

Please carefully read and save these instructions before attempting to assemble, maintain, install, or operate this product. Observe all safety information to protect yourself and others. Failure to observe the instructions may result in property damage and/or personal injury. Please keep instructions for future reference.

Important Operating Instructions



38CC CHAINSAW

**Model: 5466,
52721**



CALIFORNIA PROPOSITION 65

WARNING: You can create dust when you cut, sand, drill or grind materials such as wood, paint, metal, concrete, cement, or other masonry. This dust often contains chemicals known to cause cancer, birth defects, or other reproductive harm. Wear protective gear.

WARNING: This product or its power cord may contain chemicals, including lead, known to the State of California to cause cancer and birth defects or other reproductive harm. Wash hands after handling.

Important!

When using equipment, a few safety precautions must be observed to avoid injuries and damage. Please read the complete operating manual with due care. Keep this manual in a safe place, so that the information is available at all times. If you give the equipment to any other person, give them these operating instructions as well. We accept no liability for damage or accidents which arise due to non-observance of these instructions and the safety information herein.

SPECIFICATIONS

Engine Displacement: 38 cc

Bar Length*: 14in, 16in, or 18in

*Varies by Model

Maximum Idling Speed:
3400 RPM

Fuel Mixture: 40:1

Anti-Vibration Function

Chain Brake

Auto Chain Lubrication

CAUTION:

FOR YOUR OWN SAFETY READ INSTRUCTION MANUAL COMPLETELY AND CAREFULLY BEFORE OPERATING THIS CHAINSAW.

Any failures made in following the safety regulations and and instructions may result in an electric shock, fire and/or serious injury.

SAFETY INSTRUCTIONS

Only allow users who have read and understand this manual operate this chainsaw.

Wear protective gear, such as steel-toed footwear, snugly fitting clothing, heavy duty gloves, eye protection (goggles or face screen), hard hat and ear protection (ear plugs or mufflers). Do not wear jewelry and pull long hair back.

Keep all body parts clear of the chain while the engine is running.

Do not allow other people or animals near the saw when it is running, starting, or being operated.

You must be mentally alert and in good physical condition when operating a chainsaw because the work is strenuous

Carefully plan your sawing project before starting. Do not begin until you are sure the work area is clean, you have secure footing and if you are felling trees, that you have a planned and clear retreat path.

For warranty purchases, please keep your dated proof of purchase. File or attach to the manual for safekeeping.

KICKBACK

WARNING: Kickback is the backward, upward or sudden movement of the guide bar that occurs when the guide bar contacts an object or when the wood closes in and pinches the saw in the cut. The saw contacting a foreign object in the wood can also result in a loss of control.

Rotational kickback occurs when the moving chain contacts an object with the upper tip of the guide bar. This can cause the chain to dig into the object, which then stops the chain for a moment. The result is a reverse reaction, which kicks the guide bar up and back towards the operator.

Pinch kickback occurs when the woods closes in on the moving chain along the top of the guide bar. The sudden stop of the chain results in the saw to move in the opposite direction of the rotation and the saw is driven straight back towards the operator.

Pull in occurs when the moving chain comes in contact with a foreign object in the wood along the bottom of the guide bar. This sudden stop pulls the saw forward and away from the operator and could possibly cause the operator to lose control of the saw.

Avoiding Kickback

Be aware of situations or objects that can cause the material to pinch the top of or stop the chain.

Do not cut more than one log at a time.

Do not twist the saw when the bar is withdrawn from an undercut.

Always begin cutting with the engine at full speed and with the saw housing resting against the wood.

Use wedges made of plastic or wood to hold the cut open. Never use metal.

Stay alert. Realize kickback can occur and keep the cutting area free from foreign objects.

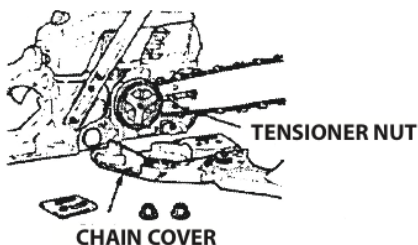
Keep your chain properly tensioned and sharp, along with properly maintaining the chainsaw. Failure to do so can increase the chance of kickback occurring.

Begin and continue the cut with the engine running at full speed. Use caution while re-entering a previous cut. Do not attempt a plunge cut (starting a cut with the tip of the blade).

INSTALLING THE GUIDE BAR AND SAW CHAIN

WARNING: The saw chain has very sharp edges. Use thick protective gloves for safety.

1. Pull the guard towards the front handle to check that the chain brake is not engaged.
2. Loosen the nuts and remove the chain cover.
3. Gear the chain to the sprocket and, while fitting the saw chain around the guide bar, mount the guide bar to the power unit. Adjust the position of the chain tensioner.

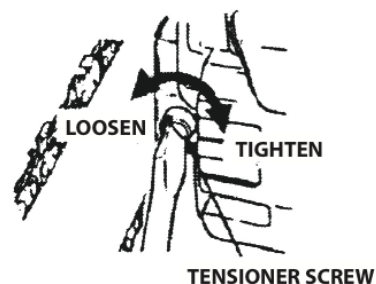


NOTE: Pay attention to the correct direction of the saw chain



4. Fit the chain cover to the power unit and fasten the nuts to finger tightness.

5. While holding up the tip of the bar, adjust the chain tension by turning the tensioner screw until the tie straps just touch the bottom side of the bar rail.



6. Tighten the nuts securely with the bar tip held up (12 ~ 15 Nm). Then check the chain for smooth rotation and proper tension while moving it by hand. If necessary, readjust with chain cover loose.

7. Tighten the tensioner screw.

NOTE: A new chain will expand its length in the beginning of use. Check and readjust the tension frequently as a loose chain can easily derail or cause rapid wear of itself and the guide bar.

FUEL AND CHAIN OIL

FUEL

WARNING: Gasoline is very flammable. Avoid smoking or any flame or sparks near the fuel. Make sure to stop the engine and allow it to cool before refueling the unit.

- Use an anti-oxidant added quality oil expressly labeled for air-cooled 2-cycle engine
- Do not use BIA or TCW (2-stroke water-cooling type) mixed oil

Recommended mixing ratio Gasoline - 40 : Oil - 1

- Exhaust emissions are controlled by the fundamental engine parameters and components without addition of any major hardware or the introduction of an inert material during combustion.
- These engines are certified to operate on unleaded gasoline.
- Make sure to use gasoline with a minimum octane number of 89RON (USA/Canada: 87AL).
- If you use a gasoline of a lower octane value than prescribed. There is a danger that the engine temperature may rise and an engine problems such as piston seizing may consequently occur.
- Unleaded gasoline is recommended to reduce the contamination of the air for the sake of your health and the environment.
- Poor quality gasoline or oils may damage sealing rings, fuel lines, or fuel tank of the engine.

HOW TO MIX FUEL

1. Measure out the quantities of gasoline and oil to be mixed.
2. Put some of the gasoline into a clean approved fuel container.

3. Pour on all of the oil and agitate well.
4. Pour in the rest of gasoline and agitate again for at least one minute. As some oils may be difficult to agitate depending on oil ingredients. Sufficient agitation is necessary for the engine to last long. Be careful. If the agitation is insufficient, there is an increased danger of early piston seizing due to abnormally lean mixture.
5. Put a clear indication on the outside of the container to avoid mixing up with gasoline or other containers.
6. Indicate the contents on outside of container for easy identification.

FUELING THE UNIT

1. Untwist and remove the fuel cap. Rest the cap on dustless place.
2. Put fuel into the fuel tank to 80% of the fuel capacity.
3. Fasten the fuel cap securely and wipe up any fuel spillage around the unit.

WARNING

1. Select bare ground for fueling.
2. Move at least 10 feet away from the fueling point before starting the engine.
3. Stop the engine before refueling the unit. At that time, be sure to sufficiently agitate the mixed gasoline in the container.

FOR YOUR ENGINE LIFE, AVOID:

1. FUEL WITH NO OIL (RAW GASOLINE) - It will cause severe damage to the internal engine parts very quickly.
2. GASOHOL - It can cause deterioration of rubber and/or plastic parts and disruption of engine lubrication..

3. OIL FOR 4-CYCLE ENGINE USE - It can cause spark plug fouling, exhaust port blocking or piston ring sticking.

4. Mixed fuels which have been left unused for a period of one month or more may clog the carburetor and result in the engine failing to operate properly.

