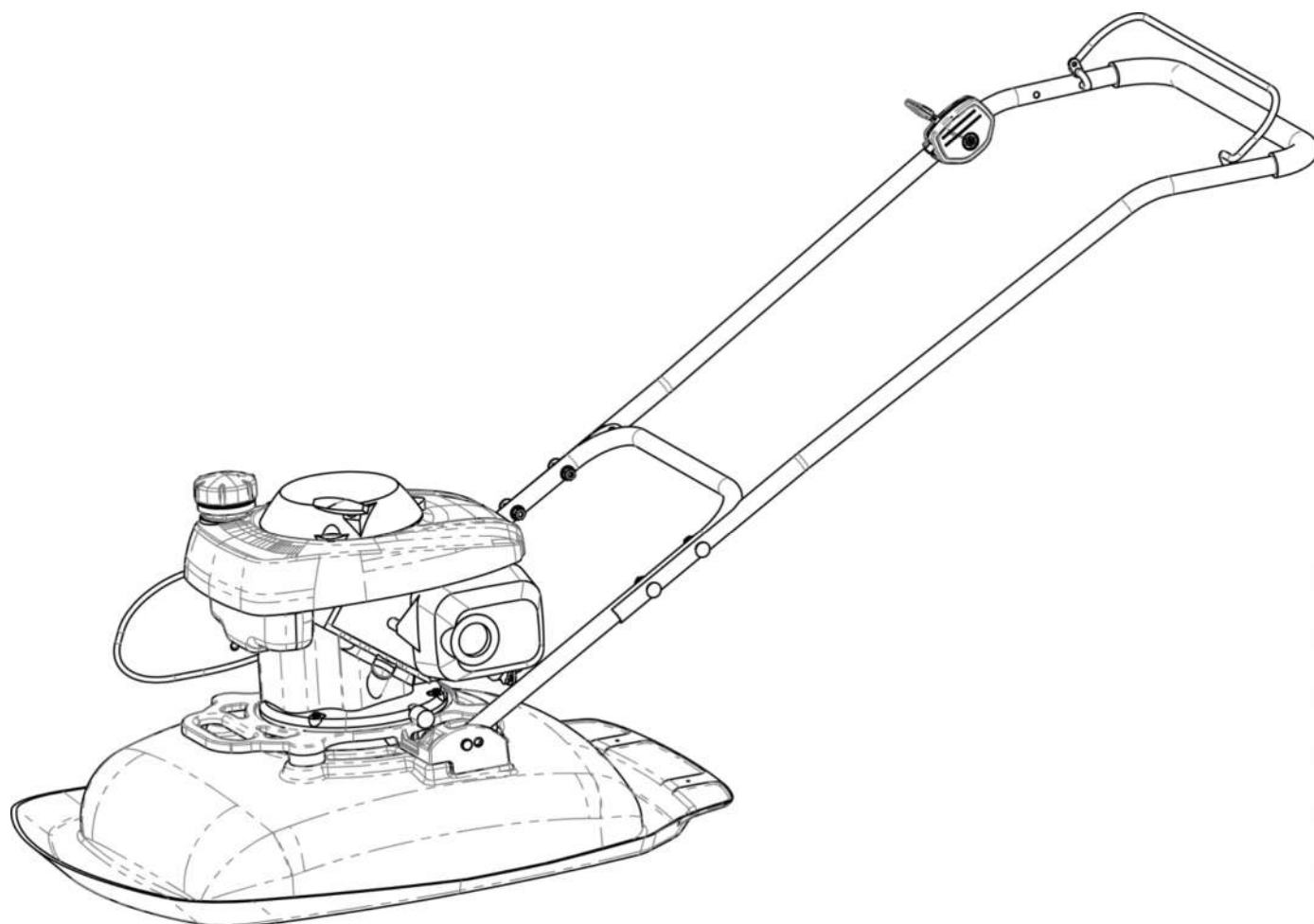




BLUEBIRD[®]

Operator Manual



Models

HM 160 / 968160016

HM 200 / 968160020

Please read the operator's manual carefully and make sure you understand the instructions before using the machine.

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Introduction

Congratulations

Thank you for purchasing a BlueBird lawn care product. Through your confidence in us, you have chosen an exceptionally high quality product.

This manual is a valuable document. It describes your new BlueBird machine. Read the manual carefully before attempting to use the machine.

Following the instructions (use, service, maintenance, etc.) can considerably increase the lifespan of your machine and even increase its resale value. Please contact your dealer for more information.

If you sell your BlueBird machine, make sure to give the operator's manual to the new owner.

Use

The machine is used to mow hard to reach and undulated surfaces.

Insure your machine

Contact your insurance company to check on insurance coverage for your new machine. You should have all-inclusive insurance for liability, fire, damage and theft.

Good Service

Before the machine was delivered it underwent inspection. When you need spare parts or support in service questions, warranty issues, etc., please consult the following professional:

This manual belongs to the machine with the serial number	Engine

Serial Number

The machine's serial number can be found on the printed plate attached to the deck of the machine.

The plate includes the following information:

- The machine's type designation (model).
- The machine's serial number (S/N).

Please state the type designation and serial number when ordering spare parts.

The engine's serial number is printed on the engine. The engine type is specified on the crankcase under the airfilter.

Please state engine serial number and type when ordering replacement engine parts.

Symbols and Decals



WARNING!

XXXX XXX XXXX XX XXXX X XXXX.

Used in this publication to notify the reader of a risk of personal injury, particularly if the reader DOES NOT follow the instructions given in the manual.

IMPORTANT INFORMATION

XXXX XXX XXXX XX XXXX X XXXX.

Used in this publication to notify the reader of a risk of material damage, particularly if the reader DOES NOT follow the instructions given in the manual.

Used also when there is a potential for misuse or misassembly.

Safety Decals and Machine Mounted Instructions

WARNING!



Read the manual.

Wear safety glasses, hearing protection and other required safety equipment.

Be careful of discharged objects. When the mower is in operation, keep persons and animals away.

Be careful when you operate the mower on slopes. To prevent slips or falls, only mow when the grass is dry.

Your hands or feet can be injured from contact with the blades. To prevent injury, disconnect the spark plug wire before you service the mower.

Stay away from hot surfaces and moving parts. Never operate equipment that is not in correct order or without decals, guards, shields, deflectors or other protective devices fastened.

DANGER

Keep hands and feet away. Injury or death can occur from contact with the blade or from the objects discharged from the mower.



Safety

General Use

The object of this manual is to help you use your BlueBird machine safely and to provide information about how to maintain the machine. Please read the manual carefully before attempting to use the machine.

If after reading the operator's manual you are still unsure about the safety risks associated with use of the machine, you should not use the machine. Please contact your dealer for more information.

These safety instructions only address the basics for safe use. It would be impossible in the safety instructions to describe all possible risk situations that could arise when using the machine. You can however, prevent accidents by always using common sense.

To obtain extra copies of the operator's manual, please contact your dealer.



WARNING!

Under no circumstances may the original design of the machine be modified without written approval from the manufacturer. Such modifications not only affect the performance and durability of the machine but may even pose a safety risk for users and those in the vicinity. Unauthorized modifications to the design of the machine may absolve the manufacturer from liability for any resulting personal injury or property damage. Modifying the machine without written approval from the manufacturer may void the guarantee.

IMPORTANT INFORMATION

Do not use the machine until you have read the operator's manual carefully and understand the instructions given.

All maintenance work or adjustments not described in this manual must be performed by an authorized BlueBird service workshop.



WARNING!

Engine exhaust, some of its constituents and certain vehicle components contain or emit chemicals considered by the State of California to cause cancer, birth defects or other reproductive harm. The engine emits carbon monoxide, which is a colorless, poisonous gas. Do not use the machine in enclosed spaces.

- Read this manual carefully and make sure you understand it before using the machine or performing any maintenance. If the user cannot read this manual, it is the responsibility of the machine owner to explain the contents to the user.
- Follow all safety instructions. Failure to do so may result in injury to yourself or others.
- Accident prevention regulations, other general safety regulations, occupational safety rules and traffic regulations must be followed without fail.
- All users shall be trained in use of the machine. The owner is responsible for training users.
- Engage an authorized BlueBird workshop for all service and repairs not described in this manual.

Safety

- BlueBird original spare parts are designed and specified to maintain high quality and correct fit for optimal durability and lifespan. From a safety point of view, you should only use BlueBird original spare parts.
- Check that all safety decals are in place. See the chapter Symbols and Decals.
- Learn how to use the machine and its controls safely and learn to recognize the safety decals.
- Check that the machine is in serviceable condition prior to use; see Maintenance Schedule in the Maintenance chapter.
- Only use the machine in daylight or in other well-lit conditions. Keep the machine a safe distance from holes or other irregularities in the ground. Pay attention to other possible risks.
- Only allow the machine to be used by adults who are familiar with its use and understand the instructions.
- Never allow persons not trained in the use of the machine to service it.
- Never allow children or persons not trained in the use of the machine to use it. Local laws may regulate the age of the user.
- People and animals can distract you causing you to lose control of the machine. For this reason, you should always concentrate and focus on the task at hand.
- Never leave the machine unsupervised with the engine running.
- Make sure that other people are nearby when you are using the machine so that you can call for help should an emergency arise.
- Remember that the operator or owner is responsible for accidents or hazards that occur to other persons or their property.
- The machine is tested and approved only with the equipment originally provided or recommended by the manufacturer.



