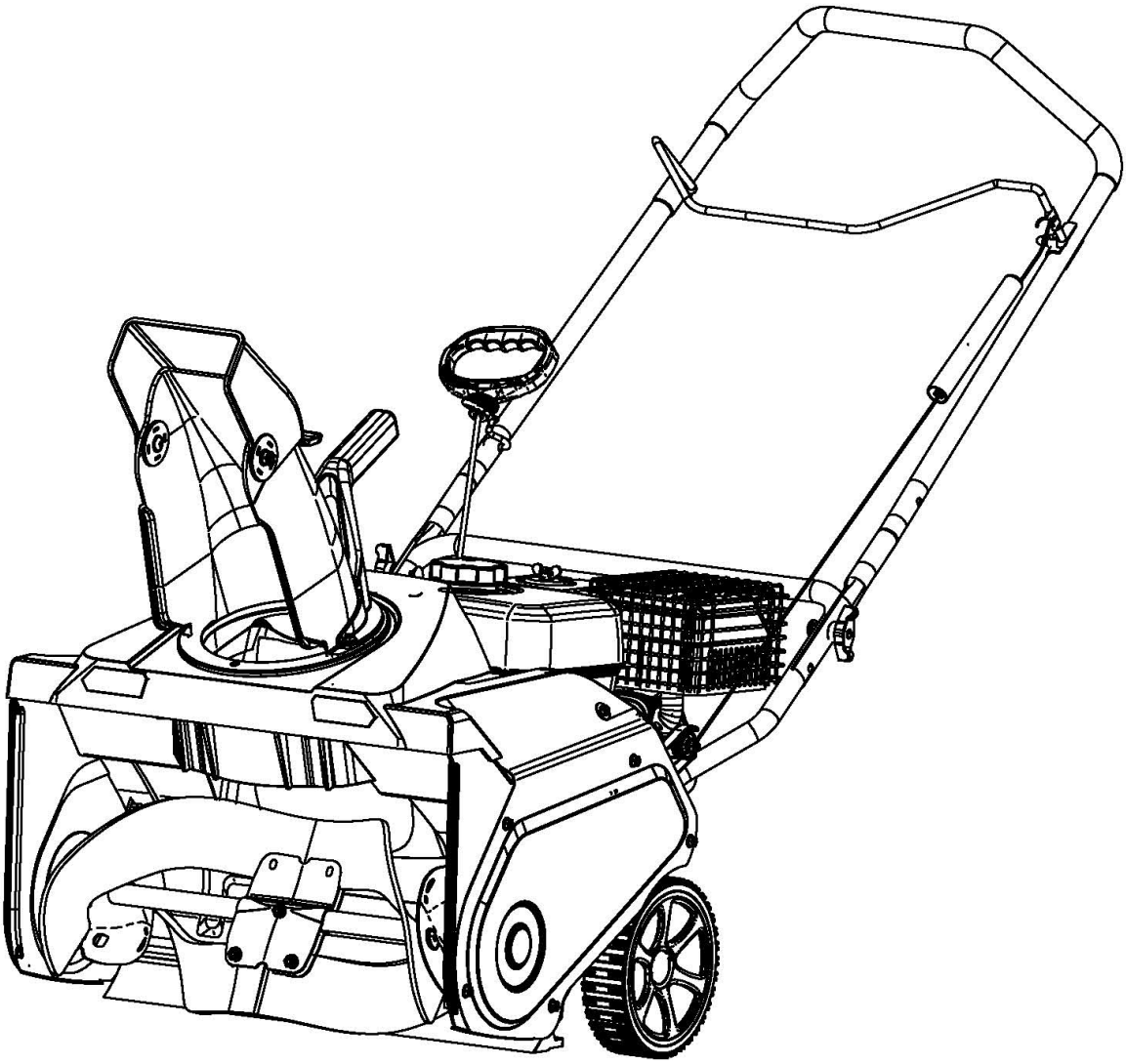
DUCAR

OPERATOR'S MANUAL

21 INCH SINGLE STAGE SNOWBLOWER
DUESB721SS



Key Technical Parameters

Parameters

Engine type	Single cylinder, 4 stroke
Engine displacement	196cc (7 HP)
Engine max. Power	4.1kW/3600rpm
Clearing width	21” (53cm)
Clearing depth	12” (30.5cm)
Wheel diameter	7” (18cm)
Fuel tank	3.6L
Oil capacity	0.55L

Introduction

This machine is not intended for commercial use. It is designed primarily for removing snow from paved surfaces, such as driveways and sidewalks, and other pedestrian paved surfaces on residential or commercial properties .It is not designed for removing materials other than snow, nor is it designed for clearing off gravel surfaces.

Read this information carefully to learn how to operate and maintain your product properly to avoid injury and product damage .You are responsible for operating the product properly and safety.

This manual uses 2 words to highlight information:

Important calls attention to special mechanical information and **Note** emphasizes general information worthy of special attention.

Safety

Please read the contents of this manual thoroughly before you start the engine.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages following this symbol to avoid possible injury or death.

Improperly using or maintenance of this machine could result in injury or death. To reduce this possibility, comply with the following safety instructions at all times.

This may injure the operator’s hands or feet, or eject debris. Failure to observe the following safety instructions could result in serious injury.

Training

- Read, understand, and follow all instructions on the machine and in the manual(s) before operating this machine. Be thoroughly familiar with the controls and the proper use of the machine. Know how to stop the machine and disengage it quickly.
- Never allow children to operate the machine. Never allow adults to operate the machine without proper instruction.
- Keep the area of operation clear of all persons, particularly small children.
- Exercise caution to avoid slipping or falling.

Operation Attention

Preparation

- Thoroughly inspect the area where the machine is to be used and remove all door mats, boards, wires, and other foreign objects.
- Do not operate the machine without wearing adequate winter garments. Avoid loose fitting clothing that can get caught in moving parts. Wear footwear that will improve footing on slippery surfaces.
- Handle fuel with care; it is highly flammable.
  – Use an approved fuel container.
  – Never add fuel to a running engine or hot engine.
  – Fill fuel tank outdoors with extreme care. Never fill fuel tank indoors.
  – Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground, away from your vehicle, before filling.
  – When practical, remove gas-powered machinery from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such machinery on a trailer 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 refueling is complete. Do not use a nozzle locking device.
  – Replace the gasoline cap securely and wipe off any spilled fuel.
  – If fuel is spilled on clothing, change clothing immediately.
- Use extension cords and receptacles as specified by the manufacturer for all machines with electric starting motors.
- Do not attempt to clear snow from a graveled crushed rock surface. This product is intended for use only on paved surfaces.
- Never attempt to make any adjustments while the engine is running (except when specifically recommended by the manufacturer).
- Always wear safety glasses or eye shields during operation or while performing an adjustment or repair to protect your eyes from foreign objects that maybe ejected.
- Check all fasteners at frequent intervals for proper tightness to be sure the machine is in safe working condition.
- Do not put your hands, or stand, near or under rotating parts. Keep clear of the discharge opening at all times.
- Exercise extreme caution when operating on or crossing gravel drives, walks or roads. Stay alert for hidden hazards or traffic.
- After striking a foreign object, stop the engine, remove the ignition key, thoroughly inspect the machine for any damage, and repair the damage before restarting and operating the machine.
- If the machine starts to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- Stop the engine whenever you leave the operating position, before unclogging the rotor blade housing or discharge chute, and when making any repairs, adjustments or inspections.
- When cleaning, repairing, or inspecting the machine, stop the engine and make certain that the rotor blades and all moving parts have stopped.
- Do not run the engine indoors, except when starting the engine and transporting the machine in or out of the building. Open the outside doors; exhaust fumes are dangerous.

