

OPERATOR'S MANUAL

Turf Tiger Propane

STT52V-25CH-LP

STT61V-25CH-LP

Model:

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.

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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.
- DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution.
- Under no circumstances should the machine be operated on slopes greater than 15 degrees. ALWAYS FOLLOW OSHA APPROVED OPERATION.
- Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
- 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 and ignition key.
- If a mechanism becomes clogged, stop the engine before cleaning.
- Keep hands, feet and clothing away from power-driven parts.
- 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:			
STT52V-25CH-LP with a serial number of F5300001 to F5399999			
STT61V-25CH-LP with a serial number of F5500001 to F5599999			
Always use the entire serial number listed on the serial number tag when referring to this product.			

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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 Scag Power Equipment Dealer.

We encourage you to contact your 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.

- IMPORTANT -

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 between the seat and the controls where shown in Figure 1-1.

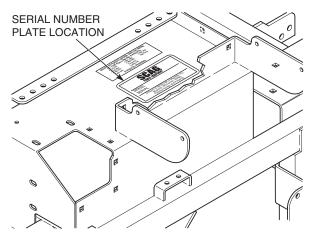


Figure 1-1. Mower Serial Number Plate Location

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.

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 seated 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, hydraulic pumps 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 Scag 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.

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1.4 SYMBOLS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
	Choke	O	Transmission
	Parking Brake	450718	Spinning Blade
	On/Start		Spring Tension on Idler
Ο	Off/Stop	\Diamond	Oil
	Falling Hazard	Ż	Thrown Object Hazard
*	Fast		Slow
	Continuously Variable - Linear		Cutting Element - Basic Symbol
4810395	Pinch Point		Cutting Element - Engage
	Hour meter/Elapsed Operating Hours		Cutting Element - Disengage
	Thrown Object Hazard 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.

READ THIS OPERATOR'S MANUAL BEFORE ATTEMPTING TO START YOUR MOWER.

A replacement manual is available from your authorized Scag Service 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.

A 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.

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

WARNING

Check all hydraulic connections for tightness. Inspect all hydraulic hoses and / or lines to insure they are in good condition before operating.

- 1. NEVER allow children to operate this riding 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.

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- 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.
- 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. Wearing safety glasses, safety shoes and a helmet is advisable and is required by some local ordinances and insurance regulations.

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

 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.

WARNING

This machine is equipped with an interlock system intended to protect the operator and others from injury. This is accomplished by preventing the engine from starting unless the deck drive is disengaged, the parking brake is on, the steering control levers are in the neutral position and the operator is in the seat. The system shuts off the engine if the operator leaves the seat with the deck drive engaged and/or the steering control levers are not in the neutral position and the parking brake is not engaged. Never operate equipment with the interlock system disconnected or malfunctioning.

- 10. Be sure the interlock switches are functioning correctly.
- 11. Fuel is flammable; handle it with care. Fill the LP tank outdoors. Never fill it indoors. Clean up any spillage before starting the engine.
- 12. Keep flammable objects (cigarettes, matches, etc.), open flames and sparks away from the LP tank.
- 13. Equipment must comply with the latest requirements per SAE J137 and/or ANSI/ASAE S279 when driven on public roads.

- NOTE -

If the mower is driven on public roads, it must comply with state and local ordinances as well as SAE J137 and/or ANSI / ASAE S279 requirements. Contact your local authorities for regulations and equipment requirements.

- 14. Do not operate without the side discharge chute installed and in the down position or with an optional grass catcher or mulch plate completely installed.
- 15. Check the blade mounting bolts at frequent intervals for proper tightness.
- 16. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before starting the machine.

2.4 OPERATION CONSIDERATIONS

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

A WARNING

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-4, Page 7 to determine approximate slope of area to be mowed. ALWAYS FOLLOW OSHA APPROVED OPERATION.

 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. Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
- 4. To prevent tipping or loss of control, start and stop smoothly, avoid unnecessary turns and travel at reduced speed.
- 5. When using any attachment, never direct the discharge of material toward bystanders or allow anyone near the machine while in operation.
- 6. Before attempting to start the engine, with the operator in the seat, disengage power to the cutter deck, place the steering control levers in the neutral position and engage the parking brake.
- 7. If the mower discharge ever plugs, shut off the engine, remove the ignition key, and wait for all movement to stop before removing the obstruction.

A 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 blades have stopped turning.

- Be alert for holes, rocks, roots and other hidden hazards in the terrain. Keep away from any dropoffs. Beware of overhead obstructions (low limbs, etc.), underground obstacles (sprinklers, pipes, tree roots, etc.). Cautiously enter a new area. Be alert for hidden hazards.
- 9. 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.
- 10. DO NOT turn sharply. Use care when backing up.
- 11. Disengage power to cutter deck before crossing roads, walks or gravel drives.
- 12. Mow only in daylight or good artificial light.
- 13. NEVER raise the deck with the blades engaged.
- 14. Take all possible precautions when leaving the machine unattended, such as disengaging the mower, lowering the attachments, setting the parking brake, stopping the engine, and removing the key.

- 15. Disengage power to the attachments when transporting or when not in use.
- 16. 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.

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.

- 17. Keep hands and feet away from cutter blades and moving parts. Contact can injure.
- 18. Transport the mower using a heavy duty trailer or truck. Insure 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.
- 19. Be cautious when loading and unloading onto trailers or trucks. Use only a full width ramp. Ramp angle should be no more than 15 degrees. Back up the ramp and drive down forward.
- 20. When transporting the mower, make sure the park brake is engaged, the steering control levers are in the neutral position, the engine is off with the key removed, and the wheels have been blocked.
- 21. Tie the mower down securely using straps, chains, cable, or ropes. Both front and rear straps must be directed down and outward from machine.
- 22. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- 23. NEVER leave the machine running unattended.

2.5 ROLL-OVER PROTECTION SYSTEM

Keep the roll bar in the raised and locked position and the seat belt securely fastened during operation. Failure to do so could cause serious injury or loss of life.

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. Do not mow on wet grass. Wet grass reduces traction and steering control.

Any or all parts of the Roll-Over Protection System MUST NOT be removed. Failure to adhere to this guideline could result in injury or death.

WARNING

There is no roll-over protection when the roll bar is in the down position.

Lower the roll bar only when absolutely necessary.

Raise the roll bar as soon as clearance permits.

DO NOT wear the seat belt when the roll bar is in the down position.

ALWAYS wear seat belt when roll bar is in the up position.

Operate the machine smoothly, no sudden turns, starts or stops.

Check the area carefully before mowing for proper overhead clearance (i.e. branches, doorways, etc.).

DO NOT contact any overhead object with the roll bar.

Lower the roll bar only when absolutely necessary.

- 1. To lower the roll bar, loosen the tension knob on both the left hand and right hand bar. See Figure 2-1.
- 2. Remove the hairpin cotter pins and remove the two (2) lock pins. See Figure 2-2.
- 3. Lower the roll bar to the down position.
- 4. To raise the roll bar, lift the bar to the upright position.
- 5. Install the two (2) lock pins through the hole, secure with the two (2) hairpin cotter pins and tighten the tension knobs. See Figure 2-2. Remove the seat belt from the retainer brackets.

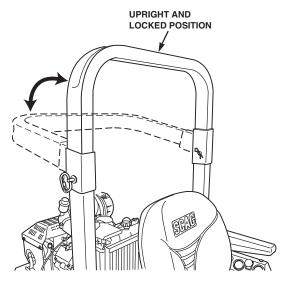


Figure 2-1. Foldable Roll-Over Protection System

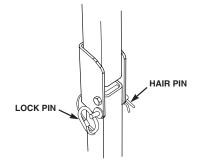


Figure 2-2. ROPS Hinge



The potential exposure of the seat belt to severe environmental conditions make it crucial to inspect the seat belt system regularly.

It is recommended that the seat belt be inspected on a daily basis for signs of damage. Any seat belt system that shows cuts, fraying, extreme or unusual wear, significant discoloration due to UV exposure, dirt or stiffness, abrasion to the seat belt webbing, or damage to the buckle, latch plate, hardware or any other obvious problem should be replaced immediately.

A WARNING

Failure to properly inspect and maintain the seat belt can cause serious injury or loss of life.

- 1. Check the full length of the seat belt webbing for cuts, wear, fraying, dirt and stiffness. See Figure 2-3.
- 2. Check the seat belt webbing in areas exposed to ultra violet rays from the sun or extreme dust or dirt. If the original color of the webbing in these areas is extremely faded and/or is packed with dirt, the physical strength of this webbing may have deteriorated. If this condition exists, replace the seat belt system.
- Check the buckle and latch for proper operation and determine if the latch plate is excessively worn, deformed, or if the buckle is damaged or cracked. See Figure 2-3.

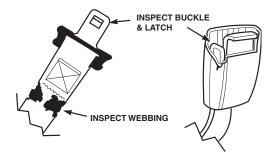


Figure 2-3. Seat Belt Inspection

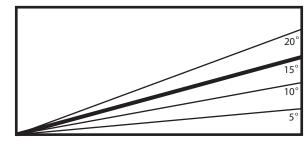


Figure 2-4.

Reduce speed when turning, operating on slopes, slick or wet surfaces. Allow extra distance to stop.

Stay off of slopes too steep for safe operation. To check a slope, attempt to back up it (with the cutter deck down). If the machine can not back up the slope without the wheels slipping, do not operate the machine on this slope. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-4 to determine approximate slope.

DO NOT mow near drop-offs, ditches or embankments. The machine could suddenly roll over if a wheel goes over the edge or if the edge caves in.

Operate the machine smoothly, no sudden turns, starts or stops on a slope.

NEVER tow on slopes. The weight of the towed equipment may cause loss of traction and loss of control.

DO NOT permit untrained personnel to operate the machine.

Be cautious when loading and unloading onto trailers or trucks.

Use only a full width ramp.

Ramp angle should be no more than 15 Degrees. See Figure 2-4 to help determine approximate slope.

Back up the ramp and drive down forward.

2.6 MAINTENANCE CONSIDERATIONS & 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.
- Disengage drives, lower implement, set parking brake, stop engine and remove key or disconnect 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. Disconnect battery or remove spark plug wire before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect the positive first and the negative last.
- 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 and engage the parking brake.
- 8. NEVER allow untrained personnel to service the machine.
- Use care when checking blades. Use a Blade Buddy, 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.

Hydraulic fluid is under high pressure and can penetrate skin causing injury. If hydraulic fluid is injected into the skin, it must be surgically removed within a few hours by a doctor or gangrene may result.

Keep body and hands away from pinholes or nozzles that eject hydraulic fluid under high pressure.Use paper or cardboard and not hands to search for leaks.

Safely relieve all pressure from the hydraulic system by placing the control levers in the neutral lock position and shutting off the engine before performing any work on the hydraulic system.

If you need service on your hydraulic system, please see your authorized Scag dealer.

- 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.
- 17. Charge batteries in an open, well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.

