

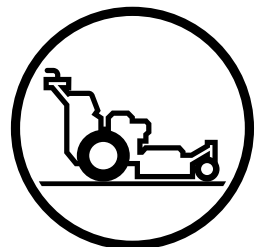
Husqvarna

Operator's Manual

WHF5223 / 966947006

WHF6123 / 966947007

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



English

**In order to implement improvements, specifications and designs
can be altered without prior notification.
Note that no legal demands can be placed based on the information contained
in these instructions.
Use only original parts for repairs.
The use of other parts voids the warranty.
Do not modify or install non-standard equipment to the unit
without consent from the manufacturer.
Modifications to the unit may cause unsafe operations or damage the unit.**

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WARNING!

Failure to follow cautious operating practices can result in serious injury to the operator or other persons. The owner must understand these instructions, and must allow only trained persons who understand these instructions to operate the mower.

Each person operating the mower must be of sound mind and body and must not be under the influence of any mind altering substance.



WARNING!

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

INTRODUCTION

Congratulations

Thank you for purchasing a Husqvarna Walk-Behind mower. This machine is built for superior efficiency to rapidly mow primarily large areas. A control panel easily accessible to the operator and a transmission regulated by steering controls both contribute to the machine's performance.

This manual is a valuable document. Read the contents carefully before using or servicing the machine. Following the instructions (use, service, maintenance) is important for the safety of the operator and others. It can also considerably increase the life span of the machine and increase its resale value.

If the machine is sold, the operator's manual should be provided to the new owner.

The final chapter of this operator's manual provides a Service Journal. Ensure that service and repair work are documented. A well-kept service journal reduces service costs for the maintenance and affects the machine's resale value. Provide the dealer with the operator's manual when the machine is taken for service.

General

In this operator's manual, left and right, backward and forward are used in relation to the machine's normal driving direction.

Continuous dedication to improve our products require that specifications and design are subject to change without notice.

Driving and Transport on Public Roads

Check applicable road traffic regulations before transporting on public roads. If the machine is transported, you must always use approved fastening equipment and ensure that the machine is well anchored. DO NOT operate this machine on public roadways.

Operating

This machine is constructed only for mowing grass on lawns and even ground without obstacles such as stones or tree stumps. The machine can also be used for other tasks when equipped with special accessories provided by the manufacturer. Operating instructions for the accessories are provided with delivery. All other types of uses are incorrect. The manufacturer's directions concerning operation, maintenance, and repairs must be carefully followed.

Lawn mowers and all power equipment, can be potentially dangerous if used improperly. Safety requires good judgement, careful use in accordance with these instructions and common sense.

The machine must only be operated, maintained, and repaired by persons familiar with the machine's special characteristics and who are also knowledgeable about the safety instructions. Use only approved repair parts to maintain this machine.

Accident prevention regulations, other general safety regulations, occupational safety rules, and traffic regulations must be followed without fail.

Unauthorized modifications to the design of the machine may absolve the manufacturer from liability for any resulting personal injury or property damage.

INTRODUCTION

Good Service

Husqvarna's products are sold through out the world and only in specialized retail stores with complete service. This ensures that you as a customer receive only the best support and service. Before the product is delivered, the machine has, for example, been inspected and adjusted by your retailer. See the certificate in the Service Journal in this operator's manual.

When you need spare parts or support in service questions, warranty issues, etc., please consult the following professional:

This Operator's Manual belongs to the machine with the manufacturing number:	Engine	Transmission

Manufacturing Number

The machine's manufacturing number can be found on the printed plate affixed to the left in the engine compartment. Stated on the plate, from the top are:

- The machine's type designation (I.D.).
- The manufacturer's type number (Model).
- The machine's serial number (Serial no.)

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

The engine's manufacturing number is stamped on a barcode decal. The decal is placed on the left side of the crankcase.

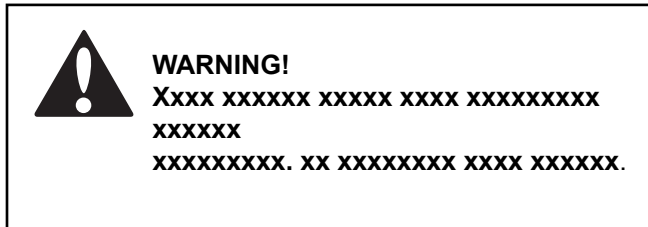
The plate states:

- The engine's serial number (E/NO).
- The engine's type designation (Code)

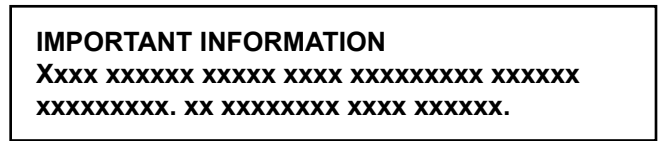
Please have these available when ordering spare parts.

SYMBOLS AND DECALS

These symbols are found on the machine and in the operator's manual.
Study them carefully so that you know what they mean.



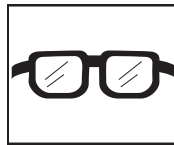
Used in this publication to notify the reader of a risk of personal injury or death, particularly if the reader should neglect to follow instructions given in the manual.



Used in this publication to notify the reader of a risk of **material damage**, particularly if the reader should neglect to follow instructions given in the manual. Used also when there is a potential for misuse or misassembly.



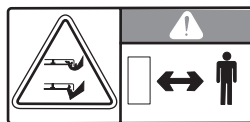
Moving sharp blades under cover



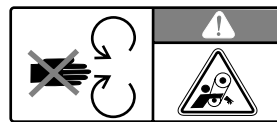
Use protective glasses



Use protective gloves



Warning! Rotating blades,
keep away from the
discharge deck



Do not touch
rotating parts

SAFETY

These instructions are for your safety. Read them carefully.

General Operation

- Read, understand, and follow all instructions on the machine and in the manual before starting.
- Do not put hands or feet near rotating parts or under the machine. Keep clear of the discharge opening at all times.
- Clear the area of objects such as rocks, toys and wire, which could be picked up and thrown by the blades.
- Be sure the area is clear of bystanders before operating. Stop machine if anyone enters the area.
- Always look down and behind during reverse maneuvers. Look for both large and small obstacles.
- Never direct discharged material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward the operator. Stop the blades when crossing gravel surfaces.
- Do not operate machine without the entire grass catcher, discharge guard, or other safety devices in place and working
- Slow down before turning.
- Never leave a running machine unattended.
- Disengage blades when not mowing. Shut off engine and wait for all parts to come to a complete stop before cleaning the machine, removing the grass catcher, or unclogging the discharge chute.
- Operate machine only in daylight or good artificial light.
- Do not operate the machine while under the influence of alcohol or drugs.
- Only allow responsible adults, who are familiar with the instructions, to operate the machine.
- Never take passengers. The machine is only intended for use by one person.
- Use extra care when loading or unloading the machine into a trailer or truck.



8011-632

Never take passengers



WARNING!

Engine exhaust and certain vehicle components contain or emit chemicals considered to cause cancer, birth defects, or other reproductive system damage. The engine exhaust contains carbon monoxide, which is an odorless, colorless, poisonous gas. Do not use the machine in enclosed spaces.

SAFETY

Personal Safety Equipment



WARNING!

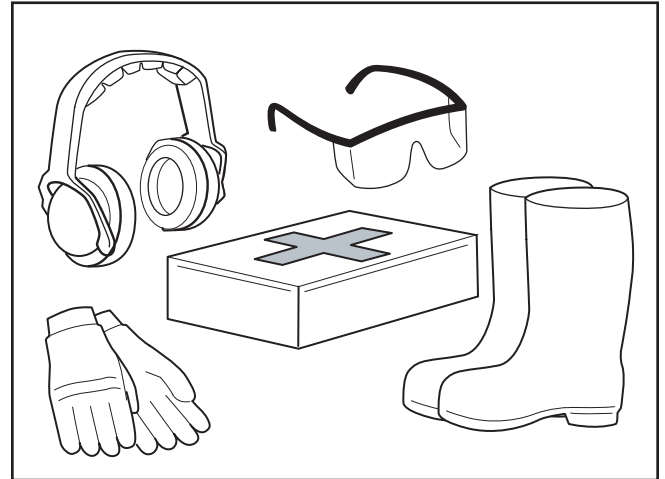
When using the machine, approved personal protective equipment (shown in illustrations) shall be used. Personal protective equipment cannot eliminate the risk of injury but it will reduce the degree of injury if an accident does happen. Ask your retailer for help in choosing the right equipment.

- Make sure first aid equipment is close at hand when using the machine.
- Never use the machine when barefoot. Always wear protective shoes or boots, preferably with steel toe caps.
- Always wear approved protective glasses or a full visor when assembling or driving.
- Always wear gloves when handling the blades.
- Never wear loose clothing that can get caught in moving parts.
- Use ear protectors to avoid damage to hearing.



WARNING!

Never use the machine on terrain that slopes more than 10 degrees. Mow slopes side to side, not up and down. Avoid sudden directional changes.



Personal protective equipment

8011-670a

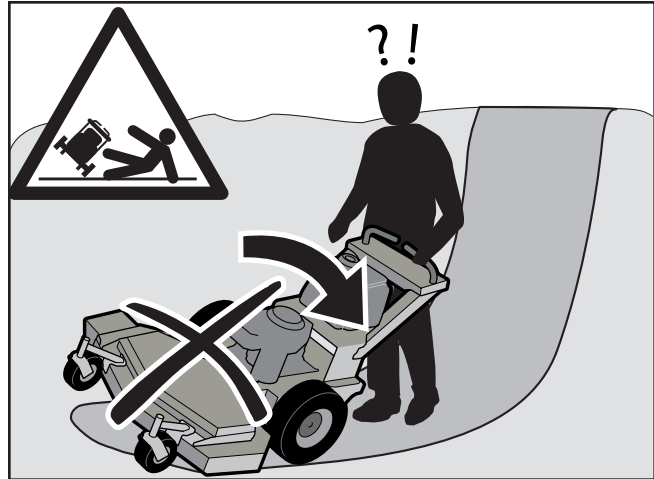
Slope Operation

Slopes are a major factor related to loss of control or machine tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution. If you cannot reverse up the slope or if you feel unsure, do not mow it.

- Mow across slopes (10 degrees maximum), not up and down.
- Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
- Choose a low ground speed so that you will not have to stop while on the slope.
- Do not mow on wet grass. Tires may lose traction.
- Avoid starting, stopping, or turning on a slope. If the tires lose traction, disengage the blades and proceed slowly straight down the slope.

SAFETY

- Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.
- Use extra care while operating machine with grass catchers or other attachments; they can affect the stability of the machine.
- Do not use on steep slopes.
- Do not mow near drop-offs, ditches, or embankments. The machine could suddenly roll over if a wheel is over the edge or if the edge caves in.



8011-635

Be extra cautious when driving on slopes

Children

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and the mowing activity. *Never* assume that children will remain where you last saw them.

- Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator.
- Be alert and turn machine off if a child enters the area.
- Before and while backing, look behind and down for small children.
- Never carry children, even with the blades shut off. They may fall off and be seriously injured or interfere with safe machine operation.
- Never allow children to operate the machine.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.



8011-636

Never allow children to operate the machine



8011-633

Keep children away from the work area

SAFETY



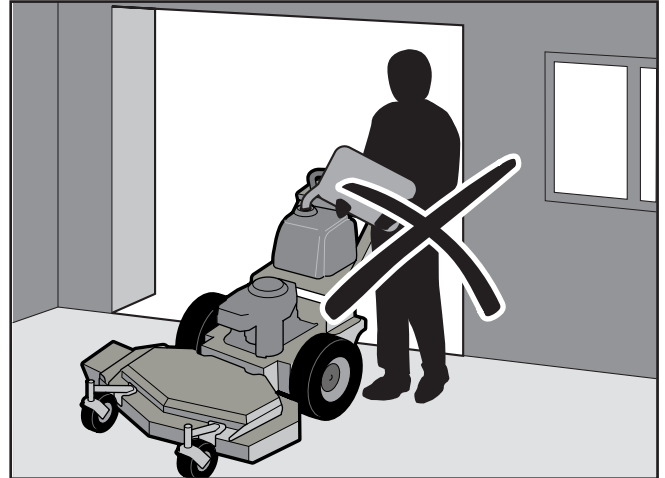
WARNING!

The engine must not be started when the protective plate for the mower deck's drive belt is removed.

Safe Handling of Gasoline

To avoid personal injury or property damage, use extreme care in handling gasoline. Gasoline is extremely flammable and the vapors are explosive.

- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Use only approved gasoline container.
- Never remove gas cap or add fuel with the engine running. Allow engine to cool at least two (2) minutes before refueling.
- Never fuel the machine indoors.
- Never store the machine or fuel container where there is an open flame, spark, or pilot light such as on a water heater or other appliance.
- Before you begin refueling, minimize the risk of static electricity by touching a metal surface.
- Never fill containers inside a vehicle or on a truck or trailer bed with plastic liner. Always place containers on the ground away from the vehicle when filling.
- Remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, refuel such equipment with a portable container, rather than from a gasoline dispenser nozzle.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
- If fuel is spilled on clothing, change clothing immediately.
- Never overfill fuel tank. Replace gas cap and tighten securely.
- Do not start the engine near spilled fuel.
- Never use gasoline as a cleaning agent.
- If leaks arise in fuel system, engine must not be started until problem has been resolved.
- Check the fuel level before each use and leave space for the fuel to expand, as the heat from the engine and the sun may otherwise cause the fuel to expand and overflow.



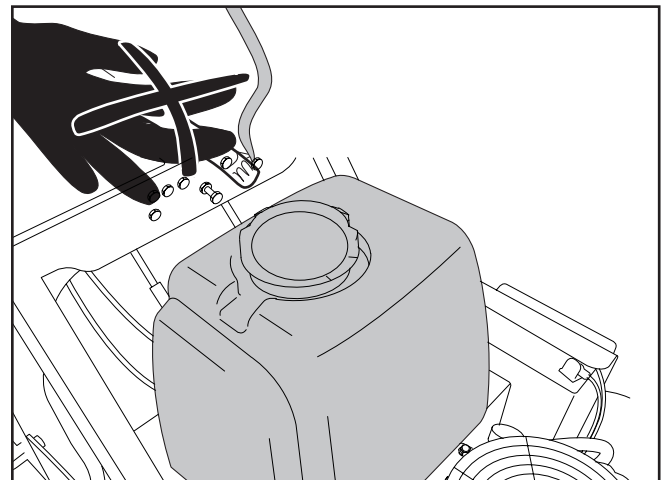
8011-637

Never fill the fuel tank indoors



WARNING!

The engine and the exhaust system become very hot during operation. There is risk for burns if touched. Allow engine and exhaust system to cool at least two (2) minutes before refueling.