5. In the case of storing the product for a long period of time, clean the fuel tank after emptying. Next, activate the engine and empty the carburetor of the composite fuel.

6. Dispose of the used oil only at an authorized repository site.

CHAIN OIL

Use motor oil SAE #10W-30 all year round or SAE #30 ~ #40 in summer and SAE #20 in winter.

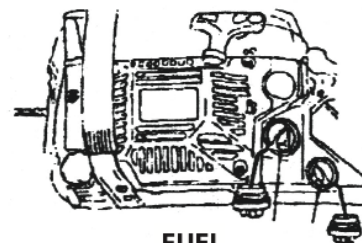
NOTE: Do not use wasted or regenerated oil that can cause damage to the oil pump.

OPERATING THE ENGINE

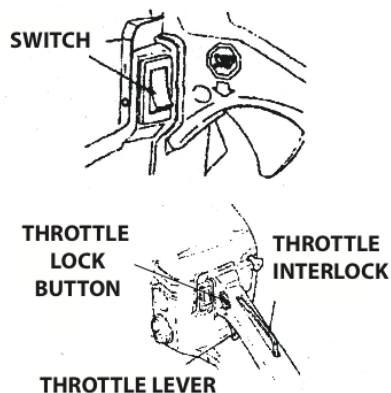
WARNING: It is very dangerous to run a chainsaw that mounts broken parts or lacks any parts. Before starting the engine, make sure that all the parts including bar and chain are installed properly.

STARTING THE ENGINE

1. Fill the chain oil and fuel tanks respectively, then tighten the caps securely.

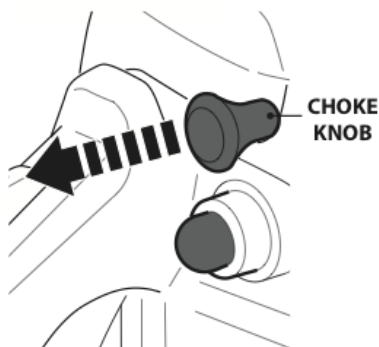


2. Set the switch to the "I" position.

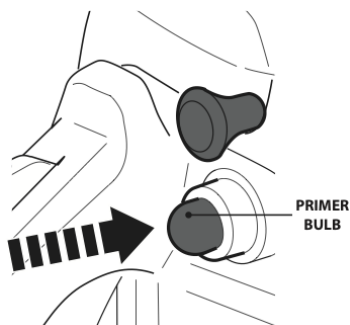


3. Pull throttle trigger and push throttle lock button. Release throttle lever prior to starting.

4. Pull out the choke knob to the second stage position. The choke will close and the throttle lever will then be set in the starting position.



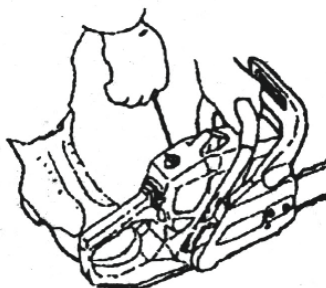
5. Press the primer bulb until the bubble is completely filled with fuel.



NOTE: When starting immediately after stopping the engine, set the choke knob in the first-stage position (choke open and throttle lever in the starting position).

NOTE: Once the choke knob has been pulled out, it will not return to the operating position even if you press down on it with your finger. When you wish to return the choke knob to the operating position, pull out the throttle lever instead.

6. While holding the saw unit securely on the ground, pull the starter rope vigorously 3 to 4 times.



WARNING: Do not start the engine while the chainsaw hangs in one hand. The saw chain may touch your body causing injury.

7. When the engine has ignited, push in the choke knob to the first-stage position. Repeat step 3, then pull the starter again to start the engine.

8. Allow the engine to warm up with the throttle lever pulled slightly.

WARNING: Keep clear of the saw chain as it will start rotating upon starting engine.

CHECKING THE OIL SUPPLY

WARNING: Make sure to set up the bar and the chain when checking the oil supply. If not, the rotating parts may be exposed. It is very dangerous.

After starting the engine, run the chain at medium speed and see if the chain oil is scattered as shown in the figure.

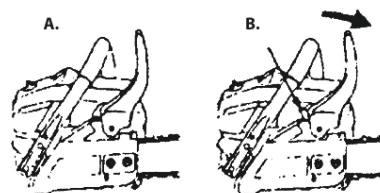


CHAIN BRAKE

This machine is equipped with an automatic brake to stop saw chain rotation upon occurrence of kickback during saw cutting. The brake is automatically operated by inertial force, which puts on the weight fitted inside the front guard.

This brake can also be operated manually with the front guard turned down to the guide bar.

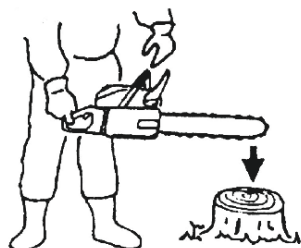
To release the brake, pull up the front guard toward the front handle till a "click" sound is heard.



CAUTION: Be sure to confirm brake operation during daily inspection.

HOW TO CONFIRM:

1. Turn off the engine.
2. Holding the chainsaw horizontally, release your hand from the front handle. Hit the tip of the guide bar to a stump or a piece of wood, and confirm brake operation. Operating level varies by bar size.

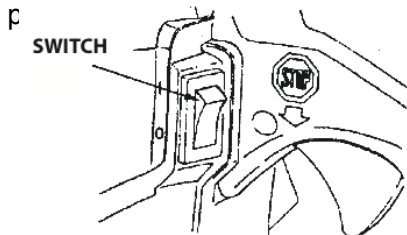


In case the brake is not effective, ask your dealer for inspection and repairs.

If the engine keeps rotating at high speed with the brake engaged, the clutch will overheat causing trouble. When the brake engages during operation, immediately release the throttle lever to stop the engine.

STOPPING THE ENGINE

1. Release the throttle lever to allow the engine to idle for a few minutes.
2. Set the switch to "O" (STOP)

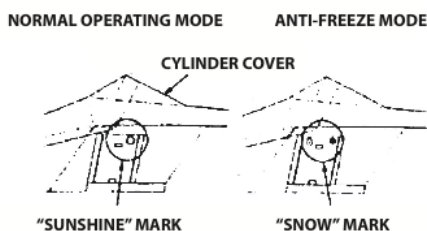


CARBURETOR ANTI-FREEZE MECHANISM

Operating chainsaws in temperatures of 0 - 5° C at times of high humidity may result in ice forming within the carburetor. This, in turn, may cause the output power of the engine to be reduced or for the engine to fail to operate smoothly.

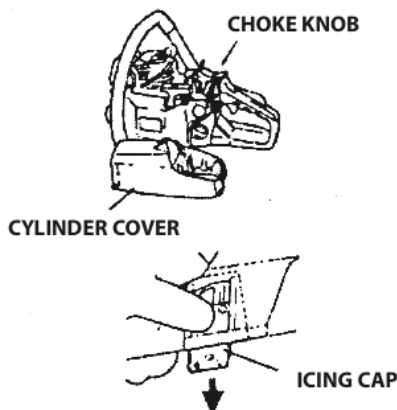
This product has accordingly been designed with a ventilation hatch on the right side of the surface of the cylinder cover to allow warm air to be supplied to the engine and to thereby prevent icing from occurring.

Under normal circumstances the product should be used in the normal operating mode, i.e. in the mode to which it is set at the time of shipment. However, when the possibility exists that icing may occur. The unit should be set to operate in the anti-freeze mode before use.



WARNING: Continuing to use the product in the anti-freeze mode even when temperatures have risen and returned to normal, may result in the engine failing to start properly or in the engine failing to operate at its normal speed. For this reason you should always be sure to return the unit to the normal operating mode if there is no danger of ice.

HOW TO SWITCH BETWEEN OPERATING MODES



1. Flip the engine switch to turn off the engine.

2. Remove the cover to the air filter, remove the air filter, and then remove the choke knob from the cylinder cover.

3. Loosen the screws holding the cylinder cover in place (i.e. the three screws on the inside and the one screw on the outside of the cover), and then remove the cylinder cover.

4. Press with your finger down on the icing cap located on the right-hand side of the cylinder cover to remove the icing cap.

5. Adjust the icing cap so that the "snow" mark faces upwards and then return it to its original position in the cylinder cover.

6. Fix the cylinder cover back into its original position, and then fix all other parts back into their proper position.

SAWING

CAUTION: Before proceeding to your job, read and understand the manual completely. It is recommended that you practice sawing easy logs. This also helps you get accustomed to your unit.