Operation Attention

- Exercise extreme caution when operating on slopes.
- Never operate the machine without proper guards and other safety protective devices in place and working.
- Never direct the discharge toward people or areas where property damage can occur. Keep children and others away.
- Do not overload the machine's capacity by attempting to clear snow at too fast a rate.
- Look behind you and take care when backing up with the machine.
- Disengage power to the rotor blades when machine is transported or not in use.
- Never operate the machine without good visibility or light. Always be sure of your footing, and keep a firm hold on the handles. Walk and never run.
- Never touch a hot engine or muffler.

Snow Thrower Safety

The following list contains safety information specific to products or other safety information that you must know.

- Rotating rotor blades can injure fingers or hands. Stay behind the handles and away from the discharge opening while operating the machine.
- Keep your face, hands, feet, and any other part of your body or clothing away from moving or rotating parts.
- Before adjusting, cleaning, repairing and inspecting the machine, and before unclogging the discharge chute, stop the engine, remove the key and wait for all moving parts to stop.
- Before leaving the operating position, stop the engine, remove the ignition key, and wait for all moving parts to stop.
- If a shield, safety device, or sticker is damaged, illegible, or lost, repair or replace it before beginning operation. Also, tighten any loose fasteners.
- Do not smoke while handling gasoline.
- Do not use the machine on a roof.
- Do not touch the engine while it is running or soon after it has stopped because the engine may be hot enough to cause a burn.
- Perform only those maintenance instructions described in this manual. Before performing any maintenance, service, or adjustment, stop the engine and remove the key. If major repairs are ever needed, contact the distributor or local agent.
- Do not change the default settings on the engine.
- When storing the machine for more than 30 days, drain the fuel from the fuel tank to prevent a potential hazard. Store the fuel in an approved fuel container. Remove the key from the ignition switch before storing the machine.

Safety and Instructional Decals

Important: Safety and instruction decals are located near areas of potential danger. Replace damaged decals.

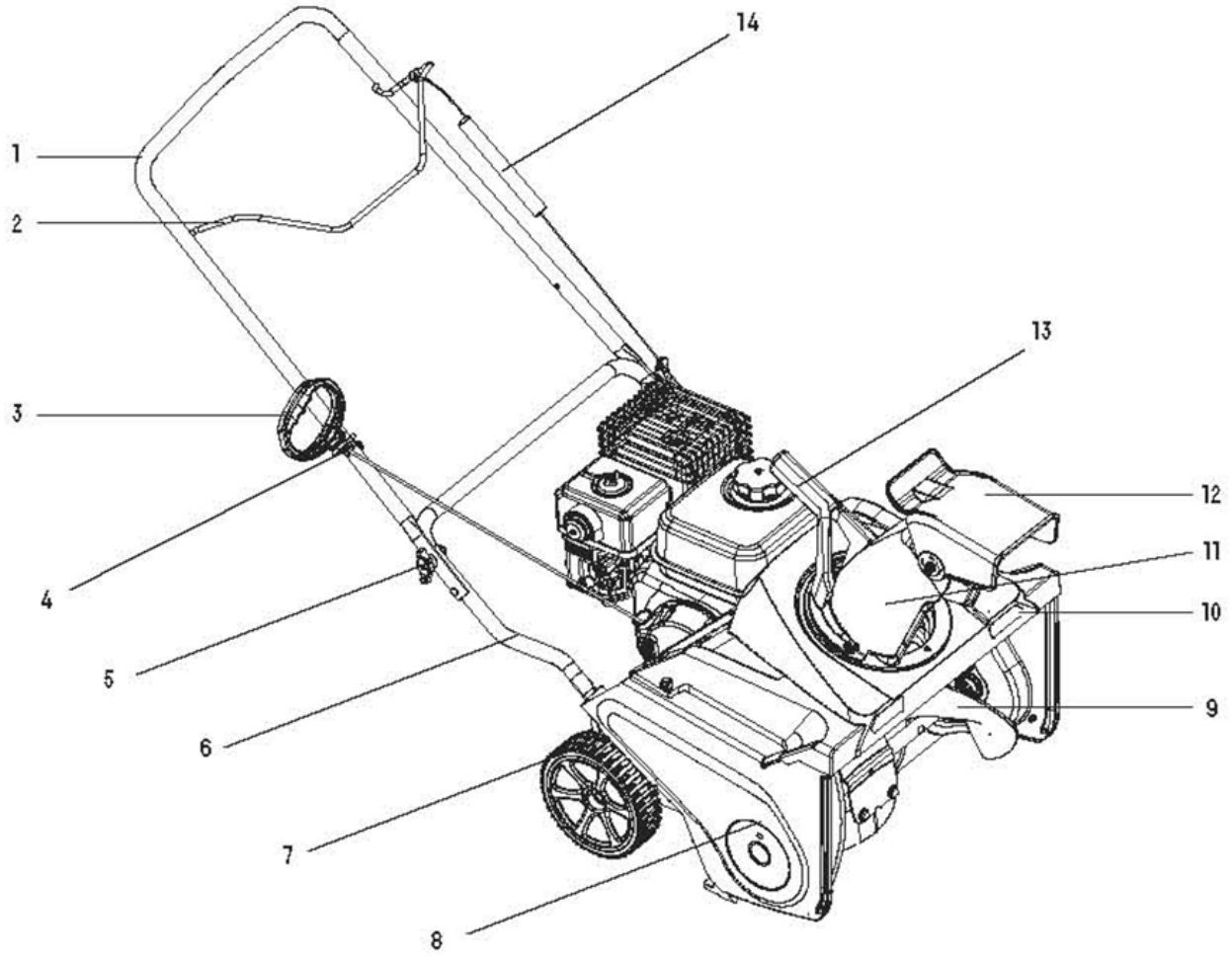
Contact with the auger or impeller may cause cuts or dismemberment.

Do not place your hand in the chute.

Remove the ignition key and read the instructions before servicing or performing maintenance.

1. Warning: Read the Operator's Manual.
2. Cutting/dismemberment hazard: stop the engine before leaving the machine.
3. Ejected debris hazard: keep bystanders a safe distance from the machine.
4. Fuel spill hazard: do not tip machine forward or backward.
5. To engage the auger, squeeze the control bar.
6. Release the control bar to disengage the auger.

CONTENTS AND FEATURES



1. Upper handle
2. Auger Control Lever
3. Recoil Starter handle
4. Rope guide
5. Fixing know with arc head bolt
6. Lower handle
7. Rear wheel
8. Housing
9. Auger paddle
10. LED light
11. Discharge chute
12. Discharge chute deflector
13. Discharge chute rotation handle
14. Auger control cable

PACKAGE CONTENTS

Carefully remove the machine from its packaging and check that the following parts are included:

A. Snow blower (with lower handle) 1pc

B. Discharge chute 1pc

C. Discharge chute rotation handle 1pc

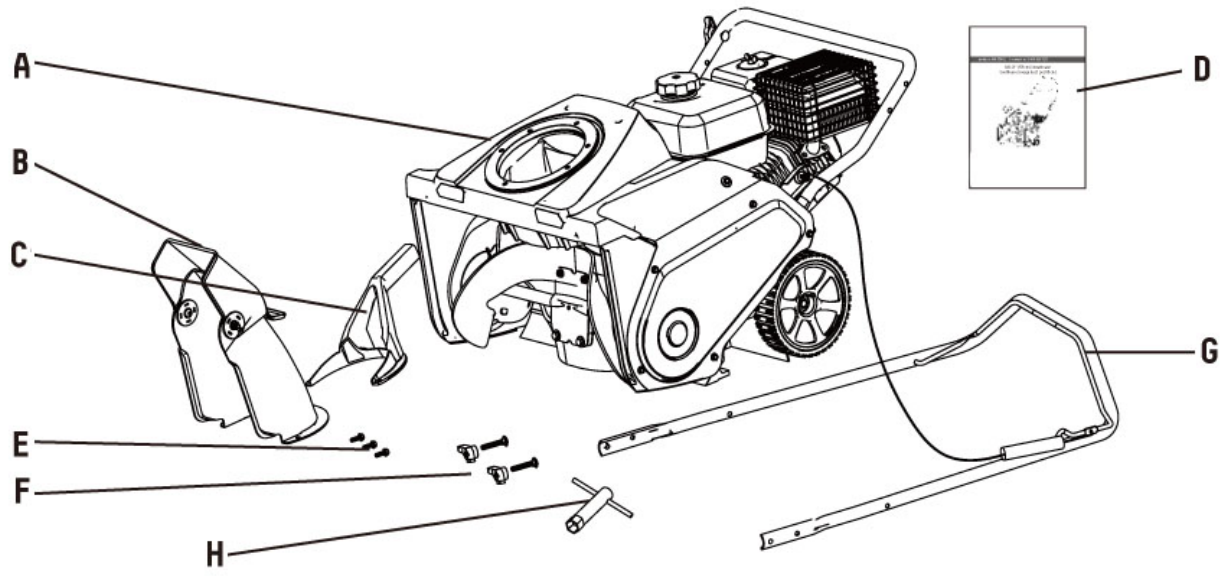
D. Manual 1pc

E. Screw for discharge chute 3pcs

F. Fixing knob with arc head bolt M8 2pcs

G. Upper handle 1pc

H. Spanner 1pc



WARNING!

If any parts are damaged or missing, do not operate this tool until the missing parts are replaced. Failure to heed this warning could result in serious personal injury.

ASSEMBLY

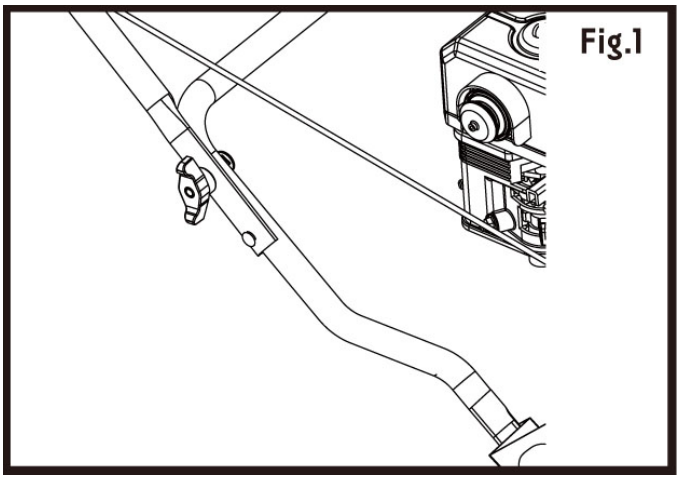
CAUTION! Read INSTRUCTION MANUAL completely before operating this machine. IMPORTANT! THIS SNOW BLOWER IS SHIPPED WITHOUT OIL OR GASOLINE IN THE ENGINE!

Your new snow blower has been assembled at the factory with the exception of those parts left disassembled for shipping purposes. All parts such as nuts, washers, bolts, etc., necessary to complete the assembly have been placed in the parts bag. To ensure safe and proper operation of your snowblower, all parts and hardware you assemble must be tightened securely. Use the correct tools as necessary to ensure proper tightness.

STEP 1: Assembling the upper handle

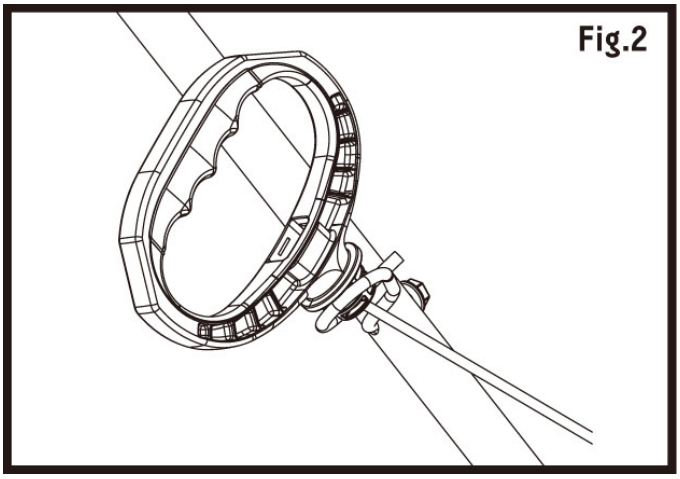
1. Position the ends of the upper handle on the inside of the lower handle and aligh the holes;
2. Insert the arc head bolt into the aligned holes, with the bolt heads on the inside of the handle.
3. Install the handle knobs on the bolts (Fig. 1) and tighten the knobs securely.
4. Install and adjusting the control cable. (see adjusting the control cable on Fig. 5).

Important: Ensure that the cable is routed on the outside of the handle.



STEP 2: Installing the Recoil Starter Handle (See Fig. 2)

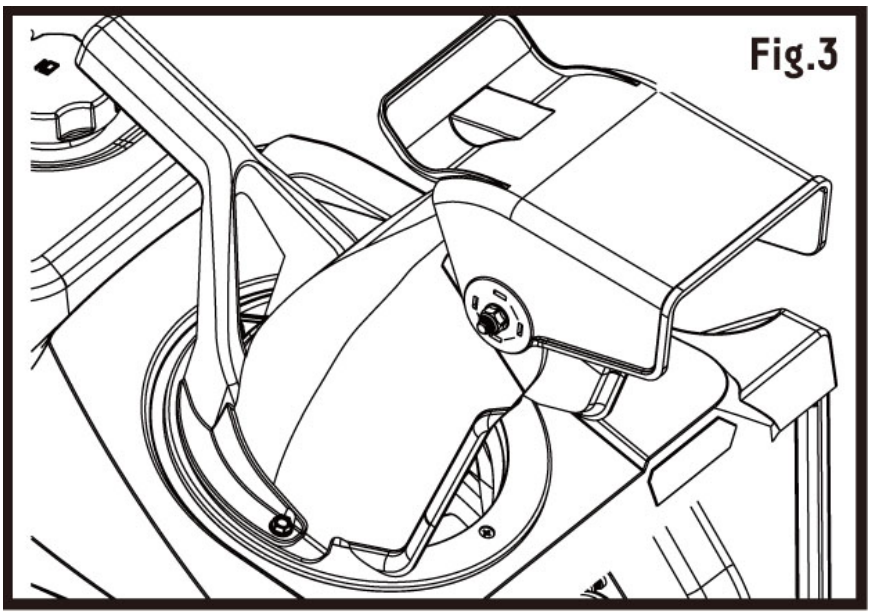
Install the recoil starter handle in the rope guide as shown in Fig. 2.