8011-777

Do not smoke when using the machine

SAFETY

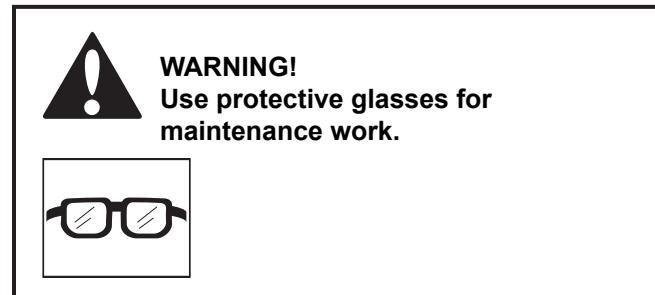
General Maintenance

- Never operate machine in a closed area.
- Keep all nuts and bolts tight to be sure the equipment is in safe working condition.
- Never tamper with safety devices. Check their proper operation regularly.
- Keep machine free of grass, leaves, or other debris buildup. Clean oil or fuel spillage and remove any fuel-soaked debris. Allow machine to cool before storing.
- If you strike a foreign object, stop and inspect the machine. Repair, if necessary, before restarting.
- Never make any adjustments or repairs with the engine running.
- Check grass catcher components and the discharge guard frequently and replace with manufacturer's recommended parts, when necessary.
- Mower blades are sharp. Wrap the blade or wear gloves, and use extra caution when servicing them.
- Check brake operation frequently. Adjust and service as required.
- Maintain or replace safety and instruction labels, as necessary.
- Do not modify safety equipment. Check regularly to be sure it works properly. The machine must not be used with defective or unmounted protective plates, protective cowlings, safety switches, or other protective devices.
- Do not change the settings of governors and avoid running the engine with overly high engine speeds. If you run the engine too fast, you risk damaging the machine components.
- Use protective goggles.
- Ensure that the fuel filler cap is mounted tightly and no flammable substances are stored in an open vessel.
- Never use the machine indoors or in spaces lacking proper ventilation. The exhaust fumes contain carbon monoxide, an odorless, poisonous, and lethal gas.
- Stop and inspect the equipment if you run over or into anything. If necessary, make repairs before starting.



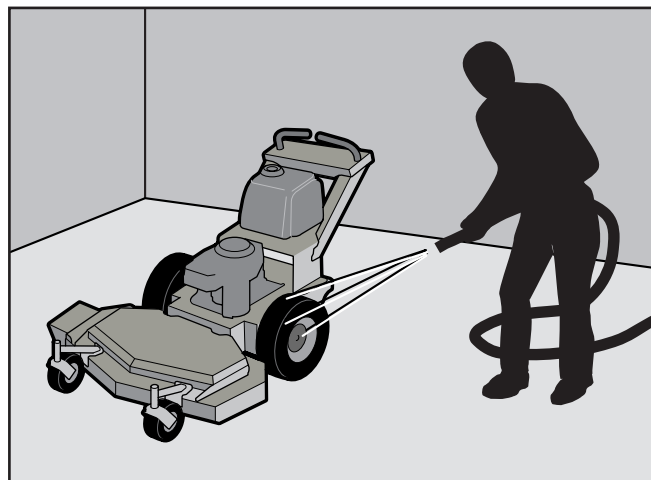
8011-638

Never operate the machine in an enclosed space



SAFETY

- The machine is tested and approved only with the equipment originally provided or recommended by the manufacturer. Only use approved repair parts for the machine.
- The mulch blades should only be used in familiar areas when higher quality mowing is desired.
- Reduce the risk of fire by removing grass, leaves, and other debris that may have accumulated on the machine. Allow the machine to cool before putting it in storage.
- Regularly clean deck and underside of deck, avoid spraying engine and electrical components with water.



8011-639

Clean the machine regularly

Transport

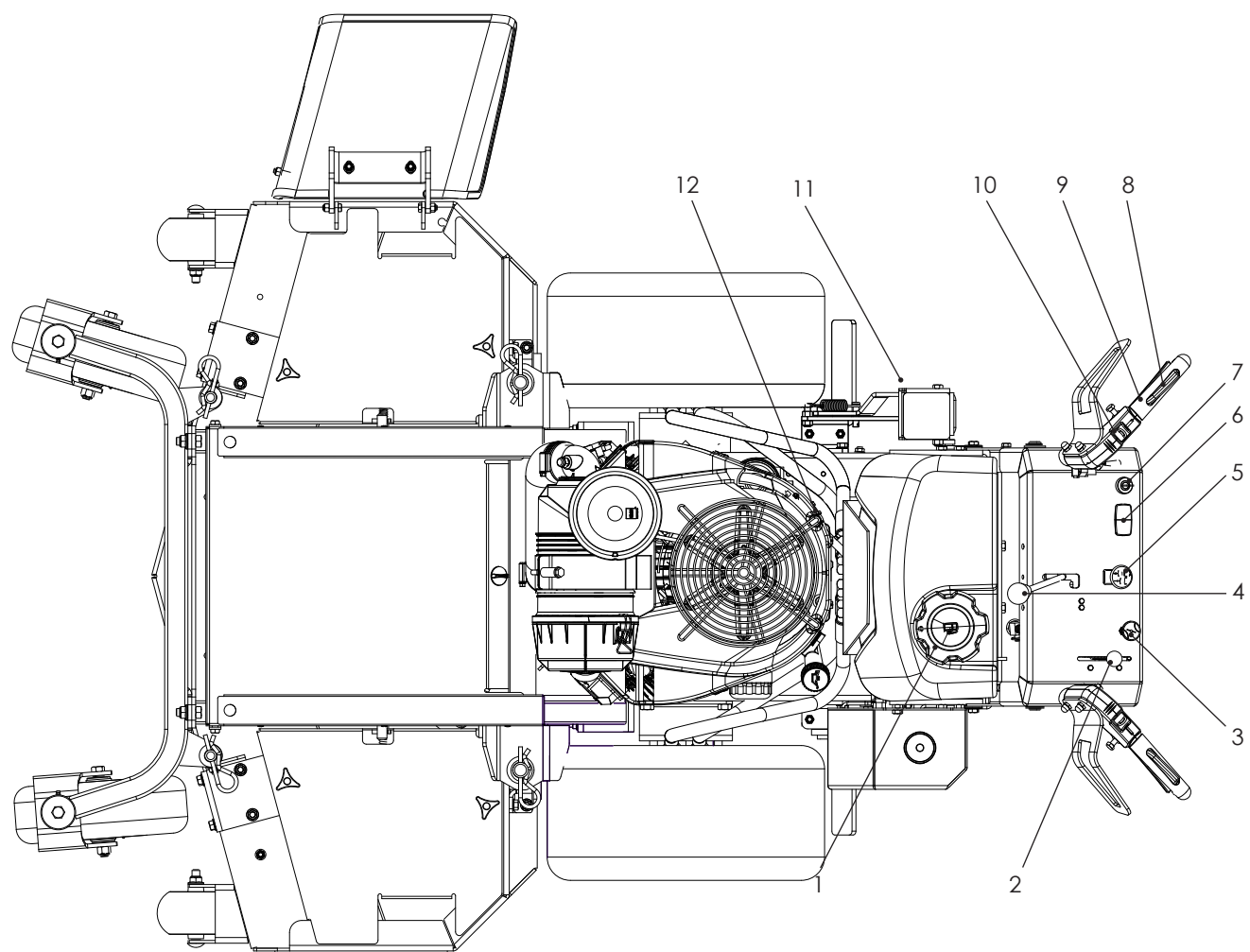
- The machine is heavy and can cause serious crushing injuries. Be extra cautious when it is loaded on or unloaded from a vehicle or trailer.
- Use an approved trailer to transport the machine. Activate the parking brake, turn off the fuel supply, and fasten the machine with approved fastening devices, such as bands, chains, or straps, when transporting.
- Check and abide by local traffic regulations before transporting the machine on any road.

CONTROLS

This operator's manual describes the Husqvarna Walk-Behind Mower. The machine is fitted with a Kawasaki four-stroke overhead valve engine.

Using the left and right drive levers, the speed of the rear wheels is regulated for steering the machine.

Control Locations



8062-036

- | | |
|-----------------------------|-----------------------------|
| 1. Fuel Cap/Tank | 8. Operator Presence Switch |
| 2. Throttle Control | 9. Drive Lever |
| 3. Choke Control | 10. Neutral Lock |
| 4. Ground Speed Control | 11. Parking Brake |
| 5. Blade Engagement Control | 12. Fuel Shutoff |
| 6. Hour Meter (optional) | |
| 7. Ignition Switch | |

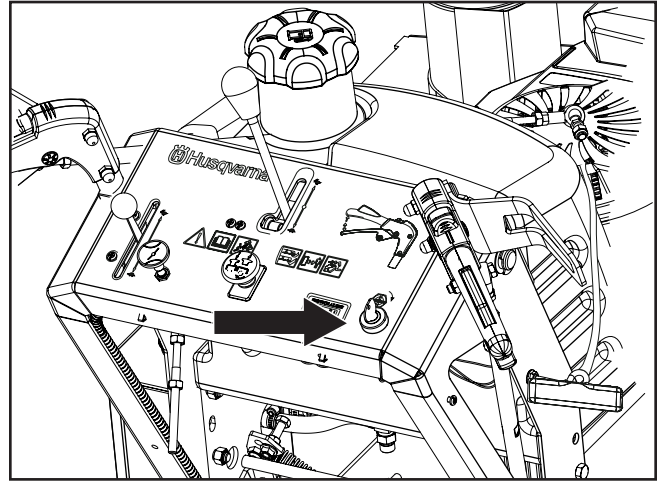
CONTROLS

Ignition Switch

The ignition key switch is located on the control panel at the lower right.



WARNING!
The machine can turn very rapidly if one steering control is moved much further forward than the other.



8062-003

Ignition key

Drive Levers

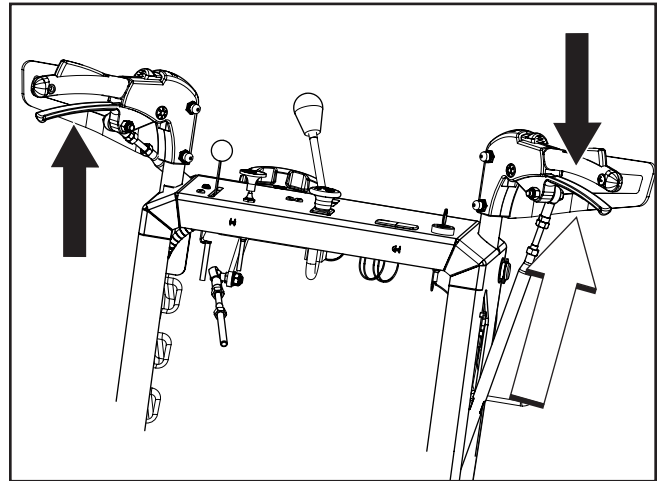
The machine's speed and direction are continuously variable using the two motion control levers.

By releasing both controls an equal amount the machine moves in a straight line forward.

In order, for example, to turn right while moving forward, squeeze the right control upward toward the handle (neutral position). The rotation of the right wheel is reduced and the machine turns to the right.

To stop forward travel, pull both drive levers up into the neutral position.

When both controls are in the neutral position, the machine stands still. The controls will be locked in neutral position when both neutral locks are engaged.



8062-004

Drive levers

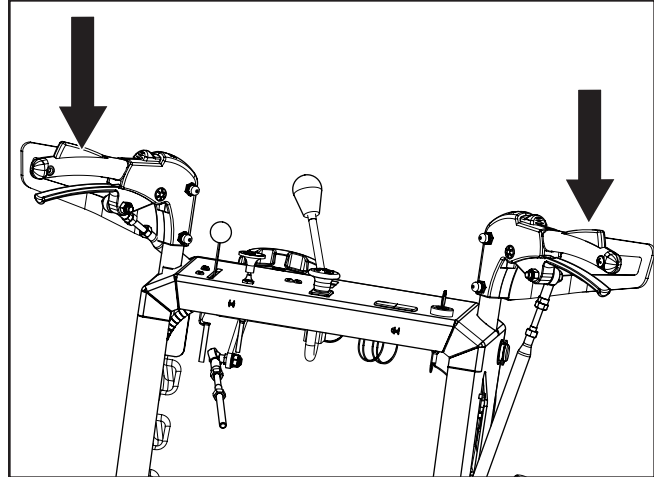
CONTROLS

Operator Presence Levers

Located on the handle, the Operator Presence System levers serve as an additional safety feature. An electrical interlock safety system is activated by depressing either one or both of the Operator Presence Levers at the handle grips.

Releasing both Operator Presence Levers while mowing or transporting will break the electrical circuit and cause the engine and mower to stop. The mower will not stop immediately after releasing the OP levers and some travel occurs.

When either the blades or the speed control are engaged, one or both levers must be pressed for the engine to remain running.

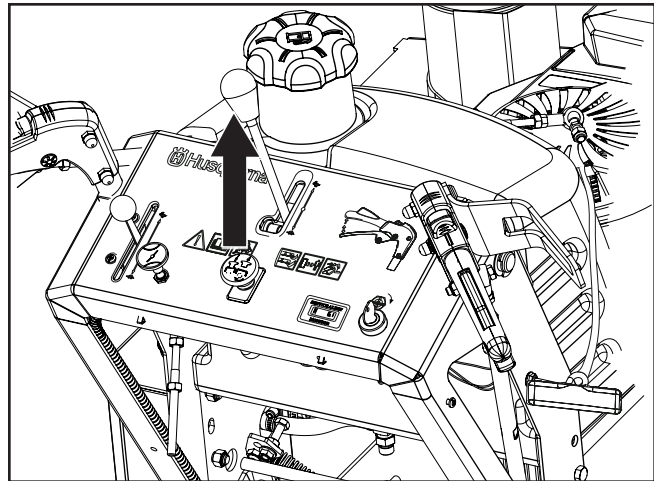


8062-004

Operator presence levers

Ground Speed Control

Ground speed is adjusted with the center lever on the control panel. Ease the lever out of the start position and upwards to the desired speed.



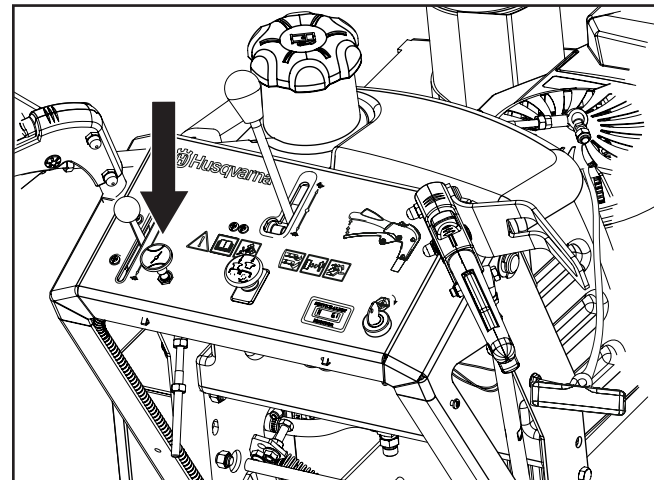
8062-003

Ground speed control

Choke Control

The choke control is used for cold starts to provide the engine with a richer fuel mixture.

To engage the control, pull the choke out to its extent. Do not use the choke when starting a warm engine.



8062-003

Choke control

CONTROLS

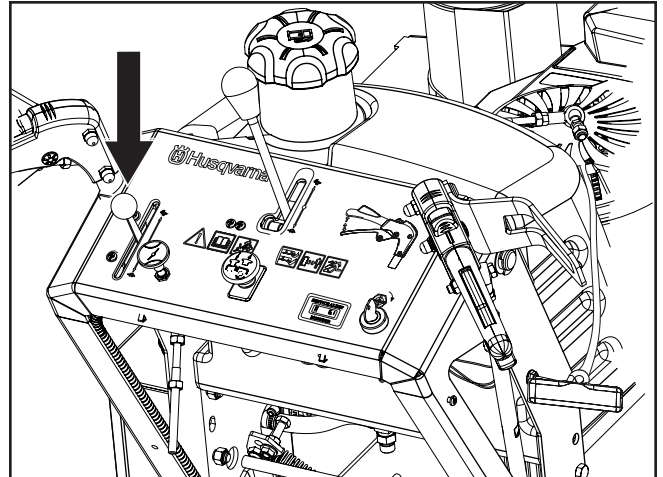
Throttle Control

The throttle control regulates the engine speed and thereby the rate of rotation of the blades, assuming the blade engagement control is engaged (pulled up).

