SCAG®
POWER EQUIPMENT

OPERATOR'S MANUAL



Models: SFC-21-4GX
SFC-21-5CV
SFC-21-7CV

Congratulations on owning a Scag mower! This manual contains the operating instructions and safety information for your Scag mower. Reading this manual can provide you with assistance in maintenance and adjustment procedures to keep your mower performing to maximum efficiency. The specific models that this book covers are listed on the inside cover. Before operating your machine, please read all the information enclosed.

© 2023
Scag Power Equipment
Division of Metalcraft of Mayville, Inc.

PART NO. 03539
PRINTED 01/23
PRINTED IN USA

⚠ WARNING

FAILURE TO FOLLOW SAFE OPERATING PRACTICES MAY RESULT IN SERIOUS INJURY OR DEATH.

- Read this manual completely as well as other manuals that came with your mower.
- ALWAYS follow all safety instructions on this product and in the manual to avoid personal injury or death.
- ALWAYS FOLLOW OSHA APPROVED OPERATION.
- This product is capable of amputating hands and feet and throwing objects.
- Keep hands, feet and clothing away from power-driven parts.
- DO NOT operate on steep slopes.
- Always travel across slopes.
- DO NOT mow on wet grass. Wet grass reduces traction and steering control.
- Keep all shields in place, especially the grass discharge chute.
- Before performing any maintenance or service, stop the machine and remove the spark plug wire.
- If a mechanism becomes clogged, stop the engine before cleaning.
- Keep others off the mower (only one person at a time)

REMEMBER - YOUR MOWER IS ONLY AS SAFE AS THE OPERATOR!

HAZARD CONTROL AND ACCIDENT PREVENTION ARE DEPENDENT UPON THE AWARENESS, CONCERN, PRUDENCE, AND PROPER TRAINING OF THE PERSONNEL INVOLVED IN THE OPERATION, TRANSPORT, MAINTENANCE, AND STORAGE OF THE EQUIPMENT.

This manual covers the operating instructions and illustrated parts list for:		
SFC-21-4GX	with a serial number of	W5000001 to W5099999
SFC-21-5CV	with a serial number of	W5100001 to W5199999
SFC-21-7CV	with a serial number of	W5200001 to W5299999
Always use the entire serial number listed on the serial number tag when referring to this product.		

Table of Contents

SECTION 1 - GENERAL INFORMATION....1
1.1 INTRODUCTION....1
1.2 DIRECTION REFERENCE....1
1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS....1
1.4 ASSEMBLY INSTRUCTIONS....2
1.5 SYMBOLS....3
SECTION 2 - SAFETY INFORMATION....4
2.1 INTRODUCTION....4
2.2 SIGNAL WORDS....4
2.3 BEFORE OPERATION CONSIDERATIONS....4
2.4 TESTING THE BLADE STOP SYSTEM....5
2.5 OPERATION CONSIDERATIONS....6
2.6 MAINTENANCE CONSIDERATIONS AND STORAGE....7
2.7 USING A SPARK ARRESTOR....8
2.8 SPARK IGNITION SYSTEM....8
2.9 SAFETY AND INSTRUCTIONAL DECALS....9
SECTION 3 - SPECIFICATIONS....10
3.1 ENGINE....10
3.2 CONTROLS....10
3.3 MOWER....10
3.4 CUTTER DECK....10
3.5 WEIGHTS AND DIMENSIONS....11
3.6 PRODUCTIVITY....11
SECTION 4 - OPERATING INSTRUCTIONS....12
4.1 CONTROLS AND INSTRUMENT IDENTIFICATION....12
4.2 TESTING THE BLADE STOP SYSTEM....13
4.3 INITIAL RUN-IN PROCEDURES....14
4.4 STARTING THE ENGINE....14
4.5 GROUND TRAVEL....15
4.6 ENGAGING THE CUTTER BLADES....15
4.7 SLOPE OPERATION....16
4.8 PARKING THE MOWER....16
4.9 AFTER OPERATION....16
4.10 REMOVING CLOGGED MATERIAL....17
4.11 MOVING MOWER WITH ENGINE STOPPED....17
4.12 RECOMMENDATIONS FOR MOWING....17
4.13 ADJUSTING CUTTING HEIGHT....18

SECTION 5 - TROUBLESHOOTING CUTTING CONDITIONS 19

SECTION 6 - ADJUSTMENTS 22

6.1 SELF-PROPEL DRIVE ADJUSTMENTS 22
6.2 THROTTLE CONTROL AND CHOKE ADJUSTMENTS 24
6.3 TRANSMISSION DRIVE BELT 24
6.4 BLADE CONTROL BAR CABLE ADJUSTMENT 24
6.5 CUTTER DECK ADJUSTMENTS 25

SECTION 7 - MAINTENANCE 26

7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS 26
7.2 ENGINE OIL 27
7.3 ENGINE FUEL SYSTEM 27
7.4 ENGINE AIR CLEANER 29
7.5 DRIVE BELT 29
7.6 CUTTER BLADE 30
7.7 WHEELS 31
7.8 BODY AND DECK 31

SECTION 8 - ILLUSTRATED PARTS LIST 32

SCAG APPROVED ATTACHMENTS AND ACCESSORIES 32
CUTTER DECK 34
SHEET METAL COMPONENTS 36
BAG ASSEMBLY 38
HANDLE BAR COMPONENTS 40
REAR DRIVE SYSTEM COMPONENTS 42
FUEL SYSTEM (MACHINES WITH 7CV ENGINE) 44
REPLACEMENT DECALS AND INFORMATION PLATES 46

LIMITED WARRANTY - SFC Commercial 21 ..... INSIDE BACK COVER

GENERAL INFORMATION

1.1 INTRODUCTION

Your mower was built to the highest standards in the industry. However, the prolonged life and maximum efficiency of your mower depends on you following the operating, maintenance and adjustment instructions in this manual.

If additional information or service is needed, contact your Authorized Scag Power Equipment Dealer.

We encourage you to contact your Authorized Scag Power Equipment Dealer for repairs. All Scag dealers are informed of the latest methods to service this equipment and provide prompt and efficient service in the field or at their service shop. They carry a full line of Scag service parts.

THE REPLACEMENT OF ANY PART ON THIS PRODUCT BY OTHER THAN THE MANUFACTURER'S AUTHORIZED REPLACEMENT PART MAY ADVERSELY AFFECT THE PERFORMANCE, DURABILITY OR SAFETY OF THIS PRODUCT.

USE OF OTHER THAN ORIGINAL SCAG REPLACEMENT PARTS WILL VOID THE WARRANTY.

When ordering parts, always give the model and serial number of your mower. The serial number plate is located on the right side on the frame. See Figure 1-1.

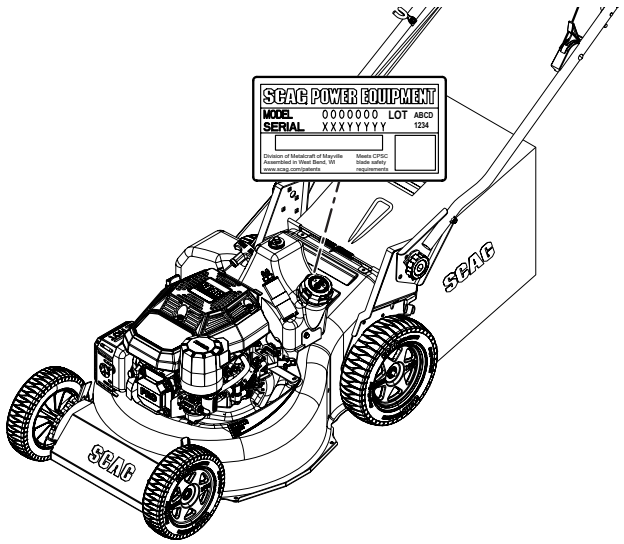


Figure 1-1. Mower Serial Number Plate Location

USE ONLY SCAG APPROVED ATTACHMENTS AND ACCESSORIES.

Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine. See Section 8-1. Be aware that using attachments with the mower may affect stability. Be sure to follow the directions found in the operator's manual. See Section 8, Paragraph 8-1.

⚠ WARNING

For pictorial clarity, some illustrations and figures in this manual may show shields, guards or plates open or removed. Under no circumstances should your mower be operated without these devices in place.

All information is based upon product information available at the time of approval for printing. Scag Power Equipment reserves the right to make changes at any time without notice and without incurring any obligation.

1.2 DIRECTION REFERENCE

The “Right” and “Left”, “Front” and “Rear” of the machine are referenced from the operator’s right and left when in the normal operating position and facing the forward travel direction.

1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS

The detail servicing and repair of the engine, transmissions and gearboxes are not covered in this manual; only routine maintenance and general service instructions are provided. For service of these components during the limited warranty period, it is important to contact your Authorized Scag Power Equipment Dealer or find a local authorized servicing agent of the component manufacturer. Any unauthorized work done on these components during the warranty period may void your warranty.

1.4 ASSEMBLY INSTRUCTIONS

1. In an open area, remove the grass bag, hardware bag and mower from the packaging.
2. With help from an assistant, loosen the two (2) 3/8-16 elastic flange nuts identified and raise the handle bar assembly. See Figure 1-2.

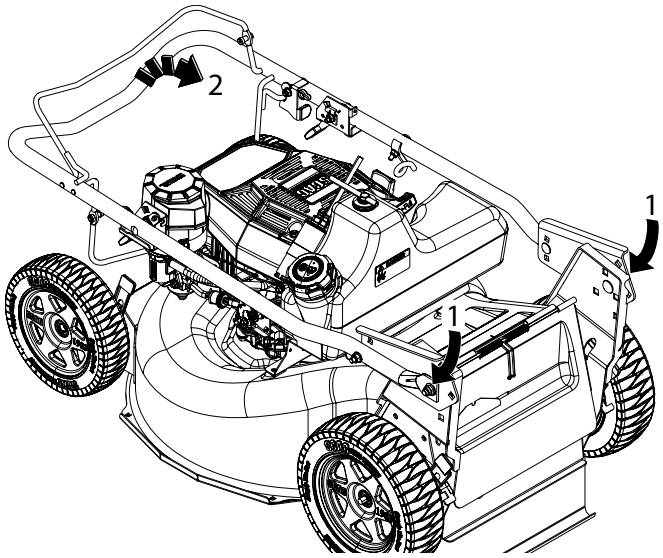


Figure 1-2. Lift the Handle Bar Assembly

3. While holding the handle bar assembly in place, secure using four (4) 3/8-16 x 3/4" carriage bolts and four (4) 3/8-16 elastic flange nuts provided as shown tighten mounting hardware and pivot bolts See Figure 1-3.

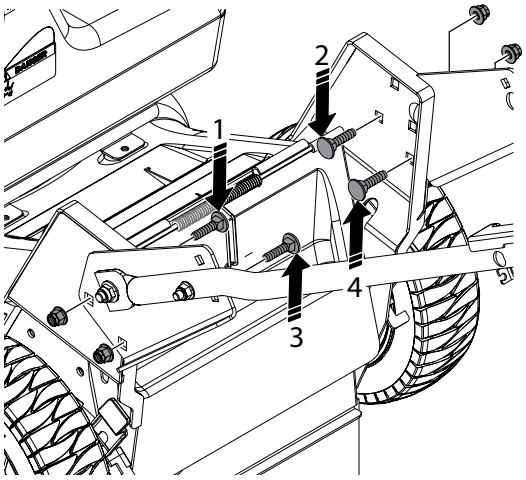


Figure 1-3. Secure the Handle Bar Assembly

4. **The engine installed on this mower is shipped "dry" from the factory.** Add the recommended amount of oil to the engine per the engine operator's manual supplied with this mower.
5. Install the fabric grass collection bag over the bag frame weldment. See Figure 1-4.

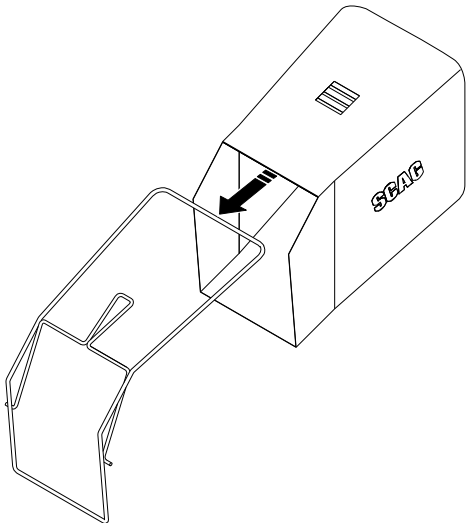


Figure 1-4. Install the Fabric Grass Collection Bag

6. Secure the fabric grass collection bag to the frame weldment using the eight (8) hooks located on the each side. See Figure 1-5.

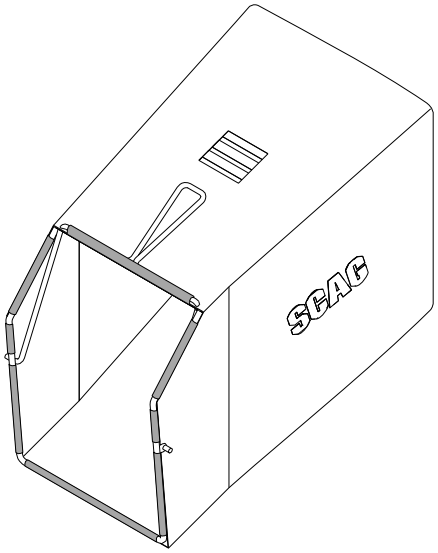
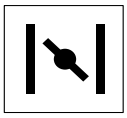
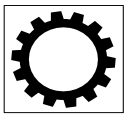
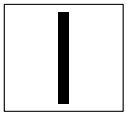
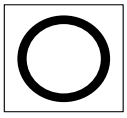
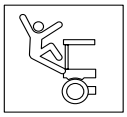
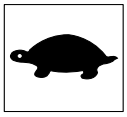
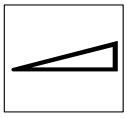
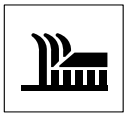
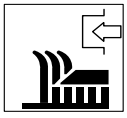
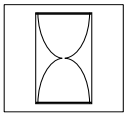
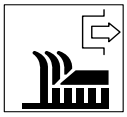
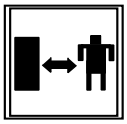
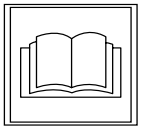


Figure 1-5. Install the Grass Collection Bag

7. Install the grass collection bag onto the back of the mower.
8. Assembly is now complete on the mower.

1.5 SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Choke		Transmission
	Parking Brake		Spinning Blade
	On/Start		Spring Tension on Idler
	Off/Stop		Oil
	Falling Hazard		Thrown Object Hazard
	Fast		Slow
	Continuously Variable - Linear		Cutting Element - Basic Symbol
	Pinch Point		Cutting Element - Engage
	Hour meter/Elapsed Operating Hours		Cutting Element - Disengage
	Keep Bystanders Away		Read Operator's Manual

SAFETY INFORMATION

2.1 INTRODUCTION

Your mower is only as safe as the operator. Carelessness or operator error may result in serious bodily injury or death. Hazard control and accident prevention are dependent upon the awareness, concern, prudence, and proper training of the personnel involved in the operation, transport, maintenance and storage of the equipment. Make sure every operator is properly trained and thoroughly familiar with all of the controls before operating the mower. The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people or property.

This product is capable of amputating hands and feet and throwing objects. Always follow all safety instructions on this product and in the manual to avoid personal injury or death.

READ THIS OPERATOR'S MANUAL BEFORE ATTEMPTING TO START YOUR MOWER. MAKE SURE THAT EVERYONE KNOWS WHERE THE MANUAL IS LOCATED AND KEEP A RECORD OF EACH EMPLOYEE THAT HAS READ THE MANUAL.

A replacement manual is available from your Authorized Scag Power Equipment Dealer or by contacting Scag Power Equipment, Service Department at P.O. Box 152, Mayville, WI 53050 or contact us via the Internet at www.scag.com. The manual for this machine can be downloaded by using the model and serial number or use the contact form to make your request. Please indicate the complete model and serial number of your Scag product when requesting replacement manuals.

2.2 SIGNAL WORDS



This symbol means **"Attention! Become Alert! Your Safety is Involved!"** The symbol is used with the following signal words to attract your attention to safety messages found on the decals on the machine and throughout this manual. The message that follows the symbol contains important information about safety. To avoid injury and possible death, carefully read the message! Be sure to fully understand the causes of possible injury or death.

SIGNAL WORD:

It is a distinctive word found on the safety decals on the machine and throughout this manual that alerts the viewer to the existence and relative degree of the hazard.

⚠ DANGER

The signal word "DANGER" denotes that an extremely hazardous situation exists on or near the machine that could result in high probability of death or irreparable injury if proper precautions are not taken.

⚠ WARNING

The signal word "WARNING" denotes that a hazard exists on or near the machine that can result in injury or death if proper precautions are not taken.

⚠ CAUTION

The signal word "CAUTION" is a reminder of safety practices on or near the machine that could result in personal injury if proper precautions are not taken.

