flasher, front and rear.
- Front brake light, rear brake light.
- Instrument illumination.
- Neutral light in the instruments.
- > Clutch safety switch. Clutch must be pulled **IN** to activate the starter motor.
- Side stand safety switch, relay and diodes. The side stand in the **DOWN** position will stop the engine if the transmission is in gear.

NUTS, BOLTS, FASTENERS

Check the following chassis fasteners for tightness: See page 56 Fastener Torque.

- Front and rear axle nuts.
- > Front and rear engine mount bolts.
- Swing arm pivot bolt.
- ➢ Fork clamp bolts.
- Rear shock nuts.
- > Handlebar bolts.
- > Foot peg bolts, main and passenger.
- Gear shift and kick start bolts.
- ➢ Side stand bolt.
- Exhaust fasteners.

WHEELS AND TIRES

Tire inspection

Inspect the tire condition. Look for wear, cuts, cracks, bulges, or imbedded debris. Minimum tread depth is **2.0mm**. Replace tires that are worn or damaged. Set tire pressures front and rear to **40psi /276kPa**

Wheels and spoke inspection

Inspect wheel rims for dents or being out of round. Inspect for loose wheel spokes. Loose spokes must be tightened. Out of round wheels may be trued, if no large dents are present.

Tire replacement

If a tire has a small puncture, such as a nail hole, the debris must be removed and the inner tube may be replaced. If the puncture or cut is large (more than 3mm), both the tire and tube should be replaced. Cleveland CycleWerks does not recommend patching inner tubes. A repaired inner tube may not have the same reliability as a new one and could fail while riding

If the tire is worn out and ready for replacement, always use replacement tires that are the same size and type as the original. Balance the tire/wheel assembly after a new tire has been installed. Spin the tire/wheel and check for excessive run out (tread out of round)

TIRE SIZE		
Front Tire	100/90-H18	
Rear Tire	120/90-H18	
Туре	Tubeless /tube type	

WARNING
INSTALLING IMPROPER TIRES ON YOUR MOTORCYCLE
CAN ADVERSLY AFFECT HANDLING AND STABILITY AND CAN CAUSE A CRASH IN WHICH YOU CAN BE
SERIOUSLY HURT OR KILLED. ALWAYS USE THE SIZE AND TYPE OF TIRES RECOMMENDED IN THIS OWNER'S
MANUAL.

We recommend that you have tires changed at your local Cleveland CycleWerks dealer or your local motorcycle shop. Replacing a tire requires removal and installation of the wheel. Use a replacement tire equivalent in size and type to the original tire.

Original fitment:

FRONT TIREKingstone 100/90-H18 Tube Type, 6P.R 62PREAR TIREKingstone 120/90-H18 Tube Type, 6P.R 71M

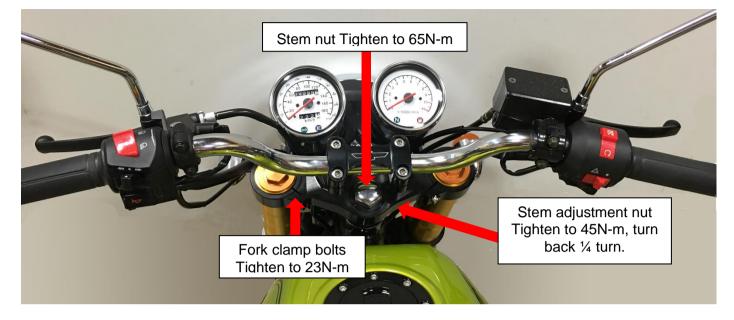
Remember:

- > Replace the inner tube anytime you replace a tire.
- > Have the wheel balanced after a new tire has been installed.
- We recommend getting tires replaced by your Cleveland CycleWerks dealer or a qualified local motorcycle shop.



