

BLUEROCK® Tools

OPERATION MANUAL V1.0

FS-20 | 20" FLOOR SAW

Honda GX390 Engine



READ AND UNDERSTAND THIS MANUAL BEFORE OPERATING THE MACHINE

Keep this manual for future reference

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IMPORTANT SAFETY INFORMATION

WARNING

Before using this equipment, read this entire manual and become familiar with the machine and its controls. Do not allow untrained or unauthorized persons, especially children, to operate the equipment.

General Safety Rules

WARNING: Read and understand this entire manual before operating the BLUEROCK FS-20. Failure to follow the operating and safety instructions may result in serious injury, death, fire, or equipment damage.

- **Operate the machine only if you are trained and capable of doing so safely.** Become familiar with the controls and know how to stop the engine quickly before beginning work.
- **Inspect the machine before each use.** Check the blade, blade flanges, blade shaft and mounting hardware, blade guard, drive system, controls, wheels, water system, and other components for damage, excessive wear, looseness, or improper installation. Correct any unsafe condition before operating the saw.
- **Keep all guards and safety components installed and in proper working condition.** Never operate the machine with the blade guard or another safety device removed, damaged, modified, or improperly secured.
- **Keep hands, feet, clothing, hair, tools, and other objects away from the blade and all moving parts.** Never reach toward the blade while the engine is running or while the blade is still moving.
- **Wear appropriate personal protective equipment (PPE).** This includes appropriate eye protection, hearing protection, protective footwear, work clothing, and respiratory protection. Additional PPE, including gloves, head protection, and high-visibility clothing, may be required depending on the jobsite and work being performed.
- **Use only appropriate diamond blades.** The blade must be suitable for the material being cut and compatible with the saw's blade diameter, arbor size, rotational direction, and operating speed. The blade's maximum rated operating speed must be equal to or greater than the maximum blade shaft speed of the machine.
- **Inspect the diamond blade before every use.** Never use a blade that is cracked, bent, distorted, excessively worn, missing segments, or otherwise damaged.
- **Never operate the FS-20 indoors or in an enclosed or poorly ventilated area.** The gasoline engine produces carbon monoxide, an odorless and potentially deadly gas. Operate the machine outdoors where engine exhaust can safely dissipate.
- **Control exposure to respirable crystalline silica.** Cutting concrete, masonry, and similar materials can generate hazardous silica dust. Use the machine's water system and other appropriate exposure-control methods, and wear suitable respiratory protection when required.
- **Maintain a safe work area.** Keep bystanders and unnecessary personnel away from the machine and cutting area. Maintain adequate lighting and remove loose objects or other hazards that could interfere with safe operation.
- **Check the cutting area for hidden hazards before beginning work.** Determine whether electrical wiring, gas lines, water lines, communication cables, reinforcement, or other utilities or structures may be present in or beneath the material being cut.
- **Maintain control of the saw at all times.** Keep stable footing, use both hands on the operating handles during cutting, and do not overreach. Do not operate the saw from an unstable position.
- **Do not force the machine.** Maintain a controlled feed rate and allow the diamond blade to perform the cutting. Excessive feed pressure or cutting depth can cause the blade to bind, the engine to stall, or the operator to lose control.
- **Stop operation immediately if the machine behaves abnormally.** Unusual vibration, noise, blade wobble, binding, loss of water flow, loss of engine power, or unexpected machine movement must be investigated before operation continues.
- **Never make adjustments, inspect the blade, or perform maintenance while the engine is running.** Stop the engine and wait for the blade and all moving components to come to a complete stop before servicing or adjusting the machine.
- **Handle gasoline carefully.** Stop the engine and allow it to cool before refueling. Refuel outdoors away from sparks, flames, hot surfaces, and other ignition sources. Do not smoke while fueling or operating the machine. Clean up spilled fuel before starting the engine.

- **Keep the machine away from combustible materials and explosive atmospheres.** Hot engine and exhaust components can ignite flammable materials, vapors, or gases.
- **Never leave the machine unattended while the engine is running or the blade is rotating.** Before leaving the operator position, stop the engine and wait for all moving components to come to a complete stop.
- **Do not operate the machine when tired, distracted, or impaired.** Never operate the saw while under the influence of alcohol, drugs, medication, or any condition that could impair judgment, coordination, or reaction time.
- **Do not modify the machine.** Unauthorized modifications to the blade guard, controls, engine, blade mounting system, drive system, or other components can create hazardous operating conditions.

IMPORTANT: These general safety rules do not replace the more specific warnings and operating instructions provided throughout this manual. Always follow all applicable jobsite rules and local, state, and federal safety requirements.

Expanded Safety Information

The following safety information supplements the basic rules above. It is written for walk-behind gasoline floor saw operation and should be read before using the FS-20.

Respirable Silica Dust

Cutting concrete, masonry, stone, and similar materials can generate respirable crystalline silica dust. Long-term or excessive exposure can cause serious respiratory disease. Use the FS-20 with an adequate water supply whenever the blade and application permit wet cutting. Use appropriate respiratory protection and keep bystanders away from dust-producing operations. Follow applicable OSHA and local requirements for silica exposure control.

Carbon Monoxide and Exhaust

The gasoline engine produces carbon monoxide, an odorless and poisonous gas that can cause loss of consciousness or death. Operate the FS-20 outdoors only, where engine exhaust can safely dissipate. Never operate the machine in a closed room, trailer, garage, basement, tunnel, or other enclosed or poorly ventilated space.

Personal Protective Equipment

- Wear approved eye protection with side protection or a face shield where required.
- Wear approved hearing protection during cutting.
- Use approved respiratory protection suitable for the dust generated by the material being cut.
- Wear protective gloves and sturdy work clothing that cannot become caught in moving parts.
- Wear safety footwear with a non-slip sole and toe protection. Use head protection when required by the jobsite.

Blade and Guard Safety

- Use only diamond blades intended for the material being cut and rated for a rotational speed equal to or greater than the machine blade-shaft speed.
- Before each use, inspect the blade for cracks, missing or damaged segments, distortion, excessive wear, or other defects. Never use a damaged blade.
- Keep the blade guard correctly installed and secured whenever the machine is operated. Do not operate with a damaged, modified, raised, or removed guard.
- Keep hands, feet, clothing, hoses, and other objects away from the blade, belts, pulleys, and other moving parts.