Your safety and the safety of others depends significantly upon your knowledge and understanding of all correct operating practices and procedures of this machine.

2.3 BEFORE OPERATION CONSIDERATIONS

1. NEVER allow children to operate this mower. Do not allow adults to operate this machine without proper instructions.
2. Do not mow when children and/or others are present. 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.
3. DO NOT allow children to ride or play on the machine, it is not a toy.

4. Clear the area to be mowed of objects that could be picked up and thrown by the cutter blades.
5. DO NOT carry passengers.
6. DO NOT operate the machine under the influence of alcohol or drugs.
7. If the operator(s) or mechanic(s) cannot read English, it is the owner's responsibility to explain this material to them. A Spanish decal kit is available for this model. See your local Authorized Scag Power Equipment Dealer.
8. DO NOT wear loose fitting clothing. Loose clothing, jewelry or long hair could get tangled in moving parts. Do not operate the machine wearing shorts; always wear adequate protective clothing including long pants and substantial slip-resistant footwear. Wearing safety glasses, safety shoes and a helmet is advisable and is required by some local ordinances and insurance regulations.

⚠ WARNING

Always wear hearing protection. Operating this machine over prolonged periods of time can cause loss of hearing.

9. Keep the machine and attachments in good operating condition. Keep all shields and safety devices in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating the machine.
10. Fuel is flammable; handle it with care. Fill the fuel tank outdoors. Never fill it indoors. Use a funnel or spout to prevent spillage. Clean up any spillage before starting the engine.
11. DO NOT add fuel to a running or hot engine. Allow the engine to cool for several minutes before adding fuel. Never fuel indoors or inside enclosed trailers.
12. DO NOT start the engine until any spilled fuel has been cleaned up or has evaporated.
13. Keep flammable objects (cigarettes, matches, etc.), open flames and sparks away from the fuel tank and fuel container. Use only approved containers.
14. See Section 7.3 ENGINE FUEL SYSTEM for fueling procedure.
15. Equipment must comply with the latest requirements per SAE J137 and/or ANSI/ASAE S279 when driven on public roads.
16. Do not operate without the discharge plug installed or with the grass catcher installed.
17. Check the blade mounting bolts at frequent intervals for proper tightness.

2.4 TESTING THE BLADE STOP SYSTEM

The blade stop system should be tested each time before using the machine. Check that the blade stops within 3 seconds of releasing the control bar as described below.

-IMPORTANT-

If the blade does not stop within 3 seconds of releasing the control bar, contact your local Authorized Scag Power Equipment Dealer immediately to have the blade stop system repaired.

TEST USING THE GRASS BAG

1. Remove the rear discharge plug.
2. Install the empty grass bag onto the rear of the machine.
3. Start the engine. Allow the engine to warm up before engaging the blade.
4. Engage the blade.

-NOTE-

The bag should begin to inflate, indicating that the blade is rotating.

5. Watch the bag and release the control bar.
6. Immediately start counting out 3 seconds and watch for the bag to deflate.

-NOTE-

If the bag does not deflate within 3 seconds of releasing the control bar, the blade stop system could be deteriorating or out of adjustment. Contact your local Authorized Scag Power Equipment Dealer immediately to have the blade stop system repaired.

7. Shut the engine off and wait for all moving parts to stop.

TEST NOT USING THE GRASS BAG

1. Remove the grass bag.
2. Install the rear discharge plug.
3. Move the machine onto a paved surface such as a driveway, sidewalk, parking lot or patio next to a section of grass.
4. Position the machine next to a patch of grass and approximately 3" away. See Figure 2-1.
5. Start the engine. Allow the engine to warm up before engaging the blade.
6. Engage the blade.

-NOTE-

The grass next to the the machine should start to move from the air flow, indicating that the blade is rotating.

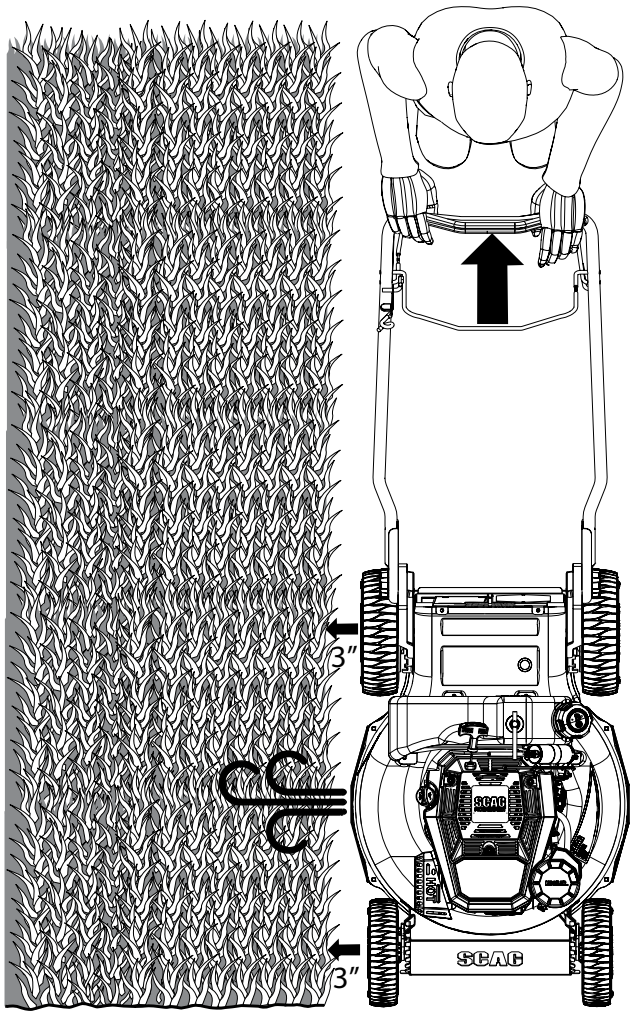


Figure 2-1. Blade Stop

7. Watch the grass and release the control bar.
8. Immediately start counting out 3 seconds and watch for the grass to stop moving.

-NOTE-

If the grass does not stop moving within 3 seconds of releasing the control bar, the blade stop system could be deteriorating or out of adjustment. Contact your local Authorized Scag Power Equipment Dealer immediately to have the blade stop system repaired.

9. Shut the engine off and wait for all moving parts to stop.

2.5 OPERATION CONSIDERATIONS

1. Know the function of all controls and how to stop quickly.

⚠ WARNING

DO NOT operate on steep slopes. ALWAYS FOLLOW OSHA APPROVED OPERATION.

2. Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing directions on slopes.
3. Do not mow or operate on excessively steep slopes. Poor footing could cause a slip and fall accident.
4. To prevent tipping or loss of control, start and stop smoothly, avoid unnecessary turns and travel at reduced speed.
5. Immediately stop the machine if you lose drive control while operating. Inspect the machine and correct the problem before continuing to operate.
6. When using any attachment, never direct the discharge of material toward bystanders or allow anyone near the machine while in operation.
7. Start the engine when the blade control bar is in the neutral lock position, and the drive control bar is disengaged.
8. If the mower discharge ever plugs, shut off the engine, remove the spark plug wire, and wait for all movement to stop before removing the obstruction.

⚠ WARNING

DO NOT use your hand to dislodge the clogged discharge chute. Use a stick or other device to remove clogged material after the engine has stopped running and the blade has stopped turning.

9. Be alert for holes, rocks, roots and other hidden hazards in the terrain. Use caution when operating near drop-offs. Beware of overhead obstructions (low limbs, etc.), underground obstacles (sprinklers, pipes, tree roots, etc.). Cautiously enter a new area. Be alert for hidden hazards.
10. Disengage power to cutter deck before backing up. Do not mow in reverse unless absolutely necessary and then only after observation of the entire area behind the mower. If you must mow in reverse, maintain a constant lookout to the rear of the machine and mow slowly.
11. DO NOT turn sharply. Use care when backing up.
12. Disengage power to cutter deck before crossing roads, walks or gravel drives.
13. Mow only in daylight or good artificial light.
14. NEVER raise the deck with the blade engaged.
15. Take all possible precautions when leaving the machine unattended, such as disengaging the mower, and stopping the engine.
16. Disengage power to the attachments when transporting or when not in use.
17. The machine and attachments should be stopped and inspected for damage after striking a foreign object, and damage should be repaired before restarting and operating the machine.

⚠ CAUTION

Do not touch the engine or the muffler while the engine is running or immediately after stopping. These areas may be hot enough to cause a burn.

⚠ DANGER

DO NOT run the engine inside a building or a confined area without proper ventilation. Exhaust fumes are hazardous and contain carbon monoxide which can cause brain injury and death.

18. Keep hands and feet away from the cutter blade and moving parts. Contact can injure.
19. Transport the mower using a heavy duty trailer or truck. Ensure the trailer or truck has all of the necessary lighting and markings as required by laws, codes, and ordinances. Secure a trailer with a safety chain.
20. Be cautious when loading and unloading onto trailers or trucks. Use only a full width ramp.
21. When transporting the mower, make sure the drive control bar is in neutral, the blade control bar is in the neutral lock position, the engine is off, and the wheels have been blocked.
22. Tie the mower down securely using straps, chains, cable, or ropes. Both front and rear straps must be directed down and outward from machine.
23. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
24. NEVER leave the machine running unattended.

2.6 MAINTENANCE CONSIDERATIONS AND STORAGE

1. Never make adjustments to the machine with the engine running unless specifically instructed to do so. If the engine is running, keep hands, feet, and clothing away from moving parts.
2. Place the drive control bar in neutral, engage the parking brake, place the blade control bar in the neutral lock position, stop engine and disconnect the spark plug wire to prevent accidental starting of the engine when servicing or adjusting the machine. Wait for all movement to stop before adjusting, cleaning or repairing.
3. Remove spark plug wire before making any repairs.
4. Keep all nuts, bolts and screws tight to ensure the machine is in safe working condition. Check blade mounting bolts frequently to be sure they are tight.

5. Do not change the engine governor settings or overspeed the engine. See the engine operator's manual for information on engine settings.
6. To reduce fire hazard, keep the cutting units, drives, muffler and engine free of grass, leaves, excessive grease, oil and dirt.
7. Park the machine on level ground.
8. NEVER allow untrained personnel to service the machine.
9. Use care when checking blades. Use a Blade Buddy (p/n 9212), wrap the blade(s) or wear gloves and USE CAUTION when servicing blades. Only replace blades. NEVER straighten or weld blades.
10. Keep all parts in good working condition. Replace all worn or damaged decals.
11. Use jack stands to support components when required.
12. Carefully release pressure from components with stored energy.
13. Let the engine cool before storing.
14. DO NOT store the machine near an open flame.
15. Shut off fuel while storing or transporting.
16. DO NOT store fuel near flames or drain indoors.

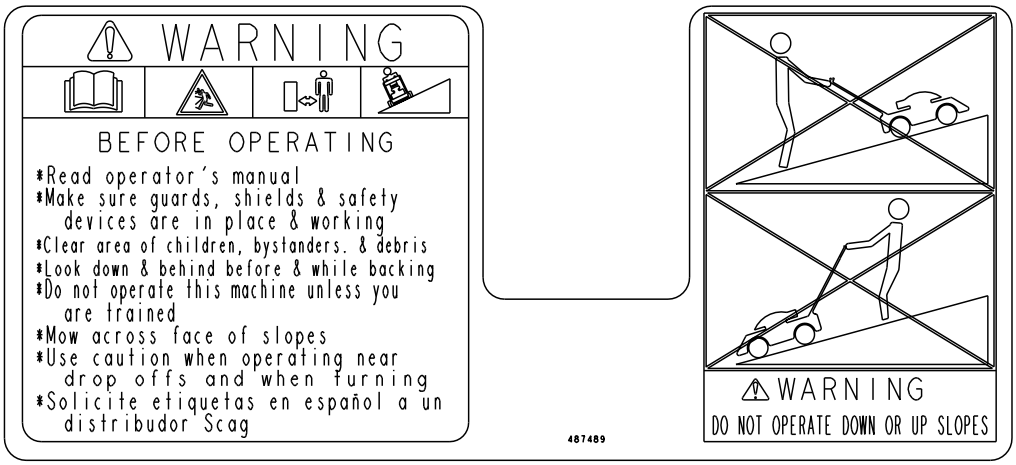
2.7 USING A SPARK ARRESTOR

The engine in this machine is not equipped with a spark arrestor muffler. It is in violation of California Public Resource Code Section 4442 to use or operate this engine on or near any forest covered, brush covered or grass covered land unless the exhaust system is equipped with a spark arrestor meeting any applicable local or state laws. Other states or federal areas may have similar laws. Check with your state or local authorities for regulations pertaining to these requirements.

2.8 SPARK IGNITION SYSTEM

This spark ignition system complies with Canadian ICES-002.

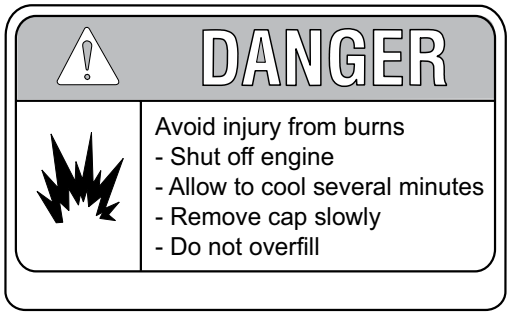
2.9 SAFETY AND INSTRUCTIONAL DECALS



487489



484803



485667

2023 SFC21 Safety Decals

SPECIFICATIONS

3.1 ENGINE

General Type ..... Heavy Duty Industrial/Commercial Gasoline
Model:
- Scag Model SFC-21-4GX ..... HONDA GXV160
- Scag Model SFC-21-5CV ..... Kohler Command Pro CV173
- Scag Model SFC-21-7CV ..... Kohler Command Pro CV224

Displacement:
- HONDA GXV160 ..... 163cc
- Kohler Command Pro CV173 ..... 173cc
- Kohler Command Pro CV224 ..... 224cc

Type ..... 4 Cycle Gasoline, Single Cylinder, Vertical Shaft
Cylinders ..... 1 with Cast Iron Sleeve
Governor ..... Mechanical Type with Variable Speed Control Set At 3300 RPM
Idle Speed:
- Kolher Command Pro ..... 1500 RPM

Fuel Filter ..... In-Line Fuel Filter
Fuel ..... Non-Leaded Gasoline with a Minimum Octane Rating of 87
Lubrication ..... Dual - Full Pressure and Splash
Starter ..... Recoil Starter
Belts ..... Kevlar cord. Adjustable Fixed Idler

3.2 CONTROLS

Starter ..... Recoil Starter
Engine Contol ..... Throttle / Choke Lever
Cutter Blade Control ..... Blade Control Bar controlled Blade Brake Clutch (BBC)
Drive Control ..... Speed Control and Drive Control Bar controlled Transmission

3.3 MOWER

Drive System ..... 3-Speed Transmission
Wheels:
- (2) Front ..... 9 x 2.25
- (2) Drive ..... 10.5 x 3

Fuel Tank ..... 0.37 Gallon (5CV) or 1 Gallon Polyethylene Tank (7CV) with Large Opening and Fuel Cap
Travel Speed:
- Forward ..... 0 up to 4.25 MPH

-NOTE- The machine will travel up to 4.25 mph for transport purposes. For best cutting performance the forward travel speed should be adjusted depending upon the cutting conditions.

3.4 CUTTER DECK

Type ..... Adjustable, Anti-Scalping, Hybrid Design
Construction ..... 14-Gauge deck with 14-Guage replaceable guards for strength and longevity
True Cutting Width:
- 21 ..... 21" (53.34 cm)

Cutting Height Adjustment ..... Lever Adjustment from 1.5" to 4.5" in 1/2"increments
Cutter Blade ..... 0.1345 in. Thick, Milled Edge, Wear Resistant
Blade Engagement ..... Blade Control Bar controlled Blade Brake Clutch (BBC) Connected to the Cutter Blade
Rear Discharge Opening ..... Extra Wide Discharge Opening
Clutch Type ..... Heavy Duty Blade Brake Clutch (BBC)

3.5 WEIGHTS AND DIMENSIONS

Length w/handle in lowest position	68-1/2"
Length w/handle in highest position	63"
Length w/handle in storage / transport position	41"
Tracking Width	21-1/4"
Overall Width	23-1/4"
Lowest Operating Height	32-3/4"
Max Operating Height	43-1/2"
Operating Weight: Bagging	136# (4GX), 138# (5CV), 145# (7CV)
Operating Weight: Mulching	131# (4GX), 133# (5CV), 140# (7CV)

3.6 PRODUCTIVITY

Cutting Width	21"

OPERATING INSTRUCTIONS

⚠ WARNING

Do not attempt to operate this mower unless you have read this manual. Learn the location and purpose of all controls and instruments before you operate this mower.

4.1 CONTROLS AND INSTRUMENT IDENTIFICATION

Before operating the mower, familiarize yourself with all mower and engine controls. Knowing the location, function and operation of these controls is important for safe and efficient operation of the mower.

