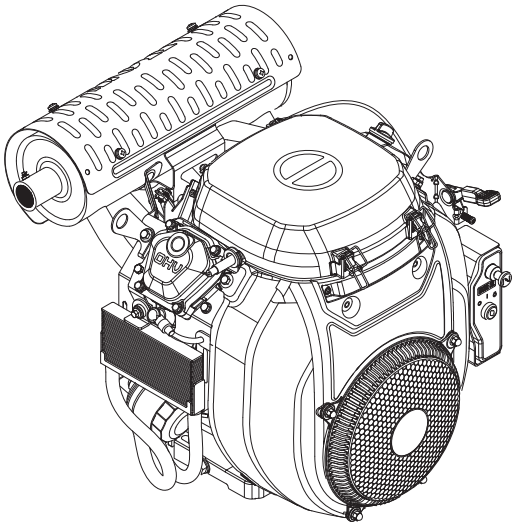
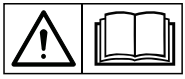


CRX680/CRX750
GASOLINE ENGINE
OPERATOR'S MANUAL

If your engine is not working properly or if there are parts missing or broken, please DO NOT RETURN IT TO THE PLACE OF PURCHASE. Contact our Customer Service Department at 1-833-279-3646 or CRXservice@Fna-Group.com.



Read this manual carefully before operation.
This manual includes important guidance for safety operation.

NOT FOR SALE IN THE STATE OF CALIFORNIA
PAS À VENDRE DANS L'ÉTAT DE CALIFORNIE
NO A LA VENTA EN EL ESTADO DE CALIFORNIA

7122798 Rev C MAR 2024

This Manual contains important safety information and instructions for operating this engine. **PLEASE READ THIS MANUAL CAREFULLY.** Failure to do so could result in property damage and/or personal INJURY/DEATH.

Provide this manual to any operator of this engine. This manual should be considered as a permanent part of your engine and should remain with it when you sell it.

The pictures and figures in the manual shall be only for reference and perhaps there will be difference between pictures & figures and physical products.

All information in this publication is based on the latest product information available at the time of printing. We reserve the right to change, alter and/or improve the product and this document at any time without notice and without incurring any obligation.

Write down the engine's serial number and purchase information. Keep this manual and the receipt for future reference.

Model:

_____

Serial number:

_____

Date of purchase:

_____

Contents

I. Operator safety

1.Safety rules

Pay attention to this safety alert symbol. Obey all safety messages that follow this symbol to avoid possible property damage, INJURY or DEATH.

Each safety message is preceded by a safety alert symbol and one of three words, DANGER, WARNING, or CAUTION.

⚠DANGER

Indicates a hazardous situation which, if not strictly complied with, will result in substantial property damage, serious injury or DEATH.

⚠WARNING

Indicates a hazardous situation which, if not strictly complied with, may result in property damage, serious injury or DEATH.

⚠CAUTION

Indicates a hazardous situation which, if not strictly complied with, could result in property damage or injury.

⚠WARNING

READ THIS MANUAL COMPLETELY BEFORE OPERATING.

DO NOT operate this engine until you have read ALL safety, operation, and maintenance Instructions listed in this manual.
Failure to follow the instructions may result in property damage, INJURY or DEATH.

The warnings and precautions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

⚠WARNING

Do not modify the engine and do not use the engine for a purpose for which it is not intended.

⚠WARNING

Before each use, check for loose or damaged parts, signs of oil or fuel leaks, and any other condition that may affect proper operation. Repair or replace all damaged or defective parts immediately.

Locate all operating controls and safety labels.

Keep all safety guards in place and in proper working order at all times.

DO NOT allow any material to block the cooling slots.

DO NOT allow children or untrained persons to operate the engine.

DO NOT run the engine unattended. Turn off the Engine before leaving the area.

⚠WARNING

FIRE

Operation of this engine may create sparks that can start fires around dry vegetation.

This engine is equipped with a spark arresting muffler. If the engine will be used around flammable materials or on land covered with materials such as agricultural crops, forest, brush, grass or other similar items, then a USDA Forest Service spark arrester must be installed.

In some area, a spark arrester is required by law. Please contact local fire agencies for laws or regulations relating to fire prevention requirements.

⚠WARNING

Read the instructions provided with the equipment that powered by this engine for any additional safety rules that should be observed in conjunction with engine startup, shutdown, operation, or protective apparel that may be needed to operate the equipment.

⚠WARNING

HOT SURFACE

Running engines produce heat. Severe burns can occur on contact.

DO NOT touch hot surfaces while operating or just after stopping the engine. Avoid contact with hot exhaust gases.

Maintain at least three feet of clearance on all sides to ensure adequate cooling.

Combustible material can catch fire on contact. Maintain at least five feet of clearance from combustible materials.

⚠WARNING

Do not tamper with the engine governed speed.

High operating speeds are dangerous and increase the risk of personal injury or damage to the equipment.

Operating at low speeds with heavy load may shorten the engine's life.

⚠DANGER

FIRE OR EXPLOSION

Gasoline is highly flammable and extremely explosive.

Fire or explosion can cause severe burns or death.

Keep flammable items away while handling gasoline.

Fill fuel tank outdoors and in a well-ventilated area with the engine stopped.

Always wipe off spilled fuel and wait until the fuel has dried before starting the engine.

DO NOT operate the engine with known leaks in the fuel system.

Use proper fuel storage and handling procedures. DO NOT store fuel or other flammable materials nearby.

Empty the fuel tank before storing or transporting this engine.

Keep fire extinguisher handy and be prepared if a fire starts.

⚠DANGER

MOVING PARTS

Moving parts can cause severe injury. Keep hands and feet away.

DO NOT operate engine with covers, shrouds, or guards removed.

DO NOT wear loose-fitting clothing, dangling drawstrings or items that could become caught. Tie up long hair and remove jewelry.

NEVER place fingers, hands, or body near the engine when it is running.