WARNING!

The engine can become very hot. To avoid being burned, you must turn off the engine and wait until all parts have cooled before touching the engine.



WARNING!

Overexposure to vibration may lead to circulatory or nerve damage, particularly in people who have impaired circulation.

Contact your doctor if you experience symptoms that could have been caused by overexposure to vibration. Examples of common symptoms include numbness, pain, muscle weakness, change of skin color or an uncomfortable feeling of tingling. These symptoms appear most frequently in the fingers, hands or wrists.

Safety

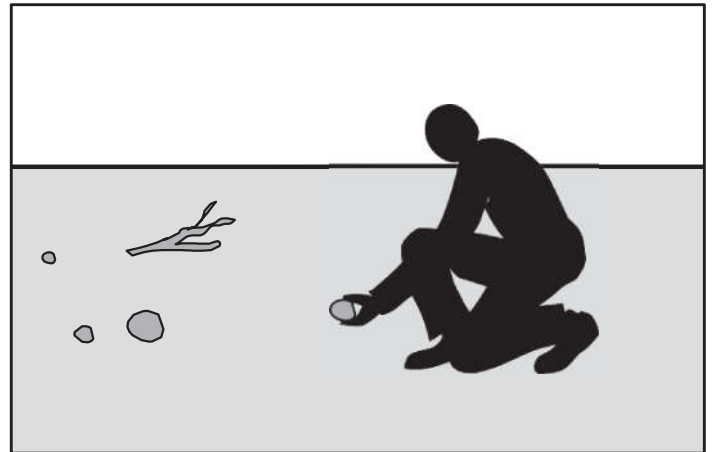
Preparations

- Have first aid equipment at hand when using the machine.
- Check that nobody else is in the vicinity of the machine when you start the engine, engage the drive or run the machine.
- Do not operate the equipment with the OPC System disconnected or if the system does not operate correctly. Do not disconnect or prevent the operation of any switch.
- Keep animals and people a safe distance from the machine.
- Clear the area of objects such as stones, toys, steel wire, etc. that could become caught in moving machine parts and thrown out.
- Find and locate all fixed objects in the ground, such as sprinkler systems, poles, water valves, bases for washing lines, etc. Be certain to check for hidden electrical cables or similar in the surface of the lawn. Always run the machine around these objects. Never intentionally run the machine over foreign objects.
- Ensure that all guard plates and protective shields are in place and intact when using the machine. Ensure that all protective devices are in place when the machine is in use.
- Remove loose clothing or jewelry and secure long hair that can catch in moving machine parts.
- Wear protective shoes or boots. It is recommended that the footwear have anti-slip with steel toes. Never use the machine when barefoot.
- Wear approved ear-protection when running the machine. Ask your dealer about approved ear-protection.
- Observe all safety instructions; otherwise you may injure yourself or others around you.
- Make sure that the machine is in serviceable condition prior to use.
- Inspect the mower before you attempt to use it. Check the engine oil level. Fuel is flammable. Use caution when you add fuel to the mower.
- Stop the engine and wait until all machine movement comes to a standstill before service, adjustment or cleaning.
- Do not run the engine in poorly ventilated spaces.
- Avoid slopes that are too steep to use the machine safely.

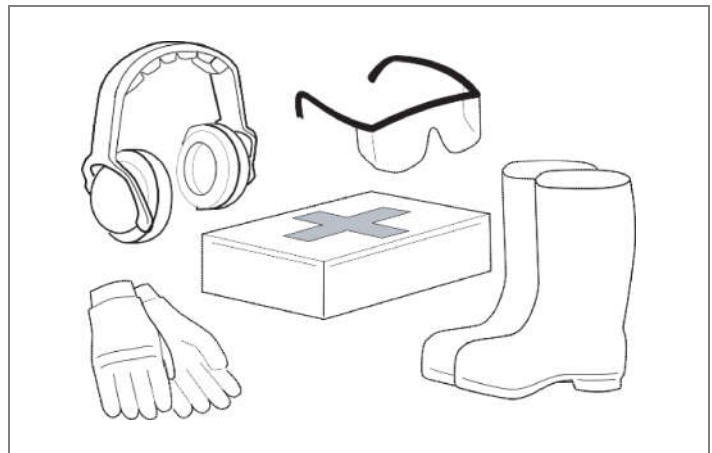


WARNING!

Always use approved protective clothing and approved protective equipment when using the machine. Protective clothing and protective equipment cannot eliminate the risk of accidents, but wearing proper clothing and the correct equipment will reduce the degree of injury should an accident occur. Ask your dealer about approved protective clothing and approved protective equipment recommended by BlueBird.



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Safety

Operating

- Do not use the machine if you are tired, if you have consumed alcohol, or if you are taking other drugs or medication that can affect your vision, judgment or co-ordination.
- Never use the machine indoors or in spaces lacking proper ventilation.
- Do not use the machine on any surface other than grass.
- Make sure you have a proper foothold when using the machine, particularly when backing. Walk, don't run. Never work on wet grass. Poor traction may cause you to slip.
- Keep your hands and feet away from moving parts.
- Keep your hands and feet away from the cutting blades.
- Slow down and be especially careful on slopes. Make sure to run the machine in the recommended direction on slopes. Be careful when working close to sudden changes in level.
- To protect against loss of control:
 - Operate the mower across the face (horizontally), not up and down (vertically)
 - Do not start or stop suddenly on slopes
 - Decrease the speed when you operate the mower on slopes or you must turn. Use caution when you change direction. Turf condition can change the stability of the mower.
 - Use caution when you operate the mower near drop-offs, ditches or embankments
 - Be careful of holes in the terrain or undulated surfaces or any other hazards that are not visible.
- Smoking, open flames or sparks in the vicinity of the machine are strictly forbidden. Gasoline is extremely flammable and carelessness in handling can result in personal injury or fire.
- Stop and inspect the equipment if you run over or into anything. If necessary, make repairs before beginning again.
- Whatever happens, you should always park the machine on even ground, turn off the engine and wait until all moving parts have stopped before leaving the operating position behind the machine.
- Always operate at speeds that allow you to have complete control of the machine. Make sure of your footing keep a tight grip on the handle and walk. Never run when you operate the mower.
- Use caution when you go near corners, trees or other objects that can prevent a clear view.
- Before you move across or operate on the paths or roads, release the OPC handle and lift the mower. Look for traffic.
- Stop the engine when the mower is on any surface that is not grass.
- Do not release the cut grass in the direction of persons or allow persons near the mower while in operation.
- Do not operate the mower with damaged guards or without safety devices in position.
- Do not change the engine governor setting or over-speed the engine. Never change or tamper with adjusters that are closed with a seal for the engine speed control.
- Before you leave the mower for any reason, release the OPC handle to stop the engine and allow the mower to settle to the ground.
- When you hit an object or mower starts to cause the vibration that is not normal, inspect the mower for damage and make repairs.
- Do not use this equipment for uses that the mower was not made for.



WARNING!

Engine exhaust, some of its constituents and certain vehicle components contain or emit chemicals considered to cause cancer, birth defects or other reproductive harm.

The engine emits carbon monoxide, which is a colorless, poisonous gas. Do not use the machine in enclosed spaces.

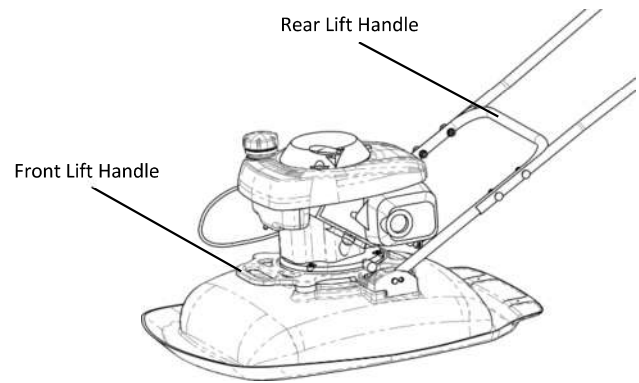
Safety

Movement/Transport

Your machine is equipped with an integrated front lifting handle and rear crossbar handle. Use these lift points when loading or unloading your mower onto a trailer or cart.

When using a trailer, use straps, cables or ropes to fasten the mower to the trailer. Always check that you are in compliance with applicable traffic regulations before transporting the machine.

Be careful and use safe lifting and moving techniques when loading/unloading the machine.



Storage

- Allow the engine to cool before storing the machine. Never store the machine near an open flame.
- Store the machine with the fuel valve closed.
- Store the machine and fuel in such a way that there is no risk that leaking fuel or fumes can come in contact with flames or sparks from electrical machines, electric engines, relays, switches, boilers or similar.
- Store the machine in a locked space away from children and adults untrained in use of the machine.

Children

Serious accidents can occur if you fail to be on guard for children in the vicinity of the machine. Never assume that children will stay put where you last saw them.

- Keep children away from the machine.
- Keep children away from the work area and under close supervision by another adult.
- Keep an eye out and shut off the machine if children enter the work area.
- Never allow children to operate the machine.
- Be particularly careful near corners, bushes, trees or other objects that block your view.

Safety

Fuel System



WARNING!

Gasoline and gasoline fumes are poisonous and extremely flammable. Be especially careful when handling gasoline, as carelessness can result in personal injury or fire.