STEERING HEAD BEARINGS

Inspection and Adjustment



- 1. Support the motorcycle in a paddock stand or motorcycle service lift with the front wheel off the ground
- 2. From the front, grasp the forks and turn the steering assembly from side to side and pull front to back. The side movement should be smooth with no binding. There should be no perceived front to back movement. If the forks have binding or are stiff to turn, this indicates tight or dry bearings. If the forks move front to back, this indicates loose or worn bearings.
- 3. To adjust the bearings:
 - a. Loosen 2x top fork clamp bolts and the stem nut.
 - b. Loosen, then tighten the bearing adjustment nut to 45N-m, then loosen 1/4 turn.
 - c. Tighten the stem nut to 65 N-m.
 - d. Tighten 2x top fork clamp bolt to 23 N-m.
 - e. Check again the steering assembly movement, and re-adjust as necessary.



SUSPENSION

Loose, worn or damaged suspension components may affect the stability and handling of the motorcycle.

Suspension Inspection Front

- 1. Check the fork operation by pulling in the front brake lever and holding it to lock the front wheel.
- 2. Pump down on the handle bars several times. The suspension should feel smooth.
- 3. Check the lower end of the forks (near the wheel) for oil leaks.
- 4. Dirt or rust on the chrome sliding surface of the forks will damage the fork oil seals and cause a leak. Clean as necessary.
- 5. Inspect the upper and lower fork clamp bolts, and steering stem nut for tightness.

Suspension Inspection Rear

- 1. Move the motorcycle by bouncing it up and down to check for smooth suspension action.
- 2. Check the shock absorber for a bent damping rod or any oil leaks.
- 3. Check the shock nuts for tightness.
- 4. Check the swing-arm bolt for tightness.
- 5. Push the rear wheel from side to side feeling for any loose or worn swing-arm or wheel bearings.

APPEARANCE CARE

To clean light dirt deposits or fingerprints on your motorcycle, you may use a spray and wipe cleaner (such as spray polish) to clean, and then shine with a soft clean cloth.

To wash off large deposits of dirt or oil, you may use liquid soap diluted in water or mild spray and rinse cleaner/degreasers with a water rinse. **Do not use brake contact cleaner, carb cleaner or automotive wheel cleaners, these will harm the paint, plastic and plated parts.** If washing with water, do not spray cleaners or water on a hot engine, let it **cool completely first in the shade**. Do not allow the cleaners or soap dry on the motorcycle, rinse with water if the soap/cleaners begin to dry, and then resume cleaning. After cleaning and rinsing thoroughly with water, dry your motorcycle with compressed air (if available) and wipe dry and shine with a soft clean cloth.

We recommend that you use a garden hose to wash your motorcycle. High pressure washers (like coin operated car washers) can damage certain parts of the motorcycle. Do not use a high pressure washer. What's that, you ignored our advice? If you must use a high pressure washer, avoid spraying the following areas: Wheel hubs, muffler outlet, underneath the seat, electrical components, underneath the gas tank, the drive chain and the carburetor / air filter.

NOTICE

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HIGH PRESSURE WATER OR AIR CAN DAMAGE CERTAIN PARTS OF THE MOTORCYCLE. NEVER WASH THE MOTORCYCLE WHILE THE ENGINE IS RUNNING. ALWAYS LUBRICATE THE DRIVE CHAIN AFTER YOU ARE FINISHED WASHING AND THE MOTORCYCLE IS DRY. Before troubleshooting a problem, read and understand the operation of your motorcycle. Read the following sections:

Controls Page 10 Before Riding Page 12 Operation and Riding Page 21 Maintenance Schedule Page 30 Maintenance Page 33

ENGINE DOES NOT START

Engine will not crank (turn over)

- Turn on the ignition key: The headlight and instrument lights should illuminate. The transmission needs to be in neutral with the green neutral light on.
- Check that the STOP switch is in the RUN position. (Right handlebar)
- The clutch lever has a safety switch that requires the clutch lever to be pulled in to operate the starter motor.
- The side stand has a safety switch that will stop the ignition spark if the engine is in gear with the side stand down.

No Instrument lights:

- Remove the seat and check that the battery cables are connected and tight, with no corrosion.
- Inspect the fuse, replace if burned out.
- Check the voltage of the battery, voltage should be 11.5VDC minimum to start. If voltage is low, charge the battery or replace as necessary. A bad battery may indicate good voltage until a load is put on it, check voltage at the battery when trying to crank the engine.