⚠DANGER

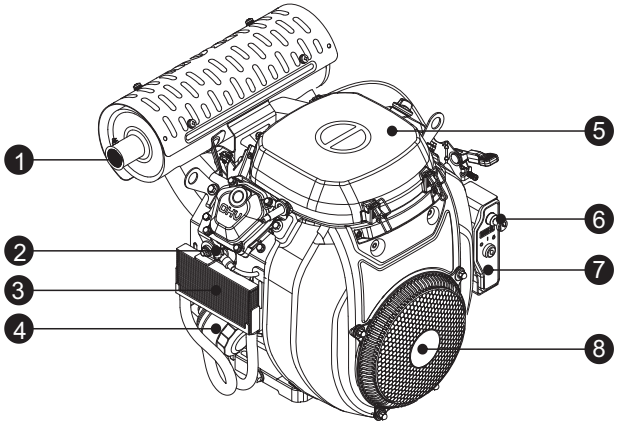
TOXIC FUMES

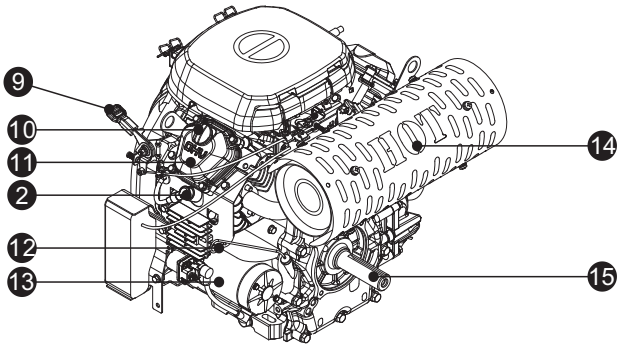
The exhaust of the engine contains carbon monoxide, an odorless, colorless, poison gas. Using engine indoors CAN KILL YOU!

NEVER use inside any building or any kind of enclosure, EVEN IF doors and windows are open.

Place the engine in a well-ventilated area and carefully consider wind and air currents when positioning the engine.

II. Features and Controls





1. Exhaust port / Spark Arrester
2. Spark plug
3. Oil cooler
4. Oil filter
5. Air filter cover
6. Choke control
7. Control box / Key start / Choke control
8. Static screen
9. Throttle lever(If equipped)
10. Oil fill cap
11. Cylinder head cover
12. Dipstick
13. Starting motor
14. Muffler with heat shield
15. Crankshaft

III. Operating

1. Operating checklist

1 Operating Location

Only use OUTSIDE and place the engine in a well-ventilated area and carefully consider wind and air currents.

Place the engine on level surface before any operation.

Allow three feet of clearance on all sides of the engine while operating it outdoors.

⚠DANGER

TOXIC FUMES

The exhaust of the engine contains carbon monoxide, an odorless, colorless, poison gas. Using engine indoors CAN KILL YOU!

NEVER use inside any building or any kind of enclosure, EVEN IF doors and windows are open.

High altitude

This engine may require a high altitude carburetor kit to ensure correct operation at high altitudes. Consult your local dealer for high altitude kit information if you always operate your engine at altitudes above 5,000 feet (1,500 meters).

⚠CAUTION

Even with carburetor modification, engine horsepower will decrease about 3.5% for each 1,000 feet (300 meters) increase in altitude. The effect of altitude on horsepower will be greater than this if no carburetor modification is made.

⚠CAUTION

Operation the engine at altitude below 5,000 feet (1,500 meters) with modified carburetor may cause the engine to overheat and result in serious engine damage.

2 Operating Condition

Check for loose or damaged parts, signs of oil or fuel leaks, and any other condition that may affect proper operation. Repair or replace all damaged or defective parts immediately.

⚠WARNING

Failing to correct problem(s) before operation could result in property damage, serious injury or DEATH.

Remove any excessive dirt or debris, especially around the muffler and static guard.

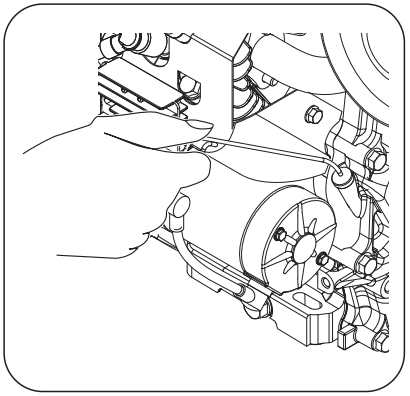
Refer to operating instructions of equipment that this engine powers. Do not operate this engine exceeding maximum angle of operation; see specification table. Engine damage could result from insufficient lubrication.

3 Engine oil

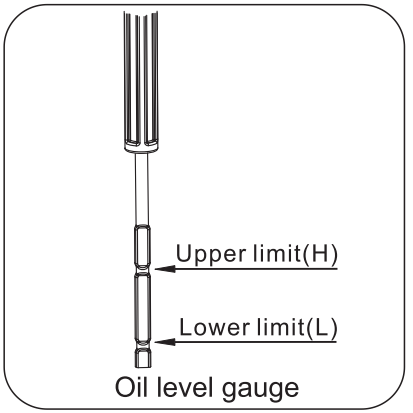
Place the engine on a level surface with engine stopped.

Remove the dipstick and wipe it clean.

Insert the dipstick in the dipstick hole.



Remove the dipstick again and check oil level. Level should be at top of indicator on dipstick.



Oil level gauge

Fill to the upper limit (marked with “H”) of the dipstick with the recommended oil if the oil level is low.

Re-insert the dipstick into the dipstick hole.

Refer to **add oil** instruction in **MAINTENANCE** section for more information.

Oil capacity (rated):
See parameter.

⚠WARNING

This engine is not filled with oil at the factory. Any attempt to crank or start the engine before it has been properly filled with the recommended type and amount of oil may result in engine damage and void your warranty.

⚠WARNING

Oil is a major factor affecting performance and service life. Use SAE 10W-30 API SG or newer automotive detergent oil as recommended in the MAINTENANCE section of this manual.

⚠CAUTION

Only run the engine on a level surface. The engine is equipped with a low oil level sensor. The unit will shut off in the situation where the oil falls below the proper crankcase sump level. To avoid unexpected shutdown, fill the oil to the upper limit and check the oil level before each usage.

4 Engine fuel

With the engine stopped, check the fuel level gauge. Refill the fuel tank (not supplied) if necessary.

