FXx Standard / FXx Deluxe / FXR

OPERATOR'S INSTRUCTION MANUAL

⚠ NOTICE

This vehicle has a minimum age requirement of 16 and a maximum weight capacity of 190 lbs. (86 kg.).
Always weal necessary and properly fitting protective equipment when operating this vehicle.

⚠ WARNING

To reduce the risk of injury, the user must read and understand the operator's manual before using this product.

Obtain, review and follow provisional/municipal government acts and regulations pertaining to owning and operating an off-road vehicle before using this product.

SAVE THIS MANUAL FOR FUTURE REFERENCE

FXx Standard / FXx Deluxe / FXR / FR1000

Owner's Manual

- This manual should be considered a permanent part of the motorcycle and should remain if it is resold.
- This manual contains the latest product information available before printing. Cleveland CycleWerks reserves the right to make changes at any time without notice and without incurring any obligation.
- 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 BIKE PROPERLY.

Please write the serial numbers of your motorcycle in the boxes below

Chassis (VIN) Number		
Engine Number		
Dealer		
Color Codes	Body	
	Frame	
	Swing Arm	

CONSUMER INFORMATION FOR UNITED STATES

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 devise or element of design has been removed or rendered inoperative by any person.

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.

: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 FIRST > DEALER CONTACT 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 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.

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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 vehicle that you have chosen.

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

The instructions contained in this manual will help you make the most of your motorcycles 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 you might need, please contact our authorized dealer and/or service centers.

Cleveland CycleWerks makes every attempt possible to verify the accuracy of our user 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 countries 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 reliability of your vehicle, use original CLEVELAND CYCLEWERKS spare parts ONLY.

WE ARE CLEVELAND

PURPOSE OF MANUAL

In addition to providing directions on operating and maintaining your motorcycle, this manual contains important safety information. Please read this manual over carefully before using your motorcycle.

SYMBOLS

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 terrains 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 ⚠ and one of these signal words:

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

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

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

⚠ CAUTION You CAN be INJURED if you do not follow instructions.

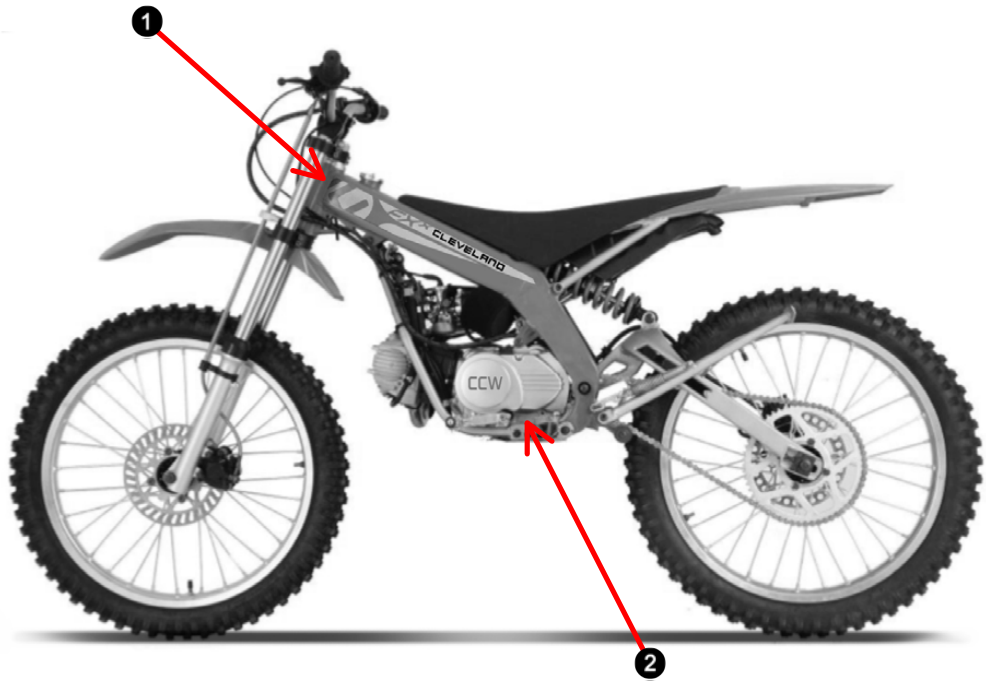
- Safety Headings such as important safety reminders and/or precautions.
- Safety Section such as motorcycle safety.
- Instructions how to use the motorcycle properly and safely.

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

WARRANTY BOOKLET

Besides this Owner's Manual, this vehicle is also accompanied by a warranty booklet that can be obtained through your distributor, containing important vehicle warranty & emissions warranty information.

IMPORTANT
Every time the vehicle is serviced by a dealer and/or service center, the owner must produce the warranty booklet so that the dealer can fill in the service information.



1. Frame Serial Number (VIN)
2. Engine Serial Number

The motorcycle is identified by the VIN number. When placing orders for spare parts, you are may be required to provide the VIN, engine serial number and the color code numbers.

We recommend you to write down all these numbers and keep them in a safe place with the Owners Manual and warranty booklet.

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

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

⚠ WARNING Never 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.

⚠ DANGER Never Ride Without a Helmet. 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 helmets that have 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, and a chest protector if riding off road.

⚠ DANGER Never Carry a Passenger. This motorcycle has been designed for ONE rider only. There are no passenger pegs, footrests, hand holds or seat room for a 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.

⚠ WARNING Ride Within Your Limits. 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, drop-offs, ditches, rocks and other hazards. Always maintain a speed slow enough to allow you enough time to see and react to hazards.

⚠ 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. Remember, in most states throughout the United States, you can be arrested and charged with Driving Under the Influence (DUI) if you are riding a motorcycle while intoxicated.

⚠ CAUTION To ensure maximum reliability and maintain the motorcycle in perfect working condition, it is essential to perform the servicing detailed in the Scheduled Maintenance Table(s) and to follow all the direction provided in this manual. For further information, please contact your authorized dealer and/or service center that possess the necessary technical skills.

- DO NOT use the motorcycle or try to service it if you do not possess the necessary skills.
- 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; speed and steering can be affected.
- Always wear suitable clothes, especially when traveling at night. (Motorcycle garments with reflective bands are recommended for night riding).
- **ALWAYS** wear a helmet, even if you go for a short ride.
- 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, avoid spilling fuel onto the tank and the exhaust pipe.
- When refueling, avoid inhaling harmful fuel vapors. If fuel comes in contact with skin or clothes, immediately wash with 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 park the motorcycle safely and avoid leaving it unattended while the ignition key is in the ignition, on the motorcycle.
- 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 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, and relieves Cleveland CycleWerks of any liability.

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 void and relieves Cleveland CycleWerks of all liability.

FAMILIARIZE YOURSELF WITH THE VEHICLE

The rider's ability and his/her 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" over night.

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

As a parent, your child's safety is your first priority (Child meaning any rider under the legal age of adulthood and independence in their country). Riding a motorcycle is very fun. However, just like riding a bicycle, bad decisions can result in injury. As a parent, you can greatly prevent accidents by making informed decisions about if, when and how your child will ride. Always supervise your child when he/she is riding. We advise that no one under the legal riding age take part in riding any of our motorcycles.

Before you allow your child to ride, you need to decide if he/she is capable of riding. Riding readiness can vary tremendously from one person to another. Age and size are not the only factors that help determine one's riding readiness. There are three other factors that you should consider before deciding if your child is ready to ride.

First, consider the **physical ability** of your child. Riders must be able to hold the motorcycle up, get on, and sit comfortably with both feet on the ground. The rider must also be able to reach all of the controls on the handlebars and work the brakes and clutch. **Second**, consider your child's **athletic ability**. Your child should be good at riding a bicycle before riding a motorcycle. Determine if your child can judge speeds and distances while riding a bicycle and react with the proper hand and foot actions. Any person who does not have good coordination, balance, and agility should not ride this motorcycle.

Finally, determine your child's level of **mental maturity.** It is imperative that you are honest with yourself when you ask yourself the following questions: Does your child think through problems and come to logical conclusions? Does your child obey your rules when they ride their bicycle? If your child makes bad judgments, takes un-warranted risks and/or does not obey your rules, they should not ride this motorcycle.

If you have decided that your child is ready to ride, please remember the following points and never let your child ride without a helmet. It is up to you (parent) to ensure your child's safety, even if they learn to ride from another experienced adult. Never push your child to try things faster than they are willing or capable. Always supervise your child when they are riding and regularly remind them about safety rules. As a parent it is your responsibility to be sure that the motorcycle is properly maintained and kept in safe operating condition.

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.

⚠ WARNING 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 and accessories.

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 almost every country we sell motor vehicles.**

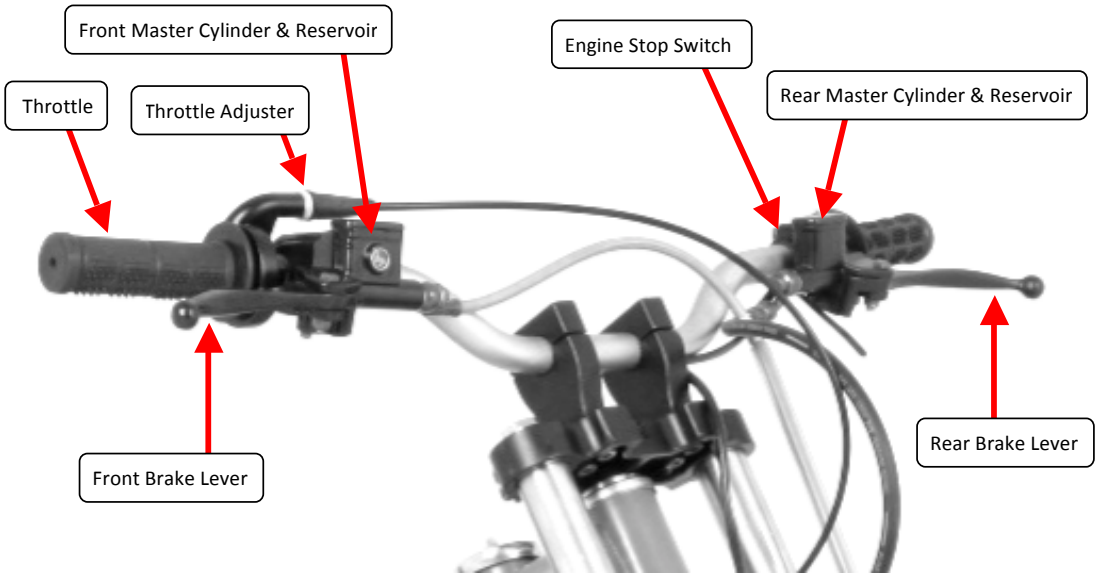
SAFETY LABEL INFORMATION

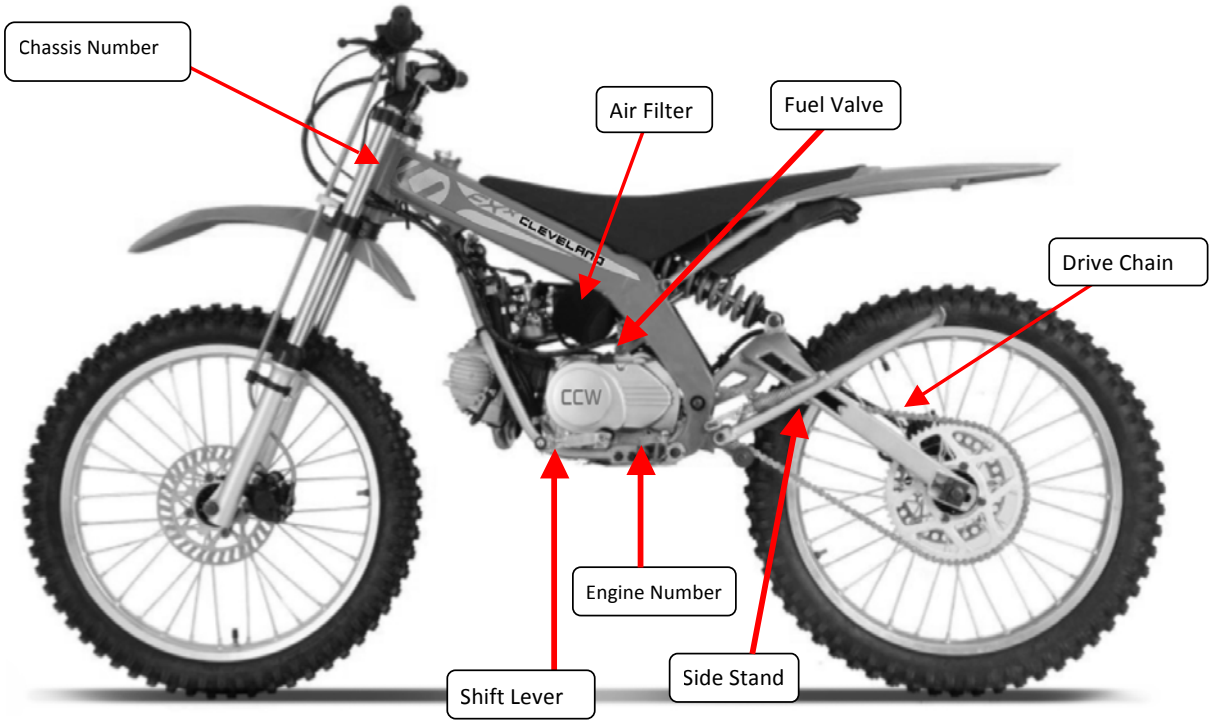
This page will show you where to find the safety labels on your motorcycle. You will find that some labels warn you of potential hazards. Others will provide important safety and maintenance information. Please read them carefully and do not remove them. If your label wears off from riding or becomes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