Instrument lights ON, neutral light is ON, side stand is UP, clutch pulled IN:

- Clicking from the starting solenoid indicates a weak battery, defective solenoid, defective wires or defective starting motor.
- Try starting with the kick starter.



Engine will crank (turn over) but will not start:

- Cold engines require the choke to be ON to start. (Look at the carburetor and verify that the choke lever is UP).
- Warm engines will foul the spark plug if run with the choke on, check that the choke is OFF (Lever is DOWN on the carburetor)
- Throttle should be 1/8 to ¼ open during cranking.

Check fuel:

- Verify that fresh fuel is in the tank, petcock is ON or RESERVE (Depending on fuel level in tank).
- Open the drain screw on the carburetor and verify that fuel flows out, see page 24. (Put a pan under the drain hose to catch the fuel) Fresh fuel is clear, and has a sharp, acidic smell; yellow fuel indicates stale fuel, the engine will not start with stale fuel.
- If fuel does not flow from the carburetor, remove the fuel hose from the carburetor and check for fuel flowing from the fuel valve (petcock). If fuel does not flow out of the hose, the fuel valve (petcock), fuel hose and/or sediment bowl may be clogged and need cleaning.
- If fuel flows from the fuel hose, and not from the carburetor drain, the float needle in the carburetor may be stuck closed. Disassembly and cleaning of the carburetor is required.
- The fuel tank is vented to the atmosphere (through the EVAP System) to allow fuel to flow out. If fuel does not flow out of the tank, or is slow, inspect the tank vent hose and related parts of the EVAP system for blockage. Opening the fuel cap will fully ventillate the tank to bypass a blocked tank vent.

Check spark:

- Remove the spark plug. The ceramic insulator should be white to light brown in color. If the insulator is black with carbon deposits, replace. If the insulator is white but wet with fuel, replace the spark plug or allow the spark plug to dry.
- Check for spark. Lay the spark plug base against the engine, with the ignition wire on. **Do not hold the spark plug with your hand, you will receive a shock!** Crank the engine; you should see a blue spark at the gap. (Please note, you may not see the spark in bright sunlight) Spark plug gap is 0.6mm.

DO NOT TOUCH THE SPARK PLUG OR PLUG CAP
WHILE TRYING TO START THE ENGINE. YOU WILL
RECEIVE AND ELECTRICAL SHOCK WHICH COULD
RESULT IN SERIOUS INJURY OR DEATH.

• If a blue spark is visible, reinstall the spark plug.



Check compression:

- Crank the engine with the kick starter. (Spark plug in) You should feel a strong resistance as the engine spins past the compression stroke. This will indicate sufficient compression to start the engine. If strong compression is felt, and the engine still will not start, this may indicate clogged carburetor jets, problems with the cam timing, ignition timing, or other mechanical faults.
- Low resistance when cranking the engine indicates low compression. Low compression can be caused by tight valve clearances, bent valves or other mechanical problems inside the engine.

ENGINE STARTS BUT RUNS POORLY

Check in the following order:

Carburation:

- Good running motorcycles require that all of the fuel and air circuits in the carburetor are clean and of the proper setting. If the motorcycle was previously running good and is now running poorly with no change to carburation, exhaust or air intake: Remove and disassemble the carburetor and inspect for varnish, debris, corrosion, broken or worn parts.
- If the previous running history is not known: Remove and disassemble the carburetor and inspect for varnish, debris, corrosion, broken or worn parts. Check and verify that all of the carburetor settings are correct. See **Specifications** page 50 for stock carburetor settings.

Fuel Tank:

• The fuel tank is vented to the atmosphere (through the EVAP System) to allow fuel to flow out. If fuel flows out, and then slows, inspect the tank vent hose and related parts of the EVAP system for blockage.

Ignition:

• A poor running motorcycle may be the result of weak or intermittent spark. Weak spark can be caused by loose or corroded wire connectors, faulty wires, faulty switches, faulty ECU (Electronic Control Unit), ignition coil, pulser coil or ignition wire.