- If abnormal vibration develops, stop the engine immediately and determine the cause before continuing. Inspect the blade, flanges, arbor, bearings, and mounting hardware.

Work Area and Hidden Hazards

- Inspect the planned cut before starting. Determine whether electrical conductors, gas lines, water lines, post-tension cables, reinforcing steel, or other hidden utilities or structural elements may be present.
- Keep the work area clean, well lit, and clear of loose objects that could be struck or ejected.
- Keep unauthorized persons and bystanders out of the cutting area. Make sure people on the opposite side or below the cut are protected from falling material and slurry.
- Maintain stable footing and control of the machine at all times. Use extra caution on slopes, uneven surfaces, wet surfaces, and near edges or drop-offs.
- Do not operate where flammable vapors, combustible gases, or other explosion hazards may be present.

Fuel and Fire Safety

- Gasoline is highly flammable. Stop the engine and allow it to cool before refueling.
- Refuel outdoors away from sparks, flames, smoking, and hot surfaces. Wipe up spilled fuel before starting the engine.
- Keep an appropriate fire extinguisher readily available where required by the jobsite or local regulations.

Noise and Vibration

Prolonged exposure to high noise and vibration can cause injury. Wear hearing protection, keep the machine properly maintained, avoid unnecessary force on the handles, and allow the blade to perform the cutting. Stop using the saw if unusually strong vibration begins and correct the cause before restarting.

Safety Devices and Pre-Start Function Check

- Before each shift, confirm that the engine stop control operates correctly and that the machine can be stopped quickly in an emergency.
- Inspect the blade guard and belt cover for cracks, deformation, looseness, or missing hardware. Replace damaged protective components before use.
- Do not bypass, remove, or modify guards, stop controls, or other safety devices.

Transportation and Unattended Machine

- Stop blade rotation before moving the saw outside the cutting area.
- Remove the blade before lifting, loading, or unloading.
- Never leave the machine unattended with the engine running. Before leaving the saw, stop the engine and prevent accidental starting.

Technical values are based on the factory information supplied for the DFS-500 platform used for the BLUEROCK FS-20. Verify the machine nameplate before service or parts ordering.

TECHNICAL DATA

Specification	FS-20
Engine Type	Honda GX390 U-Type
Fuel	Gasoline
Power	13 HP
RMP (Blade Speed)	3100 RPM
Maximum Blade Size	20 in (500 mm)
Blade Arbor	1 in (25.4 mm) Bore
Maximum Cutting Depth	7.5 in (190 mm)
Depth Adjustment	Handwheel
Drive	Semi-self propelled
Water Tank Capacity	25 L

Intended Use

The BLUEROCK FS-20 is a gasoline-powered, walk-behind floor saw designed for professional cutting of concrete, asphalt, and similar hard paving and floor materials. The machine is intended for use with a properly selected diamond blade suitable for both the material being cut and the operating specifications of the saw.

Typical applications include:

- Cutting cured concrete slabs and pavement
- Cutting asphalt pavement
- Cutting control and expansion joints
- Small road and pavement repair work
- Cutting trenches for utility, conduit, drainage, and pipe installation
- Sidewalk and driveway repair
- Parking lot and roadway maintenance
- General construction and demolition cutting where a walk-behind floor saw is appropriate

The FS-20 is designed primarily for **wet cutting**. During wet cutting, an adequate and continuous water supply must be provided to the blade. Water helps cool the diamond blade, improves cutting performance, reduces premature blade wear, and helps control airborne dust generated during cutting.

Use only diamond blades that are approved for the material being cut and compatible with the machine's blade diameter, arbor size, rotational direction, and maximum operating speed. Never install a blade that is damaged, improperly sized, or rated for a lower rotational speed than the machine's blade shaft.

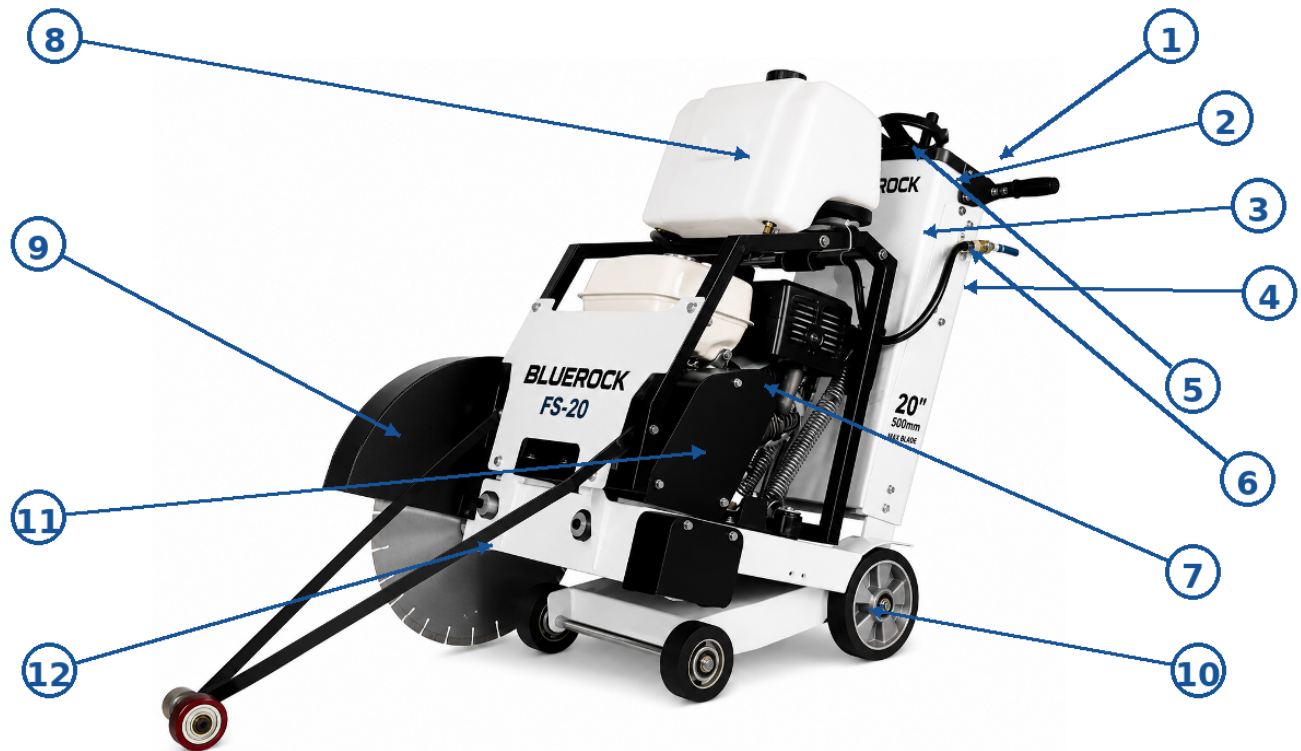
The FS-20 is intended for operation by persons who have read and understood this manual and are familiar with the safe operation of gasoline-powered concrete cutting equipment. The operator is responsible for selecting the proper blade, inspecting the machine and work area before operation, and following all applicable safety requirements.