WARNING: Always follow the safety regulations. The chainsaw must only be used for cutting wood. It is forbidden to cut other types of material. Vibrations and kickback vary with different materials and the requirements of the safety regulations would not be respected. Do not use the chainsaw as a lever for lifting, moving, or splitting objects. Do not lock it over fixed stands. It is forbidden to hitch tools or applications to the PTO other than those specified by the manufacturer.

- It is not necessary to force the saw into the cut. Apply only light pressure while running the engine at full throttle.

- When the saw chain is caught in the cut, do not attempt to pull it out by force, but use a wedge or a lever to open the way.

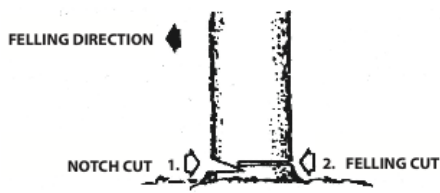
GUARD AGAINST KICKBACK

OILING PORT

- This saw is equipped with a chain brake that will stop the chain in the event of kickback if operating properly. You must check the chain brake operation before each usage by running the saw at full throttle for 1-2 seconds and pushing the front hand guard forward. The chain should stop immediately with the engine at full speed. If the chain is slow to stop or does not stop, replace the brake band and clutch drum before use.

- It is extremely important that the chain brake be checked for proper operation before each use and that the chain be sharp in order to maintain the kickback safety level of this saw. Removal of the safety devices, inadequate maintenance, or incorrect replacement of the bar and chain may increase the risk of serious personal injury due to kickback.

FELLING A TREE



1. Decide the felling direction considering the wind, lean of the tree, location of heavy branches, ease of completing the task after felling and other factors.

2. While clearing the area around the trees, arrange a good foothold and retreat path.

3. Make a notch cut one-third of the way into the tree on the felling side.

4. Make a felling cut from the opposite side of the notch and at a level slightly higher than the bottom of the notch.

CAUTION: When you fell a tree, be sure to warn neighboring workers of the danger.

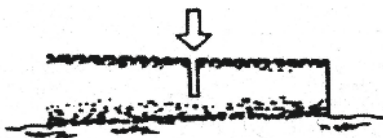
BUCKING AND LIMBING

CAUTION

- Always ensure your foothold. Do not stand on the log.
- Be alert to the rolling over of a cut log. Especially when working on a slope, stand on the uphill side of the log.
- Follow instructions in the manual for proper felling.

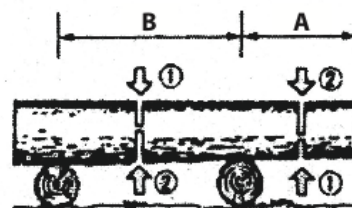
Before starting work, check the direction of bending force inside the log to be cut. Always finish cutting from the opposite side of the bending direction to prevent the guide bar from being caught in the cut.

A LOG LYING ON THE GROUND



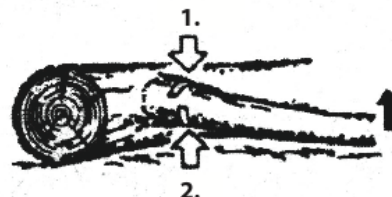
Saw down halfway, then roll the log over and cut from the opposite side.

A LOG HANGING OFF THE GROUND



In area A, saw up from the bottom one-third and finish by sawing down from the top. In area B, saw down from the top one-third and finish by sawing up from the bottom.

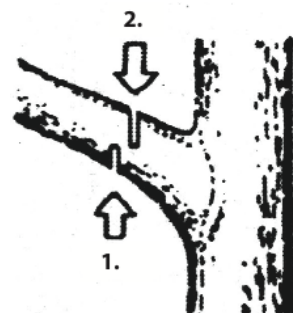
CUTTING THE LIMBS OF FALLEN TREE



First check to which side the limb is bent. Then make the initial cut from the bent side and finish by sawing from the opposite side.

CAUTION: Be alert to the springing back of a cut limb.

PRUNING OF STANDING LIMB



Cut up from the bottom, finish down from the top.

CAUTION

- Do not use an unstable foothold or ladder.
- Do not overreach.
- Do not cut above shoulder height.
- Always use both your hands to hold the saw.

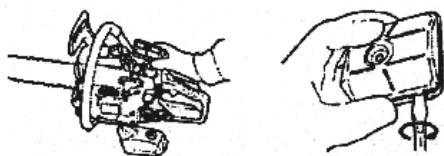
MAINTENANCE

CAUTION: Before cleaning, inspecting or repairing the unit, make sure that the engine has stopped and is cool. Disconnect the spark plug to prevent accidental starting.

MAINTENANCE AFTER EACH USE

1. AIR FILTER

Dust on the cleaner surface can be removed by tapping a corner of the cleaner against a hard surface. To clean dirt in the meshes, split the cleaner into halves and brush in gasoline. When using compressed air, blow from the inside.

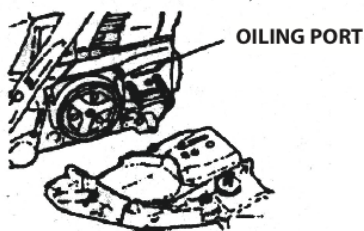


To assemble the cleaner halves, press the rim until it clicks.

NOTE: When installing the main filter, make sure that the grooves on the filter edge are correctly fit with the projections on the cylinder cover.

2. OILING PORT

Dismount guide bar and check the oiling port for clogging.



3. GUIDE BAR

When the guide bar is dismounted, remove sawdust in the bar groove and the oiling port.

Grease the nose sprocket from the feeding port on the tip of the bar.



4. OTHERS

Check for fuel leakage and loose fastenings and damage to major parts, especially handle joints and guide bar mounting. If any defects are found, make sure to have them repaired before operating the saw again.

PERIODICAL SERVICE POINTS

1. CYLINDER FINS

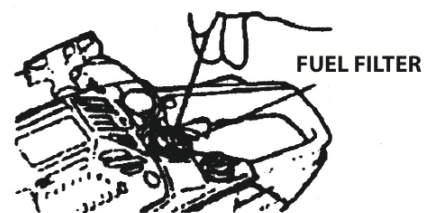
Dust clogging between the cylinder fins will cause overheating of the engine. Periodically, check and clean the cylinder fins after removing the air cleaner and the cylinder cover. When installing the cylinder cover make sure that the switch wires and grommets are positioned correctly in place.



NOTE: Be sure to block the air intake hole.

2. FUEL FILTER

a. Using a wire hook, take out the filter from the filler port.



b. Disassemble the filter and wash with gasoline, or replace with a new one if needed.

NOTE:

- After removing the filter, use a pinch to hold the end of the suction pipe.
- When assembling the filter, take care not to allow filters or dust inside the suction pipe.

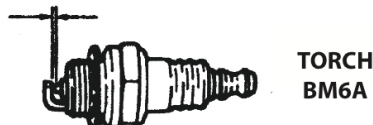
3. OIL TANK

With a wire hook, take out the oil filler port and clean in gasoline. When putting the filter back into the tank, make sure that it comes to the front right corner. Also clean off the dirt in the tank.



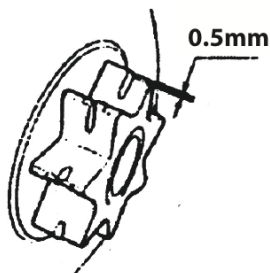
4. SPARK PLUG

0.6 ~ 0.7 mm



Clean the electrodes with a wire brush and reset the gap to 0.65 mm as necessary.

5. SPROCKET



Check for cracks and for excessive wear interfering with the chain drive. If the wear is considerable, replace it with a new one. Never fit a new chain on a worn sprocket, or a worn chain on a new sprocket.

MAINTENANCE OF SAW CHAIN AND GUIDE BAR

SAW CHAIN

CAUTION: It is very important for smooth and safe operation to always keep the cutters sharp.

The cutters need to be sharpened when:

- Sawdust becomes powder-like.
- You need extra force to saw in.
- The cut path does not go straight.
- Vibration increases
- Fuel consumption increases

Cutter setting standards:

CAUTION: Be sure to wear safety gloves.