In order to increase or decrease the engine speed, the control is moved forward or backward respectively.

Avoid idling the engine for long periods, as there is a risk of the spark plugs fouling.

For best mower performance, USE FULL THROTTLE WHEN MOWING.



8062-003

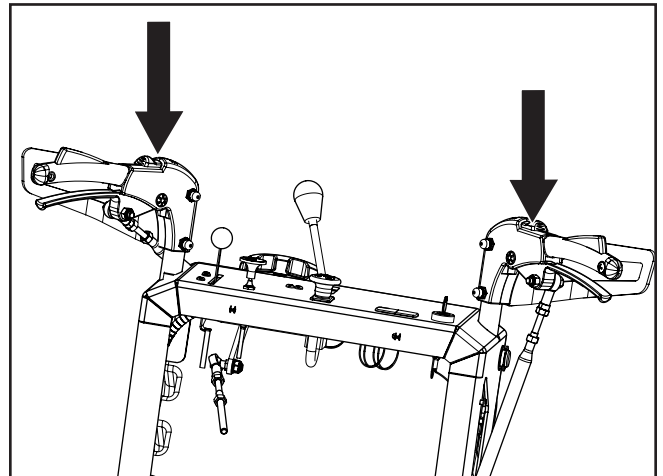
Throttle control

Neutral Lock

Located on top the motion controls, the neutral locks keep the unit from moving while idling. The locks should be activated when starting the engine. To disengage the locks, squeeze slightly upward on the driver levers and using thumbs, slide the neutral locks back.

IMPORTANT INFORMATION

Be sure neutral locks are either fully forward (locked) or fully back (unlocked). If the neutral lock is between full forward and full back, the machine will not track properly.



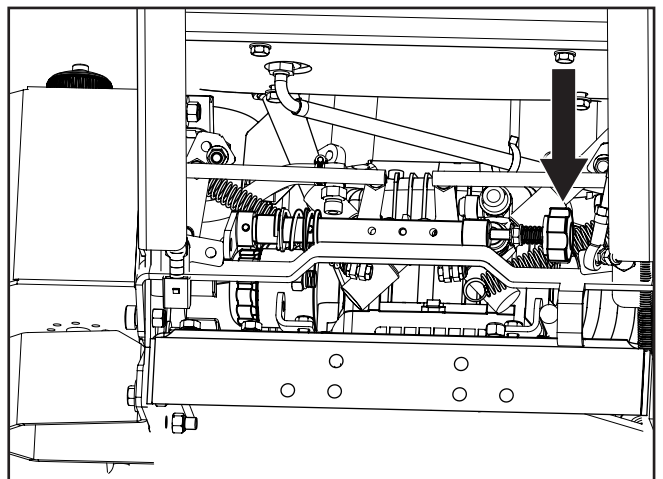
8062-004

Operator presence levers

Tracking Adjustment

If the mower is not tracking straight, check the air pressure in both rear tires. Recommended air pressure is 15 psi (1 bar). Tracking should be checked on a flat, level surface.

Turning the tracking knob clockwise will adjust the mower to the left. Turning the knob counter-clockwise adjusts the mower to the right.



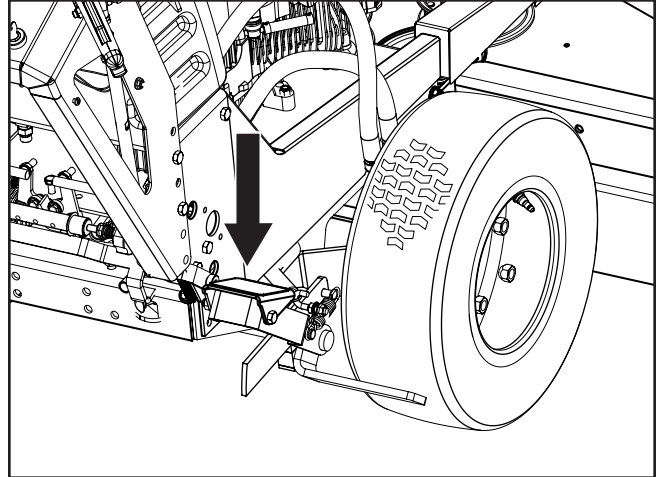
8062-027

Tracking knob

CONTROLS

Parking Brake

The parking brake is located behind the right hand tire and is applied by pressing the pedal downwards. To disengage the parking brake, push down and pivot the pedal to the rear.



8062-005

Parking brake

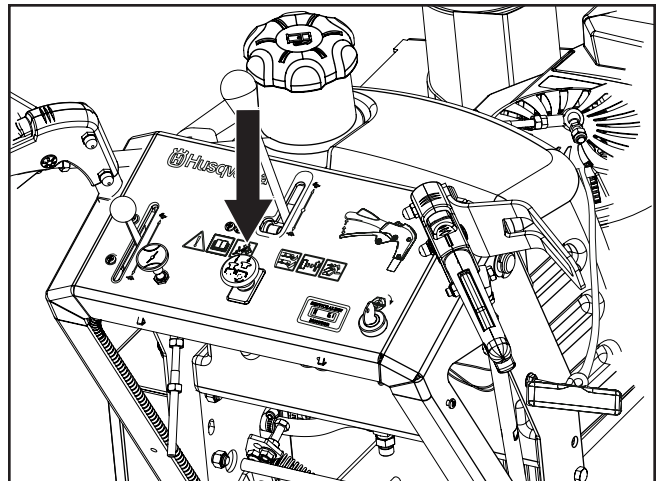
Blade Engagement Control

The blade engagement control is on the center control panel.

In order to engage the blades, pull the control upwards. The blades are disengaged when the lever is pushed down.



WARNING!
Gasoline is highly flammable.
Observe caution and fill the tank
outdoors (see the safety instruction).



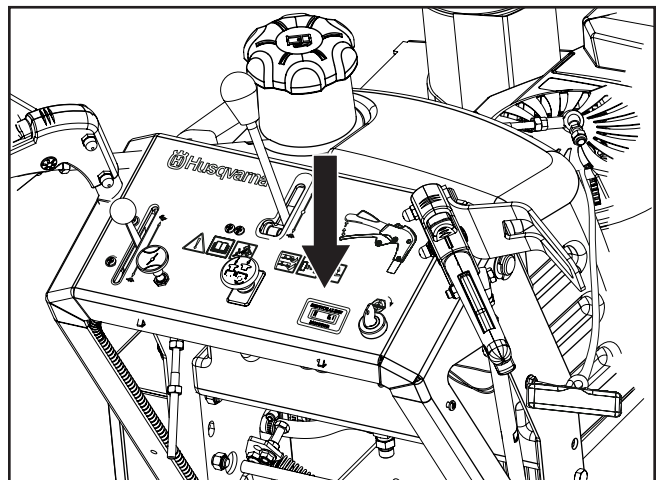
8062-003

Blade control

Service Meter

Optional

The optional service meter displays the total operating time. The meter will flash CHG OIL (Change Oil) at 50 hour intervals. The flash duration is one hour before and one hour after the interval. The CHG OIL icon will come on and shut off automatically. The hour meter cannot be manually reset.



8062-003

Service meter

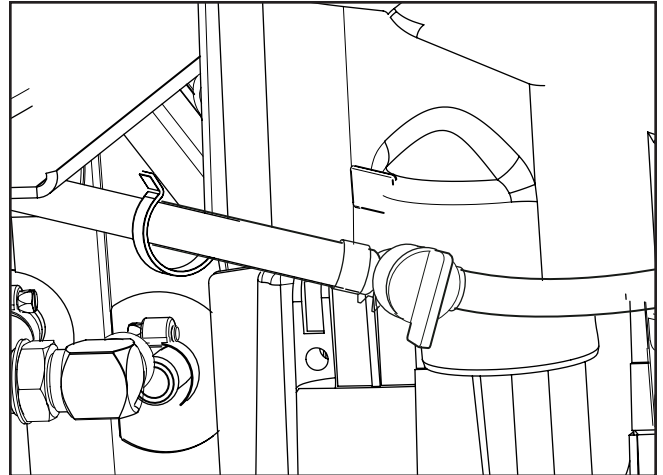
CONTROLS

Fuel Shut-off Valve

The fuel shut off valve is placed on the fuel line below the fuel tank. The valve is on when the turn lever is parallel to the fuel line. The shut off position will have the turn lever running perpendicular to the fuel line. See illustration.



WARNING!
Fill to bottom of filler neck. Do not overfill. Wipe off any spilled oil or fuel. Do not store, spill or use gasoline near an open flame.



8062-007

Fuel shut off valve - closed (OFF)

Fuel Tank

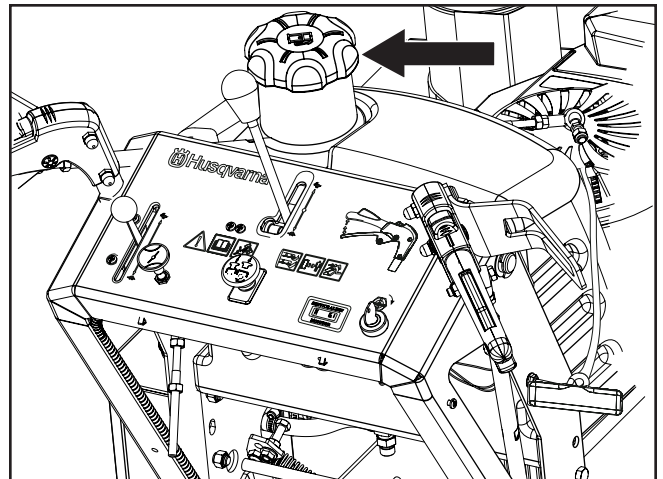
The machine has one fuel tank. The tank volume is 6 gallons / 22.7 liters.

The engine should run on a minimum of 87-octane unleaded gasoline (no oil mix). Also see Technical Data concerning methanol and ethanol fuels.

When operating in temperatures below 32° F. (0° C.), use fresh, clean winter grade gasoline to help insure good cold weather starting.

IMPORTANT INFORMATION

Experience indicates that alcohol blended fuels (called gasohol, ethanol or methanol) can attract moisture which leads to separation and formation of acids during storage. Acidic gas can damage the fuel system of an engine while in storage. To avoid engine problems, the fuel system should be emptied before storage of 30 days or longer. Drain the gas tank, start the engine and let it run until the fuel lines and carburetor are empty. Use fresh fuel the next season. See Storage Instructions for additional information. Never use engine or carburetor cleaners in the fuel tank or permanent damage may occur.



8062-003

Fuel cap



WARNING!
The engine and the exhaust system, become very hot during operation. Risk for burns if touched. Allow engine and exhaust system to cool at least two (2) minutes before refueling

OPERATION

Before Starting

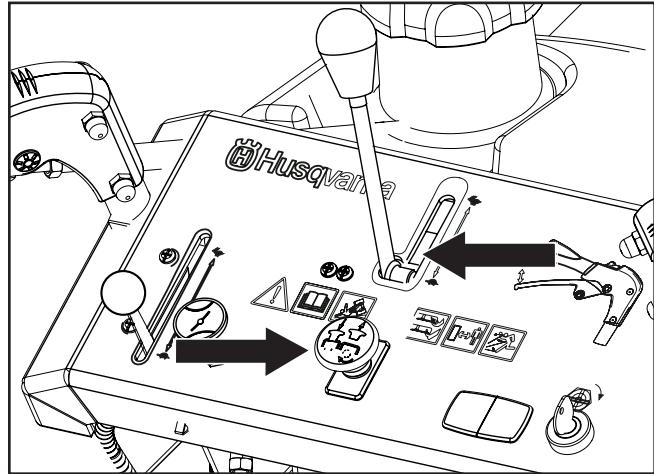
- Read the sections on Safety and Controls before starting the machine.
- Perform the daily maintenance before starting (see Maintenance Schedule).
- Check that there is sufficient fuel in the fuel tank.

The following conditions must be fulfilled before the engine can be started:

- The control for engaging the blades must be in the disengaged (down) position.
- The speed control lever must be in the start position.



WARNING!
Be thoroughly familiar with control operation and function before using the mower.



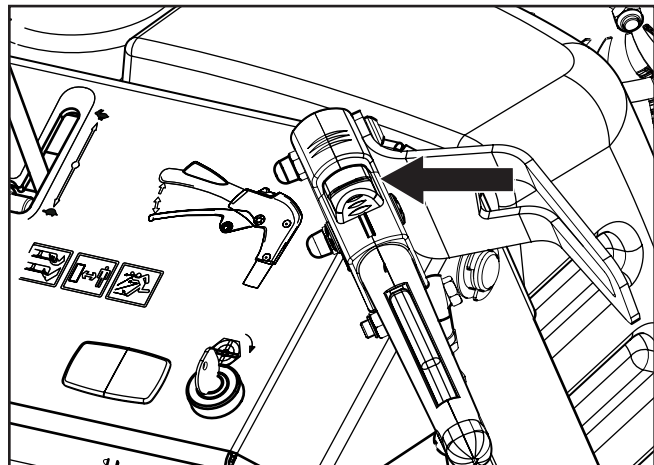
8062-010

Starting position

- The neutral locks for the drive levers should be in locked position.



WARNING!
Do not operate the mower if the interlock safety system allows operation or starting in any unsafe condition.



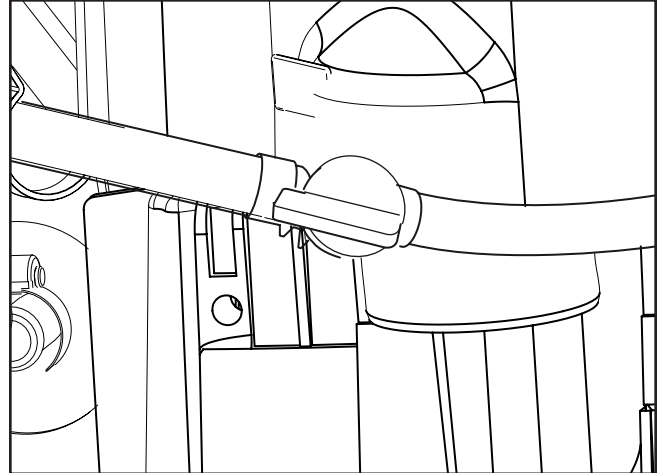
8062-003

Neutral lock

OPERATION

Starting Engine

Open fuel shut-off valve.

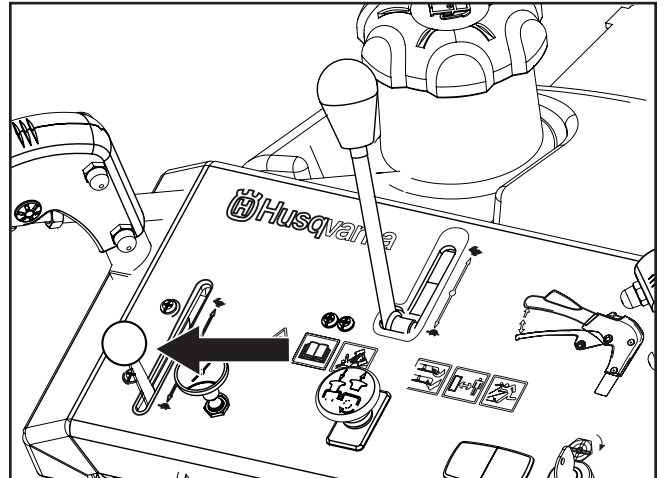


8062-007

Fuel shut off valve - open

Set throttle control at the lowest position and engage the choke (if needed).

Do not use choke when the engine is warm.



