

GMX

MOTORBIKES
THE ONLY WAY TO RIDE



GMX X-SERIES DIRT BIKE 50cc | 150cc | 250cc

ASSEMBLY MANUAL

Read and understand this entire manual before riding!

DO NOT RETURN TO STORE!

NOTE: Manual illustrations are for demonstration purposes only. Illustrations may not reflect exact appearance of actual product.

WWW.GMXMOTORBIKES.COM.AU

PH: 1300 766 469 | Chrisco Support: www.gmxmotorbikes.com.au/chriscosupport



CONGRATULATIONS ON YOUR GMX PURCHASE!

This assembly guide covers basic step by step instructions to assist you with the assembly process. Products are always subject to further improvement, which will cause some difference between vehicle and this manual, without further notice. We wish you happy riding.

UNPACKING

Please CAREFULLY remove all external box and metal frame packaging

TIP: These parts can be sharp so when unpacking the packaging hand with caution. 

CHECK LOOSE PARTS

On most occasions your bike will come 90% assembled (depending on the model). Please go through all loose parts and check packaging that has been taken out, to ensure no parts get thrown out so you can assemble your GMX Product.

READ MANUAL

Ensure that you read and go over the manual and UNDERSTAND before assembling product.

PLEASE NOTE: Minor assembly is required, but in the interest of safety it is recommended that you have this bike assembled by a skilled bike mechanic.

WARNINGS

PLEASE READ AND UNDERSTAND ALL INSTRUCTIONS AND WARNINGS PRIOR TO ASSEMBLY AND OPERATING OF YOUR VEHICLE.

WARNING: This product is not a toy and is powered by a 4 stroke engine and comes with transport oil in the engine.

**THE OIL NEEDS TO BE DRAINED AND REPLACED WITH MOTORCYCLE OIL 10W/40 or 10W/50 IS REQUIRED
IF THE OIL CHANGE IS NOT PERFORMED YOU MAY INTERNALLY DAMAGE THE ENGINE AND CLUTCH AND VOID YOUR WARRANTY DO
NOT USE MOTOR CAR OIL
DO NOT USE OIL WITH FRICTION MODIFIERS**

OIL WILL NEED TO BE CHANGED EVERY 3 MONTHS IN A HOTTER CLIMATE OR THE NOTHERN HEMISPHERE

- There is an oil drain plug located underneath you quad/dirt bike and is highlighted with an oil drain plug sticker. This is a 14mm bolt.
- DO NOT remove the other bolt located under the engine.
- Place an oil receptacle under the drain hole, undo bolt and let oil drain from the vehicle. Please note: Dispose of oil correctly
- Tighten bolt back up, remove dipstick (oil fill point) and fill the vehicle with suggested correct amount of oil required. Tighten



SWING TAG'S & WARNINGS

Swing tags have been placed on your vehicle for you to identify checks that are located within this manual. Once you have performed the check required remove these swing tags and nylon loops attaching them to the vehicle.

MAKE SURE TO REMOVE THE SWING TAGS AND TAKE SPECIAL NOTICE TO REMOVE THE NYLON LOOP.

The tags and loops that need to be removed from this model.



CHAIN ADJUSTMENT



BRAKE ADJUSTMENT x2



GEAR LEVER



KEY REMOVAL

ONCE SWING TAGS AND NYLON LOOPS ARE REMOVED YOU ARE ACKNOWLEDGING THAT THESE CHECKS HAVE BEEN PERFORMED

There may be a "Spare Parts Package" within the carton so please check all of the packaging and DO NOT THROW OUT

GMX Motorbikes WARRANTY

ALWAYS WEAR AN AUSTRALIAN STANDARD MOTOR CYCLE PROTECTIVE HELMET WHILST USING OFF ROAD VEHICLE

This quad bike requires unleaded petrol; it is a necessity that the fuel being used is clean and not aged fuel. As this can harm parts on the product and void warranty. Your GMX Quad bike is intended for off road use only.

GMX MOTORBIKES WARRANTY

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

The manufacturer warrants this product to be free of manufacturing defects for a period of 12 months from date of purchase. This Limited Warranty does not cover normal wear and tear (exclusions apply) or any damage, failure or loss caused by improper assembly, maintenance, or storage or use of the GMX product. Some parts will have a limited warranty period, please see below. This warranty is a part replacement warranty.

3 Month Parts Replacement Parts

Electrical components, suspension, drive train and brakes/fittings.

30 Days Parts Replacement Parts

Bearings, tires, tubes, cables, clutches, brake pads, seats

Minor assembly is required and in the interest of safety and warranty it is recommended that you have this product assembled by a qualified, skilled small engine mechanic.

You may need to provide proof of being assembled by a skilled mechanic if not a report from a small engine mechanic advising of the issues to process your warranty claims.

The warranty is a parts replacement warranty and labor is not included, defective parts may need to be sent back for inspection.

This Limited Warranty will be void if the product is ever;

- Used in a manner other than for recreation or transportation
- Modified in anyway
- Rented or commercial use.

The manufacturer is not liable for incidental or consequential loss or damage due directly or indirectly to the use of this product.

Always adhere to the maximum load of the product, over loading the product will void the warranty.

How a claim is made

When making a claim, you will need to provide proof of purchase, condition photos of the item. This information is required to be submitted via the support center and communication is made through the support center. When the claim is created, the customer will receive the claim number and the customer support team should reply within 48 hours.

IMPORTANT SAFETY INFORMATION

This section presents some of the most important information and recommendations to help you ride your motorcycle safely.

Please take a few moments to read these pages. This section also includes a special message for parents and location information for the safety labels on your motorcycle. Your motorcycle can provide many years of service and pleasure—if you take responsibility for your own safety and understand the challenges you can meet while riding.

This motorcycle has been designed for younger riders. However, not all younger riders are physically or emotionally ready to ride. Therefore before any parents allow any youngster to ride this motorcycle, we urge them to read the Important Message to Parents beginning and the Parents, Youngsters and Off-Road Motorcycles booklet.

There is much you can do to protect yourself when you ride. You'll find many helpful recommendations throughout this manual. The following are a few that we consider most important.

Ride Off-Road Only. Your motorcycle is designed and manufactured for off-road use only. The tires are not made for pavement, and the motorcycle does not have turn signals and other features required for use on public roads. If you need to cross a paved or public road, get off and walk your motorcycle across.

TAKE TIME TO LEARN AND PRACTICE

Developing off-road riding skills is a gradual, step-by-step process. Start by practicing at low speeds in a safe area and slowly build your skills. Personal instruction from an experienced rider can also be valuable.

ALWAYS WEAR A HELMET

It's a proven fact: helmets significantly reduce the number and severity of head injuries. It is required to wear an Australian Motorcycle Standard Helmet when riding a motor bike. So always wear an approved motorcycle helmet. We also recommend that you wear eye protection, sturdy boots, gloves, and other protective gear.

NEVER CARRY A PASSENGER

Your motorcycle is designed for one person only. There are no handholds, footrests, or seat for a second person—so never carry a passenger. A passenger could interfere with your ability to move around to maintain your balance and control of the motorcycle.

BE ALERT FOR HAZARDS

The terrain can present a variety of challenges when you ride off-road. Continually "read" the terrain, for unexpected turns, drop-offs, rocks, ruts, and other hazards. Always keep your speed low enough to allow time to see and react to hazards.

RIDE WITHIN YOUR LIMITS

Pushing limits is another major cause of motorcycle accidents. Never ride beyond your personal abilities or faster than conditions warrant. Remember that alcohol, drugs, fatigue, and inattention can significantly reduce your ability to make good judgments and ride safely.

IMPORTANT SAFETY INFORMATION

DON'T DRINK AND RIDE

Alcohol and riding don't mix. Even one drink can reduce your ability to respond to changing conditions, and your reaction time gets worse with every additional drink. So don't drink and ride, and don't let your friends drink and ride either.

KEEP YOUR DIRT BIKE IN A SAFE CONDITION

It's important to keep your motorcycle properly maintained and in safe riding condition.

Having a breakdown can be difficult, especially if you are stranded off-road far from your base. To help avoid problems, inspect your motorcycle before every ride and perform all recommended maintenance.

That's why we urge you to read this message before you let any young person ride this motorcycle. Off-road riding can be fun. But, as with riding a bicycle, bad judgment can result in injury, and we don't want that to happen! As a parent, you can help prevent accidents by making good decisions about if, when, and how your youngster rides this motorcycle.

RIDING READINESS

The first decision you'll need to make is whether your youngster is ready to ride. Riding readiness varies widely from one person to another, and age and size are not the only factors. For example, riders must be big enough to hold the motorcycle up, get on, and comfortably sit on the seat with both feet touching the ground.

They should also be able to easily reach and work the brakes, throttle, and all other controls. **ATHLETIC ABILITY** is necessary for riding a motorcycle. Generally speaking, your youngster should be good at riding a bicycle before getting on a motorcycle. Can your youngster judge speeds and distances while riding a bicycle and react with proper hand and foot actions? Anyone who does not have good coordination, balance, and agility is not ready to ride this motorcycle.

To help your youngster build confidence as they're learning to ride, this bike was delivered with a speed restrictor that limits top speed. We recommend that all beginning riders start off with the speed restrictor may be adjusted to gradually increase maximum speed as the beginner becomes more familiar with riding their bike/motorcycle.