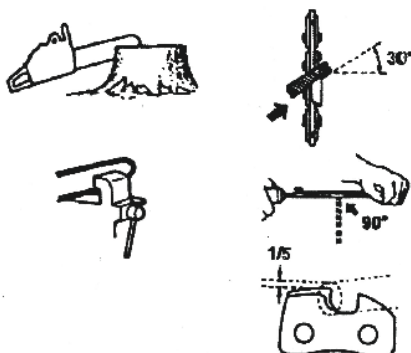
BEFORE FILING:

- Make sure the saw chain is held securely.
- Make sure the engine is stopped.
- Use a round file of proper size for chain.

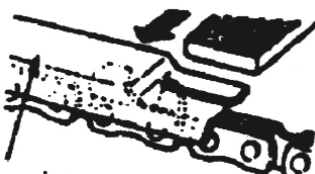
Chain type: 3/8 .050

File Size: 5/32" (4.0mm)

Place the file on the cutter and push straight forward. Keep the file position as illustrated.



After each cutter has been filed, check the depth gauge and file it to the proper level as illustrated.



Appropriate gauge checker.



MAKE THE SHOULDER ROUND

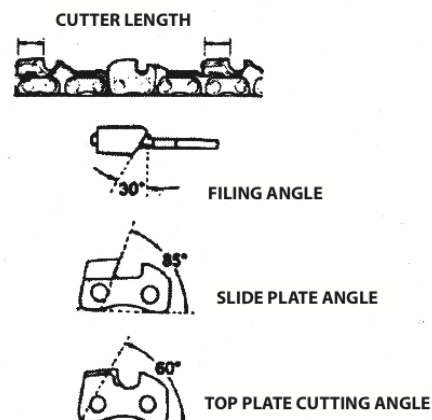
3/8 .050 (5/32" 4.0mm)

Depth gauge standard.



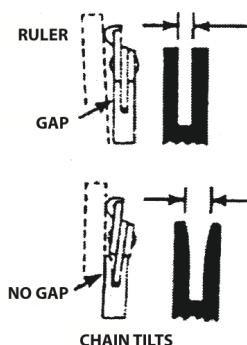
CAUTION: Be sure to round off the front edge to reduce the chance of kickback or tie-strap breakage.

Make sure every cutter has the same length and edge angles as illustrated.



GUIDE BAR

- Reverse the bar occasionally to prevent partial wear.
- The bar rail should always be square. Check for wear of the bar rail. Apply a ruler to the bar and the outside of a cutter. If a gap is observed between them, the rail is normal. Otherwise, the bar rail is worn. Such a bar needs to be corrected or replaced.



Troubleshooting Guide

Symptom	Possible Cause(s)	Corrective Action
Starting Failure Make sure that the icing prevention system is not working	Check fuel for water or substandard mixture	Replace with proper fuel
	Check for engine flooding	Remove and dry the spark plug. Pull the starter again with no choke.
	Check spark ignition	Replace with a new spark plug
Lack of power / poor acceleration/rough idling	Check fuel for water or substandard mixture	Replace with proper fuel
	Check air filter and fuel filter for clogging	Clean the air filter and fuel filter
	Check carburetor for inadequate adjustment	Visit a local service center and request an adjustment or call the NATI customer service center
Oil does not come out	Check oil for substandard quality	Replace
	Check oil passage and ports for clogging	Clean

Limited Manufacturer Warranty

North American Tool Industries (NATI) makes every effort to ensure that this product meets high quality and durability standards. NATI warrants to the original retail consumer a 1-year limited warranty from the date the product was purchased at retail and each product is free from defects in materials. Warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, or accidents, repairs or alterations, or a lack of maintenance. NATI shall in no event be liable for death, injuries to persons or property, or for incidental, special, or consequential damages arising from the use of our products. To receive service under warranty, the original manufacturer part must be returned for examination by an authorized service center. Shipping and handling charges may apply. If a defect is found, NATI will either repair or replace the product at its discretion.

DO NOT RETURN TO STORE

For Customer Service:

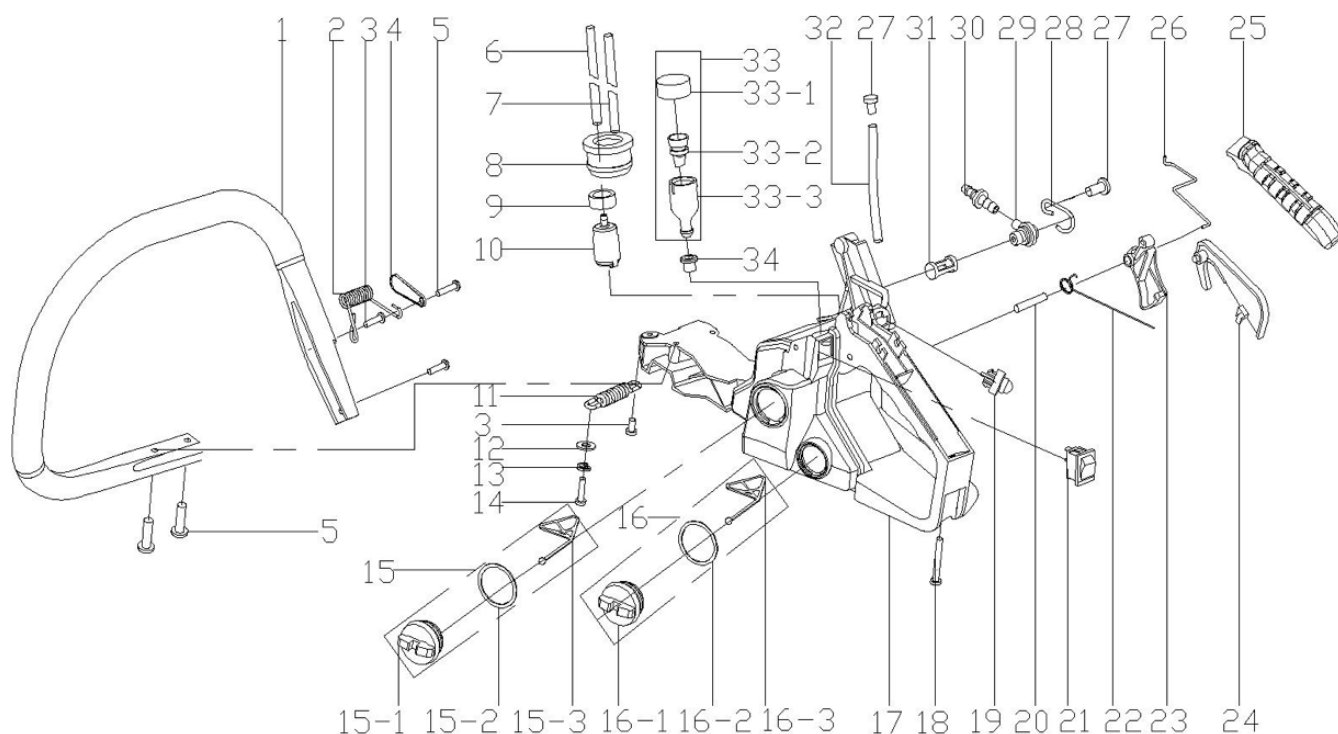
Email: feedback@natitools.com or Call 1-800-348-5004



38CC CHAINSAW

Model: 5466, 52721

Handle & Tank Assembly



#	Description	Qty.
1	front handle assembly	1
2	front handle assembly torsion rod spring	1
3	screw ST4.8x16	2
4	torsion rod spring cap	1
5	screw ST4.8x16	4
6	fuel tule	1
7	return tube 2	1
8	fuel tule base	1
9	weight block	1
10	fuel filter	1
11	base spring	1
12	washer GB/T 97.1 5	1
13	spring washer GB/T 93 5	1
14	screw M5x20	1
15	fuel tank cap assembly	1
15-1	fuel tank cap	1
15-2	packing washer	1
15-3	retainer	1
16	oil tank cap assembly	1
16-1	oil tank cap	1
16-2	packing washer	1
16-3	retainer	1

