



SC181 Operator's Manual

Beginning Serial #: 120122001

CE

Models

SC181H
SC181HG
SC181K
SC181KG



Original Instructions

IMPORTANT- READ CAREFULLY BEFORE USE AND KEEP FOR FUTURE REFERENCE

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Intended Use

This machine may only be utilized for the purpose for which it was designed. This machine is designed to cut 18" (45.7 cm) wide strips of turf. Be sure that all operators of this equipment are trained in general machine use and safety.

WARNING

Wheels can skid while operating in poor conditions. Terrain that is too dry or too wet can cause wheel skidding. Only operate on damp terrain, so that the Sod Cutter blade encounters slight resistance.

California Proposition 65

WARNING

This product can expose you to chemicals including gasoline engine exhaust, which is known to the State of California to cause cancer and carbon monoxide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Initial Setup

Your Sod Cutter is shipped from the factory in a wooden crate. The unit is shipped completely assembled. You will need to uncrate the unit and follow the Setup Checklist.

Setup Checklist

Complete the following items before operation:

- Read the General Safety Manual. Read how to operate your unit safely to prevent injury to yourself or others.
- Read the Owner's Manual to familiarize yourself with the unit. Read how to operate and maintain your unit for optimum performance.
- Register your unit for warranty either through your Authorized Dealer or online.
- Wear appropriate clothing for operation or maintenance such as closed toe shoes, hearing protection, and eye protection. Tie back loose hair.
- Be aware of surroundings during operation. Avoid obstacles that could damage the blade. Do not operate the unit under poor conditions.
- Add oil to the engine before starting.
- Check the gasoline. Replace old or bad gasoline.
- Grease the unit's bearings before use or as needed. Use only NLGL Grade 2 Multipurpose Lithium-Based Grease.

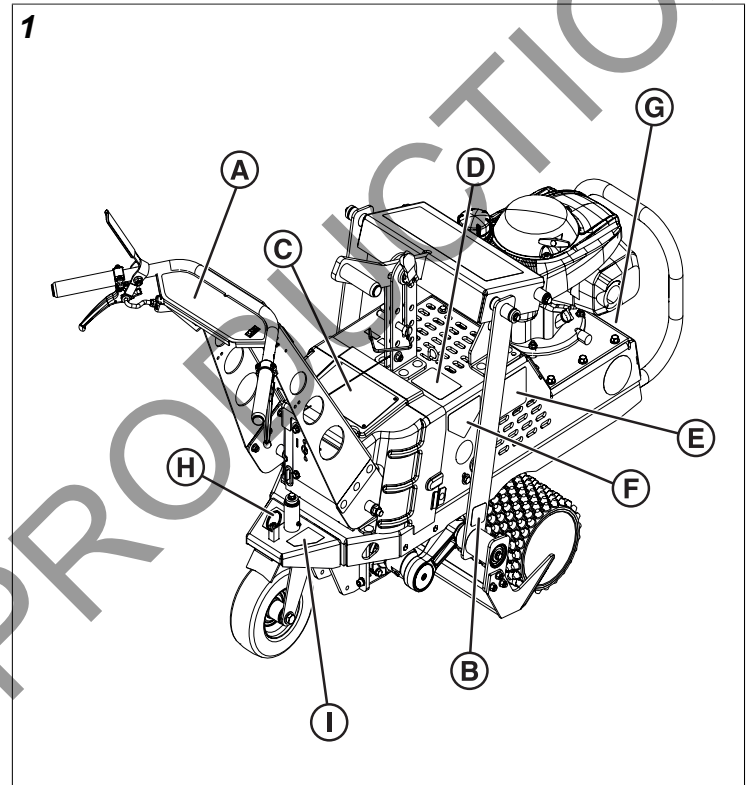
Uncrating The Unit

1. Use a prybar to open the crate from the back.
2. Locate the Free-Wheel Lever on the unit. Pull the lever to set the unit into free-wheel motion position. This will allow the unit to roll out of the crate with ease.
3. Grasp the unit's handlebars and pull the unit out of the crate.