ASSEMBLY

STEP 3: Installing the Discharge chute (See Fig. 3)

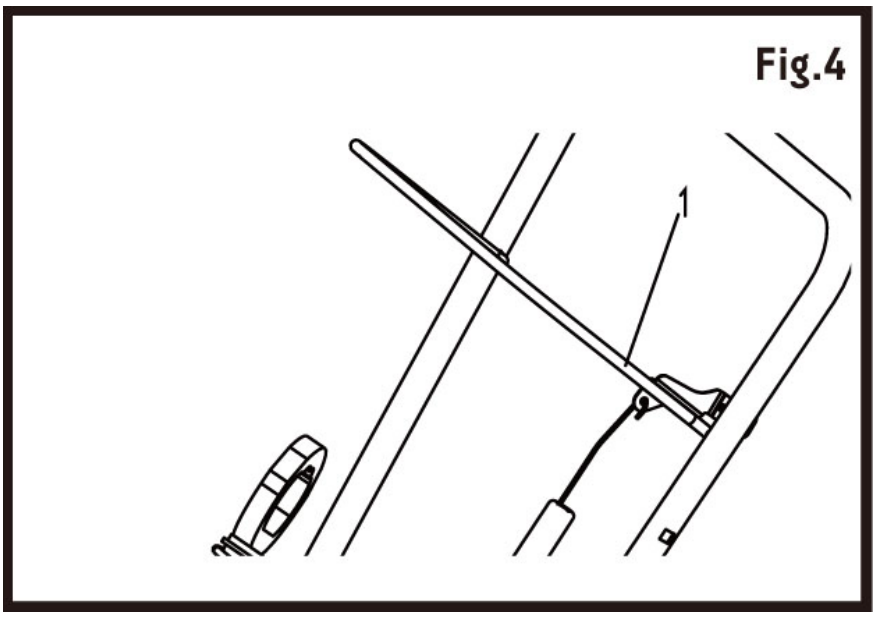
Install the discharge chute assembly as shown in Fig. 3
Make sure the discharge chute rotation handle and discharge chute is in the correct position, tighten 3 screws with the spanner cross-head end.



STEP 4: Adjusting the Control Cable (See Fig. 4)

Checking the control cable before each use, check the control cable and adjust it if necessary.

CAUTION: You must check and may need to adjust the control cable before operate the machine for the first time.



ASSEMBLY

Adjusting the Control Cable Fig. 4 to 5

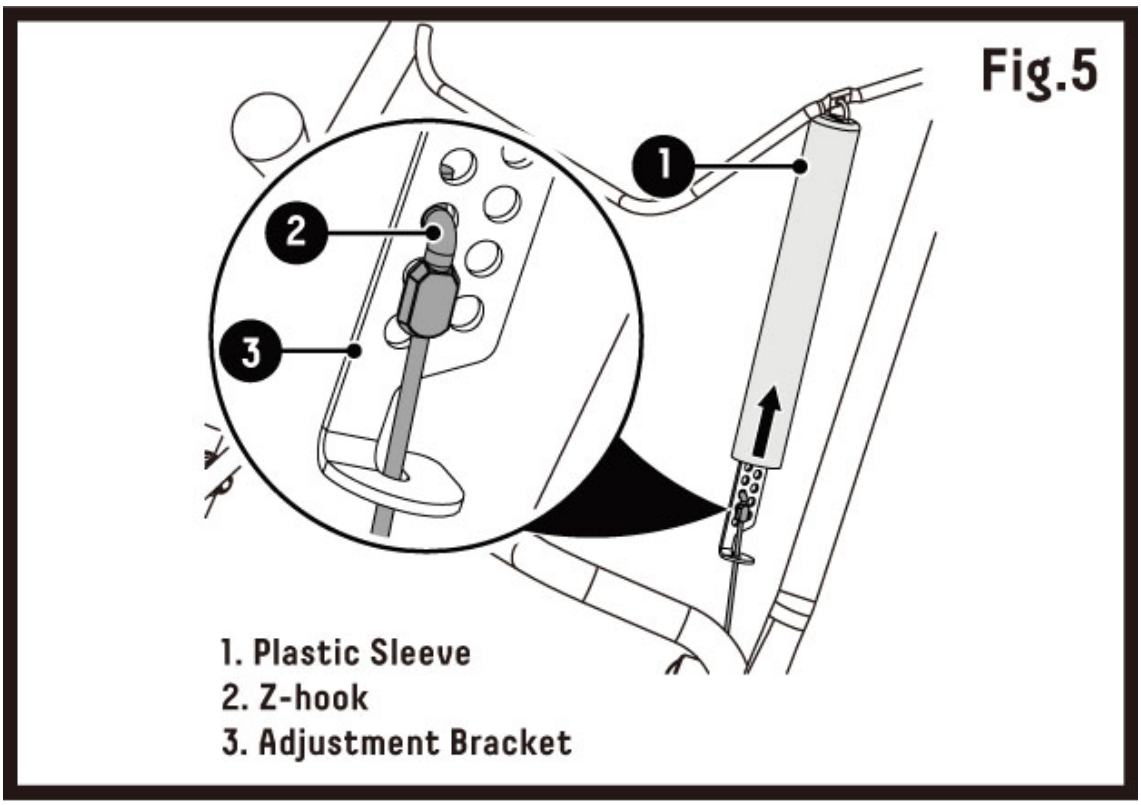
1) Stop engine and wait for all moving parts to stop and for hot parts to cool.
2) Move plastive sleeve up to auger control lever.
3) Remove cable end form adjustment bracket.
4) Insert Z-hook into highest adjustment bracket hole reachable.
5) Wrap cable end around adjustment bracket.

IMPORTANT: When auger control lever is disengaged, there should be slight slack in the cable and no tension.

6) Start engine and engage auger control lever to ensure proper operation.
7) Release auger control lever and ensure paddle rotation stops.

IMPORTANT: Cable tension should not be excessive.

8) Reposition sleeve over adjustment bracket.



Operation

1. Filling the Engine with Oil

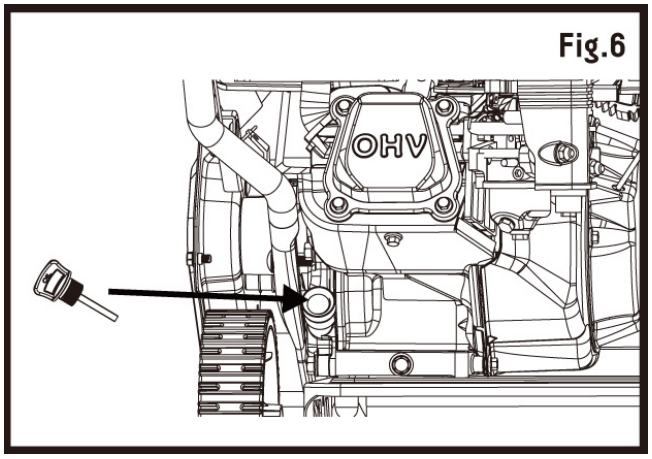
CAUTION! The following procedures and adjustments must be perfomred before the engine is started. Do not attempt to make any of the adjustments while the engine is running.

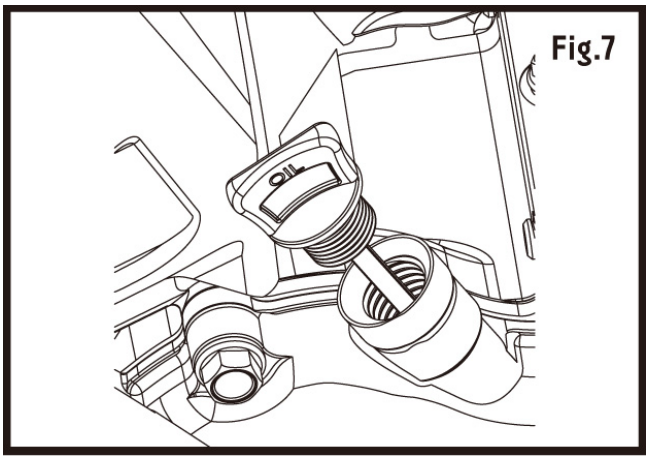
CAUTION! To prevent engine damage, the engine is shipped without oil or gas. The engine must be filled with the correct grade of oil and gas before starting the engine.