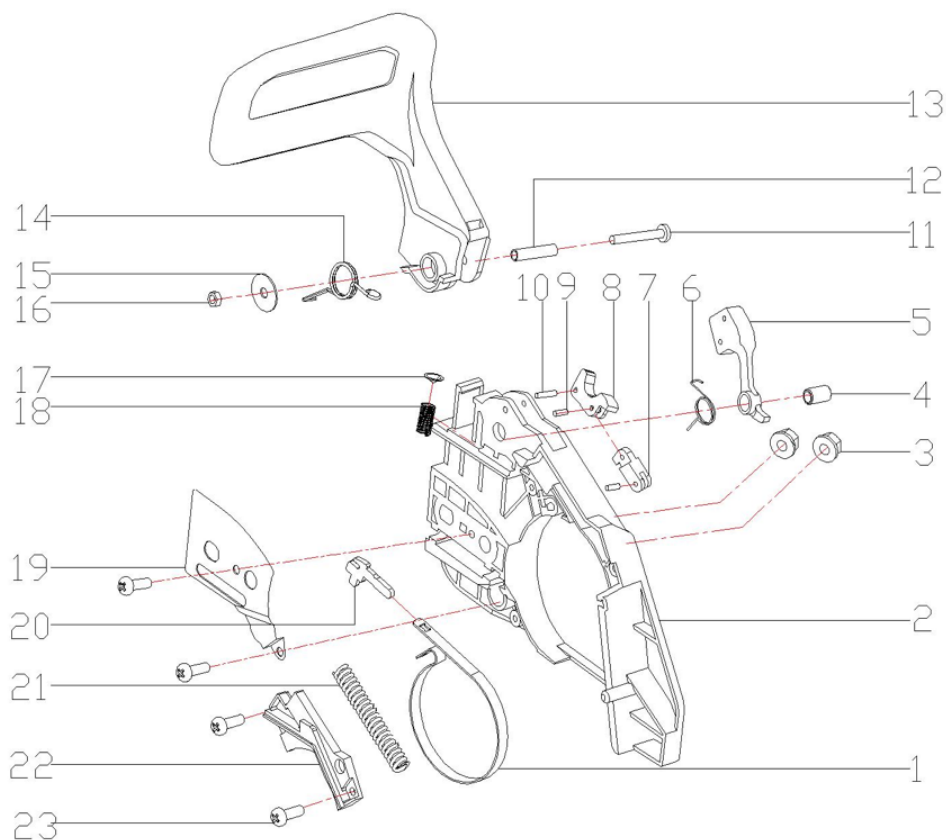
#	Description	Qty.
17	base	1
18	screw ST4.8x25	1
19	Primer Bulb	1
20	pin 6x24	1
21	flameout switch	1
22	trigger torsion spring	1
23	trigger	1
24	trigger controller	1
25	handle cover	1
26	accelerator rod	1
27	screw ST4.2x9.5	2
28	oil nozzle circlip	1
29	oil nozzle	1
30	tie-in	1
31	oil filter screen	1
32	air tube	1
33	balancer assembly	1
33-1	balancer cover	1
33-2	balancer air nozzle	1
33-3	balancer body	1
34	balancer base	1



38CC CHAINSAW

Model: 5466, 52721

Brake Assembly



#	Description	Qty.
1	brake belt	1
2	right cover	1
3	nut M8	2
4	heavy block tube	1
5	heavy block	1
6	heavy block torsion spring	1
7	secondary pull-rod	1
8	main pull-rod	1
9	pin 3x9	2
10	pin 3x14	1
11	screw M5x40	1
12	front guard tube	1

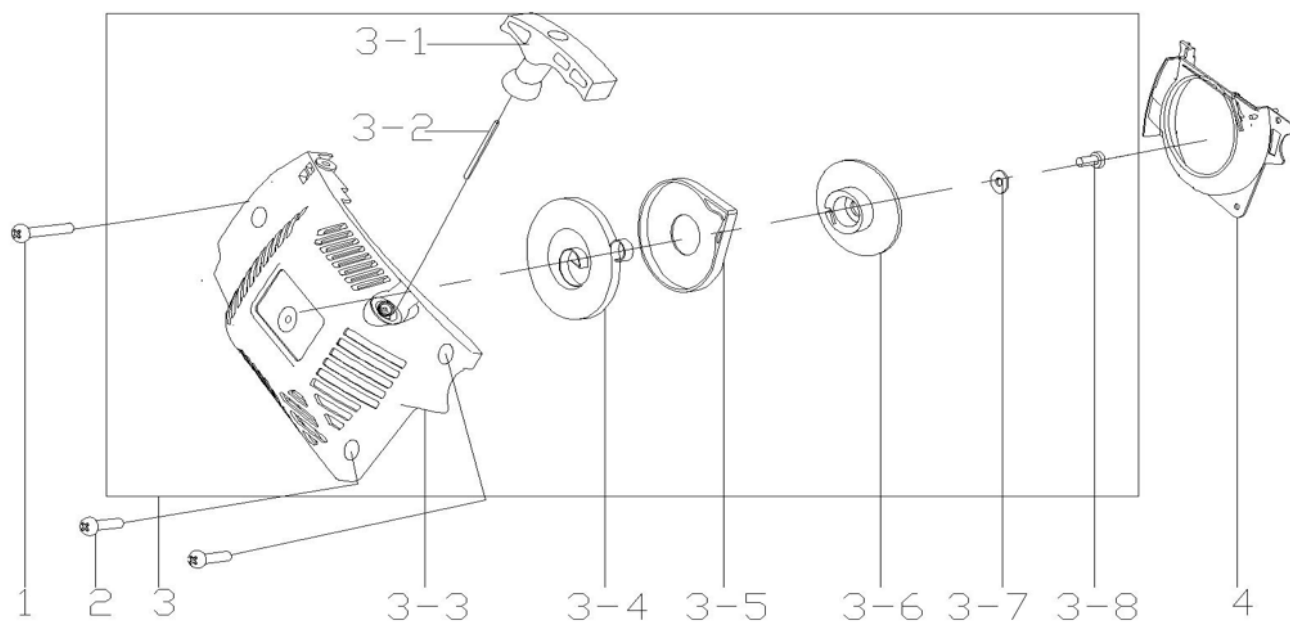
#	Description	Qty.
13	front guard	1
14	brake torsion spring	1
15	big washer GB/T 96.1 ϕ 5X ϕ 23X1.2	1
16	nut M5	1
17	spring intake	1
18	front guard spring	1
19	tightener cover	1
20	brake control rod	1
21	brake spring	1
22	brake spring cover	1
23	screw ST4.2x9.5	4



38CC CHAINSAW

Model: 5466, 52721

Starter Assembly



#	Description	Qty.
1	brake belt	1
2	right cover	1
3	nut M8	2
3-1	heavy block tube	1
3-2	heavy block	1
3-3	heavy block torsion spring	1

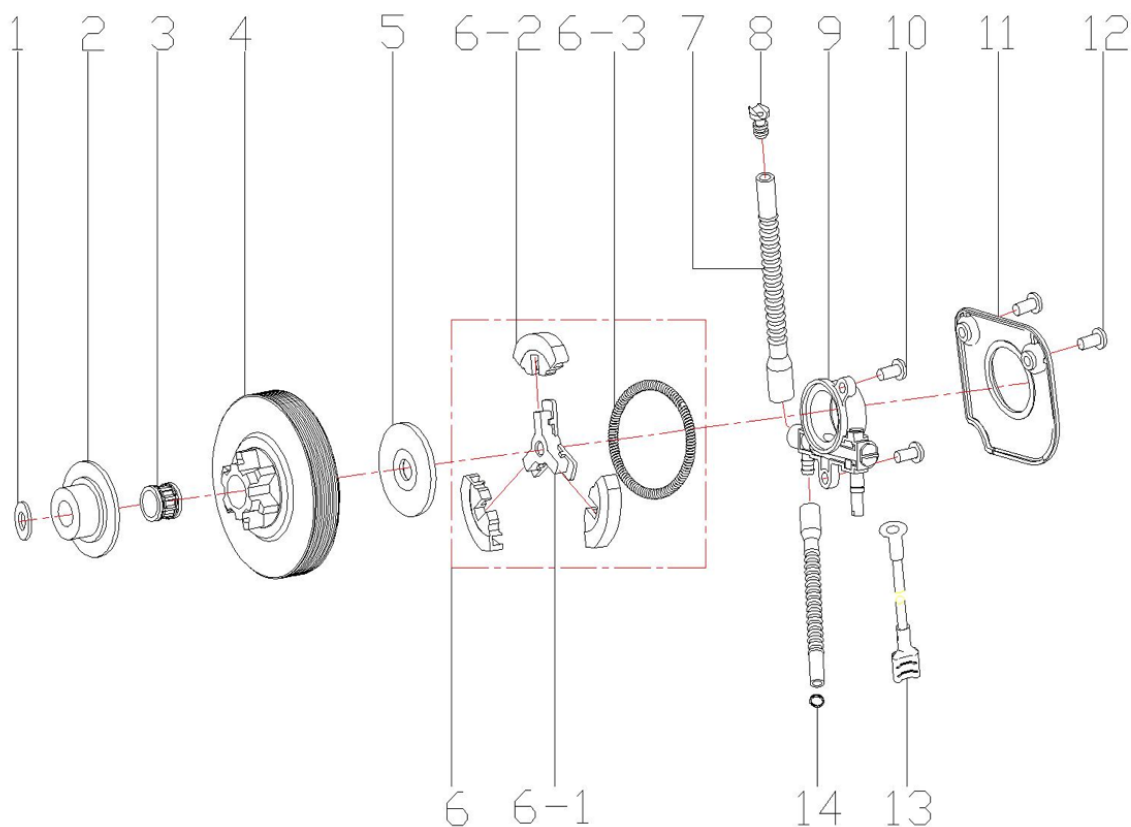
#	Description	Qty.
3-4	secondary pull-rod	1
3-5	main pull-rod	1
3-6	pin 3x9	2
3-7	pin 3x14	1
3-8	screw M5x40	1
4	front guard tube	1