Because the FS-20 is powered by a gasoline engine, **operate the machine outdoors in adequately ventilated areas only. Never operate the saw indoors or in an enclosed or poorly ventilated area.** Engine exhaust contains carbon monoxide, which can cause serious injury or death.

Do not use the FS-20 for applications for which it was not designed. Do not use the machine with saw blades, abrasive wheels, attachments, or accessories that are not suitable for this type of floor saw. Do not modify the machine or its guards, controls, blade mounting system, or safety components.

Any use outside the applications and operating conditions described in this manual is considered improper use and may result in personal injury, equipment damage, or premature component failure.

MACHINE DESCRIPTION



Main Components

1	Handle holder / operator handle assembly
2	Operation panel
3	Machine Body
4	Rear Storage
5	Depth-adjustment handwheel and screw rod
6	Water Adjustment Valve
7	Honda GX390 engine
8	Water tank
9	Blade cover / blade guard
10	Rear wheels
11	Drive belt and belt wheel
12	In-line guide

HANDLING AND TRANSPORT

CAUTION

Secure the saw during vehicle transport. Do not lift or secure the machine by the blade guard, water tank, or control handles.

Use care when moving, lifting, loading, unloading, or transporting the FS-20. The machine is heavy and can cause personal injury or property damage if it tips, falls, or moves unexpectedly.

WARNING: Before moving or transporting the machine, stop the engine and wait for the blade and all moving components to come to a complete stop.

Moving the Machine on the Jobsite

- Stop the cutting operation and **fully raise the blade clear of the ground** before moving the machine.
- Stop the engine before moving the saw between work areas or whenever the machine is not being actively operated.
- Close the fuel valve before transporting the machine or when it will not be used again immediately.
- Use the operating handles to maintain control of the machine while moving it.
- Move the machine carefully over uneven surfaces, slopes, curbs, ramps, and other obstacles. The machine can become unstable or tip if moved improperly.
- Never move, turn, or reposition the machine sideways while the blade is engaged in the material.

Handlebar and Cutting Guide

The operator handle can be adjusted to provide a comfortable and controlled working position.

1. Loosen the handle locking mechanism.
2. Adjust the handle to the desired operating height.
3. Securely retighten the locking mechanism before operating or moving the machine.

The front cutting guide can be extended for alignment during cutting and retracted for transport and storage.

Make sure the guide is positioned so that it cannot catch on surrounding objects while the machine is being transported.

Lifting the Machine

WARNING: The FS-20 is heavy. Do not attempt to manually lift the complete machine without appropriate assistance or lifting equipment.

- Remove the diamond blade before hoisting or lifting the machine.
- Use lifting equipment, hooks, slings, and other rigging with sufficient rated capacity for the weight of the machine.
- Make sure lifting equipment is securely attached before raising the machine.
- Lift the machine slowly and maintain it in a stable orientation.
- **Never stand beneath or near a suspended machine.**
- Do not lift the machine by the handlebars, blade guard, water tank, cutting guide, or other components not specifically designed as lifting points.

Loading, Unloading, and Transport

Before loading, unloading, or transporting the FS-20:

- Stop the engine and allow hot components to cool.

- Close the fuel valve.
- Fully raise the blade assembly.
- Remove the diamond blade.
- Retract the front cutting guide.
- Secure loose components.
- Position the machine upright on a stable surface.

When transporting the machine in a vehicle or trailer, **secure it with appropriate restraints so that it cannot roll, slide, tip, or shift during transportation.**

Use suitable tie-down points on the machine's structural frame. Do not use the blade guard, water tank, cutting guide, control components, or other non-structural components as tie-down points.

CAUTION: Do not transport the machine in a position that could allow fuel, engine oil, or other fluids to leak.

Transport Position

For transport, use the depth-adjustment handwheel to raise the machine to its upper position so that the blade shaft and blade-mounting components are clear of the ground.

Make sure the machine is stable and securely restrained before transportation.

IMPORTANT: Before returning the FS-20 to service after transportation, perform the pre-operation inspection described in this manual. Check particularly for loose fasteners, transportation damage, fuel or oil leakage, and damage or misalignment of the blade mounting system.

BLADE INSTALLATION AND REMOVAL

WARNING

Engine OFF. Remove the blade only when the engine is stopped. Keep the blade guard installed during operation.

WARNING: Never install, remove, inspect, or adjust the cutting blade while the engine is running. Before working on the blade, place the machine on a stable, level surface, switch the engine **OFF**, close the fuel valve, and wait for the blade and all moving components to come to a complete stop.

CAUTION: Wear protective gloves when handling diamond blades. Blade segments and edges may be sharp.

Before Installing the Blade

1. Raise the machine to the **fully raised position** so the blade is clear of the ground.
2. Make sure the engine is switched **OFF** and cannot be started accidentally while the blade is being serviced.
3. Remove or open the blade guard as necessary to gain access to the blade mounting assembly.
4. Remove the blade retaining screw and outer blade flange using the appropriate supplied tool.
5. Carefully remove the existing blade, if installed.
6. Thoroughly inspect and clean the blade arbor, inner and outer flanges, retaining hardware, and all blade contact surfaces. Remove dirt, slurry, rust, or other debris that could prevent the blade from seating correctly.

CAUTION: Do not operate the saw with damaged, excessively worn, distorted, or contaminated blade-mounting components. Replace damaged components before installing a blade.