INSTRUCTION AND SUPERVISION

If you decide that your youngster is ready to safely operate this motorcycle, make sure both of you carefully read and understand the owner's manual before riding. Also be sure that your youngster has a helmet and other appropriate riding equipment and always wears it when operating the vehicle or sitting it.

SUPERVISION is another important obligation of parents. Even after youngsters have become skilled off-road riders, they should always ride with adult supervision.

It helps to regularly remind young riders of basic safety rules and precautions. And remember, it's your responsibility to see that the motorcycle is properly maintained and kept in safe operating condition

SAFE AND RESPONSIBLE RIDING must be an on-going commitment—by you and your youngster. When you both put safety first, you can enjoy more peace of mind, and your youngster can enjoy more hours of safe off-road riding.

IMPORTANT SAFETY INFORMATION

For your convenience, this DIRT BIKE comes with an ignition switch and key. Remove the key when the motorcycle is parked to help prevent unauthorized use. Your Dirt Bike was designed as a rider-only motorcycle. It was not designed to carry a passenger or cargo. A passenger or cargo could interfere with your ability to move around to maintain your balance and control of the motorcycle.

In addition, exceeding the weight limits or carrying an unbalanced load can seriously affect your motorcycle's handling, braking, and stability. Adding accessories or making modifications that change this motorcycle's design and performance can also make it unsafe. Also, the weight of any accessories will reduce the maximum load the motorcycle can carry.

LOAD LIMITS

Following are the load limits for your motorcycle:

Maximum weight capacity = 50 KG's

Includes the weight of the rider and any accessories.

CHECK ALL LOOSE PARTS - Check and secure all nuts and bolts BEFORE EVERY RIDE. Make sure the handle bars and their clamp are tight to ensure no movement and are locked into place. There should be no unusual shakes or noises associated with loose or broken parts. If you are unsure, get advised by an experienced small engine mechanic or hobby shop technician.

BRAKE CHECK - Check the brakes for correct functioning. When you apply pressure to the hand brake you should have a positive braking action. If not adjust the brake accordingly. When you apply the brake with the accelerator on the brake cut-off switch will stop the motor.

FRAME, FORK AND HANDLEBARS - Check for cracks in the frame or broken connections. A broken frame is very rare but in some cases when aggressive riders run into a gutter can break a frame. Make sure the check is done regularly.

TYRE INFLATION - Check the tyres for excessive wear and always check the pressure and re-inflate if required. If you get a flat tyre you will need to replace the inner tube and are available to purchase from GMX

SAFETY GEAR - Always wear a motorbike Australian standard helmet and protective gear such as elbow pads, knee pads, gloves and enclosed shoes. Never ride barefoot or in thongs.

THROTTLE - Check the free play and adjust if needed. Rotate the throttle to make sure it moves smoothly without sticking, and snaps shut automatically when it is released, in all steering positions.

BRAKES - Squeeze the front brake lever and step on the rear brake pedal to check that the controls operate normally. Adjust free play, if necessary.

IMPORANT SAFETY INFORMATION

FITTED SPEED LIMITER - The pace may seem fast for kids at certain ages although, during normal riding, they will probably not reach the maximum speeds. You can limit the speed for your children by setting the bike's throttle limiter in addition to maintaining it in second gear.

It is recommended that the motorbike's speed limiting device be set so that the motorbike operates at:

- (i) For motorbikes used by a child aged between 6 to 8—no more than 20 kilometres per hour; or
- (ii) For motorbikes used by a child aged between 8 to 11—no more than 30 kilometres per hour; or
- (iii) For motorbikes used by a child aged between 12 to 14—no more than 50 kilometres per hour.

MAINTENANCE

Proper maintenance is necessary to ensure that your motorcycle will continue to have low emission levels. Those items identified by the periodic maintenance chart are necessary to ensure compliance with the applicable standards.

The owner of this motorcycle has the responsibility to maintain their vehicle according to the instructions in this owner's manual.

You should keep a maintenance record for your motorcycle. Pages are provided in the rear of this manual.

TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED

Specific laws may prohibit the following acts or the causing there of: (1) 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 control prior to its sale delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person. Among those acts presumed to constitute tampering are the acts listed below:

- Replacement of the original exhaust system or silencer with a component not in compliance with manufacturer's original specifications.
- Removal of the silencer(s) or any internal portion of the silencer(s).
- Removal of the air filter, air box or air box cover.
- Modifications to the silencer(s) or air intake system by cutting, drilling, or other means of such modifications result in increased noise level.

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GENERAL INFORMATION

Location of parts



1. Clutch lever
2. Fuel tank cap
3. Front brake lever
4. Engine kill switch
5. Handlebar
6. Throttle grip

GENERAL INFORMATION



- 7. Brake hose
- 8. Front fork
- 9. Fuel tap
- 10. Drive chain
- 11. Swing arm
- 12. Front brake disc
- 13. Front brake caliper
- 14. Left tank fin
- 15. Choke lever
- 16. Gear lever
- 17. Engine oil drain plug
- 18. Air filter
- 19. Chain guide



- 20. Silencer
- 21. Seat
- 22. Fuel tank
- 23. Right tank fin
- 24. Rear brake disc
- 25. Rear brake caliper
- 26. Rear shock
- 27. Kick start
- 28. Rear brake pedal
- 29. Engine guard
- 30. Carburetor

GENERAL INFORMATION

Fuel cap

To open the fuel tank cap (A), turn the tank cap counter clockwise.

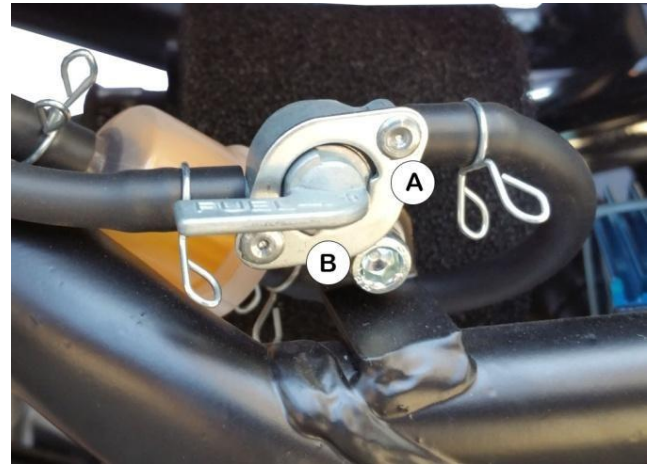
Avoid filling the tank in the rain or where heavy dust is blowing so that the fuel does not get contaminated.



Fuel tap

The fuel tap has two positions: ON (A) and OFF (B). For normal operation turn the fuel tap to the ON position.

Turn the fuel tap lever to the OFF position when the fuel tank is removed for maintenance and adjustments or when the motorcycle is left unused for lengthy periods.



GENERAL INFORMATION

⚠️WARNING

Petroleum is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks; this includes any appliance with a pilot light. After refuelling, make sure the fuel tank cap is closed securely. If petrol is spilled on the fuel tank, wipe it off immediately.

Fuel Requirements:

Fuel type

Use clean, fresh unleaded petrol with a minimum research octane number (RON) 95. The RON is posted on fuel station pumps in Europe, The octane rating of a gasoline is a measure of its resistance to detonation or 'knocking' The antiknock index is an average of the Research Octane Number (RON) and the motor Octane number (MON)

CAUTION

If engine 'knocking' or 'pinging' occurs, use a different brand of petrol of a higher octane rating.

If this Condition is allowed to continue it can lead to severe engine damage.

Petrol quality is important. Fuels of low quality or not meeting standard industry specification may result in unsatisfactory performance. Operating problems that result from the use of poor quality or non recommended fuel may not be covered under your warranty.

CAUTION

Before storage it is recommended that you drain all fuel from the tank and carburetor, See the storage section in this manual.

GENERAL INFORMATION

Engine kill switch

The engine kill switch is located on the left side of the handlebar. This can be used for the normal engine shutdown or emergency engine shutdown. Hold the switch pushed in until the engine stops (type A) or pushed to the in position (type B)



Starting the engine

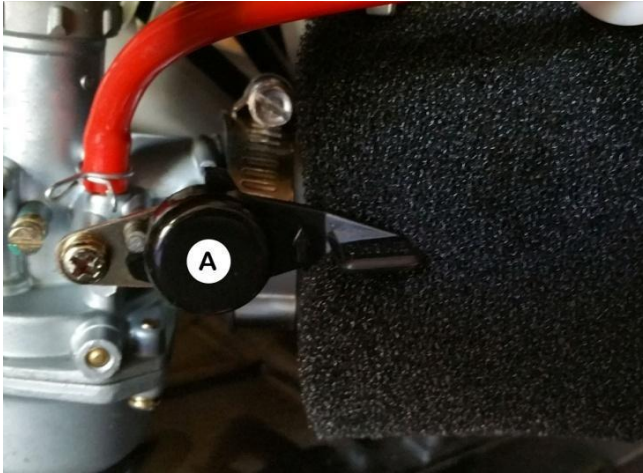
- ❓ Shift the transmission into neutral by pushing the shift pedal down into neutral until the motorcycle rolls freely. (140cc plus will start in gear with the clutch engaged fully).
- ❓ Turn the fuel tap to the ON position.
- ❓ Turn the ignition key to the ON position if your motorcycle is fitted with one.
- ❓ Ensure your kill switch is not pressed in (type B).