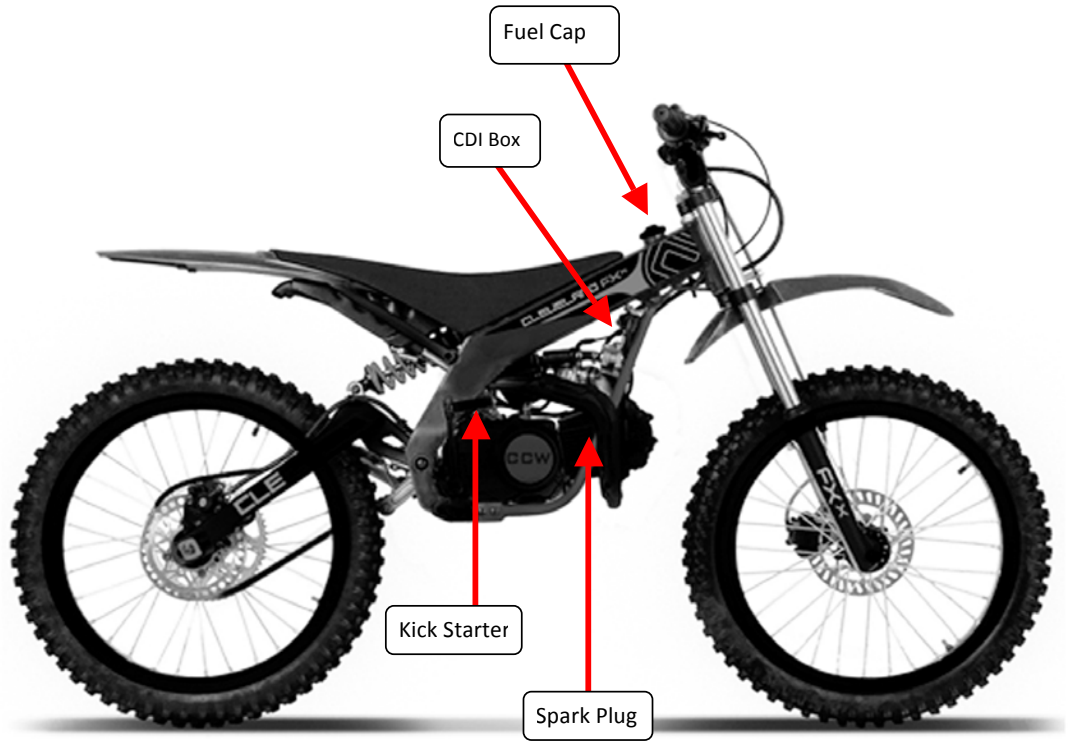
COMPONENT LOCATIONS

When you ride a motorcycle, you need to be able to operate the throttle, clutch, brakes, and other controls without stopping to look at them. Please read this section carefully before you ride your motorcycle. This section of the manual will show the location and operation of all the basic controls of your motorcycle.

110cc version has an auto-clutch / hand brakes only




Chassis Number
Air Filter
Fuel Valve
Drive Chain
Engine Number
Shift Lever
Side Stand


Fuel Cap
CDI Box
Kick Starter
Spark Plug

SERIAL NUMBER LOCATIONS

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

1. Right Side of frame.
2. Left side of frame.
3. Steering head tube.

Write this number in the VIN box on page 3.

Engine Model & Serial Number
The engine model number and serial number is stamped on the left side of the engine under the countershaft sprocket.

Write this number is the Engine Number box on page 3.

HANDLEBAR LEVER CONTROLS

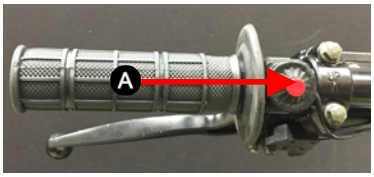
Clutch Lever / Hand Brake Lever

Note: on 110cc models, the left lever A is the front brake, this is NOT THE CLUTCH!

On 125cc bikes, the clutch lever A is located on the left side of the handlebar.

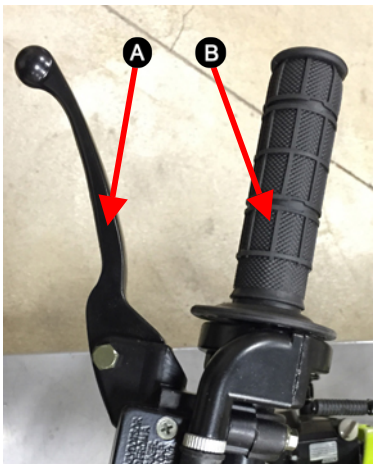
Choke Lever

When pulling the choke lever A in the up position, the choke is **ON**. When the lever is in the down position, the choke is **OFF**. When pulled, 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, the cylinder is open again. This should be done, once the motor is warm. DO NOT RIDE WITH THE CHOKE ON!



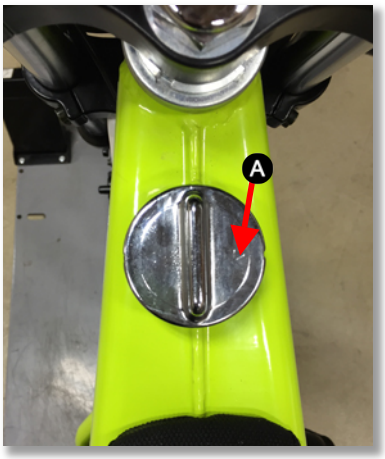
Stop Switch / Button

The stop switch A turns off the engine. When this button is pressed, the ignition circuit is turned off.



Hand Brake Lever & Throttle

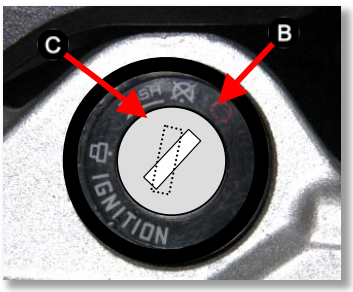
The hand brake lever A and throttle B is mounted on the right side of the handlebar.



FUEL FILL CAP

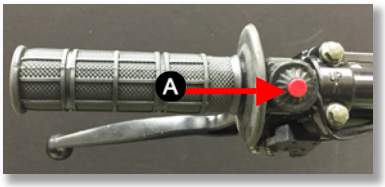
Fuel Fill Cap

To Open: Turn counter-clockwise. (A)
To Close: Push down on the cap firmly, and turn clockwise until it is tight.



Key Ignition Switch on 125cc Models

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



Ignition Kill Button on 110cc Models

Push and hold the kill button (A) until the motor is no longer running.


OFF

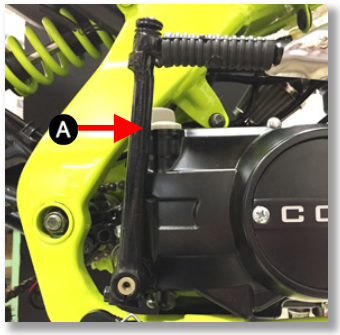

ON

Fuel Tap / Petcock

OFF - In this position, the fuel tap is closed. No fuel flows from tank to the carburetor.
ON - In this position, the fuel tap in open. Fuel flows from the tank to the carburetor. The fuel tank empties down to the reserve level.

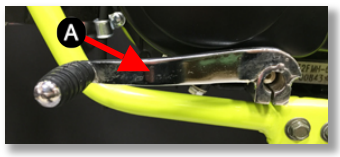
OPERATING CONTROLS

Foot Brake Lever 125cc only.
The brake lever A is located on the right side of the motorcycle. Its basic operation is to apply the rear brake to slow or stop the motorcycle. NOTE: This is only on the 125cc version. 110cc has a left hand rear brake.



Kick Start Lever

The kick start lever A is mounted on the right side of the engine. It is used to start the engine exclusively on the 110cc versions and in case the electrical starter system is non-functional on the FXR.



Shift Lever

The shift lever A is on the left side of the motorcycle. The gear positions are shown in the illustration on page 24.

Side Stand

Push the side stand A to the ground and tilt the motorcycle to the left. Make sure the bike is on solid ground and the position is secure.

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. If you are a parent, please be sure you have read the section “Important Safety Information for Parents” on page 9.

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 you have read and understand all the safety messages and labels.
3. 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 other protective clothing is recommended.

PROTECTIVE GEAR & APPAREL

For your safety, we strongly recommend that you always wear an approved helmet, eye protection, boots, gloves, long pants 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 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. Riding pants with knee and hip pads, a riding jersey with elbow pads and a chest/shoulder protector.

⚠ 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.

IS THE MOTORCYCLE READY TO RIDE?

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 off road conditions (Cleveland roads) can be very tough on a motorcycle and you do not want to injure yourself, or breakdown far from help. A pre-ride inspection is essential!

⚠ WARNING

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 issue.

⚠ NOTICE TO PARENTS

If a child will be performing any of the following pre-ride inspection procedures, it is your responsibility to provide careful supervision and make sure they are performed safely.

PRE-RIDE INSPECTION

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 rim to be sure it is 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 gas tank and add fuel if needed. Be sure the gas cap is tightened securely.

Drive Chain – Inspect the drive chain condition and slack. Adjust and lubricate if needed. Also check the chain guide(s) and roller(s) for wear and replace if and when it is worn. For detailed instructions on drive chain slack adjustment, see the Servicing 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 then 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 properly.

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 lever (on 110cc, squeeze left hand lever) and squeeze the front (right) brake lever to be sure the brakes are working properly.

Remember, be sure to take care of 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.

Break-In (Running-in) Period

The first 50 km (30 miles) is the most important in the life of your motorcycle. Proper operation during this break-in period will help assure maximum life and performance from your new motorcycle. The following guidelines explain proper break-in procedures.

Maximum Engine Speed Recommendation

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

Initial 50 KM (30 MILES)	**Below 3500 rpm**
Up to 150 KM (93 MILES)	**Below 8000 rpm**

Vary the Engine Speed

Vary the engine speed during the break-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 break-in, you must be careful not to excessively load the engine.

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. 10 - 13) & “Before Riding” (Pg. 21).

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.

⚠ CAUTION

For your safety, avoid starting or operating the motorcycle in an enclosed area with poor ventilation, such as a garage. The motorcycle’s exhaust gas contains poisonous carbon monoxide which can collect rapidly in an enclosed area and result in illness or death.

⚠ WARNING

DO NOT ride your motorcycle(s) at night, they it is not equipped with lights.

STARTING & STOPPING THE ENGINE

Always follow the proper starting procedure as described below.

STARTING PROCEDURE (KICK START)

Cold Starting Procedure

1. Turn the key switch to the “ON” position (on road models).
2. Make sure the transmission is in the neutral position.
3. Turn the fuel tap to the “ON” position.
4. Pull and hold the choke lever if on the bars, leave lever on if on the carburetor.
5. Press and hold the brake lever on the right side of the handle bar.
6. Open the throttle no more than 1/4 of the way.
7. Open the kick start lever and from the top of the kick starter stroke, kick through to the bottom with a rapid, continuous kick motion.
8. 1-2 minutes after the engine starts, release the choke lever if on the bars / push the choke lever down if on the carburetor.
9. Wait until the engine warms up for approximately 3-5 minutes. After warm up, you are ready to ride.

Starting When the Engine Is Warm

Repeat steps 1, 2, 3, 5, 6, and 7.

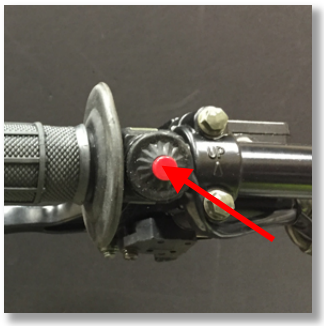
FLOODED ENGINE

If the engine fails to start after repeated attempts, it may be flooded with excess fuel. Follow the steps below to clear a flooded engine.

1. Press the engine stop switch and hold it.
2. Open the throttle completely.
3. Press the engine start switch and hold it for 5 seconds. (Electric Start)
4. Kick start the engine several time. (Kick Start)
5. If necessary remove the spark plug and let it dry.
6. Once the engine starts, open the throttle ¼ for a few times.

STOPPING THE ENGINE

To stop the engine, shift into neutral and push the engine stop switch Ⓐ on the left side of the handle bar.



⚠ CAUTION

DO NOT ride your motorcycle with full load and DO NOT rev up the engine when cold. Since the piston warms up and expands fast, this might cause engine damage. Always let the engine idle until warm or ride it warm at low RPM speeds.