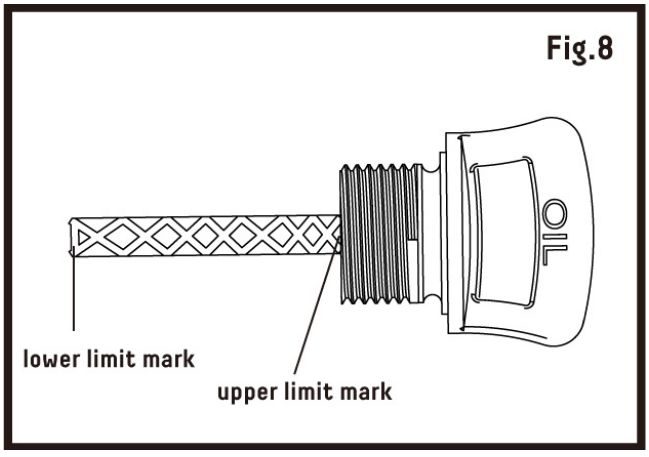
NOTE! Running the engine with a low oil level will cause engine damage. It is recommend that high detergent, premium quality 4-stroke engine oil is used. Using non-detergent oil can shorten the engine's service life, and using 2-stroke oil will damage the engine.

CAUTION! Always use high quality detergentoil classified SAE 5W-30 oil or equivalent. Never use additives with recommended oil. To prolong the life of the engine, it is important that the oil is changed after the first 5 hours of use.

NOTE: To check the engine oil level, stop engine and place the snowblower on a level surface.







Procedure:

1) Remove the oil filler dipstick and wipe oil from it with a clean cloth (see Fig. 6).
2) Insert the dipstick into the oil filler neck, twist to close (see Fig. 7).
3) Remove the dipstick again and check the oil level: the oil level must be between the lower limit mark and upper limit mark on the dipstick. The recommended oil (SAE 5W-30 or equivalent). Do not overfill. Wipe away any spilled oil (see Fig. 8).

Operation

2. Filling the Fuel Tank with gasoline

CAUTION! To avoid engine problems, the fuel system should be treated with fuel preserver or emptied of fuel before storage over 30 days. Never mix oil with gas.

CAUTION! Do not fill fuel into the base of neck. Leave space to allow for fuel expansion. Do not overfill the fuel tank.

CAUTION! Gas is highly flammable and extreme caution must be taken when handling or working with it. Keep out of reach of children.

CAUTION! To prevent engine damage, the engine is shipped without oil or gas. The engine must be filled with the correct grade of oil and gas before starting the engine.

WARNING! Refuel in a well-ventilated area with the engine stopped. Do not smoke or allow flame or sparks in the area where the engine is refueled or where gas is stored. Avoid repeated or prolonged contact with skin or inhalation of vapor.

WARNING! Gasoline with up to 10% ethanol (gasohol) is acceptable. Do not use unapproved gasoline, such as E15 and E85.

PROCEDURE

1. Clean the area around the gas filler cap before removing the cap. Remove the warning tag, and check the fuel level (see fig.9).
2. Refill the tank if the fuel level is low.
3. Refuel carefully to avoid overfilling or spilling fuel.There should be no fuel in the filler neck.
4. Clean up any overflow or splashes of gas before starting the engine.
5. Tighten the filler cap after filling: finger tight only (see fig.10).

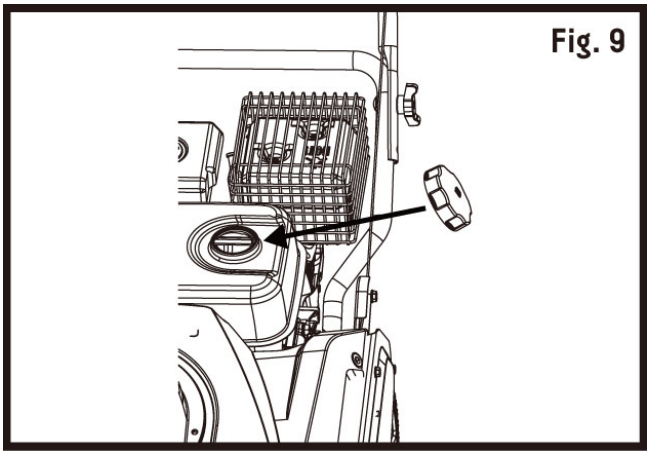


Fig. 9

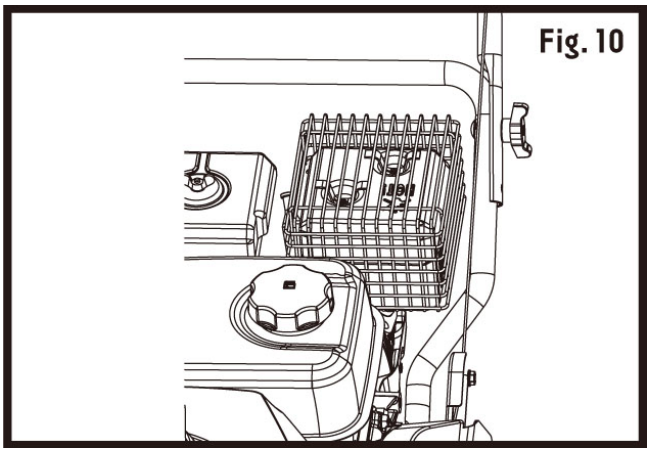


Fig. 10

Operation

3. Starting the Engine

NOTE: Do not operate the machine in enclosed or poorly-ventilated areas as the exhaust gas contains toxic substances. Keep hands, feet, hair and clothing away from the moving parts of the machine. The exhaust and other parts of the machine will become hot during use. Make sure that the blade is securely fastened before starting the engine.

NOTE: to start the engine, make sure that the spark plug cover is located on the plug and the machine is filled with sufficient oil and gas.

Operation at high altitude

The density of air at high altitude is lower than at sea level. Engine power is reduced as the air mass and air-fuel ratio decrease. Engine power will be reduced for every 3000' (914 m) of elevation above sea level. This is a natural trend and cannot be changed by adjusting the engine. At high altitudes increased exhaust emissions can also result due to the increased enrichment of the air-fuel ratio. Other high altitude issues can include hard starting, increased fuel consumption and spark plug fouling. To alleviate high altitude issues other than the natural power loss, we can provide a high altitude carburetor main jet at an additional cost.

PROCEDURE

1. Move the fuel valve lever to the "ON" position (Fig. 12）.

a. To start a cold engine, move the choke lever to the choke closed position (fig. 13).

2. Move choke lever depending "ON" unit's temperature:

a. To start a cold engine, move the choke lever to the choke closed position (fig. 12).

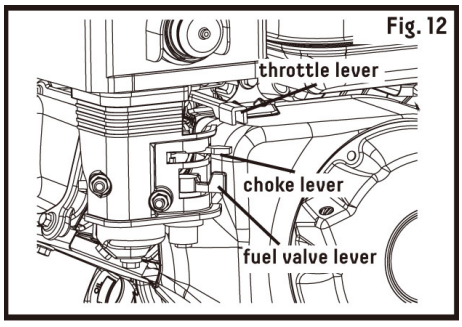
b. To start a warm engine, leave the choke lever to the opened position (fig. 13).

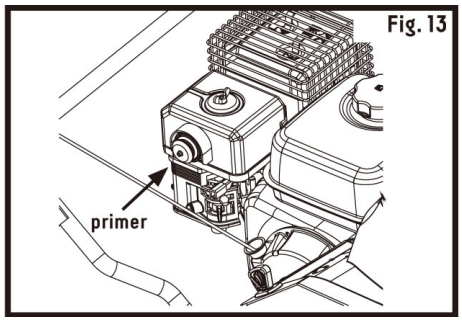
3. Move the throttle lever to full speed to start the engine (fig. 13).

4. Use primer control depending on unit’s temperature (fig. 13):

a. To start a cold engine, prime 3-5 times (Fig. 13).

b. To start a warm engine, do not prime





WARNING! Too many presses on primer bulb may cause engine flooding. When starting a warm engine, the primer does not need to be used. If the engine stops due to a lack of gas, refill then press the primer 3-5 times.