GENERAL INFORMATION

Starting the engine

Choke



- ❑ With cold engines, use the carburetor choke lever (A), lift upwards for choke ON.
- ❑ Warm engine before riding.
- ❑ Move choke lever downwards when the engine is warm for choke OFF.

Starting the engine

Electric start models

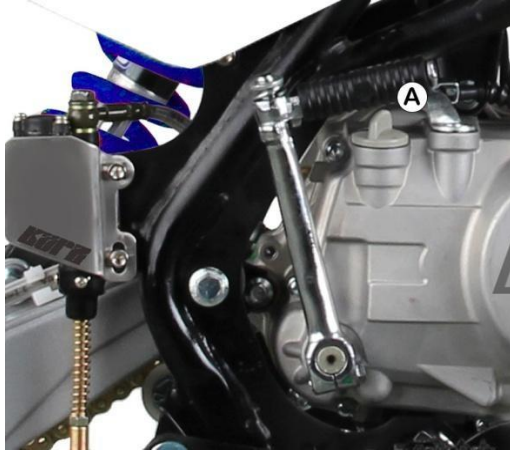


- ❑ Pull in the front brake lever, then press the start button located on the left side of the handlebar.
- ❑ Kick start can be used as a backup if required.

GENERAL INFORMATION

Starting the engine

Kick start



- ⓘ Using your foot, push the kick start (A) downwards with speed.

Note

When the engine is already warm or on a hot day, open the throttle part way instead of using the choke lever.

Moving off

Geared models

- ⓘ Engage clutch fully.
- ⓘ Shift into 1st gear.
- ⓘ Open the throttle slowly.
- ⓘ Release the clutch slowly.

Automatic models

- ⓘ Open the throttle slowly.

GENERAL INFORMATION

Shifting gears

- ❑ Close the throttle completely.
- ❑ Engage the clutch fully.
- ❑ Shift into the next higher or lower gear.
- ❑ Release the clutch fully.
- ❑ Open throttle again.

⚠ WARNING

When shifting down into a lower gear, do not shift at such a high speed that the engine r/min (rpm) jumps excessively. Not only can this cause engine damage, but the rear wheel may skid and cause an accident.

CAUTION

When changing gears, raise or press firmly on the gear lever to ensure proper shifting. Careless, incomplete shifting can cause the transmission to jump out of gear and will lead to engine damage.

Stopping the motorcycle

For maximum deceleration, close the throttle and apply both front and rear brakes. Independent use of the front or rear brake may be advantageous in certain circumstances. Shift down progressively to ensure good engine response at all speeds.

4 Speed

4-
3-
2-
1-
N-

5 Speed

5-
4-
3-
2-
N-
1-

GENERAL INFORMATION

Daily pre-ride checks

Check the following items each day before you ride. The time requirement is minimal, and habitual performance of these checks will help ensure a safe reliable ride.

If any irregularities are found during these checks, refer to the appropriate section and take the action required to return the motorcycle to a safe operating condition.

WARNING

Failure to perform these checks every day before you ride may result in serious damage or a severe accident.

Engine

Engine oil	Check engine oil level correct. No leakage.
Spark plug	Tighten to correct torque.
Carburetor	Adjusted properly – idle speed: 1400 ± 100 r/min (rpm).
Air filter	Clean, properly installed, apply oil to air filter element.
Silencer	Check not damaged.

Frame

Tyres	Check overall condition; wear, cuts and other damage, check tyre air pressure, tighten the air valve cap securely.
Spokes	Check for any loose spokes, if necessary tighten.
Drive chain	Check overall condition, lubricate the drive chain, check drive chain tension is correct and adjust if necessary.
Brakes	Check front and rear brakes function properly. Brake lever play is 4-5mm, if necessary adjust. Check brake pedal travel is 15-25mm, if necessary adjust. Check brake lining wear.
Throttle	Check it functions properly, returns smoothly.
Steering	Check action is smooth but not loose from lock to lock. No binding from control cables.
Fuel tank	Check this is mounted securely, no fuel leakage.
Engine kill switch	Check this functions properly.
Nuts, bolts, fasteners	Tighten any loose bolts and nuts, use thread lock if none is already present.

Break-in period

Break in periods are set out in the service schedule at the rear of this book.

This is the period that is set for any new motorcycle to gently bed all of its new components. If the motorcycle is not used carefully during this period, you may very well end up with a 'broken down' instead of a 'broken-in' motorcycle.

Do not start moving or racing the engine immediately after starting it, even if the engine is already warm. After each start, run the engine for two or three minutes at idle speed to give the oil a chance to work up into all the internal engine parts.

Avoid any quick acceleration or starting by using no more than 2/3 of the throttle, NEVER pull the throttle back fully in this break-in period and ride prudently.

The break in period should be carried out with normal riding and should not be carried out on a crate in a stationary position.

Once the motorcycle has completed its break-in period it should then have its first service checks and maintenance carried out (this includes re-setting the valve clearances and changing the engine oil), the motorcycle will then be ready to be gradually revved a little higher until it eventually reaches full revs, don't rush this process.

Your motorcycle can then have regular operation after this procedure is carried out.

Remember, the better job you do breaking in your engine, the better your engine will run afterwards, it's all down to you!

MAINTENANCE AND ADJUSTMENT

The maintenance and adjustments outlined in this chapter must be carried out in accordance with the periodic maintenance chart to keep the vehicle in good running condition. The initial maintenance is vitally important and must not be neglected.

With a basic knowledge of mechanics and the proper use of tools, you should be able to carry out many of the maintenance items described in this chapter although for warranty purposes we recommend periodic services are carried out by your supplying dealer.

If you lack proper experience or doubt your ability, all adjustments, maintenance, and repair work should be completed by a reputable motorcycle dealer. Please note that we cannot assume any responsibility for damage resulting from incorrect or improper adjustment done by the owner.

Maintenance

Proper maintenance is necessary to ensure that your motorcycle continues to run correctly. This owner's manual contains maintenance operations recommended for your motorcycle. As the owner of this motorcycle, you have the responsibility to make sure that the recommended maintenance is carried out according to the instructions in this owner's manual at your own expense.

You should keep a maintenance record for your vehicle. To assist you in keeping this record, we have provided space at the rear of this manual where an authorised dealer or another reputable motorcycle dealer can record the maintenance. You should also retain copies of maintenance work receipts etc. as verification of this maintenance.

MAINTENANCE AND ADJUSTMENT

The maintenance and adjustments outlined in this chapter are easily carried out and must be done in accordance with the periodic maintenance chart to keep the motorcycle in good condition and in-line with the warranty conditions.

Off-road motorcycles

Off road motorcycles typically cover only a short distance in their life but within this short distance they face much more severe and harsh conditions.

With only short rapid distances being covered, the engines are not cooled as well as their enduro counterparts that typically travel at much higher speeds at a more steady pace.

Off road/track conditions mean that accelerating and braking is increased, thus naturally causing more engine and braking wear.

You can rest assured that our motorcycles are happy to receive such a harsh life but with this comes a strict regular maintenance schedule, this is implemented to ensure your motorcycle continues to serve you well.

Enduro motorcycles

Enduro motorcycles still contain very much a similar specification to the full off-road range but typically receive a steady way of life in comparison to the off-road models, with this being the case our enduro range will not require the periodic services as often.

We advise that you do not go past the recommended service schedule set out in this booklet and should you subject your motorcycle to more severe conditions, at your own discretion we advise to increase service periods accordingly.

MAINTENANCE AND ADJUSTMENT

Periodic maintenance chart - Off-road models

OPERATION		FREQUENCY	Initial	Every		See Page
			2 hours (1 month)	5 hours (3 months)	50 hours (12 months)	
ENGINE	Engine oil & filter – change		•	•	•	22
	Spark plug – clean, adjust gap †			•	•	25
	(D) Valve clearance – check †		•	•	•	26
	Throttle grip play – check †		•	•	•	28
	(D) Fuel tap & filter – clean, replace			•	•	-
	(D) Fuel hose connections – check †				•	-
	Clutch – check, adjust †		•	•	•	-
CHASSIS	Spoke tightness and rim run out – check †		•	•	•	38
	Nuts, bolts, fasteners – check †		•	•	•	39
	Drive sprockets and chain – check †		•	•	•	31
	(D) Front fork – inspect, clean †			•	•	37
	(D) Front fork oil – check †				•	37
	Steering play – check †		•	•	•	36
	Steering stem bearing – grease				•	-
	General lubrication – perform		•	•	•	44
	Side stand – check †		•		•	-
	(D) Wheel bearings – check †			•	•	-
	(D) Swing arm pivots – check †		•	•	•	-
(D) Rear shock absorber – check †			•	•	37	

† : Replace, add, adjust or torque if necessary.

D : Should be serviced by referring to the service manual or an authorised dealer.