- Only store fuel in containers approved for that purpose.
- Never remove the fuel cap and fill the fuel tank when the engine is running.
- Always stop the engine when refueling.
- Do not smoke when filling the gasoline tank and do not pour gasoline in the vicinity of sparks or open flame.
- Never fill the fuel tank indoors.
- Before starting the machine after refueling, it should be moved at least 10 feet (3 m) from the location where it was filled.
- Turn off the fuel supply for storage or transport.
- If leaks arise in the fuel system, the engine must not be started until the problem has been resolved.
- Check the fuel level before each use and leave space for the fuel to expand, because the heat from the engine and the sun can otherwise cause the fuel to expand and overflow.
- Avoid overfilling. If you spill gasoline on the machine, wipe up the spill and wait until it has evaporated before starting the engine. If you spill gasoline on your clothing, change your clothing.



WARNING!

Wait until all moving parts are completely still before performing maintenance on the machine. Turn off the engine and remove the spark plug cable.

Maintenance

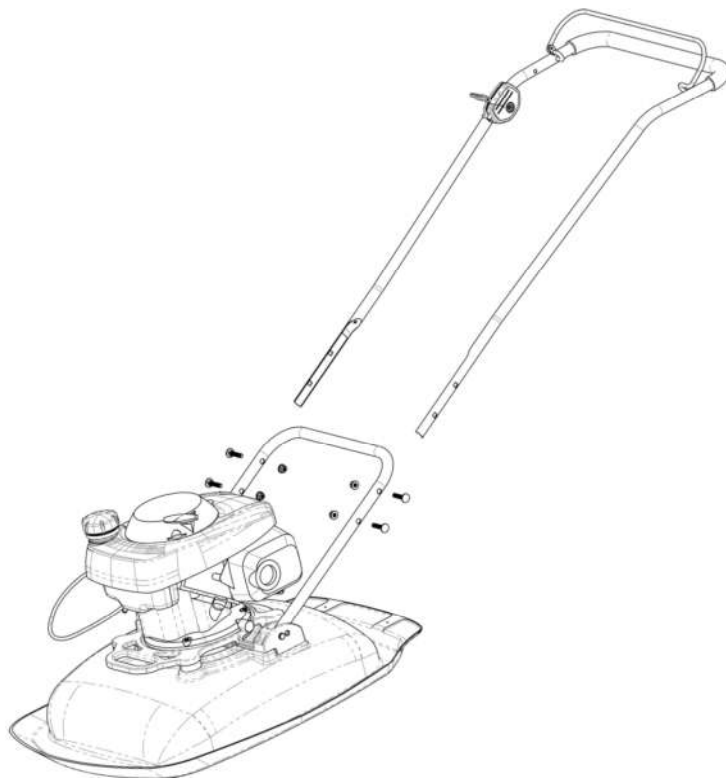
- Never make adjustments with the engine running.
- Disengage the drive units, shut off the engine and wait until all moving parts come to a complete stop before making adjustments, performing maintenance or cleaning the machine.
- Disconnect the spark plug cable before beginning repair work.
- Keep all components in serviceable condition and make sure all nuts, bolts, etc. are tight. Replace worn or damaged decals.
- Be careful when checking work tools. Use gloves when performing maintenance work.
- Never allow persons not trained in the use of the machine to perform service on it.
- Always park the machine on even ground before performing maintenance or making adjustments.
- Do not disassemble the engine. This can invalidate the engine warranty. Contact the dealer with any questions regarding service or guarantee matters. Follow all maintenance instructions.
- Do not change the setting of governors and avoid running the engine with overly high RPM's. If you run the engine too fast, you risk damaging the machine components.
- Do not modify safety equipment. Check regularly to be sure it works properly. The machine must not be run with defective or disassembled safety equipment.
- The muffler is designed to maintain sound levels at an approved level and keep direct exhaust away from the user. Exhaust gases from the engine are extremely hot and may contain sparks that can cause fires or burn the user.
- Never use a machine with a defective muffler.
- Reduce the risk of fire by removing grass, leaves and other debris that may have caught in the machine.

Assembly

Handle and Throttle Assembly

Your mower was shipped with the upper handle disconnected from the bottom handle. For proper assembly, follow the instructions below.

1. Remove unit from box and pallet.
2. Align the holes in the lower handle with the holes in the upper handle.
3. Insert the four carriage bolts into holes in handles (insert from outside in so head of bolt is located on outer surface of handlebar). Secure with the four nylon insert hex flange nuts.
4. Secure the handle control cable(s) to the upper and lower handles using supplied cable ties.
5. Throttle cables (HM200) or switch wires (HM160) MUST be routed down the RIGHT side of the handle and on the RIGHT side of the engine. Do not wrap cables around the left side of the engine.



Handle Mounting Holes

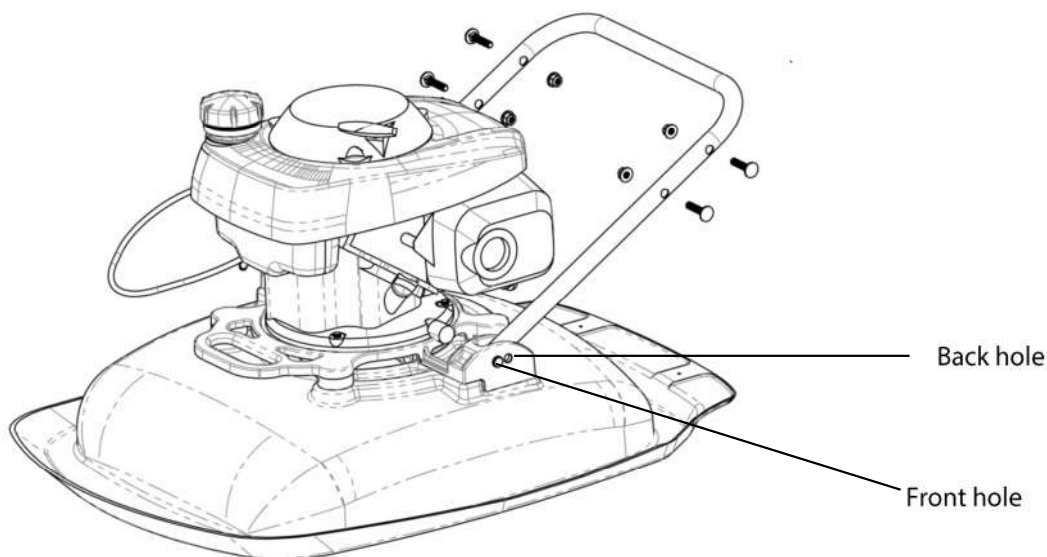
The HM 160 and HM 200 come with Bluebird's VersaMount handle mounting design. This gives the operator the option for 2 different mounting positions based on the terrain you are mowing. These handle options are only recommendations. The handle should be mounted so the operator has the best control of the mower based on mowing conditions.

16" HM 160:

- The back hole is recommended for operation on steeper inclines.
- The front hole is recommended for operation on more level terrain.

20" HM 200:

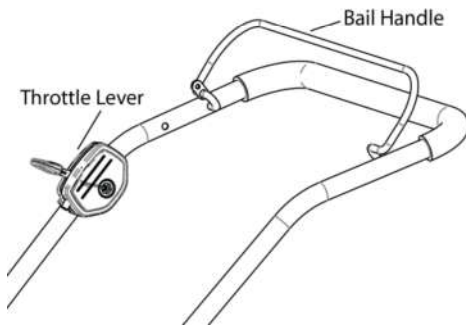
- The back hole is recommended for operation on steeper inclines.
- The front hole is recommended for operation on more level terrain.



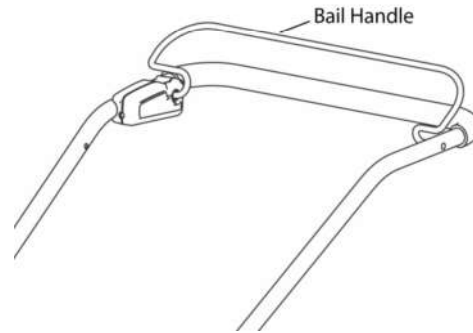
Controls

OPC (Operator Presence Control)

The bail handle controls the OPC system. The bail handle must be fully engaged (closed) before the engine will start. When the bail handle is released, the engine must stop within 3 seconds.



20" HM200 Handle



16" HM160 Handle

Throttle Lever (20" HM200 Only)

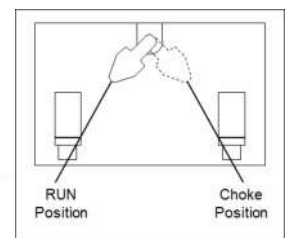
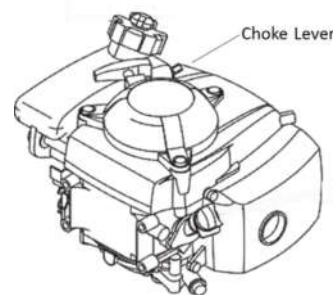
The throttle lever on your mower controls the engine speed. To increase engine speed, push the throttle lever forward to the "run" detent position. To decrease the engine speed, pull the throttle lever back towards the operator.

When you start a cold engine, pull the throttle lever completely toward the operator (HM200 only) until the throttle lever is in the "choke" detent position. This closes the choke plate. Once the mower starts, slowly push the throttle to the "run" detent position to increase the engine speed as the engine becomes warm.