⚠CAUTION

Pressure can build up in the fuel tank. Allow the engine to cool for at least two minutes before removing fuel cap. Loosen the fuel cap slowly to relieve any pressure in the tank.

Use clean, fresh, regular unleaded gasoline.

DO NOT mix oil with gasoline.

Be sure not to fill above the upper limit mark. Always allow room for fuel expansion.

NEVER use engine or carburetor cleaner products in the fuel tank or permanent damage may occur.

It is important to prevent gum deposits from forming in essential fuel system parts, such as the carburetor, fuel filter, fuel hose or tank during storage. Also, experience indicates that alcohol–blended fuels (called gasohol, ethanol or methanol) can attract moisture, which leads to separation and formation of acids during storage.

Acidic fuel can damage the fuel system of an engine while in storage. Be sure to review the instructions given in “Storage” chapter.

⚠DANGER

FIRE OR EXPLOSION

Gasoline is highly flammable and extremely explosive.

Fire or explosion can cause severe burns or death.

Keep flammable items away while handling gasoline.

Fill fuel tank outdoors and in a well-ventilated area with the engine stopped.

Always wipe off spilled fuel and wait until the fuel has dried before starting the engine.

DO NOT operate the engine with known leaks in the fuel system.

Use proper fuel storage and handling procedures. DO NOT store fuel or other flammable materials nearby.

Empty the fuel tank before storing or transporting this engine.

Keep fire extinguisher handy and be prepared if a fire starts.

Gasoline/Alcohol Blends: up to 10% alcohol, 90% unleaded gasoline by volume is approved as a fuel. Other gasoline/alcohol blends are not approved. Effects of old, stale or contaminated fuel are not warrantable.

⚠CAUTION

To minimize gum deposits in your fuel system and to insure easy starting, do not use gasoline left over from the previous season.

5 **Equipment check**

Check the equipment powered by this engine. Review the instructions provided by the equipment manufacturer for any precautions and procedures that should be followed before start the engine.

⚠WARNING

This engine is designed and manufactured for specific applications. Do not attempt to modify the equipment or use it for any application for which it was not designed. If you have questions about specific application, ask your local dealer.

2. Starting the engine

1

Perform operating checklist.

2

The starting position of the choke will vary depending on the engine temperature. To start a cold engine, pull the choke fully to the “CLOSED” position. If starting a warm engine, move the choke to the midway position between “OPEN” and “CLOSED”.

Move the throttle to the “FAST” position (if equipped). Turn the fuel valve to “ON” or “OPEN” (if equipped).

3

Turn the key past the “ON” position to the “START” position. After the engine has started release the key allowing it to return the “ON” position.

If the starter does not start the engine, do not continue to crank the engine as damage to the starter may occur.

⚠WARNING

Do not try to continuously crank the engine for more than five seconds at one time. If the engine fails to start, allow the starter to cool one minute before trying to restart the engine. Continuously trying to start the engine will damage the starter.

⚠CAUTION

If the engine fails to start after three attempts, verify that the engine is on a level surface and the oil level is maintained at the proper level. Check to verify the fuel valve is open, (if equipped).

The engine is equipped with a low oil sensor; a low oil level will prevent the engine from starting.

Routinely inspect the oil level before each usage of the engine.

If the engine will not start, allow it to stop rotating before attempting to restart the engine. Should you try to start the engine while the flywheel is still rotating may cause damage to the starter pinion.

4

Once the engine starts, push the choke to the “OPEN” position. If the engine does not run smoothly, pull the choke midway between the “OPEN” and “CLOSED” positions. As the engine warms, slowly push the choke to the fully “OPEN” position.

⚠CAUTION

On cold engines, pull the choke fully to the “CLOSED” position. If starting a warm engine, move the choke to the midway position between “OPEN” and “CLOSED”.

5

Allow engine to warm 1 - 2 minutes before using this product.

Setting the engine speed

1

Use the throttle lever (if equipped) to adjust the engine speed to the requirement of your application.

2

If you have any questions about using this engine for a specific application, please review the product operators manual and/or contact your local authorized dealer for assistance.

3. Stopping the Engine

1

If you need to stop the engine in an emergency, simply turn the key to “OFF”. For a normal shutdown, first move the throttle to “SLOW” (if equipped). Allow the engine speed to slow then turn the key to “OFF”. If your fuel system is equipped with a valve, turn it to “OFF” or “CLOSED”.

2

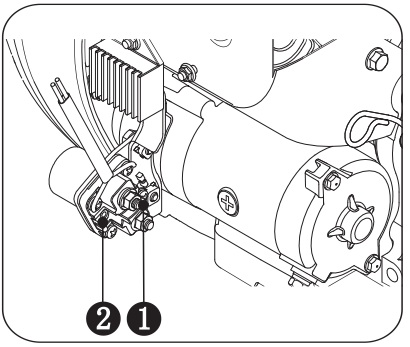
If the engine has any abnormal noise, severe vibrations, hunting, popping or any other abnormal condition while running, turn the key to “OFF” before troubleshooting.

4. Terminal application

The engine starter requires the electrical system to be started or powered by a 12-volt (V) battery with a minimum capacity of 21 ampere-hours (Ah). The positive (+) lead from the battery connects to the positive terminal on the starter relay. Connect the negative (-) lead from the battery to an engine mounting bolt, the conductive frame supporting the engine or any other engine grounding point.

⚠CAUTION

DO NOT connect the negative (-) battery lead to the oil filter mounting base or any part of the fuel system.



1. Positive terminal
2. Relay connector

5. After each use

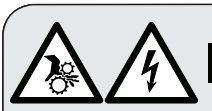
If the engine will not be used for a period of two months or more, drain the fuel system into an approved container. Store the engine in a cool, dry location.

- Disconnect the black, negative (-) battery lead.

- See Section VI, Storage and Transportation.

IV. Maintenance

It is the owner’s/operator's responsibility to complete all scheduled maintenance in a timely manner. Correct any issue before operating the engine. Always follow the inspection and maintenance recommendations and schedules in this manual.



⚠DANGER

Accidental starts can cause severe injury or death. Before servicing, disconnect the negative (-) battery lead and disconnect both spark plug leads.