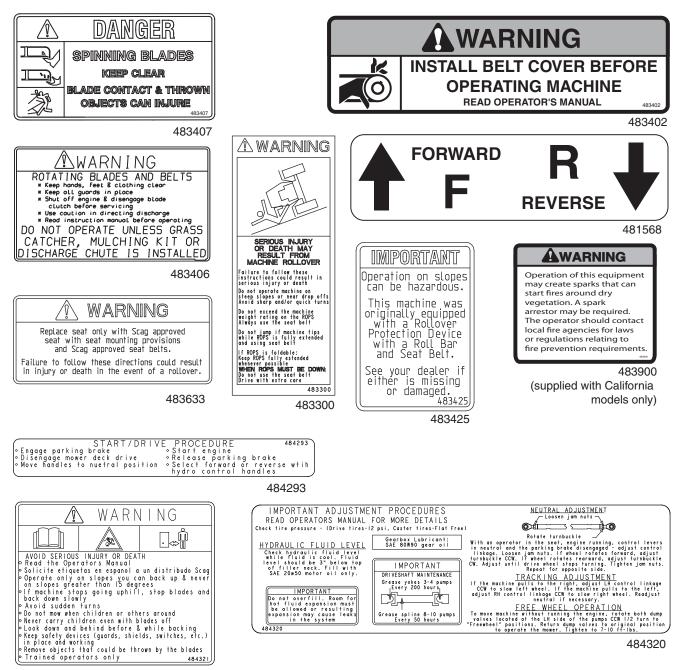
2.7 USING A SPARK ARRESTOR

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



484321

SPECIFICATIONS

3.1 ENGINE

Brand Model	Heavy Duty Industrial/Commercial LP. Kohler [Spec. #PS-CH730-0220] Kohler CH730
Horsepower	
Туре	
Displacement	
Cylinders	
Governor	Mechanical Type with Variable Speed Control Set At 3600 RPM
Idle Speed	
Fuel Injection	Injection Pump Bosch MD Mini Type
Fuel	Commercial Propane
Oil Pump Group	Positive Displacement Gerotor™ Oil Pump with Oil Filter
	Electric Starting with Solenoid Shift Starter
Belts	Kevlar cord. Self-adjusting, Self-tightening
Deck Drive Belt	
	Scag Part Number - 483086

3.2 ELECTRICAL

Battery 12 Volt, Maintenand	ce Free
Charging System Alt	
Charging Output	
System PolarityNegative (Ground
Starter	iterlock
Switches	j Brake
Instrument Panel Ammeter, Key Switch, Throttle Lever, Manual Choke, BBC	Switch,
Fuses, Safety Start	Module
Fuses	20 Amp

3.3 POWER HEAD

Drive Wheel MotorsTwo Parker 14.5 cu. in Steering/Travel ControlTwin Leve	rev. Pumps with Dump Valves for engine and pressure relief valves ch Cast-Iron High-Torque Motors
Parking BrakeLever Actuated Linkage to Br	
Wheels:	
(2) Front Caster	6.00 Flat-Free Semi-Pneumatic
(2) Drive	eumatic Tiubeless, Radius Edge
(61) 24X12 - 12 Four-Ply Pl	neumatic Tubeless, Radius Edge
Tire Pressure:	_
Front Caster	Flat Free
Drive	12 PSI
Drive LP Tank	
Seat	Padded
Travel Speed:	
Forward Reverse	Up to 10.5 MPH
Reverse	Up to 6 MPH
-NOTE- The machine will travel at 10mph for transport purposes. For best cutting p speed should be adjusted depending upon the cutting conditions.	



3.4 CUTTER DECK

	g, Adjustable, Anti-Scalping, Hybrid Design Combines Out-Front and Belly-Mount Designs
Тор о	f deck consists of three steel plates totaling nearly 1/2" of steel,7-gauge (3/16") deck skirt.
True Cutting Width:	
52V	
61V	
Cutting Height Adjustment	Foot-Operated Lever Adjustment from Operator's Seat, 1.0" to 6.0" in 1/4"increments
Cutter Blades	
52V	
61V	
Blade Engagement	Electric Blade Engagement Clutch with Control Panel Switch
	Connected to the Cutter Deck Gearbox through a Drive Shaft.
	Extra-Wide Discharge Opening with Spring-Loaded Discharge Chute and Turbo Baffle
Discharge Chute	Black, Polypropylene (Plastic), Flexible
Spindles	Heavy-Duty 1-1/8" Top Dimension Spindle Shaft, Cast Housing, Taper Roller Bearing,
	Low Maintenance with Top Access Grease Fitting and Grease Overfill Relief Poppet
Spindle Pulleys	
	B-Section with Kevlar Cord, Self-Adjusting, Self-Tightening
Electric Clutch Type	Ogura Heavy Duty PTO Clutch Brake
Drive Shaft	Clamp Yoke Shaft With Two High-Speed U-Joints

3.5 HYDRAULIC SYSTEM

Hydraulic Oil Filter	
Hydraulic Reservoir	Nylon; 3 Quart Capacity

3.6 WEIGHTS AND DIMENSIONS	52V	61V	
Length			
Tracking Width		56"	
Overall Width w/chute down		73.5"	
Overall Width w/chute up		62"	
Overall Height w/ROPS up		67.5"	
Overall Height w/ROPS down		56.5"	
Operating Weight w/ROPS		1425#	
3.7 PRODUCTIVITY	52V	61V	
Cutting Width		61"	
Acres Per Day			
The preceding chart will aid you in determining how many cares	your Coog mower will out par day. The	abort is an	

The preceding chart will aid you in determining how many acres your Scag mower will cut per day. The chart is an estimate based on 8 hours per day cutting time at 6 MPH with a 20% allowance for overlap and turns.

OPERATING INSTRUCTIONS

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. Ignition Switch (Figure 4-1). The ignition switch is used to start the engine and has three positions; OFF, ON, and START.

- 2. Mower Deck Switch (Figure 4-1). Used to engage and disengage the mower drive system. Pulling up on the switch will engage the deck drive. Pushing down on the switch will disengage the deck drive.
- 3. Engine Choke Control (Figure 4-1). Used to start a cold engine.
- 4. Engine Throttle Control (Figure 4-1). Used to control the engine speed. Pushing the lever forward increases engine speed. Pulling the lever back decreases engine speed. Full back position is the IDLE position. Full forward is the cutting position.
- 5. Ammeter (Figure 4-1). Indicates the condition of the charging system. When the engine is running, in normal operating conditions, the needle should be in the positive end of the meter. If the needle is toward the negative end of the meter, this indicates a discharge condition and the machine should be taken in for service.

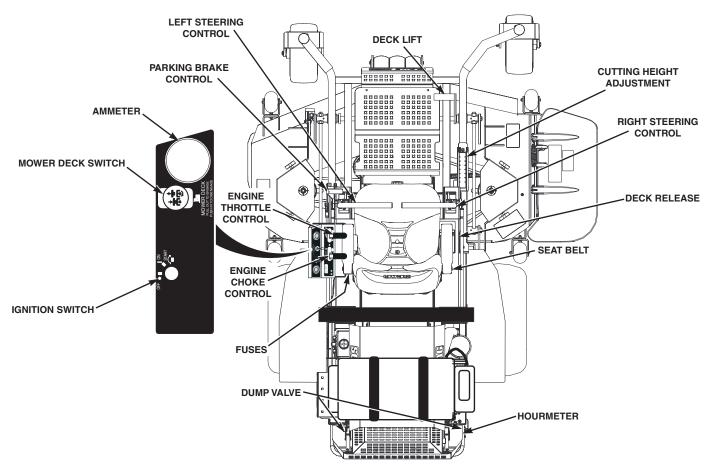


Figure 4-1. Controls and Instruments



- 6. Hourmeter (Figure 4-1). Indicates the number of hours the engine has been operated. It only operates when the engine is running. Has preset maintenance reminders for engine and hydraulic system oil changes. Will start flashing scheduled maintenance 2 hours before preset time and continue flashing until 2 hours after. Automatically resets.
- 7. Fuse Holders (Figure 4-1). There are two 20 amp fuses that protect the mower's electrical system. To replace fuses, pull fuse out of the socket and install a new fuse.
- 8. Left Steering Control (Figure 4-1). Used to control the mower's left wheel when traveling forward or reverse.
- **9. Right Steering Control (Figure 4-1).** Used to control the mower's right wheel when traveling forward or reverse.
- **10. Parking Brake Control (Figure 4-1).** Used to engage and disengage the parking brakes. Pull the lever back to engage the parking brakes. Push the lever forward to disengage the parking brakes.
- 11. Dump Valve Control Levers (Figure 4-2). Located on the hydraulic pumps, used to "free-wheel" the mower. Rotating the levers clockwise until they stop allows the unit to move under hydraulic power. The levers must be in this position and torqued to 10 lb-ft during operation of the mower. Rotating the levers counter-clockwise allows the mower to be moved by hand (free-wheeling).

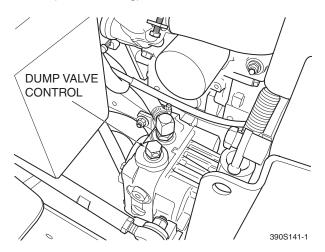


Figure 4-2. Dump Valve Control

- **12. Deck Lift Foot Lever (Figure 4-1).** Used to raise and lower the cutter deck. Push full forward to lock in the transport position.
- **13. Cutting Height Adjustment (Figure 4-1).** Used to set the cutter deck at the desired cutting height.

- 14. Deck Release Lever (Figure 4-1). Used to lock the cutter deck in the transport position. Push the foot pedal forward and pull back on the release lever to release the cutter deck for normal mowing.
- **15. Seat Belt (Figure 4-1).** Used to secure the operator. Seat belt must be worn at all times when the ROPS is in the upright and locked position.
- **16. Seat Hold Down Release Latch (Figure 4-1).** Located behind the seat. Used to secure the seat in the operator's position. Release the latch to gain access under the seat.

4.2 SAFETY INTERLOCK SYSTEM

The mower is equipped with a safety interlock system that prevents the engine from starting unless the deck drive is disengaged, the parking brake is engaged, the steering control levers are in the neutral position and the operator is in the seat. The interlock system shuts off the engine if the operator leaves the seat with the steering control levers not in the neutral position and/or the cutter blades engaged and the parking brake not engaged.

WARNING

Never operate the mower with the interlock system disconnected or malfunctioning. Do not disengage or bypass any switch; injury to yourself and others or property damage could result.

4.3 INITIAL RUN-IN PROCEDURES

FIRST DAY OF USE OR APPROXIMATELY 20 HOURS

- 1. Check all belts for proper alignment and wear at 2, 4 and 8 hours.
- 2. Change the engine oil and oil filter after the first 20 hours of operation. (See Section 7.4.)
- Check hydraulic oil level in reservoir. (See Section 7.3.)
- 4. Check for loose hardware. Tighten as needed.
- 5. Check interlock system for proper operation. (See Section 4.2.)
- 6. Check tire pressure. Adjust pressure if necessary. (See Section 7.10.)