Features and Controls

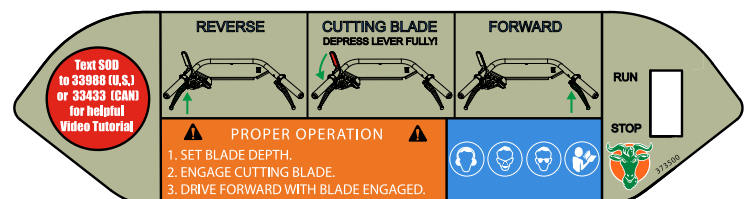
Unit Decals

The decals shown in Figure 1 were installed on your new Billy Goat 18" Sod Cutter. If any decals are damaged or missing, replace them before operation. Use the images and corresponding part numbers when ordering replacement labels.

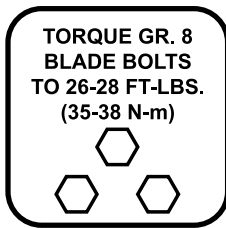


- A. 373500 - Decal, Console
- B. 373501 - Decal, Blade Arm
- C. 373503 - Decal, Height Adjuster
- D. 373504 - Decal, Drive Enable
- E. 373505 - Decal, Service Instructions
- F. 400424 - Decal, Warning Sharp
- G. 830502 - Decal, Oil Chain
- H. 371501 - Decal, Caster Left
- I. 371504 - Decal, Caster Right