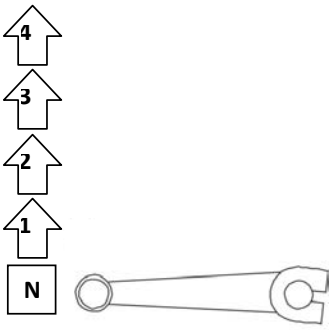
⚠ CAUTION

For your safety, avoid starting or operating the motorcycle in an enclosed area with poor ventilation, such as a garage. The motorcycle’s exhaust gas contains poisonous carbon monoxide, which can collect rapidly in an enclosed area and result in illness or death.

Gear Operation / Gear Shifting

This motorcycle has four (4) forward gears 110cc and five (5) forward gears for the 125cc.

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



1. Close the throttle and squeeze the clutch lever all the way in on 125cc versions, there is no clutch on the 110cc version.
2. Raise the shift lever form neutral up to first gear. Once the transmission clicks into gear, the shift lever will return back to the neutral "N" position once you remove your foot.
3. Slowly and gradually open the throttle and release the clutch lever in a simultaneous motion on 125cc. When you feel the clutch begin to grab and the motorcycle starts to ease forward, you have reached the "friction zone" of the clutch. Gradually open the throttle more and release the clutch lever completely as the motorcycle moves forward. On 110cc, simply twist the throttle slowly to move forward.
4. When you attain moderate speed, close the throttle and squeeze the clutch lever at the same time (125cc). Raise the shift lever until it clicks into second gear. After shifting, re-open the throttle and release the clutch lever. On 110cc, simply click the gear up and it will engage.
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 the clutch. Depress the shift lever until you feel it click into gear. After shifting, re-apply the throttle and release the clutch lever smoothly (125cc). On 110cc, simply click up and down as needed, there is no clutch.

NOTICE

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

Learning when to shift gears will come with riding experience. Up-shift into a higher gear when you hear the engine speed (rpm) get too high. When the engine rpm gets too high in a gear, you will feel the motorcycle stop accelerating. This is another way to know when to up-shift.

Downshift to a lower gear when you feel the engine lugging at a low rpm. Downshifting is usually done when you slow down for a turn or when you stop the motorcycle. Downshifting into a lower gear can help slow down your motorcycle, especially when going down-hill. However, down shifting when the engine rpm is too high can cause engine damage.

The neutral position of the transmission is located below the first gear position. To shift into neutral, pull the clutch lever (125cc) in and depress the shift lever as many times as needed to get into neutral gear. On 110cc versions, simply push down on the shift lever as there is no clutch.

To prevent transmission damage, do not coast or tow the motorcycle for long distances with the engine off.

WARNING

Never attempt to start the engine in gear. Doing so may cause a crash that could result in serious injury or death.

This section will cover basic braking technique for your motorcycle. To slow or stop the motorcycle, squeeze and hold the clutch lever (125cc) and apply the front brake lever and rear brake pedal firmly and smoothly. If your speed is reduced a significant amount, you may need to downshift to a lower gear. Gradually increase your braking pressure as you feel it is needed. When you come to a stop, put your left foot down first, then the right foot. Do this so that your brake pedal foot remains on the brake pedal until you come to a complete stop. To prevent the engine from stalling, always pull and hold the clutch lever (125cc) when slowing to a complete stop unless you are in neutral.

For maximum braking, close the throttle and firmly apply both the front and rear brake. On a motorcycle, 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. For off road riding, the rear brake is your friend, as too much front will cause the front tire to loose traction.

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. This only holds true for on road situations, off road is a bit different.

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.

Generally, reduce your speed and complete your braking before you begin a turn. Avoid braking or closing the throttle quickly while turning. Either of these actions may cause one or both of the wheels to slip. Any wheel slip will reduce your control over the motorcycle and could cause a crash.

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. All of your actions should be done in a smooth and steady manner under these conditions. Rapid acceleration, braking, or turning can cause you to lose control of the motorcycle. For your safety, exercise extreme caution when riding under wet, rainy, and/or muddy conditions.

When descending a long, steep grade, use engine compression braking by downshifting with intermittent use of both brakes.

PARKING & POST RIDE INSPECTION

Lower the side stand, to support your motorcycle. Press and hold the red stop switch on the left side of the handle bar until your engine stops. If you are through riding for the day, turn the fuel valve to the “OFF” position. Always park the motorcycle on a flat level surface. If you will be storing the motorcycle for a long period of time, turn the fuel valve to the “OFF” position while the engine is still running. Open and close the throttle repeatedly until the engine stops running on its own. Do this to use up any fuel that still remains in the carburetor. This will help you avoid carburetor problems that can occur when your motorcycle is stored for long periods of time with gasoline left in the carburetor.

Keeping your motorcycle in good operating condition is absolutely essential to your safety. It is essential to ensure your motorcycles longevity. Proper maintenance will ensure you are achieving maximum performance, avoid breakdowns, and 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.

Careful pre-ride inspections and proper maintenance are invaluable. To help you properly care for your motorcycle, this section provides you with a maintenance schedule. 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.

⚠ 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 recommendations and schedules in this manual.

⚠ NOTICE TO PARENTS

As a parent, it is up to you to make sure the motorcycle is properly maintained and kept in safe operating condition. For children / young adults, learning how to take care of a motorcycle and perform basic maintenance can be an important part of their riding experience. However, if you allow a child / young adult to perform or assist in any maintenance task(s), such as filling the fuel tank with gasoline, you need to provide close supervision and make sure the task is performed safely.

⚠ 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.

IMPORTANT SAFETY PRECAUTIONS

Make sure the engine is off 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.
2. **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.

MAINTENANCE SCHEDULE

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

Below you will find a maintenance schedule that describes when components need to be inspected or serviced. The maintenance schedule lists item 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.

Because this motorcycle does not have an odometer, service intervals in the maintenance schedule are expressed in terms of riding days. To avoid missing required maintenance, we suggest that you develop a good way to record the amount of time you spend riding your motorcycle. If you do not feel capable of performing any of the procedures described in this manual or if you need assistance, please contact your 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 on page 21 at each scheduled maintenance interval.

Each item on the maintenance schedule requires some mechanical knowledge. You will find that some items in the table (marked with) may require a higher level of mechanical skill and special tools. If you do not feel capable of performing any procedure, please consult your nearest Cleveland CycleWerks dealer.

Indicates items that require moderate mechanical skill. We recommend service by an Cleveland CycleWerks dealer if the owner is not mechanically qualified.
Indicates items and procedures that require higher skill and special tools.

Note: Service your motorcycle more frequently when you ride in wet or dusty conditions.

Conducted by owner
Conducted by trained technician
BEU - Before Each Use
AEC - After Each Cleaning
15 - Every 15 hours of operation
30 - Every 30 hours of operation
45 - Every 45 hours of operation
90 - Every 90 hours of operation
ANN - Annually

PERIODIC MAINTENANCE SCHEDULE

VITAL CHECKS & CARE PROCEDURES TO BE CONDUCTED BY THE OWNER OR DEALER TECHNICIAN(S)	BEU	AEC	15	30	45	90	ANN
Check engine oil level	•						
Change engine oil and oil filter			•				
Check and adjust spark plug					•		
Change spark plug wire						•	
Check and adjust valve clearance			•			•	
Check idle setting			•		•	•	
Check over flow hoses for damage and kink-free arrangement	•			•		•	
Check fuel lines for leaks	•		•		•	•	
Change fuel filter insert			•		•	•	
Drain fuel bowl chamber				•	•	•	
Check brake fluid level	•		•	•	•	•	
Check brake pads for wear			•	•	•	•	
Check brake discs for minimum thickness			•	•	•	•	
Check brake system bolts for tightness	•		•	•	•	•	
Check brake performance	•		•	•	•	•	
Check brake lines for damage and leaks	•		•	•	•	•	
Lubricate and adjust cables			•	•		•	
Check the free travel of the hand and foot brake levers	•		•	•	•	•	
Remove and clean fork dust seals at regular intervals			•		•		•
Clean and lubricate chain as necessary		•		•		•	
Check chain guide, sliders, roller(s)	•		•		•		
Check chain tension	•		•	•	•	•	
Check rear sprocket & engine sprocket			•	•		•	
Clean air filter and filter box (depending on the dirt accumulation)		•	•	•	•	•	
Check spoke tension			•	•			
Check tire pressure and wear	•	•	•	•	•	•	
Check all controls for smooth operation	•		•	•	•	•	
Treat exposed metal components (except brake and exhaust system) with wax based anti-corrosion agents		•				•	
Treat ignition, steering lock and electrical switches with contact spray		•			•		
Check all screws, nuts, bolts and hose clamps for tightness	•		•		•		
Perform a complete front suspension maintenance							•
Perform a complete rear suspension maintenance							•
Clean and lubricate steering head bearings and seals							•
Treat the electrical contacts and switches with contact spray					•		
Change the front and rear brake fluid							•

FUEL (GASOLINE)

Fuel Recommendation –

Any unleaded gasoline with an octane rating of **87** (AKI USA) / **95** (RON/EU) or higher.

The engine in your motorcycle has been designed to run on any gasoline with a pump octane rating of **87** (AKI USA) / **95** (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 a **87** (AKI USA) / **95** (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. It is however no cause for concern if you hear light pinging while the engine is under hard acceleration, such as climbing up a hill. If pinging occurs under normal load and a steady engine speed, switch brands of gasoline and be sure you are using the proper octane rating. Use of unleaded fuel is recommended because it produces fewer engine deposits and extends the life of the engine and exhaust components.

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.

INSPECTION & REFUELING PROCEDURE

1. Before refueling your motorcycle, check the fuel hoses for leaks, damage, cracks, or deterioration.
2. Replace the fuel hose if it is dry rotted, cracked or if you feel it is necessary.
3. Inspect the fuel filter and replace if necessary.
4. Insert the key and turn clockwise to open the cap if key cap is present. If there is no key for the cap, simply turn the cap counter-clockwise to remove the gas cap.
5. Using a funnel, add fuel to the tank until the level reaches about 2 inches below the filler neck of the tank. **Do not overflow the gas tank**, gas expands when the gas tank / gas is heated, this expansion can cause a spill, or overflow condition.
6. Push down on the filler cap until it is fully closed and remove the key. If there is no key present, simply turn the gas cap clockwise and close it tightly.

⚠ WARNING

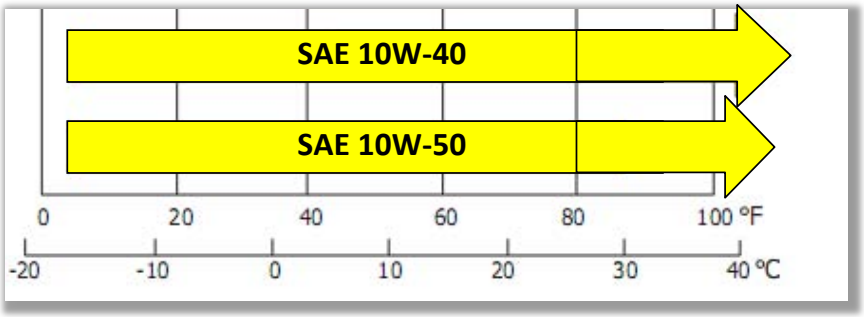
Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling gasoline. Always stop the engine. Only handle gasoline outdoors. Clean all spills immediately.

ENGINE OIL

Using proper oil, and regularly checking, adding and changing oil will help extend the service life of your engine. Even top quality oil wears out and becomes thinner. Changing oil helps get rid of dirt and deposits in the engine. Operating the engine with old or dirty oil may damage your engine. Running the engine in a low oil condition can cause serious damage to your engine.

Engine Oil Recommended: See Below

The chart below indicates oil for regular air temperatures. Please see the oil/air temperature chart to help you choose the best oil for your climate.

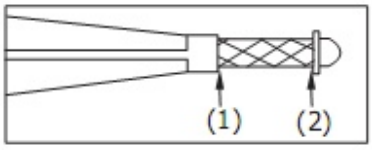


⚠ CAUTION

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

1. Start and run the engine at idle for 3-5 minutes, then turn off the motor.
2. Wait 2-3 minutes to allow the oil to properly distribute throughout the engine.
3. Stand the motorcycle on a support stand so that it is not leaning. It should be standing vertical.
4. Remove the oil filler cap, wipe it clean, and insert it back in to its place but **DO NOT** screw it back in.
5. Check that the oil level is within the (1) & (2) hash-marks on the dip stick as in Fig. 1
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.



CHANGING OIL & OIL FILTER

1. Start and run the engine at idle for 3-5 minutes, and then shut off the motor.
2. Stand the motorcycle on a straight level surface so that it is not leaning to either the right or left, use the motorcycle stand that came with your motorcycle.
3. Remove the oil filler cap. (Fig 1) A
4. Place an oil drain pan under the engine.
5. Remove the oil drain bolt and crush washer from the bottom of the motor. (Fig 1) B
6. After the oil has drained, apply fresh engine oil to the drain bolt threads.
7. Install and tighten the drain bolt with a new crush washer to 15ft lbs. (20 Nm) (Fig 1) B
8. It is recommended to replace the oil and filter after every 15 hours of riding.
9. Remove the filter from the filter cover. (Fig 2) C
10. Check and see if the cover O-ring is in good condition.
11. After the oil is drained out of the filter chamber, install a new filter back in to the filter chamber. C If your motor has an oil screen and it is in good condition, you can clean and reinstall the screen.
12. Make sure the rubber seal is facing out toward the filter cover.
13. Apply clean engine oil to the O-ring and install it to the oil filter cover.
14. Install the filter cover, be careful not to damage the O-ring, tighten the filter cover bolts to 8ft lbs. (10 Nm).
15. Fill the crankcase with the recommended oil only.
16. Install the oil filler cap.
17. Check the oil level by following the steps in “Checking & Adding Oil”.