Before servicing, disconnect the negative (-) battery lead and disconnect both spark plug leads. Allow the engine to cool if hot.

⚠WARNING

Improper maintenance or failure to correct a problem before operation can cause a malfunction and result in property damage, serious injury or DEATH.

Improper maintenance will void your warranty.

1. Maintenance schedule

Follow the service intervals indicated in the chart below. Service your engine more frequently when operating in adverse conditions.

Contact your local service dealer for your engine or engine maintenance needs.

		Each time before use	The first month or 10 hours[Note2]	Every three months or 50 hours[Note2]	Every 6 months or 100 hours[Note2]	Every year or 300 hours[Note2]
Engine oil	Inspection	√				
	Replacement		√		√	
Air filter	Inspection	√				
	Cleaning			√ [Note3]		
Spark plug	Inspection and adjustment				√	
	Replacement					√
Spark arrester[Note1]	Cleaning				√	
Idle speed	Inspection and adjustment					√ [Note4]
Valve clearance	Inspection and adjustment					√ [Note4]
Carbon canister[Note1]	Inspection	Every two years[Note4]				
Low permeability oil tube[Note1]	Inspection	Every two years[Note4]				
Oil tube	Inspection	Every two years[Note4]				

Note 1: Applicable types.

Note 2: Before each season, then follow the prescribed service interval.

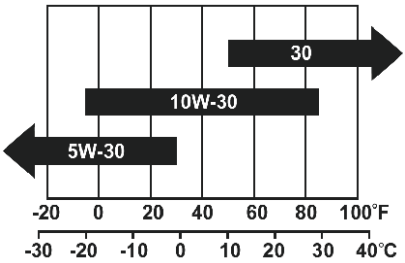
Note 3: Service more frequently when operating the engine under severe, dusty and/or dirty conditions.

Note 4: To be performed by knowledgeable, experienced owners or the authorized dealer.

2. General maintenance

Engine oil

SAE 10W-30 API SG or newer automotive detergent oil is recommended for general, all-temperature use. Other viscosities shown in the chart may be used when the average temperature in your area is within the indicated range.



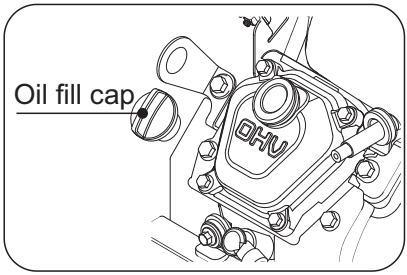
AMBIENT TEMPERATURE

Oil capacity (rated):
See parameter.

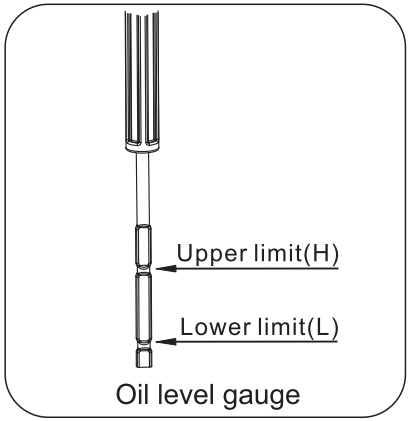
Add oil

1.Place the engine on a level surface.

2. Remove the oil fill cap. Fill using oil of the proper recommended type.



3.Remove the dipstick and check the oil filling volume which should be at the upper limit of the scale (H point).



4.Completely insert the dipstick into the dipstick hole during inspection.

Change oil

⚠CAUTION

Change oil when the engine is warm from operation.

To change the oil, it is recommended to allow the engine to run for a few minutes to warm the oil. This will ensure the used oil will drain the engine completely.

1. Place an appropriate container below the oil drain bolt. Remove the oil filler cap. Next, using a wrench, loosen the drain bolt counterclockwise. Once loose, fully unthread the bolt with your fingers removing it and the bolt gasket.

2. When the oil is completely drained, inspect the drain bolt gasket for damage; replace if required. Hand thread the drain bolt. Using a wrench, tighten until snug.

3. Ensuring the engine is on a level surface, use the recommended grade of oil to fill the engine to the upper limit of the dipstick. Do not overfill.

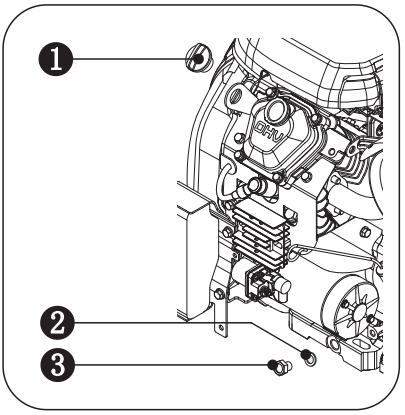
4. Return and tighten the oil fill cap.

⚠WARNING

The engine is not filled with oil at the factory. Any operation before it has been properly filled with the recommended type and amount of oil may result in engine damage and void your warranty.

Promptly clean up any spilled oil on the engine or the surrounding area. Clean your hands with soap and warm water.

Only dispose of the waste oil at a local waste oil recycler.



1. Oil fill cap
2. Drain bolt gasket
3. Drain bolt

Replacing the oil filter

Drain the oil, and then re-tighten the drain bolt.

1. Using an oil filter removal wrench, loosen the filter and remove. Pour the oil contained in the filter into the pan of waste oil.

2. Clean any waste oil or debris from the oil filter port. Using fresh oil, lubricate the seal on the new oil filter.

3. Tighten the filter by hand or as per the filter instructions.

4. Ensuring the engine is on a level surface, use the recommended grade of oil to fill the engine to the upper limit of the dipstick. Do not overfill.

5.Start the engine and check for oil leaks.

6.Stop the engine, and then remove the dipstick and check whether the oil level is within the specified range. If the oil level is too low, it is required to refill the oil to the predetermined scale.