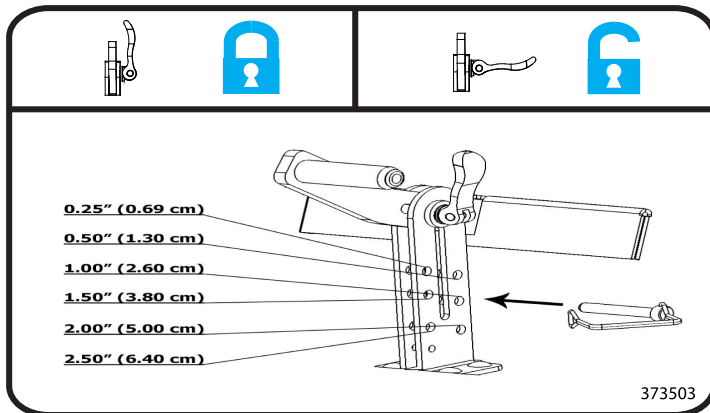
373500 - Decal, Console



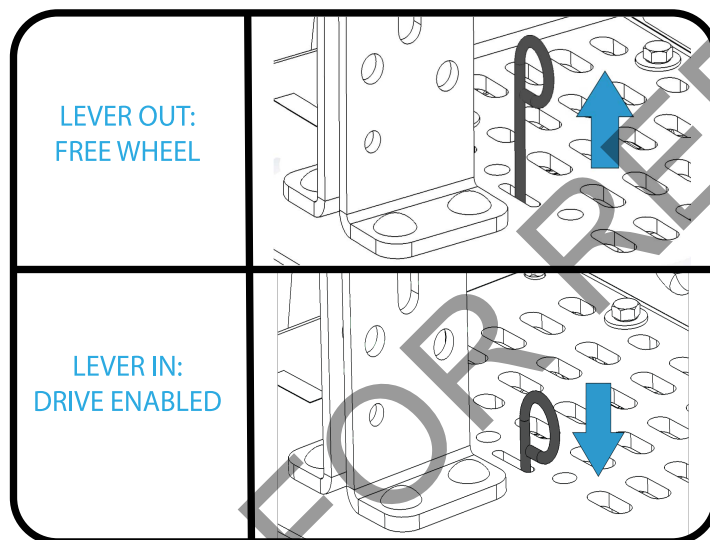
373501 - Decal, Blade Arm



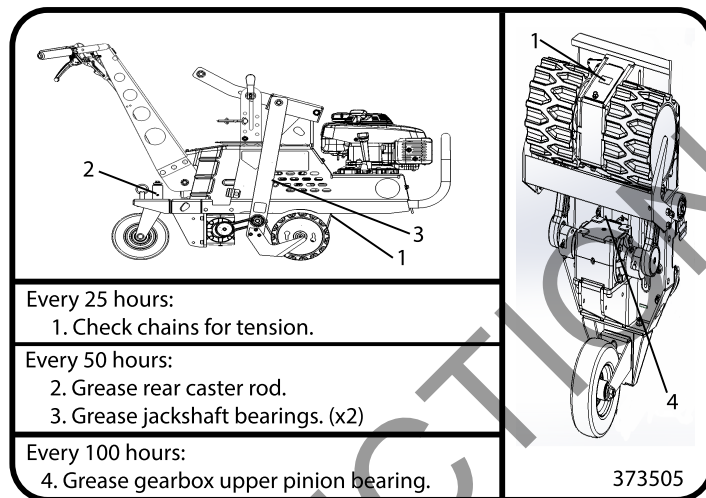
373503 - Decal, Height Adjuster



373504 - Decal, Drive Enable



373505 - Decal, Service Instructions



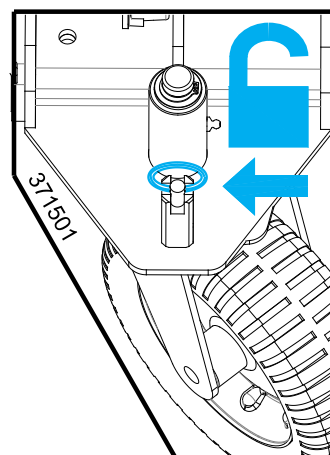
400424 - Decal, Warning Sharp



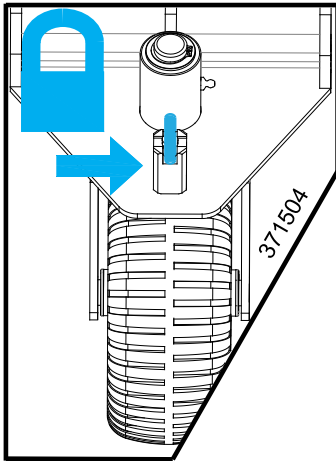
830502 - Decal, Oil Chain



371501 - Decal, Caster Left

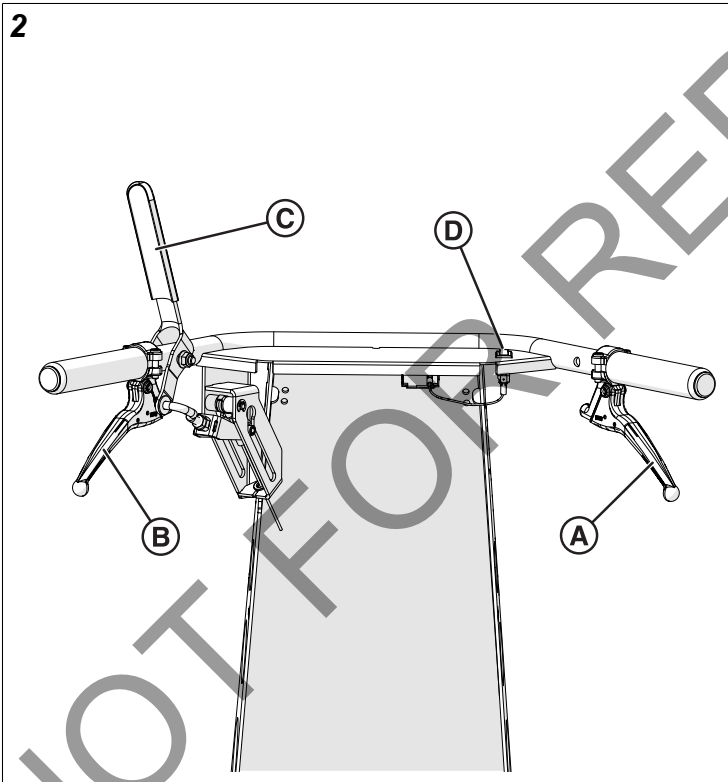


371504 - Decal, Caster Right



Drive Controls

The drive controls are located on each side of the operator console. Engage the right lever to move forward (A, Figure 2). Engage the left lever to move in reverse (B). To increase speed, depress the lever gradually. Depress the lever fully for maximum speed. The forward and reverse controls cannot be operated simultaneously. Drive either in forward or reverse. Do not attempt zero-turn motion.