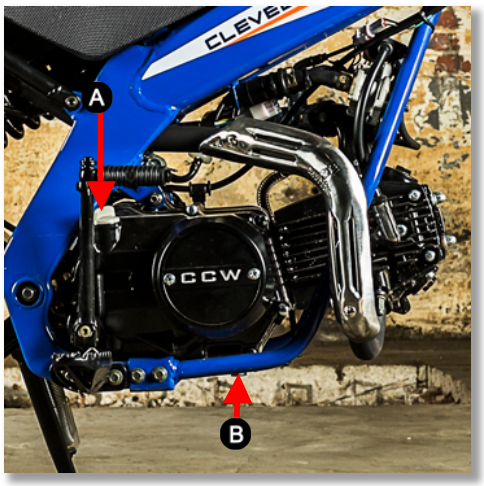


Fig. 1

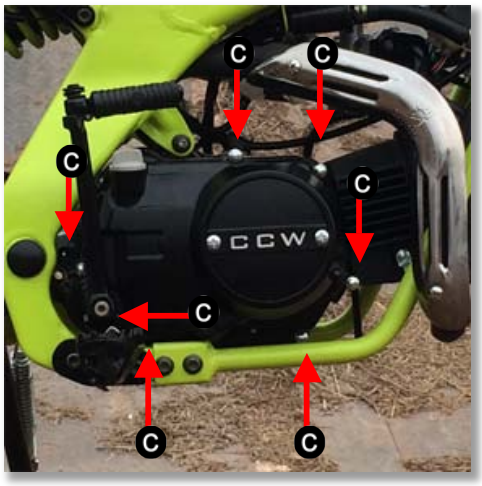


Fig. 2

AIR FILTER

Proper air filter maintenance is extremely important for your vehicle. A dirty, water-soaked, worn-out air filter will allow dirt, dust, mud or other impurities to pass into the engine. Always replace the air filter with a genuine Cleveland CycleWerks filter specifically designed for your model or a filter of equal quality. Failure to maintain the filter can/may cause engine wear or damage, expensive repairs, low engine power, low fuel mileage, carbon build up on valves and foul the spark plug.

CHANGING THE AIR FILTER

1. Loosen the air filter clamp with a Phillips Head screwdriver.
2. Remove the air filter and clean it.
3. Once cleaned, make sure it is completely dry.
4. Spray air filter oil on the filter, but to not over soak with oil.
5. Re-install the filter on to the carburetor and tighten the clamp.

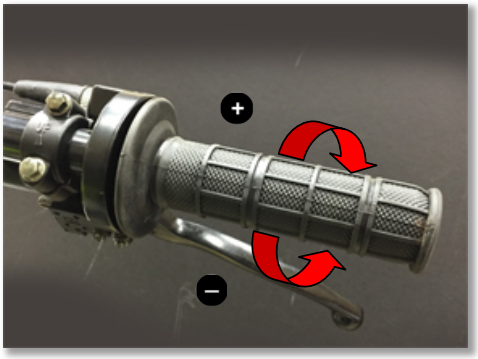
⚠ NOTICE

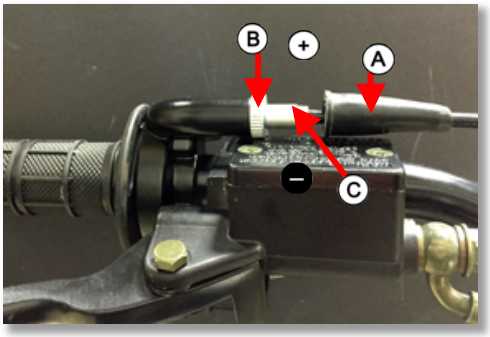
Improper of air filter maintenance can cause poor performance.

⚠ NOTICE

Improper installation of the air filter assembly can/may allow dirt to enter the engine and cause rapid wear of the piston rings and cylinder.

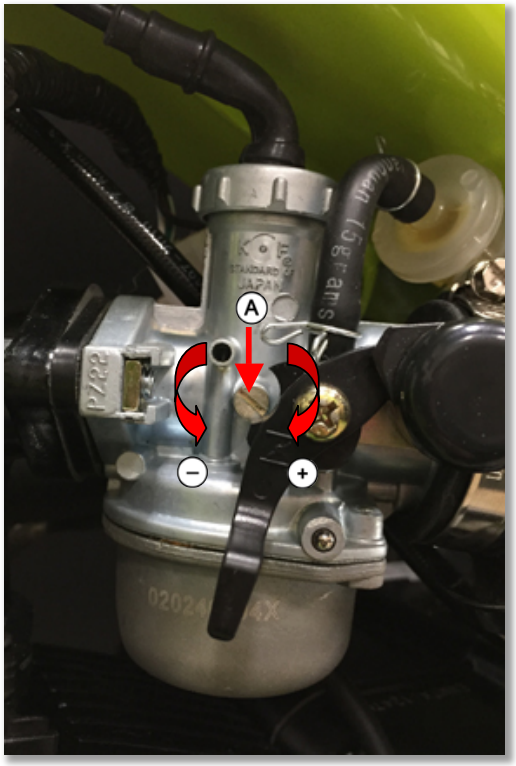
THROTTLE FREEPLAY





A. Throttle free-play should be 3-5 mm (0.10-0.20 in)
B. If your throttle has more play than specified, adjustments need to be made. Follow the steps below:
C. Minor adjustments are generally made with the upper adjuster at the throttle.
1. Pull back the dust cover (A)
2. Loosen the lock nut (B)
3. Turn the adjuster (C)
4. Turning the adjuster in the (+) direction will decrease free-play. Turning the adjuster in the direction will increase free-play. (–)
5. Operate the throttle to ensure that it is functioning smoothly, and when released, it returns completely from fully open to fully closed in all steering positions.
6. Inspect the condition of the throttle cable from the throttle down to the carburetor. If the cable is kinked or chafed, it must be replaced.
7. Lubricate the cable with a commercially available cable lubricant to prevent premature rust and/or corrosion.
8. Check the cable for tension or stress in all steering positions.

ENGINE IDLE SPEED



ENGINE IDLE SPEED ADJUSTMENT

Remember, an idle adjustment is not a real cure for problems in your engines' fuel delivery system.

Adjusting the idle will not solve or compensate for a fault elsewhere in the engine.

If you are having trouble, please contact your Cleveland CycleWerks dealer.

The engine must be at normal operating temperature for an accurate adjustment.

1. If the engine is cold, start it up and let it warm up for 3-5 minutes then shut it off.
2. Connect a tachometer to the engine.
3. Make sure the transmission is in neutral.
4. Keep the motorcycle in an upright position.
5. Adjust the idle speed with the stop screw (A)
6. To increase the idle, turn the screw to (+)
7. To decrease the idle, turn the screw to (−)
8. The idle must be at 1500 ± 100 Rpm.
9. **DO NOT** adjust the air/fuel mixture screw. It has been set from the factory. Tampering with this screw is illegal in most countries.

⚠ NOTICE

Allow the engine oil to circulate in the engine for 1 – 2 minutes before riding at start up. This will give enough time for the oil to lubricate all critical engine components. Failure to do so, will cause engine damage.

⚠ NOTICE

If the oil filter and cap are not installed correctly, it will cause serious engine damage.

⚠ NOTICE

Improper disposal of oil / drained fluids is harmful to the environment.

⚠ NOTICE

Do Not dispose of drained oil in an inappropriate manner. Most parts stores or auto shops will take used oil for recycling.

CLUTCH SYSTEM 125cc Motors Only

In order to ensure the best performance and durability from the clutch, always be sure you have proper clutch free-play. Free-play is needed to ensure that the clutch has room for wear. A clutch with no free-play will begin to slip as the discs wear down. Failure to fix a slipping clutch can cause clutch damage. To check the free-play, simply pull on the clutch lever. The lever should move very easily within the free-play range before you feel the clutch begin to engage. If too much or too little free-play exists, adjustments are needed.

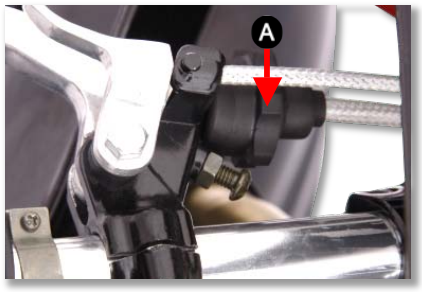


Fig. 1

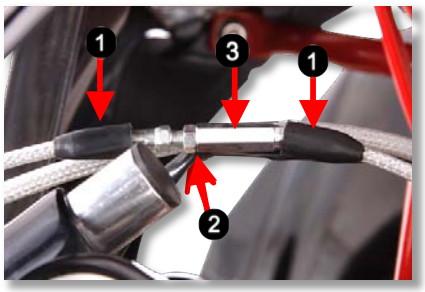


Fig. 2

CLUTCH LEVER ADJUSTMENT

The distance between the clutch lever and the grip may be adjusted.

1. Turn the adjuster Ⓐ clockwise to add free-play and counterclockwise to remove free-play. Fig. 1
2. Pull back the boot covers.❶
3. loosen the lock nut ❷ and turn the internal cable adjuster ❸ to adjust free-play. Fig. 2
4. Once you are satisfied with the adjustment, tighten the lock nut ❷
5. If the adjuster is threaded out near its limit or the correct free-play cannot be reached, turn the adjuster all the way in clockwise, and then turn it counter-clockwise one full turn, and then make the adjustment with the integral cable adjuster.

A second adjustment may be needed if the clutch is slipping or if the clutch will not engage. Follow the steps below carefully to perform the adjustment. If the clutch is slipping, you will need to decrease the amount of clutch engagement. If you squeeze the clutch lever all the way and the clutch still will not engage, you need to increase the engagement. **(Clutch Free-play 3 –5mm Fig. 3)**

Fig. 3

CLUTCH SYSTEM (Continued) 125cc Only

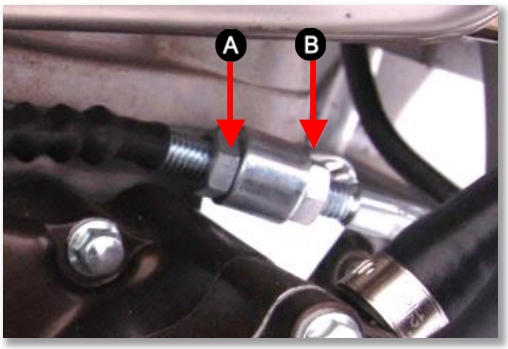


Fig. 1

INTEGRAL CABLE ADJUSTMENT

1. Loosen the lock nut. Fig. 1. (A)
2. Move the integral cable adjuster and lock into place with the adjuster nut (B) to obtain the specified free-play.
3. Tighten lock nut (A) and check the adjustment.
4. Start the engine and pull the clutch lever in and shift into gear. Make sure the engine does not stall and the motorcycle does not feel like it is pulling forward under load.
5. Gradually release the clutch lever and open the throttle. The motorcycle should move smoothly and accelerate gradually.
6. If you cannot get the proper adjustment, see you Cleveland CycleWerks dealer or service center.

Fig. 2

SHIFT LEVER

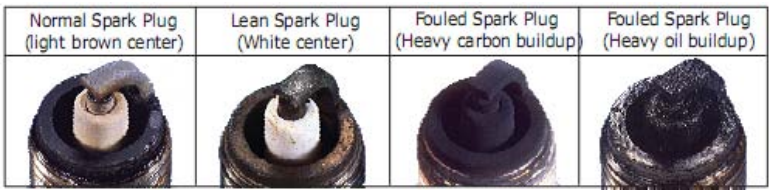
1. The shift lever should not have any free play in it. Fig. 2
2. You can also remove the shift lever from the shaft and adjust it up or down on the spline, depending on your preference of shift lever positioning.

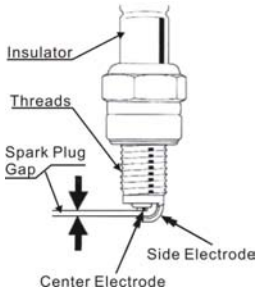
SPARK PLUG

The recommended standard spark plug will work very well in most riding condition. However, if you plan on riding for extended periods of time at high speed or high engine rpm in hot climates, or plan extended riding in cold climates, a different plug may be recommended.

A fouled (dirty) spark plug can cause your motorcycle to run poorly and lose performance. Follow the steps below to inspect, clean and/or replace the spark plug if needed.