Choke Lever (16" HM160 Only)

When starting a cold engine on your HM160, move the choke lever to the "CHOKE" position. Slowly slide the choke lever to the run position as the engine becomes warm.

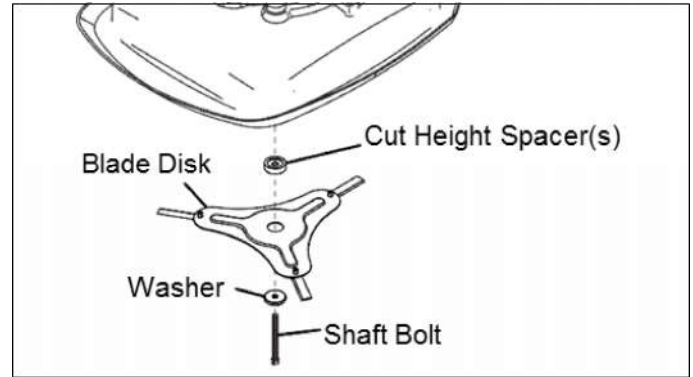
The mower is designed to run at full throttle. For optimal performance Bluebird recommends that the engine speed is at full throttle whenever the mower is in use.



Controls

Adjusting the Height of Cut (HOC)

1. Stop the engine, close the fuel shut-off valve and disconnect the spark plug wire
2. Tilt the mower up on its left edge so the air filter and carburetor are facing up and away from the ground in order to access the underside of the deck housing.
3. Remove the engine shaft bolt, disc washer and blade disc.
4. Refer to the cut height chart and install the correct number of cut height spacers between the blade disc and the impeller fan, ensuring that all spacers are fully seated together and fully seated through center pilot hole in the blade disc.
5. Using the correct length engine shaft bolt for your desired height of cut, seat the blade disc onto cut height spacer, install disc washer and proper engine shaft bolt. Tighten shaft bolt to factory recommended torque settings listed below. Failure to properly tighten shaft bolts to required torque can result in injury or product damage.
 - 20" HM200 – 38-40 ft. lb. (51-54 Nm.)
 - 16" HM160 – 12-14 ft. lb. (16-19 Nm.)



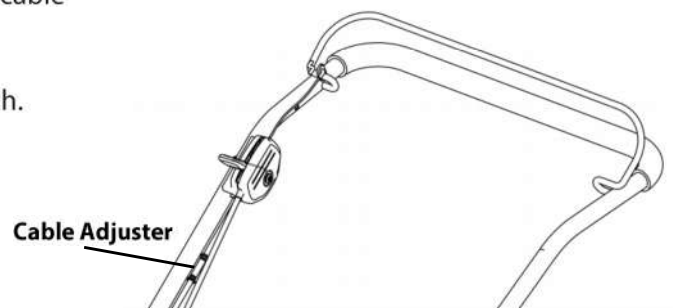
WARNING!

The blades have sharp edges. Never touch or hold blades without proper protective gear. To prevent injury, use caution when servicing or holding the blade

Height of Cut (HOC)	Spacers	Engine Shaft Bolt 20" HM200	Engine Shaft Bolt 16" HM160
3 inch (7.6 cm)	0	3/8-24 x 3-1/2 inch (8.9 cm)	1/4-28 x 2-3/4 inch (7 cm)
2-1/2 inch (6.4 cm)	1	3/8-24 x 3-1/2 inch (8.9 cm)	1/4-28 x 3-1/4 inch (8.3 cm)
2 inch (5.1 cm)	2	3/8-24 x 4-1/2 inch (11.4 cm)	1/4-28 x 3-3/4 inch (9.5 cm)
1-1/2 inch (3.8 cm)	3	3/8-24 x 4-1/2 inch (11.4 cm)	1/4-28 x 4-1/4 inch (10.8 cm)
1 inch (2.5 cm)	4	3/8-24 x 4-1/2 inch (11.4 cm)	1/4-28 x 4-3/4 inch (12.1 cm)

Adjusting Bail Cable Tension to remove excess movement

1. Make sure the bail cable is inserted in the correct slot in the throttle lever.
 - When the standard handle is installed, the bail cable must be in the upper slot.
 - When the optional tapered handle is installed, the bail cable must be in the lower slot.
2. Use the cable adjuster as required to adjust the cable length.
3. Test the operation of the OPC handle.
 - When the bail is open, the engine must not start.
 - When the bail is closed, the engine will start.
 - When the bail is released, the engine must stop.



Operation

General

1. Do not allow the engine to “lug”. The engine should run at full RPM under load. Allow the engine to run at high RPM to maintain power level and proper level of lift to ensure smooth operation and optimal performance.
2. Lowering the RPM will cause performance issues and will cause the unit to drag excessively and not perform to its potential.
3. Never operate the engine without enough ventilation or in an enclosed area. The carbon monoxide in the exhaust fumes can increase to dangerous levels.
4. Keep your hands and feet away from moving parts and the cutting units. Do not make adjustments to the mower with the engine started.
5. Do not operate the mower with loose or damaged components. All components must be properly fastened to the mower.
6. Inspect the area to find the safest procedure for the mower. Check the height of the grass, the type of terrain and the conditions of the surface. Each condition needs the correct adjustments and precautions.
7. First cut in a test area so that you completely understand the operation of the mower and controls.
8. Mow when the grass is dry to get the best results.
9. Do not release the cut grass in the direction of persons or allow persons near the mower while in operation. The owner and operator are responsible for injuries caused to persons near the mower and any damage to their property.
10. Be careful when you operate near to gravel areas (roads, parking areas, cart paths). Stones released from the equipment can cause injuries to persons and cause damage to the equipment.
11. When you are not mowing grass, always stop the engine.
12. When you hit an object or mower starts to cause vibration that is not normal, inspect the mower for damage and make repairs.
13. Walk slowly and be careful when you operate on the slopes or near sharp edges.
14. Never use your hands to clean the blades. Use a brush to remove the grass clippings from the blades. The blades are sharp and can cause injuries.



WARNING!

Always use approved protective clothing and approved protective equipment when using the machine. Protective clothing and protective equipment cannot eliminate the risk of accidents, but wearing proper clothing and the correct equipment will reduce the degree of injury should an accident occur. Ask your dealer about approved protective clothing and approved protective equipment recommended by BlueBird.

IMPORTANT INFORMATION

Clear the lawn of any debris.
Clearly mark rocks and other fixed objects.
Be especially sure to check for hidden electrical cables or similar in the lawn.



WARNING!

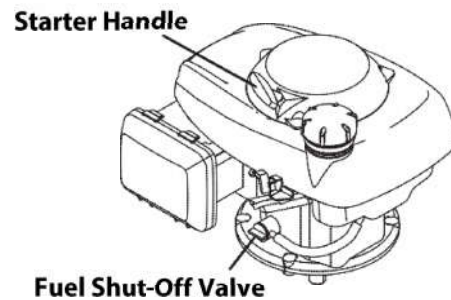
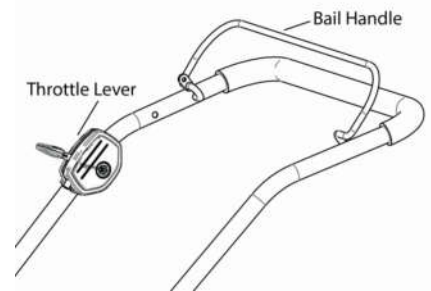
Before you clean, adjust or repair this equipment, always stop the engine, close the fuel shut-off valve and disconnect the spark plug wire.

Operation

Starting the Engine

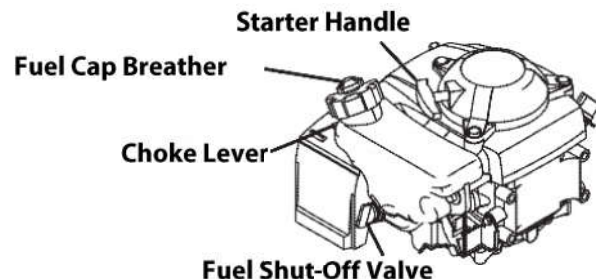
20" HM200

1. Start the engine with the operator behind or on the right side of the mower.
2. Check the engine oil level.
3. Check fuel level. Make sure fuel shut-off valve is in the OPEN position
4. When you start a cold engine, pull the throttle lever completely toward the operator to close the choke plate.
5. Pull and hold the bail handle against the upper handle. Move the handle to the upright position.
6. Place your foot firmly on the rear or right side surface of the deck.
7. Slowly pull on the starter handle until resistance is felt, then pull firmly. Do not allow the starter handle to snap back into the recoil starter. Repeat until the engine starts.
8. When the engine starts, slowly push the throttle lever forward to increase the engine speed as the engine becomes warm.



16" HM160

1. Start the engine with the operator behind or on the right side of the mower.
2. Check the engine oil level.
3. Check fuel level. Make sure fuel shut-off valve is in the OPEN position. Turn the fuel cap breather two to three turns to the left.
4. When you start a cold engine, move the choke lever to the CHOKE position.
5. Pull and hold the bail handle against the upper handle. Move the handle to the upright position.
6. Place your foot firmly on the rear surface of the deck.
7. Slowly pull on the starter handle until resistance is felt, then pull firmly. Do not allow the starter handle to snap back into the recoil starter. Repeat until the engine starts.
8. When the engine starts, slowly move the choke lever to the RUN position as the engine becomes warm.