8062-010

Set throttle control



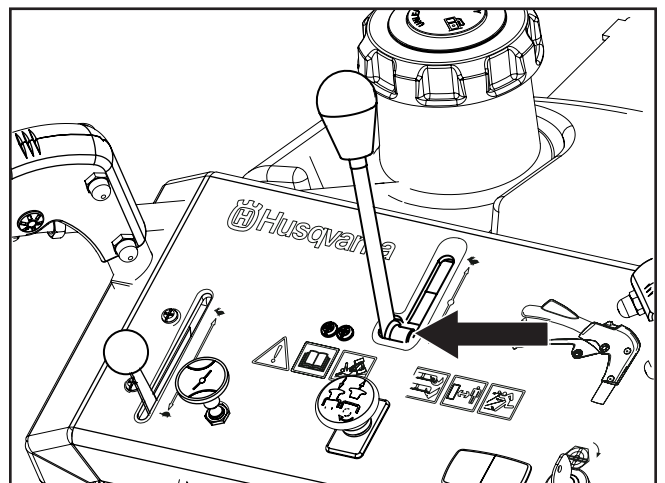
WARNING!

Do not run the engine indoors, in enclosed or poorly ventilated spaces. Engine exhaust fumes contain poisonous carbon monoxide.

Confirm that the speed control lever is in the start position.

IMPORTANT INFORMATION

Do not let the recoil cord snap back by itself. This may damage the cord or the recoil starter assembly.

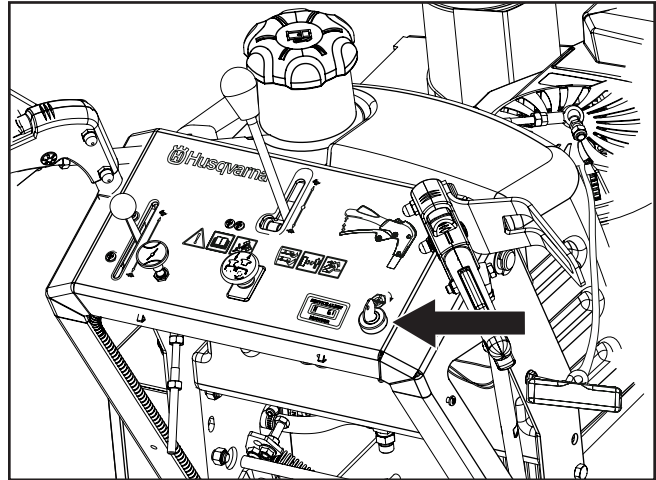


8062-009

Speed control in the start position

OPERATION

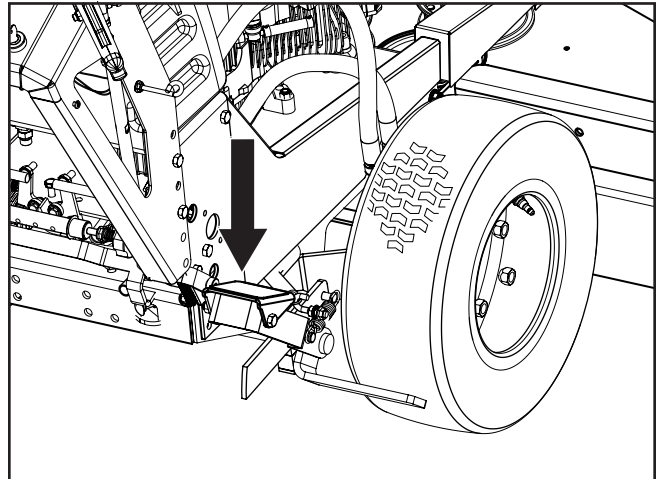
Turn ignition key to ON position.



8062-003

Ignition key

Release the parking brake by pivoting the pedal back and downwards until it clears the brake shaft.



8062-005

Parking brake

OPERATION

Running

Depress one operator presence lever and move the speed control to the desired speed. Pull the blade engagement control upwards. Set the desired rpm with the throttle. The best cutting and bagging is obtained with engine at top rpm.

While on level terrain, squeeze both drive levers slightly. Using thumbs, slide each neutral lock out the locked position. Slowly release both drive levers at the same time to begin forward motion.

The steering system of this mower uses individual right and left drive levers on the handle bars. Squeezing either lever will reduce the speed to that wheel.

With the opposite wheel still under power, a turn is accomplished.

If the drive lever is squeezed even tighter the wheel will go into reverse and a tighter more abrupt turn is accomplished. Turn left by squeezing the left hand lever or turn right by squeezing the right hand lever.

Reverse

The mower moves to the reverse gear when both drive levers are pulled fully upward to the handles.

Tracking Adjustment

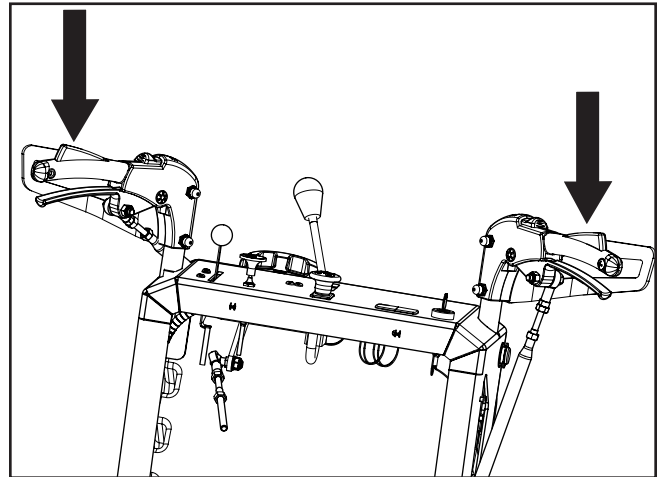
If the mower is not tracking straight, check the air pressure in both rear tires. Recommended air pressure is 15 psi (1 bar). Tracking should be checked on a flat, level surface.

Turning the tracking knob clockwise will adjust the mower to the left. Turning the knob counter-clockwise adjusts the mower to the right.

Operating on Hills

Operating on slopes can be hazardous. Read the Safety Instructions section "Driving on Slopes".

- The slowest speed possible should be used when mowing on slopes.
- Avoid stopping or changing speed on hills.
- Make all turns slowly.



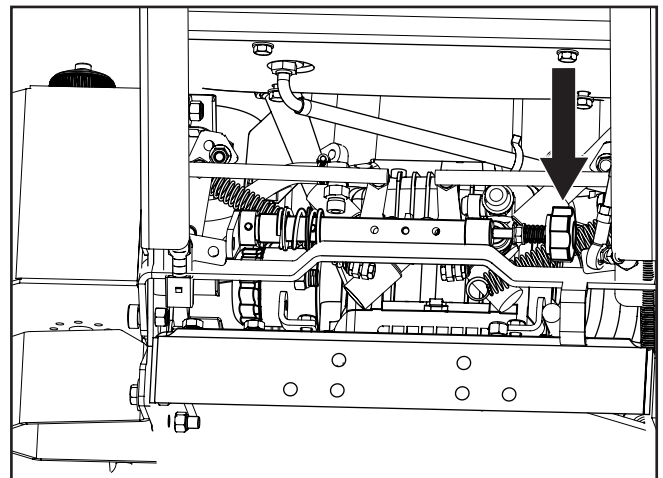
8062-004

Operator presence levers



WARNING!

Be sure all persons are clear of area before engaging the blades.



8062-027

Tracking knob



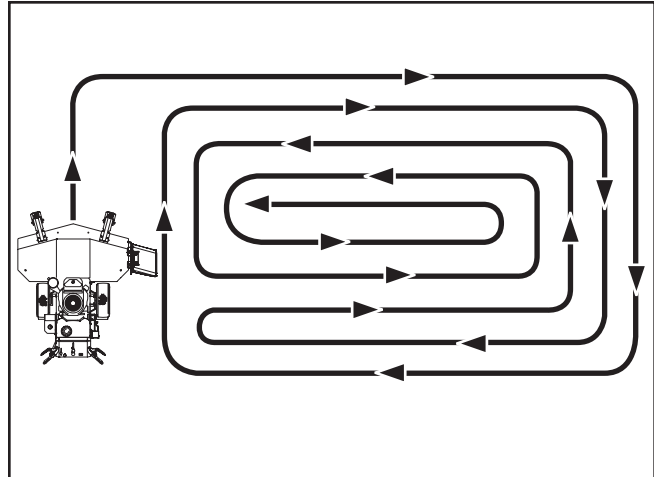
WARNING!

Never use the machine on terrain that slopes more than 10 degrees. Mow slopes side to side, not up and down. Avoid sudden directional changes.

OPERATION

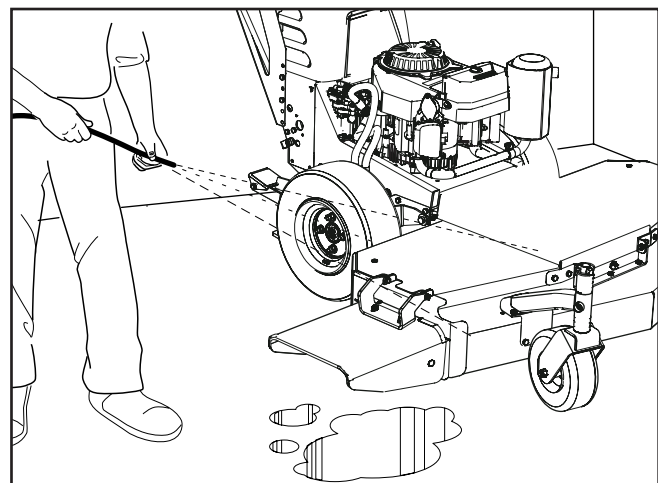
Mowing Tips

- Observe and mark rocks and other fixed objects in order to avoid collisions.
- Properly level the cutting deck for best mowing performance. The blades should be parallel to the ground or slightly tipped down in the front.
- Use only sharp blades.
- Check tire pressure. Different pressure can cause uneven mowing results.
- Use the left hand side of the deck for trimming.
- Mow so clippings are discharged onto the area that has been cut. Have the cut area to the right of the mower. This will result in more even distribution of clippings and a more uniform cut. To avoid clippings spraying on roads etc, mow the first two patterns in opposite direction.
- Begin with a high cutting height and reduce it until the desired mowing result is attained.
- Cut the average lawn to 2½" (64 mm) during the cool season and to over 3" (76 mm) during the hot months. For healthier and better looking lawns, mow often after moderate growth.
- For best cutting performance, grass over 15 cm (6") in height should be mowed twice. Make the first cut relatively high; the second to the desired height.
- Use a high engine speed (the blades rotate rapidly) and low ground speed (the machine moves slowly) for the best mowing results. If the grass is not too long and dense, the ground speed can be increased without noticeably depreciating the mowing result.
- Mow often to obtain the finest lawn. Mowing becomes more even and grass clippings more evenly distributed over the mown area. The total time taken is not increased, as a higher driving speed can be used without inferior mowing results.
- Avoid mowing wet lawns. The mowing result is inadequate because the wheels sink into the soft lawn. Clumps build and the grass clippings will fasten under the cowling.
- Hose the mower deck with water after each use. Hose especially underneath. Do not spray high pressure spray directly on top of spindles. Avoid getting engine too wet.
- Do not spray water directly on a hot mower. Allow it to cool to a safe temperature before cleaning.



8062-011

Mowing pattern



8062-012

Clean mower deck after each use

OPERATION

Transport

- The machine is heavy and can cause serious crushing injuries. Be extra cautious when it is loaded on or unloaded from a vehicle or trailer.
- Use an approved trailer to transport the machine. Activate the parking brake, turn off the fuel supply, and fasten the machine with approved fastening devices, such as bands, chains, or straps, when transporting.
- Do not operate this machine on public roadways.
- Check and abide by local traffic regulations before transporting the machine on any road.
- Do not tow this machine, it may cause damage to the drive system.
- Load the unit onto truck or trailer by driving up ramps of suitable strength using a slow speed. Do not lift! The machine is not intended to be lifted by hand.

Stopping

Emergency stop

Release both hands from the operate presence levers. When both operator presence levers return to their upper position, the engine will quit and the mower will stop.

Normal operating stop

- Pull both drive levers firmly toward the handle grips to stop forward motion.
- Use thumbs to lift neutral lock into the neutral position.
- Move speed control into the start position.
- Move the throttle control to the slow position.
- Move blade engagement control to the off position.
- Set parking brake

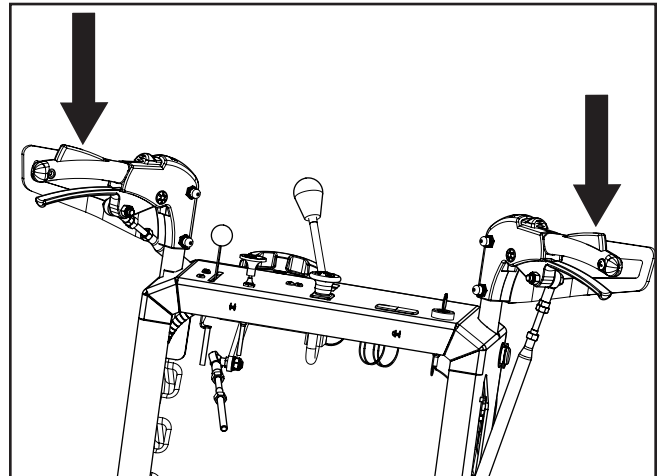
Stopping Engine

If the engine has been worked hard, allow it to idle a minute in order to attain normal operating temperature before stopping it. Avoid idling the engine for longer periods, as there is a risk of the spark plugs fouling.

Disengage the blades by pushing the blade engagement control down.

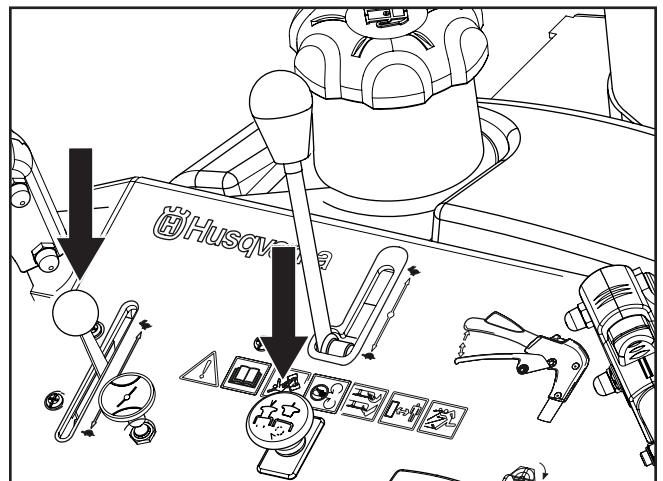
IMPORTANT INFORMATION

The parking brake is not sufficient to lock the machine in place during transport. Ensure that the machine is well fastened to the transport vehicle. Always reverse the machine onto the transport vehicle to avoid tipping it over.