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4.4 STARTING THE ENGINE

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. Make sure the fuel valve is completely open on the LP tank.
- 2. Secure the ROPS in the upright and locked position.
- 3. Sit in the operator's seat, fasten seat belt and place the steering control levers in the neutral position.
- 4. Engage the parking brake.
- 5. Place the PTO switch in the disengaged position.
- 6. If the engine is cold, choke the engine as needed.
- 7. Move the engine throttle control to about half engine speed.
- 8. Turn the ignition key to the START position and release the key as soon as the engine starts. Do not hold the key in the START position for more than 15 seconds at a time. Allow at least 60 seconds between each cranking attempt to prevent overheating of the starter motor. Prolonged cranking can damage the starter motor and shorten battery life.
- 9. Allow engine to warm before operating the mower.

4.5 GROUND TRAVEL AND STEERING

- IMPORTANT -

If you are not familiar with the operation of a machine with lever steering and/or hydrostatic transmissions, the steering and ground speed operations 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 steering controls to obtain a smooth operating action.

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

FORWARD TRAVEL

To travel forward with the mower, disengage the parking brake, pull levers inward out of the neutral lock position and slowly push the steering control levers forward an equal distance. The further the steering control levers are pushed forward the greater the forward speed will be. To increase the speed, push the steering control levers further forward and to decrease the speed, pull the steering control levers back.

To stop the forward travel, pull the steering control levers back to the neutral position.

To steer the mower left while traveling forward, pull the left steering lever back. The further the lever is pulled back, the quicker the mower will turn left.

To steer the mower right while traveling forward, pull the right steering control lever back. The further the lever is pulled back, the quicker the mower will turn right.

- NOTE -

Smooth operation of the steering levers will produce smooth mower operation. While learning the operation of the steering controls, keep the travel speed low.

- IMPORTANT -

Do not travel forward over a curb. The mower will hang up on the curb. Raise the deck and travel backwards over the curb at a 45 degree angle. (See Section 4.1, items 12 - 14, on page 13 for cutter deck raising descriptions.)

REVERSE TRAVEL

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

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

To travel in reverse, pull levers inward out of the neutral lock position and pull both handles back. Keep the travel speed low while traveling in reverse.

- NOTE -

The mower may not travel straight in reverse. Slight adjustments may need to be made using the steering controls.

To steer left while traveling in reverse, allow the left steering control lever to move forward. The further the control is allowed to move forward, the quicker the mower will turn left.

To steer right while traveling in reverse, allow the right steering control lever to move forward. The further the control is allowed to move forward, the quicker the mower will turn right.

To stop the reverse travel, allow the steering control levers to return to the neutral position. If the mower is to be parked, place the handles in the neutral lock position and engage the parking brake.

4.6 ENGAGING THE DECK DRIVE (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 electric clutch life - use only moderate engine speed when engaging the deck drive.
- 2. Engage the deck drive by pulling out on the yellow switch, located on the instrument panel, to the engage position. See Figure 4-3.

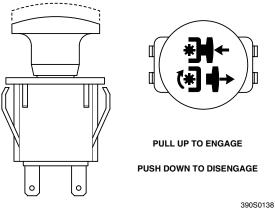


Figure 4-3. Cutter Engage Switch

- NOTE -

A squealing noise may be heard when engaging or disengaging the deck drive. It is caused by the electric clutch plates meshing as the mower comes up to speed. This is normal.

- 3. To disengage the deck drive, push the switch in to the disengage position.
- 4. 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.

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4.7 HILLSIDE OPERATION

WARNING

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. ALWAYS FOLLOW OSHA APPROVED OPERATION.

- 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. Wet grass reduces traction and steering control. The Roll-Over Protection System is standard equipment for this machine. See Section 2.5, page 6 of this manual for further details.
- 2. To prevent tipping or loss of control, do not start or stop suddenly, avoid unnecessary turns and travel at reduced speed. If tires loose traction, disengage blades and proceed slowly off the slope.
- 3. Stay two cut widths away from slopes, drop offs, ditches and retaining walls.
- 4. Avoid sudden starts when mowing uphill. Sudden starts may cause the machine to tip backwards.
- Loss of traction may occur when traveling down hill. Weight transfers to the front of the machine and may cause the drive wheels to slip causing loss of braking or steering.
- 6. Keep tires properly inflated.

4.8 PARKING THE MOWER

- 1. Park the machine on a flat, level surface only. Do not park the machine on an incline.
- 2. Place the steering control levers in the neutral position.
- 3. Disengage the cutter blades.
- 4. Slow the engine to idle speed.
- 5. Engage the parking brake.
- 6. Turn the ignition key to the OFF position and remove the key.

4.9 AFTER OPERATION

1. Wash the entire mower after each use. Do not use high pressure spray or direct the spray onto electrical 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.

- 2. Keep the entire mower clean to inhibit serious heat damage to the engine or hydraulic oil circuit.
- 3. Check the drive belts for proper alignment and any signs of wear. Correct and adjust if necessary.

To avoid injury from burns, allow the mower to cool before removing the LP tank.

- 4. See Engine Owner's Manual for proper liquid propane requirements.
- 5. Check the tire pressure. Adjust pressure if necessary.

4.10 REMOVING CLOGGED MATERIAL

DANGER

ROTATING BLADES

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

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

1. If the discharge chute becomes clogged, shut off the engine and remove the ignition key. 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, rotate the dump valve levers counterclockwise. See Figure 4-4. Disengage the parking brake and move the mower by hand. When the machine is in the desired position, engage the parking brake and rotate the levers clockwise until they stop. The dump valve levers must be returned to the DRIVE position and torqued to 10 lb-ft to drive the mower.

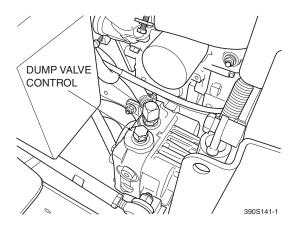


Figure 4-4. Dump Valve Control

4.12 RECOMMENDATIONS FOR MOWING

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

A WARNING

DO NOT operate without Discharge Chute, Mulching Kit, or entire Grass Catcher properly installed.

- 2. The discharge chute must not be removed and must be kept in the lowest position to deflect grass clippings and thrown objects downward. Direct the side discharge away from sidewalks or streets to minimize cleanup of clippings. When mowing close to obstacles, direct the discharge away from the obstacles to reduce the chance of property damage by thrown objects.
- 3. 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.

- 4. Keep mower and discharge chute clean.
- 5. 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.
- 6. Use a slow travel speed for trimming purposes.
- 7. 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.
- 8. 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.

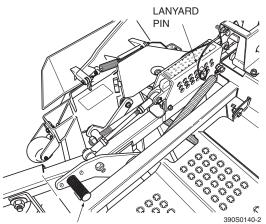
4.13 ADJUSTING CUTTING HEIGHT

The mower deck can be adjusted from a height of 1.0 inch to 6.0 inches at 1/4-inch intervals. To adjust the cutting height:

WARNING

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

- 1. Disengage the power to the cutter blades.
- 2. Push the cutting height adjustment foot pedal all the way forward using your right foot until it locks in place. See Figure 4-5.



HEIGHT ADJUSTMENT PEDAL

Figure 4-5. Adjusting Cutting Height

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3. Insert the lanyard pin into the cutting height index at the desired cutting height. Push forward on the deck lift foot lever, hold in place and pull back on the deck release lever. See Figure 4-6. Slowly release the foot pedal. A deck height decal is located on the cutting height index as an aid in adjusting the deck to the desired height. See Figure 4-5.

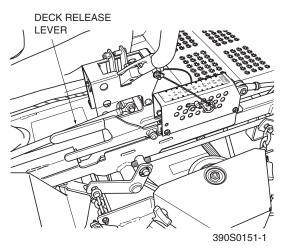


Figure 4-6. Deck Release Lever

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4.14 ADJUSTING THE STEERING LEVERS

- 1. Position the seat to the desired location.
- 2. While in the operator's position without the engine running, move both steering levers forward and reverse to check for full function control and comfort.
- 3. If adjustment of the steering levers is needed, use the following instructions to adjust.
 - A. Loosen the tension knob on the lever assembly.

B. Rotate the steering lever forward or backward to achieve the optimum operating position.

C. Tighten the tension knob and repeat on the opposite side.

D. While in the operator's position, bring the steering levers out of the neutral lock position and check to make sure both levers are even before operating.

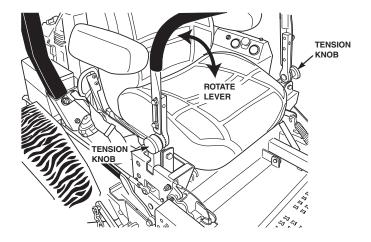
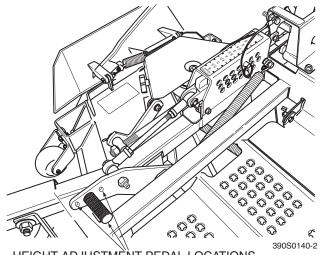


Figure 4-7. Adjusting Steering Levers

 The control handle can also be adjusted in two different positions. If necessary, remove the two bolts securing the control handle to the control lever. Install the handle in the desired position.

4.15 ADJUSTING THE HEIGHT ADJUST PEDAL

- 1. Position the seat to the desired location.
- 2. While in the operator's position with out the engine running, push down on the height adjust pedal to check for full function control.
- The height adjust pedal can be located in three (3) different positions for operator comfort and control. See Figure 4-8.



HEIGHT ADJUSTMENT PEDAL LOCATIONS

Figure 4-8. Height Adjust Pedal Locations



4.16 TOWING (OPTIONAL HITCH ACCESSORY)

- 1. NEVER allow children or others in or on towed equipment.
- 2. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
- 3. Follow manufacturer's recommendations for weight limit for towed equipment. 250 lbs. maximum towing weight.
- 4. NEVER tow on slopes. The weight of the towed equipment may cause loss of traction and loss of control.
- 5. Travel slowly and allow extra distance to stop.
- 6. Zero-turning with a trailer attached could cause damage to the trailer or mower.