1. **Recoil Start (Figure 4-1).** The recoil start is used to start the engine.
2. **Blade Control Bar (Figure 4-1).** Use to engage and disengage the cutter blade drive system. Pulling the control bar will engage the cutter blades. Releasing the control bar will disengage the cutter blades.
3. **Engine Throttle / Choke Control (Figure 4-1).** Use to control the engine speed and choke control. Pushing the lever forward increases engine speed. Pulling the lever back decreases engine speed. Push the lever all the way forward past the detent to engage the choke when starting a cold engine. Full back position is the STOP position. Full forward to detent is the cutting position.

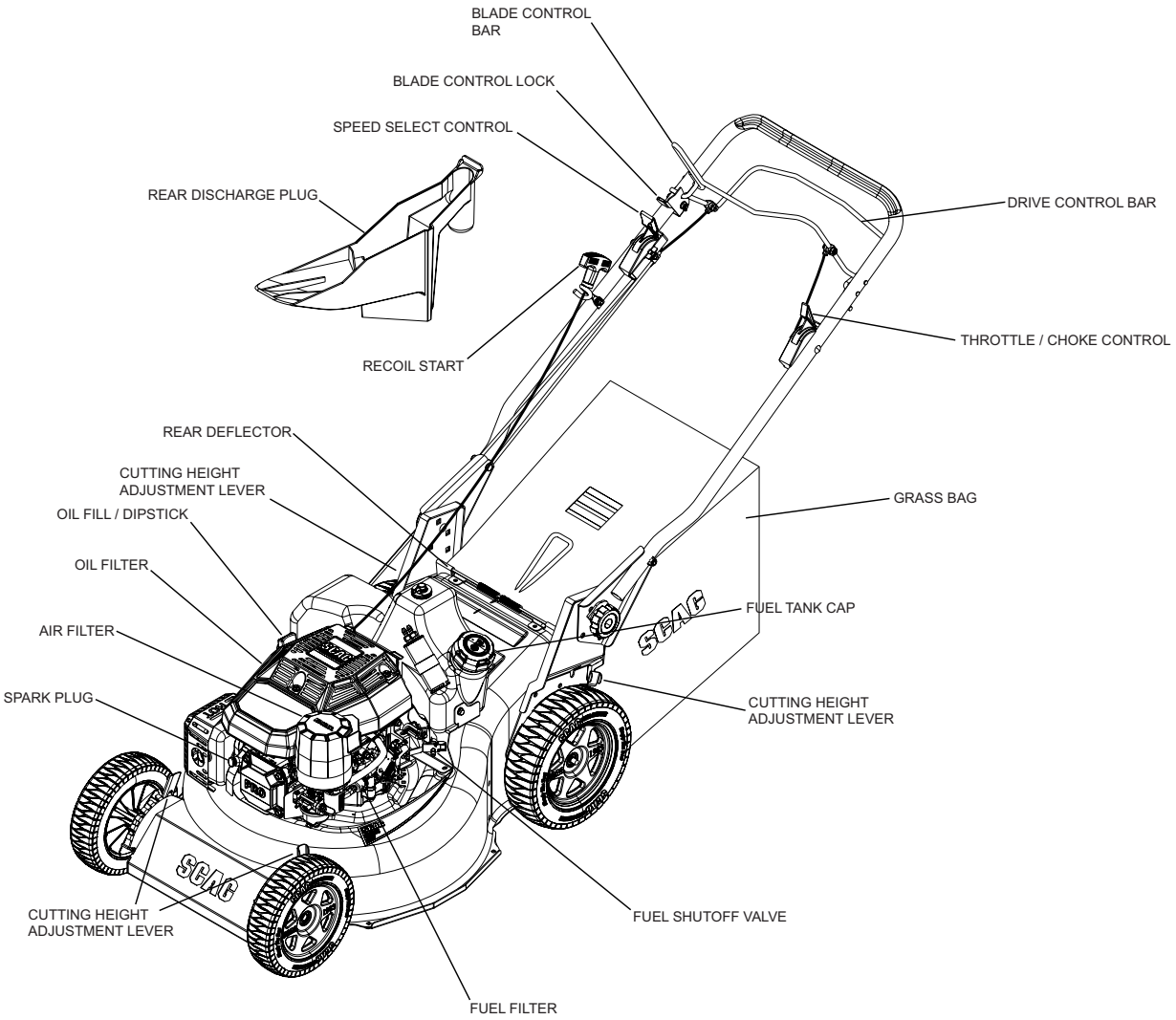


Figure 4-1. Controls and Instruments

4. **Drive Control Bar (Figure 4-1).** Use to engage and disengage the mower forward drive system.
5. **Speed Select Control (Figure 4-1).** Use to set the maximum forward speed.
6. **Blade Control Lock (Figure 4-1).** Use to lock the blade control bar in the neutral position.
7. **Grass Bag (Figure 4-1).** Use to bag and collect grass clippings while mowing.
8. **Fuel Tank Cap (Figure 4-1).** Use to fill the fuel tank with fuel.
9. **Fuel Shutoff Valve (Figure 4-1).** Use to shut off fuel supply to the engine.
10. **Cutting Height Adjustment Lever (Figure 4-1).** Use to set the cutter deck at the desired cutting height.
11. **Fuel Filter (Figure 4-1).** Use to filter the fuel supply to the engine. Refer to engine owner's manual supplied with this unit when servicing.
12. **Spark Plug (Figure 4-1).** Use to supply spark to the engine. Refer to engine owner's manual supplied with this unit when servicing.
13. **Air Filter (Figure 4-1).** Use to filter the air supply to the engine. Refer to engine owner's manual supplied with this unit when servicing.
14. **Oil Filter (Figure 4-1).** Use to filter the oil supply in the engine. Refer to engine owner's manual supplied with this unit when servicing.
15. **Oil Fill / Dipstick (Figure 4-1).** Use to add and check the level of oil in the engine. Refer to engine owner's manual supplied with this unit when servicing.
16. **Rear Discharge Plug (Figure 4-1).** Use to shut off the discharge of grass clippings out of the rear discharge opening. Install when mulching.
17. **Rear Deflector (Figure 4-1).** Use to hold the grass bag and rear discharge plug in place during operation.

4.2 TESTING THE BLADE STOP SYSTEM

The blade stop system should be tested each time before using the machine. Check that the blade stops within 3 seconds of releasing the control bar as described below.

⚠ WARNING

If the blade does not stop within 3 seconds of releasing the control bar after making an adjustment to the blade brake cable, the blade stop system may be deteriorating and if ignored could result in an unsafe operating condition. Contact your local Authorized Scag Power Equipment Dealer immediately to have the blade stop system inspected and repaired.

TEST USING THE GRASS BAG

1. Remove the rear discharge plug.
2. Install the empty grass bag onto the rear of the machine.
3. Start the engine. Allow the engine to warm up before engaging the blades.
4. Engage the blades.

-NOTE-

The bag should begin to inflate, indicating that the blades are rotating.

5. Watch the bag and release the control bar.
6. Immediately start counting out 3 seconds and watch for the bag to deflate.

-NOTE-

If the bag does not deflate within 3 seconds of releasing the control bar, the blade stop system could be deteriorating or out of adjustment. Contact your local Authorized Scag Power Equipment Dealer immediately to have the blade stop system repaired.

7. Shut the engine off and wait for all moving parts to stop.

TEST NOT USING THE GRASS BAG

1. Remove the grass bag.
2. Install the rear discharge plug.
3. Move the machine onto a paved surface such as a driveway, sidewalk, parking lot or patio next to a section of grass.
4. Position the machine next to a patch of grass and approximately 3" away. See Figure 4-2.
5. Start the engine. Allow the engine to warm up before engaging the blades.
6. Engage the blade.

-NOTE-

The grass next to the the machine should start to move from the air flow, indicating that the blade is rotating.

7. Watch the grass and release the control bar.
8. Immediately start counting out 3 seconds and watch for the grass to stop moving.

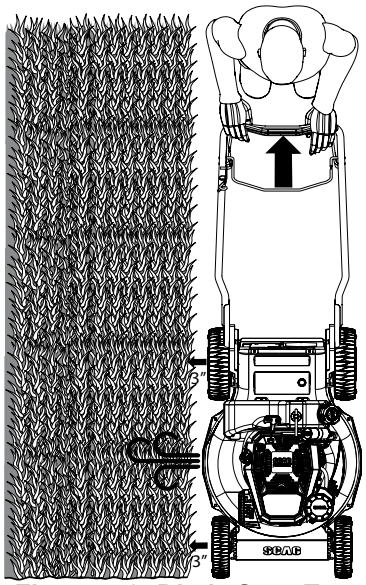


Figure 4-2. Blade Stop Test

-NOTE-

If the grass does not stop moving within 3 seconds of releasing the control bar, the blade stop system could be deteriorating or out of adjustment. Contact your local Authorized Scag Power Equipment Dealer immediately to have the blade stop system repaired.

9. Shut the engine off and wait for all moving parts to stop.

⚠ WARNING

Never operate the mower with the blade stop system malfunctioning. Do not disengage or bypass any part of the blade stop system; injury to yourself and others or property damage could result.

4.3 INITIAL RUN-IN PROCEDURES

FIRST DAY OF USE OR APPROXIMATELY 8 HOURS

1. Check all belts for proper alignment and wear at 2, 4 and 8 hours.
2. Change the engine oil only after the first 8 hours of operation. Refer to engine owner's manual supplied with this unit when servicing.
3. Test the blade stop system daily before operation. (See Section 4.2)
4. Inspect the air filter.
5. Check for loose hardware. Tighten as needed.
6. Inspect the cutter blade and service as necessary.
7. Check the parking brake function.
8. Check clutch cable function.

4.4 STARTING THE ENGINE

⚠ CAUTION

DO NOT USE STARTING FLUIDS. Use of starting fluids in the air intake system may be potentially explosive or cause a "runaway" engine condition that could result in engine damage and/or personal injury.

1. Be sure the fuel shutoff valve, located by the fuel tank, is completely open. (See Section 7.3.)
2. Move the engine throttle control to full throttle. If the engine is cold, choke the engine as needed by moving the throttle / choke control lever fully forward past the detent.

3. Slowly pull starter handle until just past compression-STOP! Return starter handle then firmly pull straight out to avoid excessive rope wear from starter rope guide.
4. Gradually return choke control to OFF position after engine starts and warms up. Allow engine to warm before operating the mower.

4.5 GROUND TRAVEL

- IMPORTANT -

If you are not familiar with the operation of a machine with a variable speed transmission, the ground speed operation should be learned and practiced in an open area, away from buildings, fences, or obstructions.

Learn the operation on flat ground before operating on slopes.

Start practicing with a slow engine speed and slow forward travel.

Learn to feather the drive control bar to obtain a smooth operating action.

Practice operating the mower until you are comfortable with the controls before proceeding to mow.

FORWARD TRAVEL

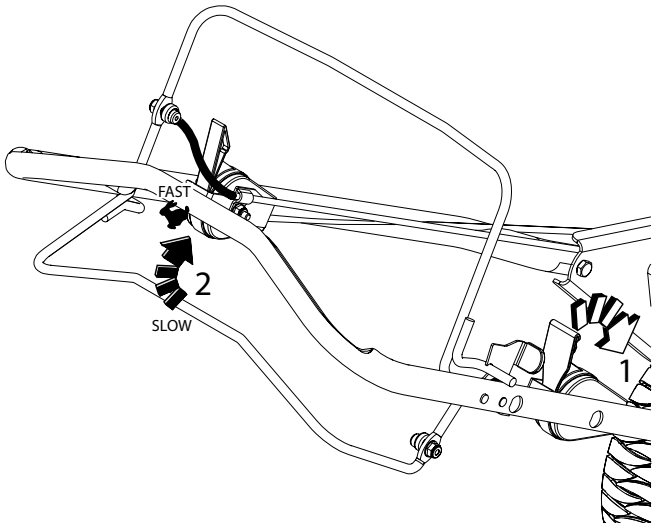


Figure 4-3. Travel Controls

1. Select the desired speed using the speed control lever.
2. Pull upward on the drive control bar.
3. Forward travel.

To travel forward with the mower, slowly pull upward on the drive control bar. The further the drive control bar is pulled upward the greater the forward speed will be. To decrease the speed, slowly release the drive control bar.

To stop the forward travel, release the drive control bar allowing it to return back to the neutral position.

- NOTE -

Smooth operation of the drive control bar will produce smooth mower operation. While learning the operation of the mower, keep the travel speed low.

⚠ CAUTION

Disengage power to the mower before backing up. Do not mow when backing up unless absolutely necessary and then only after observation of the entire area behind the mower.

⚠ CAUTION

Before backing up, observe the rear for persons and obstructions. Clear the area before backing up. Possible injury or property damage could occur.

4.6 ENGAGING THE CUTTER BLADES

1. Set the throttle at about 3/4 speed. Do not attempt to engage the deck drive at high speed as this shortens the belt life — use only moderate engine speed when engaging the cutter blades.
2. Push and hold the blade control lock lever forward to release the blade control bar. See Figure 4-4.
3. Quickly pull the blade control bar to the handle and release the blade control lock lever. The cutter blade should engage.

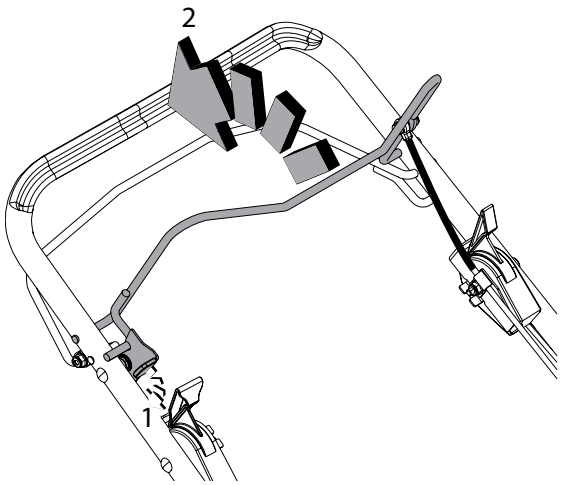


Figure 4-4. Blade Control Bar Engagement

- NOTE -

A squealing noise may be heard when engaging or disengaging the deck drive. It is caused by the clutch plates meshing as the mower comes up to speed. This is normal. If the noise is excessive, Contact your local Authorized Scag Power Equipment Dealer immediately to have the clutch system repaired.

4. To disengage the cutter blade, release the blade control bar. The blade control lock lever resets to lock the blade control bar.
5. Always operate the engine at full throttle to properly maintain cutting speed. If the engine starts to lug down, reduce the forward speed and allow the engine to operate at maximum RPM.

4.7 SLOPE OPERATION

⚠ WARNING

DO NOT operate on excessively steep slopes. ALWAYS FOLLOW OSHA APPROVED OPERATION.

Avoid mowing in wet conditions. Wet grass or leaves can cause serious injury if you slip and contact the blade.

1. This mower has been designed for good traction and stability under normal mowing conditions. However, caution must be used when traveling on slopes, especially when the grass is wet.
2. To prevent tipping or loss of control, do not start or stop suddenly, avoid unnecessary turns and travel at reduced speed. If tires lose traction, disengage the blade and proceed slowly off the slope.
3. Avoid sudden starts when mowing on slopes.
4. Travel across the slope whenever possible. Never up and down the slope.

4.8 PARKING THE MOWER

1. Park the machine on a flat, level surface only. Do not park the machine on an incline.
2. Disengage the cutter blade.
3. Slow the engine to idle speed.
4. Pull the throttle / chock control back to the OFF position.

4.9 AFTER OPERATION

1. Always shut the engine off, wait for all moving parts to stop, and allow the mower to cool before adjusting, servicing, storing or cleaning the machine.
2. Wash the entire mower after each use. Do not use high pressure spray or direct the spray onto components.

- IMPORTANT -

Do not wash a hot or running engine. Cold water will damage the engine. Use compressed air to clean the engine if it is hot.

3. Keep the entire mower clean to inhibit serious heat damage to the engine or transmission.
4. Check the drive belt for proper alignment and any signs of wear. Correct and adjust if necessary.

⚠ DANGER

To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.

5. Fill the fuel tank with fresh, clean fuel at the beginning of every day of operation. See Engine Owner's Manual for proper octane requirements.

4.10 REMOVING CLOGGED MATERIAL

⚠ DANGER

ROTATING BLADE

NEVER PUT YOUR HANDS INTO THE DISCHARGE CHUTE FOR ANY REASON!

Shut off the engine and remove the spark plug wire and only then use a stick or similar object to remove material if clogging has occurred.

1. If the discharge becomes clogged, shut off the engine and remove the spark plug wire.
2. Using a stick or similar item, dislodge the clogged material. Then resume normal mowing.

4.11 MOVING MOWER WITH ENGINE STOPPED

To “free-wheel” or move the mower around without the engine running, move the mower by hand.

4.12 RECOMMENDATIONS FOR MOWING

1. Do not mow with a dull blade. A dull blade will tear grass, resulting in poor lawn appearance and reduced mowing power.