Blade Engage Lever

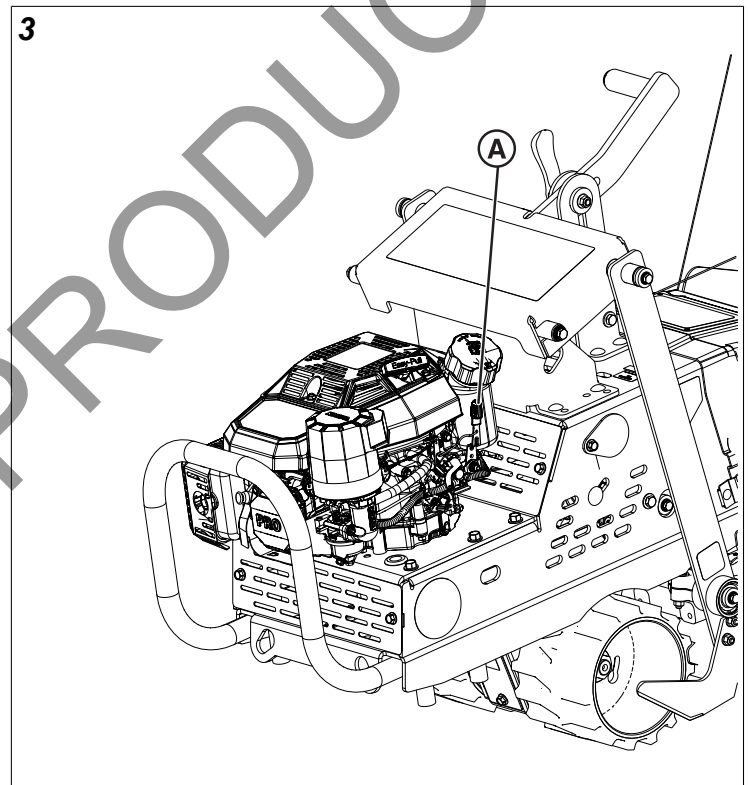
The blade engage lever is located on the upper left hand side of the operator console (C, Figure 2). Depress the lever *completely* to engage the blade, lowering it to cut into the sod. Be sure to set the desired blade height before engaging the blade.

Engine Stop Switch

The engine stop switch is conveniently located on right of the operator console (D, Figure 2). To start the unit, move the engine stop switch to the "ON" position and pull the recoil starter on the engine. To turn off the unit, move the switch to the "OFF" position.

Choke-Throttle Lever

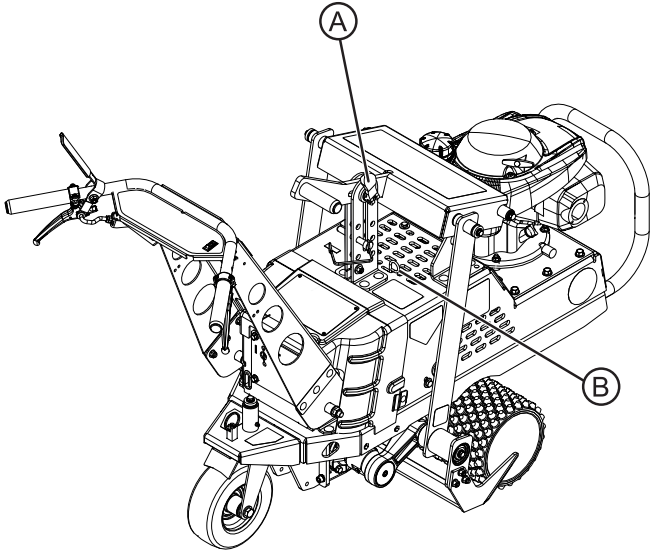
To choke-throttle control is located on the engine. To start the machine under cold conditions, turn the engine switch to the "ON" position. Locate the choke-throttle lever (A, Figure 3). Push down the choke-throttle lever completely to choke the engine, then pull the engine recoil starter. Gradually raise the choke-throttle lever to increase engine RPM speed. To decrease RPM, gradually lower the lever.