1. Clean any dust and dirt from around the spark plug base.
2. Disconnect the spark plug cap.
3. Remove the spark plug.
4. Using the photos below for reference, examine the plug to determine its cleanliness. If the plug is of "normal" color, go on to step 6. If the plug is fouled (dirty), go to step 5.
5. Using moderate grit sandpaper (220-400), sand between the center electrode and the side electrode until all carbon and oil deposits are removed. Cleveland CycleWerks recommends that you use a spark plug cleaner or a new spark plug if the plug is extremely dirty.
6. Inspect the spark plug electrodes for wear. The center electrode should have square edges. The side electrode should not be eroded at all. The insulator should not be cracked or chipped. Replace the plug if any electrode wear and/or cracks are present.
7. Check the spark plug gap using a spark plug gaper. Gapers can be purchased at your local auto parts store. The spark plug gap should be .02 - .03 in (0.6 - 0.7mm). Always check the gap of a new spark plug before you install it.
8. Be sure all dirt has been cleaned from the threads. Install the spark plug by hand. This will prevent stripping and/or cross threading of the threads. Use a 5/8 in socket or wrench to securely tighten the spark plug. Do not over or under tighten the spark plug.
9. We would like to extend an extra pre-caution to NOT over tighten the spark plug, all Cleveland CycleWerks motors are aluminum. Stripped threads can occur if they are torqued above recommended specification. (10 lb.ft – 14NM)





When you inspect the spark plug, generally it will fit into one of the four categories shown above. A normal/clean spark plug will have a **light brown center** and displays no wear around the electrodes. A spark plug with a **bright white center** indicates a lean condition in the engine. If your plug looks like this, have your motorcycle serviced by your Cleveland CycleWerks dealer immediately. A carbon fouled plug will be completely **black with no gloss**. An oil fouled plug will appear a **dark shiny brown** or **shiny black** as shown above. An oil fouled plug is caused when the engine oil seeps by the piston ring and is burned with the fuel. Oil fouled plugs are not uncommon, however, if your motorcycle is consistently oil fouling spark plugs, have it serviced by your local Cleveland CycleWerks dealer immediately.

⚠ NOTICE

Using a spark plug with an improper heat range or incorrect reach, can cause engine damage. Using a non-resistor spark plug may cause ignition problems.

⚠ NOTICE

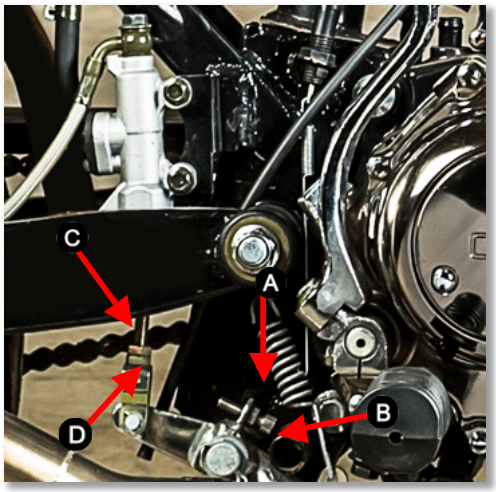
An improperly tightened spark plug can damage the engine. If a plug is too loose, a piston may be damaged. If a plug is too tight, the threads may be damaged.

BRAKING SYSTEM

Your motorcycle is equipped with hydraulic disc brakes on both the front and rear wheels. Hydraulic brakes require brake fluid for systems operation. Both front and rear brakes have a brake fluid reservoir built into the master cylinders. Follow the procedures below to adjust the brake levers to the specified ranges and check fluid levels.

BRAKE LEVER ADJUSTMENT 110cc

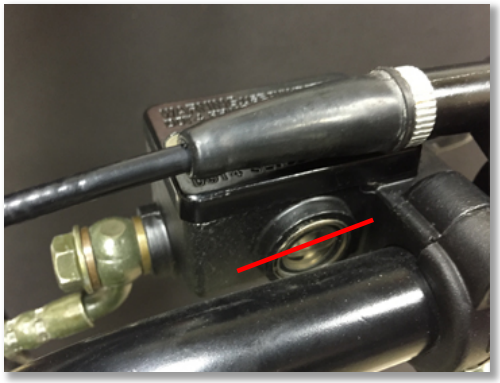
The front brake lever is non-adjustable
On the 110cc, the rear hand brake is non-adjustable



BRAKE LEVER ADJUSTMENT 125cc

The front brake lever is non-adjustable
The rear brake lever has 2 methods for adjustment.

A. Adjustment at point A is the first step. Loosen the bolt and turn the adjuster Ⓐ clockwise or counter- Ⓑ clockwise to achieve desired height. Fig. 1 Make sure after you have made your adjustment, that the rear wheel turns free. If the brakes are binding the wheel, adjust the master cylinder rod as follows in part B.
B. Loosen the adjustment bolt Ⓐ. Make sure the adjuster turns freely.
C. Loosen the push rod nut Ⓒ. Turn the push rod Ⓓ clockwise or counter-clockwise with pliers to achieve free-play.
D. Tighten the adjuster bolt while holding the adjuster in place.



BRAKE FLUID LEVEL CHECK (FRONT)

1. The level of the brake fluid decreases as the brake pads wear down. Ensure that the fluid level is always between the MAX and MIN marks. If the level falls below the MIN mark, contact your authorized dealer and/or service center and have the brakes checked and/or brake pads changed.

BRAKE FLUID LEVEL CHECK (REAR)

1. The level of the brake fluid decreases as the brake pads wear down. Ensure that the fluid level is always between the MAX and MIN marks. If the level falls below the MIN mark, contact your authorized dealer and/or service center and have the brakes checked and/or brake pads changed.

BRAKING SYSTEM

Hydraulic brakes require brake fluid for system operation. Both front and rear brakes have a brake fluid reservoir. Follow the procedures below to fill the reservoirs with the specified brake fluid.

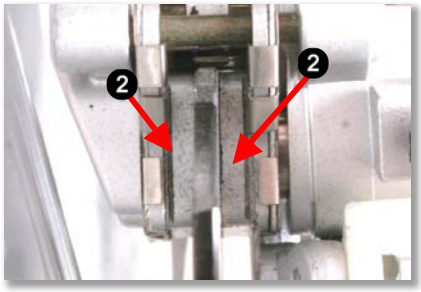
RECOMMENDED BRAKE FLUID – DOT 4

ADDING BRAKE FLUID

1. Clean all dirt and dust from the reservoir caps.
2. Remove the cap by turning counter-clockwise / some models have 2 philips head screws.
3. Be careful not to damage the diaphragm gasket that is seated under the cap.
4. Add the required amount in to the reservoir until MAX level is reached. (DO NOT OVERFILL) (Always use fresh fluid from a sealed bottle)
5. Replace the cap and tighten securely by Turing clockwise / replacing cap screws and tightening.
6. Squeeze the brake lever ensure the brakes are working properly.
7. Check the brake hose and brake caliper for leaks.

BRAKE PAD WEAR

Hydraulic disc brake systems use a brake caliper to squeeze the rotors (brake disc), which causes the motorcycle to stop. Inside the brake caliper are brake pads. The brake pads are the part of the brake system that makes contact with the brake rotor. The pads must be checked in accordance with the maintenance schedule for the brake system as described on page 29. Follow the procedure below to check the brake pad wear.



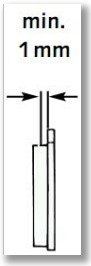
1. Inspect the brake pads ❷ at each maintenance interval. (More frequently if you do a lot of riding)
2. If the pads are worn down to a thickness of 1 mm, both pads need to be replaced. (Never replace only one pad).
3. If you find that both pads on either front or rear caliper are not wearing down evenly, you may need to replace the brake pads. If one side has worn down more extensive than the other, consult your Cleveland CycleWerks dealer about the brake caliper, and its operational status.
4. If you are unsure how to replace the brake pads, please contact your nearest Cleveland CycleWerks dealer for assistance, or schedule your motorcycle for servicing.

⚠ NOTICE

USE ONLY DOT 4 BRAKE FLUID

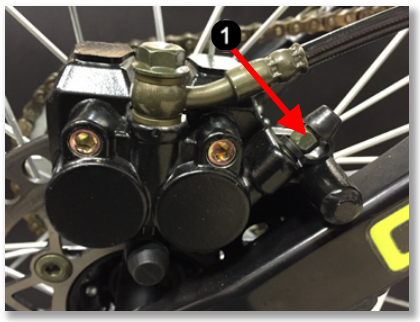
⚠ NOTICE

Be very careful not to spill brake fluid on painted surfaces or it will damage the paint. Brake fluid is also harmful to some rubber parts. Be careful when you remove the master cylinder cap, make sure the motorcycle is in an upright position.



BLEEDING THE BRAKE SYSTEM

Because the brake system utilizes fluid, any air bubbles inside the brake system will cause you to lose braking efficiency. Air generally enters the brake system when the motorcycle sits unused for long periods of time. Air will also enter the system if you have a leaking brake hose, brake caliper or master cylinder. A brake system with air will cause the brake lever and pedal to feel soft and spongy. Use the procedure below to bleed air from both the front and rear brake system.



⚠ NOTICE

USE ONLY DOT 4 BRAKE FLUID.

BRAKE BLEEDING PROCEDURE

1. Clean all dust and dirt from the brake fluid reservoirs and remove the reservoir caps.
2. Pump the brake lever or pedal slowly and firmly 4-6 times and then hold it.
3. Using an 8mm wrench, turn the bleeder valve ❶ located on the brake caliper counter-clockwise. You will see brake fluid, and possibly some air bubbles exit out the bleeder valve.
4. Tighten the bleeder valve clockwise and then release the lever or pedal slowly.
5. Repeat steps 2 – 4 for both calipers, until all air bubbles have stopped flowing from the bleeder valve. The lever/pedal should feel hard and firm when you are complete.

BRAKE PAD CHANGE

Contact your Cleveland CycleWerks dealer and/or service center.

⚠ NOTICE

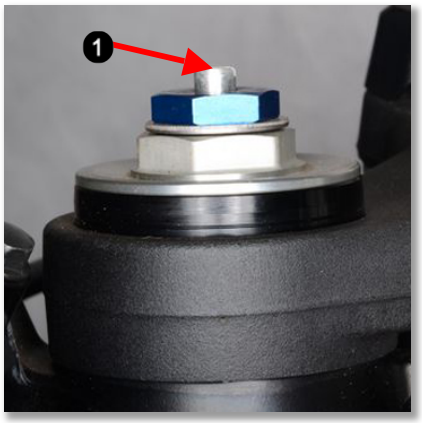
Be very careful not to spill brake fluid on painted surfaces or it will damage the paint. Brake fluid is also harmful to some rubber parts. Be careful when you remove the master cylinder cap, make sure the motorcycle is in an upright position.

FRONT SUSPENSION

Loose, worn or damaged suspension components may affect the stability and handling of your motorcycle.
If any of the suspension components seem to be worn or damaged, see your Cleveland CycleWerks dealer for service and/or inspection. Your Cleveland CycleWerks dealer is qualified to determine whether or not replacement parts or service is required.
Your motorcycle is new. Break it in for several days with the original settings before attempting adjustments.

SUSPENSION INSPECTION (FRONT)

1. Check the fork operation by pulling in the front brake lever and holding it to lock the front wheel.
2. Next, pump down on the handle bars several times. The suspension should feel clean and smooth.
3. Check the lower end of the forks (near the wheel) for oil leaks.
4. Inspect the upper and lower triple clamp bolts for tightness.
5. Be sure all the triple clamp bolts are tight.
6. Examine the metal for any cracks, wear or other damage.
7. Be sure there is no free-play in the steering head.



⚠ NOTICE

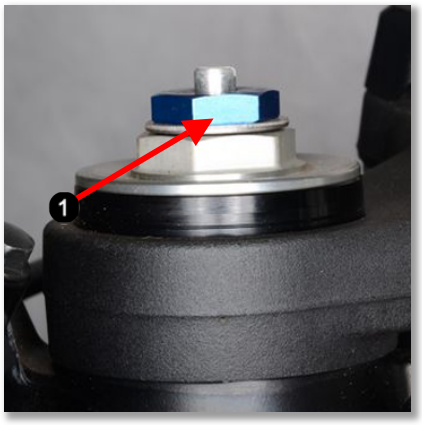
DO NOT TRY TO REPAIR THE FORKS.
IF REPAIR IS NECESSARY, TAKE THE MOTORCYCLE TO AN XMOTOS DEALER.

SUSPENSION ADJUSTMENT DELUXE (FRONT)

Suspension adjustment is only available on the deluxe version.

1. On the top of the fork, you will find a screw head (or a clicker). ❶
2. It will have the writing S – H, meaning Soft & Hard or the marks { + } or { - }. This is the Rebound Adjuster.
3. If you turn the screw ❶ toward the “H” { + }, the downward action of the fork will harden. Alternatively, if you turn the screw toward the “S” { - }, the downward action of the fork will soften.
4. To get a good feel for the difference this can make, try turning both screws all the way to the “H” { + } position, then go for a ride. Don’t try and set any new records thought. Once you have a good feel for the ride, try turning the screws all the way to the “S” { - } position and compare the difference.
5. On the bottom of the forks, you will find the compression adjuster Ⓐ . This determines how quickly the forks return to its extended position after being compressed. Turning the screw clockwise towards (+) “Hard” will slow the compression speed, making it better for larger, rolling terrain or bumps.
6. Turning the screw counter clockwise (-) “Soft” will increase the compression speed making it better for smaller, rougher bumps.