⚠ WARNING

DO NOT operate without the Mulching plug, or entire Grass Catcher properly installed.

2. When mulching, the rear discharge plug must be completely installed.
3. When bagging grass, the rear discharge plug must be removed.
4. Cut grass when it is dry and not too tall. Do not cut grass too short (cut off 1/3 or less of existing grass for best appearance). Mow frequently.
5. Keep mower and discharge chute clean.
6. When mowing wet or tall grass, mow the grass twice. Raise the mower to the highest setting for the first pass and then make a second pass to the desired height.
7. Use a slow travel speed for trimming purposes.
8. Operate the engine at full throttle for best cutting. Mowing with a lower RPM causes the mower to tear the grass. The engine is designed to be operated at full speed.
9. Use the alternate stripe pattern for best lawn appearance. Vary the direction of the stripe each time the grass is mowed to avoid wear patterns in the grass.

4.13 ADJUSTING CUTTING HEIGHT

The mower deck can be adjusted from a height of 1-1/2 inches to 4-1/2 inches at 1/2-inch intervals. To adjust the cutting height:

⚠ WARNING

DO NOT adjust the cutting height with the mower blade rotating. Disengage the power to the cutter blades and then adjust cutting height.

1. Disengage the power to the cutter blade.
2. Apply the park brake.
3. Lift up and forward on the cutting height adjustment levers at all four (4) locations. See Figure 4-5.
4. Stop each lever on the cutting height index at the desired cutting height. See Figure 4-5. All four (4) levers should be set at the same cutting height.

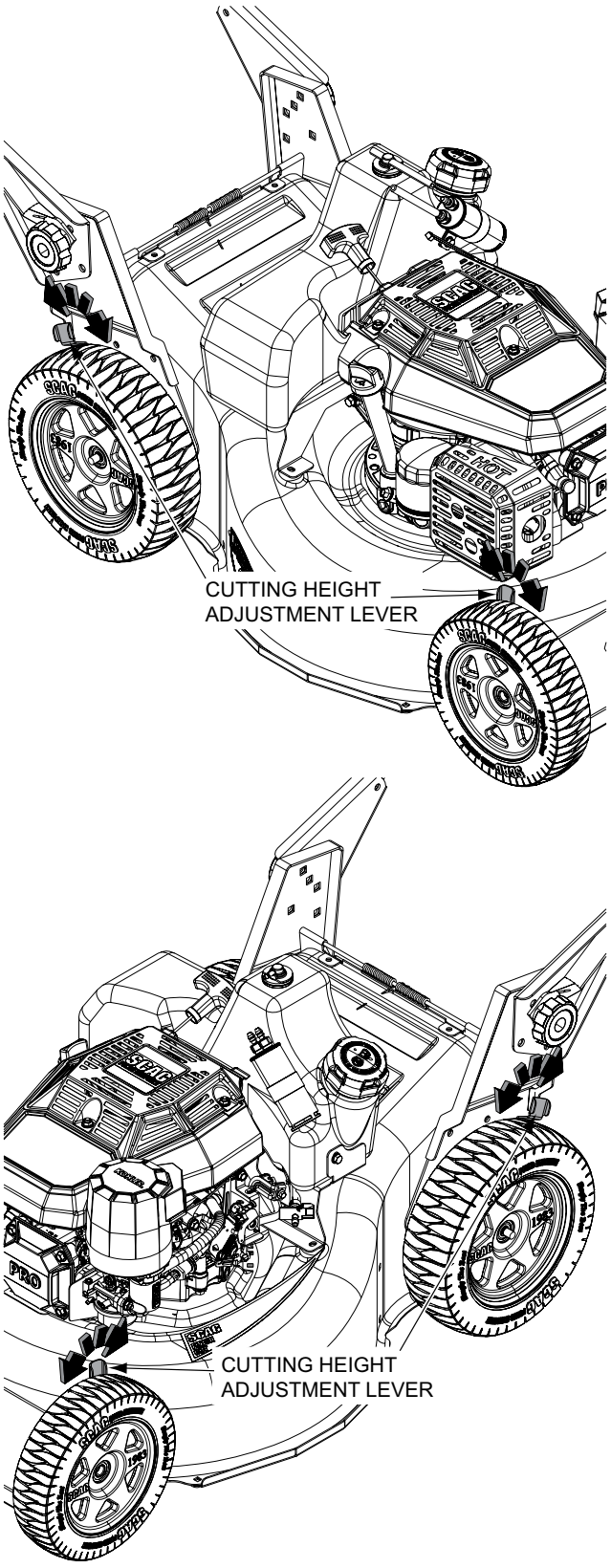
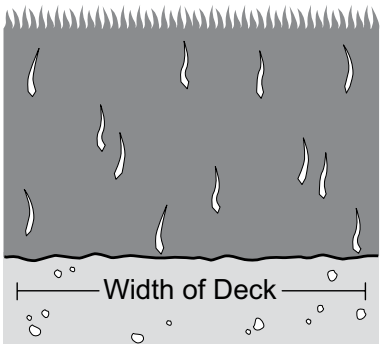
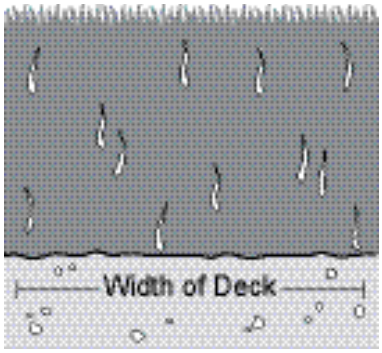
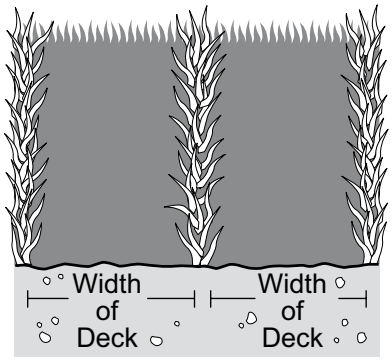
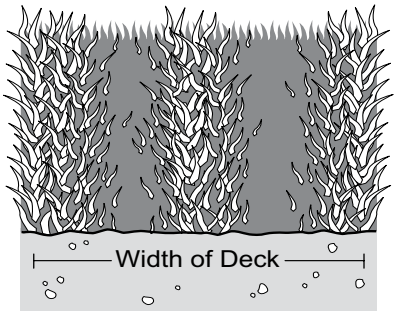
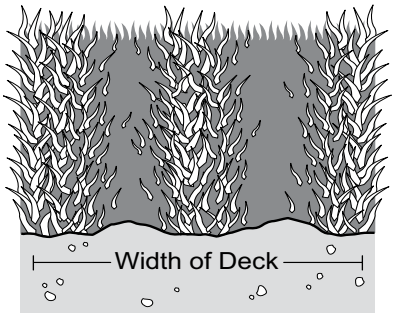
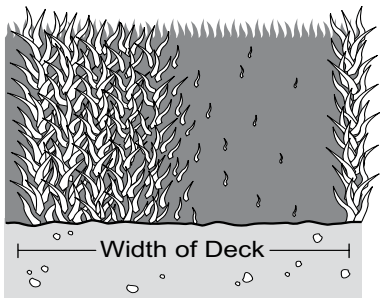


Figure 4-5. Adjusting Cutting Height

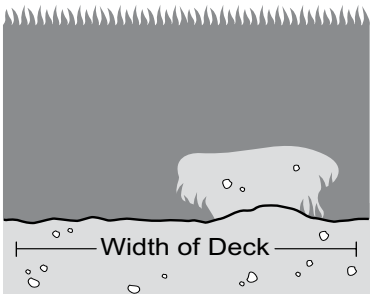
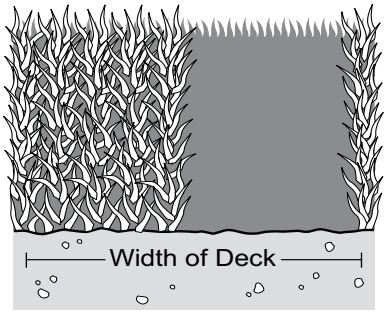
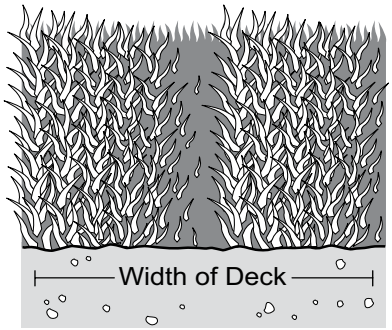
TROUBLESHOOTING CUTTING CONDITIONS

CONDITION	CAUSE	CURE
STRINGERS - OCCASIONAL BLADES OF UNCUT GRASS 	Low engine RPM	Run engine at full RPM
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Dull blades, incorrect sharpening	Sharpen blades
	Deck plugged, grass accumulation	Clean underside of deck
	Belts slipping	Adjust belt tension
STREAKING - STRIPS OF UNCUT GRASS IN CUTTING PATH 	Dull, worn blades	Sharpen blades
	Incorrect blade sharpening	Sharpen blades
	Low engine RPM	Run engine at full RPM
	Belt slipping	Adjust belt tension
	Deck plugged, grass accumulation	Clean underside of deck
	Ground speed too fast	Slow speed to adjust for conditions
	Wet grass	Cut grass after it has dried out
	Bent blades	Replace blades
STREAKING - STRIPS OF UNCUT GRASS BETWEEN CUTTING PATHS 	Not enough overlapping between rows	Increase the overlap of each pass

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
UNEVEN CUT ON FLAT GROUND - WAVY HIGH-LOW APPEARANCE, SCALLOPED CUT, OR ROUGH CONTOUR 	Lift worn from blade	Replace blade
	Blade upside down	Mount with cutting edge toward ground
	Deck plugged, grass accumulation	Clean underside of deck
	Too much blade angle (deck pitch)	See your authorized SCAG dealer
	Deck mounted improperly	See your authorized SCAG dealer
	Bent spindle area	See your authorized SCAG dealer
	Dull blade	Sharpen blade
UNEVEN CUT ON UNEVEN GROUND - WAVY APPEARANCE, HIGH-LOW SCALLOPED CUT, OR ROUGH CONTOUR 	Uneven ground	May need to reduce ground speed, raise cutting height, and/or change direction of cut
SLOPING RIDGE ACROSS WIDTH OF CUTTING PATH 	Wheels uneven	See your authorized SCAG dealer
	Deck mounted incorrectly	See your authorized SCAG dealer
	Deck not level side-to side	See your authorized SCAG dealer

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
SCALPING - BLADES HITTING DIRT OR CUTTING VERY CLOSE TO THE GROUND 	Bent spindle mounting area	See your authorized SCAG dealer
	Ground speed too fast	Slow speed to adjust for conditions
	Cutting too low	May need to reduce ground speed, raise cutting height, change direction of cut, and/or change pitch and level
	Rough terrain	May need to reduce ground speed, raise cutting height, and/or change direction of cut
	Wet grass	Cut grass after it has dried out
STEP CUT - RIDGE IN CENTER OF CUTTING PATH 	Blades not mounted evenly	See your authorized SCAG dealer
	Bent blade	Replace blade
	Internal spindle failure	See your authorized SCAG dealer
	Mounting of spindle incorrect	See your authorized SCAG dealer
SLOPE CUT - SLOPING RIDGES ACROSS WIDTH OF CUTTING PATH 	Bent spindle mounting area	See your authorized SCAG dealer
	Internal spindle failure	See your authorized SCAG dealer
	Bent deck housing	See your authorized SCAG dealer

ADJUSTMENTS

6.1 SELF-PROPEL DRIVE ADJUSTMENTS

An adjustment to the self-propel system should be made whenever a new cable is installed.

SPEED SELECT CONTROL CABLE ADJUSTMENT

1. Shut the engine off and wait for all moving parts to stop.
2. Disconnect the spark plug wire from the spark plug.
3. If the grass catcher bag is installed, remove it from the mower.
4. Using a piece of scrap material, broom handle or other object wider that the handle bars, lift and support the rear cover to gain access to the rear of the mower. See Figure 6-1.

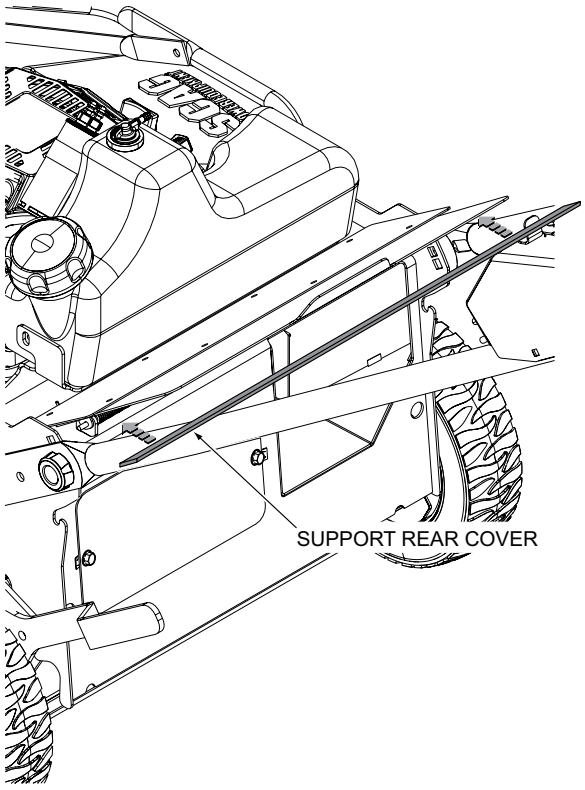


Figure 6-1. Lift and Support Rear Cover

5. Remove the two bolts securing the transmission access cover to the mower.
6. Remove the transmission access cover and remove any debris that has collected on the transmission. See Figure 6-2.

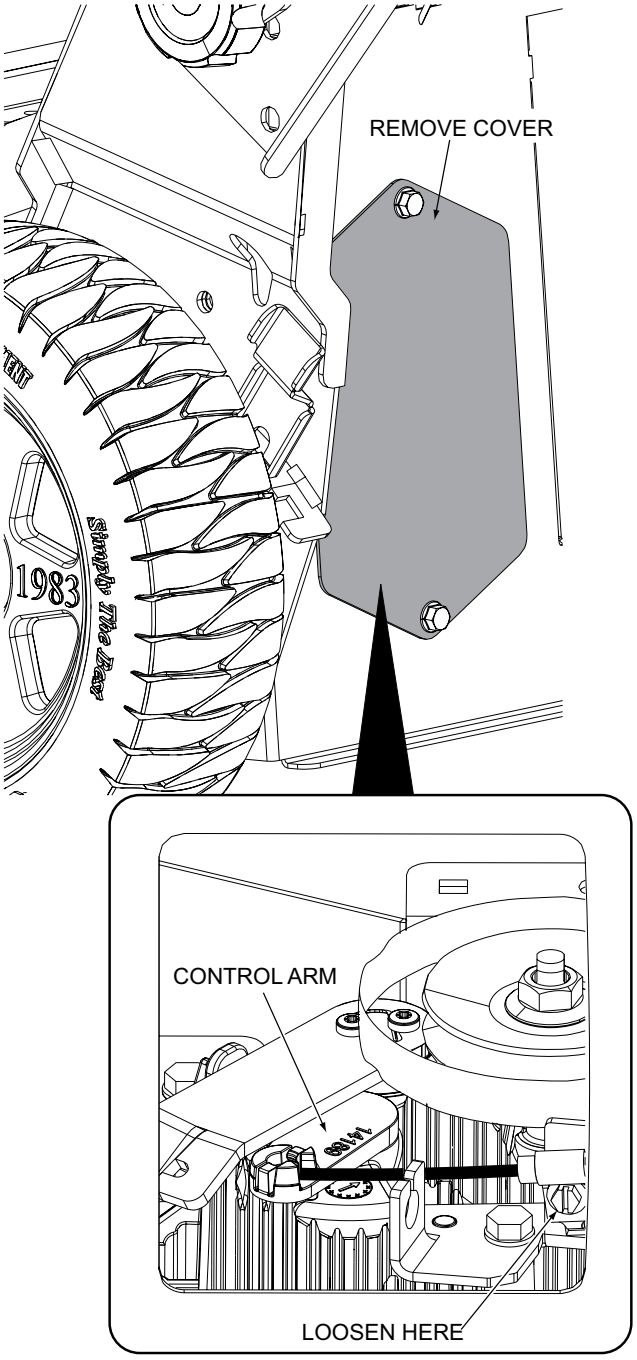


Figure 6-2. Transmission Access

7. Loosen the clamp securing the speed select cable to the transmission. See Figure 6-2.
8. Move the speed select control all the way back. See Figure 6-3.