Blade Height Adjuster

The blade height adjuster is located in the center of the unit (A, Figure 4). To select cutting depth, lower the cam lever to unlock the blade height adjuster. Insert the depth control pin into the position corresponding to desired cutting depth. Use the chart provided on the instruction label 373503 to determine pin position. Raise the cam lever to lock the blade height adjuster.

4



Free Wheel Lever

The free wheel lever (B, Figure 4) is located next to the blade height adjuster. Pull the lever out to disengage the drive and enable free-wheel motion. Free-wheel motion allows you to transport the unit, pushing and/or pulling by hand as necessary. Push the free wheel lever in to engage the drive to resume operating activity. See instructional decal 373504.

Operation

Before Operation

As with all mechanical tools, use reasonable care during operation. Inspect the work area and machine before operation. Be sure that all operators of this equipment are trained in safety and general use. Be sure all operators have read and understand the Owner's Manual.

Before operation, **always**:

1. Check the unit for loose hardware.
2. Check the engine oil level. Add oil if necessary.
3. Check the engine gasoline level. Add gasoline if necessary. Replace old or bad gasoline.
4. Inspect the operation area conditions. Sod should not be too dry, nor too wet. Sod should be damp. Sod that is too dry can damage the blade. Sod that is too wet may cause slippage.
5. Inspect the operation area for obstacles. Remove obstacles that may damage the blade.

General Operation

1. Position the unit on sufficiently firm (but damp), flat soil.
2. Select desired cutting depth. Insert the depth control pin into the desired position on the blade height adjuster. See the Blade Height Adjuster topic under the Features and Controls section.

Note: Do not adjust cutting depth during operation. Park, turn off the unit, then adjust cutting depth.

Note: Sod should be cut leaving a minimum amount of dirt (1/4"-3/8") attached to the roots. This minimizes its weight for removal and encourages faster growth when reused.

3. Start the engine. Push the throttle lever down completely, then pull the recoil handle to start the engine. Under cold conditions, choke the engine before attempting to start. See the Engine Controls section.
4. Check the unit for excessive vibration. If there is no excessive vibration, continue to the next step.

WARNING

Do not operate the unit if excessive vibration occurs. If excessive vibration occurs, immediately shut off the engine. Check for a damaged or worn blade, loose hardware, or lodged foreign objects. If you cannot find the source of excessive vibration, contact your Authorized Service Dealer.

5. To begin cutting operation, firmly grasp both handles and *fully depress* the blade engage lever. Rock back on the handles to allow the blade to cut into the sod. Keep the blade engage lever fully depressed at all times during operation.
6. Begin driving the unit. Depress the right handle to move forward. Depress the left handle to move in reverse. As

ground conditions allow, increase or decrease the ground speed of the unit. To gradually increase speed, gradually depress the lever. The unit operates at maximum speed with the lever fully depressed. The unit operates at minimum speed with the lever minimally depressed.

7. Cut sod in strips. At the end of a strip, fully release the blade engage lever. Then, fully release the drive lever until the unit stops. Release the cam lever on the blade height adjuster to unlock the blade. Pull up on the height adjuster handle to raise the blade out of the sod. Lock the blade into place.
8. Drive the unit to the next strip of sod to be cut. Stop the unit, and lower the blade to desired depth using the blade height adjuster. Resume cutting by fully depressing the blade engage lever.

Periodic Maintenance

The blade, drive belts, and chains are normal wear items. Inspect these items regularly and replace if worn. For engine maintenance, please refer to the engine manufacturer owner's manual.