⚠CAUTION

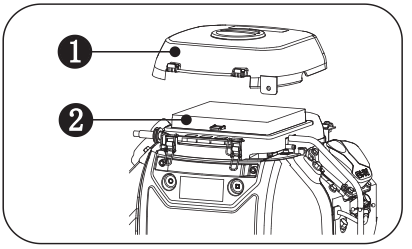
The air filter element and filter container may contain Polycyclic Aromatic Hydrocarbons (PAHs). Some PAHs may cause cancer. To avoid exposure to PAHs, wear gloves when performing air filter maintenance.

Air filter

1. Clean area around the air filter.

2. Unhook retaining clips and remove cover.

3. Remove the paper filter element from the cover.



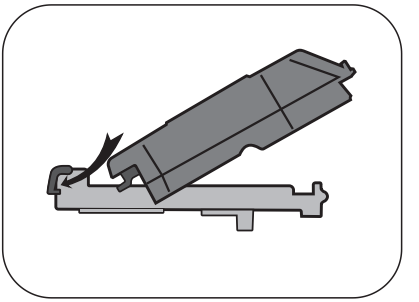
1 Air filter cover
2 Paper filter

4. Check condition of rubber seal and replace if necessary.

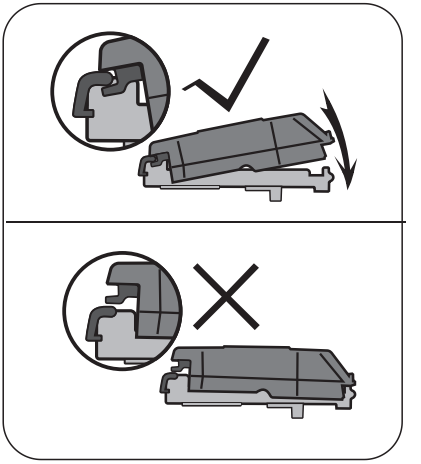
5. Paper filter element: Brush way any debris thoroughly before reinstalling the filter. Replace the element if it is heavily soiled.

6. Install the paper filter element into the cover.

7. Reinstall air filter cover: a. Lean the cover against the base as illustrated below. Push the cover forward until the tabs slip into the mating slots.



b. Press the cover and secure the retaining clips.



⚠CAUTION

The air cleaner is a critical emission related component and should not be altered or modified in any way.

Operating the engine with loose or damaged air cleaner components could cause engine wear and failure, and invalidate your warranty.

Paper element cannot be blown out with compressed air.

⚠WARNING

Do not run the engine when the paper element is not installed; otherwise, this may cause damage to the engine.

⚠DANGER

Never use gasoline or a flammable solvent to clean the filter housing. Use of any flammable agent may cause an explosion.

Spark plug

1.Recommended spark plugs: F6RTC. Always replace the spark plugs in pairs.

2. Use of a non-recommended spark plug style may cause damage to the engine.

3.Remove the dirt from the spark plug cap and bottom.

4.Remove the spark plug cap.

5. Use a spark plug wrench or socket of the proper size to loosen the spark plugs for removal or reinstall.

6. Inspect the spark plug and the spark plug washer. Replace the plug if it or the washer are damaged.

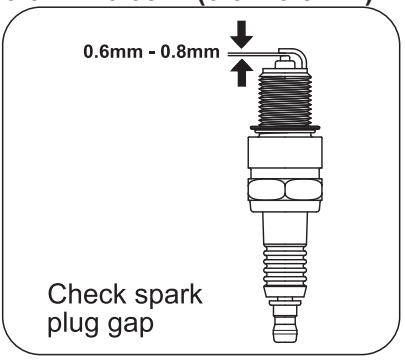
⚠CAUTION

Always replace both spark plugs at the same time.

7.Check spark plug gap. Carefully bend side electrode to adjust the gap if necessary.

Spark plug gap:

0.024 – 0.031” (0.6 – 0.8mm)



Check spark plug gap

8.Carefully thread the plug into the engine **by hand.**

9.After the spark plug is seated, use spark plug wrench to tighten the plug.

Spark Plug tighten Torque: 15-18 ft. lb. (20 – 25 N.m)

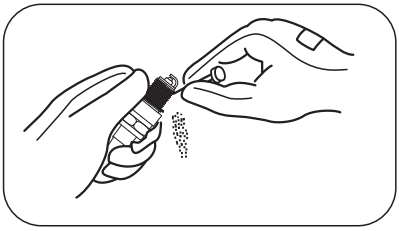
10.Attach the spark plug wire to the plug.

⚠WARNING

Only use recommended spark plug or equivalent. DO NOT use spark plugs that have improper heat range.

The spark plugs must be tightened to the proper torque. Loose spark plug(s) will cause compression leaks leading to hard starting and decreased engine power.

To ensure proper operation of the engine, the spark plug gap must be maintained and be free of deposits. Clean the spark plug according to the steps shown below.



a) Remove the spark plug

b) Slight amount of buildup on the electrodes can be cleaned with a wire brush. Replace the plug if heavily soiled. Spark plug(s) that look wet, oily or have extreme electrode wear indicate the engine needs to be serviced by a trained small engine technician.

Spark Arrester
（Applicable types)

1.Allow the engine to cool completely before servicing the spark arrester.

2.Remove the two screws holding the cover plate which retains the end of the spark arrester to the muffler.

3.Remove the spark arrester screen.

4.Carefully remove the carbon deposits from the spark arrester screen with a wire brush.

V. Trouble analysis and trouble-shooting

Phenomenon	Problems	Solutions
Engine will not start	Engine switch is off.	Turn engine switch to the **ON** position.
	There is no fuel	Fill tank per instructions in this manual.
	Inadequate engine oil.	Check oil level. This engine is equipped with a low oil sensor. The engine cannot be started unless the oil level is above the prescribed lower limit.
	There is no ignition	Using an external spark tester, assure that both cylinders have proper spark. If the spark is weak or missing from one or both cylinders, contact your local authorized service dealer.
	Choke is open	Close choke then repeat the starting process.

If your engine is not working properly or if there are parts missing or broken,please DO NOT RETURN IT TO THE PLACE OF PURCHASE. Contact our Customer Service Department at 1-833-279-3646 or CRXservice@Fna-Group.com.

VI. Storage and transportation

Storage

DO NOT mix oil with gasoline. The engine should be started at least once every 2 weeks and allowed to run for at least 20 minutes. Follow the instructions below for longer term storage if the engine were out of service for 2 months or more.