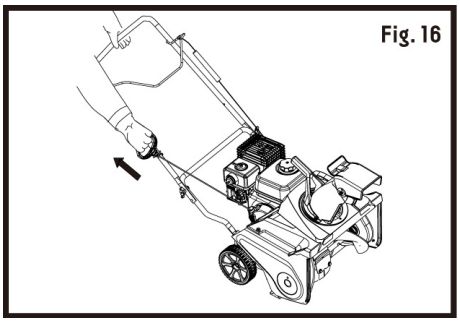
Note: Do not use the primer or the choke if the engine has been running and is hot. Excessive priming may flood the engine and prevent it from starting.

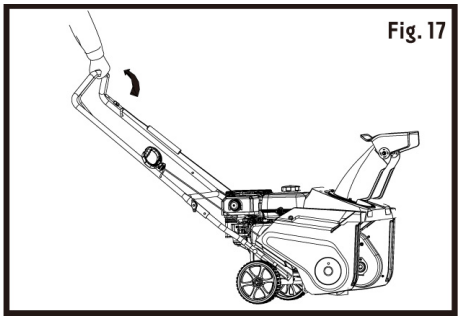
Operation

Recoil Start

Note: If the recoil starter does not operate properly, it may be frozen. Thaw out the starter before attempting to start the machine.

1. Pull the recoil start handle out approximately 4” to 6”(10 to 15 cm) until you feel a resistance and then start the engine with a sharp pull (Fig. 16)
2. Once the engine is running, put the starter rope into the rope guide (see Fig. 16).While the engine is running, move the choke lever gradually to the “RUN” position;

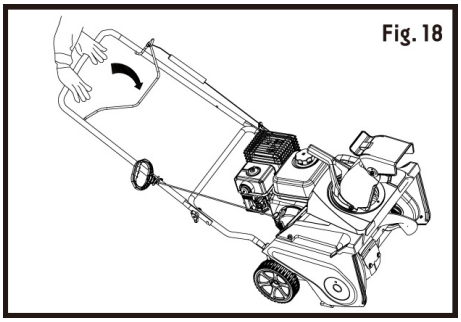




CAUTION! If you leave the machine plugged into a power source, someone can inadvertently start the machine and injure people or damage property Unplug the power cord whenever you are not starting the machine.

4. Stop the engine

To stop the engine, pull the ignition key outward.

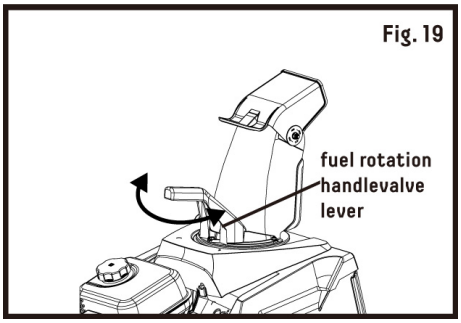


5. Engaging the Auger Paddle

To engage the auger paddle, hold the auger control lever against the handle (Fig. 17).

6. Disengaging the Auger Paddle

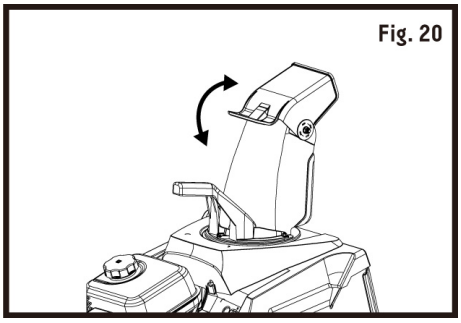
To disengage the auger paddle, release the control bar (Fig. 18).



7. Adjusting the Discharge Chute and Chute Deflector

Adjust the control handle right or left to change the direction of snow (Figure 19).

Pull the handle loose from the from gear to adjust the angle of chute cap by up or down (Figure 20).



Operation

8. Clearing a Clogged Discharge Chute

Important: Hand contact with the rotating rotor blades inside the discharge chute is the most common cause of injury associated with machine. Never use your hand to clean out the discharge chute.

To clear the chute:

- Shut the engine off!
- Wait 10 seconds to be sure the auger paddle have stopped rotating.
- Always use a tool to clean out the chute, not your hands.

9. Self-propelling the Snow thrower

Lift the machine handle until the wheels are just off the ground and the scraper and rotor blades touch the ground, The machine will propel forward.

1. Wheel off the ground.
2. Scraper and auger paddle in contact with the ground.

Note: By slightly varying lifting force on the handle, you can control the forward speed of the machine. In heavy snow, push forward on the handle if necessary, but let the machine work at its own pace. Do not lift the handle any more than necessary, because the scraper will lift off the ground and snow will escape behind the machine.

10. Preventing Freezing after Use

- Keep the machine running for a few minutes after use to prevent freezing of the rotor blades and moving parts.
- Stop the engine, wait for all moving parts to stop, and remove ice and snow from the machine
- Clean off any snow and ice from the base of the chute.
- Rotate the discharge chute left and right to free it from any ice buildup.
- With the ignition key in the off position, pull the recoil starter handle several times to prevent the recoil starter from freezing up.
- In snowy and cold conditions, some controls and moving parts may freeze. Do not use excessive force when trying to operate frozen controls. If you have difficulty operating any control or part, start the engine and let it run for a few minutes.

11. Operating Tips

WARNING: The auger paddle can eject stones, toys, and other foreign objects and cause serious personal injury to the operator or to bystanders.

- Keep the area to be cleared free of all objects that the rotor blades could pick up and eject.
- Keep all children and pets away from the operating area.

For operation

- Remove the snow as soon as possible after it falls.
- Overlap each swath to ensure complete snow removal.
- Discharge the snow downwind whenever possible.

LED Light

The LED light will be turn on when you start the machine and will be off when stop the machine.

Storing and Maintenance

WARNING: Before performing any maintenance or cleaning work, switch off the engine and wait until the paddle has come to a stop.

Cleaning

General cleaning

- The snowblower should be cleaned thoroughly every time after it has been used. Always clean your snowblower immediately after use.
- Do not allow snow and other debris to become dry and hard on any of the snowblower surfaces. Dried snow remnants and dirt may impair the snow clearing operation.
- Check that the snow chute is free of any residual snow. Remove any such residue. Check the underside of the snowblower and the blade mount. When checking, tilt the snowblower onto its left side (opposite the oil filler neck).

NOTE: Before placing the snowblower on its side, fully drain the fuel tank by using a gas 'suction pump'.
Do not tilt the snowblower by more than 90 degrees.

Maintenance of the spark plug

As shown in Fig. 21.

1. Once the engine has cooled, pull off the spark cover with a twist.
2. Remove the spark plug using a spark plug wrench (not supplied).
3. Clean the spark plug with a wire brush (not supplied).
4. Using a feeler gauge, set the gap to 0.7~0.8mm.
5. Install the spark plug carefully by hand, to avoid cross-threading.
6. After the spark plug is seated, tighten with the spark plug wrench to compress the washer.

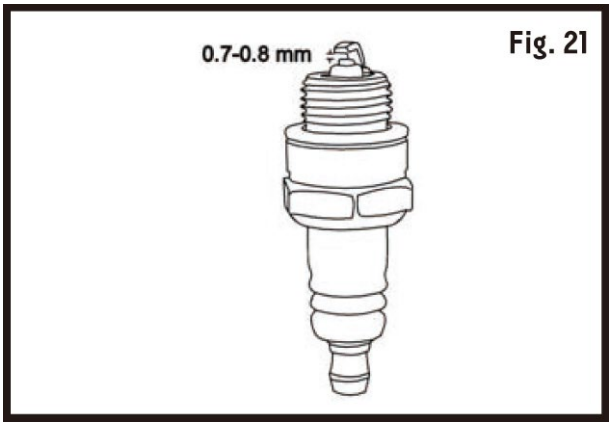


Fig. 21

Adjusting the Control Cable

Refer to Adjusting the Control Cable in assembly. See Adjusting the Control Cable.