MAINTENANCE AND ADJUSTMENT

Periodic maintenance chart - Enduro models

OPERATION		FREQUENCY	Initial	Every		See Page
			2 tanks of fuel (1 month)	10 tanks of fuel (3 months)	100 tanks of fuel (12 months)	
ENGINE	Engine oil & filter – change		•	•	•	22
	Spark plug – clean, adjust gap †			•	•	25
	(D) Valve clearance – check †		•	•	•	26
	Throttle grip play – check †		•	•	•	28
	(D) Fuel tap & filter – clean, replace			•	•	-
	(D) Fuel hose connections – check †				•	-
	Clutch – check, adjust †		•	•	•	-
CHASSIS	Spoke tightness and rim run out – check †		•	•	•	38
	Nuts, bolts, fasteners – check †		•	•	•	39
	Drive sprockets and chain – check †		•	•	•	31
	(D) Front fork – inspect, clean †			•	•	37
	(D) Front fork oil – check †				•	37
	Steering play – check †		•	•	•	36
	Steering stem bearing – grease				•	-
	General lubrication – perform		•	•	•	44
	Side stand – check †		•		•	-
	(D) Wheel bearings – check †			•	•	-
	(D) Swing arm pivots – check †		•	•	•	-
(D) Rear shock absorber – check †			•	•	37	

† : Replace, add, adjust or torque if necessary.

D : Should be serviced by referring to the service manual or an authorised dealer.

MAINTENANCE AND ADJUSTMENT

Engine oil

The major elements of your motorcycle's engine, the transmission and clutch system, require oil to function at optimal levels. You must change the oil and oil filter in accordance with the maintenance schedule or your engine will become damaged. Adherence to the required maintenance schedule will prolong the life of your motor and reduce wear and tear.

Recommended oil: Semi-synthetic motorcycle engine oil.

Viscosity: SAE 10W-40

Type: API SE SF or SG API SH or SJ with JASO MA

⚠️ WARNING

The safe operation of your motorcycle will be impaired if proper engine oil maintenance is not carried out according to the maintenance schedule. Utilising dirty or contaminated oil may result in engine or transmission seizure. This may lead to an accident that could cause serious injury or death.

MAINTENANCE AND ADJUSTMENT

Oil level inspection



- (A) Oil filler cap with dipstick
- (B) Upper oil boundary mark
- (C) Lower oil boundary mark

Oil maintenance procedure:

1. Place the motorcycle on a flat work area.
2. Wipe down the oil filler cap (A) and surrounding engine area.
3. Start the engine and let it idle for a few minutes. Stop the engine. Wait a few minutes until the oil resettles.
4. Unscrew and remove the oil filler cap/dipstick, then thoroughly wipe it down with a rag.
5. Stand the motorcycle into an upright position and ensure it is not leaning to the side.
6. Re-insert the dipstick until it seats, but do not screw it in.
7. Then remove the dipstick and inspect the oil level. If the oil is at or near the upper oil boundary mark (B), do not add oil, but if the oil is below or near the lower oil boundary mark (C), add the recommended oil until it reaches the upper oil boundary mark. Be sure not to put in so much oil that it surpasses the upper oil boundary mark.
8. Re-insert the dipstick and secure tightly.

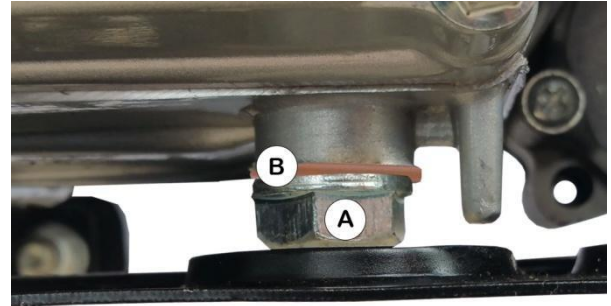


MAINTENANCE AND ADJUSTMENT

Changing engine oil

(A) Oil drain bolt

(B) Sealing washer



Proper engine oil changing procedure:

1. Warm up engine thoroughly, and then let sit for three minutes so engine oil can settle.
2. Place motorcycle on flat work area.
3. Place oil drainage pan beneath the motorcycle.
4. Remove the engine oil drain bolt (A) and allow the oil to drain. Tilt the motorcycle from side to side to ensure complete drainage.
5. Place new seating washer (B) on the oil drain bolt and tighten to the specified torque: 22 Nm.
6. Ensure the motorcycle is upright and not resting on the side stand.
7. Pour in new engine oil while continuously checking levels.
8. To check oil levels, the oil filler cap/dip stick should be inserted fully but not screwed in, then remove and inspect the dipstick levels, top up accordingly.
9. Re-install the oil filler cap/dipstick.
10. Start engine and let run for five minutes, then stop engine and let it sit for three minutes.
11. Re-check oil level and add if necessary.
12. Inspect all affected areas for leakage.

⚠️ WARNING

The safe operation of your motorcycle will be impaired if proper engine oil maintenance is not carried out according to the maintenance schedule. Utilising dirty or contaminated oil may result in engine or transmission seizure. This may lead to an accident that could cause serious injury or death.

MAINTENANCE AND ADJUSTMENT

Spark plug

The spark plug should be taken out in accordance with the periodic maintenance chart for cleaning, inspection, and resetting of the plug gap, measure the gap with a feeler gauge. If incorrect, adjust the gap to the specified value by bending the outer electrode.



A. Gap

B. Outer electrode

If the plug is oily or has carbon built up on it, clean it (preferably with a sand-blaster) and then clean off any abrasive particles. The plug may also be cleaned using a high-flash point solvent and a wire brush or other suitable tool. If the spark plug electrodes are corroded, or damaged, or if the insulator is cracked, replace the plug. The standard spark plug is shown in the table below.

Spark plug removal and installation

- Pull the spark plug cap off the spark plug.
- Apply a suitable wrench to the spark plug.
- Loosen and remove the spark plug.
- When reinstalling the spark plug, torque it to the correct specification.
- Fit the plug cap securely onto the spark plug and pull the cap lightly to make sure that it is properly installed.

SPARK PLUG	SPARK PLUG GAP	TIGHTENING TORQUE
CR7HSA	0.6 – 0.7 mm	13 Nm

MAINTENANCE AND ADJUSTMENT

Valve clearance

Valve and valve seat wear decreases valve clearance, upsetting valve timing.

CAUTION

If valve clearance is left unadjusted, wear will eventually cause the valves to remain partly open; which lowers performances burns the valves and valve seats, and may cause serious engine damage.

Valve clearance for each valve should be checked and adjusted in accordance with table below. Inspection and adjustment should be done only a reputable motorcycle dealers mechanic following the instructions in the service manual.

Tappet clearance gap

IN (top)	EX (bottom)
0.05mm	0.10mm

Valve clearance should be set at the following points;

1 st time	2 nd time	Onwards
New (PDI stage)	Upon 1 st service	See maintenance schedule

MAINTENANCE AND ADJUSTMENT

Air filter

A dirty or clogged air filter causes a plethora of problems including poor air intake, low engine power, increased fuel usage and an increased incidence of fouled spark plugs.



To clean and service the air filter please adhere to the following guidelines:

1. Remove the air filter by unfastening the attaching clamp screw (A)
2. Remove air filter from the carburetor.
3. Thoroughly wash the filter with dish soap. Remove excess liquid and let dry for 24 hours prior to re-installation.
4. Visually examine the air filter. If damaged replace with new air filter.
5. Once dry, apply a thin layer of approved air filter oil. Remove the excess oil.
6. Re-install the air filter by fastening the attaching clamp screw.

⚠️ WARNING

A clogged air filter may enable dirt and other residue to enter the carburetor and negatively affect the throttle.

A malfunctioning throttle may cause injury and even death.

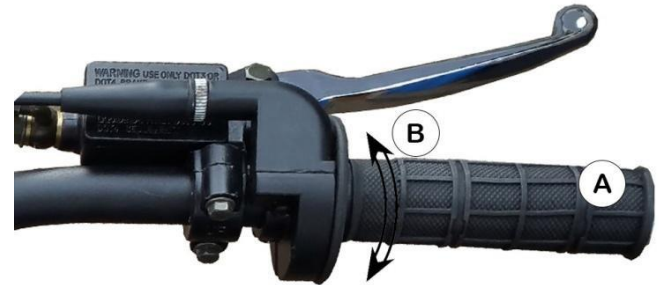
MAINTENANCE AND ADJUSTMENT

Throttle grip

The throttle grip controls the throttle valve inside the carburetor, if the throttle grip has excessive play, this may be due to either cable stretch or maladjustment, this will cause a delay in throttle response, especially at low engine speed. Also, the throttle valve may not open fully at full throttle. On the other hand, if the throttle grip has no play, the throttle will be hard to control, and the idle speed will be erratic. Check the throttle grip play in accordance with the periodic maintenance chart, and adjust the play if necessary.

Inspection

Check that the throttle grip turns smoothly and there is 2 - 3 mm throttle grip play when lightly turning the throttle grip back and forth.



A. Throttle grip

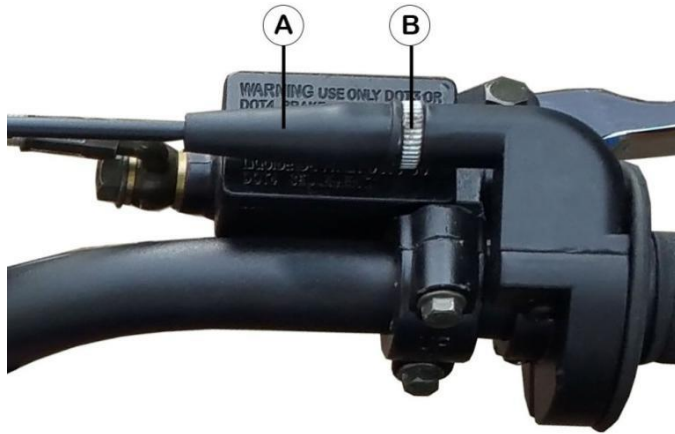
B. 2 – 3 mm

🔧 If there is improper play, adjust it.