Operation

To Stop the Engine

1. Release the bail lever to stop the engine. Allow the engine to settle to the ground and all movement stop.
2. Move the fuel shut-off valve to the closed position.
3. 16 inch Hover Mower: Close the fuel cap breather valve.

To Mow

1. Move the mower to the area to be mowed. Start the engine.
2. To get the best results and highest quality of cut, start at the outer edge of the area to be mowed. Mow from the left side to the right side in decreasing sized half circles starting at the edge of your turf and work inwards. When you follow this pattern, the mulching performance of the mower improves.
3. Do not cut off more than 1/3 of the length of the blade of grass. Cutting more than 1/3 of the blade length can damage the health of your turf. Hover mowers do an excellent job mowing grass over mixed surfaces, make sure that the surfaces are level to each other and are free from branches, rocks and debris.
4. You can trim around the trees and bushes in half circle motions.
5. Use caution and be aware of your footing when you operate the mower on slopes. Move the hover mower from the right to the left side along the slope. Stand at the top of the hill. Start at the bottom of the slope and work your way to the top. When you must mow on steep or deep slopes, use the handle extension kit for easy and safe operation.
6. Always stay above the mower when you mow on slopes.
7. To mow around trees and flower bed edges: Walk forward while you pull the hover mower towards you in a clockwise direction around the edge. Mow from the left side to the right side so that the rotation of the blades throws any grass or debris away from the bed. The hover mower deck must never be more than 3 to 4 inches (7.5 to 10 cm) over the edge of the bed edge.
8. To trim around surface transitions: When the turf is the same level as the path, move the hover mower slowly towards the grass edge, the airflow will raise the overhanging grass and it will create a neat and quality cut.



WARNING!

To prevent injuries, when the blades rotate, keep your hands, feet and clothing away from the cutting unit.

NEVER use your hands to clean the cutting units. Use a brush to remove grass from the blades. The blades can be sharp and can cause injury.

Only mow when the grass is dry.

Make sure of your footing when you operate on slopes. Operation on slopes needs caution. If you are not comfortable when you operate on a slope, do not mow the slope.

Always stay above the mower when you mow on slopes. Keep the mower pointing down when you mow on slopes. Never mow by pushing the hover mower up a slope.

Mow across slopes horizontally, not vertically.

Maintenance

Maintenance Schedule

The following list of maintenance procedures must be performed on the machine. For those points not described in the manual, visit an authorized service workshop.

Mower Service Interval Chart		
Interval	Item	Section
First 5 Hours or First Month ¹	<ul style="list-style-type: none">• Replace the engine oil• Check all blades and blade bolts.• Check engine shaft bolt and blade disk	
Each day	<ul style="list-style-type: none">• Check OPC System• Check the engine oil level• Check the air filter• Check the blades, blade bolts and blade disk for damage or loose hardware• Clean any grass or dirt from blades and mower housing.• Make sure air inlet around engine base is not blocked.• Inspect the mower for hardware that is loose or missing.• Inspect the mower for damage.	
Each 25 hours or 3 Months ¹	<ul style="list-style-type: none">• Clean the air filter²	
Each 50 Hours or 6 Months ¹	<ul style="list-style-type: none">• Replace the engine oil³	
Each 100 Hours or Year ¹	<ul style="list-style-type: none">• Check the spark plug. Replace if needed.	
Each 200 Hours or 2 Years ¹	<ul style="list-style-type: none">• Replace spark plug• Replace air filter	

¹ Whichever occurs first. Log hours of operation to determine proper maintenance intervals.

² Clean the air filter more often when used in dusty areas.

³ Change engine oil every 25 hours when used under heavy load or in high ambient temperatures.

Maintenance

General Precautions

A qualified technician must always do adjustments and maintenance. If the correct adjustments cannot be made, contact your BlueBird Dealer.

Inspect the equipment according to the maintenance schedule and keep complete records.

- Keep the equipment clean.
- Keep all moving parts correctly adjusted and lubricated.
- Replace worn or damaged parts before you operate the mower.
- Keep all fluids at the correct level.

When you make the adjustments or repairs, do not wear jewelry or loose fitting clothing.

Refer to the illustrations in the Parts Manual for the removal and assembly of parts.

When you discard hazardous materials (engine oil, fuel), follow your local, state or federal-recommended procedures.

Engine

The mower includes a separate Engine Manual prepared by the engine manufacturer. Read the Engine Manual and know the operation and maintenance of the engine. When you follow the engine manufacturer instructions, you will make sure of the maximum service life of the engine. The replacement engine manuals are available from the engine manufacturer.

Refer to the Engine Manual as an aid when you check or change the oil or service the air cleaner.

The operation and maintenance during the first 5 hours of a new engine can make a difference to the performance and life of the engine.

During the first 5 hours of operation, BlueBird recommends the following:

- Allow the engine to reach a temperature of at least 140° F (60° C) before operation at full load.
- Check the engine oil level two times each day. Higher than normal oil use can occur during the first 5 hours.
- Change the engine oil and oil filter after the first 5 hours of operation.
- Check the air filter.
- Refer to the Engine manual for specified maintenance intervals.



WARNING!

No service operations may be performed on the engine or unit unless:

- The engine is stopped.
- The ignition cable has been removed from the spark plug.
- The machine is securely parked where it will not tip or begin rolling.

IMPORTANT INFORMATION

The mower operates and cuts correctly at the preset governor setting. Do not change the engine governor setting or over speed the engine.

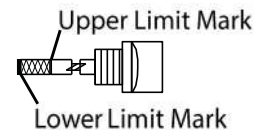
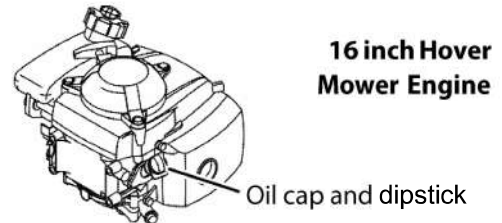
Maintenance

Engine Oil

Check engine oil level

Check the engine oil level before you start the engine or at least five minutes after you stop the engine.

1. Place the mower on a level surface.
2. Remove the oil cap and dipstick. Clean the dipstick with a clean cloth. Insert the dipstick until the cap touches the engine base. Do not screw the cap into the engine.
3. Remove the dipstick. Engine oil must be between the upper and lower level marks.
4. If the engine oil level is above the upper level mark, remove the excess engine oil.
5. If the engine oil level is below the lower limit mark, add more engine oil. Check the oil level again. Do not overfill the engine.



Change Engine Oil

1. Start the engine to increase the temperature, then stop the engine. Turn the fuel shut-off valve to the CLOSED position and disconnect the spark plug wire.
2. Remove the drain plug from the bottom of the crankcase and clean with a cloth.
3. Drain the engine oil into a container.
4. Replace the drain plug and fill the engine with the correct quantity and grade of oil through the filter.



WARNING!

The engine oil can damage your skin. Use gloves when you use engine oil. If engine oil touches your skin, clean the area immediately.

Discard used engine oil as shown in local regulations.

Engine Air Filter

1. Clean the outside of the filter cover. Remove the cover and the air filter.
2. Clean the inside of the filter housing and cover. Make sure dust and other particles do not get into the carburetor inlet.
3. 20 inch Hover Mower: Tap the filter several times on a hard surface to remove dirt. Never try to brush off dirt.
4. 16 inch Hover Mower: Clean the filter in warm soapy water. Rinse and allow to dry completely. Dip the filter in clean engine oil. Squeeze out all excess oil. When started, the engine will smoke if too much oil is left in the filter.
5. When you replace the filter, inspect the new filter. Do not use a damaged filter and never use an incorrect filter.
6. Assemble the filter and cover to the filter housing.

Maintenance

Fuel

Gasoline is flammable. Use caution when you add the fuel to the mower. Only use an approved container. The spout on the container must fit inside the fuel filler neck. Never use the containers that are not approved to keep or transfer fuel.

- Fill the fuel tank to less than 1 inch (2.5 cm) below the filler neck.
- Use clean unleaded gasoline with an 87 octane rating minimum.
- Check fuel hoses and clamps each year. Replace fuel hoses and clamps at first indication of wear or damage.
- Keep fuel according to your local, state or federal regulations and instructions from your fuel supplier.



WARNING!

Refuel the mower before you start the engine.

When the engine is in operation or while the engine is hot, never remove the fuel cap or add fuel to the mower.

Refuel outdoors only and do not smoke when you add fuel.

If the fuel spills, do not try to start the engine, but move the mower away from the area. Until fuel vapors are removed, do not allow the sparks, open flame or other types of ignition.

Never keep fuel containers near an open flame or any device that can cause the ignition of fuel or fuel vapors.

Always tighten the fuel tank cap and container cap after you add fuel.

Engine Exhaust

If you sense a change in the color or sound of the exhaust, stop the engine immediately. Identify the problem and have the system repaired.



WARNING!

The exhaust fumes contain carbon monoxide. The carbon monoxide in the exhaust fumes can increase to dangerous levels. To protect you from carbon monoxide poisoning, inspect the complete exhaust system every month and replace damaged components immediately.

NEVER operate the engine without enough ventilation.

The temperature of the exhaust components can be greater than 300° F (149° C). To prevent the burns, do not touch a hot exhaust system.

Maintenance

Inspecting Cutter Disk

A bent or unbalanced cutter disc can cause excessive vibration. Always mow with a flat and balanced cutter disc and non-worn blades. Make sure that the cutter disc insert nuts, blade bolts and blades are properly securely fastened to the disc.