8062-004

Operator presence levers

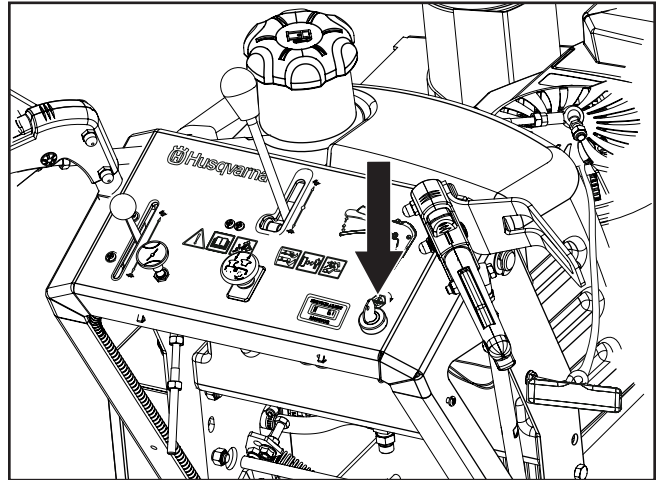


8062-009

Set throttle to slow and disengage mower blades

OPERATION

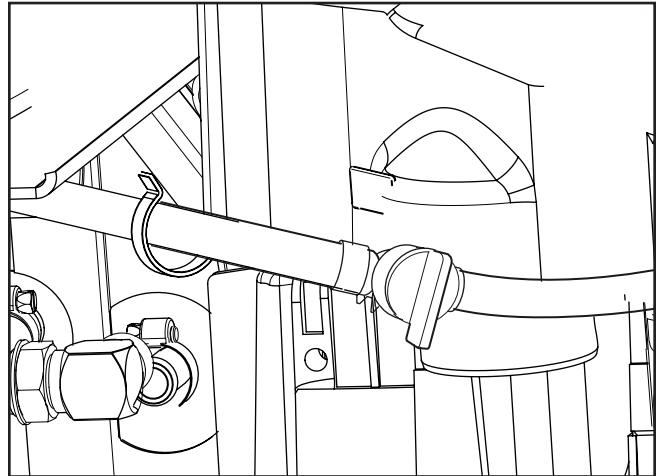
Turn the ignition key to the stop position.
Remove the ignition key.



8062-003

Ignition key

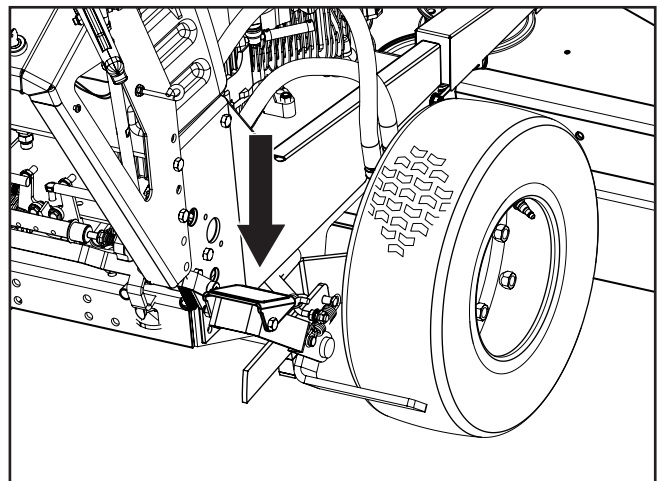
Shut OFF the fuel valve.



8062-007

Fuel shut off valve - closed (OFF)

Set the parking brake.



8062-005

Parking brake

OPERATION

Cutting Height Adjustment



WARNING!

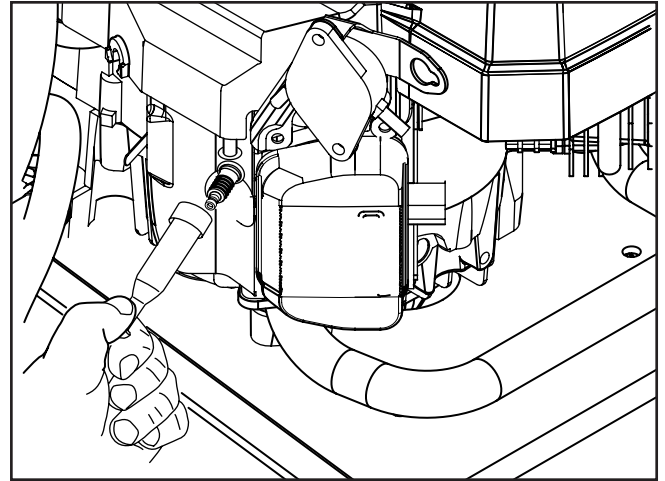
Before performing any service or adjustment checklist

- Make sure the blades and all moving parts have completely stopped.
- Turn the ignition switch to "OFF" position and remove the key.
- Remove spark plug wire.

To change the deck cutting height - hook the deck latch onto the latch pin on each side of the frame. Use the height of cut decal to find the corresponding hole for the desired height. Push the retainer pin into the correct hole in the height rod.

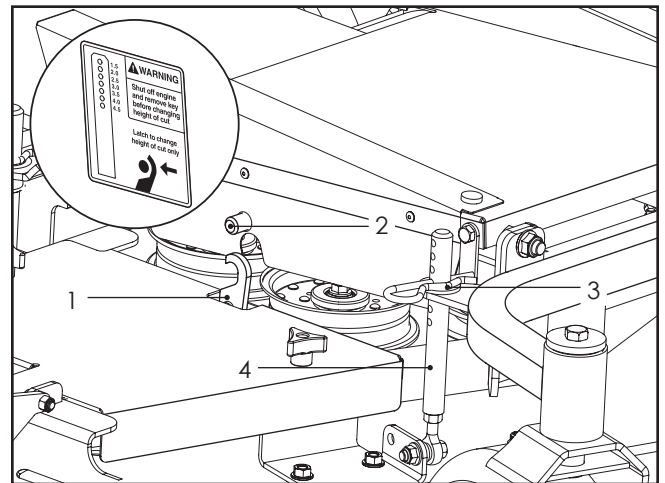
IMPORTANT INFORMATION

To achieve the best quality cut, the blades should be level with the ground or slightly tipped forward.



8062-024

Remove spark plug wires



8062-034

1. Deck latch
2. Latch pin
3. Retainer pin
4. Height rod

Height adjustment

MAINTENANCE

Maintenance Schedule

The following is a list of maintenance procedures that must be performed on the machine. For those points not described in this manual, visit an authorized service workshop. An annual service carried out by an authorized service workshop is recommended to maintain your machine in the best possible condition and to ensure safe operation.

Read “Maintenance” in the Safety Instructions section.

1) First change after 5-8 hours. When operating with a heavy load or at high ambient temperatures, replace every 50 hours. 2) In dusty conditions, cleaning and replacement are required more often. 3) For daily use, the machine should be lubricated twice weekly. 4) Performed by authorized service workshop.

● = Described in this manual

◆ = Not described in this manual

Maintenance	Daily		Weekly	At least once each year	Maintenance interval in hours			
	Before	After			25	50	100	300
Check the parking brake	●							
Check the engine's oil level (every refueling)	●							
Check the safety system	●							
Check for fuel and oil leakages	◆							
Check/clean the engine's cooling air intake		●						
Check the mower deck		●						
Check for loose hardware (screws, nuts)		●						
Clean under the mower deck		●						
Start the engine and blades, listen for unusual sounds		◆						
Check for damage		◆						
Thoroughly clean around the engine		◆						
Clean around belts, belt pulleys		◆						
Check the tire pressures					●			
Sharpen/Replace mower blades					●			
Clean the engine's cooling air intake ²⁾				●	●			
Clean the air cleaner's pre-filter ²⁾ (foam)				●	●			
Clean the air cleaner's filter cartridge ²⁾ (paper filter)				●		●		
Check/adjust the parking brake				◆		◆		
Inspect muffler/Spark arrester				◆		◆		


MAINTENANCE

Maintenance	Daily		Weekly	At least once each year	Maintenance interval in hours			
	Before	After			25	50	100	300
Check/adjust throttle and choke cables				●			●	
Check the condition of belts, belt pulleys				●			●	
Change the engine oil ¹⁾				●		●		
Replace the engine oil filter				●			●	
Clean/replace the spark plugs				●			●	
Replace the fuel filter				●			●	
Replace the air filter (paper filter) ²⁾				●			●	
Check the caster wheels (every 200 hours)							●	
Replace the air cleaner's pre-filter ²⁾ (foam)				●				
Check/adjust the mower deck				●				●
Check the engine valve clearance ³⁾				◆				◆
Perform the 300-hour service ³⁾				◆				◆
Lubricate according to Lubrication Schedule				●	●	●	●	●
Check hydraulic oil at reservoir			●					
Change hydraulic oil & filter (200 hours)				●				

¹⁾ First change after 5-8 hours. When operating with a heavy load or at high ambient temperatures, replace every 50 hours. ²⁾ In dusty conditions, cleaning and replacement are required more often. ³⁾ Performed by authorized service workshop.

● = Described in this manual

◆ = Not described in this manual



WARNING!
Before performing any service or adjustment checklist

- **Turn the ignition switch to "OFF" position and remove the key.**
- **Make sure the blades and all moving parts have completely stopped.**

MAINTENANCE

Ignition System

The engine is equipped with an electronic ignition system. Only the spark plugs require maintenance.

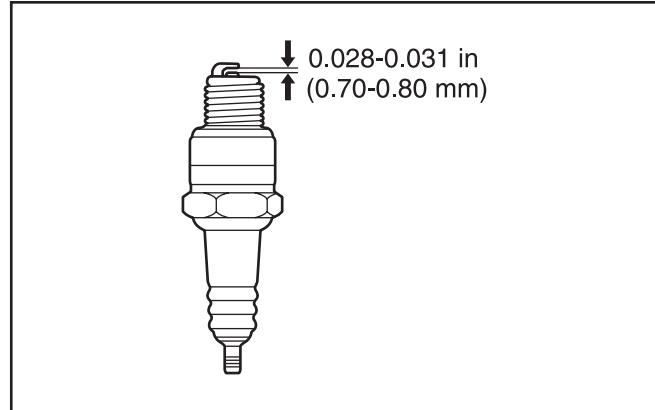
1. For recommended spark plugs, see Technical Data.
2. Remove the ignition cable boot and clean around the spark plug.
3. Remove the spark plug with a spark plug socket wrench.
4. Check the spark plug. Replace the spark plug if fouled, the electrodes are burned or if the insulation is cracked or damaged. Clean the spark plug with a steel brush if it is to be reused.
5. Measure the electrode gap with a gapping tool. The gap should be .030" (0.75 mm). Adjust as necessary by bending the side electrode.
6. Reinsert the spark plug, turning by hand to avoid damaging the threads.
7. After the spark plug is seated, tighten it using a spark plug wrench so that the washer is compressed. A used spark plug should be turned $\frac{1}{8}$ of a turn from the seated position. A new spark plug should be turned a $\frac{1}{4}$ turn from the seated position.
8. Reconnect the ignition cable.

IMPORTANT INFORMATION

Fitting the wrong spark plug type can damage the engine.

Inadequately tightened spark plugs can cause overheating and damage the engine.

Tightening the spark plugs too hard can damage the threads in the cylinder head.



8011-054

Measure the electrode gap

Safety System

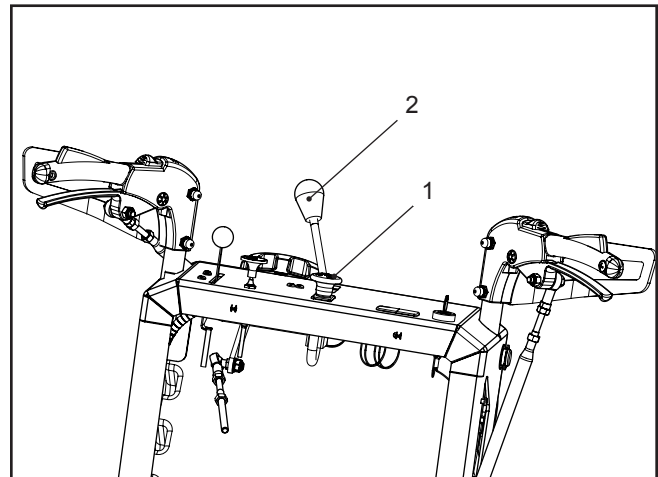
The machine is equipped with a safety system that prevents starting under the following conditions.

The engine can only be started when:

1. the blades are disengaged.
2. the speed control is in the start position.

Make daily inspections to ensure that the safety system works by attempting to start the engine when one of the conditions is not met.

If the machine starts when one of these conditions is not met, turn the machine off and repair the safety system before using the machine again.



8062-004

1. Blade engagement control
2. Speed control lever

Check the safety system

Function Check

Check the function of the safety electrical system on a regular basis.

1. Engine must stop if blades are engaged without operator presence levers held down.
2. Engine must stop if the speed control is taken out of the start position without holding down operator presence levers.
3. Engine must not start unless blades are off and the speed control is in the start position.



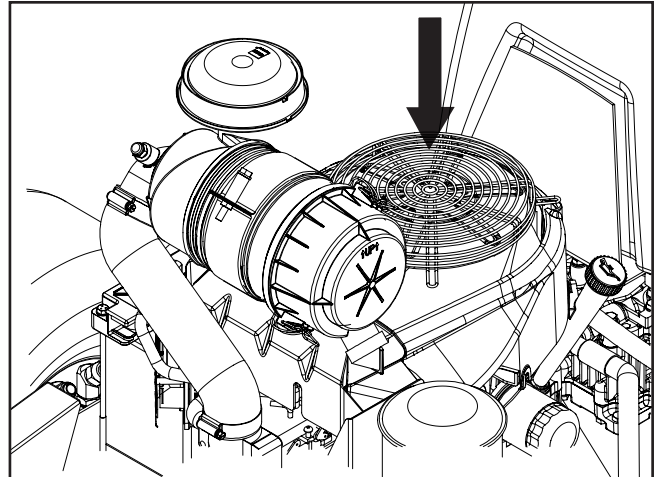
WARNING!

Do not operate the mower if the interlock safety system allows operating or starting in any unsafe condition.

MAINTENANCE

Engine Cooling Air Intake

Check that the engine's cooling air intake is free from leaves, grass, and dirt. If the cooling air intake is clogged, engine cooling deteriorates, which can lead to engine damage.



8062-032

Check and clean the cooling air intake

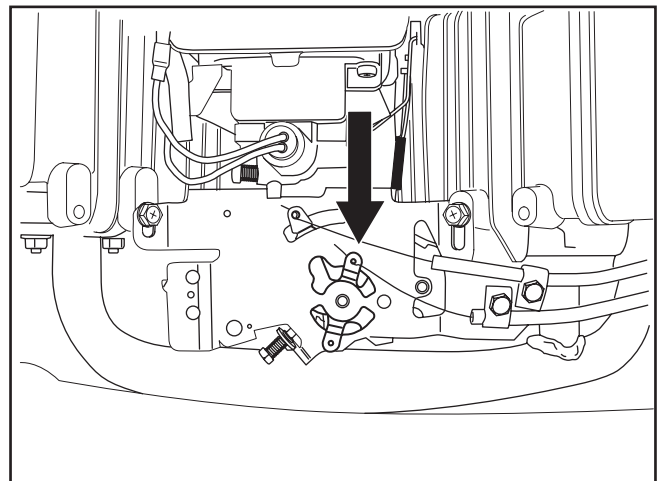
Throttle Cable

Check that the engine responds to throttle increases and that a good engine speed is attained at full throttle.

If doubts arise, contact the service workshop.

If adjustments are necessary, they can be made as follows for the lower cable:

1. Loosen the clamping screw for the cable's outer casing and move the throttle to the full throttle position.
2. Check that the throttle cable is mounted in the correct hole in the lower lever, see illustration.
3. Push the throttle cable's outer casing as far to the right as possible and tighten the clamping screw.



8011-605

Adjusting the throttle cable

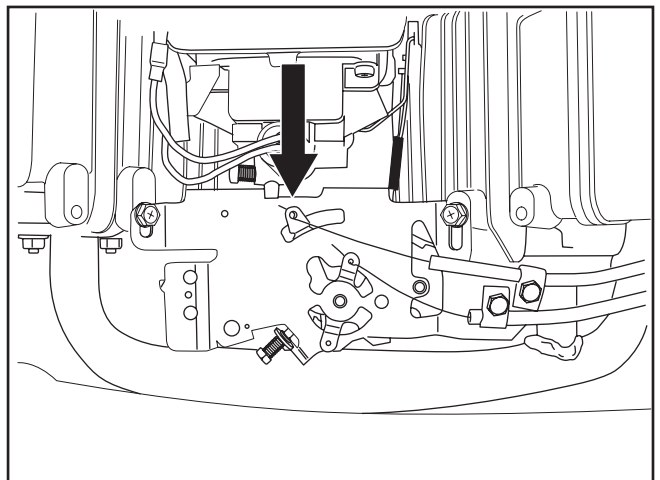
Choke Cable

If the engine produces black smoke or is difficult to start, this can be because the choke cable is incorrectly adjusted (upper cable).