38CC CHAINSAW

Model: 5466, 52721

Clutch & Oil Pump Assembly



#	Description	Qty.
1	worm nylon washar	1
2	worm	1
3	needle bearing 10*13*13	1
4	clutch shell	1
5	clutch washer	1
6	clutch assembly	1
6-1	retainer	1
6-2	shoe block	3
6-3	clutch extension spring	1

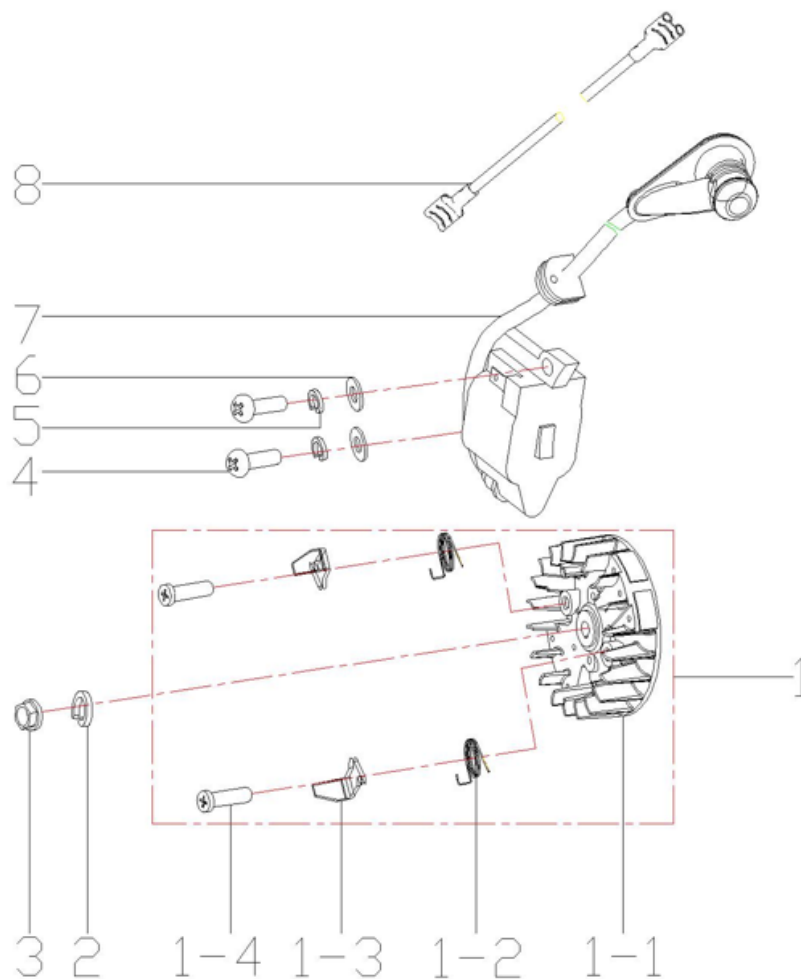
#	Description	Qty.
7	oil tube	1
8	oil nozzle	1
9	oil pump	1
10	screw M4x14	2
11	oil pump cover plate	1
12	screw M4x14	2
13	ground lead	1
14	circlip	1



38CC CHAINSAW

Model: 5466, 52721

Flywheel & Ignitor Assembly



#	Description	Qty.
1	flywheel assembly	1
1-1	flywheel	1
1-2	torsional spring	2
1-3	pawl	2
1-4	pawl screw	2
2	spring washer GB/T 93 8	1

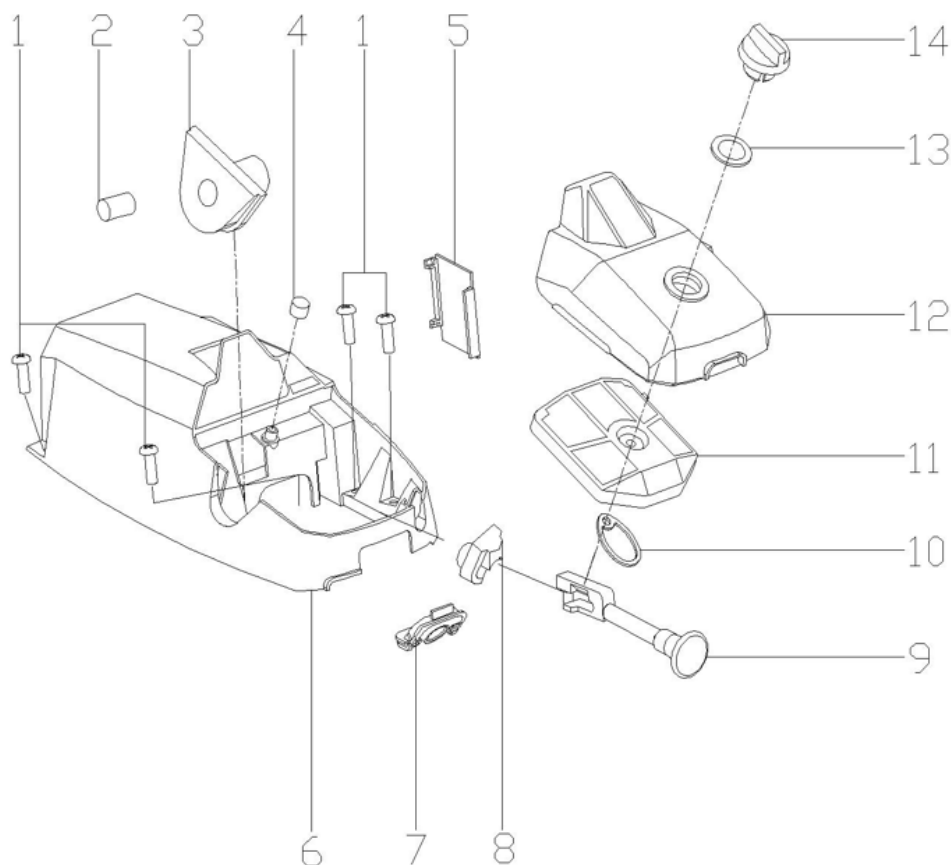
#	Description	Qty.
3	nut M8	1
4	screw M4x20	2
5	spring washer GB/T 93 4	2
6	washer GB/T 97.1 4	2
7	ignitor	1
8	flameout wire	1



38CC CHAINSAW

Model: 5466, 52721

Upper Cover & Air Filter Cover



#	Description	Qty.
1	screw ST 4.8x16	4
2	choke plug	1
3	guide sleeve	1
4	damping block	1
5	igniter sheathing	1
6	upper cover plate	1
7	dust shield	1