⚠DANGER

Fire or explosion

Gasoline is highly flammable and extremely explosive. Empty the fuel tank and shut off fuel valve before storing or transporting this engine.

1. Allow a hot engine to cool.

2. Change the oil while the engine is warm.

3.Drain all fuel completely from the fuel tank, fuel hose and carburetor.

4. Remove both spark plugs and pour 1oz. of engine oil into the cylinders. Reinstall the spark plugs but do not connect the spark leads. Turn the engine over for one second by rotating the key to “START”. Connect the spark leads.

5. Disconnect the negative (-) battery lead. Wipe the engine of any dirt and debris.

6.Store the unit in a clean, dry area out of direct sunlight.

Transportation

To prevent fuel spillage when transporting or during temporary storage, the engine should be secured upright in its normal operating position, with the engine switch OFF.
Turn the fuel valve to “OFF” or “Closed” (if equipped).

⚠WARNING

When transporting:
Do not over fill the tank.
Avoid a place exposed to direct sunlight when putting the engine on a vehicle. If the engine is left in an enclosed vehicle for many hours, high temperature inside the vehicle could cause fuel to vaporize resulting in a possible explosion.

Do not drive on a rough road for an extended period with the engine on board. If you must transport the engine on a rough road, drain the fuel from the engine beforehand.

⚠CAUTION

Take care not to drop or strike the engine when transporting. Do not place heavy objects on the engine.

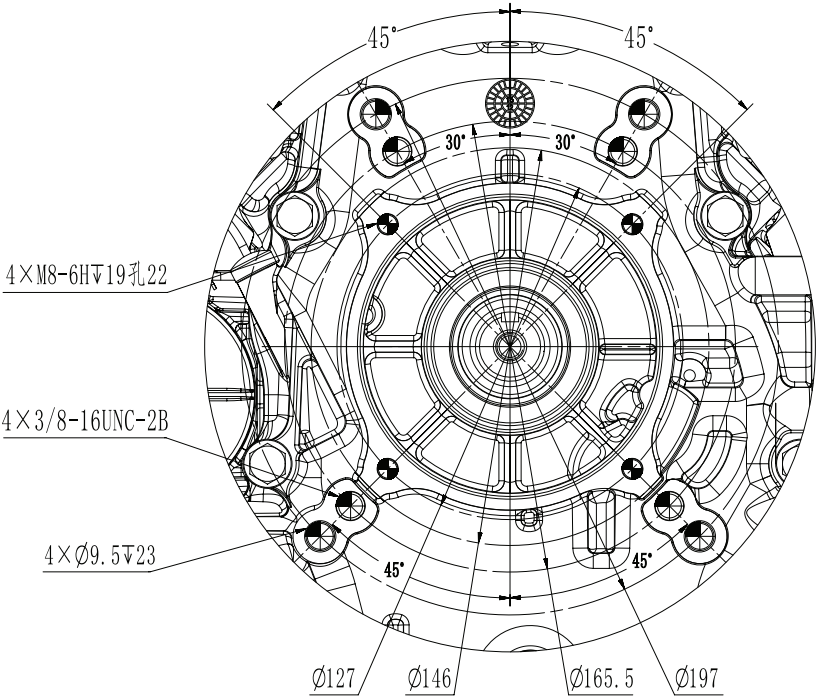
VII. Specification

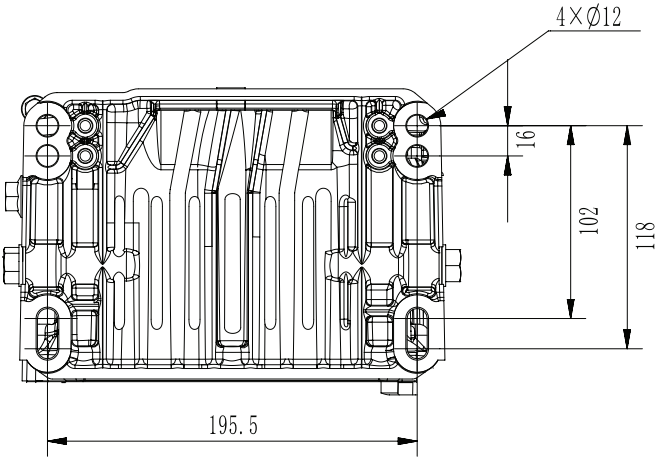
1. Specification Parameter Table

Category	Item		CRX680	CRX750
Main structure parameters	Type		Overhead valve	
	Number of cylinders		2	2
	Piston diameter (mm)		78	82
	Piston stroke(mm)		71	71
	Total displacement(cm^3)		679	750
	Compression ratio		8.5:1	8.8:1
	Rated power (kW) net		CI 14.5/3600 per SAE J1349 Net Power	CI 16.0/3600 per SAE J1349 Net Power
	Direction of rotation		Counterclockwise (While viewing the PTO)	
	Ignition advance angle(°)		25°±2°	
	Valve clearance	Intake valve clearance	0.004 – 0.006” (0.10 – 0.15mm)	
		Exhaust valve clearance	0.006 – 0.008” (0.15 – 0.20mm)	
	Spark plug gap		0.024 – 0.031” (0.6 – 0.8mm)	
Fuel and oil	Oil		SAE 10W-30 API SG or newer	
	Fuel		Regular gas	
	Fuel capacity(L)		/	
	Oil capacity(L)		1.5	
Dimension and mass	Dimension (Length×Width×Height)		19.64 x 21.14 x 18.23” (499 x 537 x 463mm)	
	Net mass		110.2lbs (50.0kg)	

Note: Engine data may be updated at any time without notice or obligation. Please contact your local authorized dealer for engine information.