Inspecting the Diamond Blade

Before installation, verify that:

- The blade diameter does not exceed the maximum blade capacity specified for the FS-20.
- The blade arbor opening matches the machine arbor and mounting components.
- The blade is suitable for the material being cut.
- The blade's maximum rated operating speed is equal to or greater than the maximum blade speed of the machine.
- The blade is not cracked, bent, distorted, excessively worn, or missing diamond segments.
- The blade's direction-of-rotation arrow is clearly visible.

WARNING: Never use a damaged diamond blade. A damaged blade can fail during operation and cause serious injury.

Installing the Blade

1. Check the **direction-of-rotation arrow** on the diamond blade.
2. Install the blade so its direction-of-rotation arrow corresponds with the blade rotation direction indicated on the machine/blade guard.

IMPORTANT: Correct blade rotation is necessary for proper cutting performance and blade life.

3. Seat the blade completely against the inner blade flange. Make sure the blade lies flat and is properly centered on the arbor.
4. Install the outer blade flange and blade retaining hardware.
5. Securely tighten the blade retaining screw using the appropriate supplied tool and the blade-shaft holding method provided for the machine.

NOTE: The factory instructions identify the blade retaining screw as having a **right-hand thread**.

6. Verify that the blade is securely clamped between the flanges and is not loose or incorrectly seated.
7. Reinstall and securely fasten the blade guard before operating the machine.
8. Before starting the engine, carefully verify that the blade has adequate clearance and that no tools, loose hardware, or other objects remain near the blade or guard.

WARNING: Never operate the FS-20 without the blade guard correctly installed and securely fastened.

After Blade Installation

Before beginning a cut:

- Connect the water supply or fill the machine's water tank as required.
- Verify that all water connections are secure.
- Confirm that adequate water can reach the blade during wet cutting.
- Check that the front cutting guide is correctly aligned.
- Perform the required pre-operation inspection before starting the engine.

Removing the Blade

To remove a blade, follow the installation procedure in reverse order. Make sure the engine is **OFF**, the fuel valve is closed, and all components have cooled before beginning.

After removing the blade, inspect the arbor, flanges, retaining hardware, and blade for wear or damage before the machine is returned to service.

STARTING, CUTTING and STOPPING

Before Starting

WARNING: Do not start or operate the FS-20 until the machine, cutting blade, and work area have been inspected and determined to be in safe operating condition.

Before starting the engine:

- **Read and understand this manual and the engine manufacturer's instructions.** Become familiar with the machine controls and know how to stop the engine quickly before operating the saw for the first time.
- **Inspect the work area.** Remove loose objects, debris, and other hazards from the cutting path and surrounding area. Make sure there is adequate space to operate and control the machine safely.
- **Check for hidden hazards.** Before cutting, determine whether electrical wiring, gas lines, water lines, communication cables, reinforcement, or other utilities or structures may be present in or beneath the material.
- **Keep bystanders clear.** Persons not directly involved in the cutting operation must remain a safe distance from the machine and cutting area.
- **Wear appropriate personal protective equipment (PPE).** Use suitable eye protection, hearing protection, protective footwear, work clothing, and respiratory protection. Wear additional PPE as required by the material being cut and jobsite conditions.
- **Inspect the machine.** Check the blade guard, controls, wheels, drive system, depth-adjustment mechanism, water system, handles, and accessible fasteners for damage, excessive wear, looseness, or improper installation.
- **Inspect the diamond blade.** Make sure the blade is appropriate for the material being cut and is not cracked, bent, distorted, excessively worn, missing segments, or otherwise damaged.
- **Verify correct blade installation.** Make sure the blade is securely mounted, properly centered between the flanges, installed in the correct direction of rotation, and compatible with the machine's blade diameter and arbor size.
- **Check the blade speed rating.** The maximum operating speed marked on the blade must be equal to or greater than the maximum blade shaft speed of the machine.
- **Make sure the blade guard is correctly installed and securely fastened.** Never start or operate the saw without the blade guard in position.
- **Check engine oil and fuel levels.** Inspect the machine for fuel or oil leaks and correct any leaks before starting the engine.
- **Check the water system.** When wet cutting, fill the water tank or connect an appropriate external water supply. Check hoses, connections, and the water valve for proper condition.
- **Raise the blade clear of the work surface.** The cutting blade must not be in contact with the ground or material when the engine is started.
- **Position the machine securely.** Place the saw on a stable surface and maintain control of the machine from the normal operator position before starting the engine.

IMPORTANT: Start the engine only in accordance with the Honda engine operating instructions. The FS-20 is gasoline-powered and must be operated outdoors where engine exhaust can safely dissipate.

Starting the FS-20

WARNING: Before starting the engine, make sure the cutting blade is raised slightly above the ground and is not in contact with the material to be cut.

WARNING: Make sure the blade guard is correctly installed and securely fastened before starting or operating the machine.

1. Complete the pre-operation inspection described in this manual. Make sure the blade, blade flanges, blade guard, drive belt, controls, water system, and fasteners are in serviceable condition.
2. Make sure the correct diamond blade is installed for the material being cut. Verify that the blade is installed in the correct direction of rotation and that the blade mounting hardware is securely tightened.
3. Raise the cutting blade so that it is clear of the ground.
4. Make sure the machine is positioned on a stable, level surface and that the cutting area is clear of personnel, loose objects, and other hazards.
5. Mark the intended cutting line on the work surface.
6. Lower the front guide and position the saw so that the guide and cutting blade are aligned with the marked cutting line.
7. Turn on the water supply from the machine water tank or an external water source. Verify that water is reaching the blade area.

CAUTION: When wet cutting, sufficient water must be supplied to both sides of the diamond blade. Adequate water flow cools the blade, improves cutting performance, and helps control airborne dust.

8. Start the Honda engine according to the instructions supplied with the engine.
9. Allow the engine to warm up as recommended by the engine manufacturer.
10. Increase the engine speed to the normal operating speed before beginning the cut.

Cutting Operation

1. With the engine at operating speed and the water flowing, slowly turn the depth-adjustment handwheel to lower the rotating blade into the material.
2. Make an initial shallow guide cut to establish a straight cutting path. For deeper cuts, make multiple passes and increase the cutting depth gradually. The appropriate depth per pass depends on the material, blade type and condition, engine load, and cutting conditions.
3. Slowly advance the saw forward while keeping the front guide and cutting blade aligned with the marked cutting line.
4. After completing the guide cut, make additional passes as necessary to reach the required cutting depth. Increase the cutting depth gradually rather than attempting the full depth in a single pass.