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
$\langle , , \rangle$	Dull blades, incorrect sharpening	Sharpen blades
	Deck plugged, grass accumulation	Clean underside of deck
$ \underbrace{\overset{\circ}{\vdash}}_{\circ} \overset{\circ}{\overset{\circ}{}} Width of Deck \underbrace{\overset{\circ}{\vdash}}_{\circ} \overset{\circ}{\overset{\circ}{}} \overset{\circ}{\overset{\circ}{\overset{\circ}{}} \overset{\circ}{\overset{\circ}{}} \overset{\circ}{\overset{\circ}{\overset{\circ}{}} \overset{\circ}{\overset{\circ}{\overset{\circ}{}} \overset{\circ}{\overset{\circ}{\overset{\circ}{\overset{\circ}{\overset{\circ}{\overset{\circ}{\overset{\circ}{$	Belts slipping	Adjust belt tension
STREAKING - STRIPS OF UNCUT GRASS IN CUTTING	Dull, worn blades	Sharpen blades
PATH	Incorrect blade sharpening	Sharpen blades
annone Konoons Konoon	Low engine RPM	Run engine at full RPM
	Belt slipping	Adjust belt tension
	Deck plugged, grass accumulation	Clean underside of deck
$\underbrace{\overset{\circ}{\overset{\circ}}}_{\overset{\circ}{\overset{\circ}}}$ Width of Deck $\underbrace{\overset{\circ}{\overset{\circ}}}_{\overset{\circ}{\overset{\circ}}}$	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	Lift worn from blade	Replace blade
APPEARANCE, SCALLOPED CUT, OR ROUGH CONTOUR	Blade upside down	Mount with cutting edge toward ground
MOMANIMUMAAA	Deck plugged, grass accumulation	Clean underside of deck
	Too much blade angle (deck pitch)	Adjust pitch and level
	Deck mounted improperly	See your authorized SCAG dealer
Width of Deck	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	Tire pressures not equal	Check and adjust tire pressure
Mananananan	Wheels uneven	Check and adjust tire pressure
	Deck mounted incorrectly	See your authorized SCAG dealer
Width of Deck	Deck not level side-to side	Check for level and correct

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE		
SCALPING - BLADES HITTING DIRT OR CUTTING VERY CLOSE	Low tire pressures	Check and adjust pressures		
TO THE GROUND	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		
₩idth of Deck [°] [°] [°] [°] [°] [°] [°] [°] [°] [°]	Ground speed too fast	Slow speed to adjust for conditions		
	Wet grass	Cut grass after it has dried out		
STEP CUT - RIDGE IN CENTER OF CUTTING PATH	Blades not mounted evenly	Adjust pitch and level		
AND MANANA MANANA MANANA	Bent blade	Replace blade		
	Internal spindle failure	See your authorized SCAG dealer		
→ → </td <td>Mounting of spindle incorrect</td> <td>See your authorized SCAG dealer</td>	Mounting of spindle incorrect	See your authorized SCAG dealer		
SLOPE CUT - SLOPING RIDGES ACROSS WIDTH OF CUTTING	Bent spindle mounting area	See your authorized SCAG dealer		
PATH	Internal spindle failure	See your authorized SCAG dealer		
₩idth of Deck SGB025	Bent deck housing	See your authorized SCAG dealer		



ADJUSTMENTS

6.1 PARKING BRAKE ADJUSTMENT

WARNING

Do not operate the mower if the parking brake is not operable. Possible severe injury could result.

The parking brake linkage should be adjusted whenever the parking brake lever is placed in the "ENGAGE" position and the parking brake will allow the mower to move. If the following procedures do not allow you to engage the parking brake properly, contact your Scag dealer for further brake adjustments.

- 1. Position a floor jack under the rear of the machine. Raise the machine and support it to prevent it from falling. Block the caster wheels to prevent the machine from moving. Remove the drive wheels.
- 2. With the brake lever in the disengaged position, check the distance between the top of the frame tube and the bottom of the brake handle. The distance should be 2" to 2-1/4". See Figure 6-1.
- If the distance is not at the specified measurement, adjust by loosening the jam nuts at both ends of the brake control rod and turning the rod until the proper distance is achieved. Tighten the jam nuts. See Figure 6-1.
- With the brake in the engaged position, check the distance between the lower nut on the brake actuator rod and the brake actuator lever on the LH side of the machine. The distance should be 1/8". See Figure 6-2.
- 5. If the distance is not at the specified measurement, loosen the jam nut at the clevis on the top of the brake actuator rod. See Figure 6-2.
- Turn the bolt at the bottom of the brake actuator lever until the 1/8" measurement is achieved and tighten the jam nut at the clevis on the brake actuator rod. See Figure 6-2.
- 7. Repeat steps 4 though 6 on the RH side of the machine.
- 8. Replace the drive wheels and test the brake.

- NOTE -

If this procedure does not achieve proper brake adjustment, please contact your authorized Scag dealer.

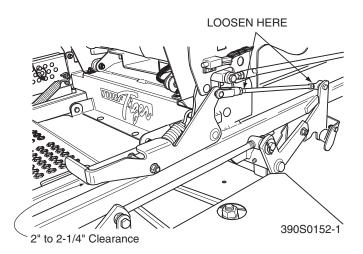


Figure 6-1. Brake Adjustment

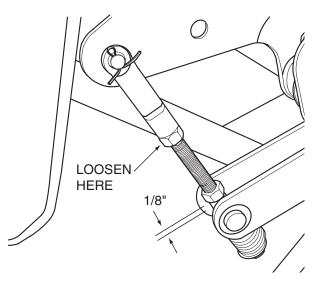


Figure 6-2. Brake Rod Adjustment

6.2 TRAVEL ADJUSTMENTS

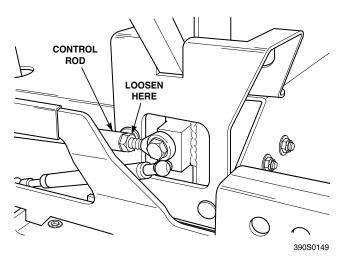
Neutral or tracking adjustments will need to be made if:

A. The steering control levers are in the neutral position and the machine creeps forward or backward. (Neutral Adjustment, See Below).

B. The steering control levers are in the full forward position and the mower pulls to one side or the other when traveling in a forward direction. (Tracking Adjustment, See Page 25).

NEUTRAL ADJUSTMENT

- 1. Be sure the dump valve levers are in the run position and the steering control levers are in the neutral lock position.
- 2. With an operator in the seat, start the engine and disengage the parking brake.
- 3. Run the engine at full operating speed and check if the machine creeps forward or backwards.
- 4. Adjust the RH wheel by loosening the jam nuts on the steering control rod and turning the rod until the drive wheel turns in the forward direction. Turn the rod back until the drive wheel stops moving. Turn the rod an additional 1/2 turn. (See Figure 6-3).



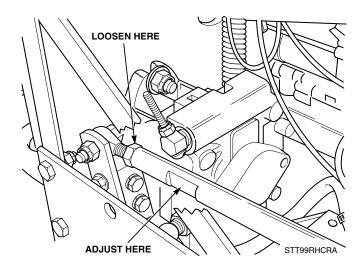
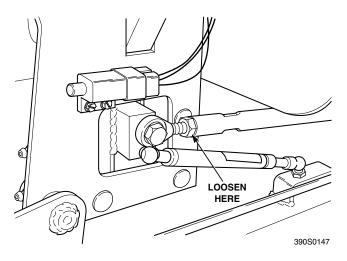


Figure 6-3. RH Steering Control Rod Adjustment

5. Tighten the jam nuts and repeat for the LH wheel. (See Figure 6-4).



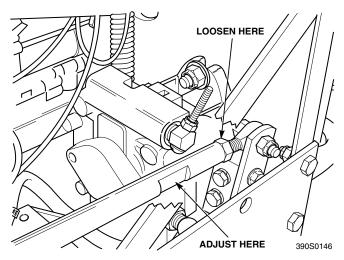


Figure 6-4. LH Steering Control Rod Adjustment

- 6. Actuate the steering control levers forward and reverse several times and return them to the neutral position.
- 7. Check that the drive wheels remained in neutral and readjust if necessary.
- 8. Check that the steering control levers hit the stop before the pumps reach full stroke. Adjust as needed.

TRACKING ADJUSTMENT

Stop the engine and remove the key from the ignition before making any adjustments. Wait for all moving parts to come to a complete stop before beginning work.

The engine and drive unit can get hot during operation causing burn injuries. Allow engine and drive components to cool before making any adjustments.

- NOTE -

Before proceeding with this adjustment, be sure that the caster wheels turn plus pivot freely and that the tire pressure in the drive wheels is correct. If the tire pressure is not correct, the machine will pull to the side with the lower pressure.

1. If at full speed the mower pulls right, it is an indication that the left wheel is turning faster than the right wheel. To adjust this condition, proceed as follows:

A. Stop the machine and place the steering control levers in the neutral position. Loosen the lock nuts securing the ball joints at each end of the LH steering control rod. Rotate the control rod to lengthen the rod and tighten the lock nuts. This will cause the control rod to stroke the LH pump less, slowing down the LH wheel. (See Figure 6-4, page 24)

- NOTE -

If after making the adjustment as outlined in step 1A, the machine creeps forward or backward, the neutral adjustment must be made as described on page 24.

2. If at full speed the mower pulls left, it is an indication that the right wheel is turning faster than the left wheel. To adjust this condition, proceed as follows:

A. Stop the machine and place the steering control levers in the neutral position. Loosen the lock nuts securing the ball joints at each end of the RH steering control rod. Rotate the control rod to lengthen the rod and tighten the lock nuts. This will cause the control rod to stroke the RH pump less, slowing down the RH wheel. (See Figure 6-3, page 24)

- NOTE -

If after making the adjustment as outlined in step 2A, the machine creeps forward or backward, the neutral adjustment must be made as described on page 24.

6.3 THROTTLE CONTROL AND CHOKE ADJUSTMENTS

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

6.4 BELT ADJUSTMENT

WARNING

Before removing any guards, shut the engine off and remove the ignition key.

All drive belts and cutter deck belts are spring loaded and self-tensioning. The springs should be checked periodically for proper alignment and wear.

6.5 BELT ALIGNMENT

Belt alignment is important for proper performance of your Scag mower. If you experience frequent belt wear or breakage, see your authorized Scag service center for belt adjustment.

6.6 CUTTER DECK ADJUSTMENTS

Cutter deck level, pitch and height are set at the factory. However, if these adjustments should ever need to be made, the following procedures will aid in obtaining the proper cutter deck adjustment.

- NOTE -

Before proceeding with the cutter deck adjustments, be sure that all tires are properly inflated.

CUTTER DECK LEVEL

The cutter deck should be level from side-to-side for proper cutting performance. To check for level, be sure that the mower is on a flat, level surface, the tires are properly inflated and the cutter deck is set at the most common cutting height that you will use. On the RH side of the machine, check the distance from the bottom of the cutter deck to the floor. Next check the distance from the bottom of the cutter deck to the floor on the LH side of the machine. Both measurements should be the same. If the two measurements are different, the cutter deck level must be adjusted as follows:

1. On the front LH side of the cutter deck locate the cutter deck level adjusting bracket (See Figure 6.5)

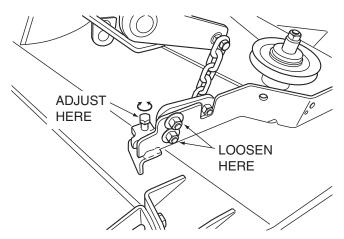


Figure 6-5. Cutter Deck Level Adjustment

- 2. Loosen the two (2) elastic stop nuts. Adjust the bolt up or down on the adjustment bracket to adjust the cutter deck until the distance from the bottom of the cutter deck to the floor is the same as the measurement on the RH side of the machine.
- 3. Tighten the two elastic stop nuts to secure the cutter deck in the proper position.

CUTTER DECK PITCH

The pitch of the cutter deck should be equal between the front and rear of the cutter deck for proper cutting performance. To check for proper deck pitch, be sure that the mower is on a flat, level surface and the tires are properly inflated.

Check the distance from the bottom of the cutter deck to the floor at the rear RH side of the cutter deck directly behind the cutter deck hanging chains. Next check the distance from the bottom of the cutter deck to the floor at the front RH side of the cutter deck directly in front of the cutter deck hanging chains. The measurement at the front of the cutter deck should be equal to the measurement at the rear of the deck. Make these measurements at the LH side of the cutter deck also. If the measurement at the front of the deck is not equal, the cutter deck pitch must be adjusted as follows:

1. Loosen the jam nut on both adjusting rods. (See Figure 6.6)

JAM NUT ADJUST HERE

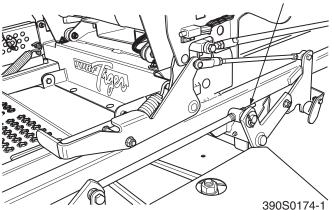


Figure 6-6. Cutter Deck Level Adjustment

2. Using a wrench on the jam nut (See Figure 6.6) turn the adjusting rods until the proper pitch is obtained on both the RH and the LH side of the cutter deck. Tighten both jam nuts.