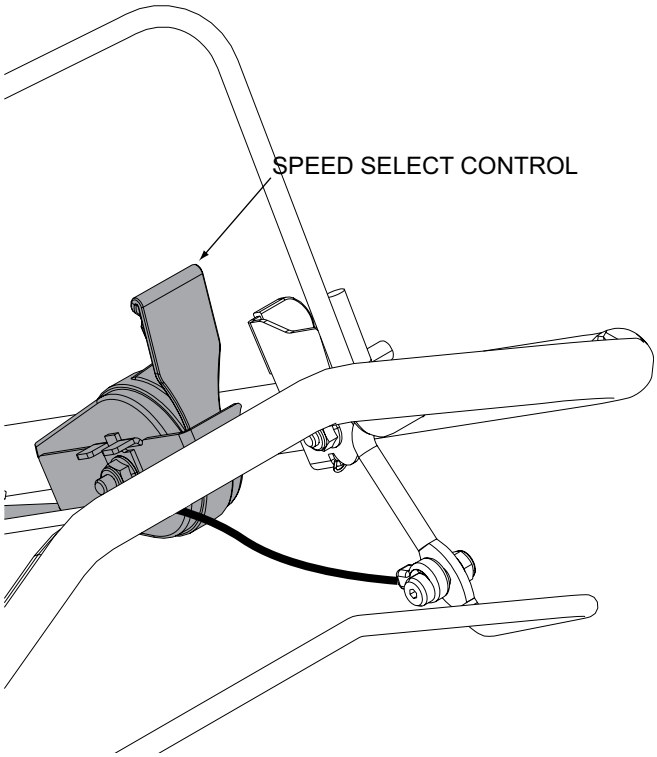


Figure 6-3. Speed Select Control Adjustment

9. On the transmission, move the control arm all the way to the left. See Figure 6-4.
10. Adjust the cable until there is no slack in the cable between the control arm and cable sheathing. See Figure 6-4.

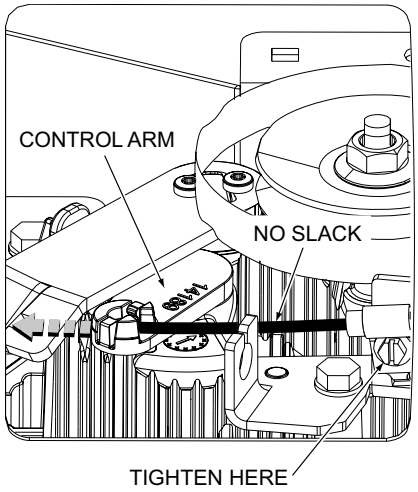


Figure 6-4. Transmission Control Arm and Spring

11. Hold the cable firmly and tighten the clamp.
12. Reinstall the transmission access cover and secure with the two bolts.
13. Test the operation of the speed select control. The machine should increase and decrease speed as the speed select control is moved to each position. The machine must be at a complete stop before shifting between gears.

⚠ WARNING

To avoid bodily injury and damage to the transmission, the machine must be at a full stop before shifting between gears..

- NOTE -

If making the adjustment as outlined does not allow for proper speed select operation, contact your local Authorized Scag Power Equipment Dealer.

DRIVE CONTROL BAR CABLE ADJUSTMENT

1. Shut the engine off and wait for all moving parts to stop.
2. Disconnect the spark plug wire from the spark plug.
3. With the drive control bar released, loosen the clamp securing the speed select cable to the drive control bar. See Figure 6-5.
4. Adjust the cable until there is a small amount of slack in the cable between the drive control bar and cable sheathing. See Figure 6-5.

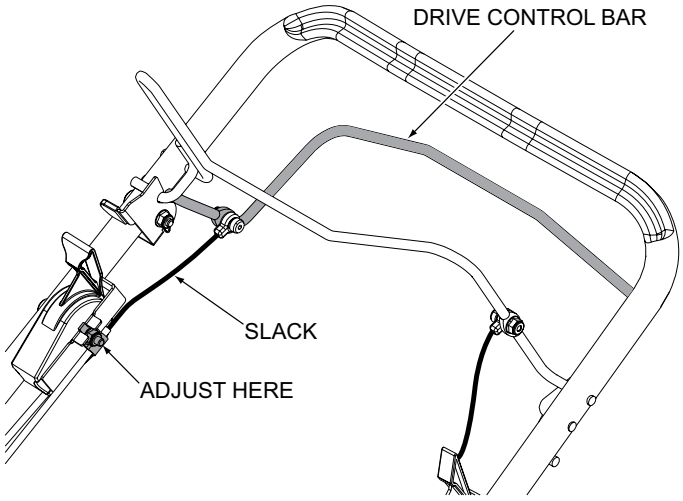


Figure 6-5. Drive Control Bar Adjustment

5. Hold the cable firmly and tighten the clamp.
6. Test the operation of the drive control bar. The machine should not move when the drive control bar is released.
7. Select a speed using the speed select control. The machine must be at a complete stop before shifting between gears.

⚠ WARNING

To avoid bodily injury and damage to the transmission, the machine must be at a full stop before shifting between gears.

8. The machine should increase and decrease speed as the drive control bar is pulled in or released.

- NOTE -

If making the adjustment as outlined does not allow for proper self-propel operation, contact your local Authorized Scag Power Equipment Dealer.

6.2 THROTTLE CONTROL AND CHOKE ADJUSTMENTS

These adjustments must be performed by your Authorized Scag Power Equipment Dealer to ensure proper and efficient running of the engine. Should either need adjustment, contact your local authorized Scag service center.

6.3 TRANSMISSION DRIVE BELT

⚠ WARNING

Before removing any guards, shut the engine off and remove the spark plug wire from the spark plug.

The transmission drive belt has a fixed idler and should be adjusted after the first 2, 4, 8 and 10 hours of operation, the belt should be checked for proper alignment and wear. Thereafter, check the belt after every 40 hours of operation or weekly, whichever occurs first.

6.4 BLADE CONTROL BAR CABLE ADJUSTMENT

⚠ WARNING

Before removing any guards, shut the engine off and remove the spark plug wire from the spark plug. Wait for all moving parts to come to a complete stop before beginning work.

1. Shut the engine off and wait for all moving parts to stop.
2. Disconnect the spark plug wire from the spark plug.
3. With the blade control bar released, loosen the clamp securing the blade control cable to the blade control bar. See Figure 6-6.
4. Adjust the cable until there is a small amount of slack in the cable between the blade control bar and cable sheathing. See Figure 6-6.

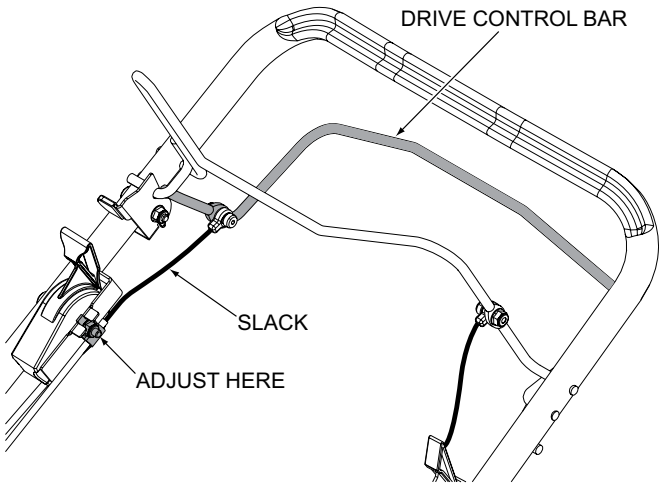


Figure 6-6. Deck Drive Cable Adjustment

5. Test the operation of the blade control bar. The cutter blade should not turn when the blade control bar is released.

- NOTE -

If making the adjustment as outlined does not allow for proper cutter blade operation, contact your local Authorized Scag Power Equipment Dealer.

6.5 CUTTER DECK ADJUSTMENTS

The mower is designed to bag or mulch the grass clippings. If additional information or service is needed, contact your Authorized Scag Power Equipment Dealer.

MULCHING THE CLIPPINGS

To convert from bagging grass and prepare the mower to mulch the grass clippings:

1. Lift the rear cover and remove the grass collection bag from the mower. See Figure 6-7.

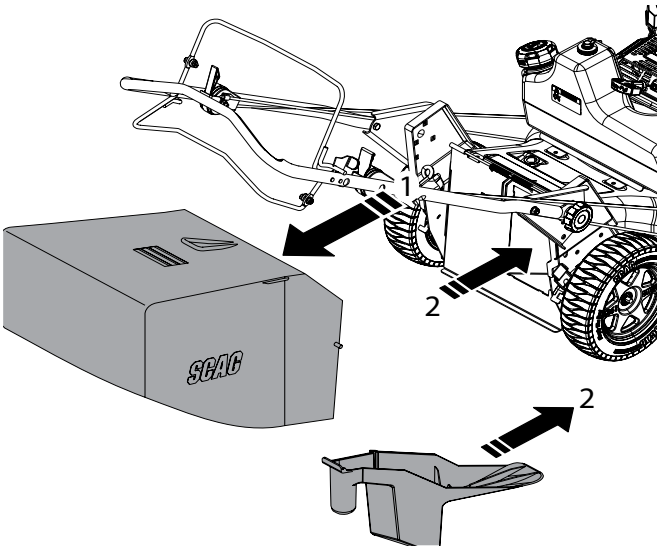


Figure 6-7. Mulch Conversion

2. Insert the rear discharge plug into the cutter deck. See Figure 6-7.

BAG THE CLIPPINGS

To convert and prepare the mower back to bagging the grass clippings:

1. Lift the rear cover and remove the rear discharge plug from the cutter deck. See Figure 6-8.
2. Reinstall the grass collection bag onto the mower. See Figure 6-8.

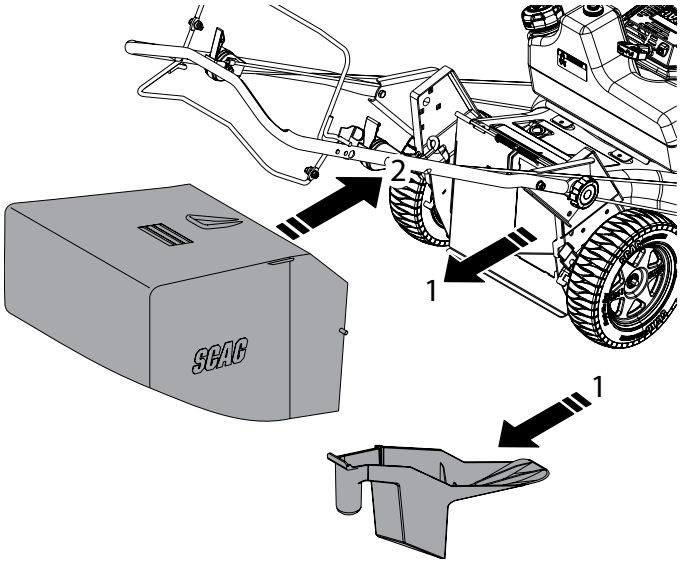


Figure 6-8. Bagging Grass.

MAINTENANCE

7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS

HOURS								PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	40	50	100	150	200	400		
X								Check all hardware for tightness	
X								Check the transmission belt	See paragraph 7.5
	X							Change engine oil	See paragraph 7.2
	X							*Clean mower	See paragraph 7.8
	X							Check condition of blade	See paragraph 7.6
	X							Check blade stop system	See paragraph 4.2
	X							Check the blade brake cable tension. Adjust as needed.	See paragraph 6.4
		X						Inspect transmission drive belt. Replace every 400 hours or 2 years, whichever occurs first.	See paragraph 6.3 & 7.5
		x						Clean and lubricate the rear drive wheels	See paragraph 7.7
			X					Change engine oil - Perform after every 50 hours of operation	See paragraph 7.2
				X				Check condition of fuel lines	
				X				Change engine oil and filter - Perform after every 100 hours of operation	See paragraph 7.2
				X				*Clean air cleaner element	See paragraph 7.4
					X			Change engine oil - Perform after every 50 hours of operation	See paragraph 7.2
						X		Check all hardware for tightness	
						X		Change engine oil and filter - Perform after every 100 hours of operation	See paragraph 7.2
							X	Replace transmission drive belt	See paragraph 7.5

* Perform these maintenance procedures more frequently under extreme dusty or dirty conditions

7.2 ENGINE OIL

A. CHECKING ENGINE CRANKCASE OIL LEVEL

The engine oil level should be checked after every 8 hours of operation or daily as instructed in the Engine Owner's Manual furnished with this mower.

B. CHANGING ENGINE CRANKCASE OIL

After the first 8 hours of operation, change the engine crankcase oil. Thereafter, change the engine crankcase oil after every 50 hours of operation or yearly, whichever occurs first. Refer to the Engine Owner's Manual furnished with this mower for instructions.

1. Shut off the engine and wait for all moving parts to stop.
2. Disconnect the wire from the spark plug.
3. Drain the fuel from the fuel tank.
4. Place a suitable drain pan under the dipstick/oil drain.
5. Clean around the dipstick.
6. Remove the dipstick by rotating the cap counterclockwise and pulling it out.
7. Tip the machine onto its right side (air filter up) to drain the oil into the drain pan.
8. After draining the oil, return the machine to the operating position.
9. Fill the crankcase to the correct level on the dipstick with fresh oil. Refer to the Engine Owner's Manual furnished with this mower for oil capacity.
10. Insert the dipstick into the filler neck and rotate the cap clockwise until it is tight.
11. Wipe up any spilled oil.
12. Recycle the used oil according to local codes.

C. CHANGING ENGINE OIL FILTER

Replace the oil filter after every 100 hours of operation. Refer to Engine Owner's Manual for instructions.

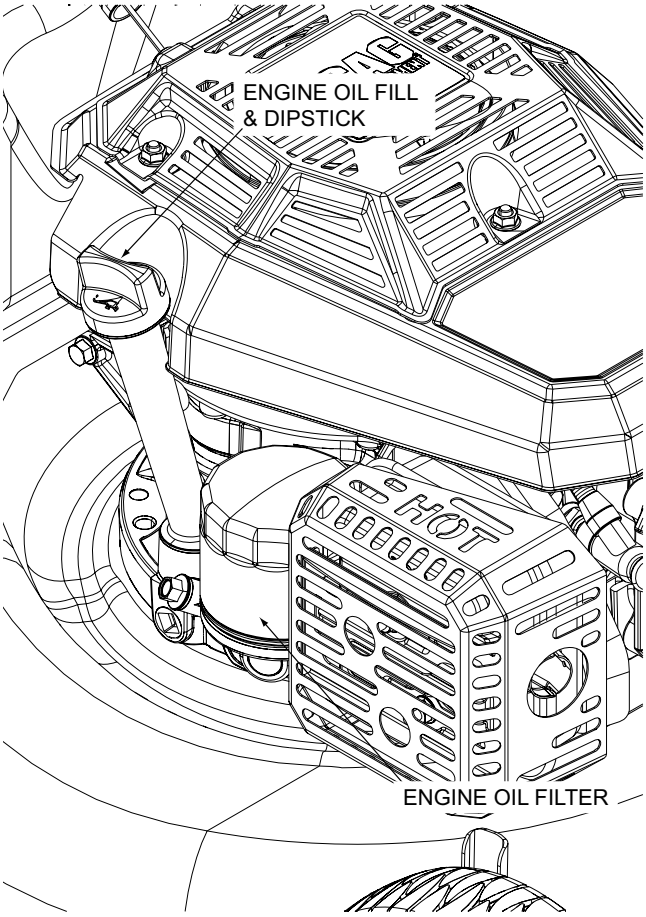


Figure 7-1. Oil Fill / Dipstick, Oil Filter

7.3 ENGINE FUEL SYSTEM

⚠ DANGER

To avoid injury from burns, allow the mower to cool before removing the fuel tank cap and refueling.

A. FILLING THE FUEL TANK

See Engine Owners Manual for machines equipped with .37 gallon tank.

Use clean, fresh unleaded gasoline with a minimum octane rating of 87 and a maximum of 10% Ethanol.

Fill to the bottom of the filler neck (approximately 1 gallon for machines equipped with 1 gallon fuel tank) at the beginning of each operating day. See Figure 7-2.

DO NOT over fill. The empty space in the fuel tank allows the fuel to expand. Overfilling the fuel tank may result in fuel leakage, damage to the engine and/or damage to the machine's emissions system.

DO NOT use E85 Fuel. Using E85 Fuel will cause severe damage to the engine.

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.