Intake and Exhaust:

- Poor running may be caused by a clogged or blocked air filter. Inspect the air filter, clean or replace as necessary.
- Poor running or performance may be caused by a blocked exhaust system. Inspect the exhaust system for blockage.



CLUTCH/TRANSMISSION

Clutch slips:

- A slipping clutch is indicated by engine speed increasing but not a corresponding road speed increase. Verify that there is free play in the clutch cable. The clutch lever should free for the first 3-5mm when pulled in, and then a stronger resistance as the clutch plates are disengaged. If the clutch is still slipping, this may indicate worn plates, disassemble and inspect the clutch.
- If there is great resistance when pulling in the clutch, this may indicate a rusted or frayed inner clutch cable. Inspect and repair/replace as necessary.

Won't shift properly:

- A transmission that will not change gears may indicate a broken shift shaft, transmission drum, or shift forks.
- Jumping out of gears. Ratcheting noise in the transmission may indicate bent shift forks, broken gears or severely worn drive sprockets.

HANDLING

Steering is heavy

- Check tire pressure/tires low on air.
- Damaged or dry steering head bearings.
- Steering stem nut is too tight.

Either wheel has a Wobble (Weebles Wobble)

- Wheel/tire out of round or out of balance.
- Bent Rim.
- Axle loose.
- Swing arm loose.
- Damaged swing-arm.
- Bent frame.
- Loose or broken spokes.
- Loose nut on the handle bar.

The motorcycle pulls to one side

- Front and rear wheels are out of alignment.
- Faulty shock absorber
- Damaged fork(s).
- Bent Swing-arm.
- Damaged axle.
- Damaged frame.
- Damaged upper or lower triple clamp.

TROUBLESHOOTING

ELECRTICAL

Battery has low voltage:

Charging:

- The motorcycle will charge the battery when the engine speed is above 3000RPM. A low voltage battery may take an hour or more to charge fully. Many short rides may deplete the battery without allowing it to fully charge. The owner may supplement regular charging with a trickle charger, periodically as needed.
- Normal charging voltage is measured at the battery terminals. Typical voltage will, be 13.5-14.5VDC at 3000RPM.

Battery storage:

- Motorcycle batteries loose a small amount of voltage over time when in the motorcycle is not running. If the motorcycle has not been operated for a month, the owner may want to bring the battery up to full capacity by charging with a trickle charger once a month when in storage.
- Batteries that are in a low voltage state or depleted for an extended time may generate sulfated plates. Sulfated plates are permanent damage that will not allow the battery to regain full capacity, indicating the need for a new battery.
- Batteries with a full charge are resistant to freezing. A battery low in voltage will freeze at a higher temperature, causing permanent damage.



Squeaking brakes

- Inspect the caliper brake pads for thickness. Some squeaking may be caused by light glazing of the brake pads from normal use. This may be a problem that needs attention, have your Cleveland CycleWerks dealer inspect the brakes and pads.
- Inspect the rotor for galling. If the rotors are damaged or out of specification, they may need to be replaced.

No hydraulic pressure in the front brake lever or rear brake pedal

- Check the fluid level in the brakes master cylinder reservoirs.
- Check for leaking brake fluid.
- Air may have entered the brake system, requiring that the air be bled out. See the Misfit 250 Service manual.

Reduced braking power

- Inspect the rotors and pads for oil contamination. Leaking fork seals may contaminate the front pads with oil.
- Lubricate the front brake lever pilot bolt if the front brake lever is difficult to pull in.
- Brakes that do not release may indicate a blocked pressure relief hole in the calipers. Have your Cleveland CycleWerks dealer inspect the brakes.
- Brakes that do not release may indicate sticking caliper pistons. Have your Cleveland CycleWerks dealer inspect the brakes.

GENERAL GUIDELINES

If you encounter trouble during a ride, the first thing you should do is stop as soon as possible in a safe area. Do not continue to ride if you have a flat tire, if you hear an unusual noise, or if your motorcycle just does not feel right. If you continue to ride, you will cause more damage the motorcycle and endanger your own safety.