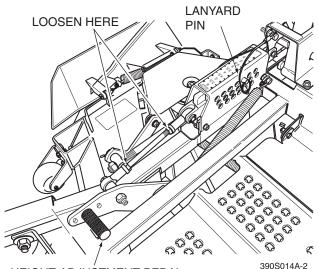
- NOTE -

To prevent the cutter deck from teetering, all four (4) cutter deck hanging chains must have tension on them. If all four chains do not have tension on them and the deck teeters, you must readjust the cutter deck as outlined in the procedures above.

CUTTER DECK HEIGHT

The cutter deck height adjustment is made to ensure that the cutter deck is cutting at the height indicated on the cutting height index gauge. To check for proper deck height, be sure that the mower is on a flat, level surface and the tires are properly inflated.

1. Place the cutter deck in the transport position. Loosen the jam nuts on both ends of the deck height control rod. (See Figure 6.7)



HEIGHT ADJUSTMENT PEDAL

Figure 6-7. Cutter Deck Height Adjustment

2. Turn the control rod (See Figure 6.7) until there is a 1/4" space between the rear deck stop and the top of the cutter deck. (See Figure 6.8). Tighten the jam nuts on the control rod.

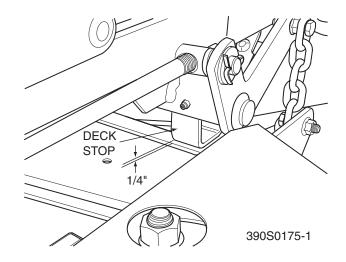


Figure 6-8. Cutter Deck Stop

- 3. Check the cutter deck cutting height by placing the lanyard pin in the 3" position on the cutting height index. Release the deck from the transport position and allow the deck to move to the 3" cutting height position.
- 4. Check the measurement from the floor to the cutter blade tip. If the measurement is not at 3", an adjustment can be made using the deck height control rod. (See Figure 6.7)

- NOTE -

If an adjustment had to be made, be sure that the cutter deck can easily be locked into the transport position.

CUSTOM-CUT BAFFLE ADJUSTMENT

The Custom-Cut Baffle is designed to deliver optimum airflow and superior cutting performance in any type of grass. The Custom-Cut Baffle can be raised or lowered to precisely tailor the deck's performance for the type of grass being cut. The baffle can be set in seven (7) different positions for optimum performance.

A. 3-1/2" or 3-3/4" Position - (See Figure 6-9). For very tall, wiry or tough-to-cut grass.

B. 4" (factory setting), 4-1/4" or 4-1/2" Position - (See Figure 6-9). For general purpose cutting. This gives the best mix of cutting performance in all types of grass.

C. 4-3/4" or 5-1/4" Position - (See Figure 6-9). Placing the baffle in either the 4-3/4" or 5-1/4" setting will enhance fall cutting (leaf pickup) and reduce cutter deck "blowout".

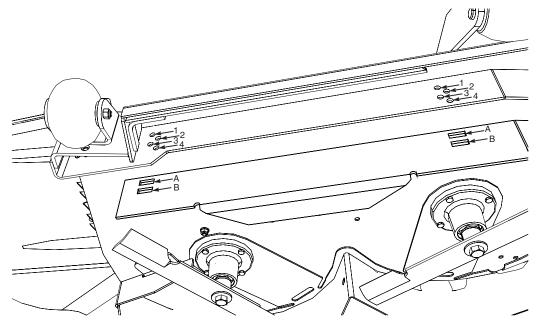
To adjust the Custom-Cut Baffle height:

- 1. Place the cutter deck in the transport position.
- 2. Remove the hardware securing the Custom-Cut Baffle to the cutter deck.

- NOTE -

Hardware location used in the illustrations are for reference only. Location of hardware may vary depending on cutter deck size.

- 3. Move the Custom-Cut Baffle to desired position. (See Figures 6-9).
- 4. Reinstall the mounting hardware. Torque hardware to 39 ft-lbs.



Custom-Cut Baffle Adjustment

Mounting Slot Selected		Mounting Hardware Location			
Slot "A"	Hole 1	Hole 2	Hole 3	Hole 4	
Height (inches)	3-3/4"	4-1/4"	4-3/4"	5-1/4"	
Slot "B"		Hole 2	Hole 3	Hole 4	
Height (inches)		3-1/2"	4"	4-1/2"	

Figure 6-9. Custom-Cut Baffle Adjustment



6.7 ELECTRIC CLUTCH ADJUSTMENT

The electric clutch serves two functions in the operation of the mower. In addition to starting and stopping the power flow to the cutter blades, the clutch also acts as a brake to assist in stopping blade rotation when the PTO is switched off or the operator presence circuit is interrupted.

When the clutch is disengaged, the air gap between the armature and rotor must be adjusted to fifteen thousandths of an inch, 0.015, for proper operation. The airgap adjustment is made at three bolts on the clutch. There are three inspection windows, one next to each adjusting bolt. See Figure 6-10.

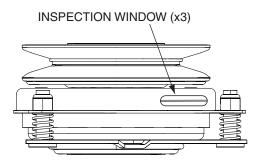


Figure 6-10. Clutch Air Gap Adjustment

- 1. Locate the inspection windows on the clutch.
- 2. Place a 0.015 feeler gauge in the slot between the rotor and the armature. See Figure 6-11.

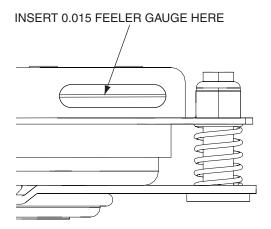


Figure 6-11. Clutch Air Gap Adjustment

 Tighten or loosen the adjusting bolt as needed to acheive the 0.015 inch airgap. See Figure 6-12. Perform this operation at all three inspection windows.

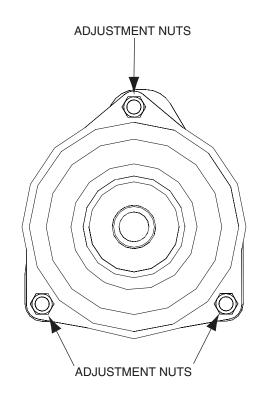


Figure 6-12. Clutch Air Gap Adjustment

This adjustment should be done every 500 hours of operation or annually, whichever comes first. In cases where the machine is heavily used, airgap settings should be checked more often.

If the air gap is too narrow, the clutch armature may drag when disengaged, resulting in premature failure.

If the air gap is too wide, the clutch may be slow to engage as the magnet must pull the armature in from a greater distance.

MAINTENANCE

7.1 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS

HOURS								
BREAK-IN (FIRST 10)	8	40	100	200	500	PROCEDURE	COMMENTS	
Х						Check all hardware for tightness		
Х						Check hydraulic oil level	See paragraph 7.3	
Х						Check all belts for proper alignment	See paragraph 7.8	
Х						Change engine oil and filter	See paragraph 7.4	
Х						Check coolant level	See paragraph 7.11	
	х					Check hydraulic fittings and hoses for leaks	Use extreme caution when checking the hydraulic hoses. See paragraph 2.6	
	Х					Check LPG fuel system for leaks	See Engine Owner's Manual	
	х					Check engine oil level	See paragraph 7.4	
	Х					*Clean mower	See paragraph 7.12	
	Х					Check condition of blades	See paragraph 7.9	
	Х					Apply grease to fittings	See paragraph 7.2	
	Х					Check tire pressure	See paragraph 7.10	
	х					Inspect seat belt for wear or damage	See paragraph 2.5	
	х					Check the operator interlock system	See paragraph 4.2	
		х				Check battery condition, clean battery posts and cables	See paragraph 7.7	
		х				Check belts for proper alignment	See paragraph 7.8	
			Х			Apply grease to fittings	See paragraph 7.2	
			Х			Change engine oil	See paragraph 7.4	
			Х			*Clean air cleaner element	See paragraph 7.6	
			х			Check lubricant in cutter deck gearbox	See paragraph 7.11	

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

MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS (CONT'D)

HOURS								
BREAK-IN (FIRST 10)	8	40	100	200	500	PROCEDURE	COMMENTS	
				Х		Apply grease to fittings	See paragraph 7.2	
				Х		Check hardware for tightness		
				Х		Change engine oil filter	See paragraph 7.4	
				Х		Check hydraulic oil level	See paragraph 7.3	
					Х	Replace engine fuel filter	See paragraph 7.5	
					х	Drain hydraulic system and replace hydraulic oil	Use SAE 20W50 Motor Oil. See paragraph 7.3	
					Х	Replace hydraulic oil filter	See paragraph 7.3	
					х	Replace cutter deck gearbox lubricant	See paragraph 7.11	

7.2 LUBRICATION

GREASE FITTING LUBRICATION CHART (SEE FIGURE 7-1)

LOCATION	LUBRICATION INTERVAL	LUBRICANT	NO. OF PLACES
1 Caster Wheel Pivot *	500 Hours/Yearly	Chassis Grease	2
2 Caster Wheel Bearings	100 Hours/Monthly	Chassis Grease	2
3 Brake Actuator	200 Hours/Monthly	Chassis Grease	2
4 Cutter Deck Bellcranks	100 Hours/Bi-Weekly	Chassis Grease	4
5 Cutter Deck Pusharms	100 Hours/Bi-Weekly	Chassis Grease	2
6 PTO Spindle	40 Hours/Weekly	+Lithium MP White Grease 2125	1
7 Cutter Deck Spindle	40 Hours/Weekly	+Lithium MP White Grease 2125	3
8 Brake Handle	200 Hours/Monthly	Chassis Grease	1
9 Cutter Deck Drive Shaft U-Joints	200 Hours/Monthly	Chassis Grease	2
10 Cutter Deck Drive Shaft Slip Sleeve	40 Hours/Weekly	Chassis Grease	1

+ Compatible Greases:

Ases: Mobilix #2 found at Mobil Service Stations Ronex MP found at Exxon Service Stations Super Lube MEP #2 & Super Stay-M #2 found at Conoco Stations Shell Alvania #2 found at Shell Service Stations Lidok EP #2 found at industrial shops Timken Lithium Multi-Use #2 found at industrial shops

* PROCEDURE: Remove grease cap, part number 481559. Remove plug, part number 482028-01, and install grease zerk. Apply grease to the fitting until new grease appears at the top of the caster extension. Remove the grease zerk and reinstall the plug. Reinstall the grease cap. Special tool, part number 47007, is recommended for use in the installation of the grease cap.