Throttle cable adjustment

- 🔧 Pull the rubber boot off the end of the throttle cable.
- 🔧 Loosen the locknut on the upper end of the throttle cable and turn the adjuster to obtain the specified play.

MAINTENANCE AND ADJUSTMENT



A. Dust cover

- Tighten the locknut.
- Reinstall the rubber boot.
- If the free play cannot be set with the adjuster on the upper end of the throttle cable, check to see if the cable has a lower or in line adjustment. Adjust if needed. If this is not possible check that the throttle valve is seated correctly. Otherwise replace the throttle cable.

B . Locknut

- Check if the throttle grip moves smoothly from full open to close, and the throttle closes quickly by the return spring and operates completely in all steering positions. If not, check the throttle cable routing, grip free play, and cable damage. Then lubricate the throttle cable.
- With the engine idling, turn the handlebar both ways and check if handlebar movement changes the idling speed. If so, the throttle cable may be improperly adjusted or incorrectly routed, or damaged. Be sure to correct any of these conditions before riding.

⚠️ WARNING

Operation with an improperly adjusted, Incorrectly routed, or damaged cable could result in an unsafe riding condition.

MAINTENANCE AND ADJUSTMENT

Carburetor

The following procedure covers the idling adjustment which should be performed whenever the idle speed is disturbed.

Idling adjustment

- 1 Start the engine, and warm it up thoroughly.

⚠ WARNING

Never run the motorcycle in a closed area, such as a garage. Exhaust gases contain carbon monoxide; a colourless, odourless, poisonous gas.

⚠ WARNING

To avoid a serious burn, never touch a hot engine or exhaust pipe during idling adjustment.

- Adjust the idling speed to 1400 ± 100 r/min (rpm) by turning the idling adjusting screw.

Idling adjusting screw

- 1 Open and close the throttle a few times to make sure that the idling speed does not change. Readjust if necessary.
- 2 With the engine idling, turn the handlebar to each side.



If handlebar movement changes the idling speed, the throttle cable may be improperly adjusted or incorrectly routed, or it may be damaged. Be sure to correct any of these conditions before riding.

⚠ WARNING

Operation with a damaged throttle cable could result in an unsafe riding condition.

MAINTENANCE AND ADJUSTMENT

Drive chain

The drive chain must be checked, adjusted, and lubricated for safety and to prevent excessive wear. If the chain becomes badly worn or maladjusted - either too loose or too tight the chain could jump off the sprockets and damage your engine casing, chain guard or worse still, your leg. Maintain regular checks.

WARNING

A chain that breaks or jumps off the sprockets could snag on the engine sprocket or lock the rear wheel, severely damaging the motorcycle and causing it to go out of control.

Chain slack inspection

- Set the motorcycle up on its side stand.
- Rotate the rear wheel to find the point where the chain is tightest.
- Push up the chain midway point between the engine sprocket and the rear wheelsprocket.
- Using a rule to measure, move the chain up and down.
- The chain should move up and down approx 25mm (rider weight dependant)

Handlebar

To keep the handlebar properly secured in place, it is necessary to install the handlebar clamps correctly.

- Mount the handlebar clamps so that the arrows on the clamps face the front.
- Ensure the handlebars are installed parallel to the forks.
- Tighten all 4 clamp bolts and torque them to 25Nm.
- Ensure the gap on the clamp is even on all four corners.

MAINTENANCE AND ADJUSTMENT

Brakes

Your motorcycle is equipped with state-of-the-art disc brakes both front and rear. The only procedure that you will need to execute is bleeding and replacing the pads. Proper maintenance (refer to maintenance schedule) will ensure safe conditions for your brakes by following these guidelines:

Brake bleeding (front and rear)

Your disc brakes require 'bleeding' if the brake system has been disassembled, the brake hose has been serviced, the brake fluid is low or the brake operation is performing improperly. Please adhere to the following guidelines:

- (A) Caliper bleed screw
- (B) Brake fluid reservoir
- (C) Brake fluid hose



1. Loosen caliper bleed screw (A) to remove oil. Place small bucket beneath to catch oil.
2. Refasten bleed screw. Fill reservoir (B) with approved brake fluid.
3. Connect clear plastic tube to caliper bleed screw and place other end in a container.
4. Slowly engage brake lever or pedal.
5. Pull in the lever or push down the pedal. Continue to hold the lever or pedal in engaged position.
6. Loosen the caliper bleed screw, then allow the lever or pedal to reach its limit.
7. Finally, tighten the caliper bleed screw with the lever or pedal remaining engaged, then release the lever or pedal.
8. Repeat steps 5-8 as needed until all the air bubbles have been removed from the brake system.

⚠️ WARNING

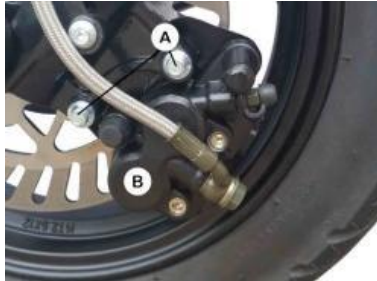
Maintaining proper brake adjustment is crucial to the safe operation of your motorcycle. A dangerous loss of braking performance may occur if the brake system is not properly bled. Improper adjustment may result in brake assembly damage and cause an accident. An accident may cause serious injury or death.

Front brake pad replacement

To change the front disc brake pads on your motorcycle please adhere to the following guidelines:

LEFT SIDE

- (A) Brake caliper-mounting bolts
- (B) Caliper assembly
- (C) Brake pad small
- (D) Brake pad large



1. Remove caliper bolts from front fork (A).
2. Take out large brake pad (D) and then small brake pad (C).
3. Place new small brake pad on piston.
4. Place new larger brake pad on inner side of caliper.
5. Place caliper assembly back into the correct position on fork and tighten caliper bolts whilst using thread lock.

⚠️ WARNING

Maintaining proper brake adjustment is crucial to safe operation of your motorcycle. Improper adjustment may result in brake assembly damage and cause an accident. An accident may cause serious injury or death.

MAINTENANCE AND ADJUSTMENT

Rear brake pad replacement

To change the rear disc brake pads on your motorcycle please adhere to the following guidelines:

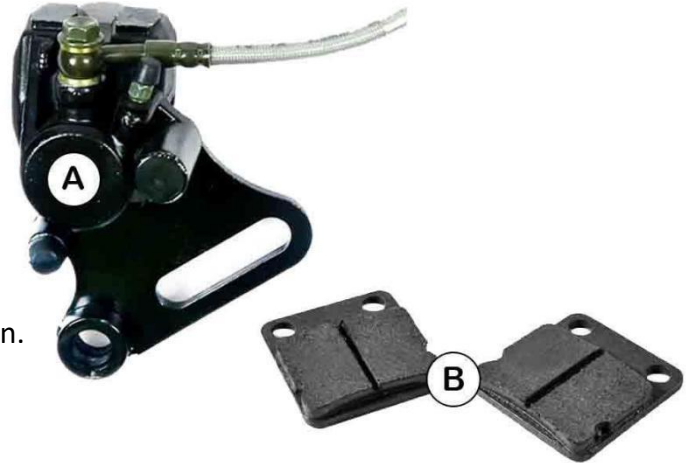
RIGHT SIDE

(A) Caliper assembly

(B) Brake pad set

Rear brake pad replacement procedure:

1. Remove rear wheel.
2. Remove caliper assembly (B).
3. Remove two hex bolt pins from calliper rear.
4. Take out brake pads (B)
5. Place new brake pads in correct position on piston.
6. Refit two hex bolts into caliper.
7. Place caliper assembly back into proper position.
8. Refit rear wheel.



⚠️ WARNING

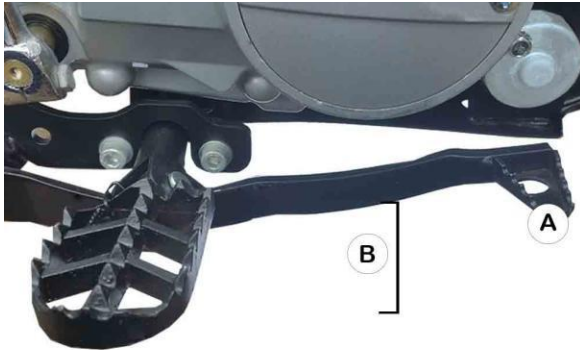
Maintaining proper brake adjustment is crucial to safe operation of your motorcycle. Improper adjustment may result in brake assembly damage and cause an accident. An accident may cause serious injury or death.

MAINTENANCE AND ADJUSTMENT

Rear brake pedal

Rear brake pedal play inspection

The brake play should have 20 - 30 mm when the pedal is pushed down lightly by hand.



A. Rear brake pedal

B. 20 – 30 mm

- 🔍 Rotate the rear wheel to check for brake drag.
- 🔍 Operate the pedal a few times to see that it returns to its rest position immediately upon release.
- 🔍 Check braking effectiveness.
- 🔍 If the pedal has improper play, adjust it.