1. Stop the engine and wait for all moving parts to stop. Turn the fuel shut-off valve to the closed position and disconnect the wire from the spark plug.
2. Rotate and tip the lawn mower onto its left edge with the carburetor and air cleaner facing up and away from the ground.
3. Remove the blade attachment bolts and the blades.
4. Remove the engine shaft bolt and washer.
5. Remove blade disc from the mower and place on a flat level surface with the blade side facing down.
6. Inspect for a consistent gap at each of the three blade disc ends where blades are attached.
7. If an inconsistent gap is seen between the flat surface and the surface of the blade disc, or if the disc is warped or damaged in any way, replace the blade disc.
8. Inspect the disc insert nuts to ensure they are properly secure and tight. If the insert nuts are loose or damaged, the blade disk must be replaced. Do not attempt to tighten the insert nuts if they are loose.
9. Inspect the blade attachment bolts for excessive wear and to ensure they are properly tightened. Make sure the correct blade bolts are used. Using incorrect blade bolts can result in injury or death. The blade bolts used with the metal blades are black in color. The blade bolts used with the plastic blades are silver in color. Never use incorrect blade bolts.
10. Tighten, blade bolts to 7 ft. lb. (9.5 Nm). Replace worn or damaged bolts. Loose or damaged bolts can cause blades or blade bolts to be thrown into the operator mowing area causing serious injury or death.
11. Inspect the blades for wear or damage. Replace worn and damaged blades immediately. Worn or damaged blades can cause objects be thrown into operator mowing area causing serious injury or death.



WARNING!

Never operate the mower with a bent or damaged blade disc. A bent or damaged disc will cause excessive vibration and unsafe operating conditions including loose components or thrown objects. Loose components can be thrown causing serious injury or death.



WARNING!

Always replace all three blades at the same time. Never replace only one or two blades. When you replace less than all three blades at the same time can cause your mower to become unbalanced and can cause excessive vibration. Excessive vibration can create unsafe operating conditions resulting in loose or thrown objects which can result in serious injury or death.

Maintenance

Care and Cleaning

Clean the mower after each use. To prevent damage to the engine, do not wash the mower with the engine in operation. When possible, clean the mower with compressed air.

Keep the top and bottom of the deck housing clean and free of grass and debris. Never block the impeller air intake openings around the base of the engine. Tilt the mower on the left edge so the air filter and carburetor face up and away from the ground to clean the bottom of the deck housing.

Use compressed air to clean the engine. Do not pressure wash engine. Use clean water to wash your equipment.

IMPORTANT INFORMATION

Do not wash any part of the mower that is hot. Do not use the high-pressure spray or steam. Use cold water and automotive cleaners.



WARNING!

Never use your hands to clean the blades. Use a brush to remove grass clippings from the blades. The blades are sharp and can cause injuries.

IMPORTANT INFORMATION

To use salt water or drain water is known to cause rust and corrosion of metal parts and can cause damage or failure. This damage is not included by the factory warranty.



WARNING!

To prevent fire, clean grass clippings and dirt from the cutting disk, engine and exhaust components.

Maintenance

Mower Storage

General

- Clean the mower. Repair and paint damaged or exposed metal.
- Inspect the mower, tighten all hardware, and replace worn or damaged components.
- Keep the mower and all accessories clean, dry and protected from the elements. Never keep the mower near an open flame or spark which can cause ignition of the fuel or fuel vapors.

Engine

- Drain the fuel from the mower. Start the engine. Allow the engine to operate until it runs of fuel and stops. Try to start the engine again. When you can no longer start the engine, the fuel system is completely empty.
- While the engine is warm, remove the drain plug and drain the oil from the crankcase. Install the drain plug and fill the engine with oil.
- Remove the spark plug and add 1 ounce (29 ml) of clean engine oil into the spark plug hole. Slowly pull the starter rope several times to distribute the engine oil on the cylinder walls. Install the spark plug.
- Clean the outside surface of the engine. Paint bare metal or apply a thin layer of rust preventative oil.

Blades

- Completely clean the blade disk and blades. Paint any damaged or bare metal surfaces.
- Apply a thin layer of rust preventative oil to the sharpened edges of the blades.

After Storage

- Remove the spark plug. Place a clean rag over the spark plug hole and pull the starter handle quickly to remove excess oil from the cylinder. Install the spark plug.
- Check or service the air filter
- Check the level of engine oil.
- Fill the fuel tank with fuel.
- Remove all oil from the blades. Adjust the cutting height.
- Start the engine and allow the engine to become warm and lubricated.



WARNING!

The blades have sharp edges. To prevent injury, use caution when you service or hold the blade.



WARNING!

Never operate the engine without enough ventilation or in an enclosed area. The carbon monoxide in the exhaust fumes can increase to dangerous levels.

Troubleshooting

Symptom	Possible Causes	Action
Engine will not start.	<ol style="list-style-type: none"> 1. Spark plug wire is disconnected. 2. The fuel cap breather hole is plugged. 3. The air filter is dirty. 4. Air filter is soaked in gasoline. 5. The spark plug gap is incorrect. 6. The spark plug is pitted, fouled or cracked 7. The fuel tank is empty Fuel stale or dirty. 8. OPC System is not functioning. 9. Throttle or choke lever not in the CHOKE position 	<ol style="list-style-type: none"> 1. Connect the spark plug wire. 2. Clean fuel cap breather hole or replace fuel cap. 3. Clean or replace the air filter. 4. Replace the air filter. Only tip the mower on the left side so the air filter and carburetor is away from the ground. 5. Check the spark plug and adjust the gap. 6. Replace the spark plug 7. Drain and refill fuel tank with fresh gasoline. 8. Test, adjust, or repair OPC System. 9. Move throttle or choke lever to CHOKE position.
Engine hard to start or loses power.	<ol style="list-style-type: none"> 1. Fuel level low, fuel stale or dirty. 2. Air filter dirty. 3. The fuel cap breather hole is plugged. 4. Deck housing plugged with grass clippings. Impeller air intake blocked. 5. Engine oil too low, too high or dirty. 6. Engine problem. 	<ol style="list-style-type: none"> 1. Fill with fresh fuel. 2. Clean or replace the air filter. 3. Clean the fuel cap breather hole or replace the fuel cap. 4. Remove grass clippings or dirt from bottom of deck housing and impeller air intake around engine base. 5. Add or remove oil until the correct oil level is achieved. Replace dirty engine oil. 6. Consult engine manual.
Engine runs poorly.	<ol style="list-style-type: none"> 1. Spark plug wire not full connected to spark plug 2. The spark plug gap is incorrect. 3. The spark plug is pitted, fouled or cracked 4. Air filter dirty. 5. Throttle or choke lever in the CHOKE position. 	<ol style="list-style-type: none"> 1. Fully press the spark plug wire onto the spark plug. 2. Check the spark plug and adjust the gap. 3. Replace the spark plug 4. Clean or replace the air filter. 5. Move the throttle or choke lever to the RUN position.
The mower or engine vibrates more than normal.	<ol style="list-style-type: none"> 1. Excessive grass and debris stuck on underside of deck. 2. Engine bolts loose. 3. Engine mount bolts loose. 4. Blade bolts loose. 5. Replace the blade disk. 6. Blade missing or broken 7. Blade bent. 8. HOC spacers not properly seated. 9. Blade disc not properly seated 10. Engine shaft bolt not tightened to proper torque 	<ol style="list-style-type: none"> 1. Clean bottom of deck housing. 2. Tighten the engine mounting bolts. 3. Tighten engine mount to deck hardware. 4. Tighten or replace all three blade bolts. 5. Replace the blade disk. 6. Install three new blades. 7. Install three new blades. 8. Remove and install HOC spacers properly. 9. Install blade disk so it properly seats on the hub or HOC spacers. 10. Tighten the engine shaft bolt as follows: <ul style="list-style-type: none"> • 38 – 40 ft. lb. for HM200 • 12-14 ft. lb. for HM160

Service Journal

Action	Date/Stamp/Signature
Delivery Service	✓
1. Break the packaging and make sure the machine has not been damaged in transport.	<input type="checkbox"/>
2. Where applicable, assemble accompanying components.	<input type="checkbox"/>
3. Check that machine model corresponds to customer order.	<input type="checkbox"/>
4. Check that the right amount of oil is in the engine	<input type="checkbox"/>
5. Check that the bail cable tension is properly adjusted.	<input type="checkbox"/>
6. Check that the height of cut is properly set.	<input type="checkbox"/>
7. Fill the fuel tank and start the engine.	<input type="checkbox"/>
8. Check all operating instruments.	<input type="checkbox"/>
9. Check decals and information attached to the unit.	<input type="checkbox"/>
10. Check for leakage.	<input type="checkbox"/>
11. Inform the customer about:	
• The need and advantages of following the service schedule.	<input type="checkbox"/>
• The need and advantages of leaving the machine for service every 300 hours.	<input type="checkbox"/>
• The effects of service and maintaining a service journal on the machine's resale value.	<input type="checkbox"/>
12. Fill in the sales papers, etc.	Delivery service has been carried out. No remaining notes.