Section 7

SCAC

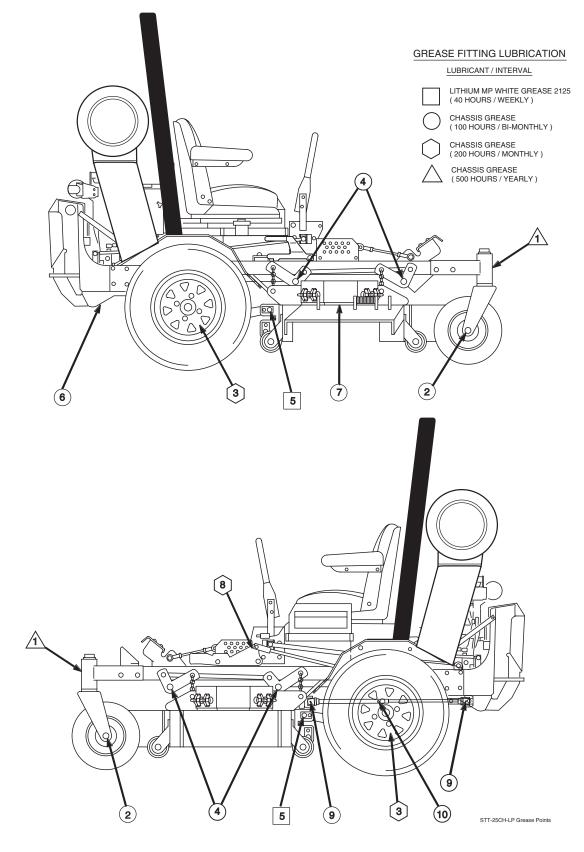


Figure 7-1. Lubrication Fitting Points

7.3 HYDRAULIC SYSTEM

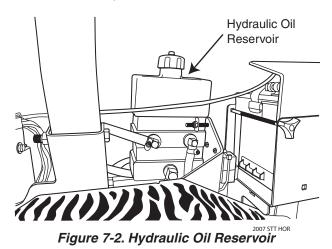
A. CHECKING HYDRAULIC OIL LEVEL

The hydraulic oil level should be checked after the first 10 hours of operation. Thereafter, check the oil after every 200 hours of machine operation or monthly, whichever occurs first.

- IMPORTANT -

If the oil level is consistently low, check for leaks and correct immediately.

- 1. Wipe dirt and contaminants from around the reservoir cap. Remove the cap from the hydraulic oil reservoir.
- Visually check the level of hydraulic oil. Hydraulic oil must be at least 3" inches from top of the filler neck. If the level cannot be determined visually, use a clean tape measure to check the level. If the fluid is low, add 20W50 motor oil. DO NOT overfill; (overfilling the oil reservoir may cause oil seepage around the cap area).
- 3. Clean the fill cap and install it onto the reservoir.



B. CHANGING HYDRAULIC OIL

The hydraulic oil should be changed after every 500 hours or annually, whichever occurs first. The oil should also be changed if the color of the fluid has become black or milky. A black color and/or a rancid odor usually indicates possible overheating of the oil, and a milky color usually indicates water in the hydraulic oil.

- IMPORTANT -

The hydraulic oil should be changed if you notice the presence of water or a rancid odor to the hydraulic oil.

- 1. Park the mower on a level surface and stop the engine.
- 2. Place a suitable container under the hydraulic oil filter. Remove the fill cap from the reservoir and the drain plug from the bottom of the drain tee fitting on the filter base. See Figure 7-3. Allow the fluid to drain into the container and properly discard it.

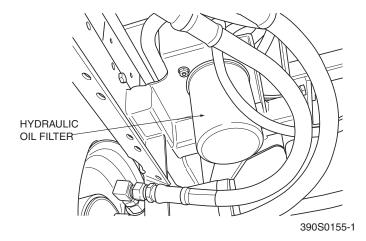


Figure 7-3. Hydraulic Oil Filter

3. Re-install the drain plug into the tee fitting and be sure it is tight.

- NOTE -

Before refilling the hydraulic oil reservoir the hydraulic oil filter should be changed as outlined in Procedure C "Changing Hydraulic Oil Filter Element" on page 34.

- 4. Fill the reservoir to 3-1/4" inches from the top of the filler neck with 20W50 motor oil.
- 5. Replace the reservoir fill cap. Start the engine and drive forward and backward for two minutes. Check the oil level in the reservoir. If necessary, add oil to the reservoir.

C. CHANGING HYDRAULIC OIL FILTER ELEMENT

The hydraulic oil filter should be changed after every 500 hours of operation or annually, whichever occurs first.

- 1. Remove the oil filter element and properly discard it. See Figure 7-3. Fill the new filter with clean oil and install the filter. Hand tighten only.
- 2. Run the engine at idle speed with the speed control lever in neutral for five minutes.
- Check the oil level in the hydraulic tank. It must be 3-1/4" inches from the top of the filler neck. If necessary, add SAE 20W50 motor oil.

7.4 ENGINE OIL

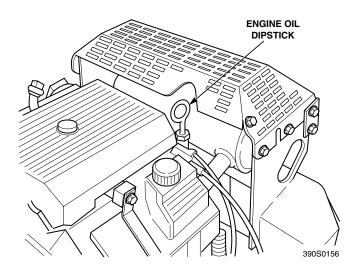


Figure 7-4. Engine Dipstick Location

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 Operator's Manual furnished with this mower.

B. CHANGING ENGINE CRANKCASE OIL

After the first 20 hours of operation, change the engine crankcase oil and replace the oil filter. Thereafter, change the engine crankcase oil after every 100 hours of operation or bi-weekly, whichever occurs first. Refer to the Engine Operator's Manual furnished with this mower for instructions.

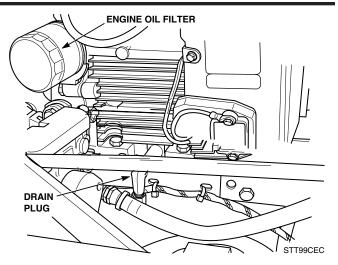


Figure 7-5. Drain Plug Location

C. CHANGING ENGINE OIL FILTER

After the first 20 hours of operation, replace the engine oil filter. Thereafter, replace the oil filter after every 200 hours of operation or every month, whichever occurs first. Refer to Engine Operator's Manual for instructions.

7.5 ENGINE FUEL SYSTEM

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

A. LPG FUEL SYSTEM

Maintenance must be performed to the LPG fuel system after 1000 hours of operation or annually, whichever occurs first. Contact your authorized Scag service center for details and maintenance. See Engine Owner's manual for service information

- 1. Secure loose cylinders when transporting. Transport in the upright position.
- 2. Fill at a reputable dealer.
- 3. Do not store tanks (empty or filled) inside any building or enclosed trailer.
- 4. Turn off valve at tank during machine storage.

A WARNING

DO NOT overfill. Follow approved procedures for filling.

This cylinder is designed to contain LP Gas; a flammable liquid and gas under pressure.

DO NOT expose to fire or heat above 120 degrees Farenheit.

Be sure all fittings are tight and leak proof.

DO NOT attempt repairs. Contact an authorized LP Gas Dealer.

Cylinder must be retested within 12 years of manufacture date.

It is important that anyone who changes or uses this cylinder be aware of its dangerous potential and use it only in compliance with all applicable governmental regulations including NFPA No.58

- 5. Cylinders that show excessive denting, bulging, gouging or corrosion shall be removed from service.
- 6. Do not dispose of cylinders without assistance of qualified propane personnel.
- 7. Replacement cylinders must meet requirements of original cylinders.
- 8. Refuel outdoors.

7.6 ENGINE AIR CLEANER

A. CLEANING AND/OR REPLACING AIR CLEANER ELEMENT

For any air cleaner, the operating environment dictates the air cleaner service periods. Inspect and clean the air cleaner element after every 100 hours of operation or bi-weekly, whichever occurs first and replace the element if required. See Engine Owner's Manual for service information.

- NOTE -

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

- 1. Unhook the clamps securing the air cleaner cover to the air filter canister. Remove the air cleaner cover and set aside.
- 2. Remove the air cleaner and inspect.
- 3. Clean or replace the air cleaner and foam pre-cleaner as recommended by the engine manufacturer.
- 4. Replace the air cleaner cover and be sure to snap the latches closed.

7.7 BATTERY

Lead-acid batteries produce flammable and explosive gases. To avoid personal injury when checking, testing or charging batteries, DO NOT use smoking materials near batteries. Keep arcs, sparks and flames away from batteries. Provide proper ventilation and wear safety glasses.

<u>SCAG</u>

A WARNING

Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to cause cancer and reproductive harm. Wash hands after handling.

A WARNING

Electric storage battery fluid contains sulfuric acid which is POISON and can cause SEVERE CHEMICAL BURNS. Avoid contact of fluid with eyes, skin, or clothing. Use proper protective gear when handling batteries. DO NOT tip any battery beyond 45° angle in any direction. If fluid contact does occur, follow first aid suggestions below.

BATTERY ELECTROLYTE FIRST AID

External Contact — Flush with water.

Eyes — Flush with water for at least 15 minutes and get medical attention immediately.

Internal — Drink large quantities of water. Follow with Milk Of Magnesia, beaten egg, or vegetable oil. Get medical attention immediately. In case of internal contact, DO NOT give fluids that would induce vomiting.

A. CHARGING THE BATTERY

Refer to the battery charger's manual for specific instructions.

Under normal conditions the engine's alternator will have no problem keeping a charge on the battery. If the battery has been completely discharged for a long period of time, the alternator may not be able to recharge the battery, and a battery charger will be required.

DO NOT charge a frozen battery. It may explode and cause injury. Let the battery warm before attaching a charger.

Whenever possible, remove the battery from the mower before charging and make sure the electrolyte covers the plates in all cells.

A WARNING

BATTERIES PRODUCE EXPLOSIVE GASES. Charge the battery in a well ventilated space so gases produced while charging can dissipate.

Charging rates between 3 and 50 amperes are satisfactory if excessive gassing or spewing of electrolyte does not occur or the battery does not feel excessively hot (over 125°F). If spewing or gassing occurs or the temperature exceeds 125°F, the charging rate must be reduced or temporarily stopped to permit cooling.

B. JUMP STARTING

- 1. The booster battery must be a 12 volt type. If a vehicle is used for jump starting, it must have a negative ground system.
- 2. When connecting the jumper cables, connect the positive cable to the positive battery post, then connect the negative cable to the negative battery post.

7.8 DRIVE BELTS

All drive belts are spring-loaded and self-tensioning, however after the first 2, 4, 8 and 10 hours of operation, the belts 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.



7.9 CUTTER BLADES

A. BLADE INSPECTION

- 1. Remove the ignition key before servicing the blades.
- 2. Raise the mower deck to the highest position. Place the lanyard pin in the highest cutting height position to prevent the cutter deck from falling.

Always wear proper hand and eye protection when working with cutter blades.

3. Check the cutter blades for straightness. If the cutter blades appear bent, they will need to be replaced.

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.

 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 7-6.

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

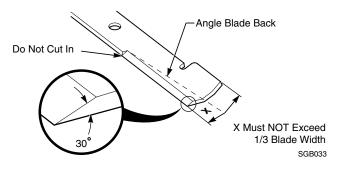


Figure 7-6. Blade Sharpening

 Check the balance of the blade. If the blades are out of balance, vibration and premature wear can occur. See your authorized Scag dealer for blade balancing or special tools, if you choose to balance your own blades.