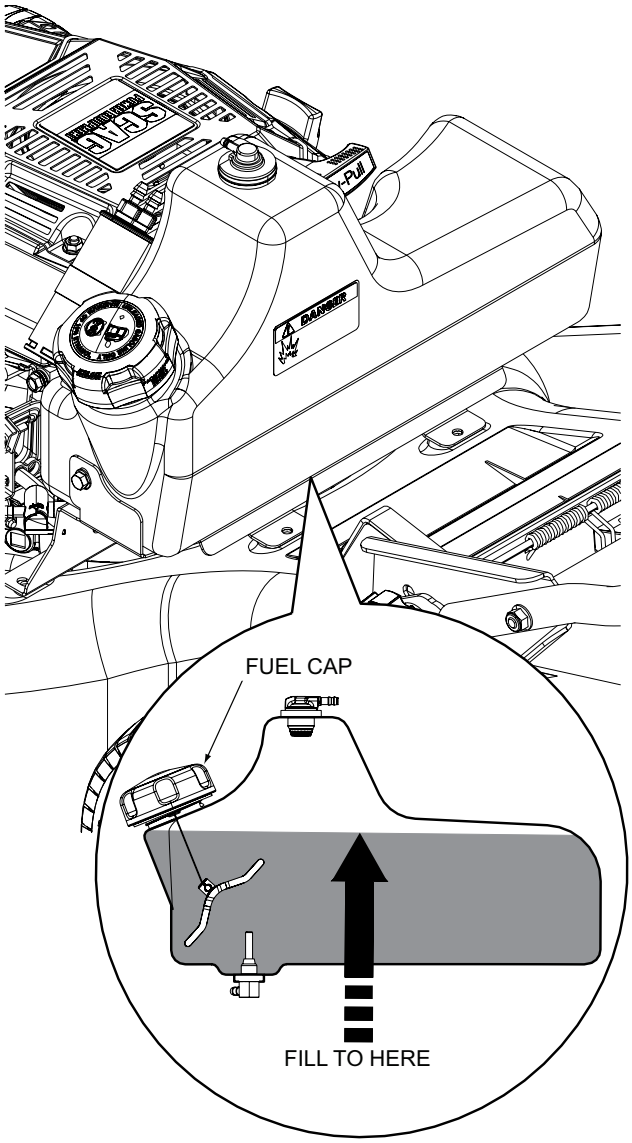


Figure 7-2. Fuel Tank Fill Level

1. Use only an approved gasoline container.
2. NEVER remove the gas cap or add fuel with the engine running. Allow the engine to completely cool before fueling.
3. NEVER fuel the machine indoors or in an enclosed trailer.
4. DO NOT start the engine until any spilled fuel has been cleaned up or has evaporated.
5. 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 appliances.
6. 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.
7. Remove the machine from the truck or trailer and fuel on level ground. If this is not possible, then refuel the machine with a portable container, rather than from a gasoline dispenser nozzle.
8. 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.
9. If fuel is spilled on clothing, change clothing immediately and wash affected skin.
10. NEVER over fill the fuel tank. Replace gas cap and tighten the fuel cap until it ratchets.

B. REPLACING IN-LINE FUEL FILTER ELEMENTS

The engine fuel filter should be replaced as recommended by the engine manufacturer. Refer to Engine Owner's Manual.

1. Close the shut-off valve. See Figure 7-3.
2. Remove and replace the engine fuel filter. Open the fuel shut-off valve.

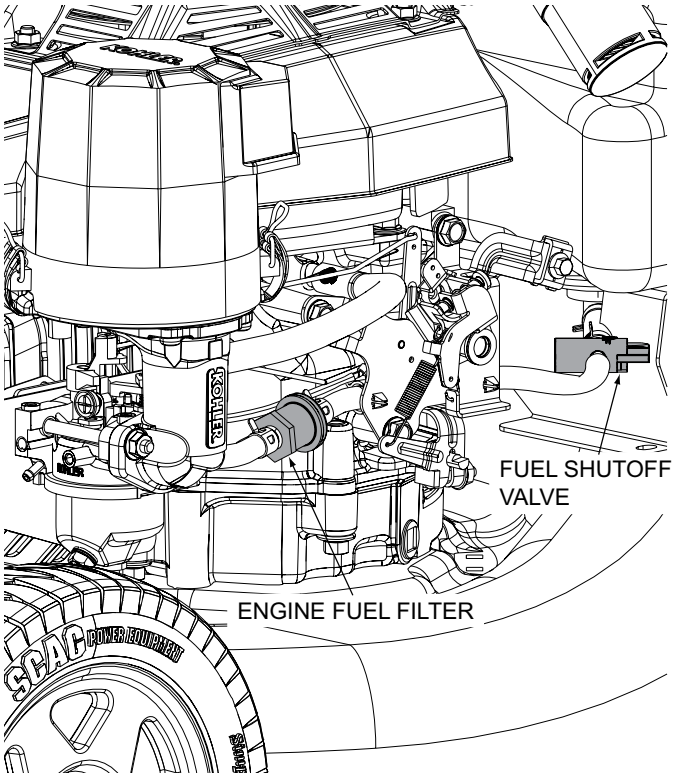


Figure 7-3. Fuel Filter

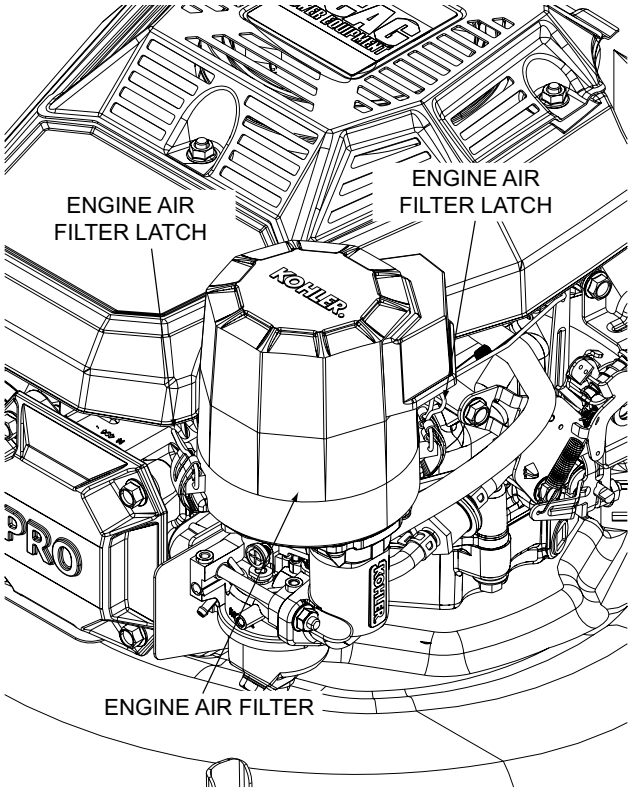


Figure 7-4. Engine Air Filter

7.4 ENGINE AIR CLEANER

A. CLEANING AND/OR REPLACING AIR CLEANER ELEMENT

For any air cleaner, the operating environment dictates the air cleaner service periods. Service and clean the air filter pre-cleaner after every 50 hours of operation. Replace the air cleaner element and pre-cleaner after every 300 hours or yearly, whichever comes first. Refer to Engine Owner's Manual.

- NOTE -

In extremely dusty conditions it may be necessary to check the element once or twice daily to prevent engine damage.

1. Lift up on the latch securing the air cleaner cover to the air cleaner assembly. See Figure 7-4.
2. Remove and inspect the air filter. Replace as recommended by the engine manufacturer. Refer to Engine Owner's Manual.
3. Replace the air cleaner cover and secure.

7.5 DRIVE BELT

The transmission drive belt has a fixed idler and should be adjusted after the first 2, 4, 8 and 10 hours of operation. The belt should be checked for proper alignment and wear. Thereafter, check the belts after every 40 hours of operation or weekly, whichever occurs first.

- NOTE -

If you experience frequent belt wear or breakage, see your authorized Scag service center for belt adjustment.

7.6 CUTTER BLADE

A. BLADE INSPECTION

1. Remove the spark plug wire before servicing the blade.
2. Raise the mower deck to the highest position.

⚠ WARNING

Mower blades are sharp. Always wrap blades, wear proper hand and eye protection when working with cutter blades.

3. Check the cutter blade for straightness. If the cutter blade appear bent, it will need to be replaced.
4. Check the cutter blade for wear. If any part of the cutter blade is worn to 1/2 its original thickness, replace the cutter blade.

⚠ WARNING

Do not attempt to straighten a bent blade, and never weld a broken or cracked blade. Always replace it with a new blade to assure safety.

5. If a blade cutting edge is dull or nicked, it should be sharpened. Remove the blades for sharpening. See "Blade Replacement."

- NOTE -

Keep the blades sharp. Cutting with dull blades not only yields a poor mowing job, but slows the cutting speed of the mower and causes extra wear on the engine and the blade drive by pulling hard.

B. BLADE SHARPENING

- NOTE -

If possible, use a file to sharpen the blade. Using a wheel grinder may burn the blade.

- NOTE -

DO NOT sharpen the blades beyond 1/3 of the width of the blade. See Figure 7-5.

1. Sharpen the cutting edge at the same bevel as the original. See Figure 7-5. Sharpen only the top of the cutting edge to maintain sharpness.

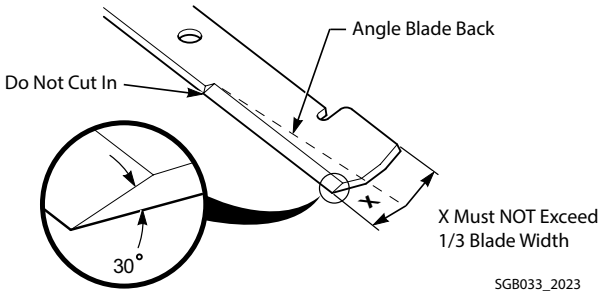


Figure 7-5. Blade Sharpening

2. Check the balance of the blade. If the blade is out of balance, vibration and premature wear can occur. The cutter blade should be balanced to 1-1/2 oz-in. See your Authorized Scag Power Equipment Dealer for blade balancing or special tools, if you choose to balance your own blades.

C. BLADE REPLACEMENT

⚠ WARNING

Mowers blades are sharp. Always wrap blades, wear proper hand and eye protection when working with cutter blades.

1. Shut the engine off and wait for all moving parts to stop.
2. Disconnect the spark plug wire from the spark plug.
3. Raise the mower deck to the highest position.
4. Secure the cutter blade to prevent it from rotating, remove the blade attaching bolts. Remove the cutter blade, bolts and flatwashers from the machine. See Figure 7-6.

⚠ CAUTION

Inspect the cutter blade washers for wear and/or cupping. Replace the worn parts. Worn washers will not allow proper tightening of the cutter blade and can lead to cutter blade failure, personal injury or property damage.

5. To install the new cutter blade, put the flatwashers onto the blade bolts, and install the bolts into the holes in the cutter blade.

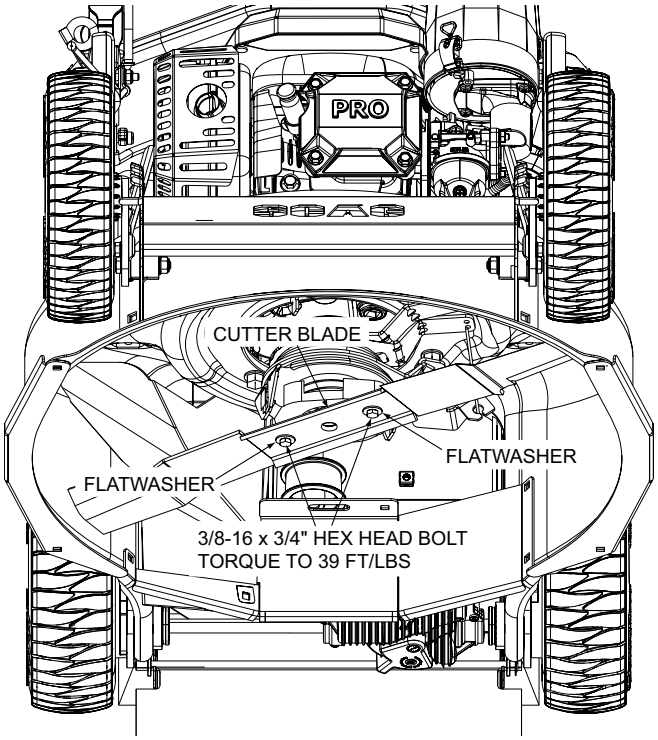


Figure 7-6. Blade Replacement

- NOTE -

Be sure that the blade is installed with the lift wing toward the top.

6. Install the cutter blade onto the the machine. Secure the blades from rotating and torque to 39 ft/lbs. See Figure 7-6.

7.7 WHEELS

The rear drive wheels should be removed and any debris cleaned from the wheel gear area after every 40 hours of operation or weekly, whichever comes first.

- NOTE -

In extremely dusty conditions it may be necessary to clean the wheels more frequently than recommended to prevent wheel damage and increase gear life.

To prevent damage to the wheel bearings, do not use high-pressure water to clean the wheels.

1. Remove the rear wheels and clean any debris from the wheel area.
2. After cleaning the wheels, apply a small amount of anti-seize lubricant to the gears.

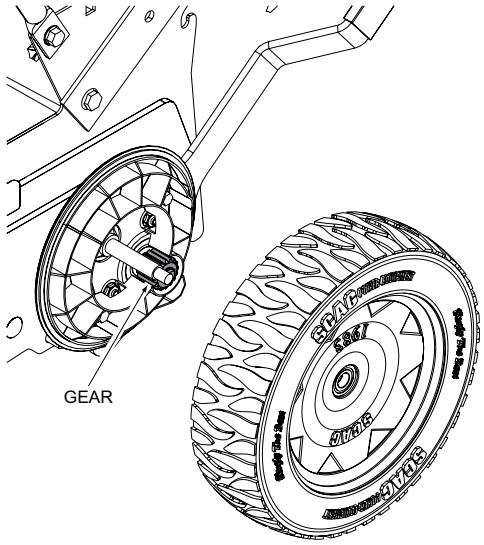


Figure 7-7. Rear Wheels

7.8 BODY AND DECK

⚠ CAUTION

Do not wash any portion of the equipment while it is hot. Do not wash the engine; use compressed air.

1. After each use, wash the mower and cutter deck. Use cold water and automotive cleaners. Do not use pressure cleaners.
2. Do not spray cold water on the engine, clutch or electrical components.
3. Repair damaged metal surfaces using Scag touch-up paint available from your Authorized Scag Power Equipment Dealer. Wax the mower for maximum paint protection.

ILLUSTRATED PARTS LIST

8.9 SCAG APPROVED ATTACHMENTS AND ACCESSORIES

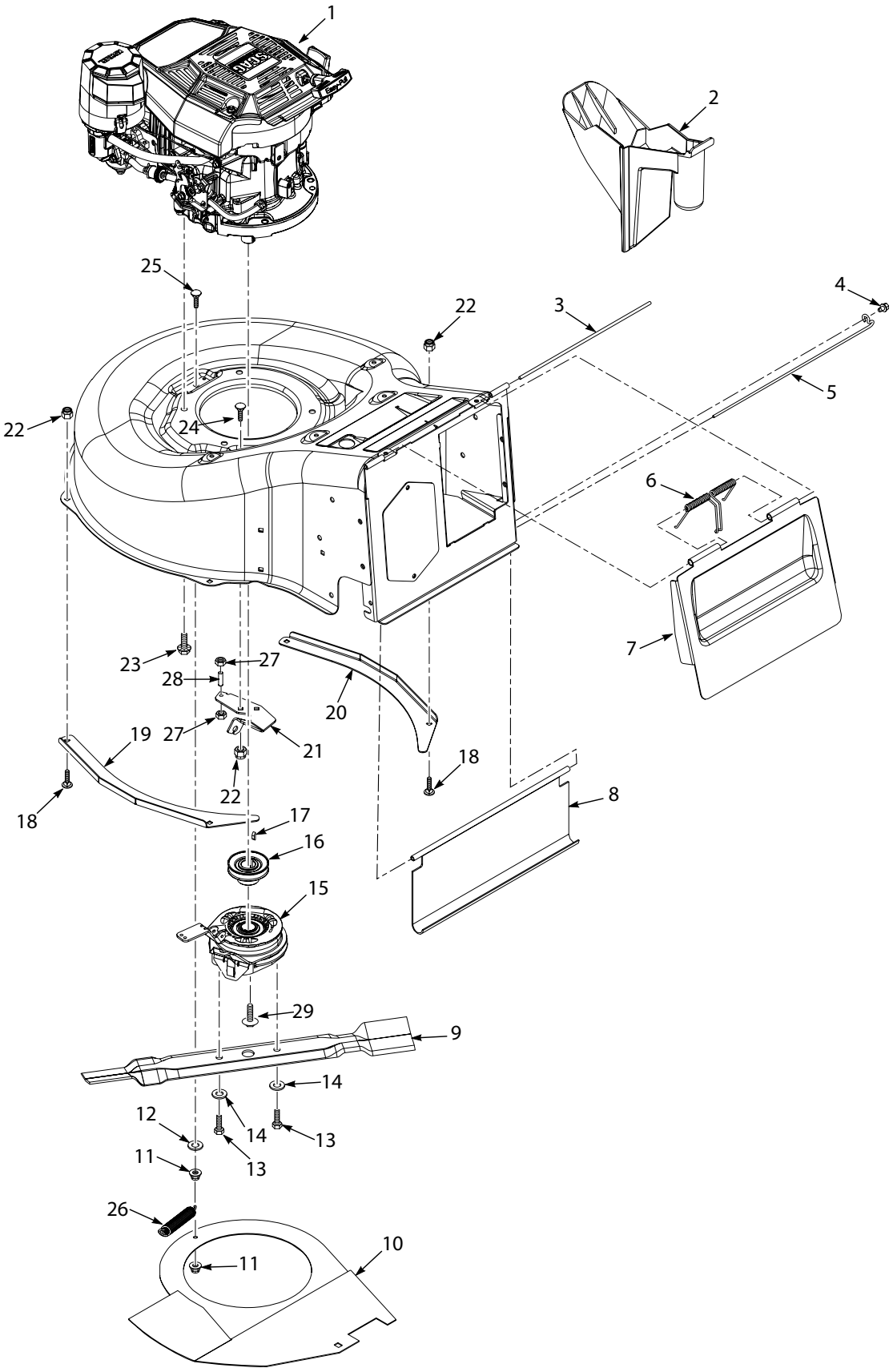
Attachments and accessories manufactured by companies other than Scag Power Equipment are not approved for use on this machine.