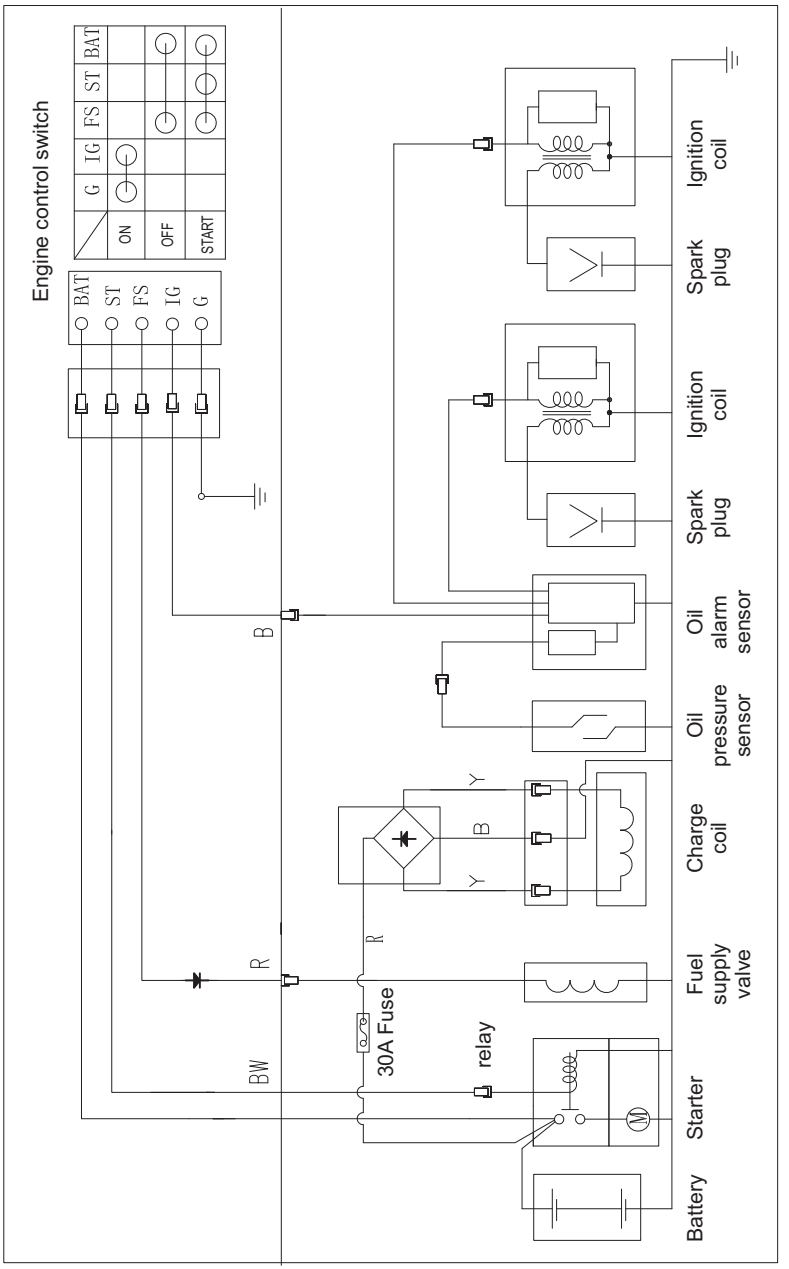
2.Case cover installation dimension





3. Engine circuit diagram

CRX680/CRX750 electrical schematic



3 YEAR COMMERCIAL LIMITED WARRANTY

WARRANTY COVERAGE TERMS:

The manufacturer of this product agrees to repair or replace designated parts that prove defective within the warranty period listed below at the manufacturer's sole discretion. Specific limitations/extensions and exclusions apply.

This warranty covers defects in material and workmanship and not parts failure due to normal wear, depreciation, abuse, accidental damage due to chemical deterioration, scale buildup, rust corrosion or thermal expansion, negligence, improper use, maintenance, water quality or storage. To make a claim under the terms of the warranty, all parts said to be defective must be retained and available for return upon request to a designated Warranty Service Center for warranty inspection. The judgments and decisions of the manufacturer concerning the validity of warranty claims are final.

These warranties pass through to the end user and are non-transferable. As a factory authorized and trained Warranty Service Center, the factory will honor the terms of all component warranties and satisfy claims of the appropriate warranty provisions.

Normal wear items include, but are not limited to, spark plugs, carburetor adjustments, ignition adjustments, filters, oil changes, recoil starter ropes, electric motor brushes, cotter pins, gaskets, valves, pistons or any other parts considered to be wear items, which are not covered by this warranty. The foregoing warranty is exclusive and in lieu of all other warranties whether written, oral, expressed, or implied. There are no warranties of merchantability or fitness of any product for a particular purpose. The FNA Group's only liability shall be the repair or replacement of parts as stated above. In no event shall the FNA Group be responsible for any losses or damages that are indirect, consequential, punitive, special, exemplary, or for economic loss, commercial loss, lost revenues, lost profits, or lost business opportunities, regardless of whether such liability is based on breach of contract, tort, strict liability, breach of warranties, failure of essential purpose or otherwise, or is a direct result of the FNA Group's own actions or inactions. Because some states do not allow limitations on how long an implied warranty lasts, the above limitation may not apply to you.

The FNA Group assumes no responsibility for incidental, consequential, or other damages including,but not limited to, expenses related to transporting the product to or from an authorized service, a mechanic's travel time, any telephone or communication charges, the rental of a like product while the warranty service is being performed, any other travel time or expenses, loss or damage to personal property, loss of revenue, loss of use of the product, loss of time, or any other inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

This warranty replaces all other warranties, express or implied, including without limitation any warranties of merchantability or fitness for a particular purpose and all such warranties are hereby disclaimed and excluded by the manufacturer. The manufacturer's warranty obligation is limited to repair and replacement of defective products as provided herein and the manufacturer shall not be liable for any further loss, damages, or expenses - including damages from shipping, accident, abuse, acts of God, misuse, or neglect. Neither is damage from repairs using parts not purchased from the manufacturer or alterations performed by non-factory authorized personnel. Failure to install and operate equipment according to the guidelines put forth in the instruction manual shall void warranty.

RESPONSIBILITY OF ORIGINAL PURCHASER (INITIAL USER):

To process a warranty claim, report the concern to CRXservice@Fna-Group.com or 1-833-279-3646 for authorization and direction to the nearest authorized service center in your area.

Retain original cash register sales receipt as proof of purchase for warranty work.