If doubts arise, contact the service workshop.

If adjustments are necessary, they can be made as follows:

1. Loosen the clamping screw for the cable's outer casing and push the choke control fully in.
2. Check that the choke cable is mounted in the upper lever, see illustration. Push the choke cable's outer casing as far to the left as possible and tighten the clamping screw.



8011-605

Adjusting the choke cable

MAINTENANCE

Air Filter

Heavy duty air filter

If the engine seems weak or runs unevenly, the air filter may be clogged. If running with a dirty air filter, the spark plugs can become fouled.

For this reason, it is important to replace the air filter regularly (see the heading Maintenance Schedule for the proper service interval).

Dust cap

Check the dust cap every day by pressing the rubber valve with two fingers to let out the dirt.

Clean the dust cap by removing the end cover of the air cleaner and clean the inside.

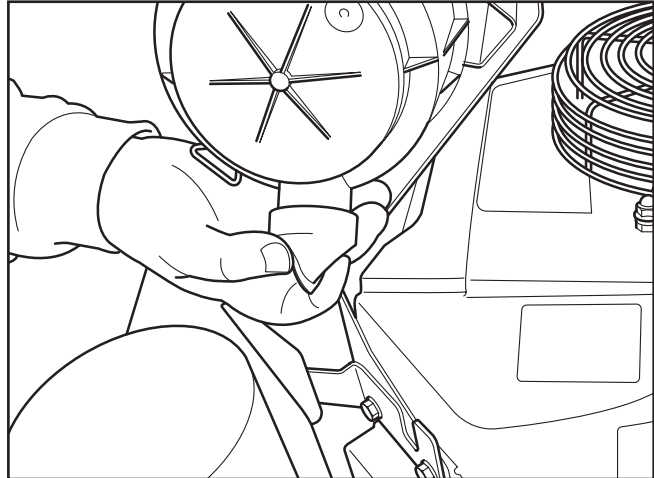
IMPORTANT INFORMATION

The end cover must be installed with the rubber valve pointing downwards, otherwise the rubber valve will not function.



WARNING!

Engine oil can be very hot if it is drained directly after stopping the engine. Allow the engine to cool to a safe temperature first.

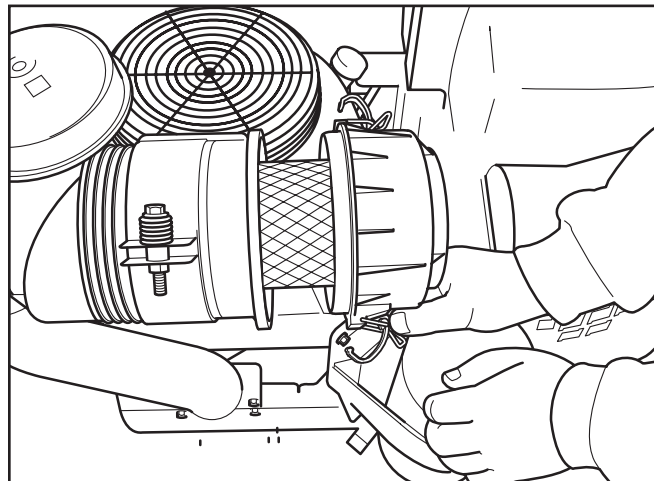


8011-447

Cleaning the dust cap

To clean or replace the air filter:

1. Unhook the two retaining clips and remove the end cover.

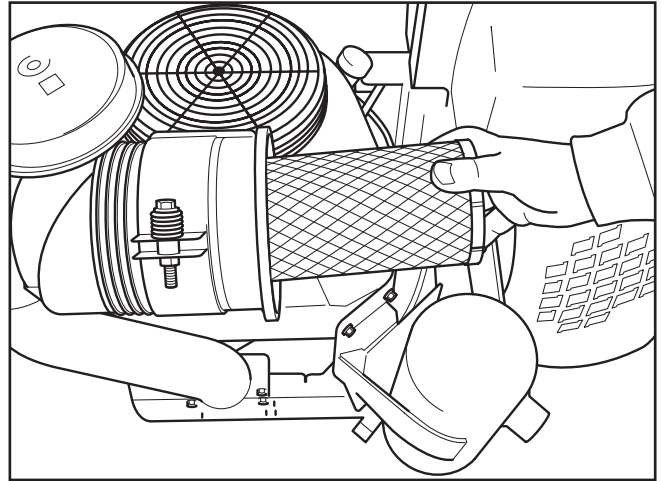


8011-448

Remove the end cover

MAINTENANCE

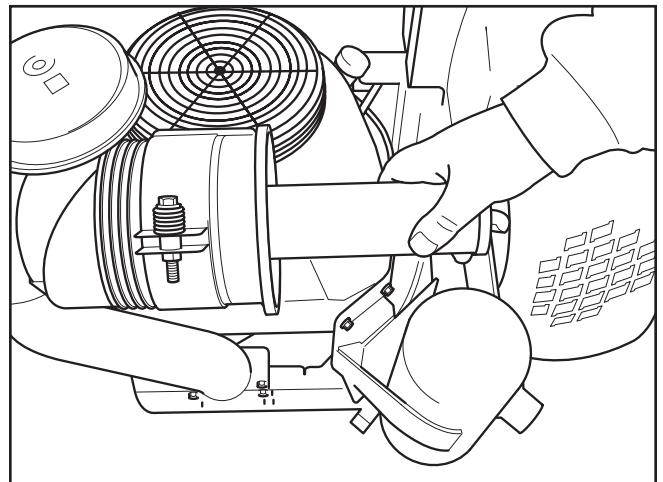
1. Remove the main filter (outer filter) by pulling it out by hand.



8011-449

Installing the main filter

2. Check the inner filter. If it appears dirty, it should be replaced. Remove the inner filter, if necessary, by pulling it out by hand.
3. Clean inside of the filter housing. Wipe dry only.
4. Install the inner filter with the open end first. Ensure that it enters its recess at the end of the housing by pushing it in to the stop.
5. Install the main filter with the open end first. Ensure that it enters its recess at the end of the housing by pushing it in to the stop.
6. Replace the end cap and turn the end cover so the rubber valve is pointing downwards. Secure the retaining clips.



8011-450

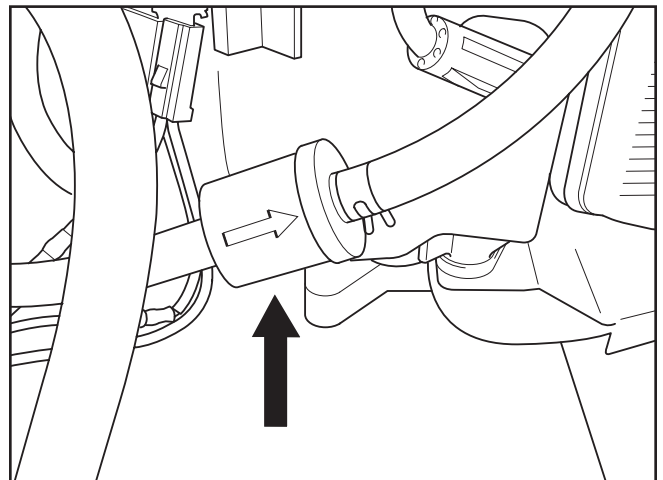
Installing the inner filter

Replacing the Fuel Filter

Replace the line-mounted fuel filter every 100 hours (once per season) or more regularly if it is clogged.

To replace the filter:

1. Move the hose clamps away from the filter. Use flat-nosed pliers.
2. Pull the filter loose from the hose ends.
3. Push the new filter into the hose ends. Position the filter with the "FLOW" arrow pointing up toward the fuel pump. If necessary, a soap solution can be applied to the filter ends to ease mounting.
4. Move the hose clamps back toward the filter.



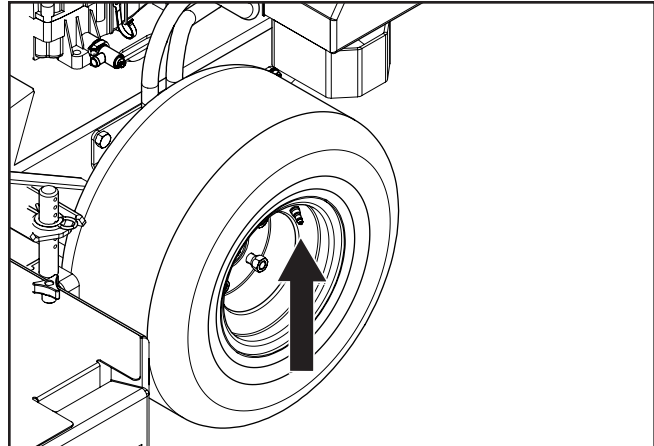
8011-783

Check and clean the cooling air intake

MAINTENANCE

Tire Pressures

All tires should be at 15 psi / 103 kPa / 1 bar.



8062-026

Tire pressures

Deck belt

Check every 100 hours of operation. Check for severe cracking and large nicks.

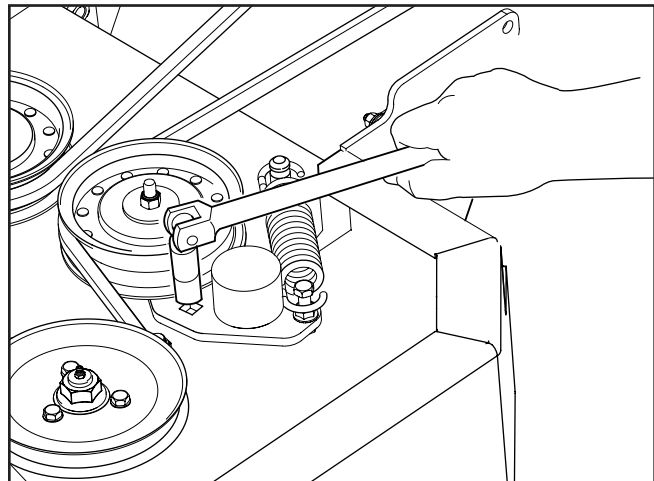
NOTE: The belt will show some small cracks in normal operation.

Replacing belt

Open the belt shield.

Use a ratchet with a $\frac{1}{2}$ socket extension on the spring idler arm to relieve the tension on the belt. Slide the belt off the pulley and fully remove the belt.

Reverse the procedure for installation. After installation is complete check the belt for twists.

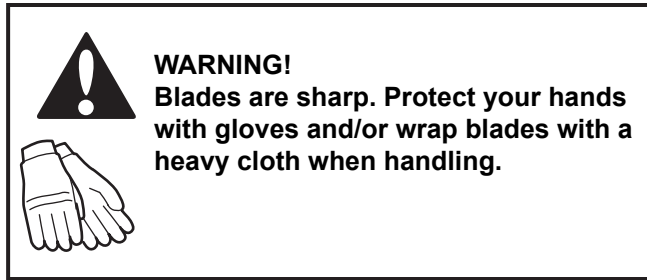


8062-023

Slacken the belt tensioner

MAINTENANCE

Cutting Blades



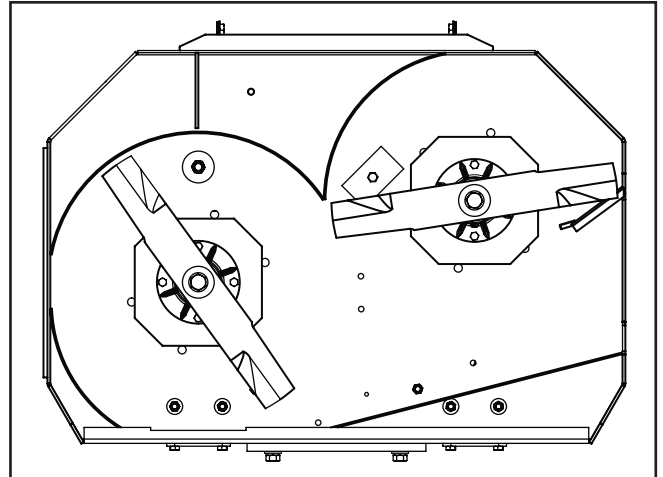
To achieve the best mowing effect, the blades must be well sharpened and not damaged.

Bent or cracked blades or blades with large nicks should be replaced.

Damaged blades should be replaced when hitting obstacles that result in a breakdown. Let the service workshop decide whether the blade can be repaired/ground or must be replaced.

Balance the blades after sharpening.

Check the blade mounts.



8062-016

Check the cutting blades

IMPORTANT INFORMATION

The sharpening of blades should be carried out by an authorized service workshop.

Blade replacement

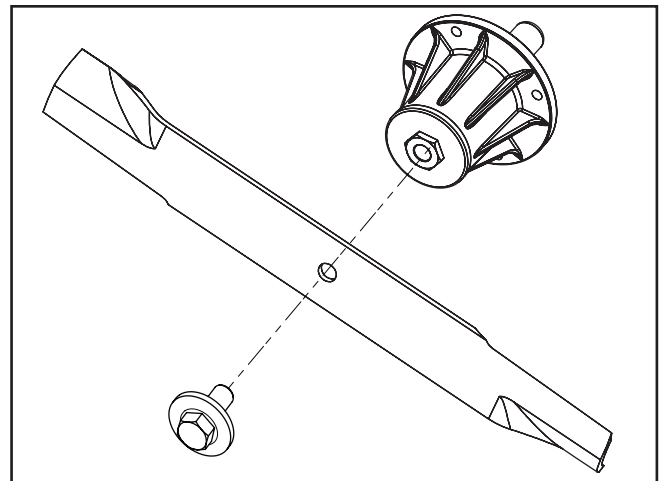
Remove blade bolt by turning counterclockwise.

Install new or resharpened blade with stamped "GRASS side" facing towards ground/grass (down) or "THIS SIDE UP" facing deck and cutter housing.

Install and tighten blade bolt securely. Tighten torque 90 ft/lb (122 Nm).

IMPORTANT INFORMATION

Special blade bolt is heat treated. Replace with a Husqvarna bolt if required. Do not use lower grade hardware than specified.



8062-017

Blade attachment

MAINTENANCE

Cleaning

Under side of rear deck

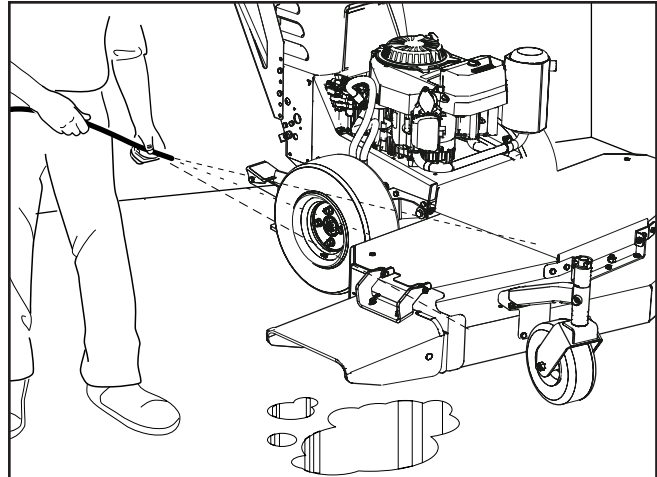
Remove grass and debris.