C. BLADE REPLACEMENT

WARNING

Always wear proper hand and eye protection when working with cutter blades.

- 1. Remove the ignition key before replacing the blades.
- 2. Raise the mower deck to the highest position. Place the lanyard pin in the highest cutting height position to prevent the cutter deck from falling.
- Secure the cutter blades to prevent them from rotating, (use the optional Blade Buddy tool P/N 9212, to assist in securing the cutter blades), remove the nut from the blade attaching bolt. Remove the cutter blade, bolt and spacer from the spindle shaft. See Figure 7-7.

- NOTE -

The front of the machine will have to be raised slightly to remove the blade bolt from the cutter spindle.

4. To install the new cutter blade, put the flat washer onto the blade bolt and slide the bolt into the hole in the cutter blade.



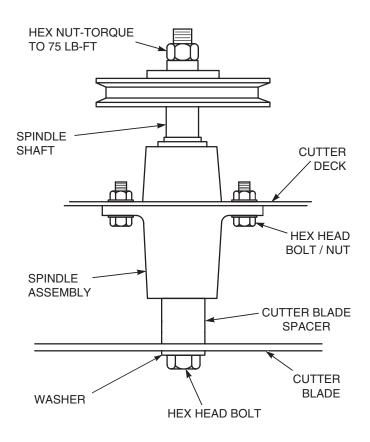


Figure 7-7. Blade Replacement

- NOTE -

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

- 5. Install the spacer onto the blade bolt and insert the bolt into the cutter spindle shaft.
- 6. Install the hex nut to the blade bolt at the top of the cutter spindle. Secure the blades from rotating and torque to 75 lb-ft. See Figure 7-7.

7.10 TIRES

Check the tire pressures after every 8 hours of operation or daily.

Caster Wheels	Flat Free
Drive Wheels	12 PSI

7.11 CUTTER DECK GEARBOX

A. CHECKING LUBRICANT LEVEL

The cutter deck gearbox can reach high operating temperatures. Allow the cutter deck gearbox to cool before servicing.

The fluid level in the cutter deck gearbox should be checked after every 100 hours of operation or bi-weekly, whichever occurs first.

- 1. Lower the cutter deck to to its lowest position to gain access to the cutter deck gearbox.
- 2. Clean and remove the check plug from the side of the gearbox. See Figure 7-8.

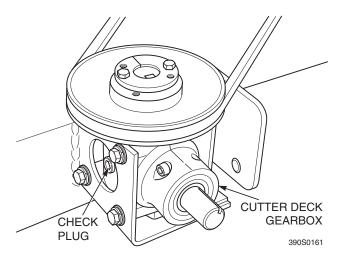


Figure 7-8. Cutter Deck Gearbox

3. Visually check that the lubricant level is up to the bottom edge of the check plug hole. If lubricant is low, add SAE 80W90 lubricant through the check plug hole in the gearbox until it is level with the bottom of the check plug hole. Install the check plug and tighten securely.

B. CHANGING LUBRICANT

The lubricant in the cutter deck gearbox should be changed after every 500 hours of operation or yearly, whichever occurs first.

- 1. Place a suitable container beneath the cutter deck gearbox and locate the gearbox drain plug.
- 2. Remove the drain plug, drain the lubricant into the container and properly discard it.
- 3. Re-install the drain plug and add SAE 80W90 lubricant through the check plug hole in the gearbox until it is level with the bottom of the check plug hole. Install the check plug and tighten securely.

7.12 BODY, DECK, AND UPHOLSTERY

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 electrical components.
- 3. Use a mild soap solution or a vinyl/rubber cleaner to clean the seat.
- 4. Repair damaged metal surfaces using Scag touchup paint available from your authorized Scag dealer. Wax the mower for maximum paint protection.



ILLUSTRATED PARTS LIST

8.1 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:

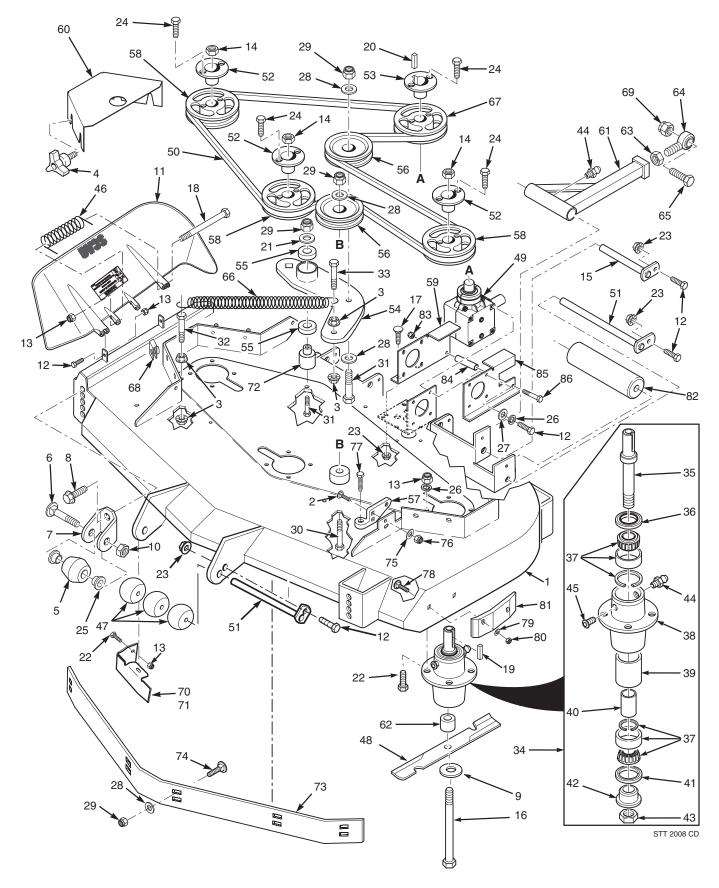
- Mulch Plate (p/n 9287, 9288)
- Hurricane Mulch (p/n 9284, 9285)
- STT Hitch (p/n 9242)
- STT Bumper (p/n 9256)
- STT Lights (p/n 9279)
- Tiger Striper (p/n 9269)
- Blade Buddy (p/n 9212)
- STT-OCDC-52V (p/n 921B)
- STT-OCDC-61V (p/n 921C)



NOTES



52V CUTTER DECK



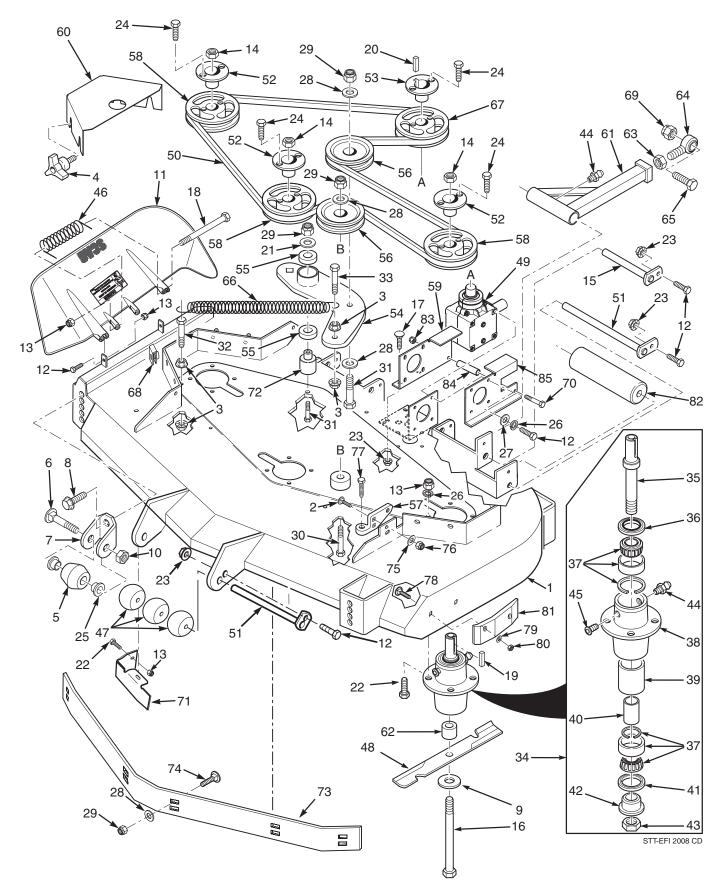
⁴² Download from Www.Somanuals.com. All Manuals Search And Download.

52V CUTTER DECK

Ref. No.	Part No.	Description	R
1	461859	Cutter Deck Velocity Plus	4
2	04003-40	Bolt, Carriage 7/16-14 x 1-1/4"	4
3	04019-04	Nut, Hex Serr. Flng 3/8-16	4
4	481625-01	Wing nut, 3/8-16	4
5	481632	Anti-Scalp Wheel	5
6 7	04003-26 422478	Bolt, Carriage 3/8-16 x 4" Anti-Scalp Wheel Bracket	5
8	04017-27	Bolt, Hex Serr. Flng 3/8-16 x 1"	5
9	04043-06	Flatwasher, 5/8" Hardened	5
10	04021-05	Locknut, 3/8-16 Center Lock	5
11	461845	Discharge Chute	5
12	04001-11	Bolt, Hex Head 5/16-18 x 1-3/4" - Front	5
	04001-12	Bolt, Hex Head 5/16-18 x 1-1/2" - Rear	5
13	04021-22	Nut, Hex Elastic Stop 5/16-18 Grd 8	5
14	04020-09	Nut, 5/8-11 UNC	6
15	451240	Push Arm Shaft	6
16	04001-41	Bolt, HH 5/8-11 x 9-1/2"	6
17	04003-12	Bolt, Carriage 5/16-18 x 3/4"	6
18 19	04001-108 04063-08	Bolt, HH 5/16-18 x 4-1/2" Key, 1/4 x 1/4 x 2"	6
20	04063-08	Key, 1/4 x 1/4 x 2 Key, 1/4 x 1/4 x 1-1/4"	6
21	04043-04	Flatwasher,3/8" (.39 x .938 x .105") HD	6
22	04001-176	Bolt, HH 5/16-18 x 1-3/4"	6
23	04019-03	Nut, Hex Serr. Flng 5/16-18	6
24	04001-172	Bolt, HH 1/4-20 x 1" Grd 8	7
25	48100-15	Bushing, .376" I.D. Oilite	7
26	04030-03	Lockwasher, 5/16"	7
27	04040-15	Flatwasher, 5/16" (.375 x .875 x .083")	7
28	04041-07	Flatwasher, 3/8" (.391 x .938 x .105")	7
29	04021-09	Nut, Hex Elastic Stop 3/8-16	7
30 31	04001-62 04001-54	Bolt, HH 3/8-16 x 3-1/4" Bolt, HH 3/8-16 x 3"	7
32	04001-34	Bolt, HH 3/8-16 x 1-1/2"	7
33	04001-136	Bolt, HH 3/8-16 x 1-1/2" Grd 8	8
34	461663	Spindle Assembly	8
35	43589	Spindle Shaft	8
36	481024	Seal, Top	8
37	481022	Bearing Assembly	8
38	43644	Spindle Housing	8
39	43312	Spacer, Outside	8
40	43296	Spacer, Inside	
41	481025	Seal, Bottom	
42	43297	Spindle Bushing, Bottom	
43 44	481035 48114-04	Nut, Special 1-1/16-18	
44 45	48114-04 48677	Grease Fitting Relief Fitting, Tapered Spindle	
-5	-+0077		