Use reasonable care in the operation and maintenance of the product as described in the Operator's Manual(s).

FEDERAL EXHAUST EMISSION CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The United States Environmental Protection Agency (EPA) and FNA Group (FNA) are pleased to explain the exhaust emission control system's warranty on your 2024 small off-road engine (SORE). New small off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. FNA must warrant the exhaust emission control system on your SORE for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your small off-road engine.

Your exhaust emission control system may include parts such as the carburetors or fuel-injection system, the ignition system, and catalytic converter. Also included may be hoses, belts, connectors and other emission-related assemblies.

Where a warrantable condition exists, FNA will repair your SORE at no cost to you including diagnosis, parts and labor.

MANUFACTURER'S WARRANTY COVERAGE:

This exhaust emission control system on your SORE is warranted for two years. If any exhaust emission-related part on your SORE is defective, the part will be repaired or replaced by FNA.

OWNER'S WARRANTY RESPONSIBILITIES:

As the SORE owner, you are responsible for performance of the required maintenance listed in your owner's manual. FNA recommends that you retain all receipts covering maintenance on your SORE, but FNA cannot deny warranty coverage solely for the lack of receipts or for your failure to ensure the performance of all scheduled maintenance.

As the SORE owner, you should however be aware that FNA may deny your warranty coverage if your SORE or a part has failed due to abuse, neglect, or improper maintenance or unapproved modifications.

You are responsible for presenting your SORE to a FNA distribution center or service center as soon as the problem exists. The warranty repairs shall be completed in a reasonable amount of time, not to exceed 30 days.

If you have any questions regarding your warranty rights and responsibilities, you should contact **FNA Group** at **1-833-279-3646** or at CRXservice@Fna-Group.com.

DEFECTS WARRANTY REQUIREMENTS:

(a) Applicability. This section applies to exhaust emission control systems on small off-road engines subject to the emission standards in this Article. The warranty period begins on the date the engine is delivered to an ultimate purchaser.

(b) General Exhaust Emissions Warranty Coverage. The engine must be warranted to the ultimate purchaser and any subsequent owner that the exhaust emission control system when installed was:

(1) Designed, built, and equipped so as to conform with all applicable regulations; and

(2) Free from defects in materials and workmanship that causes the failure of a warranted part for a period of two years.

(c) The warranty on exhaust emissions-related parts will be interpreted as follows:

(1) Any warranted part that is not scheduled for replacement as required maintenance in the written instructions furnished with each new engine must be warranted for the warranty period defined in subsection (b)(2). If any such part fails during the period of warranty coverage, it must be repaired or replaced by FNA according to subsection (4) below. Any such part repaired or replaced under the warranty must be warranted for a time not less than the remaining warranty period.

(2) Any warranted part that is scheduled only for regular inspection in the written instructions furnished with each new engine must be warranted for the warranty period defined in subsection (b)(2). A statement in such written instructions to the effect of "repair or replace as necessary" shall advise owners of the warranty coverage for exhaust emissions related parts. Replacement within the warranty period is covered by the warranty and will not reduce the period of warranty coverage. Any such part repaired or replaced under warranty must be warranted for a time not less than the remaining warranty period.

(3) Any warranted part that is scheduled for replacement as required maintenance in the written instructions furnished with each new engine must be warranted for the period of time prior to the first scheduled replacement point for that part. If the part fails prior to the first scheduled replacement, the part must be repaired or replaced by the manufacturer according to subsection (4) below. Any such part repaired or replaced under warranty must be warranted for a time not less than the remainder of the period prior to the first scheduled replacement point for the part.

(4) Repair or replacement of any warranted part under the warranty provisions of this article must be performed at no charge to the owner at a warranty station.

(5) Notwithstanding the provisions of subsection (4) above, warranty services or repairs must be provided at distribution centers that are franchised to service the subject engines.

(6) The owner must not be charged for diagnostic labor that leads to the determination that a warranted part is in fact defective, provided that such diagnostic work is performed at a warranty station.

(7) Throughout the exhaust emission control system's warranty period set out in subsection (b)(2), FNA must maintain a supply of warranted parts sufficient to meet the expected demand for such parts and must obtain additional parts if that supply is exhausted.

(8) Manufacturer-approved replacement parts that do not increase the exhaust or evaporative emissions of the engine or evaporative emission control system must be used in the performance of any warranty maintenance or repairs and must be provided without charge to the owner. Such use will not reduce the warranty obligations of FNA.

(9) The use of add-on or modified parts may be grounds for disallowing a warranty claim made in accordance with this Article. FNA will not be liable under this Article to warrant failures of warranted parts caused by the use of an add-on or modified part.

(10) FNA shall provide any documents that describe FNA's warranty procedures or policies within five working days of request by the Executive Officer.

(d) A list of all exhaust emission warranty parts must be included with each new engine subject to this Article. The exhaust emission warranty parts list shall include all parts whose failure would increase exhaust emissions, and contains the following parts (if applicable):

(1) Fuel Metering System

- Carburetor and internal parts (and/or pressure regulator or fuel injection system).
- Air/fuel ratio feedback and control system.
- Cold start enrichment system.

(2) Air Induction System

- Controlled hot air intake system.
- Intake manifold.
- Air filter.

(3) Ignition System

- Spark Plugs.
- Magneto or electronic ignition system.
- Spark advance/retard system.

(4) Exhaust Gas Recirculation (EGR) System

- EGR valve body, and carburetor spacer if applicable.
- EGR rate feedback and control system.

(5) Air injection System

- Air pump or pulse valve.
- Valves affecting distribution of flow.
- Distribution manifold.

(6) Catalyst or Thermal Reactor System

- Catalytic converter.
- Thermal reactor.
- Exhaust manifold.

(7) Particulate Controls

- Traps, filters, precipitators, and any other device used to capture particulate emissions.

(8) Miscellaneous items Used in Above Systems

- Vacuum, temperature, and time sensitive valves and switches.
- Electronic controls.
- Hoses, belts, connectors, and assemblies.

Note: Any other warranty statements apply to engines units shall not limit the exhaust emission warranty period (two years) or its applicability to subsequent owners after the ultimate purchaser.

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