Washing

Regular cleaning and washing, especially under the mower deck, will increase the machine's lifespan. Make it a habit to clean the machine directly after use, before the dirt sticks. Do not spray high pressure water directly on the top of the deck. Do not spray hot engine or exhaust.



WARNING!
Escaping hydraulic oil under pressure can have sufficient force to penetrate the skin, causing serious injury. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.











Clean mower deck after each use

8062-012






Hardware

Check daily. Inspect the entire machine for loose or missing hardware.

MAINTENANCE

12/12	1/52	1/365		25h	50h	100h	200h	300h
			1					
								
			4					
			5					
								
								

8062-018

12/12 Every year	Lubricate with grease gun 	Lubricate with oil can 
1/52 Every Week	Oil change 	Level check 
1/365 Every day	Filter change 	

General

Remove the ignition key to prevent unintentional movements during lubrication. When lubricating with an oil can, it must be filled with engine oil.

When lubricating with grease, unless otherwise stated, use a high grade molybdenum disulphide grease.

For daily use, the machine should be lubricated twice weekly. Wipe away excess grease after lubrication.

It is important to avoid getting lubricant on the belts or the drive surfaces on the belt pulleys. Should this happen, attempt to clean them with spirits. If the belt continues to slip after cleaning, it must be replaced. Gasoline or other petroleum products must not be used to clean belts.

LUBRICATION

Cables

If possible, grease both ends of the cables and move the controls to end stop positions when lubricating. Refit the rubber covers on the cables after lubrication. Cables with sheaths will bind if they are not lubricated regularly. If a cable binds, it can disrupt operation.

If a cable binds, remove the cable and hang it vertically. Lubricate it with light engine oil until the oil begins to escape from the bottom.

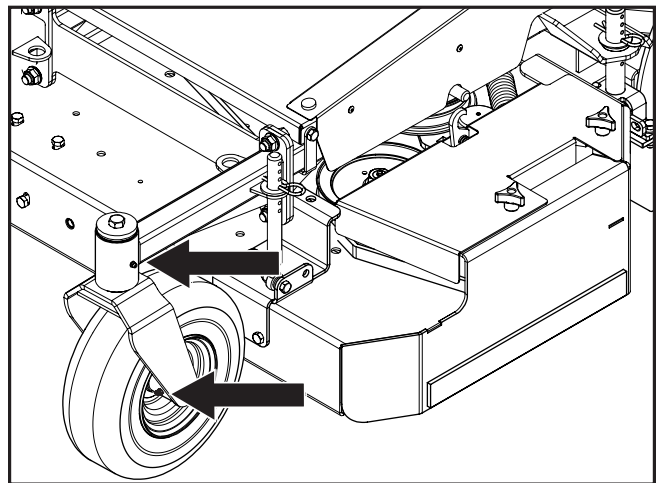
Tip: Fill a small plastic bag with oil and tape it so that it seals against the sheath and allow the cable to hang vertically from the bag overnight. If you do not succeed in lubricating the cable, it must be replaced.

1. Front Wheel Mount

Lubricate with a grease gun, one zerk for each wheel mount, until the grease is forced out. Use only good quality bearing grease. Grease from well-known brand names (petrochemical companies) usually maintains a good quality.

2. Front Wheel Bearings

Lubricate with a grease gun, one zerk for each set of wheel bearings, until the grease is forced out. Use only good quality disulphide grease.



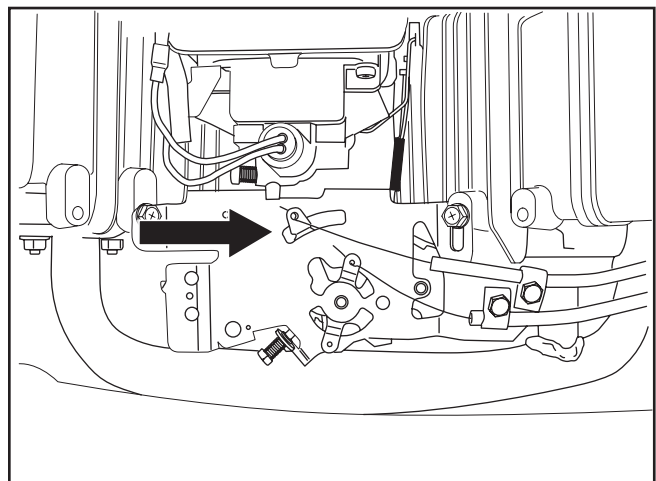
8062-029

Lubricating the front wheels

3. Throttle and Choke Cables

Lubricate the cable ends at the carburetor with the oil can. Move the controls to the end points and lubricate again.

The throttle cable is also lubricated at the control when the control console is removed.



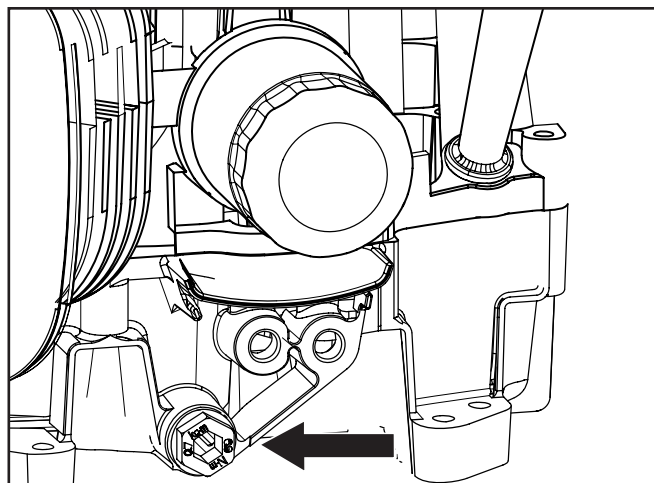
8011-605

Lubricate cables

LUBRICATION

4. Engine Oil Filter

- Drain the engine oil in accordance with the work description under the heading Engine Oil/Change Engine Oil.
- Remove the oil filter. If necessary, use a filter remover.
- Wipe new, clean engine oil onto the seal for the new filter.
- Mount the filter by hand with $+3/4$ turn.
- Add replacement oil.
- Run the engine warm, then check that there are no leaks around the oil filter seal.
- Check the oil level in the engine, fill if necessary. The oil filter holds 0.1 qt (0.1 liters) of oil.



8062-032

Oil drain valve



WARNING!

Engine oil can be very hot if it is drained directly after stopping the engine. Allow the engine to cool to a safe temperature first.

IMPORTANT INFORMATION

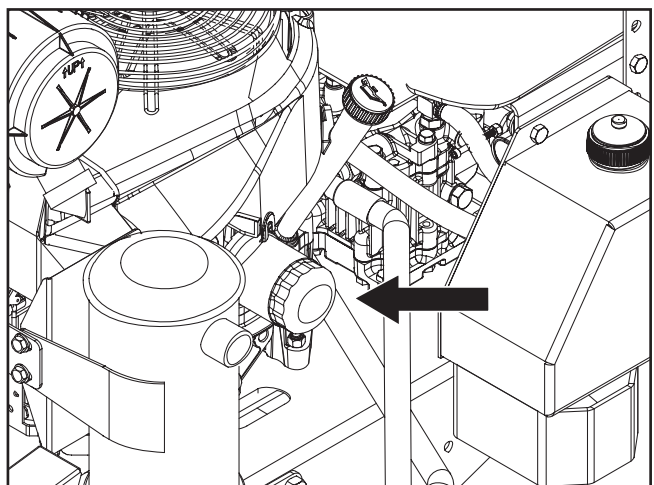
Used engine oil is a health hazard and must not be disposed of on the ground or in nature; it should always be disposed of at a workshop or appropriate disposal location. Avoid skin contact; wash with soap and water in case of spills.

5. Engine Oil

The engine oil should be changed for the first time after 8 hours of operation. Thereafter, it should be changed every 100 hours.

Place the machine on a flat surface.

- Place a container under the engine where the oil drain valve exits.
- Remove the dipstick and open the valve cap.
- Allow the oil to run out into the container.
- Close the oil drain valve cap.
- Replace the oil filter if necessary.
- Fill with new engine oil in accordance with Checking the Oil Level.
- Start the engine. Run it for 3-5 minutes. Stop and recheck the oil level.



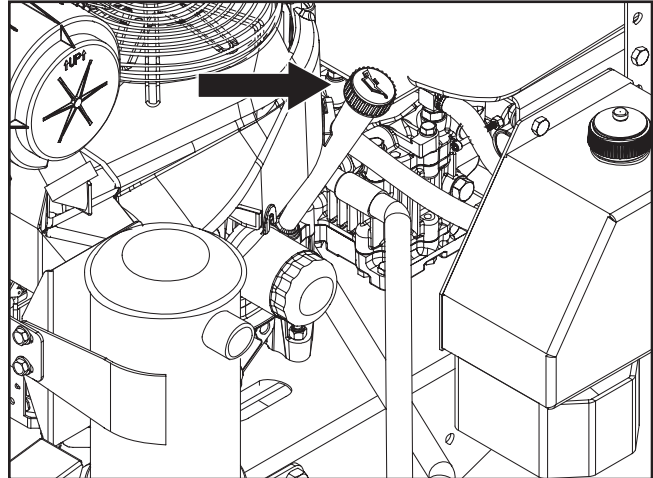
8062-031

Changing the oil filter

LUBRICATION

Engine Oil Levels

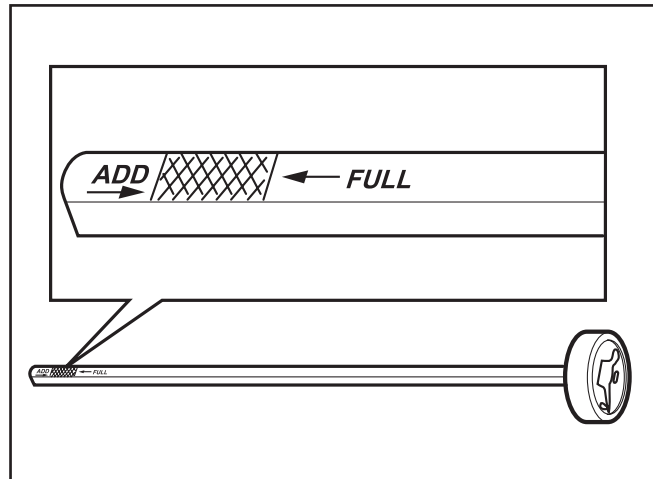
Check the oil level in the engine when the machine is standing level and the engine is stopped.
 Remove the dipstick, wipe it clean, and then replace it. The dipstick should not be screwed into place.
 Take the dipstick out again and read the oil level.



8062-015

Remove the dipstick

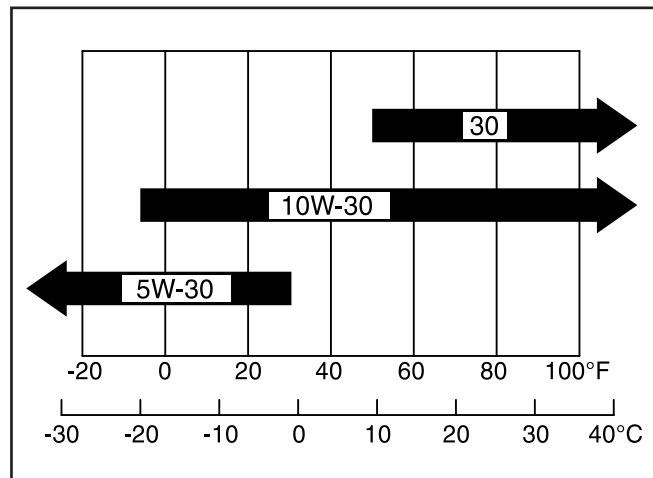
The oil level should lie between the markings on the dipstick. If the level is approaching the "ADD" mark, fill the oil to the "FULL" mark on the dipstick.
 Never fill to above the "FULL" mark.
 The oil is filled through the hole for the dipstick.



8009-159

Dipstick markings

Engine oil SAE 30 or SAE10W-30 or alternatively, at 10W-40 class SF-SJ (over +32°F / 0°C).
 Over 68°F / +20° SAE 40 can be used.
 Use engine oil SAE 5W-20, class SF-SJ (under +32°F / 0°C).
 The engine holds 1.6 qt (1.7 liters) of oil excluding the filter, including filter 1.7 qt (1.9 liters).



8009-159

Dipstick markings

TROUBLESHOOTING

Problem

Cause

Engine will not start.

- Mower deck control is engaged.
 - Speed control not in the start position.
 - Spark plug wire is off.
 - Contamination in the carburetor or fuel line.
 - Fuel shutoff valve is closed.
 - Clogged fuel filter or fuel line.
 - Empty fuel tank.
 - Faulty ignition system.
-

Engine runs rough.

- Faulty carburetor.
 - Choke control is pulled out with a warm engine.
 - Clogged fuel filter or jet.
 - Clogged ventilation valve on the fuel cap.
 - Fuel tank nearly empty.
 - Fouled spark plugs.
 - Spark plug is loose.
 - Defective ignition cable.
 - Defective spark plug electrode.
 - Defective spark plug connection.
 - Rich fuel mixture or fuel-air mixture.
 - Wrong fuel type.
 - Water in the fuel.
 - Clogged air filter.
-

Engine seems weak.

- Clogged air filter.
 - Fouled spark plug.
 - Carburetor incorrectly adjusted.
-

Machine vibrates.

- Blades are loose.
- Blades are incorrectly balanced.
- Engine is loose.

TROUBLESHOOTING

Problem

Cause

Engine overheats.

- Clogged air intake.
 - Engine overloaded.
 - Poor ventilation around engine.
 - Defective engine speed regulator.
 - Too little or no oil in the engine.
 - Fouled spark plugs.
-

Machine moves slowly, unevenly.

- Drive belt for the transmission is slack or has come off.
-

Mower deck not engaging.

- Drive belt for the mower deck has come loose.
 - Mower deck control is faulty.
-

Uneven mowing results.

- Tire pressures are uneven.
 - Blades are bent.
 - Blades are dull.
 - Driving speed too high.
 - Grass is too long.
 - Grass collected under the mower deck.
-

Machine moves when in neutral position.

- Motion control linkage out of adjustment.
-

Machine pulls to left or right.

- Tire pressures are uneven
- Motion control linkage out of adjustment.
- Soft terrain
- Slope is too steep
- Brakes are out of adjustment.

STORAGE

Winter Storage

At the end of the mowing season (or if it will not be in use for longer than 30 days), the machine should be readied for storage. Fuel allowed to stand for long periods of time (30 days or more) can leave sticky residues that can plug the carburetor and disrupt engine function.

Fuel stabilizers are an acceptable option as regards to the sticky residues that can occur during storage.

Add stabilizer to the fuel in the tank or in the storage container. Always use the mixing ratios specified by the manufacturer of the stabilizer. Run the engine for at least 10 minutes after adding the stabilizer so that it reaches the carburetor. Do not empty the fuel tank and the carburetor if you have added stabilizer.



WARNING!

Never store an engine with fuel in the tank indoors or in poorly ventilated spaces where fuel vapor can come in contact with open flames, sparks, or a pilot light such as in a boiler, hot water tank, clothes drier, etc. Handle the fuel with care. It is very flammable and can cause serious personal injury and property damage. Drain the fuel into an approved container outdoors and far away from open flame. Never use gasoline for cleaning. Use a degreaser and warm water instead.