Storing and Maintenance

Inspecting the Auger Paddle

Service Interval: Yearly - Inspect the auger paddle and have the distributor or local agent replace the auger paddle and scraper if necessary.

Inspect the auger paddle for wear. When a rotor blade edge has worn down to the wear indicator hole, have the distributor or local agent replace the auger paddle and the scraper (Fig. 22).

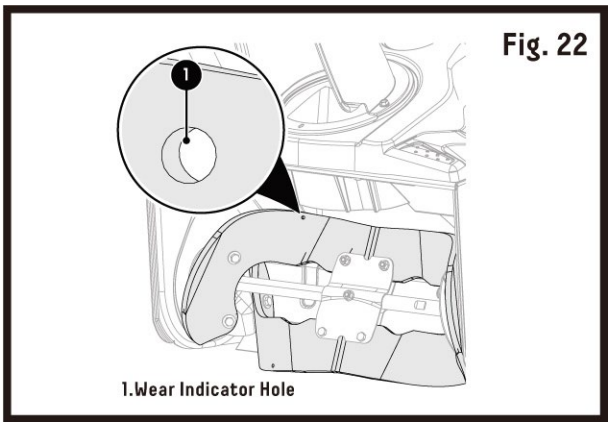


Fig. 22

If the wear indicator hole is intact, you don't need to replace the auger paddle. If the wear indicator hole is exposed, replace the auger paddle and scraper

REPLACE AUGER PADDLES

Replace auger paddles when paddles have worn completely through wear indicatorholes (Fig. 22).

IMPORTANT: ALWAYS replace paddles in pairs. DO NOT replace only one paddle.

Remove Auger Paddles

1. Stop engine and wait for all moving parts to stop and for hot parts to cool.

2. Disconnect spark plug wire and turn fuel valve to off position (Fig. 23).

3. Tip unit back onto handlebar bend.

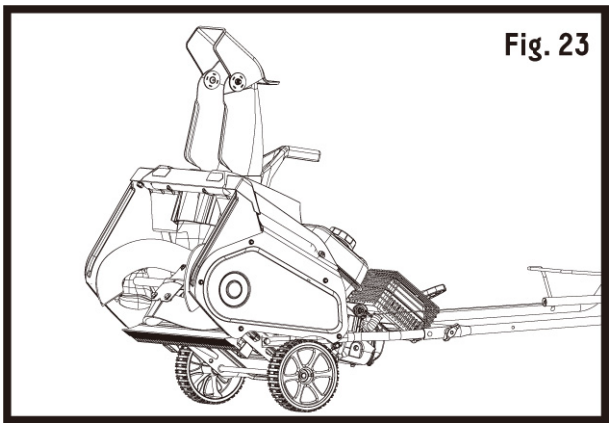


Fig. 23

NOTICE: DO NOT tip beyond handlebar bend or oil may leak from engine.

4. Remove hardware retaining paddles to centre plate and side plates. Discard all parts.

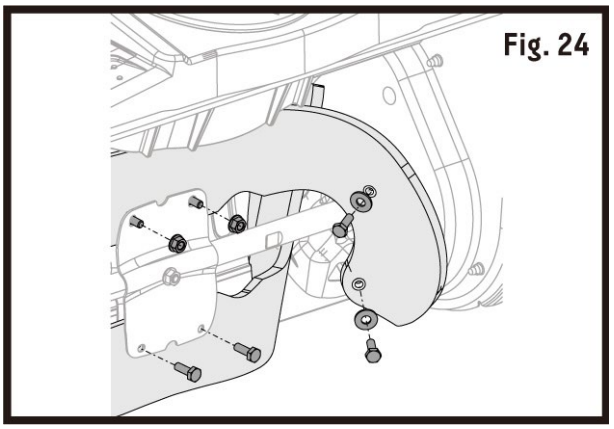


Fig. 24

IMPORTANT: DO NOT remove centre plate.

Storing and Maintenance

Installing Auger Paddles

1. Install spacers into paddle holes. (Figs. 25 & 26).

   IMPORTANT: Install new paddles so wear indicator holes are positioned on the right side of unit.
2. Secure each paddle to side plates with four hex bolts, four flat steel washers and four flange nuts.
3. Secure each paddle to centre plate with two hex bolts and two flange nuts.
4. Torque paddle hardware to 5.6Nm-10.2Nm 50 lb per inch to 90 lb per inch.
   DO NOT overtighten.
5. Rotate auger paddles by hand to ensure paddles are secure and do not interfere with housing.
6. Return unit to upright position.
7. Remove slack from auger cable. See Adjusting Control Cable on page 14.
8. Reconnect spark plug wire and turn fuel valve to the on position.

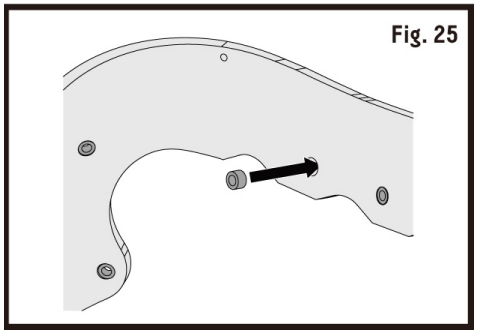


Fig. 25

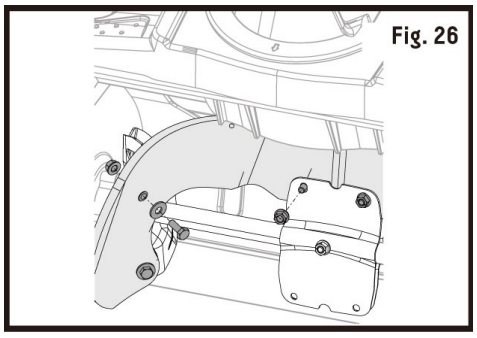


Fig. 26

REPLACE DRIVE BELT

Removing Drive Belt

1. Stop engine and wait for all moving parts to stop and for hot parts to cool.
2. Disconnect spark plug wire.
3. Remove belt cover hardware and remove cover. Retain all parts (Fig. 27).

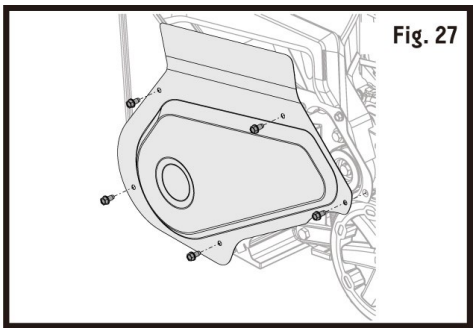


Fig. 27

See Fig. 28.

4. Disconnect extension spring from idler arm.
5. Remove belt from drive sheave, idler sheave and engine sheave.

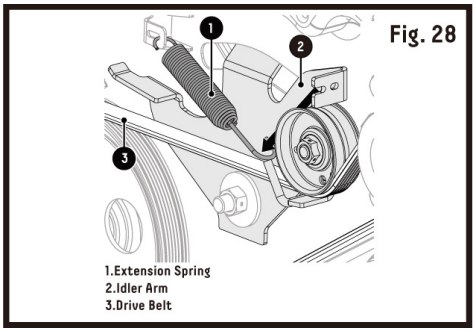


Fig. 28

1.Extension Spring
2.Idler Arm
3.Drive Belt

Installing Drive Belt

See Fig. 29.

1. Install new belt around engine sheave and align with drive and idler sheaves.
2. Reinstall extension spring onto idler arm.

   IMPORTANT: Ensure belt has tension and is aligned in all sheaves.
3. Reinstall belt cover and secure with original hardware.
4. Reconnect spark plug wire.