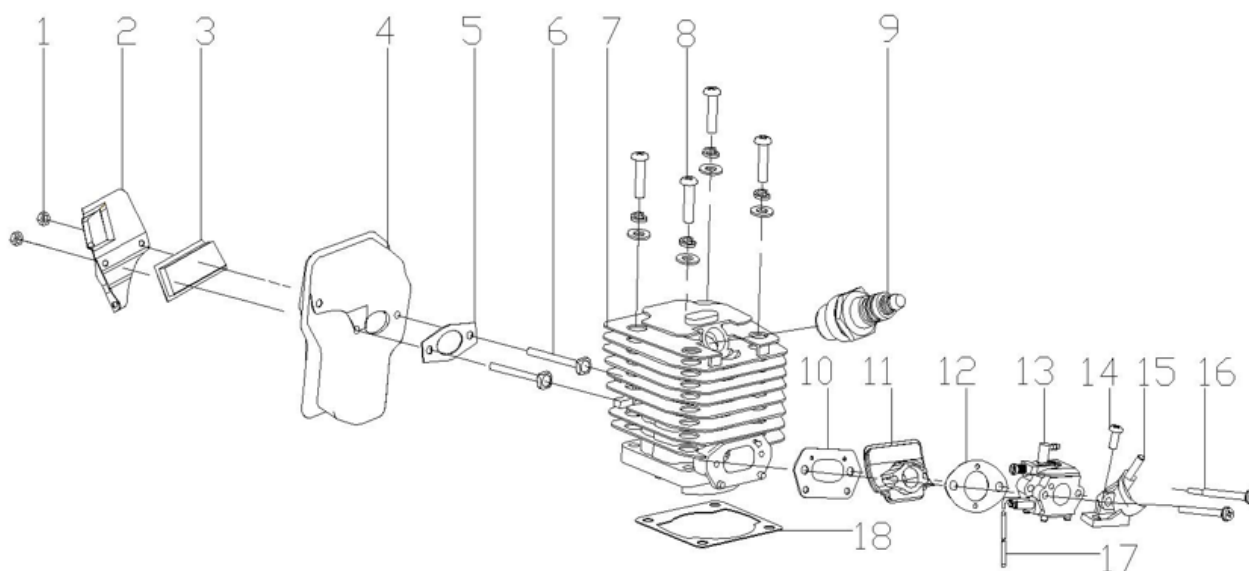
#	Description	Qty.
8	throttle lever retainer	1
9	throttle rod	1
10	air filter gasket	1
11	air filter	1
12	air filter cover	1
13	lock nut washer	1
14	air filter lock nut	1



38CC CHAINSAW

Model: 5466, 52721

Cylinder & Carburetor Assembly



#	Description	Qty.
1	nut M5	2
2	silencer cover plate	1
3	spark catcher	1
4	silencer assembly	1
5	silencer gasket	1
6	nut 5x60	2
7	cylinder	1
8	nut 5x20	4
9	spark plug	1

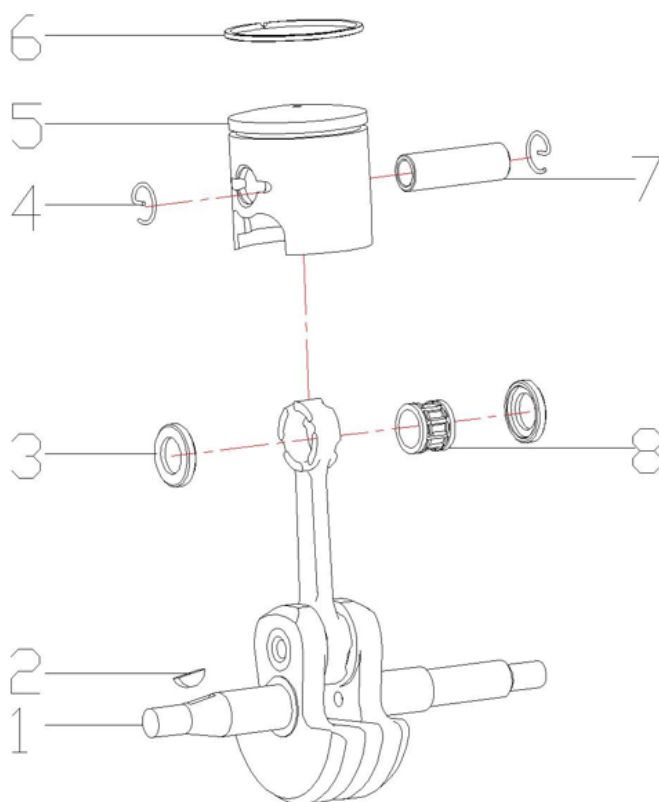
#	Description	Qty.
10	air intake tube gasket	1
11	air intake tube	1
12	carburetor gasket	1
13	carburetor	1
14	screw ST4.8x16	1
15	air intake	1
16	carburetor screw	2
17	return tube	1
18	cylinder gasket	1



38CC CHAINSAW

Model: 5466, 52721

Piston & Crankshaft Assembly



#	Description	Qty.
1	crankshaft components	1
2	woodruff key 2.9X10	1
3	needle bearing ring	2
4	piston pin circlip	2

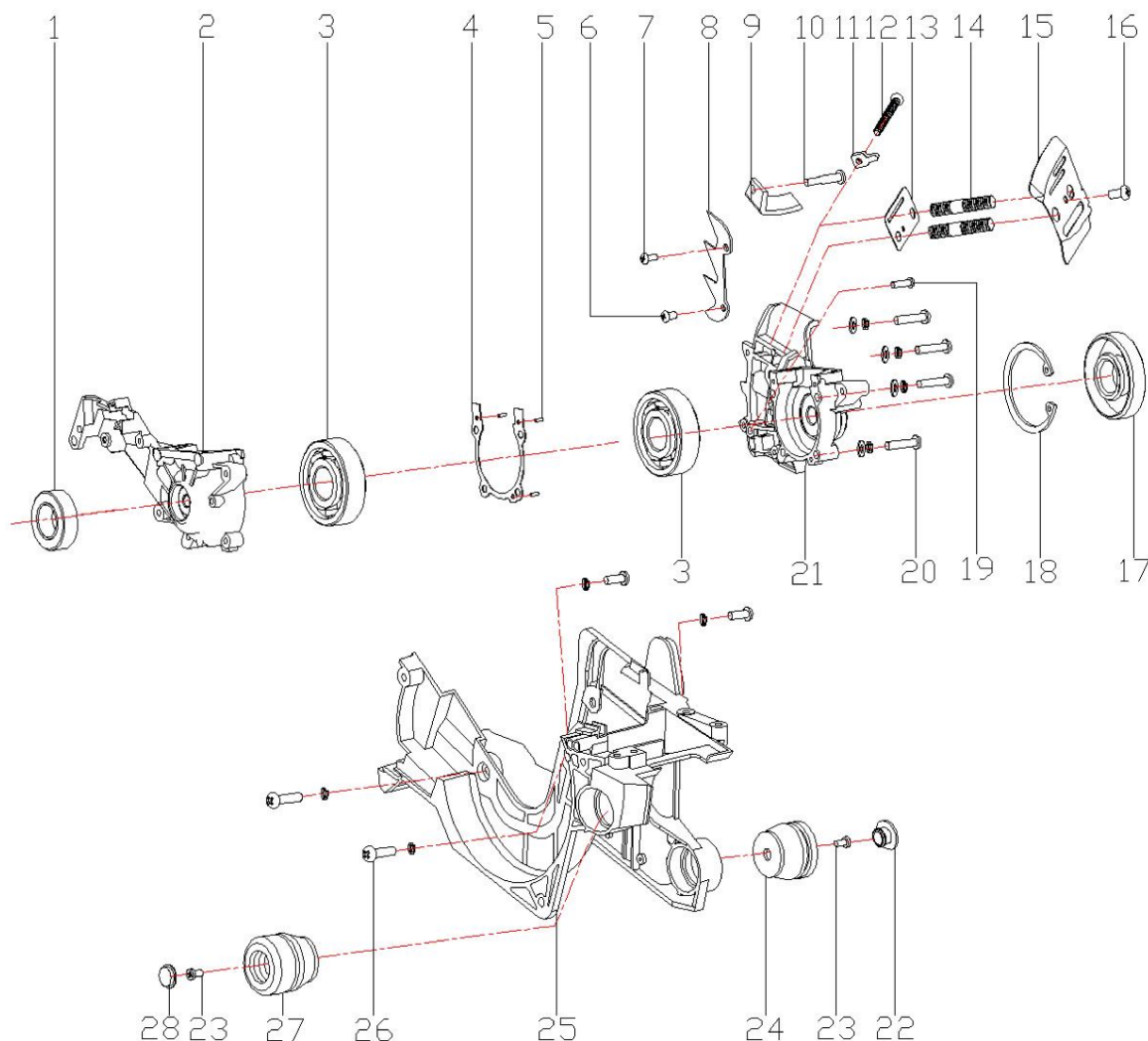
#	Description	Qty.
5	piston	1
6	piston ring	1
7	piston pin	1
8	needle bearing NA10x14x11	1