After you stop, take time to carefully look over your motorcycle and identify the problem. Always consider all of your options before you make a decision to continue to ride. Sometimes a problem can be relatively minor and can be permanently repaired on the road provided you have the tools, supplies and skills needed to do so. In addition, you may be able to make a temporary repair and ride slowly back to your final destination, where you can get further help and/or supplies.

When a problem appears to be more serious; or you do not have the tools, supplies and skills needed to make a repair, you will need to choose a safe way to get yourself and the motorcycle back to your destination, If you are close enough, you can often push the motorcycle back.

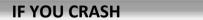
Whatever the problem may be, always follow the instructions below:

- 1. Always put safety first.
- **2**. If the problem is minor and you have the tools, supplies and skills needed to make a temporary repair, be sure to make permanent repairs as soon as possible.
- 3. Do not continue riding if you are hurt or if your motorcycle is not in safe riding condition.

IF YOU HAVE A FLAT TIRE

Do not ride on a flat tire. The motorcycle will be hard to handle, and if the tire comes of the rim, it can lock up the wheel and cause you to crash. Riding on a flat tire will damage the tire and wheel rim. Do not ride on a flat tire. Call for help.

Aerosol tire sealers generally do not work with inner tubes, and it is impractical to remove a wheel and attempt repairs on the side of the road. It is recommended to call for transportation of the motorcycle to a service shop for repairs.



Personal safety is the first priority after an accident. If you or anyone else has been injured, take adequate time to assess the severity of the injuries and determine if it is safe to continue riding. **If you cannot ride safely, send someone/call for help**. Do not ride if you will risk further injury or if your motorcycle has been damaged too severely.

If you decide you are capable of riding safely, carefully inspect the motorcycle for damage. Check the usability of all critical parts, and tightness of critical nuts and bolts such as the handle bars, control levers, brakes and wheels. If there is minor damage or you are not sure about possible damage but decide to ride back to your base, ride slowly and cautiously.

Sometimes crash damage is hidden or not immediately apparent. Once you get home, go over your motorcycle thoroughly and fix any problems that you find. Also, be sure to have your Cleveland CycleWerks dealer inspect the frame and suspension after a serious crash.



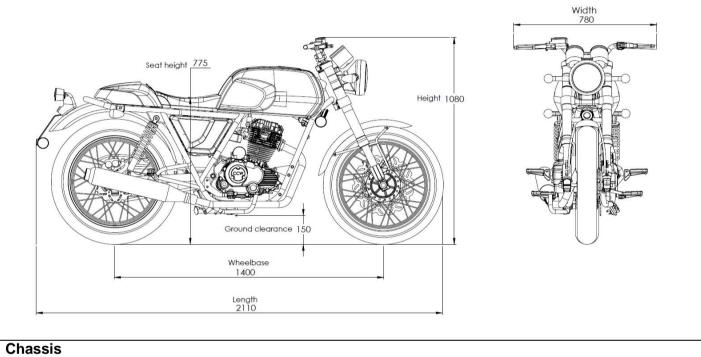
DEAD BATTERY

If the key is left ON after parking the Motorcycle, the battery may be jumped with a car battery to get the engine running. Remove the seat to access the battery. Proceed with caution when using jumper cables to avoid sparks.

SPECIFICATIONS



Dimensions	
Length	2110mm
Width	780mm
Height	1080mm
Wheelbase	1400mm
Seat height	775mm
Ground clearance	150mm
Curb/wet weight	144kg
Max capacity (not including vehicle weight)	145kg



Rider/pillion seat with pillion strap
Removable pillion seat cover
Spring loaded rider foot rests
Folding pillion foot rests
Tubular backbone, double cradle
High carbon steel
25 degree
114mm
Large diameter tubular arms.
Needle roller axial bearings
Needle roller side thrust bearings
Billet CNC 6061 aluminum
7/8" Tubular steel
Billet CNC 6061 aluminum
Tapered needle caged bearings
25mm x 47mm x 15mm
Inverted forks, 38mm stanchions
Cartridge type damping
Shim stack valving for rebound and compression
· · · · · ·