FRONT SUSPENSION



SUSPENSION ADJUSTMENT (FRONT) Cont.

Front Preload adjustment only available on the Deluxe Version, not all countries get pre load adjustment:

To adjust the spring preload, follow steps 1 – 3.

1. Turn the adjuster ❶ counterclockwise until it stops.
2. Turn the adjuster clockwise increase spring preload.
3. Turn the adjuster counterclockwise to decrease preload.
4. Adjusting the spring preload has no influence on the absorption setting of the rebound damping. However, you should set the rebound damping higher with a higher spring preload.
5. Each quarter turn of the adjuster is one click. The adjusting range for the spring preload is from 2mm to 13mm.

REAR SUSPENSION

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

If any of the suspension components seem to be worn or damaged, see your Cleveland CycleWerks dealer for service and/or inspection. Your Cleveland CycleWerks dealer is qualified to determine whether or not replacement parts or service is required.

Your motorcycle is new. Break it in for several days with the original settings before attempting adjustments.

SUSPENSION INSPECTION (REAR)

1. Move the motorcycle by bouncing it up and down to check for smooth suspension actuation.
2. Check the rear spring for damage or fractures.
3. Check the shock absorber for a bent center shaft or any oil leaks.
4. Check nuts and bolts from the shock for tightness.
5. Check the spring adjuster(s) ring for tightness.
6. Check the swing-arm bolts for tightness.
7. Push the rear wheel from side to side feeling for any loose or worn swing-arm bearings. If there is movement, have the motorcycle serviced by your Cleveland CycleWerks dealer.

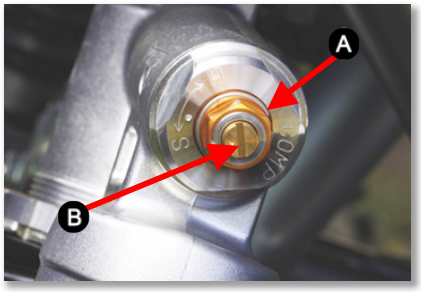
⚠ NOTICE

DO NOT TRY TO REPAIR THE SHOCK. IF REPAIR IS NECESSARY, TAKE THE MOTORCYCLE TO A CLEVELAND CYCLEWERKS DEALER.

REAR SUSPENSION Cont.

The rear suspension of your motorcycle has 4 different adjustment points. It comes from the factory set to the softest setting. If you wish to make the rear suspension harder, follow the procedure below. Adjusting the rear shock is not hard, but like the front forks, changes should be made one at a time to gain an accurate understanding of how they affect the motorcycle.

Once you are familiar with the settings on your suspension, you can quickly and easily adjust them to suit different riding comfort.



SUSPENSION ADJUSTMENT (REAR)

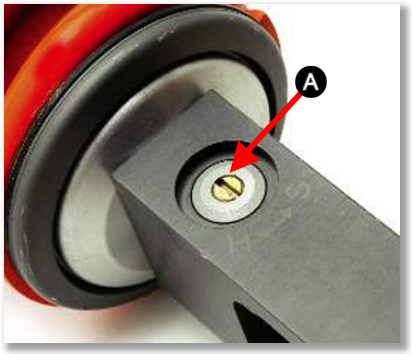
NOTE: Deluxe version only depending on country.

Compression damping controls the energy absorption when the shock absorber is being compressed, thus controls how easy the shock absorber compresses when the rear wheel is being loaded or hits a bump.

Compression Damping Adjuster

A. To adjust the high speed compression, turn the adjuster marked **H** (gold color) Ⓐ clockwise to increase damping or counterclockwise to decrease damping with a 4mm allen key.

B. To adjust the low speed compression, turn the adjuster marked **L** (bronze color) Ⓑ clockwise to increase damping or counterclockwise to decrease damping with a 4mm allen key.



REBOUND DAMPING ADJUSTMENT (REAR)

NOTE: Deluxe version only depending on country.

Rebound damping controls the energy absorption when the shock absorber is being extended and controls how fast the shock absorber returns to its normal position after being compressed.

Rebound Damping Adjuster

A. To adjust the rebound of the rear shock absorber, turn the adjuster wheel Ⓐ on the piston shaft above the end eye bracket to increase damping or counterclockwise to decrease damping.

Resetting the Adjuster

A. Turn the adjuster clockwise to the fully closed position. Then, turn it counterclockwise one click at a time to open. Adjust according to riding condition.

⚠ NOTICE

DO NOT TRY TO REPAIR THE SHOCK. IF REPAIR IS NECESSARY, TAKE THE MOTORCYCLE TO A CLEVELAND CYCLEWERKS DEALER.

REAR SUSPENSION Cont.

SPRING PRELOAD (REAR)

When adjusting the spring preload, 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.

The spring preload is fundamental a function of the suspension, and should be set to the riders weight. If the preload is incorrectly set, other adjustments will not help get the intended performance from the suspension.

1. Use a C-spanner and move the spring platform to the desired position.
2. Turn clockwise to increase the preload.
3. Turn counterclockwise to decrease the preload.
4. Tighten the platform screw.

NOTICE

DO NOT TRY TO REPAIR THE SHOCK. IF REPAIR IS NECESSARY, TAKE THE MOTORCYCLE TO A CLEVELAND CYCLEWERKS DEALER.

RIMS / WHEELS

Inspect the wheels frequently, especially if you wheels take a hard hit, or impact. Elevate each wheel off the ground, one at a time, and spin the wheel slowly. Look for a wobble in the wheel. If a wobble is evident, the wheel is not “true”. See your Cleveland CycleWerks dealer or local motorcycle shop for inspection.

TIRE AIR PRESSURE

Properly inflated tires will provide you with the best combination of handling, tread life, and riding comfort. Underinflated tires will wear unevenly and adversely affect handling. Underinflated tires are also more likely to fail from being overheated and can cause wheel damage. Overinflated tires will cause the motorcycle to ride to feel harsh. Overinflated tires are prone to failure from surface hazards and will wear unevenly.

Make sure the valve stem caps are secure, if needed, install a new cap. Always check air pressure when your tires are cold. If you check the air pressure when the tires are warm, you will get higher readings. If you let air out of warm tires to match the recommended cold tire pressure, the tires will be underinflated. The correct cold tire pressures are listed below. If you replace the tire, inflate the tire to the following tire pressure amount marked below.

TIRE PRESSURE	
Front Tire	32 Psi (220 kPa/2.2 bar)
Rear Tire	32 Psi (220 kPa/2.2 bar)

⚠ WARNING

USING TIRES THAT ARE EXCESSIVELY WORN OR IMPROPERLY INFLATED CAN CAUSE A CRASH IN WHICH YOU CAN BE SERIOUSLY INJURED OR KILLED. FOLLOW ALL INSTRUCTIONS IN THIS OWNER’S MANUAL REGARDING TIRE INFLATION AND MAINTENANCE.

TIRE INSPECTION

A flat tire or tire blowout can be very inconvenient and can cause an accident. Take the time to inspect your tires and wheels before you ride. For more information about handling a flat tire, refer to the section of this manual titled, "Dealing with the Unexpected".

- Inspect the tire carefully for bumps or bulges in the sidewall of the tire and inside of the treads. Replace any tires that have bumps or bulges in them.
- Look closely for cuts, slits or cracks in the tires. Replace any tire if you can see a fabric or cord showing through.
- Check for rocks or other objects embedded in the tires or tread. Remove any foreign objects. Be sure there are no screws or nails in the tires.
- Measure the tread depth of the tires. Replace all tires before the read depth gets below 0.10 in (5mm) or anytime you notice a reduction in your traction.

TIRE REPLACEMENT

If a tire has been punctured or damaged, it should be replaced immediately. You can repair the inner tube by using a patch kit, but we do not recommend this. We also do not recommend tire patch kits, and they do not perform as well as a new tire and can fail. A repaired inner tube / tire may not have the same reliability as a new one and could fail while riding. For more information on a temporary repair, see the section titled "Dealing with the Unexpected".

Always use replacement tires that are the same size as the original. 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. Anytime you have a tree replaced, perform the tire inspection listed at the top of this page. The tires that came on your motorcycle were designed to provide a good combination of handling, braking, durability and comfort across a broad range of riding conditions.

- Use a replacement tire equivalent in size and type to the original tire.
- Replace the valve stem anytime you replace a tire.
- Have the wheel balanced after a new tire has been installed (on road bikes).
- We recommend getting tires replaced by your Cleveland CycleWerks dealer or a qualified local motorcycle shop.

TIRE SIZE	
Front Tire	100/80-12
Rear Tire	120/80-12
Type	Tubeless

⚠ WARNING

INSTALLING IMPROPER TIRE ON YOUR MOTORCYCLE CAN AFFECT HANDLING AND STABILITY. WHICH, IF SEVERE, 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.

BREAKING IN NEW TIRES

New tires need proper break-in (running-in) to assure maximum performance, just as the engine does. Break-in the tread surface by gradually increasing your cornering lean angles over the first 160km (100 miles) before attempting maximum performance. Avoid hard acceleration, hard cornering, and hard braking for the first 160 km (100 miles). New tires have a releasing agent from the mould, reducing traction, this needs to gradually worn off the tire to obtain maximum grip.

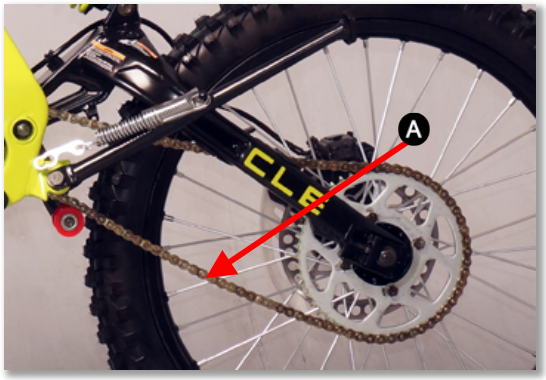
⚠ WARNING

FAILURE TO PERFORM BREAK-IN OF NEW TIRES COULD CAUSE A TIRE SLIDE AND LOSS OF CONTROL. USE EXTRA CARE WHEN RIDING ON NEW TIRES. PERFORM PROPER BREAK-IN OF THE TIRES AS DESCRIBED IN THIS SECTION.

DRIVE CHAIN

The service life of your drive chain will depend on several factors including proper lubrication, adjustment, and riding style. If you are an experienced rider and tend to ride hard, or you ride in muddy/dusty areas, you will need to check the drive chain more frequently. Poor maintenance will cause pre-mature wear and/or damage to the drive chain and sprockets.

Before you service your drive chain, be sure you are parked on a level surface and you turn the engine 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

1. Check the slack in the lower drive chain midway between the sprockets Ⓐ . Push upward on the chain with your finger. The vertical movement should measure between 10 – 15 mm.
2. Repeat step 1 along several points of the drive chain. The slack should remain constant through-out. If it is not, some links may be kinked and binding. Lubricating the chain will often stop this.
3. Inspect the drive chain for the following: damaged rollers, loose pins, dry or rusted links, kinked or binding links and excessive wear. Replace the chain, loose pins, or kinks that cannot be freed. Lubricate the drive chain if it appears dry or shows signs of rust. Lubricate any kinked or binding links and work them free.
4. You should replace the drive chain once the rear axle is moved as far back as possible and slack still remains. This indicates that the chain is worn beyond its service limit.
5. Inspect the front and rear sprockets for excessive wear or damage. Refer to the illustration at the top of page 48. If needed, replace any worn or damaged sprockets. See your Cleveland CycleWerks dealer for assistance.

⚠ NOTICE

ALWAYS USE HIGH QUALITY LUBRICANT FOR THE DRIVE CHAIN.

⚠ NOTICE

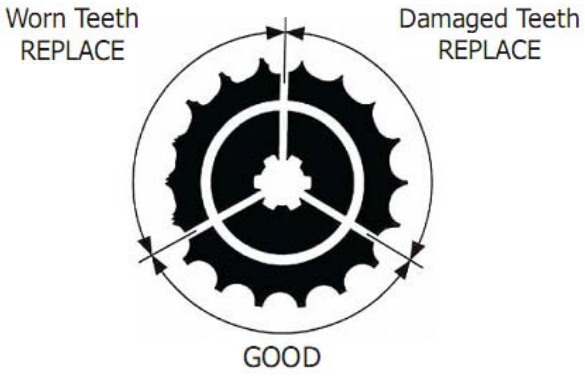
EXCESSIVE DRIVE CHAIN SLACK MAY ALLOW THE DRIVE CHAIN TO DAMAGE THE ENGINE CASES..

DRIVE CHAIN Cont.

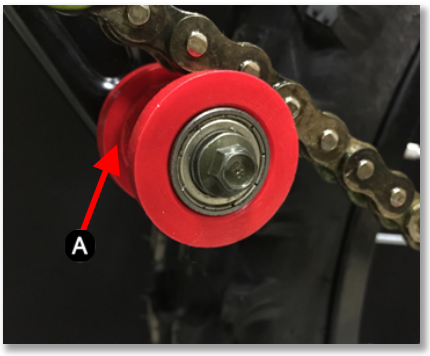
Use the diagram below to determine if the sprockets need to be replaced. Never use a new chain with a damaged or worn sprocket.