NOTE: For deeper cuts, approximately **2-inch (50 mm) depth increments** may be used as a general guideline. The appropriate depth per pass will depend on the material, blade type, blade condition, engine load, and cutting conditions.

5. Maintain a steady forward feed rate. Allow the diamond blade to perform the cutting. Do not force the machine forward.

CAUTION: If engine speed decreases significantly, the blade begins to bind, or excessive vibration occurs, reduce the forward feed rate. If the condition continues, raise the blade and stop the machine before inspecting it.

6. Keep both hands on the operating handles and remain behind the machine while the blade is rotating.
7. Frequently verify that adequate water is reaching the blade.
8. Continue to follow the marked cutting line using the front guide. Make gradual steering corrections as necessary before the blade begins to bind.

CAUTION: Do not sharply turn, pivot, twist, or move the saw from side to side while the blade is engaged in the cut. Side loading can damage the diamond blade, blade shaft, or flanges and may cause loss of control.

WARNING: Never attempt to grind with the side of the diamond blade. The blade is designed to cut with its outer cutting edge only.

WARNING: If the blade binds or becomes caught in the cut, stop advancing the machine. Raise the blade out of the cut and stop the engine before determining and correcting the cause.

During Cutting

Periodically inspect the cutting operation for:

- Adequate water flow
- Proper blade tracking
- Unusual vibration
- Changes in engine speed
- Blade binding
- Excessive blade wear
- Cracks, missing segments, or other blade damage

Stop the engine and allow all moving parts to come to a complete stop before inspecting, adjusting, or servicing the blade or machine.

Stopping the Cutting Operation

1. Stop advancing the saw and keep the machine steady and aligned with the cut.
2. Slowly turn the depth-adjustment handwheel to **fully raise the cutting blade out of the material and clear of the ground.**

CAUTION: Do not attempt to turn, pivot, or move the saw sideways while the blade remains engaged in the cut.

3. Allow the blade to rotate above the work surface briefly so that excess water and cutting debris can clear from the blade and guard area.
4. Close the water supply from the machine water tank or external water source.
5. If cutting is complete, move the machine to a stable, level location before shutting down.

Stopping the Machine

1. With the blade fully raised and clear of the ground, reduce the engine speed to idle.
2. Allow the engine to idle briefly before shutdown, particularly after extended or heavy cutting.
3. Turn the engine ON/OFF switch to the **OFF** position in accordance with the Honda engine instructions.
4. Remain at the operator position until the blade has come to a **complete stop.**

WARNING: The cutting blade will continue to rotate for a period of time after the engine has been switched off. Do not touch the blade or place hands, feet, tools, or other objects near the blade until all movement has completely stopped.

5. Close the engine fuel valve when the machine will not be used again immediately or before transporting or storing the machine.
6. Allow the engine, muffler, blade, and other hot components to cool before performing maintenance, refueling, transporting, or storing the saw.
7. After operation, inspect the blade and machine for damage, loose components, excessive wear, or other conditions requiring attention before the next use.

Leaving the Machine Unattended

Never leave the FS-20 unattended while the engine is running or while the blade is rotating.

Before leaving the machine:

- Stop the engine.
- Make sure the blade has completely stopped.
- Raise the blade clear of the ground.
- Close the fuel valve.

- Position the machine on a stable, level surface.
- Secure the machine against unintended movement when necessary.

Emergency Stop

If an unsafe condition develops during operation:

1. **Stop advancing the machine immediately.**
2. If possible, raise the blade clear of the cut.
3. Turn the engine switch to **OFF** as quickly as conditions safely permit.
4. Maintain control of the machine until the blade has completely stopped.

WARNING: Do not attempt to remove a jammed blade, inspect the cutting area, or perform adjustments while the engine is running or the blade is moving. Stop the engine and wait for all moving parts to come to a complete stop before investigating the cause.

Operating Reminders

While operating the FS-20, observe the following precautions at all times:

- **Do not force the saw.** Maintain a controlled, steady forward feed rate and allow the diamond blade to perform the cutting. If engine speed decreases noticeably, reduce the feed rate.
- **Increase cutting depth gradually.** For deep cuts, make multiple passes rather than attempting to reach the full cutting depth in a single pass.
- **Maintain adequate water flow.** During wet cutting, verify that sufficient water is continuously reaching both sides of the blade. Stop cutting if the water supply is interrupted.
- **Keep the blade guard installed and properly positioned.** Never operate the saw with the blade guard removed, damaged, or improperly secured.
- **Cut in a straight line.** Do not sharply turn, pivot, twist, or move the machine sideways while the blade is engaged in the material.
- **Maintain control of the machine.** Keep both hands on the operating handles while cutting and maintain stable footing and a balanced operating position.
- **Watch and listen to the machine.** Stop cutting immediately if you notice unusual vibration, abnormal noise, reduced engine speed, blade wobble, binding, unexpected movement, or any other change in normal operation.
- **Never leave the machine unattended while running.** Stop the engine and wait for the blade to come to a complete stop before leaving the operator position.

WARNING: If abnormal operation occurs, raise the blade clear of the cut when it is safe to do so, stop the engine, and wait for all moving parts to come to a complete stop. Inspect the machine and correct the cause before resuming operation. Do not continue using the saw if the blade, blade mounting system, guard, drive system, or other safety-related components are damaged.

INCIDENTS DURING SAWING

If the Blade Stalls or Binds During Cutting

If the blade stops rotating, becomes caught in the cut, or the engine stalls during cutting, **do not attempt to restart the engine with the blade engaged in the material.**

1. Stop advancing the machine immediately.

2. Turn the engine switch to the **OFF** position.
3. Wait until all machine movement has completely stopped.
4. If possible, use the depth-adjustment handwheel to raise the blade out of the cut.

WARNING: Never attempt to pull, twist, rock, or force the machine sideways to free a blade that is caught in the cut. Side loading can damage the diamond blade, blade flanges, or blade shaft and may result in blade failure.

5. Inspect the blade and cutting area before restarting the machine. Determine and correct the cause of the stall or binding condition.