Rear suspension	Twin coil over, oil damped shocks	
	325mm length eye to eye	
	Spring pre load adjustable 5 stage	
Rear wheel travel	90mm	
Front wheel travel	110mm	
Front wheel	2.50" x 18" steel	
Front tire	Kingstone 100/90-H18 tube type 6P.R. 62P	
	Max. load 583 lbs @40 PSI Max. load 265 Kg. @40 PSI	
Tire pressure front	40PSI/280KPa	
Front axle diameter	15mm	
Rear wheel	2.75" x 18" steel	
	Full floating cush sprocket carrier	
Rear tire	Kingstone 120/90-H18 tube type 6P.R. 71M	
	Max. load 759 lbs @40 PSI	
Tire pressure rear	Max. load 345 Kg. @40PSI 40PSI/280KPa	
Rear axle diameter	17mm	
Front brake	Single 315mm full floating wave rotor	
	4 piston radial mount caliper	
	Braided and bonded DOT stainless steel brake hose	
Rear brake	220mm wave rotor	
	2 piston slide caliper	
	Braided and bonded DOT stainless steel brake hose	
Engine		
Туре	CCWCG250	
	OHV single cylinder four stroke push rod	
	Air cooled Counter balanced	
Bore	67.0mm	
Stroke	65.0mm	
Displacement	229.0cc	
Compression ratio	9.2:1	
Maximum power	11.5 kW /15.4 HP	
Maximum torque	16.0 N·m @6000 RPM	
Maximum speed	8500RPM	
Idle speed	1500RPM +-100	
Minimum fuel consumption	≤354g/kW·h	
Starting	Electric and kick	
Ignition type		
Ignition advance	15° @1500RPM	
0		
Spark plug	D8EA	
Spark plug gap Intake Valve Open (BTDC)	0.6-0.8mm 10°	
Exhaust Valve Open (BBDC)	10° 40°	
	40° 40°	
Intake Valve Closed (ABDC)	40° 10°	
Exhaust Valve Closed (ATDC) Intake valve clearance	10° 0.08mm	
Exhaust valve clearance Clutch	0.13mm	
	Wet multi-plate	
Transmission	Constant mesh, five-speed	
Primary Reduction 21/70	3.333	

Second gear ratio 15/28 1.867 Third gear ratio 23/23 1.000 Fith gear ratio 23/23 1.000 Fith gear ratio 24/20 0.833 Final drive 520 roller chain Front sprocket 13T Rear sprocket 36T Fuel Unleaded gasoline Minimum fuel octane 87 (R+M/2) 95(RON) Carburetor model KF P230 Main jot #98 Pilot jet #38 Needic #K140 Mixture screw 3.5 turns Air filter Stainless steel mesh (clamp filter) Pleated paper element (airbox) Exhaust emission system S x three way catalyst in muffler PAIR air injection Pressure-splashed Oil Pump Type Inner/outer rotor Electrical Battery YTX9-BS AGM maintenance free Battery capacity 12V /9 Amp/hour Generator output 160 watts. Main fuse 15A Secondary fuse 15A Headlight H4 35/35W Headlight H4 35/35W Speedometer Cable driven Electronic stepper motor needle <td< th=""><th>First gear ratio 11/32</th><th>2.909</th></td<>	First gear ratio 11/32	2.909	
Third gear ratio 19/25 1.316 Fourth gear ratio 24/20 0.833 Final drive 520 roller chain Front spracket 13T Rear sprocket 36T Fuel Unleaded gasoline Minimum fuel octane 87 (R+M/2) 95(RON) Carburetor model KF P230 Main jet #98 Pilor jet #38 Needed #K140 Minture screw 3.5 turns Air filter Stainless steel mesh (clamp filter) Pleated paper element (airbox) Exhaust emission system 3 x three way catalyst in muffler PAIR ari injection Pressure-splashed Oil Pump Type Inner/outer rotor Electrical Battery YTX9-BS AGM maintenance free Battery 17X9-BS AGM maintenance free Battery YTX9-BS AGM maintenance free Battery 15A Scondary fuse 15A Headlight H4 35/35W Battery YTX9-BS AC. generator Generator output 160 watts. Main fuse 15A Headlight <td< td=""><td></td><td></td></td<>			
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Engine oil capacity 1200ml Engine oil SAE10W-40, 15W-50, 20W-50 API SF/SG or SH/SJ with JASO MA	Capacities		
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API SF/SG or SH/SJ with JASO MA	Engine oil capacity		
Fork oil capacity 275cc	Engine oil		
	Fork oil capacity	275cc	