Maintenance Operation	Each Use	25 Hrs	50 Hrs	100 Hrs	200 Hrs
Check engine oil.	X				
Check gasoline.	X				
Check for loose, worn, or damaged parts.	X				
Check for excessive vibration.	X				
Replace engine oil.		X			
Lubricate and check chain tension.		X			
Inspect axle area between wheels for debris buildup. Clean if necessary.*		X			
Clean engine air filter.			X		
Grease jackshaft bearings.			X		
Check belts. Adjust or replace if necessary.			X		
Grease rear castor rod. Replace if necessary.			X		
Check drive cables for wear. Adjust or replace if necessary.			X		
Grease the upper pinion bearing on the gearbox.				X	

Maintenance Operation	Each Use	25 Hrs	50 Hrs	100 Hrs	200 Hrs
Replace engine air filter.					X
Replace cutting blade if worn past the 2" wide limit.					X

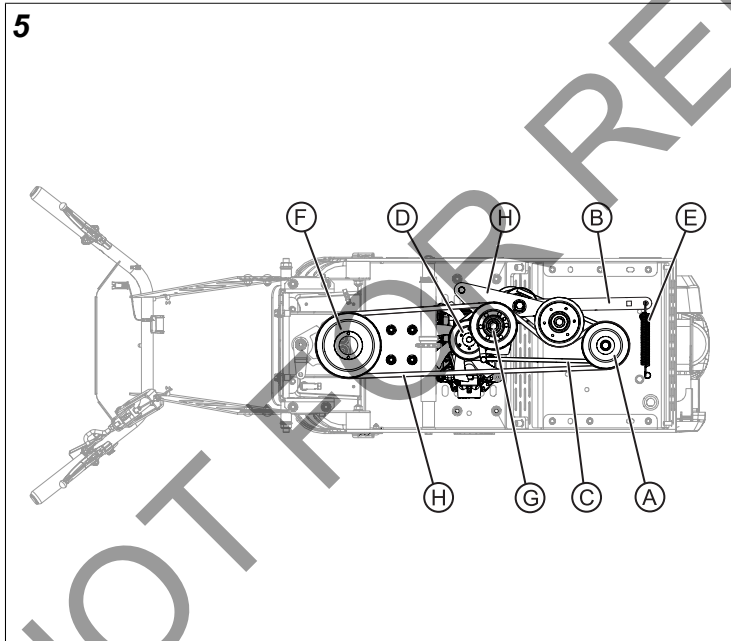
*Clean by removing the front and rear access plates between wheels.

**Use Mobilith SCH 220 or equivalent grease.

Belt Maintenance

Replacing the Drive Belt

1. Park the unit on a flat, level surface. Turn off the engine and disconnect the spark plug wire.
2. Remove the guards.
3. Loosen the nut and bolt that secure the blade belt guides. Do not remove the hardware completely, only loosen it.
4. Insert the handle of a 3/8" drive wrench into the transmission drive belt idler arm (B, Figure 5). Use the wrench handle to turn the idler arm clockwise (from an aerial view orientation). This step provides the leverage needed to remove the belt from the engine drive pulley (A).



Note: In Figure 5, orientation is from underneath the machine.

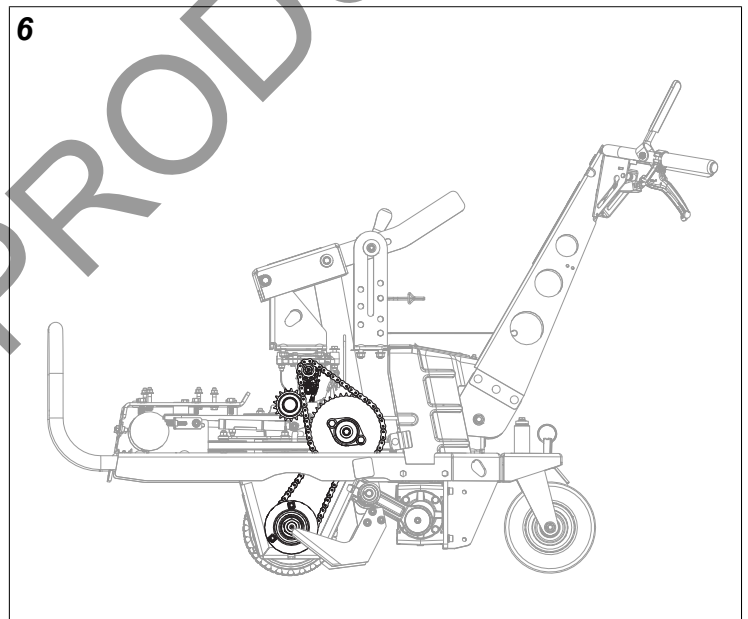
5. Remove the damaged or worn drive belt (C) from engine drive pulley (A).