⚠️ WARNING

Always maintain proper brake adjustment. If the adjustment is incorrect this could cause overheating, brake drag and further damage to the brake assembly.

This could possibly lock the wheel, resulting in loss of control.

MAINTENANCE AND ADJUSTMENT

Steering

The steering should always be kept adjusted so that the handlebar will turn freely but not have excessive play. The steering play must be checked in accordance with the periodic maintenance chart.

Steering inspection

- ❑ To check the steering adjustment, raise the front wheel off the ground using a motorcycle jack (special tool).
- ❑ Push the handlebar lightly to either side. If the handle-bar continues moving under its own momentum, the steering is not too tight.
- ❑ Squatting in front of the motorcycle, grasp the lower ends of the front fork at the axle, and push and rock the front fork back and forth as shown.
- ❑ If play is felt, the steering is too loose and needs to be adjusted.

Steering adjustment

- ❑ Raise the front wheel off the ground using a motorcycle jack (special tool).
- ❑ Remove the front number board or headlight.
- ❑ Remove the handlebar clamp bolts and take out the handlebar.
- ❑ Loosen the steering stem head nut and front fork upper clamp bolts.
- ❑ Turn the steering stem locknut with the steering stem spanner (special tool) to obtain the proper adjustment.
- ❑ Apply the specified torques to the steering stem head nut and upper front fork clamp bolts.

Steering stem head nut	Upper fork camp bolts
45-55 Nm	10-15 Nm

- ❑ Install the handlebar and handle clamps (see handlebar section).
- ❑ Check the steering again, and readjust if necessary.
- ❑ Install the front number board or headlight.

MAINTENANCE AND ADJUSTMENT

Front suspension

The front fork oil change or the front fork inspection should be done in accordance with the periodic maintenance chart. If there is any damage to the front fork, or if the fork maintenance is necessary, it should be done by an authorised dealer.

Rear suspension

The rear shock absorber inspection should be done in accordance with the periodic maintenance chart. If there is any damage to the rear shock absorber, it should be replaced by an authorised dealer.

WARNING

This unit contains high pressure gas. Keep away from fire or flame. Do not disassemble.

Note

The installation and removal of the rear shock absorber should be done by an authorised dealer.

MAINTENANCE AND ADJUSTMENT

Wheels

Tyres

Tyre pressure affects traction, handling, and tyre life. Adjust the tyre pressure to suit riding conditions and rider preference, be sure not to stray too far away from the recommended pressure.

Note

Tyre pressures should be checked when tyres are cold and before you ride.

Spokes and rims

The spokes on both wheels must all be tightened securely and evenly and not be allowed to loosen. Unevenly tightened or loose spokes will cause the rim to warp, hasten nipple and overall spoke fatigue, and may result in spoke breakage.

Rim runout

Set up a dial gauge on the side of the rim, and rotate the wheel to measure its axial runout. The difference between the highest and lowest readings is the amount of runout.

Set up the dial gauge on the inner circumference of the rim and rotate the wheel to measure its radial runout. The difference between the highest and lowest dial readings is the amount of runout.

A certain amount of rim warpage (runout) can be corrected by recentering the rim, that is, loosening some spokes and tightening others to change the position of certain portions of the rim. If the rim is badly bent, however, it should be replaced.

Note

Where the rim is welded, the rim may show excessive runout. Disregard this when measuring runout.

MAINTENANCE AND ADJUSTMENT

Torque of nuts and bolts

Before the first ride of each day of operation, check the tightness of the nuts and bolts shown below.



1. Brake disc bolts
2. Fork mount bolts
3. Handlebar clamp bolts
4. Fin mount bolts
5. Engine mount bolts
6. Chain slider mounting bolts
7. Seat mount bolts

8. Front axle nut
9. Brake caliper bolt
10. Engine head bolts
11. Fuel tank mount bolts
12. Engine guard bolts
13. Engine oil drain plug
14. Footpeg engine mount bolts

15. Chain roller bolt
16. Rear shock mount bolt
17. Chain guide mount bolts
18. Rear sprocket bolts

MAINTENANCE AND ADJUSTMENT



19. Silencer mounting bolt
20. Front brake lever bolt
21. Rear axle bolt

22. Chain adjuster bolts
23. Swing arm shaft bolt
24. Side stand bolt

25. Head stem nut
26. Front mudguard bolts

MAINTENANCE AND ADJUSTMENT

NO.	Description	Unit (N.m)
1	bolts for brake disc	28 - 35
2	Tightening nut for front shock absorber (top triple clamp)	38 - 42
2	Tightening locknut for front shock absorber (lower triple clamp)	20 - 25
3	Handlebar clamp	20 - 25
5	Tightening nut for engine with frame	33 - 35
6	Chain slider mount bolts	10 - 15
8	Nut for front axle	45 - 55
9	Front brake caliper bolts	20 - 25
10	Engine head bolts	10 - 12
13	Oil drain bolt	20 - 25
14	Foot peg engine mount bolt	33 - 35
16	Tightening nut for rear shock absorber	38 - 42
18	Rear sprocket bolts	25 - 30
19	Tightening nut for silencer	25 - 30
20	Front brake reservoir	8 - 12
21	Nut for rear axle	55 - 60
22	Chain adjuster bolts	20 - 25
23	Swing arm shaft nut	50 - 60
24	Side stand nut and bolt	28 - 35
25	Lock nut for steering stem	45 - 55

MAINTENANCE AND ADJUSTMENT

Cleaning your motorcycle

General precautions

Frequent and proper care of your motorcycle will enhance its appearance, optimize overall performance, and extend its useful life. Covering your motorcycle with a high quality, breathable motorcycle cover will help protect its finish from harmful UV rays, pollutants, and reduce the amounts of dust reaching its surfaces.

- ❑ Be sure the engine and exhaust are cool before washing.
- ❑ Avoid applying degreaser to seals, brake pads, and tyres.
- ❑ Always use non-abrasive wax and cleaner/polisher.
- ❑ Avoid all harsh chemicals solvents, detergents, and household cleaning products such as ammonia based window cleaners.
- ❑ Petrol, brake fluid, and coolant will damage the finish of painted and plastic surfaces: wash them off immediately.
- ❑ Avoid wire brushes, steel wool and all other abrasive pads or brushes.
- ❑ Use care when washing- the plastic parts as they can easily be scratched.
- ❑ Avoid using pressure washers; water can penetrate seats and electrical components and damage your motorcycle.
- ❑ Avoid spraying water in delicate areas such as in air intakes, carburetors, brake components, electrical components, silencer openings, and fuel tank openings.

Washing your motorcycle

- ❑ Rinse your bike with cold water from a garden hose to remove any loose dirt.
- ❑ Mix a mild neutral detergent (designed for motorcycles) and water in bucket. Use a soft cloth or sponge to wash your motorcycle. If needed use a mild degreaser to remove any oil or grease build up.
- ❑ After washing, rinse your motorcycle thoroughly with clean water to remove any residue (residue from the detergent can damage parts of your motorcycle).
- ❑ Use a soft cloth to dry your motorcycle. As you dry, inspect your motorcycle for chips and scratches. Do not let the water air dry as this can damage the painted surfaces.
- ❑ Start the engine and let it idle for several minutes. The heat from the engine will help dry moist areas.
- ❑ Carefully ride your motorcycle at a slow speed and apply the brakes several times. This helps dry the brakes and restores them to normal operating performance.
- ❑ Lubricate the drive chain to prevent rusting.

Note

After riding in an area where the roads are gritted or near the ocean, immediately wash your motorcycle with cold water. Do not use warm water as it accelerates the chemical reaction of the grit. After drying, apply a corrosion protection spray on all metal and chrome surfaces to prevent corrosion.

MAINTENANCE AND ADJUSTMENT

Painted surfaces

After washing your motorcycle, be sure to coat painted surfaces, both metal and plastic, with a commercially available motorcycle vehicle wax. Wax should be applied once every three months or as conditions require. Avoid surfaces with "satin" or "flat" finishes. Always use non abrasive products and apply them according to the instructions on the container.

Other plastic parts

After washing use a soft cloth to gently dry plastic parts. When dry, treat the non-painted plastic parts with an approved plastic cleaner/polisher product.

CAUTION

Plastic parts may deteriorate and brake if they come in contact with chemical substances or household cleaning products such as petrol, brake fluid, window cleaners, thread-locking agents, or other harsh chemicals. If a plastic part comes in contact with any harsh chemical substance, wash it off immediately with water and a mild neutral detergent, and then inspect for damage. Avoid using abrasive pads or brushes to clean plastic parts, as these will damage the parts overall finish.

Chrome and aluminium

Chrome and uncoated aluminium parts can be treated with a chrome/aluminium polish. Coated aluminium should be washed with a mild neutral detergent and finished with a spray polish. Aluminium wheels, both painted and unpainted can be cleaned with special non-acid based wheel spray cleaners.

Leather, vinyl and rubber

If your motorcycle has leather accessories, special care must be taken. Use a leather cleaner/treatment to clean and care for leather accessories. Washing leather parts with detergent and water will damage them, shortening their life.

Vinyl parts should be washed with the rest of the motorcycle and then treated with a vinyl treatment.