Possible causes include:

- Advancing the saw too quickly.
- Lowering the blade too quickly or attempting too deep of a cut in a single pass.
- Incorrect or insufficient drive-belt tension.
- Insufficient engine speed or loss of engine power.
- Low or depleted fuel supply.
- Blade binding caused by the cut closing around the blade.
- Attempting to turn or steer the machine while the blade is engaged in the cut.
- Incorrect, damaged, excessively worn, or unsuitable diamond blade.
- Inadequate water flow resulting in excessive blade temperature or poor cutting performance.
- Material or debris obstructing the cut.

CAUTION: A blade that repeatedly stalls or binds indicates a condition that must be corrected. Do not continue operating the saw until the cause has been identified.

Restarting After a Stall

Before restarting:

- Make sure the blade is completely free of the material.
- Inspect the blade for cracks, distortion, missing or damaged diamond segments, or other damage.
- Verify that the blade is securely mounted and rotates freely.
- Check drive-belt condition and tension.
- Verify adequate fuel and engine oil.
- Confirm adequate water flow.
- Make sure the machine and cutting area are stable and safe.

Restart the engine with the **blade raised and clear of the work surface**. Allow the engine to reach normal operating speed before carefully re-entering the existing cut.

When resuming the cut, lower the blade gradually and use a slower feed rate. Do not force the machine through the material.

WARNING: Never inspect, adjust, touch, or attempt to free the blade while the engine is running. Always stop the engine and wait for the blade and all moving components to come to a complete stop.

PERIODIC INSPECTION AND MAINTENANCE

WARNING

Perform maintenance with the engine stopped and the machine secured. Refer to the Honda engine manual for engine-specific maintenance requirements.

After Use Cleaning and Inspection

Proper cleaning and inspection after each use will help maintain safe operation and extend the service life of the FS-20.

After completing cutting operations:

1. Stop the engine and wait for the blade and all moving components to come to a complete stop.
2. Close the fuel valve and allow the engine, muffler, blade, and other hot components to cool before cleaning, inspecting, or servicing the machine.
3. Clean concrete slurry, asphalt residue, dust, and other debris from the machine. Pay particular attention to the blade guard, blade shaft area, wheels, cutting guide, water system, and depth-adjustment mechanism.

CAUTION: Do not direct high-pressure water at the engine, bearings, controls, air cleaner, fuel system, or other components that could be damaged by water intrusion.

4. Inspect the diamond blade for cracks, distortion, missing or damaged segments, excessive wear, or other damage.
5. Inspect the blade flanges, arbor, blade guard, drive belt, wheels, water system, accessible fasteners, and other components for damage, looseness, or excessive wear.
6. Check the water outlets and hoses for accumulated slurry or debris. Clean any blockage that could restrict water flow during the next use.
7. Lubricate the applicable depth-adjustment grease points with an appropriate bearing grease as required. Apply only enough lubricant to properly lubricate the mechanism; excessive grease can attract dirt and abrasive debris.
8. Correct any damage, looseness, abnormal wear, or other unsafe condition before the machine is used again.

Regular Maintenance

Regular inspection and maintenance are necessary to keep the FS-20 operating safely and efficiently. The frequency of inspection should be increased when the machine is used heavily or under dusty, wet, or otherwise demanding jobsite conditions.

WARNING: Before inspecting, adjusting, cleaning, or servicing the machine, stop the engine, close the fuel valve, and wait for the blade and all moving components to come to a complete stop. Allow the engine, muffler, blade, and other hot components to cool before performing maintenance.

- **Inspect and tighten fasteners regularly.** Check accessible nuts, bolts, screws, mounting hardware, handles, guards, wheels, and other fasteners for looseness. Pay particular attention to fasteners during the first several hours of operation and after transportation.
- **Inspect the drive belt.** Check the belt for proper tension and for signs of cracking, fraying, glazing, excessive wear, or other damage. Adjust belt tension as necessary. Do not overtighten the belt, as excessive tension can cause premature wear of the belt, bearings, and related drive components.
- **Inspect the blade mounting system.** Check the blade arbor, inner and outer flanges, retaining hardware, and related components for wear, damage, distortion, or looseness.
- **Keep blade mounting surfaces clean.** The arbor, flanges, adapter surfaces, and blade contact surfaces must be kept clean and free of concrete slurry, dirt, rust, and other debris that could prevent the blade from seating correctly.
- **Check blade security before each use.** Make sure the diamond blade is properly seated, centered, installed in the correct direction of rotation, and securely fastened before starting the machine.
- **Inspect the blade guard.** Make sure the guard is not cracked, bent, excessively worn, or loose and that all guard mounting hardware is present and securely fastened.

- **Inspect the depth-adjustment mechanism.** Make sure the handwheel, screw mechanism, and related components operate smoothly and hold the selected cutting depth securely.
- **Inspect the water system.** Check the water tank, hoses, fittings, valve, and blade water outlets for leaks, damage, blockage, or restricted flow. Clean blocked water outlets as necessary.
- **Inspect wheels and guide components.** Check the front and rear wheels, wheel bearings, shafts, and cutting guide for looseness, excessive wear, damage, and proper operation.
- **Inspect for unusual conditions.** Look for fuel or oil leaks, damaged components, abnormal wear, cracks, loose parts, or other changes in the machine's condition.

IMPORTANT: Replace damaged, excessively worn, or defective components before returning the machine to service. Do not operate the FS-20 if a condition exists that could affect safe operation or proper blade control.

Engine inspection and maintenance must also be performed at the intervals specified in the Honda engine manufacturer's instructions.

Drive Belt Inspection and Tension Adjustment

The drive belts transfer power from the engine to the blade shaft. Proper belt condition and tension are necessary for correct cutting performance.

New drive belts may stretch slightly during the first several hours of operation and may require adjustment. Inspect belt condition and tension periodically thereafter.

WARNING: Before inspecting or adjusting the drive belts, stop the engine, close the fuel valve, and wait for the blade and all moving components to come to a complete stop. Allow the engine and other hot components to cool before performing service.

Inspecting the Drive Belts

Inspect the belts for:

- Cracks, cuts, or fraying
- Glazing or hardened surfaces
- Excessive wear
- Loose or damaged belt material
- Oil, fuel, or other contamination
- Incorrect or insufficient tension

Replace damaged or excessively worn belts before operating the machine.