NOTICE

THE USE OF A NEW CHAIN ON A WORN SPROCKET WILL CAUSE RAPID CHAIN WEAR.



CHAIN ROLLERS



CHAIN ROLLER INSPECTION

1. Check the roller Ⓐ for wear and damage.
2. If the roller is worn or damaged, it must be replaced before your next ride.
3. If the roller has been worn down beyond past it's useable life, or there are significant grooves in the roller, it is time to replace the roller.
4. If you cannot or do not know how, take the motorcycle to an Cleveland CycleWerks dealer for service.

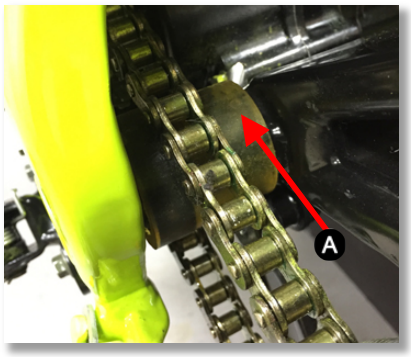
CAUTION

NEVER RIDE YOUR MOTORCYCLE IF THE ROLLERS ARE WORN EXCESSIVELY.

NOTICE

ALWAYS USE HIGH QUALITY LUBRICANT FOR THE DRIVE CHAIN.

CHAIN SLIDERS

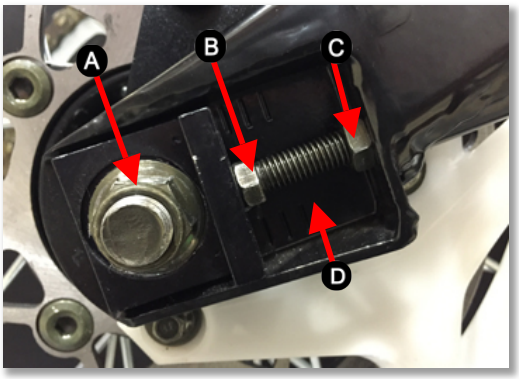


CHAIN SLIDER INSPECTION

1. Check the slider (A) for wear.
2. If the wear limit has been reached, it must be replaced.
3. Wear Limit is 1.5mm.

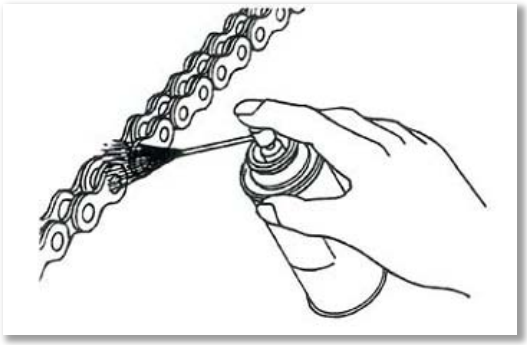
CHAIN ADJUSTMENT

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



CHAIN ADJUSTMENT

1. Loosen the rear axle nut (A)
2. Loosen the lock nut (B) on both right and left side.
3. Turn the adjusting bolts (C) counter-clockwise to decrease slack in the chain, or clockwise to increase slack.
4. Make sure the right and left side are both aligned the same (D) . Measure the wheel adjuster on both sides and tighten the adjuster nut and axle.
5. Tighten the axle nut to 85ft-lbs. (115 Nm)
6. Re-check chain slack and read adjust if necessary.



CHAIN LUBRICATION

Commercially prepared 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.

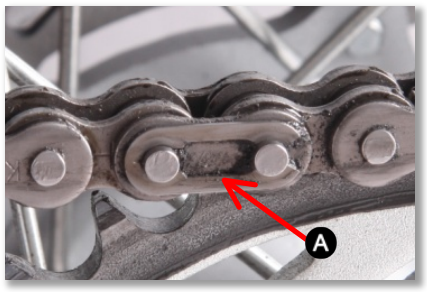
Saturate each joint so that the lubricant penetrates the space between each surface of the link plates and rollers.

NOTICE

THE SLIDERS MUST BE REPLACED IF WORN DOWN TOO FAR.

DRIVE CHAIN Cont.

If you have been riding in extremely muddy or dusty conditions, the drive chain should be removed and cleaned before you apply lubricant. Follow the procedure below to remove and clean or replace the drive chain with a new one.



CHAIN REMOVAL, CLEANING & REPLACEMENT

1. Remove the master link, retaining clip (A) with needle nose pliers. Do not bend or twist the clip. Remove the master link and remove the drive chain.
2. Clean the drive chain with a non-flammable solvent such as kerosene - NOT gasoline – and allow it to dry.
3. Inspect the drive chain for possible wear or damage. Replace the drive chain if it has any damaged rollers, loose fitting links, or otherwise appear unserviceable.
4. Inspect the sprockets for wear or damage. Cleveland CycleWerks recommends that you replace the sprockets when you install a new drive chain.
5. Pass the chain over the sprockets and join the ends of the chain with the master link. For ease of assembly, hold the chain ends against adjacent rear sprocket teeth while inserting the master link. Install the master link, retaining clip so that the closed end of the retaining clip will face the direction of forward wheel rotation.
6. Lubricate the chain.

The master link is the most critical element of drive chain security. Master links are reusable, as long as they are in excellent condition. We recommend installing a new master link when you install a new drive chain. You may find it easier to install a new chain by connecting it to the old chain using a master link and pulling the old chain to position the new chain on the sprockets.

APPEARANCE CARE.

To clean the motorcycle, you can use any of the following: water, mild neutral detergents, mild spray and wipe cleaner, mild spray and rinse cleaner/degreaser. Avoid products that contain harsh detergents or chemical solvents that can damage the metal, paint and plastic on your motorcycle.

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

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.

ENGINE DOES NOT START OR IS HARD TO START

1. ***Examine the Carburetor*** - Be sure there is fuel flowing into the carburetor. **IS THE FUEL TAP ON?**

Is there fuel flowing into the carburetor?

No - Clogged fuel hose/line or clogged fuel filter
- Clogged Fuel Valve
- Clogged fuel tank breather hose, causing vapor lock
- Sticking or stuck carburetor float

Yes - SEE STEP 2

2. ***Examine the Spark Plug*** - Remove the spark plug and inspect.

3. Is the spark plug in good working condition?

No - Flooded engine and/or carburetor
- Choke valve is closed
- Throttle is stuck open
- Dirty or clogged air filter
- Excessively worn piston rings (replace)

Yes - SEE STEP 3

NOTICE

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.

3. ***Spark Test*** - Test for ignition spark by removing the spark plug and inserting it into the spark plug cap. Place the open end of the spark plug on a metal part of the engine and kick start the engine. You should see a nice blue spark on the end of the spark plug. A faint spark will not start the engine.

Is there a good spark?

No - Fouled or faulty spark plug
- Broken or shorted spark plug wire or spark plug cap
- Broken or shorted ignition coil
- Faulty ignition CDI Box
- Faulty or shorted magneto assembly
- Broken or shorted engine stop switch
- Loose or corroded wires and/or connectors (always clean bad electrical connections)

Yes - SEE STEP 4

4. ***Cylinder Compression Test*** - Perform a simple compression test by kick starting the engine slowly. Be sure you have the spark plug installed. While pushing down on the kick start lever slowly, you should feel a very hard firmness that will abruptly soften as the kick start lever moves further down. No hard / firmness in the kick start lever means you have poor compression.

Is compression normal?

No - Valve stuck open/seized or improper valve timing (see your Cleveland CycleWerks dealer)
- Worn cylinder wall and/or piston rings (replace)
- Leaking or damaged cylinder head gasket (see your Cleveland CycleWerks dealer)

Yes - SEE STEP 5

5. ***Engine Start Condition*** - Start the engine by using the normal starting procedure

Does the engine start but then stop quickly afterward?

Yes - Improper choke operation
- Dirty or improperly adjusted carburetor (Contact your Cleveland CycleWerks Dealer)
- Intake manifold / vacuum leak
- Improper ignition timing (see your Cleveland CycleWerks Dealer)
- Dirty or contaminated gasoline

ENGINE LACKS POWER

1. ***Examine the Drive-train*** - Raise the wheel of the ground and spin by hand.

   Does the wheel spin freely?

   No - Brake pads dragging, improperly mounted brake pads, brake caliper not functioning properly
   - Worn or damaged wheel bearings
   - Bent axle

   Yes - SEE STEP 2

2. ***Check the Tire Pressure*** - Use a tire pressure gauge to check the tire pressure of each tire

   Is the tire pressure correct?

   No - Faulty tire valve
   - Punctured tire and/or inner tube

   Yes - SEE STEP 3

3. ***Clutch Inspection*** - Accelerate rapidly through first and second gears.

   Does the engine speed/RPM decrease properly when you shift from first gear to second gear?

   No - Slipping clutch, adjust
   - Worn out clutch discs and/or plates
   - Weak clutch springs
   - Contaminating additive in the engine oil

   Yes - SEE STEP 4

4. ***Engine Performance Inspection*** - Accelerate lightly.

   Does the engine speed increase?

   No - Clogged air filter
   - Restricted or clogged fuel line and/or fuel filter
   - Clogged muffler/spark arrester
   - Choke valve is closed
   - Clogged fuel tank breather hose

   Yes - SEE STEP 5

5. ***Spark Plug inspection*** - Remove the spark plug and inspect

   Is the spark plug in good working condition?

   No - Spark plug is not serviced frequently enough
   - Incorrect spark plug heat range
   - Incorrect spark plug gap

   Yes - SEE STEP 6

6. ***Engine Oil Inspection*** - Check the oil level and the condition of the oil

   Is the engine oil level correct and in clean condition?

   No - Oil level too high
   - Oil level too low
   - Contaminated oil

   Yes - SEE STEP 7

7. ***Cylinder Compression Inspection*** - Check the cylinder compression.

   Is the engine compression normal?

   No - Valve stuck open/seized or improper valve timing (see your Cleveland CycleWerks dealer)
   - Worn cylinder wall and/or piston rings (replace)
   - Leaking or damaged cylinder head gasket (see your Cleveland CycleWerks dealer)

   Yes - SEE STEP 8

ENGINE LACKS POWER Cont.

8. ***Carburetor Inspection*** - Disassemble the carburetor and check for clogs

Was the carburetor clogged and dirty?

No - SEE STEP 9

Yes - Carburetor is not serviced frequently enough
- Contaminated fuel

9. ***Over Heating Inspection*** - Check the engine for overheating

Is the engine overheating?

No - GO TO STEP 10

Yes - Excessive carbon buildup in the combustion chamber
- Use of poor quality fuel
- Clutch slipping
- Lean fuel mixture or improper octane rating of fuel

10. ***Engine Condition Inspection*** - Accelerate rapidly through all gears and ride at high speed.

Does the engine knock?

No - SEE STEP 11

Yes - Worn piston and cylinder (replace engine)
- Wrong type of fuel (octane rating)
- Lean fuel mixture
- Excessive carbon buildup in the combustion chamber

11. ***Ignition Timing Inspection*** - See your local Cleveland CycleWerks dealer or motorcycle repair shop to have the ignition timing and engine lubrication system inspected. Only attempt these procedures if you are qualified and have the proper tools needed.

Is the ignition timing normal? (Timing is non-adjustable)

No - Faulty CDI ignition box
- Faulty ignition pulse generator

Yes - SEE STEP 12

12. ***Lubrication Inspection*** - Remove the valve adjuster hole cap on the cylinder head and inspect for lubrication.

Is the valve train lubricated properly?

No - Clogged oil passage (replace engine)
- Dirty and/or contaminated engine oil

Yes - See your Cleveland CycleWerks dealer to have your motorcycle serviced.

POOR PERFORMANCE AT IDLE & LOW SPEED

1. ***Intake Manifold Inspection*** - Check the intake manifold for leaks

Is there a leak in the manifold?

No - SEE STEP 2

Yes - Loose carburetor mounting bolts
- Damaged insulator/spacer
- Damaged intake manifold gasket
- Cracked or broken intake manifold/pipe

POOR PERFORMANCE AT IDLE & LOW SPEED Cont.

2. ***Spark Test*** - Test for ignition spark by removing the spark plug and inserting it into the spark plug cap. Place the open end of the spark plug on a metal part of the engine and kick start the engine. You should see a nice blue spark on the end of the spark plug. A faint spark will not start the engine.

Is there good spark?

No - Fouled or faulty spark plug
- Broken or shorted spark plug wire or spark plug cap
- Broken or shorted ignition coil
- Faulty ignition CDI Box
- Faulty or shorted magneto assembly
- Broken or shorted engine stop switch
- Loose or corroded wires and/or connectors (always clean bad electrical connections)

Yes - SEE STEP 3

NOTICE

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.

3. ***Carburetor Air Screw Inspection*** – Dealer service only part, see your local Cleveland CycleWerks dealer.

4. ***Ignition Timing Inspection*** - See your local Cleveland CycleWerks dealer or motorcycle repair shop to have the ignition timing inspected. Only attempt these procedures if you are qualified and have the proper tools needed.