Note: The idler arm (B) will swing free, and the idler arm spring (E) will become loose. Retain the spring to reattach after installing the new belt.

6. Slip the damaged or worn drive belt from around the transmission pulley (D). From a position at the front of the unit, gently pull the belt, navigating it around the idler arm (B).
7. From a position underneath the unit, pull the belt out through the hole under the engine drive pulley (A).
8. Install the new drive belt. Be sure to reattach the idler arm spring (E), tighten the hardware securing the blade belt guides, and reinstall the guards.
9. Check the unit for proper operation. If there is loose hardware or excessive vibration, do not operate the unit. Contact your Authorized Service Dealer.

Replacing the Blade Belt

1. Park the unit on a flat, level surface. Turn off the engine and disconnect the spark plug wire.
2. Remove guards.
3. Remove the master link on the lower drive chain.

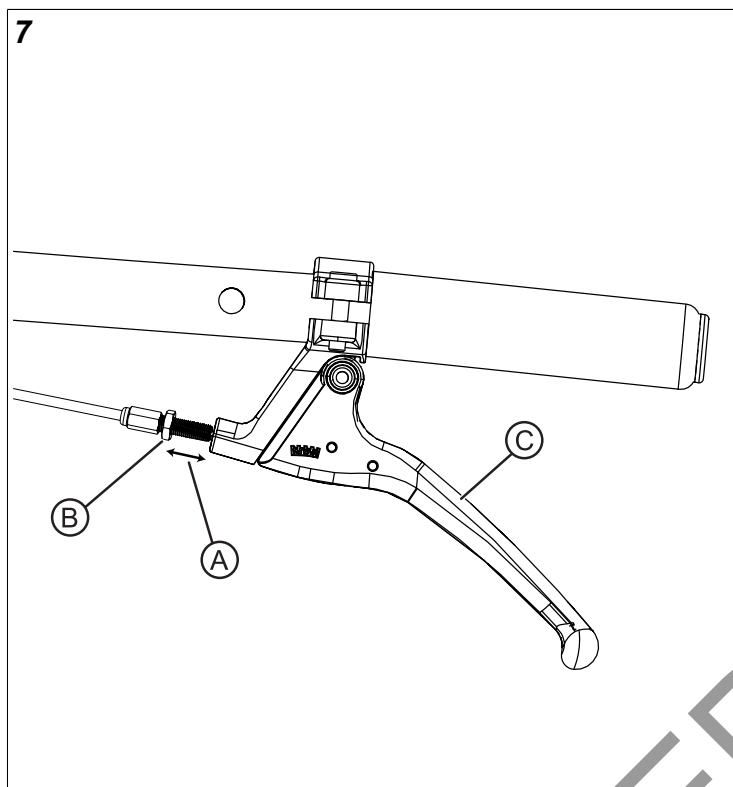


4. Loosen the nut and bolt that secure the drive belt guides. Do not remove the hardware completely, only loosen it.
5. Gently lift the damaged or worn blade belt (H, Figure 5) off the engine drive and rear gearbox pulleys.
6. Remove the bolt securing the V-groove pulley (G) to the belt engagement arm. Then, remove the V-groove pulley.
7. Install the new blade belt.
8. Reattach the V-groove pulley, tighten the hardware securing the blade belt guides, reattach the master link on the lower drive chain, and reinstall the guards.
9. Check the unit for proper operation. If there is loose hardware or excessive vibration, do not operate the unit. Contact your Authorized Service Dealer.

Cable Maintenance

Adjusting Cable Tension

1. Park the unit on a flat, level surface. Turn off the engine and disconnect the spark plug wire.
2. To adjust cable tension, adjust the barrel length (A, Figure 7). To adjust the barrel length, loosen the barrel nut (B) by hand. Engage the drive lever (C) to desired tension.



Note: Do not apply excessive tension to the cables. This can lead to damage or premature failure.

3. Tighten the barrel nut.
4. Apply lithium grease to the slot in the lever where the cable sits. This step will prevent damage and premature failure.