Adjusting Belt Tension

If the drive belts require adjustment:

1. Place the FS-20 on a stable, level surface and make sure the engine is switched **OFF**.
2. Gain access to the drive-belt adjustment components as necessary.
3. Loosen the engine-to-chassis mounting nuts sufficiently to allow the engine position to be adjusted. **Do not remove the mounting nuts.**
4. Adjust the belt-tensioning nuts evenly to move the engine and increase belt tension.
5. Check belt tension during adjustment. The belts should be sufficiently tensioned to transmit power without slipping.

CAUTION: Do not overtighten the drive belts. Excessive belt tension can cause premature wear or damage to the belts, bearings, blade shaft, engine shaft, and related components.

6. When proper belt tension has been achieved, securely retighten the engine-to-chassis mounting nuts.

7. Recheck belt tension after tightening the engine mounting hardware. Adjustment may change slightly as the mounting hardware is secured.
8. Make sure all guards or covers removed for service are correctly reinstalled and securely fastened before starting the machine.

IMPORTANT: After installing new belts or adjusting belt tension, inspect the belt tension again after the first several hours of operation. Readjust if necessary.

If correct belt tension cannot be maintained, or if the belts repeatedly loosen, slip, or wear abnormally, discontinue use and inspect the drive system before further operation.

Honda Engine Maintenance

The FS-20 is equipped with a **Honda GX390 gasoline engine**. Engine maintenance must be performed in accordance with the maintenance schedule and procedures specified in the Honda engine owner's manual supplied with the machine.

Follow Honda's recommended service intervals for items including:

- Engine oil inspection and replacement
- Air cleaner inspection, cleaning, and replacement
- Spark plug inspection and replacement
- Fuel system inspection and maintenance
- Sediment cup cleaning, where applicable
- Valve clearance inspection and adjustment
- Fuel tank and fuel filter maintenance
- Other engine inspections and service specified by Honda

IMPORTANT: Engine maintenance intervals may vary depending on operating conditions. More frequent service may be required when the engine is operated under heavy load or in dusty, dirty, or other severe conditions.

Always check the engine oil level before operation and correct any fuel or oil leaks before starting the machine.

For complete engine maintenance procedures, service intervals, fluid specifications, and replacement parts, refer to the **Honda GX390 Owner's Manual** applicable to the engine installed on your FS-20.

NOTE: The maintenance information in this BLUEROCK manual primarily covers the floor saw, cutting system, water system, drive components, and chassis. The Honda engine manufacturer's instructions should be followed for engine-specific operation, maintenance, and service requirements.

Storage

Before storing the FS-20:

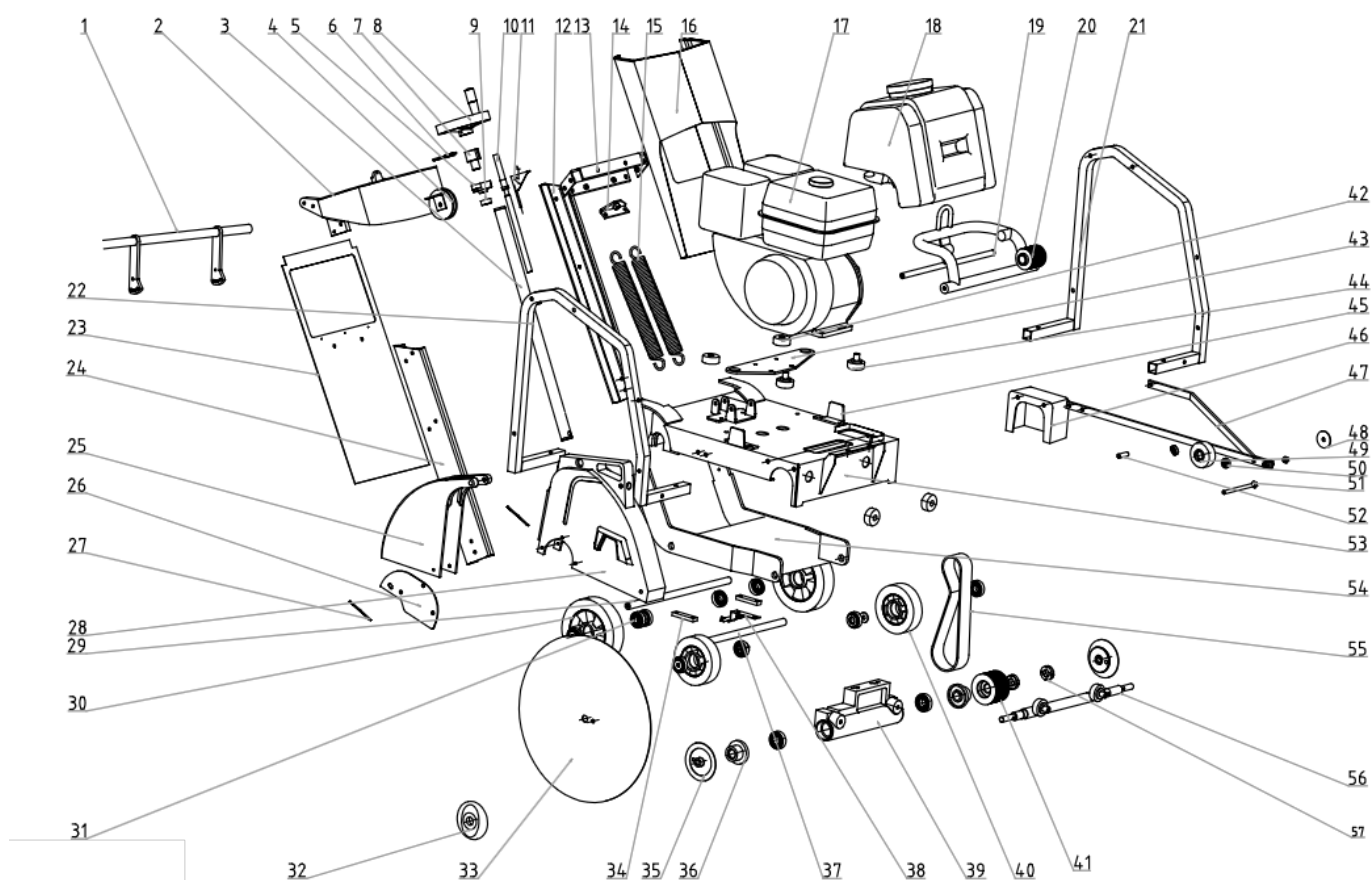
- Clean the machine and remove accumulated cutting slurry, dust, and debris.
- Inspect the machine for damage, loose components, or maintenance requirements that should be corrected before the next use.
- Raise the blade clear of the ground.
- Close the fuel valve.
- Store the machine on a stable, level surface in a clean, dry, and secure location.
- Protect the machine from rain, excessive moisture, freezing conditions, corrosive materials, and unauthorized use.
- Keep the machine and maintenance tools out of the reach of children and untrained persons.