The sidewalls of tyres and other rubber components should be treated with a rubber protectant to help prolong their useful life.

WARNING

Special care must be taken not to get any rubber protectant on the tyre's tread surface when treating tyres. This may decrease the tyres ability to maintain contact with the road surface causing the rider to lose control.

MAINTENANCE AND ADJUSTMENT

Lubrication

Lubricate the areas shown in the illustrations of this section with either motor oil or regular greaser in accordance with the periodic maintenance chart and whenever the vehicle has been operated under wet or rainy conditions, especially after using a high-pressure spray washer. Before lubricating a part, clean off any rust with rust remover and wipe off any grease, oil, dirt, or grime.

General lubrication points

Apply motor oil to the following pivots:

- ☒ Side Stand
- ☒ Front brake and clutch lever points
- ☒ Rear brake lever points
- ☒ Kick start points

Cable lubrication

Use an aerosol type cable lubrication with a pressure isolator on all cables:

- ☒ Throttle cable
- ☒ Clutch cable

Apply grease to the upper ends of both cables.

Drive chain lubrication

Lubrication is also necessary after riding through rain or on wet tracks, or any time that the chain appears dry.

A heavy oil such as SEA 90 is preferred to a lighter oil because it will stay on the chain longer and provide better lubrication.

Apply the oil to the sides of the rollers so that it will penetrate into the rollers and bushes, wipe off any excess oil.

STORAGE

When the motorcycle is to be stored for a period of time it should be prepared for storage as follows.

- ❑ Clean the entire motorcycle thoroughly.
- ❑ Run the engine for about five minutes to warm the oil, shut it off and drain the engine oil.

⚠WARNING

Engine oil is a toxic substance. Dispose of used oil properly. Contact your local authorities for approved disposal methods or possible recycling.

- ❑ Install the engine oil drain plug and fill with fresh engine oil of the recommended type. Empty the fuel tank and empty the carburetor float bowl. (The fuel will deteriorate if left for a long period of time).

⚠WARNING

Petroleum is extremely flammable and can be explosive under certain conditions. Always stop the engine and do not smoke. Make sure the area is well ventilated and free from any source of flame or sparks, this includes any appliance with a pilot light. Petroleum is a toxic substance. Dispose of petroleum properly. Contact your local authorities for approved disposal methods.

- ❑ Remove the spark plug and spray fogging oil into the cylinder. Kick the engine over slowly a few times to coat the cylinder wall. Install the Spark plug
- ❑ Lubricate the drive chain and all the cables.
- ❑ Spray oil on all unpainted metal surfaces to prevent rusting. Avoid getting oil on rubber parts or in the brakes.
- ❑ Lift the motorcycle on a box or stand so that both wheels are raised off the ground (if this cannot be done, put boards under the front and rear wheels to keep dampness away from the tyre rubber).
- ❑ Place a plastic bag over the silencer and secure with a rubber band to prevent moisture from entering.
- ❑ Cover the motorcycle to keep dust and dirt away from it.
- ❑ It is advisable to connect any batteries to a motorcycle battery trickle charger prior to leaving the bike unused/unattended for any length of time.

To put the motorcycle back into use after storage.

- ❑ Remove the plastic bag from the silencer.
- ❑ Make sure the spark plug is tight.
- ❑ Fill the fuel tank with fuel.
- ❑ Check all the points listed in the daily pre-ride checks section.
- ❑ Perform the general lubrication procedure.

Pre-delivery inspection (PDI)

If your bike has been supplied in a crate. This is NOT the same as buying a bike fully PDI'd (Pre Delivery Inspection) bike from a dealer. It is entirely your responsibility to ensure a reputable qualified motorcycle dealer puts your bike together correctly. Failure to do so will invalidate the 30 day parts only warranty supplied with your bike.

Warranty

In order to qualify for 30 day parts only warranty, upon making your claim you must supply the dealer with proof of purchase & proof of assembly and PDI that has been completed by a reputable qualified motorcycle dealer.

Guide for assembly


This document is supplied only as a guide to a professional and may not be exhaustive. Each machine may require individual attention & therefore ONLY qualified persons should carry out the following:

Tasks	Tick
<ul style="list-style-type: none"> Remove bike & all accessories from crate & inspect to ensure all necessary parts have been supplied correctly. 	<input type="checkbox"/>
<ul style="list-style-type: none"> Mount rear shock (where applicable). 	<input type="checkbox"/>
<ul style="list-style-type: none"> Ensure rear brake hose is inserted into the swing arm mount clips. 	<input type="checkbox"/>
<ul style="list-style-type: none"> Mount front wheel & ensure free rotation – check for potential bearing and/or brake drag. Supermoto wheels: see page 56 for wheel installation guide. 	<input type="checkbox"/>
<ul style="list-style-type: none"> Ensure all frame bolts are tight (use thread lock compound where necessary) – use locking wheel nut (supplied). 	<input type="checkbox"/>
<ul style="list-style-type: none"> Loosen triple clamps around fork legs & set desired fork height. Use copper grease on triple clamp bolts to prevent damage to the alloy threads & then firmly tighten. 	<input type="checkbox"/>
<ul style="list-style-type: none"> Fit handlebars and ensure all bolts and hex bolts are tight. 	<input type="checkbox"/>
<ul style="list-style-type: none"> Pump front brake lever until firm (bleed if necessary). Check front braking system for potential leaks or damage by pulling the brake lever very hard several times. Visually inspect all joints for leaks & remedy where necessary. Spin wheel to ensure caliper is releasing from disc. 	<input type="checkbox"/>
<ul style="list-style-type: none"> Fit rear brake pedal where necessary & repeat procedure described for front brake. 	<input type="checkbox"/>
<ul style="list-style-type: none"> Check fluid levels, top up with DOT4 brake fluid where necessary. 	<input type="checkbox"/>

•	Fit front mudguard using thread locking compound where required.	<input type="checkbox"/>
•	Fit foot pegs if required and ensure free movement and spring back.	<input type="checkbox"/>
•	Loosen rear wheel & adjust chain tension. Find tightest point in chain by spinning rear wheel, there should be 13mm up & 13mm down at the longest section of chain with rider sat on bike. Ensure chain runs true & is on top of the chain roller. Ensure chain does not foul on rear chain guide (use shims/washer to space if necessary).	<input type="checkbox"/>
?	Working from front to rear, ensure all nuts & bolts are set to the recommended torque settings. Pay particular attention to the following critical safety areas: wheel nuts, brake caliper bolts, top & rear engine bolts (frame must be hard tight against the engine), chain tensioners, rear shock bolts, triple clamp bolts, handlebars, brake/clutch/throttle, swing-arm, front & rear sprocket, front & rear light. It is suggested not to use thread lock at this stage. Thread lock should be applied at the first service interval once further all parts have bedded in and nut and bolt adjustments have been made.	<input type="checkbox"/>
•	Check all engine hardware is tight, (including but not exclusive): flywheel, inlet manifold, exhaust bolts.	<input type="checkbox"/>
?	Once the engine has been run up to full operating temperature it is then necessary to allow the engine to cool completely, only then must you set the valve clearances (This is not set from factory).	<input type="checkbox"/>
•	Adjustment of valve/tappet clearance is necessary - Set engine to TDC (ONLY rotate engine anticlockwise) & check cam timing alignment (cam sprocket / cylinder head), remove tappet covers & adjust tappet clearances: inlet 0.05mm - exhaust 0.10mm.	<input type="checkbox"/>
?	Fully ensure nothing is touching the exhaust system. On oil cooled models, ensure the oil cooler pipes do not touch the exhaust manifold & that the heat protection springs are located on the correct part of the pipe in order that should they touch the exhaust the heat will not damage the pipe.	<input type="checkbox"/>
•	Ensure all cables, pipes & wiring are away from moving components such as the wheels, use cable ties where necessary.	<input type="checkbox"/>
•	Adjust tension for both clutch & throttle cables.	<input type="checkbox"/>
•	Ensure wheel spokes are tight & ensure rear wheel runs parallel to the bike.	<input type="checkbox"/>
?	Start engine & warm up (using choke if necessary). Set idle speed so engine ticks over comfortably without stalling or racing.	<input type="checkbox"/>
•	Test machine ensuring all gears are present & correct & that all controls are set correctly & functional.	<input type="checkbox"/>
•	Ensure brakes are working efficiently. Note – new brake pads will need to bed in prior to optimum performance.	<input type="checkbox"/>
•	Drain provided engine transport oil. Replace with high quality with semi synthetic 10w 40 4-stroke motorcycle engine oil (do not use fully synthetic). Check oil level with bike upright and not resting on the side stand.	<input type="checkbox"/>

Pre-delivery inspection (PDI) cont.

Carburetor checks

Tasks	Tick
<ul style="list-style-type: none"> Some models may require you to set the carburetor needle height on second notch up from bottom for UK conditions. Be sure to check this if the engine does not idle/run correctly. 	<input type="checkbox"/>
<ul style="list-style-type: none">  Fuel the bike & check for fuel leaks. 	<input type="checkbox"/>
<ul style="list-style-type: none"> Fuel leaks from carburetor – check all connected pipe are fitted correctly, check fuel drain screw is tightened, check the bowl gasket area and tighten the 4 screws if required. 	<input type="checkbox"/>
<ul style="list-style-type: none"> If fuel leaks from the carburetor overflow – remove the carburetor & adjust the float height. Check for any debris which may be blocking the fuel shut-off valve. 	<input type="checkbox"/>

Owners name & address.....