Certified: _____

After the first 5 hours

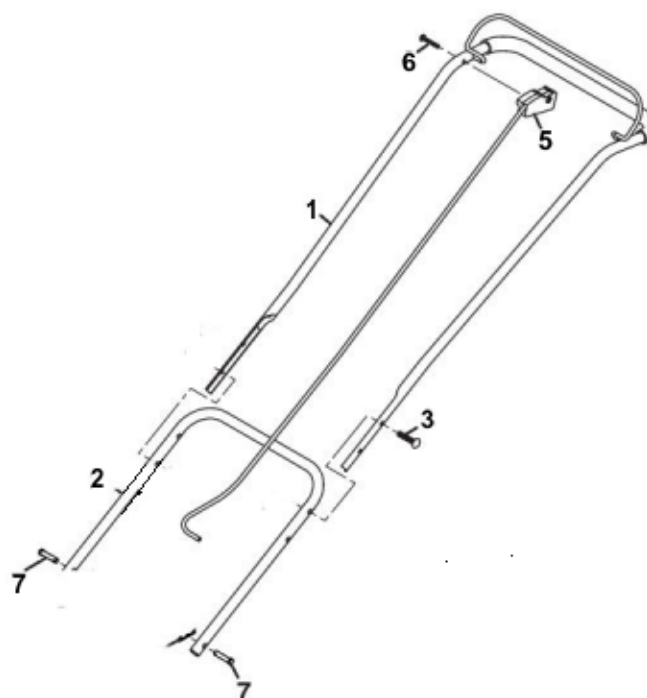
1. Change engine oil.	✓ <input type="checkbox"/>
2. Check all blades and blade bolts.	<input type="checkbox"/>
3. Check engine shaft bolt and blade disc.	<input type="checkbox"/>
4. Check OPC system including cable tension.	<input type="checkbox"/>

Service Journal, cont.

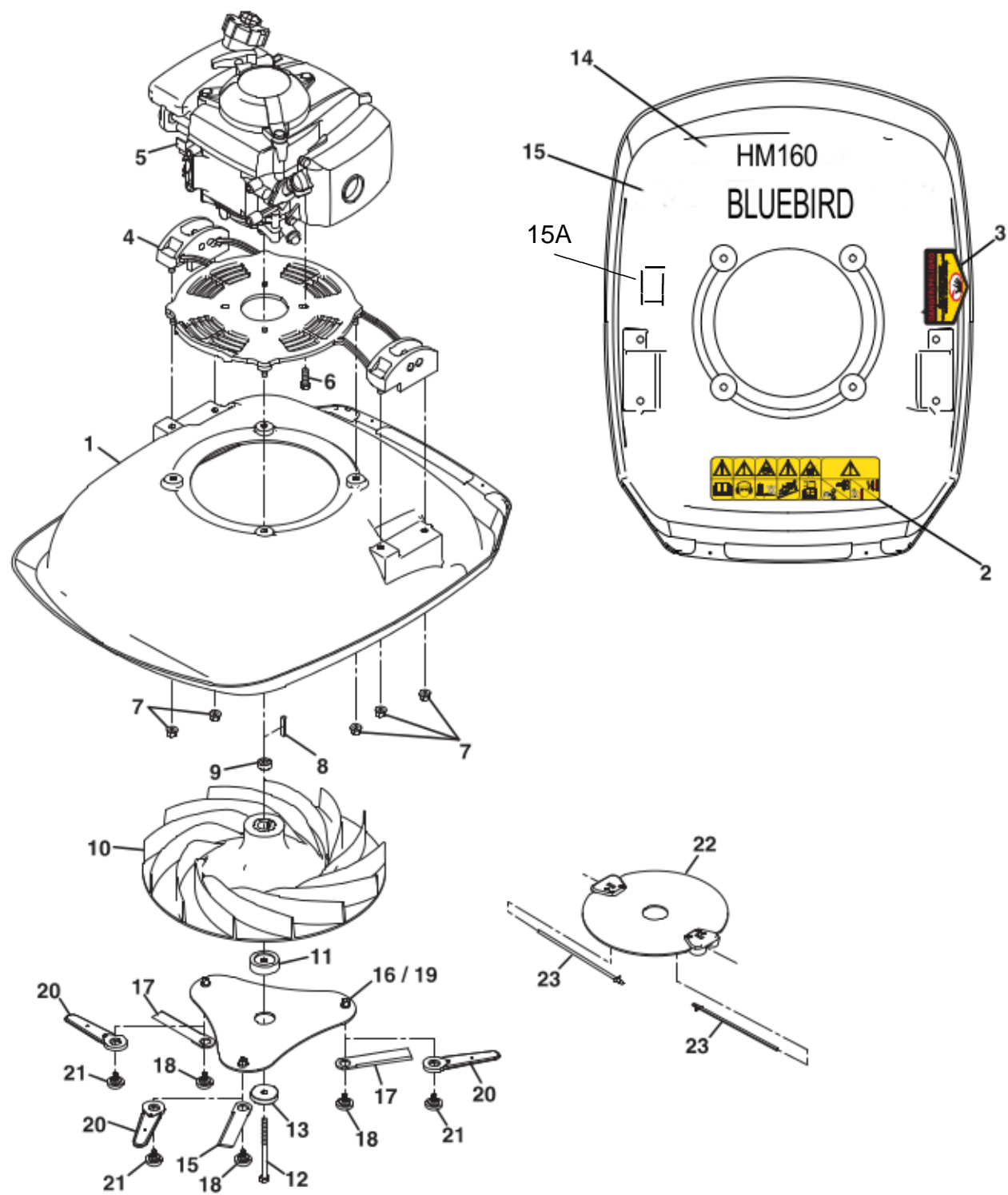
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16 Inch Hover Handle

16 Inch (40.6 cm) Hover Mowers



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	555160031	1	Upper Handle	Includes Grip and Bail Handle
	555160032	1	Bail	
2	555160034	1	Lower Handle	
3	555160039	4	Carriage Bolt, with Nut	
5	555160033	1	OPC Switch and Harness	
6	555160040	1	Screw, 1/4-20 x 1-1/2" Hex Socket	
7	555160038	2	Clevis Pin, 3/8 x 1-3/4" with clip	

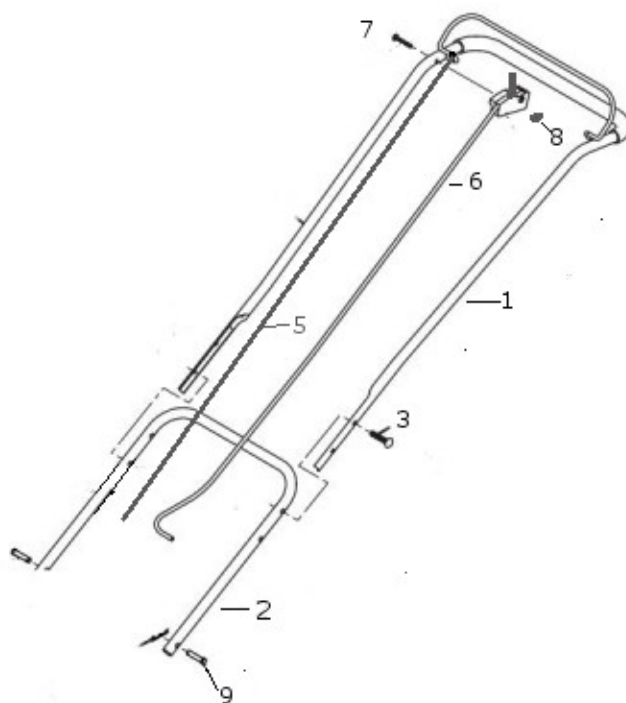


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	555160035	1	Deck, 16"	
2	555160057	1	Decal	
3	555160058	1	Decal	
4	555160036	1	Mount, Engine with nuts	
5	N/S	1	Engine, Honda GXV57	
6	555160042	4	Screw, M6-1 x 20 mm Hex Head	
7	555160041	8	Nut, 1/4-20 Nylon Insert Flange	
8	555160052	1	Key, 5 mm Square	
9	555160043	1	Spacer, Impeller	
10	555160037	1	Fan, Impeller	
11	555160049	4	Spacer, HOC	
12	555160042	1	Screw, 1/4-28 x 4-3/4" Grade 8	Used for 2" HOC
12	555160048		Screw, 1/4-28 x 4-1/4" Grade 8	Used for 2-1/2" HOC
12	555160047		Screw, 1/4-28 x 3-3/4" Grade 8	Used for 3" HOC
12	555160046		Screw, 1/4-28 x 3-1/4" Grade 8	Used for 3-1/2" HOC
12	555160045		Screw, 1/4-28 x 2-3/4" Grade 8	Used for 4" HOC
13	555160044	1	Washer, Disk	
14	555160056	1	Decal, HM160	
15	555160055	1	Decal, BLUEBIRD	
15A	160120860	1	Decal Height of cut (HOC)	
16	555160017	1	16" Metal Blade Kit	
17	555160060	3	• Blade, 4" Metal	Package of 3 Blades
18	555160061	3	• Bolt, Blade	Black Color
19	555160018	1	16" Plastic Blade Kit	
20	555160063	3	• Blade, 4" Plastic	Package of 3 Blades
21	555160062	3	• Bolt, Blade	Silver Color
22	555160019	1	16" String Cutter Kit	
23	555160064	2	• Cutter String	Package of 50 Cutter Strings