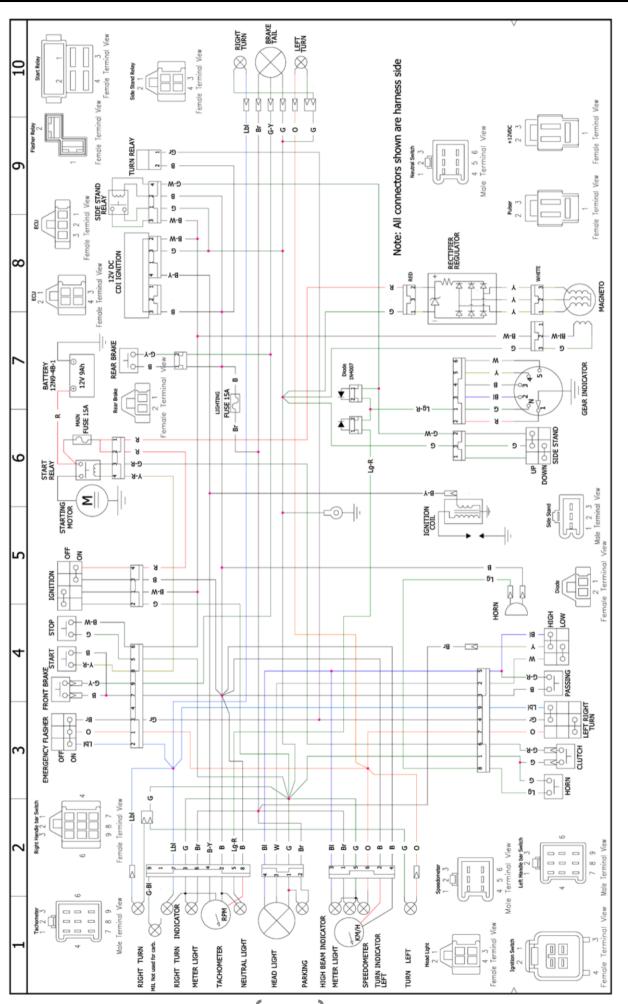
FASTENING TORQUE



Fastener torque	
Front axle	65N-m
Rear axle	65N-m
Swing arm pivot nut	65N-m
Engine mount bolts M8 x 1.25	23N-m
Steering stem top nut	65 N-m
Steering stem bearing adjust nut	45 N·m then turn back 1/4 turn
Fork clamp bolts M8 x 1.25	23N-m
Front axle pinch bolts M6 x 1.0	11N-m
Spark plug	18N-m
Valve clearance adjusting screw lock-nut	15N-m
Cylinder head nut	37N-m
Rear sprocket nut M8 x 1.25	23N-m
Engine side cover bolts M6 x 1.0	11N-m

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WIRING SCHEMATIC



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Odometer Reading	Odometer Reading	Odometer Reading
Km/Miles	Km/Miles	Km/Miles
Dealer Stamp	Dealer Stamp	Dealer Stamp
Date	Date	Date
Signature	Signature	Signature

Odometer Reading	Odometer Reading	Odometer Reading
Km/Miles	Km/Miles	Km/Miles
Dealer Stamp	Dealer Stamp	Dealer Stamp
Date	Date	Date
Signature	Signature	Signature

Odometer Reading	Odometer Reading	Odometer Reading
Outilieter Reading	Outilieter Reading	Outilieter Reading
Km/Miles	Km/Miles	Km/Miles
Dealer Stamp	Dealer Stamp	Dealer Stamp
Date —	Date	Date —
Signature	Signature	Signature