Owners telephone number.....

Warranty start date.....

Proof of PDI (For warranty purposes to be completed by a reputable motorcycle dealership ONLY)

Motorcycle VIN number : Date : Company : Company address : Company telephone number : Technicians name :	Dealers Stamp :
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First service inspection

Enduro models only - To be completed after 2 full tanks of fuel or one month, whichever comes first.

Off-road models only - To be completed after 2 hours use or 1 month, whichever comes first.

After the specified periods carry out the following checks & procedures:

Tasks	Tick
• Drain oil & replace with semi synthetic 10w 40 4-stroke motorcycle engine oil (do not use fully synthetic).	<input type="checkbox"/>
• Re-adjust valve/tappet clearances (see overleaf).	<input type="checkbox"/>
• Working from front to rear, check all nuts & bolts & tighten where necessary. Apply thread-locking compound where no nyloc nuts or spring washers are present and re-tighten- Check flywheel nut.	<input type="checkbox"/>
• Check wheel spokes (especially rear wheel drive side) & tighten where necessary.	<input type="checkbox"/>
• Re-adjust throttle cable & clutch cable if required.	<input type="checkbox"/>
• Re-tension drive chain.	<input type="checkbox"/>
• Check wheel bearings for any sign of wear of free-play.	<input type="checkbox"/>
• Check brake caliper operation & brake pad wear.	<input type="checkbox"/>
• Check spark plug colour gap 0.6mm-0.7mm, adjust where necessary.	<input type="checkbox"/>
• Check tyre pressures.	<input type="checkbox"/>

Proof of first service (For warranty purposes to be completed by a reputable motorcycle dealership ONLY)

Motorcycle VIN number : Date : Company : Company address : Company telephone number : Technicians name :	Dealers stamp :
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Periodic maintenance record

See periodic maintenance chart for serviceable items

Periodic maintenance service (For warranty purposes to be completed by a reputable motorcycle dealership ONLY)

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Riding tips for a long engine life

- ⓧ Do not over rev your engine as you may cause damage to the valves. This is particularly applicable where an inner rotor kit is used. Under load the engine is capable of revving into major valve bounce that can cause permanent damage to your engine. If you feel the power dropping off or start to hear valve bounce, it is critical that you change up a gear or ease off the throttle.
- ⓧ Do not stamp through the gears - always use the clutch.
- ⓧ If you miss a gear do NOT stamp into gear from high engine revs.
- ⓧ Do not drop your clutch heavily, or slip it unnecessarily.
- Do not allow your air filter to fill with fuel – this can occur by incorrect float height setting, or the bike falling onto its side.
- If the engine back-fires while the air filter is filled with fuel, it may ignite – check air filter regularly while riding.

Troubleshooting guide

This troubleshooting guide is not exhaustive and does not give every possible cause for every problem listed. It is meant simply as a quick guide to assist you in troubleshooting for some of the more common difficulties. If not available within the below guide list, the repair should be done only by a competent mechanic following the instructions in the service manual.

Starting failure or difficulties:

- Switches not set correctly – Place bike in neutral gear, turn on key switch, turn on engine kill button, if cold engine consider using choke lever in up position, electric start models will require a fully charged battery and the front brake lever to be pulled.
- Compression feels low – Spark plug loose, valve clearance requires setting, clutch requires adjustment.
- Spark missing or weak – Spark plug faulty, spark plug cap poorly connected or shorted.
- Fuel does not flow – Not sufficient fuel in tank, fuel hose blocked or kinked, fuel tap blocked.
- Engine flooded – Starting technique incorrect.

Poor low-speed performance:

- Spark weak – Spark plug faulty, spark plug gap excessive.
- Fuel-air mixture incorrect – Idle adjusting screw improperly adjusted, air filter clogged.
- Compression low – Spark plug loose.

Poor or no high-speed performance:

- Air cleaner element clogged.
- Misfiring – Spark plug worn, spark plug cap poorly connected or shorted, fuel-air mixture incorrect.
- Knocking – Poor fuel quality, valve clearance requires setting.
- Other – Brakes dragging, engine overheating, clutch slipping, throttle valve does not fully open, engine oil quantity excessive, engine oil viscosity too high.

Engine overheating:

- ❓ Brakes dragging, clutch slipping.
- ❓ Blocked oil cooler, insufficient oil level, oil filter blocked.

Clutch not operating smoothly:

- Clutch slipping – Friction plates worn, clutch springs weak, clutch cable not routed correctly or faulty.
- Clutch doesn't disengage properly – Engine oil deteriorated, engine oil viscosity too high, clutch cable not routed correctly or faulty.

Poor handling or stability:

- Handlebar hard to turn – Steering stem locknut too tight, tyre air pressure too low, steering stem lubrication insufficient.
- Handlebar vibrates or shakes – Swing arm bent, front fork bent, frame bent, wheel alignment incorrect, pivot shaft warped, right/left front for oil level uneven, warped brake disc.
- Shock absorption too hard – Tyre air pressure too high.
- Shock absorption too soft – Front fork spring faulty, suspension leaks oil.

Brakes don't grip:

- Brake pads or discs worn.
- Brake fluid low or degraded.
- Air in brake system.

VEHICLE MAINTENANCE

VEHICLE MAINTENANCE - BEFORE YOU RIDE CHECKLIST

SAMPLE PRE-OPERATION CHECKLIST

Add to or adapt this checklist to suit your quad bike and place photocopies in a sturdy folder where vehicle keys and operator PPE are stored.

- Maintain completed forms to provide a record of completed inspection and/or training.
- The operator's manual provides information about minimum maintenance activity.
- Additional copies of checklists are available at worksafe.vic.gov.au

Pre-operation checklist:

Check the fuel, oil and coolant every time before use with the engine off.

Visually inspect

Check for damaged or loose parts. Check for fuel or oil leaks.

Wheels and Tyres

Check tyres for damage. Ensure tyre pressure is correct and even in each tyre. Check wheel nuts.

Throttle

Check the throttle operates smoothly across its range. Accumulated mud and dirt can restrict cable movement and prevent the throttle from closing.

Brakes

Check brakes operate properly before reaching full speed.

Air filter

Check it is not choked with dirt. Clean and replace regularly.

Lights and switches

Check lights and switches work.

VEHICLE MAINTENANCE - BEFORE YOU RIDE CHECKLIST

Drive chain and chassis

- Inspect chain for proper adjustment, wear and lubrication. Check drive shaft for oil leakage.
- Look and feel for loose parts with the engine off. Rough terrain will loosen chassis parts.

Steering

- Check the steering moves freely, but without undue looseness.

Other checks required

Maintenance actions required

For safe operation, any defects identified in a check of the quad bike must be fixed before it is put into operation. This may mean you need a suitably qualified repairer.

Done

Checked by:

Date

VEHICLE MAINTENANCE - MONTHLY CHECKLIST

ROUTINE MAINTENANCE CHECKLIST

Brakes

- Check adjustment, pads, cables and fluid levels
- Auxiliary brake
- Foot and hand levers adjusted – as per the operator’s manual
- Check disc wear

Wheels

- Axle bearings and wheel nuts are tight
- Rims not dented or buckled
- Tyres are roadworthy, with adequate tread depth
- Tyre type and pressure as per the operator’s manual
- Use low-pressure tyre gauge. High-pressure gauges are not accurate for quad bike tyres

Chassis and suspension

- Shock absorbers – for leaks and wear
- Suspension operation
- Safety guards – for looseness
- Handlebars, foot decks and major fasteners – use tension wrench

Steering

- Smooth movement from lock to lock
- Linkages – for wear

Throttle operation

- Test while moving handlebars fully to the left and fully to the right

Gear selectors

- Gear levers – for damage and excessive slack
- Splines on gear shaft

Fluid levels

- Fluid levels as recommended in the operator’s manual
- Transmission fluid
- Engine oil
- Battery fluid
- Brake fluid
- Fuel tank filled

Cooling systems

- Fluid levels (if liquid cooled)
- Thermostatic fan
- Leaks and damage

Additional routine maintenance checks required:

VEHICLE MAINTENANCE - MONTHLY CHECKLIST

ROUTINE MAINTENANCE CHECKLIST (CONT.)

4WD system

- Constant velocity joints
- Drive line and shafts
- Check for split boots on drive shafts

Signals

- Lights
- Horn
- Indicators

For quad bikes with chain drive

- Chain adjustment as per the operator's manual
- Sprockets not worn

Lever controls

- Check smoothness of operation
- Check for broken, sharp or bent levers

Additional routine maintenance checks required:

On the back of this sheet list:

1. Maintenance actions required
2. Items that require attention from an authorised repair person

Maintenance check performed by:

Air filter

- Check, clean and regularly replace

Exhaust

- Holes and corrosion
- Excessive noise
- Looseness
- Spark arrestor fitted

Battery

- Battery terminals – for corrosion and tightness
- Electrolyte levels
- Damaged casing

Other

Check for attachment and condition of:

- Load carriers
- Foot decks
- Seat

Date:

Next service at:

VEHICLE MAINTENANCE

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Date:

Next service at:

Notes