HOVER

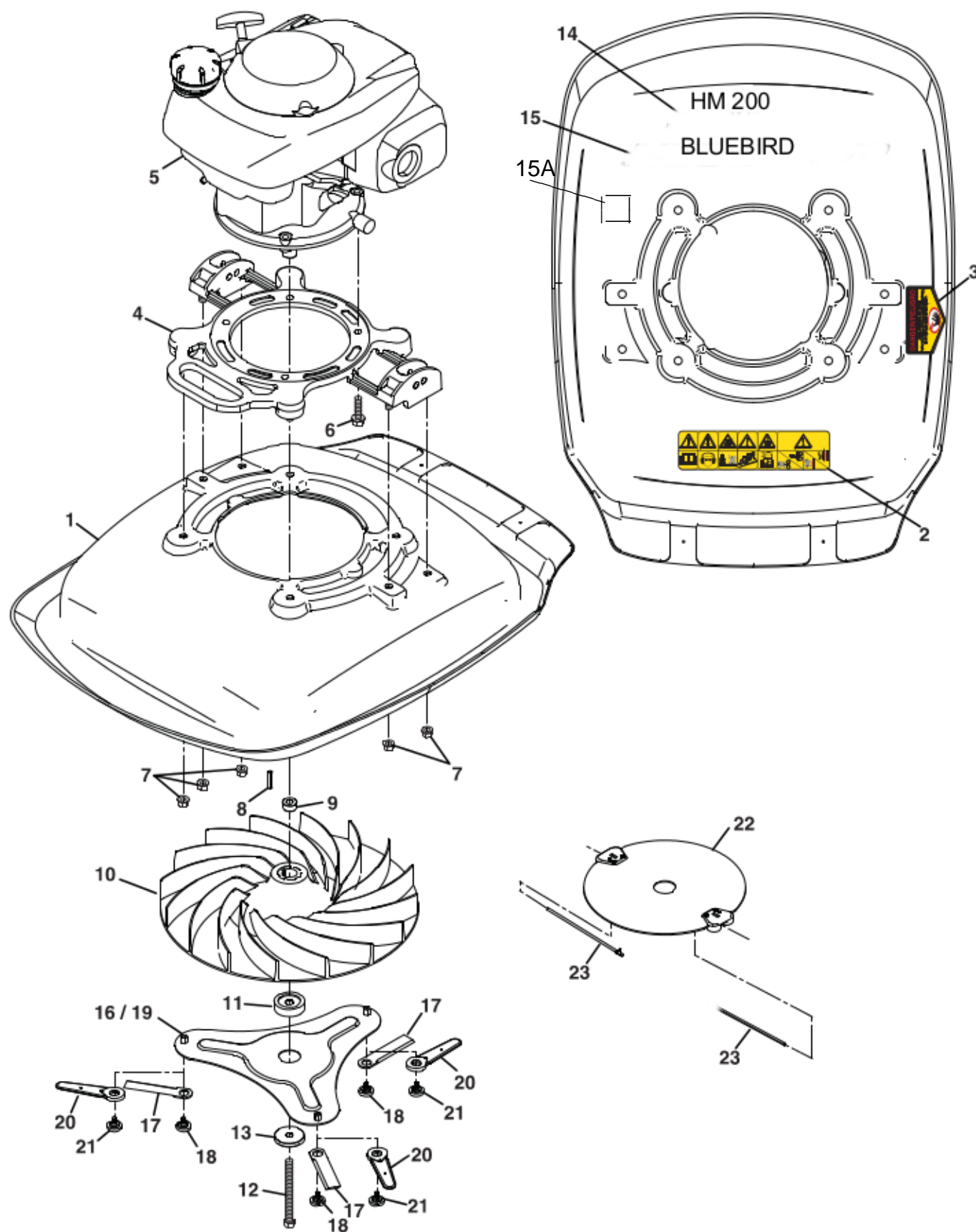
20 Inch Hover Handle

20 Inch (50.8 cm) Hover Mowers

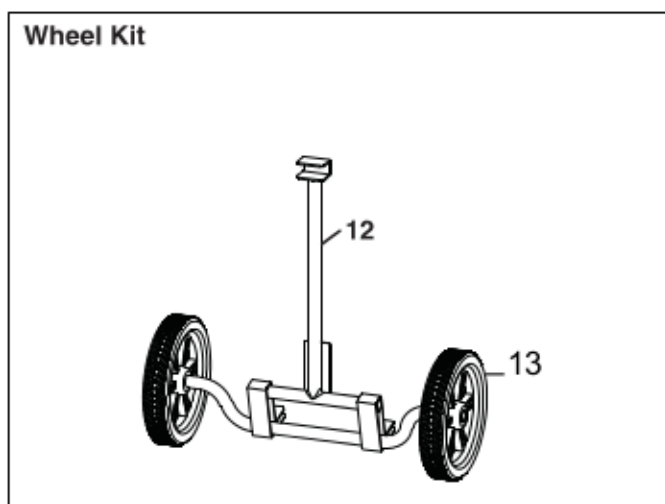
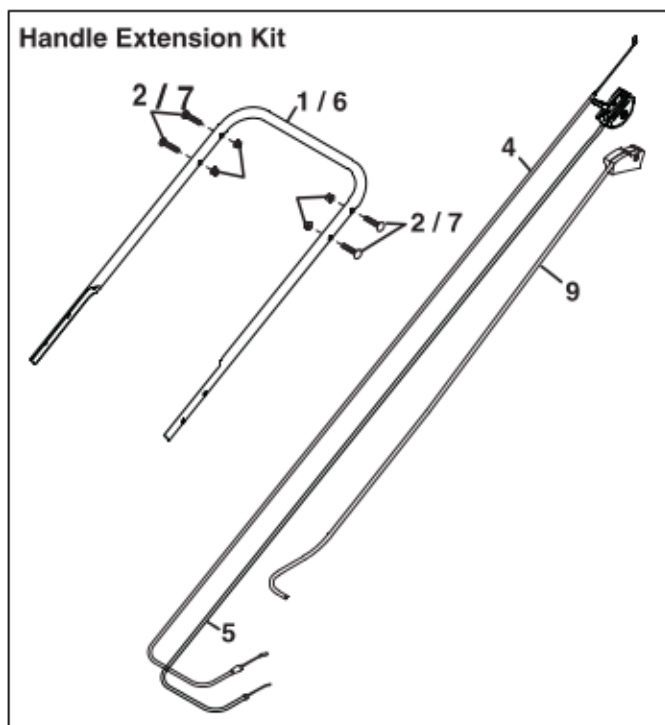


Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	555120343	1	Upper Handle	Includes Grip and Bail Handle
	555120344	1	HandleBail	
2	555120349	1	Lower Handle	Stainless Steel
3	555160039	4	Carriage Bolt, with nut	
5	555120346	1	Cable, Bail	
6	555120345	1	Throttle Lever includes bolt and nut	
7	555120347	1	Screw, 1/4-20 x 2-3/4" Hex Socket	
8	555120348	1	Nut, 1/4-20 Hex	
9	555160038	2	Clevis Pin, 3/8 x 1-3/4" with clip	

20 Inch Hover Deck Housing 20 Inch (50.8 cm) Hover Mowers



Item	Part No.	Qty.	Description	Serial Numbers/Notes
1	555120352	1	Deck, 20"	Used for 3-1/2" and 4" HOC Used for 2", 2-1/2" and 3" HOC
2	555160057	1	• Decal, Banner Warning	
3	555160058	1	• Decal, Blade Warning	
4	555120350	1	Mount, Engine	
5	N/S	1	Engine, Honda GCV160	
6	555120351	4	Bolt, 3/8-16 x 1-1/8" Tri-Lobe	
7	555120411	8	Nut, 5/16-18 Nylon Insert Flange	
8	555120362	1	Key, 3/16" Square	
9	555120355	1	Spacer, Impeller	
10	555120360	1	Fan, Impeller	
11	555120409	4	Spacer, HOC	
12	555120354	1	Screw, 3/8-24 x 3-1/2" Grade 8	
12	555120410	1	Screw, 3/8-24 x 4-1/2" Grade 8	
13	555120359	1	Washer, Disk	
14	555120403	1	Decal, HM 200	
15	555120353	1	Decal, BLUEBIRD	
15A	160120859	1	Decal Height of cut (HOC)	
16	555160021	1	20" Metal Blade Kit	Package of 3 Blades Black Color
17	555160060	3	• Blade, 4" Metal	
18	555120661	3	• Bolt, Blade	
19	555160022	1	20" Plastic Blade Kit	Package of 3 Blades Silver Color
20	555160063	3	• Blade, 4" Plastic	
21	555160062	3	• Bolt, Blade	
22	555160023	1	20" String Cutter Kit	Package of 50 Cutter Strings
23	555160064	2	• Cutter String	



	Item	Part No.	Qty.	Description	Serial Numbers/Notes
20"		555160024	1	20" Hover Handle Extension Kit	
	1		1	• Handle Extension	
	2	555160039	4	• Carriage Bolt, 5/16-18 w nut	
	4	555120365	1	• Cable, Extended Bail	
	5	555120366	1	• Extended Throttle Lever	
16"		555160020	1	16" Hover Handle Extension Kit	
	6		1	• Handle Extension	
	7	555160039	4	• Carriage Bolt, 5/16-18 w nut	
	9	555160054	1	• OPC Switch w/ Extended Harness	
	12	555160025	1	Wheel Kit for 20inch model only	
	13	555120363	2	Wheel w/bolt	