To ready the machine for storage, follow these steps:

1. Thoroughly clean the machine, especially under the mower deck. Touch up damage to the paint and spray a thin layer of oil on the underside of the mower deck to avoid corrosion.
2. Inspect the machine for worn or damaged parts and tighten any nuts or screws that may have become loose.
3. Change the engine oil; dispose of used oil properly.
4. Empty the fuel tanks or add a fuel stabilizer. Start the engine and allow it to run until the carburetor is drained of fuel or the stabilizer has reached the carburetor.
5. Remove the spark plug and pour about a tablespoon of engine oil into the cylinder. Turn over the engine so that the oil is evenly distributed. Refit the spark plug.
6. Lubricate all grease zerks, joints, and axles.
7. Store the machine in a clean, dry place and cover it for extra protection.

Service

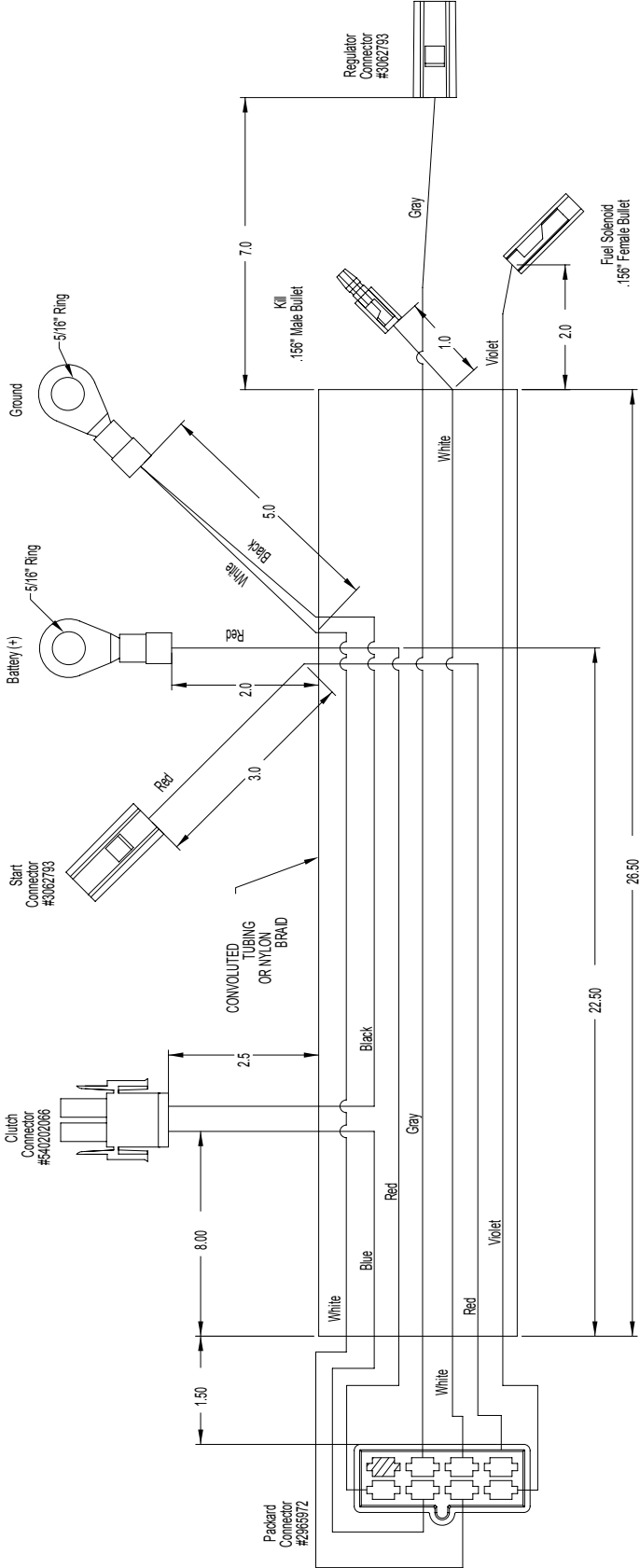
When ordering spare parts, please specify the purchase year, model, type, and serial number.

Always use genuine Husqvarna spare parts.

An annual checkup at an authorized service workshop is a good way to ensure that the machine performs its best the following season.

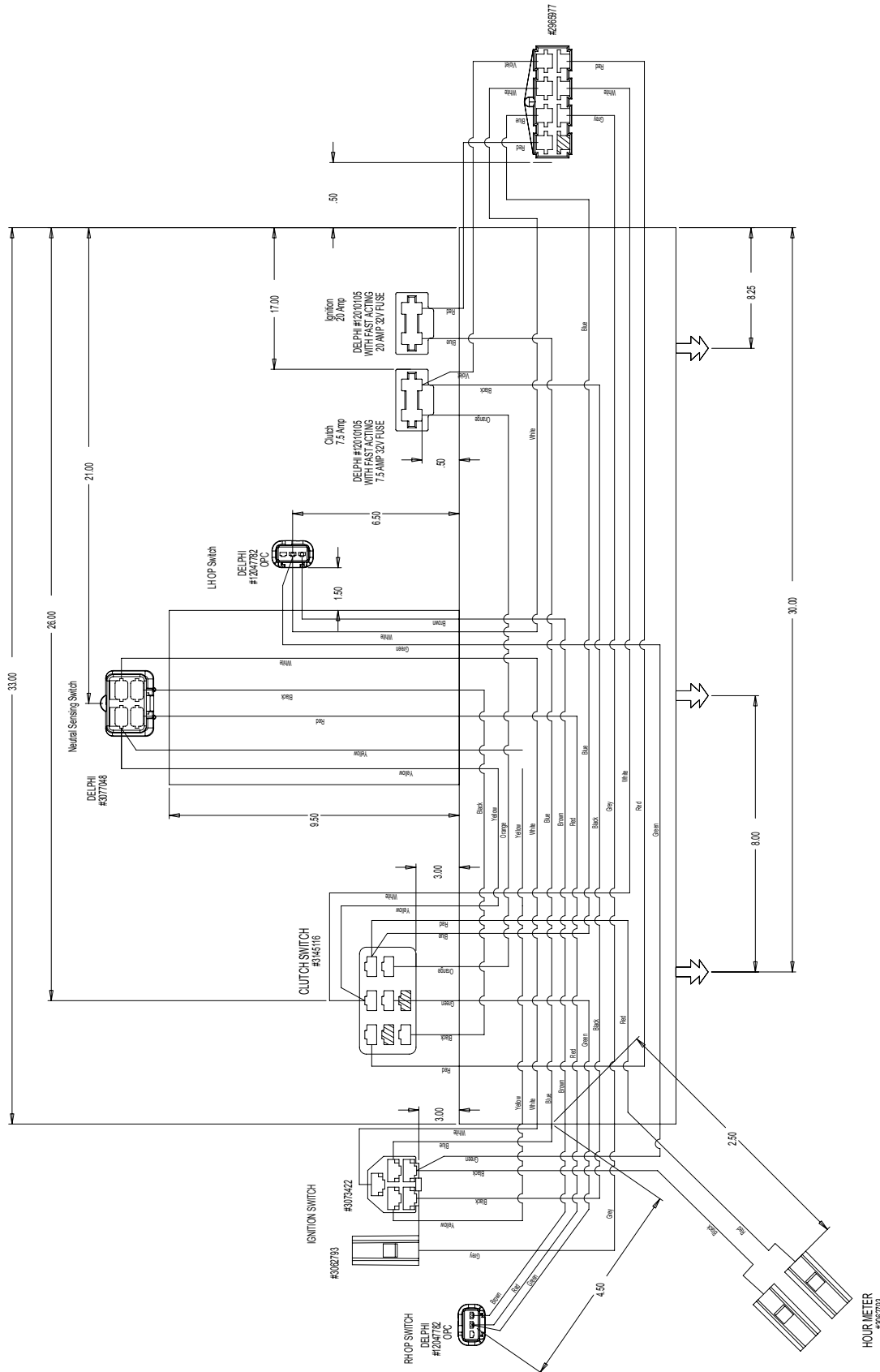
SCHEMATICS

Lower Harness



SCHEMATICS

Upper Harness



TECHNICAL DATA

	WH5223	WH6123
Engine		
Manufacturer	Kawasaki	Kawasaki
Type	FH680V	FH680V
Power	23 hp* / 17.2 kW	23 hp* / 17.2 kW
Oil capacity excluding filter	1.8 qt / 1.7 liter	1.8 qt / 1.7 liter
Oil capacity including filter	2 qts / 1.9 liter	2 qts / 1.9 liter
Engine oil (See viscosity diagram)	SAE 10W30, 10W40, 5W20, 5W30, API SF-SJ	SAE 10W30, 10W40, 5W20, 5W30, API SF-SJ
Fuel	Min 87 octane unleaded (Max ethanol 10%, Max MTBE 15%)	Min 87 octane unleaded (Max ethanol 10%, Max MTBE 15%)
Fuel tank capacity	6 gallons / 22.7 liters	6 gallons / 22.7 liters
Spark plugs / gap	BPR5ES / .030" / 0.75 mm	BPR5ES / .030" / 0.75 mm
Cooling	Air cooled	Air cooled
Air filter	Heavy duty canister	Heavy duty canister
Alternator	12V	12V
Starter	Electric	Electric
Transmission		
Transmission	Hydraulic pump	Hydraulic pump
Speed and direction controls		
Speed forward	0-7.0 mph / 0-11.3 km/h	0-7.0 mph / 0-11.3 km/h
Speed reverse	0-2.5 mph / 0-4.0 km/h	0-2.5 mph / 0-4.0 km/h
Brakes	Mechanical parking brake	Mechanical parking brake
Front caster tires, smooth tread	410/ 350-5, 4 ply	410/ 350-5, 4 ply
Rear tires, turf pneumatic	18 x 6.5-8	18 x 6.5-8
Tire pressure	15 PSI / 103 kPa / 1 bar	15 PSI / 103 kPa / 1 bar
Equipment		
Cutting Width	52" / 132 cm	61" / 155 cm
Cutting Height	1.5 - 5" / 3.8 - 12.7 cm	1.5 - 5" / 3.8 - 12.7 cm
Productivity	1.8 acres /h 7290 m ² /h	2.4 acres /h 9720 m ² /h
Overall Dimensions		
Weight	670 lbs / 304 kg	750 lbs / 340 kg
Overall Machine Length	79" / 201 cm	80" / 203 cm
Base Machine Height	38-45" / 96.5-114 cm	38-45" / 96.5-114 cm
Base Machine Width	50½" / 128 cm	50½" / 128 cm
Overall Width, Chute Up	53" / 135 cm	62" / 157 cm
Overall Width, Chute Down	49" / 122.5 cm	74" / 188 cm

*The power rating of the engines indicated is the average net power output (at specified rpm) of a typical production engine for the engine model measured to SAE standard J1349/ISO1585. Mass production engines may differ from this value. Actual power output for the engine installed in the final machine will depend on the operating speed, environmental conditions and other variables.

TECHNICAL DATA

Torque Specifications

Engine crankshaft bolt	50 ft/lb (67 Nm)	Standard 1/4" fasteners	9 ft/lb (12 Nm)
Deck pulley bolts	150 ft/lb (203 Nm)	Standard 5/16" fasteners	18 ft/lb (25 Nm)
Lug nuts	75 ft/lb (100 Nm)	Standard 3/8" fasteners	33 ft/lb (44 Nm)
Blade bolt	90 ft/lb (122 Nm)	Standard 7/16" fasteners	52 ft/lb (70 Nm)
		Standard 1/2" fasteners	80 ft/lb (110 Nm)

HEX HEAD CAP SCREWS

The torque values shown should be used as a general guideline when specific torque values are not given.

U.S. Standard Hardware

	Grade	SAE Grade 5		SAE Grade 8		Flangelock Screw w/Flangelock Nut	
		ft./lbs	Nm	ft./lbs	Nm	ft./lbs	Nm
Shank Size (Diameter in inches, fine or coarse thread)	1/4	9	12	13	18		
	5/16	18	24	28	38	24	33
	3/8	31	42	46	62	40	54
	7/16	50	68	75	108		
	1/2	75	102	115	156		
	9/16	110	150	165	224		
	5/8	150	203	225	305		
	3/4	250	339	370	502		
	7/8	378	513	591	801		
	1 1/8	782	1060	1410	1912		

** Grade 5 - Minimum commercial quality (lower quality not recommended)

Metric Standard Hardware

	Grade	Grade 8.8		Grade 10.9		Grade 12.9	
		ft./lbs	Nm	ft./lbs	Nm	ft./lbs	Nm
Shank Size (Diameter in inches, fine or coarse thread)	M4	1.5	2	2.2	3	2.7	3.6
	M5	3	4	4.5	6	5.2	7
	M6	5.2	7	7.5	10	8.2	11
	M7	8.2	11	12	16	15	20
	M8	13.5	18	18.8	25	21.8	29
	M10	24	32	35.2	47	43.5	58
	M12	43.5	58	62.2	83	75	100
	M14	70.5	94	100	133	119	159
	M16	108	144	147	196	176	235
	M18	142	190	202	269	242	323
	M20	195	260	275	366	330	440
	M22	276	368	390	520	471	628
	M24	353	470	498	664	596	794
	M27	530	707	474	996	904	1205

CONFORMITY CERTIFICATES

USA requirements

Labels are placed on the engine and/or in the engine compartment stating that the machine will fulfill the requirements. This is also applicable to special requirements for any of the states, (California emission rules etc.). Do not remove any of these labels. Certificates can also be supplied with the machine at delivery or written in the Engine manual. Take care of them as they are valuable documents.

CE requirements

The Declaration of Conformity is included in the literature packet.

SERVICE JOURNAL

Action	Date, mtr reading, stamp, sign
<p>25-Hour Service</p> <ol style="list-style-type: none">1. Check the fuel pump air filter.2. Check the tire pressures.3. Check/clean the engine's cooling air intake.4. Clean the air cleaner's prefilter (foam).5. Check the cutting deck.	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>
<p>50-Hour Service</p> <ol style="list-style-type: none">1. Perform the 25-hour service.2. Clean/replace the air cleaner filter cartridge (paper filter) (shorter intervals for dusty operating conditions).3. Lubricate front wheel bearings.4. Lubricate throttle/choke cable.5. Check/adjust the parking brake.	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>

SERVICE JOURNAL

Action	Date, mtr reading, stamp, sign
<p>100-Hour Service</p> <ol style="list-style-type: none">1. Perform the 25-hour service.2. Perform the 50-hour service.3. Change the engine oil.4. Check whether the engine oil filter needs to be changed (every 200 hours).5. Clean/replace the spark plugs.6. Replace the fuel filter.7. Clean the cooling fins on the engine and transmission.8. Check V-belts, pulleys, etc.9. Check tighten caster wheel axle bolts (every 200 hours).10. Clean and check filter paper cartridge (every 200 hours).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
<p>300-Hour Service</p> <ol style="list-style-type: none">1. Inspect the machine. Come to agreement with the customer as to additional work to be carried out.2. Perform the 25-hour service.3. Perform the 50-hour service.4. Perform the 100-hour service.5. Clean the combustion chamber and grind the valve seats.6. Check the engine valve clearance.7. Replace the air cleaner's prefilter (foam).	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

SERVICE JOURNAL

Action	Date, mtr reading, stamp, sign
<p>At Least Once Each Year</p> <ol style="list-style-type: none">1. Clean the engine's cooling air intake (25 hours).2. Replace the air cleaner's prefilter (foam) (300 hours).3. Replace the air filter paper cartridge (200 hours).4. Change the engine oil (100 hours).5. Replace the engine oil filter (200 hours).6. Check/adjust the cutting height.7. Check/adjust the parking brake (50 hours).8. Clean/change the spark plugs (100 hours).9. Change the fuel filter (100 hours).10. Clean the cooling fins (100 hours).11. Check the engine valve clearance (300 hours).12. Perform the 300-Hour service at an authorized service workshop.	<p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p> <p><input type="checkbox"/></p>