Is the ignition timing normal? (Timing is non-adjustable)

No - Faulty CDI ignition box
- Faulty coil (ignition pulse generator)

Yes - See your Cleveland CycleWerks dealer to have your motorcycle serviced

POOR PERFORMANCE AT HIGH SPEED

1. ***Examine the Fuel Line*** - Disconnect the fuel hose at the carburetor.

Is there fuel flowing freely?

No - Clogged fuel hose/line or clogged fuel filter
- Clogged Fuel Valve
- Clogged fuel tank breather hose

Yes - SEE STEP 2

2. ***Carburetor Inspection*** - Disassemble the carburetor and check for clogs (illegal in some countries).

Was the carburetor clogged and dirty?

No - SEE STEP 3

Yes - Carburetor is not serviced frequently enough, contaminated fuel

3. ***Ignition Timing & Valve train Inspection*** - See your local Cleveland CycleWerks dealer or motorcycle repair shop to have the ignition timing inspected. Only attempt these procedures if you are qualified and have the proper tools needed.

Are the ignition timing, valve timing and valve springs normal? (Timing is non-adjustable)

No - Faulty CDI ignition box
- Faulty ignition pulse generator
- Broken valve spring
- Broken or damaged camshaft sprocket

Yes - See your Cleveland CycleWerks dealer to have your motorcycle serviced

POOR HANDLING

Steering is heavy

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

Either wheel has a Wobble (Weebles Wobble)

- Excessive wheel bearing play
- Bent Rim
- Improperly installed wheel hub
- Damaged swing-arm
- Bent frame
- Loose or broken spokes
- Old tires with “dry-rot”

The motorcycle pulls to one side

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

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.

Recommendations for specific problems follow.

IF THE ENGINE QUITS or WILL NOT START

If the engine was not making unusual noises before it quit running, and it feels normal when you operate the kick starter, you can probably rule out a major mechanical problem.

First, check the fuel system:

1. Make sure you have fuel in the gas tank and the fuel valve is set to the “ON” position.
2. Check the fuel tank cap breather hose to be sure it is not pinched or clogged.
3. Turn the fuel valve to the “OFF” position. Disconnect the fuel line from the carburetor and momentarily turn the fuel valve to “ON”. If fuel does not flow out, there is an obstruction in the fuel tank, fuel filter, or in the fuel line.

If the fuel system appears to be okay, check the ignition system.

1. Check the spark plug cap. Be sure that it is not loose or disconnected.
2. Disconnect the spark plug cap and remove the spark plug. Connect the spark plug to the plug cap and place the threaded end of the spark plug on a metal part of the engine.
3. Kick, the kick start lever while you watch the spark plug. If it sparks, the ignition system is probably working. If there is no spark, replace the spark plug with a new one. If there is still no spark, there is a problem with the ignition system.

If you cannot identify or correct a problem, you will have to push your motorcycle back to your final destination or get help as early as possible.

IF YOU HAVE A FLAT TIRE

How you handle a flat tire on the road will depend on the severity of the damage to the tire and/or the inner tube and what tools and supplies you keep with you. If you have a slow leak or a minor puncture, there are two ways you can try to make a temporary repair:

1. Use an aerosol tire sealer to seal the puncture and inflate the tube. You can do this without removing the wheel.
2. Use a tube repair kit to patch the hole in the inner tube. This requires removal of the wheel and tire.

If the leak is more severe, or a temporary repair does not hold up, you will need to replace the inner tube.
If the tire is also severely damaged, you will need to replace the tire as well.

If you cannot repair the flat tire on the road, you will need to push the motorcycle back to your destination or send for help. 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.

IF YOU CRASH

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.

IF A COMPONENT FAILS

The drive chain, master link, control cables, brake controls, and other components can be damaged if you ride in dense brush or over rocky terrain. As mentioned earlier, making the repair will depend on the severity of the damage, tools, supplies, and skills that you have.

1. If the drive chain comes off because the master link clip has been knocked off, you may be able to repair the chain with a new master link. However, if the chain is broken or causes damage when it comes off, you may not be able to make a roadside repair.

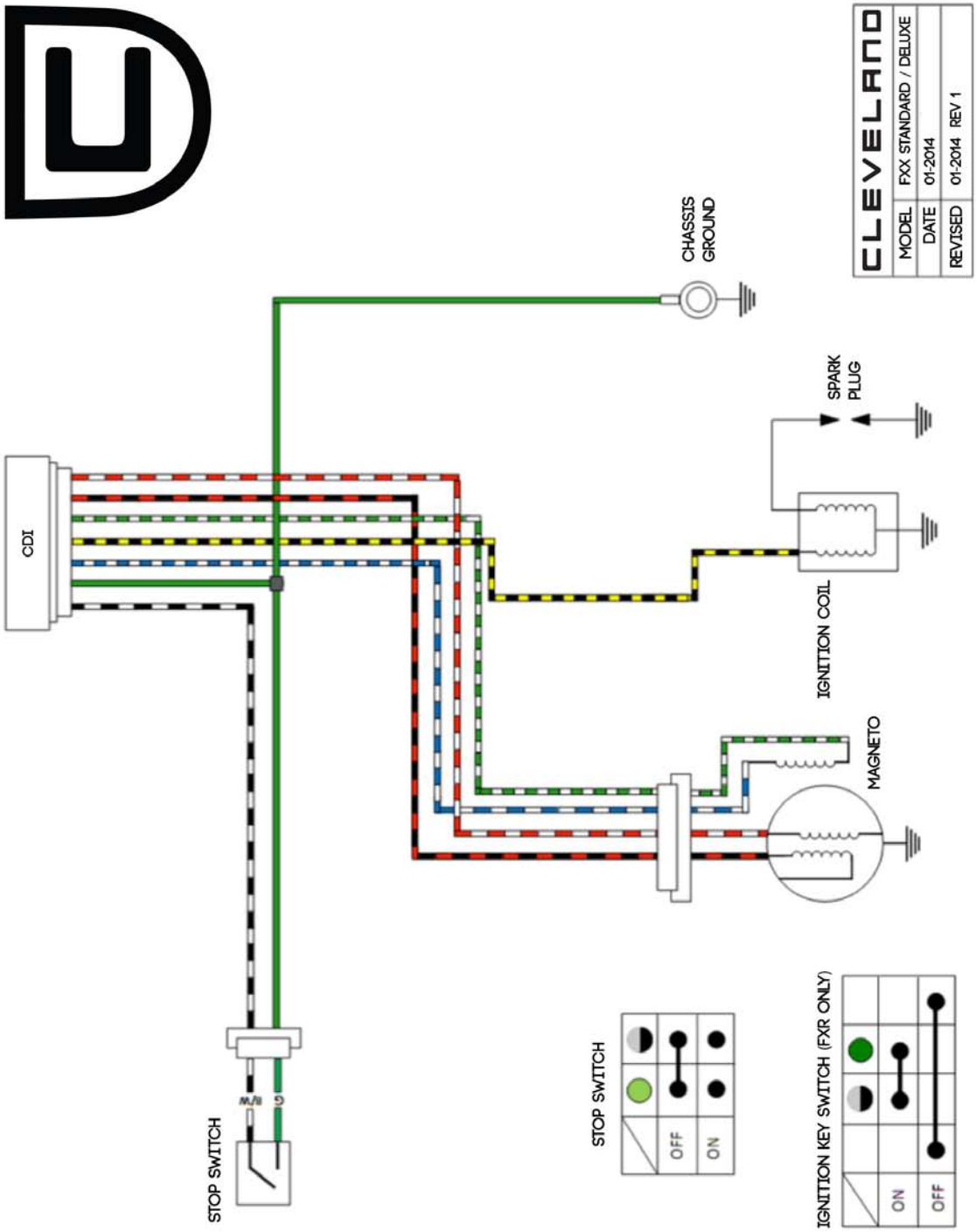
2. If any component of the front braking system is damaged, you may be able to ride back to your base carefully using the rear brake for slowing and stopping. Likewise, if a component of the rear braking system fails, you can use the front brake for slowing and stopping.

3. If you damage the throttle cable or other critical component, the motorcycle may be unsafe to ride. Carefully assess the damage and make any repairs that you can. If you have any doubts, it is best to be conservative and safe.

FXx	Standard	Deluxe
Engine		
Design Type	Single Cylinder, 4-Stroke	Single Cylinder, 4-Stroke
Timing System	SOHC 2-Valve	SOHC 2-Valve
Displacement	106.7 ml	106.7 ml
Bore & Stroke	52.4 mm x 49.5 mm	52.4 mm x 49.5 mm
Compression Ratio	9.7 : 1	9.7 : 1
Power Max.	5.0Kw / 8000 Rpm (7 Hp)	5.0Kw / 8000 Rpm (7 Hp)
Torque Max.	6.9N.m / 6000 Rpm	6.9N.m / 6000 Rpm
Idle Speed	1500 ± 100 Rpm	1500 ± 100 Rpm
Starting Type	Kick Start	Kick Start
Fuel	**87** (AKI **USA**) / **95** (RON/**EU**)	**87** (AKI **USA**) / **95** (RON/**EU**)
Oil	10w40 (Synthetic Recommended)	10w40 (Synthetic Recommended)
Ignition Type	Contactless DC - CDI Ignition	Contactless DC - CDI Ignition
Spark Plug	A7TC	A7TC
Cooling System	Air Cooled	Air Cooled
Carburetor	PZ22 mm	PZ22 mm
Clutch	Wet, Multi-Disc, Manual	Wet, Multi-Disc, Manual
Chain	KMC 420	KMC 420
Transmission	Constant Mesh, 4-Speed, Claw Actuated, Semi-Auto Clutch	Constant Mesh, 4-Speed, Claw Actuated, Semi-Auto Clutch
Primary Drive	4.059	4.059
Gear Ratio		
1st Gear	3.273	3.273
2nd Gear	1.935	1.935
3rd Gear	1.350	1.350
4th Gear	1.043	1.043
Electrical		
Voltage	12V	12V

Dimensions & Weight		
Wheelbase	128 cm (50.39 in)	128 cm (50.39 in)
Overall Length	196 cm (77.16 in)	196 cm (77.16 in)
Overall Width	74.5 cm (29.33 in)	74.5 cm (29.33 in)
Overall Height	115 cm (45.27 in.)	115 cm (45.27 in.)
Seat Height	84.5 cm (33.27 in.)	84.5 cm (33.27 in.)
Min. Ground Clearance	39 cm (15.35 in.)	39 cm (15.35 in.)
Dry Weight	72 Kgs (158.73 lbs.)	72 Kgs (158.73 lbs.)
Max. Load	85 kgs (187.40 lbs.)	85 kgs (187.40 lbs.)
Fuel Tank Capacity	3.4L (0.90 Gal)	3.4L (0.90 Gal)
Performance		
Max. Speed	65 Kph (40.39 Mph)	65 Kph (40.39 Mph)
Fuel consumption	≤ 367 g/kw.h	≤ 367 g/kw.h
Frame		
Type	CCW Cradle Perimeter Frame	CCW Cradle Perimeter Frame
Material	High Strength Steel	High Strength Steel
Sub Frame	High Strength Steel	High Strength Steel
Rear Swing Arm	High Strength Steel	High Strength Steel
Front Suspension		
Type	**T7 Series** (Z) Telescopic Forks, Non-Adjustable.	**T8 Series** (Z) Telescopic Inverted Forks, Non-Adjustable / Adjustable, depending on country
Length	750 mm (29.52 in)	750 mm (29.52 in)
Rear Suspension		
Type	**T7 Series** (S) Coil shock absorber. Non-Adjustable.	**T8 Series** (S) Coil shock absorber. Non-Adjustable / fully adjustable depending on country
Length	290 mm (11.41 in)	290 mm (11.41 in)
Swing arm material	High Strength Steel	High Strength Steel

Brakes		
Front Brake	Single 240mm diameter steel disc	Single 240mm diameter steel disc
Front Brake Caliper	Dual piston caliper	Dual piston caliper
Rear Brake	Single 240mm diameter steel disc	Single 240mm diameter steel disc
Rear Brake Caliper	Dual piston caliper	Dual piston caliper
Wheels		
Front: Material/Size	21" Aluminum Alloy	21" Aluminum Alloy
Rear: Material/Size	21" Aluminum Alloy	21" Aluminum Alloy
Tires		
Front	80/100-21	80/100-21
Rear	80/100-21	80/100-21
Fairings		
Material	Polypropylene Plastic	Polypropylene Plastic


CLEVELAND
MODEL FXX STANDARD / DELUXE
DATE 01-2014
REVISED 01-2014 REV 1
CHASSIS GROUND
SPARK PLUG
CDI
IGNITION COIL
MAGNETO
STOP SWITCH
G B/W
STOP SWITCH
OFF
ON
IGNITION KEY SWITCH (FXR ONLY)
ON
OFF

Odometer or Hour Reading **00,000** **km** **hr.** **Dealer Stamp** **Date** _____ **Signature** _____	**Odometer or Hour Reading** **km** **hr.** **Dealer Stamp** **Date** _____ **Signature** _____	**Odometer or Hour Reading** **km** **hr.** **Dealer Stamp** **Date** _____ **Signature** _____
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NOTICE

THE FIRST OIL CHANGE MUST BE DONE BEFORE THE FIRST INITIAL RIDE.