Scag approved attachments and accessories:

Accessories	P/N
Side Discharge Chute	926AV

NOTES

CUTTER DECK

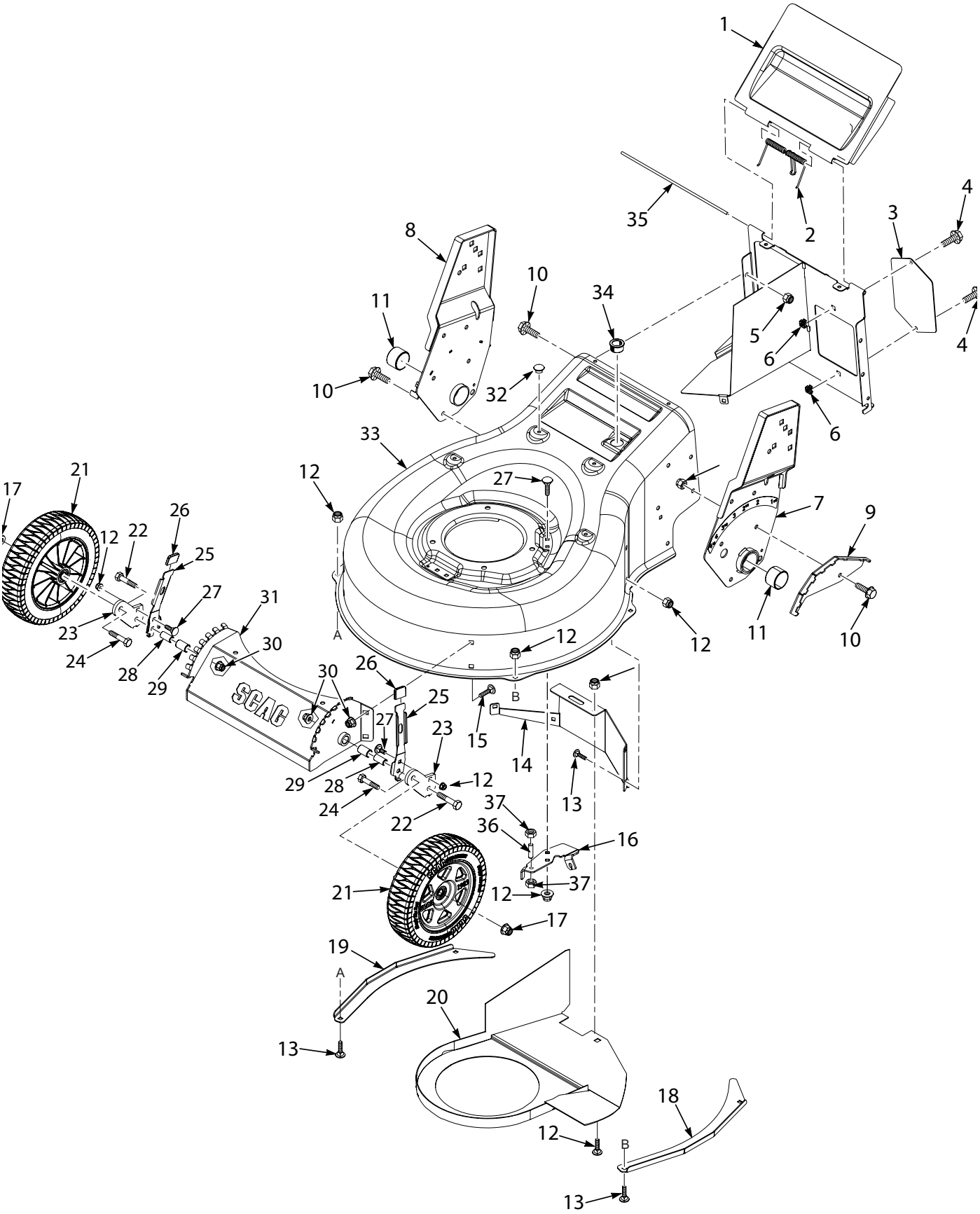

1
2
25
22
3
4
5
22
24
6
7
23
27
28
20
19
27
21
22
18
18
8
17
16
15
29
9
14
12
14
13
11
13
26
10
11

CUTTER DECK

Ref. No.	Part No.	Description
1	*487347	Engine, GXV-160
	*487348	Engine, 5CV
	*487393	Engine, 7CV
2	487344	Plug, Mulch
3	429163	Pin, Pivot
4	04011-29	Screw, 1/4-20 x 3/8"
5	44253	Rod, Support Spring
6	487414	Spring, Rear Cover
7	463514	Cover, Rear
8	487302	Trail Shield
9	487214	Cutter Blade, 21"
10	487517	Belt, Cover
11	04117-03	Nut, 1/4-20 Flange Elastic Stop
12	04040-15	Flatwasher, 5/16-.375 x .875 x 1.250
13	04001-229	Bolt, Hex Head 3/8-16 x 1"
14	04043-04	Flatwasher, 3/8-.391 x .938 x .105
15	487184	Clutch, BBC
16	487351	Pulley, Transmission
17	04063-43	Key, 3/16 x 3/16 x .313
18	04003-07	Bolt, Carriage 1/4-20 x 1/2"
19	429128	Guard, LH
20	429129	Guard, RH
21	463525	Anti-Rotation Assembly
	429043	Anti-Rotation Bracket
22	04117-03	Nut, 1/4-20 Flange Elastic Stop
23	04011-22	Screw, 3/8-19 x 1" Self Tapping
24	04003-02	Bolt, Carriage 1/4-20 x 3/4"
25	04003-09	Bolt, Carriage 1/4-20 x 1-1/4"
26	487296	Spring, Brake
27	04020-41	Nut, 7/16-14 Jam
28	431194	Pin, Anti-Rotation
29	487184-02	Bolt, Clutch

* Available through individual engine manufacturer.

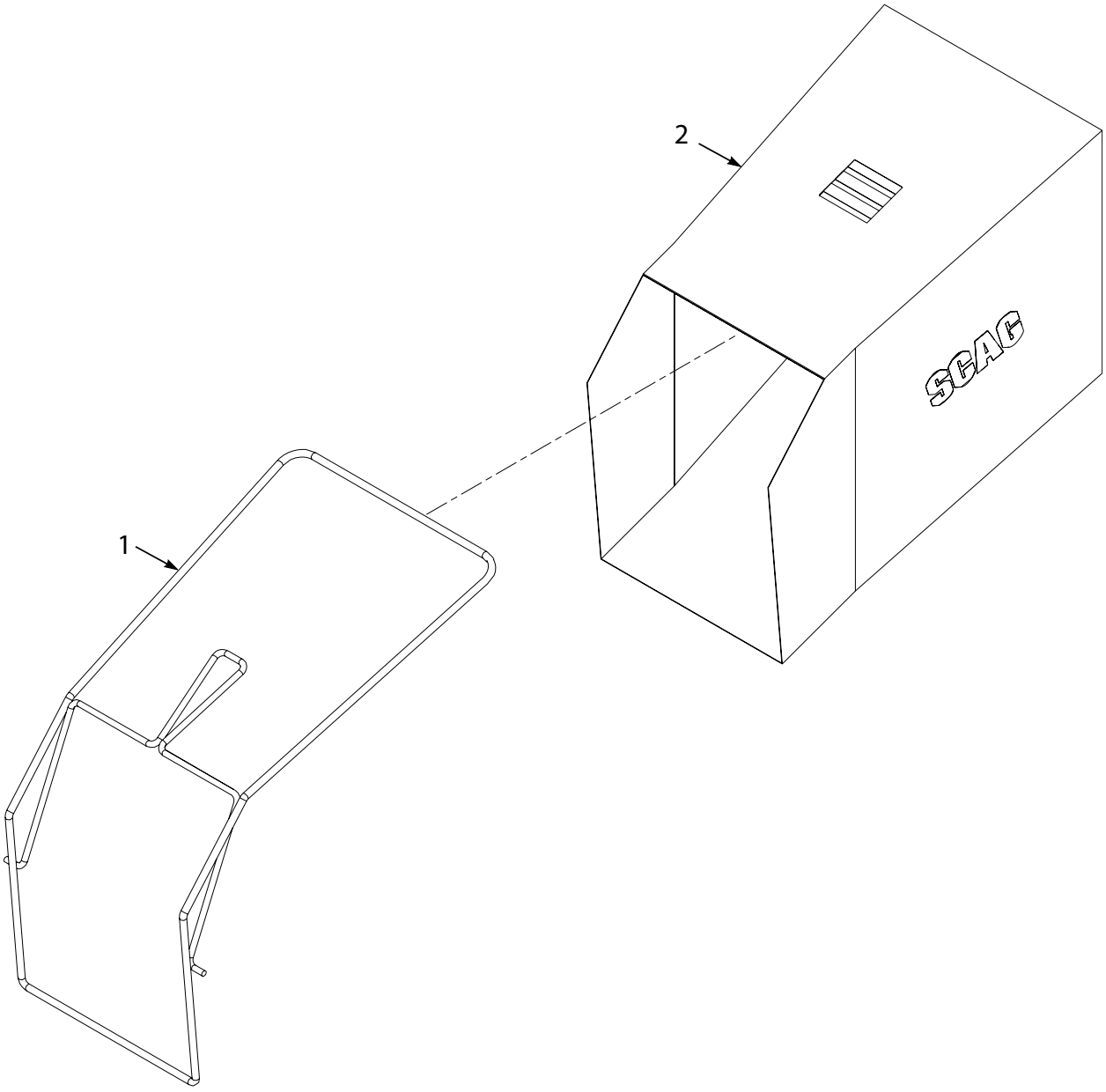
SHEET METAL COMPONENTS



SHEET METAL COMPONENTS

Ref. No.	Part No.	Description
1	463514	Cover, Rear
2	487414	Spring, Rear Cover
3	429083	Panel, Access
4	04017-04	Bolt, Hex Head Serrated Flange 1/4-20 x 1/2"
5	04019-03	Nut, 5/16-18 Serrated Flange
6	04138-01	Nut, 1/4-20 Cage
7	463502	Support Bracket, LH
8	463503	Support Bracket, RH
9	429193	Height Bracket, LH
	429194	Height Bracket, RH
10	04017-16	Bolt, Hex Head Serrated Flange 5/16-18 x 3/4"
11	483453-31	Bearing
12	04117-03	Nut, 1/4-20 Flange Elastic Stop
13	04003-07	Bolt, Carriage 1/4-20 x 1/2"
14	429065	Baffle, Rear
15	04003-12	Bolt, Carriage 5/16-18 x 3/4"
16	463525	Anti-RotationAssembly
	429043	Anti-Rotation Bracket
17	04117-02	Nut, 3/8-16 Flange Elastic Stop
18	429128	Guard, LH
19	429129	Guard, RH
20	487517	Belt Cover
21	487073	Wheel Assembly, Front
22	04001-12	Bolt, Hex Head 5/16-18 x 1-3/4"
23	428914	Wheel Bracket, Front
24	04001-22	Bolt, Hex Head 3/8-16 x 2-3/4"
25	463508	Height Lever w/grip, Front
26	487442	Grip, Deck Height
27	04003-02	Bolt, Carriage 1/4-20 x 3/4"
28	43866	Sleeve, Pivot
29	483453-22	Bearing
30	04117-01	Nut, 5/16-18 Flange Elastic Stop
31	463501	Support, Front w/ Bearings
32	457497	Plug, Plastic (machines equiped with .37 gal. fuel tank only)
33	463513	Deck Shell
34	486019	Bushing
35	429163	Pin, Pivot
36	431194	Pin, Anti-Rotation
37	04020-41	Nut, 7/16-14 Jam