For **extended or seasonal storage**, follow the storage procedure specified in the Honda GX390 Owner's Manual. This is particularly important for the fuel system, as gasoline can deteriorate during extended storage and cause starting or fuel-system problems.

If the diamond blade is removed for storage, store it in a dry location where it will be protected from impact, bending, moisture, and other damage.

Before returning a stored machine to service, perform the complete pre-operation inspection described in this manual.

EXPLODED PARTS DIAGRAM



Part #	Part Name	Qty	Part #2	Part Name2	Qty2
1	handle holder	1	30	rear wheel	2
2	operation panel	1	31	bearing 6204RS	10
3	lift handle	1	32	blade slide locks	1
4	depth dial	1	33	blades plate	1
5	bearing	1	34	rear wheel shaft slide lock blades plate	2
6	pin	1	35	blade plate mount block	2
7	stop bushing	1	36	bearing cover	2
8	hand wheel	1	37	front wheel shaft	1

9	pin	1	38	fix pin	1
10	screw rod	1	39	bearing cover	1
11	throttle switch	1	40	front wheel	2
12	left channel	1	41	belt wheel	1
13	mount plate	1	42	rubber pad 1	4
14	spring support	1	43	mounting board	1
15	extension spring	2	44	rubber pad 2	4
16	front board	1	45	blade cover installing pad	2
17	engine	1	46	protection cover	1
18	water tank	1	47	wheel frame	1
19	tank carriage	1	48	wheel plate	1
20	belt wheel	1	49	wheel	1
21	left tank handle	1	50	bearing 6001RS	2
22	right tank handle	1	51	screw M10X140	1
23	rear board	1	52	wheel shaft	1
24	right channel	1	53	rack	1
25	blades cover 1	1	54	wheel carriage	1
26	connect board	1	55	belt	1
27	blade cover plate	2	56	blade main shaft	1
28	blade cover 2	1	57	round nut	2
29	rear wheel shaft	1			

LIMITED WARRANTY

1-Year Limited Warranty

The BLUEROCK FS-20 is covered by a **1-Year Limited Warranty** against defects in materials and workmanship, subject to the BLUEROCK Tools Limited Warranty terms and conditions in effect at the time of purchase.

During the applicable warranty period, BLUEROCK Tools may, at its discretion and subject to the terms of the warranty, repair or replace a covered component determined to be defective in materials or workmanship.

This limited warranty applies only when the machine has been operated, maintained, transported, and stored in accordance with this manual and the applicable engine manufacturer's instructions.

Warranty coverage does not extend to damage or failure resulting from normal wear, misuse, abuse, improper operation, inadequate maintenance, unauthorized modification or repair, accidents, improper transportation or storage, unsuitable accessories or cutting blades, or operation outside the specifications and intended use of the machine.

Normal Wear and Consumable Components

Components that wear as a normal result of machine operation are not considered defects in materials or workmanship. Depending on the circumstances, these may include:

- Diamond cutting blades and other cutting consumables
- Drive belts
- Bearings
- Wheels and wheel components
- Blade flanges and mounting components subject to normal wear
- Filters
- Spark plugs
- Lubricants and fluids
- Hoses, seals, and similar service items
- Other components subject to normal deterioration through use

Normal adjustment, cleaning, inspection, lubrication, and routine maintenance are the responsibility of the owner and are not considered warranty repairs.

Warranty Exclusions

Warranty coverage may be denied for damage or failure resulting from:

- Misuse, abuse, neglect, or operator error.
- Use of the machine for purposes other than its intended use.
- Failure to follow the operating, safety, or maintenance instructions provided with the machine.
- Failure to perform required inspection or maintenance.
- Improper lubrication or use of incorrect fluids.
- Continued operation after a malfunction, abnormal vibration, blade binding, unusual noise, overheating, or other indication of a problem.
- Use of an incorrect, damaged, improperly installed, or unsuitable diamond blade.
- Use of accessories or replacement components that are incompatible with the machine.
- Improper blade mounting or operation without required guards or safety components.
- Unauthorized alteration, modification, repair, or disassembly.
- Accident, impact, dropping, improper handling, or improper transportation.
- Improper storage, corrosion, water damage, contamination, or exposure to conditions for which the machine was not designed.
- Operation outside the specifications or limitations stated in this manual.
- Normal wear and deterioration associated with ordinary use.
- Damage caused by striking hidden objects, utilities, reinforcement, debris, or other obstructions during cutting

Obtaining Warranty Assistance

If you believe the FS-20 has developed a defect covered by warranty, contact BLUEROCK Tools before returning or shipping the machine.

Be prepared to provide:

- Proof of purchase
- Machine model
- Machine serial number
- Date of purchase
- Description of the problem

- Photographs or video of the machine or affected component, when requested
- Additional information reasonably necessary to evaluate the warranty claim

BLUEROCK Tools may request troubleshooting, inspection, photographs, video, or other diagnostic information before authorizing a repair or replacement.

Do not ship or return the machine to BLUEROCK Tools without first obtaining return or service instructions. Unauthorized shipments may be refused.

Replacement Parts and Technical Support

Replacement and service parts are available for the FS-20 through BLUEROCK Tools. BLUEROCK Tools also provides **Lifetime U.S.-Based Technical Support** for assistance with machine operation, troubleshooting, maintenance, and replacement-part identification.

IMPORTANT: This manual provides a summary of warranty coverage for the FS-20 and is not intended to replace the complete BLUEROCK Tools Limited Warranty terms and conditions. In the event of a conflict, the applicable BLUEROCK Tools Limited Warranty terms and conditions in effect at the time of purchase will govern.