38CC CHAINSAW

Model: 5466, 52721

Engine Assembly



#	Description	Qty.
1	oil seal 12x22x7	1
2	left crankshaftcase case	1
3	bearing 6201 D	2
4	crankshaft case gasket	1
5	pin 3x9	3
6	screw M5x10	1
7	screw M5x16	1
8	spiked bumper	1
9	chain guide	1
10	chain guide screw	1
11	tightener	1
12	tightener screw M5*48	1

#	Description	Qty.
15	protecting shield	1
16	screw M4x10	1
17	oil seal 12x32x5	1
18	ring GB/T 893.132	1
19	screw GB/T 2672 4.8x16	1
20	screw M5x30	4
21	right crankshaftcase	1
22	anti-vibration cushion dust plate	1
23	screw ST5x16	2
24	anti-vibration cushion	1
25	engine base	1
26	screw M5x16	4

For Customer Service, please call 1-800-348-5004 or email feedback@natitools.com

I. EMISSION CONTROL WARRANTY STATEMENT

YOUR WARRANTY RIGHTS AND OBLIGATIONS

The United States Environmental Protection Agency (EPA), together with North American Tool Industries are pleased to explain the Emission Control System Warranty on your new small off-road engine. New small off-road engines must be designed, built, and equipped to meet stringent anti-smog standards for the state of the federal government. NATI will warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect, unapproved modification, or improper maintenance to your engine.

Your emission control system may include parts such as the carburetor, ignition, intake, and exhaust systems. NATI will repair your engine at no cost to you for diagnosis, replacement parts, and labor, should a warrantable condition occur.

MANUFACTURER'S EMISSION CONTROL SYSTEM WARRANTY COVERAGE:

Emission control systems on 2012 and later model year engines are warranted for two years as hereinafter noted. If, during such warranty period, any emission-related component or system on your engine is found to be defective in materials or workmanship, a NATI Authorized Warranty Service Facility will perform repairs or replacement.

PURCHASER'S/OWNER'S WARRANTY RESPONSIBILITIES:

As the small off-road engine purchaser/owner, you are responsible for the completion of all required maintenance as listed in your factory supplied OWNER'S MANUAL. For warranty purposes, NATI recommends that you retain all receipts covering maintenance on your engine. However, NATI cannot deny warranty solely because of the lack of receipts or for your failure to ensure the completion of scheduled maintenance.

As the small off-road engine purchaser/owner, you should, however, be aware that NATI may deny any and/or all warranty coverage, or responsibility if your engine, or a part/component thereof, has failed due to abuse, neglect, improper maintenance, unapproved modifications, or the use of counterfeit and/or "gray market" parts not made, supplied, or approved by NATI.

You are responsible for presenting your engine to a NATI Authorized Warranty Service Facility as soon as a problem occurs. The warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days.

Warranty service can be arranged by contacting either your selling dealer or a NATI Authorized Warranty Service Facility. To locate the NATI Authorized Service Facility nearest you, call our toll-free number:

1-800-348-5004

IMPORTANT NOTE: *This warranty statement explains your rights and obligations under the Emission Control System Warranty (ECS Warranty), which is provided to you by NATI pursuant to California and federal law. The ECS Warranty applies only to the emission control system of your new engine. If there is any conflict in terms between the ECS Warranty and the NATI Warranty, the ECS Warranty shall apply except in circumstances where the NATI Warranty may provide a longer warranty period. Both the ECS Warranty and the NATI Warranty describe important rights and obligations with respect to your new engine.*

Only a NATI Authorized Warranty Service Facility can perform warranty service. When requesting warranty service, evidence must be presented showing the date of the sale to the original purchaser/owner. The purchaser/owner shall be responsible for any expenses or other charges incurred for service calls and/or transportation of the product to/from the inspection or repair facilities. The purchaser/owner shall also be responsible for any and/or all damages or losses incurred while the engine is being transported/shipped for inspection or warranty repairs.

IF YOU HAVE ANY QUESTIONS REGARDING YOUR WARRANTY RIGHTS AND RESPONSIBILITIES, YOU SHOULD CONTACT NATI AT THE FOLLOWING ADDRESS:

84 COMMERCIAL RD. HUNTINGTON, IN 46750, USA

feedback@natitools.com

II. EMISSION CONTROL SYSTEM WARRANTY

Emission Control System Warranty (ECS Warranty) for 2012 and later model engines:

- (a) Applicability: This warranty shall apply to 2012 and later model year engines. The ECS Warranty Period shall begin on the date the new engine or equipment is purchased by/delivered to its original, end-use purchaser/owner and shall continue for 24 consecutive months thereafter.*
- (b) General Emissions Warranty Coverage: NATI warrants to the original, end-use purchaser/owner of the new engine or equipment and to each subsequent purchaser/owner that each of its engines is...*
 - a. Designed, built, and equipped so as to conform with all applicable regulations adopted by the EPA pursuant to their respective authority, and*
 - b. Free from defects in materials and workmanship which, at any time during the ECS Warranty Period, may cause a warranted emissions-related part to fail to be identical in all material respects to the part as described in the engine manufacturer's application for certification.*

The ECS Warranty only pertains to emission-related parts on your engine, as follows:

- 1. Any warranted, emissions-related parts that are not scheduled for replacement as required maintenance in the Owner's Manual shall be warranted for the ECS Warranty Period. If any such part fails during the ECS Warranty Period, it shall be repaired or replaced by NATI according to subsection 4 below. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.*
- 2. Any warranted, emissions-related part that is scheduled only for regular inspection as specified in the Owner's Manual should be warranted for the ECS Warranty Period. A statement in such written instructions to the effect of "repair or replace as necessary" shall not reduce the ECS Warranty Period. Any such part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period.*

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3. *Any warranted, emissions-related part that is scheduled for replacement as required maintenance in the Owner's Manual shall 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 shall be repaired or replaced by NATI according to subsection 4 below. Any such emissions-related part repaired or replaced under the ECS Warranty shall be warranted for the remainder of the ECS Warranty Period prior to the first scheduled replacement point for such emissions-related part.*
 4. *Repair or replacement of any warranted, emissions-related part under this ECS Warranty shall be performed at no charge to the owner at a NATI Authorized Warranty Service Facility.*
 5. *When the engine is inspected by a NATI Authorized Warranty Service Facility, the owner shall not be held responsible for diagnostic costs if the repair is deemed warrantable.*
 6. *NATI shall be liable for damages to other original engine components or approved modifications proximately caused by a failure under warranty of any emission-related part covered by the ECS warranty.*
 7. *Throughout the ECS Warranty Period, NATI shall maintain a supply of warranted emission-related parts sufficient to meet the expected demand for such emissions-related parts.*
 8. *Any NATI authorized and approved emissions-related replacement parts may be used in the performance of any ECS Warranty maintenance or repairs and will be provided without charge to the purchaser/owner. Such use shall not reduce NATI's ECS Warranty obligations.*
 9. *Unapproved, add-on, modified, counterfeit, and/or "gray market" parts may not be used to modify or repair a NATI engine. Such use voids this ECS Warranty and shall be sufficient grounds for disallowing an ECS Warranty claim. NATI shall not be held liable hereunder for failures of any warranted parts of a NATI engine caused by the use of such an unapproved, add-on, modified, counterfeit, and/or "gray market" part.*

EMISSIONS-RELATED PARTS INCLUDE THE FOLLOWING:

For engine families CZHWS.0404SP

1. *Fuel Metering System:*
 - a. *Gasoline carburetor assembly and its internal components (if so equipped).*
 - b. *Fuel Filter (if so equipped).*
 - c. *Carburetor Gaskets*
 - d. *Fuel Pump (if so equipped).*
 - e. *Fuel Hose*
 - f. *Clamps*
2. *Air Induction System including:*
 - a. *Intake Pipe/Manifold*
 - b. *Air Cleaner*
3. *Ignition System including:*
 - a. *Spark Plug*
 - b. *Ignition Module/Coil*
4. *Catalytic Muffler Assembly (if so equipped)*
 - a. *Muffler Gasket*
 - b. *Exhaust Manifold*
5. *Crankcase Breather Assembly including:*
 - a. *Breather Connection Tube*
6. *Fuel tank evaporative emissions control system include:*
 - a. *Fuel Tank*
 - b. *Fuel Cap*
 - c. *Fuel Hose*
 - d. *Clamps*
7. *Miscellaneous items used in above systems including:*
 - a. *Switches*
 - b. *Hoses, Belts, Connectors, and Assemblies*