Blade Maintenance

Checking the Blade

Before operation, always check the condition of the blade and the hardware securing the blade to the unit. Only operate if the blade is undamaged. A bent or broken blade is damaged and must be replaced. When replacing the blade, always replace the hardware securing the blade.



DANGER

Use heavy-duty work gloves while checking or replacing the blade to avoid risk of injury.

If the blade strikes an object during operation, stop immediately, disengage the blade lever, and turn off the unit. Inspect the blade for damage and replace if necessary.

Note: If the blade is too worn, cracked, or bent, it may snap and project outwards, risking serious injury.

Note: The blade wears faster when operating in dry and/or sandy conditions. Under these conditions, it will need to be replaced more frequently.

Replacing the Blade



DANGER

The blade is sharp! To avoid injury, **always** wear heavy duty gloves when inspecting or replacing the blade.

1. Park the unit on a flat, level surface. Turn off the engine and disconnect the spark plug wire.
2. Use the blade height adjuster to lift the blade height to maximum height. Lock the blade in position with the cam lever.
3. Remove the hardware securing the blade on each side. Discard old/worn hardware.
4. Carefully slide out the damaged blade. Discard old/worn blade.
5. Carefully insert new blade.
6. Use new blade hardware to secure the new blade on each side.

Troubleshooting

Problem	Possible Cause	Solution
Abnormal vibration occurs.	Blade is loose. Engine bolts are loose. Handlebar vibration mounts are damaged or worn.	Stop operation immediately, and turn off the unit. Inspect the blade and tighten or replace. Stop operation immediately, and turn off the unit. Inspect the engine mounting and tighten. Stop operation immediately, and turn off the unit. Inspect handlebar vibration mounts and tighten.
Engine will not start.	Engine Stop Switch is in STOP position. Choke not engaged. No gasoline, or bad/old gasoline. Spark plug wire disconnected Blade Engage Lever is depressed.	Move Engine Stop Switch to RUN position. Engage the choke. See Engine Controls. Add or replace gasoline. Connect spark plug wire. Release the Blade Engage Lever.
Engine runs poorly.	Loose spark plug wire. Carburetor out of adjustment. Dirty air filter. Water or debris in the fuel system.	Refer to the engine manufacturer owner's manual. Clean the fuel system.

Problem	Possible Cause	Solution
Engine is locked and will not pull over.	Oil is present in the engine cylinder. Engine is damaged.	Remove sparkplug and turn engine over to clear oil out. Refer to the engine manufacturer owner's manual. Refer to engine manufacturer owner's manual or contact your Authorized Service Dealer.
Belt continuously slips.	Belt is too worn. Clutch cable out of adjustment. Conditions are too poor for deep cutting.	Replace belt. Adjust the clutch cable. Dampen the area to be cut.
Poor cutting performance.	Worn or damaged blade. Blade is locked with debris. Engine speed is too low. Conditions are too poor for deep cutting.	Replace blade and blade hardware. Clean blade of debris. Increase engine speed. Dampen the area to be cut.
Drive will not engage or will not release.	Return-to-neutral mechanism is out of adjustment. Drive cable out of adjustment. Drive lever is damaged.	Adjust the Return-to-neutral mechanism. Adjust the drive cable. Replace the damaged drive lever.

Specifications

DIMENSIONS

Overall Length	60" (152 cm)
Overall Width	26.5" (67.3 cm)
Overall Height	38.5" (97.8 cm)
Total Unit Weight* (SC181H, SC181HG)	395 lb (179.2 kg)
Total Unit Weight* (SC181K, SC181KG)	397 lb (180.1 kg)
Maximum Operating Slope	20°

ENGINE

Fits Units:	SC181H, SC181HG
Type:	Honda
Model:	GXV160UH2N1XB
Oil Capacity:	0.69 qt. (0.65 L)

Fits Units:	SC181K, SC181KG
Type:	Kohler
Model:	CV200
Oil Capacity:	0.625 qt. (0.59 L)

*Unit is weighed with an engine that has oil, but no fuel added.

NOT FOR REPRODUCTION