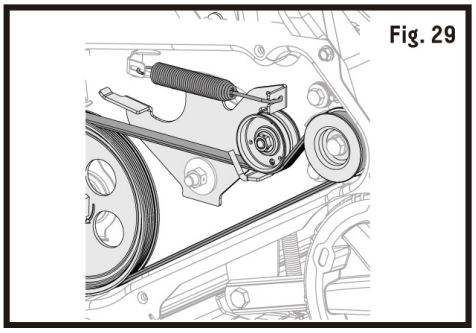
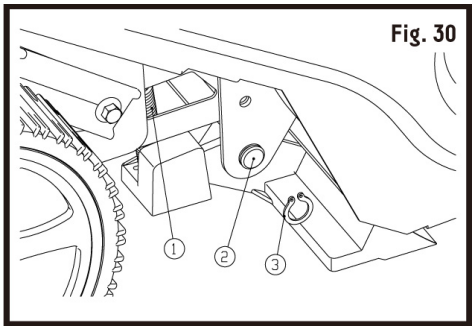


Fig. 29

Storing and Maintenance

REPLACING SCRAPER BLADE

Replace scraper blade if damaged, completely worn through, or with every paddle replacement.



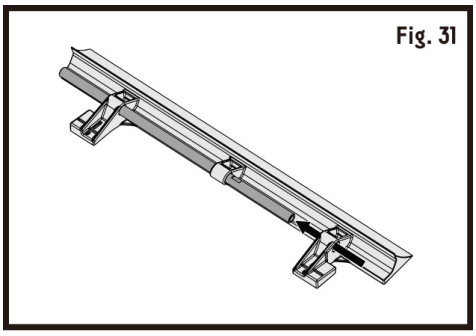
Removing Scraper Blade

1. Stop engine and wait for all moving parts to stop and for hot parts to cool.
2. Tip unit back onto handlebar bend. (Fig. 23)

NOTICE: DO NOT tip beyond bend or oil may leak from engine.

See Fig. 30.

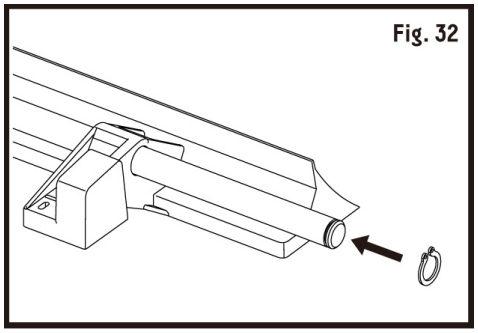
3. Disconnect spring hooks from scraper blade, remove from unit and discard.
4. Using a wrench, hold pivot rod stationary and remove hardware retaining pivot rod and blade. Retain hardware.
5. Remove pivot rod from scraper blade and discard blade(Fig. 31).



Installing Scraper Blade

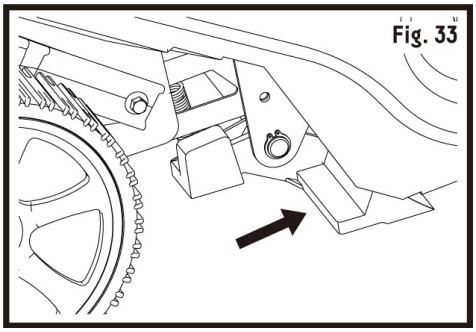
1. Insert pivot rod through new scraper blade.

IMPORTANT: Reinstall pivot rod so wrench flats are positioned toward the right side of unit (Fig 32).



See Fig. 33.

2. Secure scraper blade assembly to housing with original hardware.
3. Install spring hooks to frame and around scraper blade. Make sure blade has tension.



Storing and Maintenance

Storing the snowblower for short periods

The snowblower can be stored for short periods of time (less than 15 days) without performing any storage maintenance. Before placing the snowblower into storage always carry out the following:

1. Allow the engine to fully cool.
2. Clean all debris from the snowblower deck.
3. Store the snowblower on flat and level surface.
4. Store in a safe place which is not accessible by children or people who are not familiar with operation.

Storing the snowblower for extended periods

If the snowblower is to be place into storage for more than 15 days, storage maintenance must be performed on the snowblower. If the following steps are not carried out, when you next operate the snowblower it may not start correctly and may need to be serviced.

CAUTION! Do not empty the gas tank in enclosed areas, near fire or when smoking. Gas fumes can cause explosions and fire.

1. Empty the gas tank with a gas 'gas extraction pump' was used on page 23 if available.
2. Start the engine and let it run until any remaining gas has been used up.
3. Change the oil at the end of every season. To do so, remove the used engine oil from a warm engine and refill with fresh oil.
4. Clean the cooling fins of the cylinder and the housing.
5. Be sure to clean the entire machine to protect the paint.
6. Store the machine in a well-ventilated place

Storing and Maintenance

Maintenance schedule

Performing routine maintenance correctly on your snowblower will ensure you get years of trouble-free use.

Please keep this manual safe for future reference.

It is recommended that the following maintenance schedule is adhered to. This will ensure the snowblower operated correctly and is safe to use.

Service Performed	Each Use	Every 10 hrs	As Needed	Annually
Clean Unit	√			
Check Engine Oil*	√			
Check Fasteners	√			
Check Auger Paddle Wear	√			√
Check Scraper Blade Wear	√			√
Check Belt Wear		√		√
Replace Scraper Blade**			√	
Change Engine Oil			√	
Replace Auger Paddles			√	
*Refer to engine manual for instructions. **Check Replacing Scraper Blade.				

Transporting the snowblower

- Empty the gas tank. Always let the engine run until it has used up the remainder of gas in the tank.
- Empty the engine oil from the warm engine. Remove the spark plug cover from the spark plug.
- Clean the cooling fins of the cylinder and the housing. Use the original packaging to ship whenever possible.

Troubleshooting

TROUBLESHOOTING

WARNING: Before performing any maintenance or cleaning work, switch off the engine and wait until the blade has come to a stop.

Caution! Improper repairs can result in the product functioning unsafely. This endangers yourself and your environment.

- Faults which cannot be rectified with the aid of following table may be rectified by a specialist company only (customer service centre).
- Please be aware that any improper repairs will also invalidate the warranty and additional costs may be incurred.
- Use only genuine spare parts. Only these spare parts are designed and suitable for the product. The use of other spare parts not only voids the warranty, you can also endanger yourself and your environment.

Problem	Probable Cause	Correction
Engine will not start.	Engine switch is in stop position	Push engine sweitch to run position. See Engine Switch on page 13.
	Fuel valve is closed.	Turn fuel valve to on position. See Fuel Valve on page 13.
	Fuel tank is empty.	Fill fuel tank with fuel.
	Engine not primed.	Press the primer bulb 3 times.
	Spark plug wire is disconnected.	Connect spartk plug. Refer to engine manual.
	Choke is off.	Turn choke control knob to on position.
	Excessive fuel in engine cylinder (flooded).	Remove plug and dry.
	Faulty spark plug.	Replace spark plug.
Engine starts hard or runs poorly.	Fuel mixture too rich.	Turn choke control knob to off position.
	Spark plug is faulty, fouled or incorrectly gapped.	Clean and correctly set spark plug gap.
	Fuel cap vent is blocked.	Install new fuel cap.
Excessive vibration.	Loose parts or damaged auger paddles.	Check for loose or missing hardware or replace auger paddles.
Excessive snow left behind.	Scraper blade is worn.	Replace scraper blade.
Snow does not discharge	Auger drive belt is loose or damaged.	Replace belt or adjust auger control cable.
	Discharge chute is clogged with snow.	Stop engine and close fuel valve. Clean discharge chute and auger housing with a too. DO NOT use your hands to clean discharge chute.
	Auger paddles are worn or damaged.	Replace auger paddles.