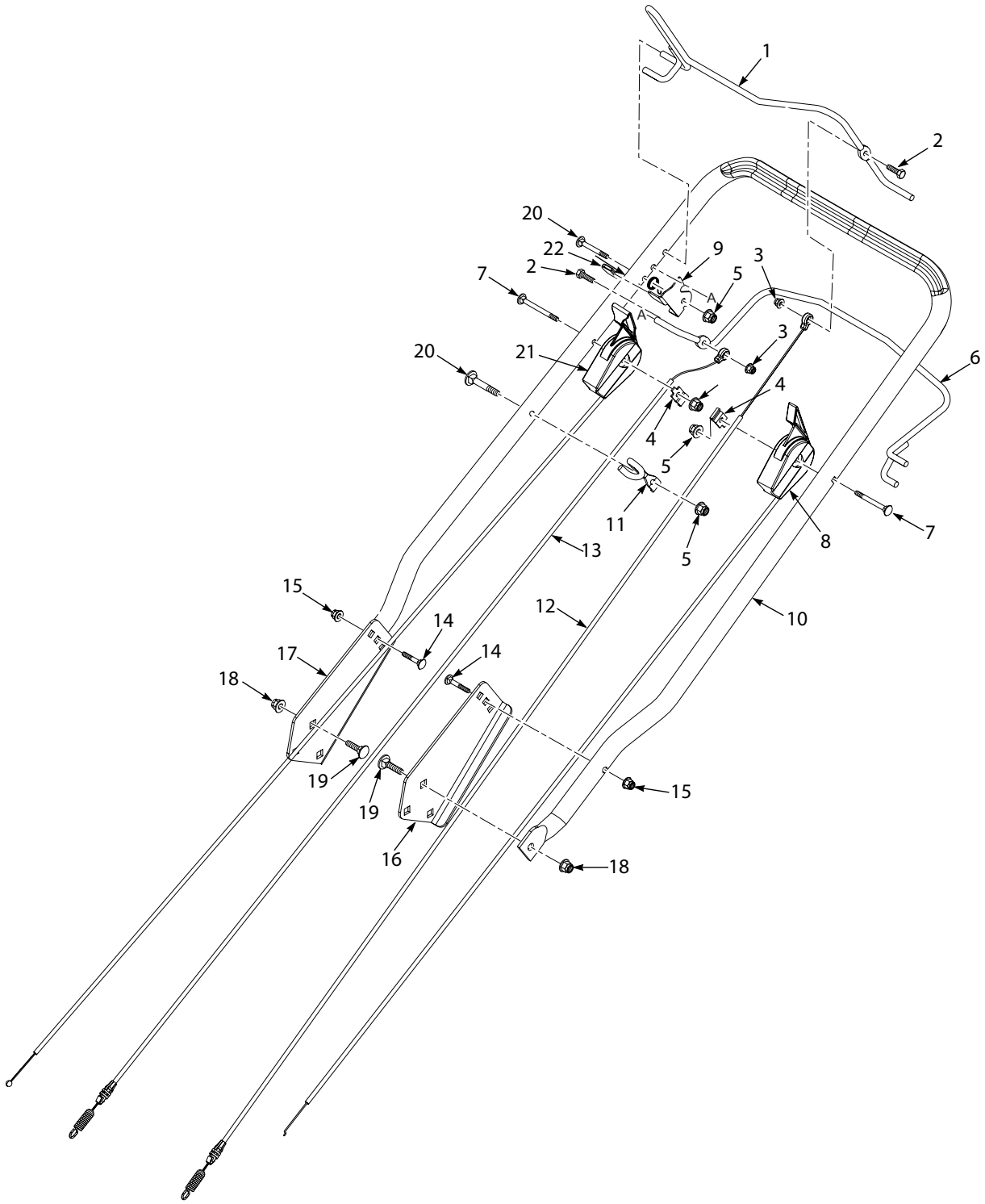
BAG ASSEMBLY



BAG ASSEMBLY

Ref. No.	Part No.	Description
1	453347	Bag Frame Weldment
2	487326	Bag, GC

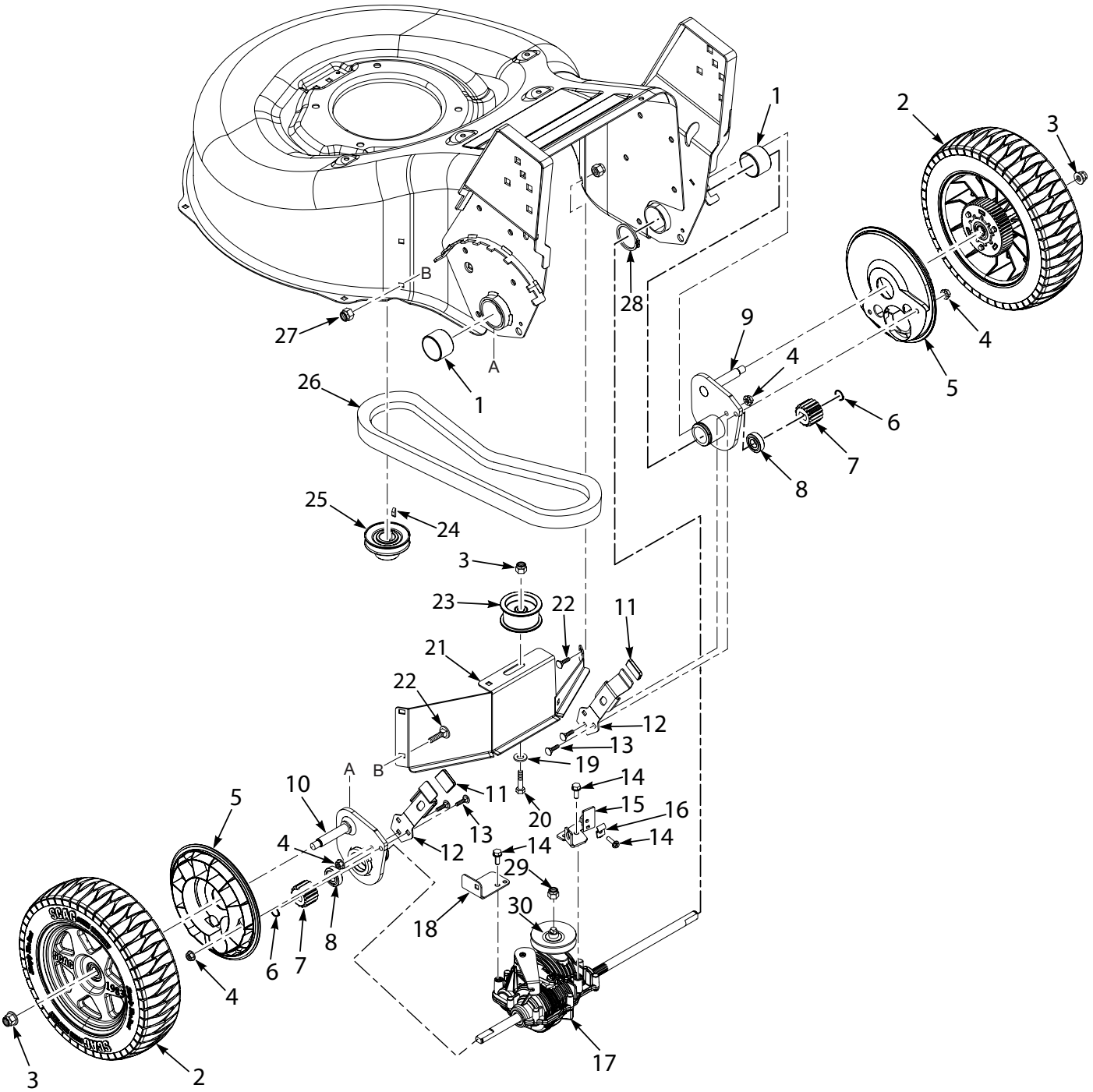
HANDLE BAR COMPONENTS



HANDLE BAR COMPONENTS

Ref. No.	Part No.	Description
1	453387	Top Bail Weldment
2	04009-12	Bolt, Shoulder 5/16 x .375 HD
3	04021-02	Nut, 1/4-20 Center Lock
4	429122	Clamp, Cable
5	04117-03	Nut, 1/4-20 Flange Elastic Stop
6	453388	Bottom Bail Weldment
7	04003-51	Bolt, Carriage 1/4-20 x 2"
8	487316	Cable, Throttle
9	429149	Latch, PTO
10	487263	Handle
11	44201	Guide, Pull Rope
12	487313	Cable, Clutch
13	487314	Cable, Drive
14	04003-15	Bolt, Carriage 5/16-18 x 1-3/4"
15	04117-01	Nut, 5/16-18 Flange Elastic Stop
16	429037	Handle Support Bracket, LH
17	429084	Handle Support Bracket, RH
18	04117-02	Nut, 3/8-16 Flange Elastic Stop
19	04003-23	Bolt, Carriage 3/8-15 x 1"
20	04003-56	Bolt, Carriage 1/4-20 x 1-3/4"
21	487315	Cable, Speed Select
22	487155	Grip, PTO Latch

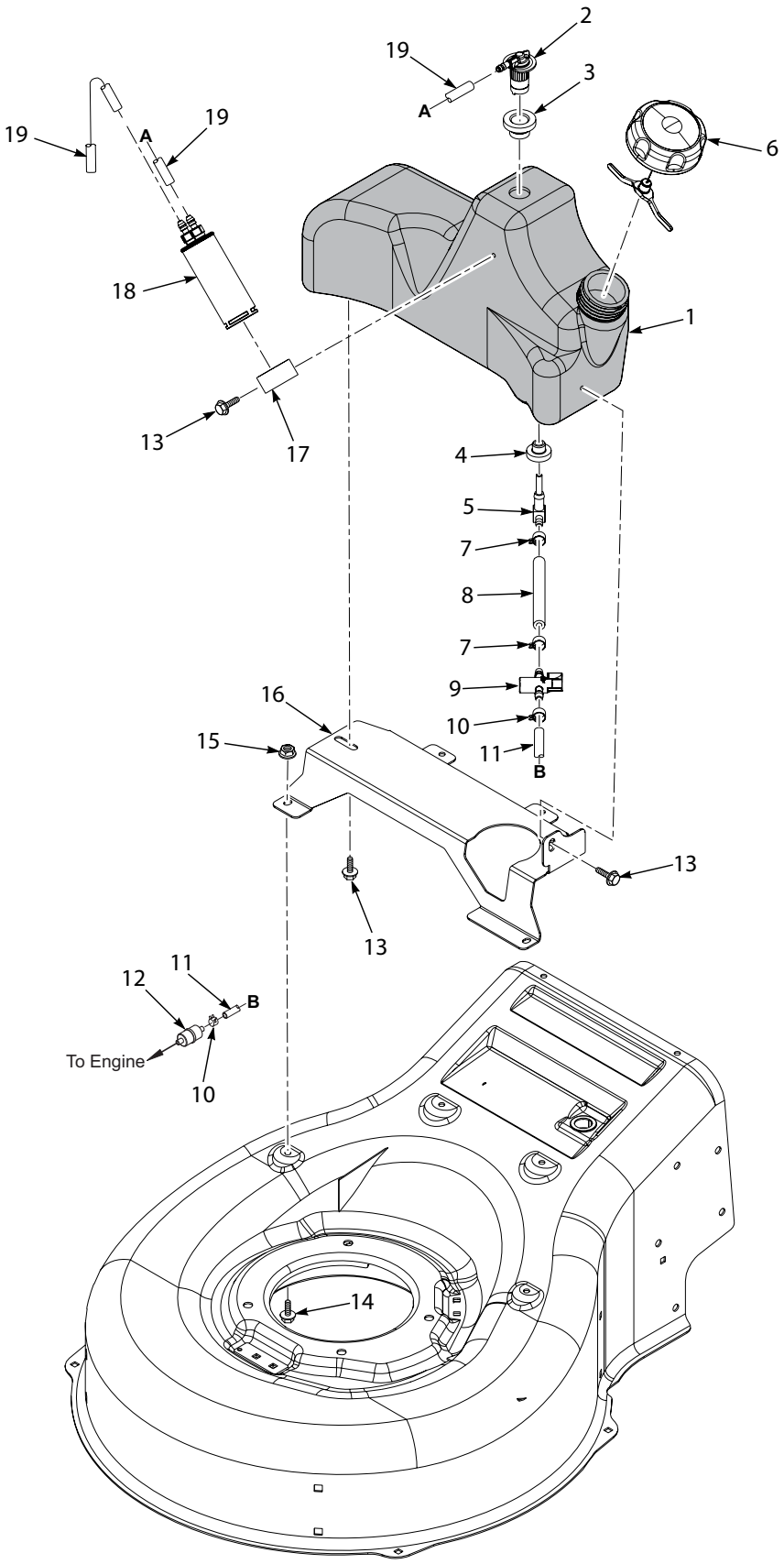
REAR DRIVE SYSTEM COMPONENTS



REAR DRIVE SYSTEM COMPONENTS

Ref. No.	Part No.	Description
1	483453-31	Bearing
2	487070	Wheel Assembly, Rear
3	04117-02	Nut, 3/8-16 Flange Elastic Stop
4	04117-03	Nut, 1/4-20 Flange Elastic Stop
5	486923	Cover, Wheel Gearing
6	04050-20	Retaining Ring, 1/2" Ext. HD
7	486719	Gear, Pinion
8	486765	Bearing (x2)
9	453367	Wheel Axle Mount, RH
10	453366	Wheel Axle Mount, LH
11	487442	Grip, Deck Height
12	428927	Adjust Lever, Rear
13	04003-02	Bolt, Carriage 1/4-20 x 3/4"
14	04128-01	Screw, Self Tapping M6-1.00 x 16
15	453389	Mount, Cable Weldment
16	429122	Clamp, Cable
17	487152	Transmission
18	429998	Bracket, Transmission Mount
19	04040-05	Flatwasher, 3/8-.406 x .812 x .065
20	04001-12	Bolt, Hex Head 1/4-20 x 3/4"
21	429065	Baffle, Rear
22	04003-07	Bolt, Carriage 1/4-20 x 1/2"
23	487341	Pulley, 2.0 Idler
24	04063-43	Key, 3/16 x 3/16 x .313
25	487351	Pulley, Transmission
26	487342	Belt, Transmission
27	04112-03	Nut, Spiralock 3/8-16
28	04050-21	Retaining Ring, 1-3/8" Ext. HD
29	04019-04	Nut, Hex Head Flange 1/4 - 20
30	487152-01	Pulley

FUEL SYSTEM (Machines with 7CV Engine)

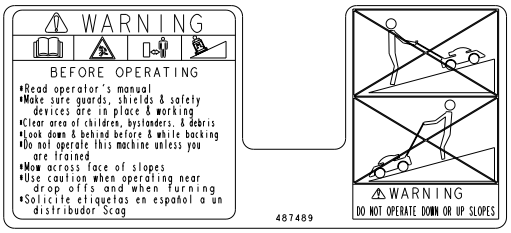


FUEL SYSTEM (Machines with 7CV Engine)

Ref. No.	Part No.	Description
1	463366	Fuel Tank Assembly w/Decal (incl. #2, #3, #4, #5)
2	486939	Valve
3	486940	Grommet, Valve
4	482571	Bushing, .56 Viton
5	483748	Elbow w/ Screen, 90 Degree
6	486967	Cap, Fuel Tank
7	48059-01	Clamp, Fuel Hose 1/4" ID
8	483617	Fuel Hose, Non-Perm 1/4" (order by inch)
9	486938	Valve, Fuel Shutoff
10	*	Clamp
11	*	Fuel Hose
12	*	Fuel Filter
13	04017-04	Bolt, Hex Head Serrated Flange 1/4-20 x 1/2"
14	04003-07	Bolt, Carriage 1/4-20 x 1/2"
15	04117-03	Nut, 1/4-20 Flange Elastic Stop
16	428991	Bracket, Fuel Tank Mounting
17	48030-26	Clamp, 1-1/2" Cable
18	486925	Canister, Carbon 1.28 Gal.
19	484345	Hose, Vapor 3/16 (order by inch)"

* Available through individual engine manufacturer.

REPLACEMENT DECALS AND INFORMATION PLATES



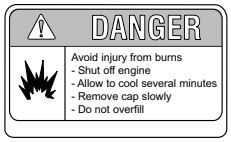
1



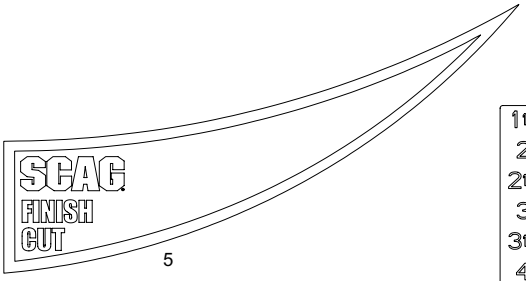
2



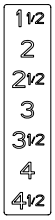
3



4



5

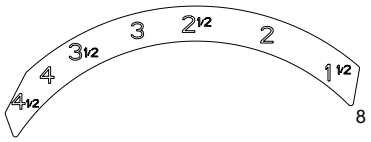


6

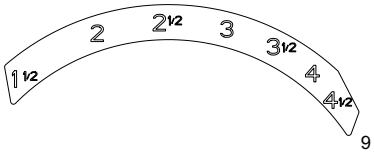


7

Lorem ipsum



8



9

REPLACEMENT DECALS AND INFORMATION PLATES

Ref. No.	Part No.	Description
1	487489	Decal, Warning - SFC21
2	484803	Decal, Danger - Cut Finger
3	485403	Decal, Metalcraft - USA
4	485667	Decal, Fuel Tank
5	487402	Decal, SFC-21
6	487416	Decal, Cut Height - Front
7	487406	Decal, 21 Commercial Grade
8	487417	Decal, Cut Height - Rear, LH
9	487418	Decal, Cut Height - Rear, RH

LIMITED WARRANTY - SFC Commercial 21

Any part of the Scag commercial mower manufactured by Scag Power Equipment and found, in the reasonable judgment of Scag, to be defective in materials or workmanship, will be repaired or replaced by an Authorized Scag Service Dealer without charge for parts and labor during the periods specified below. This warranty is limited to the original purchaser provided the product was purchased from an Authorized Scag Power Equipment Dealer and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.

This warranty is limited to the following specified periods from the date of the original retail purchase for defects in materials or workmanship:

- Wear items including drive belts, grass bag, blades, and wheels are warranted for ninety (90) days.
- Frame and structural components are warranted for one (1) year (parts and labor) for commercial use or three (3) years (parts and labor) for non-commercial use.
- Cutter deck is warranted for a period of one (1) year (parts and labor) for commercial use or three (3) years (parts and labor) for non-commercial use The repair or replacement of the cutter deck will be at the option of Scag Power Equipment. We reserve the right to request components for evaluation. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, modification or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Engines are covered by the engine manufacturer's warranty period. Refer to the engine owner's manual supplied with this product.
- Major drive system components are warranted for one (1) year (parts and labor) for commercial use or three (3) years (parts and labor) for non-commercial use by Scag Power Equipment. (commercial and non-commercial warranty excludes fittings, hoses, drive belts). The repair or replacement of the transmission will be at the option of Scag Power Equipment. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Blade clutch has a Limited Warranty for one (1) year (parts and labor) for commercial use or three (3) years (parts and labor) for non-commercial use.
- Spindle assemblies have a Limited Warranty for one (1) year (parts and labor) for commercial use or three (3) years (parts and labor) for non-commercial use.
- Any Scag product used for rental purposes is covered by a 90 day warranty.

The Scag mower, including any defective part must be returned to an Authorized Scag Service Dealer within the warranty period. The expense of delivering the mower to the dealer for warranty work and the expense of returning it to the owner after repair will be paid for by the owner. Scag's responsibility is limited to making the required repairs and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any Scag mower. "Non-Commercial" use is defined as a single property owner, where the single property is the residence of the owner of the mower. If the mower is cutting more than the owners single property, it is deemed commercial use and the "non-commercial" warranty does not apply. Scag Power Equipment reserves the right to deny and / or void the non-commercial warranty if it believes it to be in commercial use.

This warranty does not cover any mower that has been subject to misuse, neglect, modification, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual. The warranty does not apply to any damage to the mower that is the result of improper maintenance, or to any mower or parts that have not been assembled or installed as specified in the Operator's Manual and Assembly Manual. The warranty does not cover any mower that has been altered or modified, changing performance or durability. In addition, the warranty does not extend to repairs made necessary by normal wear, or by the use of parts or accessories which, in the reasonable judgment of Scag, are either incompatible with the Scag mower or adversely affect its operation, performance or durability.

Scag Power Equipment reserves the right to change or improve the design of any mower without assuming any obligation to modify any mower previously manufactured. All other implied warranties are limited in duration to the one (1) year for commercial use, three (3) years for non-commercial use or ninety (90) days for mowers used for rental purpose. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the appropriate one year, three year or ninety day warranty period. Scag's obligation under this warranty is strictly and exclusively limited to the repair or replacement of defective parts and Scag does not assume or authorize anyone to assume for them any other obligation. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

Scag assumes no responsibility for incidental, consequential or other damages including, but not limited to, expense for gasoline, expense of delivering the mower to an Authorized Scag Service Dealer and expense of returning it to the owner, mechanic's travel time, telephone or telegram charges, rental of a like product during the time warranty repairs are being performed, travel, loss or damage to personal property, loss of revenue, loss of use of the mower, loss of time or inconvenience. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

© 2023
Scag Power Equipment
Division of Metalcraft of Mayville, Inc.