Ref. No.	Part No.	Description	
46	483378	Spring, Discharge Chute	
47	482295	Wheel, Anti-Scalp	
48	482878	Cutter Blade, 18"	
49	482486	Gearbox Assm, Deck Drive	
50	482281	Belt, Cutter Deck Drive	
51	45944	Roller Shaft	
52	48926	Tapered Hub, 1-1/8" Bore	
53	48141	Tapered Hub, 1" Bore	
54	461842	Idler Arm, Cutter Deck	
55	48224	Bearings, Ball	
56	483215	3215 Pulley, Idler	
57	461929	Lever Assembly, Deck Level (Incl. 77)	
58	482744	Pulley, 5.75" O.D. (52")	
59	424798	Mounting Plate, RH Gearbox	
60	422412	Belt, Cover	
61	461516	Pusharm (includes items 44, 63 & 64)	
62	43590	Spacer, Spindle Bottom	
63	04020-16	Nut, Hex Head 5/8-18 UNF	
64	48763	Rod End, 5/8" Male RH Thrd	
65	04001-79	Bolt, Hex Head 5/8-11 x 4-1/2"	
66	483704	Spring, Cutter Deck	
67	482747	Pulley, 6.95" O.D.	
68	04110-03	U-Nut, 3/8-16	
69	04021-13	Nut, Hex Elastic Stop 5/8-11	
70	424208	Discharge Baffle 52V	
72	43503	Pivot, Idler - Short	
73	424840	Baffle, Custom Cut 52V	
74	04003-23	Bolt, Carriage 3/8-16 x 1"	
75	04040-11	Flatwasher, 7/16" (.500 x 1.25 x .083")	
76	04021-11	Nut, Elastic Stop 7/16-14	
77	483167	Bolt, Deck Adjust	
78	04003-12	Bolt, Carraige 5/16-18 x 3/4"	
79	04040-04	Flatwasher, 5/16"	
80	04021-04	Nut, Center Lock 5/16-18	
81	483176	Wear Pad	
82	48038	Wheel, Anti-Scalp	
83	04021-10	Nut, Elastic Stop 5/16-18	
84	43763	Spacer, Gearbox Mount	
85	424799	Mounting Plate, LH Gearbox	
86	04001-154	Bolt, HH 5/16-18 x 4-3/4"	

61V Cutter Deck



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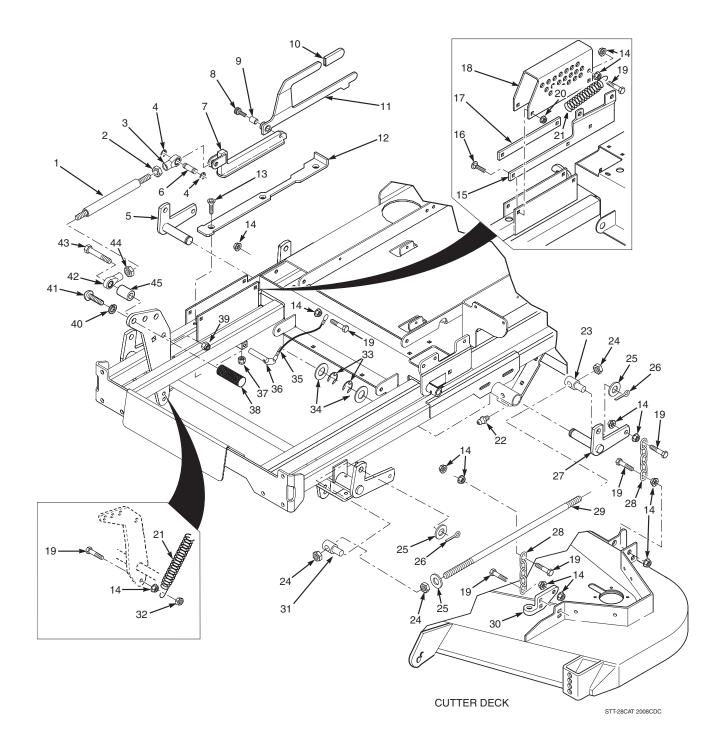
61V Cutter Deck

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Ref. No.	Part No.	Description	Ref. No.
1	461863	Cutter Deck Velocity Plus	46
2 3	04003-40 04019-04	Bolt, Carriage 7/16-14 x 1-1/4" Nut, Hex Serr. Flng. 3/8-16	47 48
4	481625-01	Wing Nut, 3/8-16	40
5	481632	Anti-Scalp Wheel	50
6	04003-26	Bolt, Carriage 3/8-16 x 4"	51
7	422478	Anti-Scalp Wheel Bracket	52
8	04017-27	Bolt, Hex Serr. Fing. 3/8-16 x 1"	53
9	04043-06	Flatwasher, 5/8" Hardened	54
10	04021-05	Locknut, 3/8-16 Center Lock	55
11	461846	Discharge Chute	56
12	04001-12	Bolt, Hex Hd. 5/16-18 x 1-1/2" - Rear	57
13	04021-22	Nut, Hex Elastic Stop 5/16-18 Grd. 8	58
14	04020-09	Nut, 5/8-11 UNC	59
15	451240	Pusharm Shaft	60
16	04001-41	Bolt, Hex Hd. 5/8-11 x 9-1/2"	61
17	04003-12	Bolt, Carriage 5/16-18 x 3/4"	62
18 19	04001-108	Bolt, Hex Hd. 5/16-18 x 4-1/2"	63 64
20	04063-08 04063-01	Key, 1/4 x 1/4 x 2" Key, 1/4 x 1/4 x 1-1/4"	65
20	04083-01	Flatwasher,3/8 (.39 x .938 x .105") HD	66
22	04001-176	Bolt, Hex Hd. 5/16-18 x 1-3/4"	67
23	04019-03	Nut, Hex Serr. Flng. 5/16-18	68
24	04001-172	Bolt, Hex Hd. 1/4-20 x 1" Grd. 8	69
25	48100-15	Bushing, .376" I.D. Oilite	70
26	04030-03	Lockwasher, 5/16"	71
27	04040-15	Flatwasher, 5/16" (.375 x .875 x .083")	72
28	04041-07	Flatwasher, 3/8" (.391 x .938 x .105")	73
29	04021-09	Nut, Hex Elastic Stop 3/8-16	74
30	04001-62	Bolt, Hex Hd. 3/8-16 x 3-1/4"	75
31	04001-54	Bolt, Hex Hd. 3/8-16 x 3"	76
32	04001-20	Bolt, Hex Hd. 3/8-16 x 1-1/2"	77
33	04001-136	Bolt, Hex Hd. 3/8-16 x 1-1/2" Grd. 8	78
34	461663	Spindle Assembly	79 80
35 36	43589 481024	Spindle Shaft Seal, Top	80 81
30	481024	Bearing Assembly	82
38	43644	Spindle Housing	83
39	43312	Spacer, Outside	84
40	43296	Spacer, Inside	85
41	481025	Seal, Bottom	
42	43297	Spindle Bushing, Bottom	
43	481035	Nut, Special 1-1/16-18	
44	48114-04	Grease Fitting	
45	48677	Relief Fitting, Tapered Spindle	

47482295Wheel, Anti-Scalp48482879Cutter Blade, 21"49482486Gearbox Assembly, Deck Drive50481558Belt, Cutter Deck Drive5145944Roller Shaft5248246Tapered Hub, 1-1/8" Bore5348141Tapered Hub, 1" Bore54461842Idler Arm, Cutter Deck5548224Bearings, Ball5648215Pulley, Idler57461929Lever Assembly, Deck Level (Incl. 77)58482745Pulley, 6.35" O.D. (61")59424798Mounting Plate, RH Gearbox50424325Belt, Cover51461516Pusharm (Incl. 44, 63 & 64)5243590Spacer, Spindle Bottom5304020-16Nut, Hex Hd. 5/8-11 x 4-1/2"5448763Rod End, 5/8" Male RH Thread5504001-79Bolt, Hex Hd. 5/8-11 x 4-1/2"56483704Spring, Cutter Deck57482746Pulley, 6.75 O.D.5804110-03U-Nut, 3/8-165904021-13Nut, Hex Elastic Stop 5/8-117004001-154Bolt, Hex Hd. 5/16-18 x 4-3/4"71424209Discharge Baffle 61V7243503Pivot, Idler - Short73424841Baffle, Custom Cut 61V7404003-23Bolt, Carriage 3/8-16 x 1"7504040-11Flatwasher, 7/16 (.500 x 1.25 x .083")7604021-10Nut, Elastic Stop 5/16-1877483167 <th>ef. o.</th> <th>Part No.</th> <th>Description</th>	ef. o.	Part No.	Description
	5 46 47 48 49 50 51 23 54 55 56 57 58 90 51 23 34 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 71 27 74 75 76 77 89 00 132 33 45 56 57 89 00 51 23 54 55 66 7 89 00 51 23 54 55 66 7 89 00 71 72 73 74 75 76 77 89 00 132 33 45 56 56 7 89 00 71 72 73 74 75 76 77 89 00 132 33 45 56 77 89 00 77 77 77 77 77 77 77 77 77 77 77 77	482295 482879 482486 481558 45944 48926 48141 461842 48224 483215 461929 482745 424798 424325 461516 43590 04020-16 48763 04001-79 483704 482746 04110-03 04001-154 424209 43503 424841 04003-23 04040-11 04021-11 483167 04003-12 04040-04 04021-04 483176 48038 04021-10 43763	Wheel, Anti-Scalp Cutter Blade, 21" Gearbox Assembly, Deck Drive Belt, Cutter Deck Drive Roller Shaft Tapered Hub, 1-1/8" Bore Tapered Hub, 1" Bore Idler Arm, Cutter Deck Bearings, Ball Pulley, Idler Lever Assembly, Deck Level (Incl. 77) Pulley, 6.35" O.D. (61") Mounting Plate, RH Gearbox Belt, Cover Pusharm (Incl. 44, 63 & 64) Spacer, Spindle Bottom Nut, Hex Hd. 5/8-18 UNF Rod End, 5/8" Male RH Thread Bolt, Hex Hd. 5/8-11 X 4-1/2" Spring, Cutter Deck Pulley, 6.75 O.D. U-Nut, 3/8-16 Nut, Hex Elastic Stop 5/8-11 Bolt, Hex Hd. 5/16-18 X 4-3/4" Discharge Baffle 61V Pivot, Idler - Short Baffle, Custom Cut 61V Bolt, Carriage 3/8-16 x 1" Flatwasher, 7/16 (.500 x 1.25 x .083") Nut, Elastic Stop 7/16-14 Bolt, Deck Adjust Bolt, Carriage 5/16-18 X 3/4" Flatwasher, 5/16" Nut, Center Lock 5/16-18 Wear Pad Wheel, Anti-Scalp Nut, Elastic Stop 5/16-18 Spacer, Gearbox Mount

CUTTER DECK CONTROLS

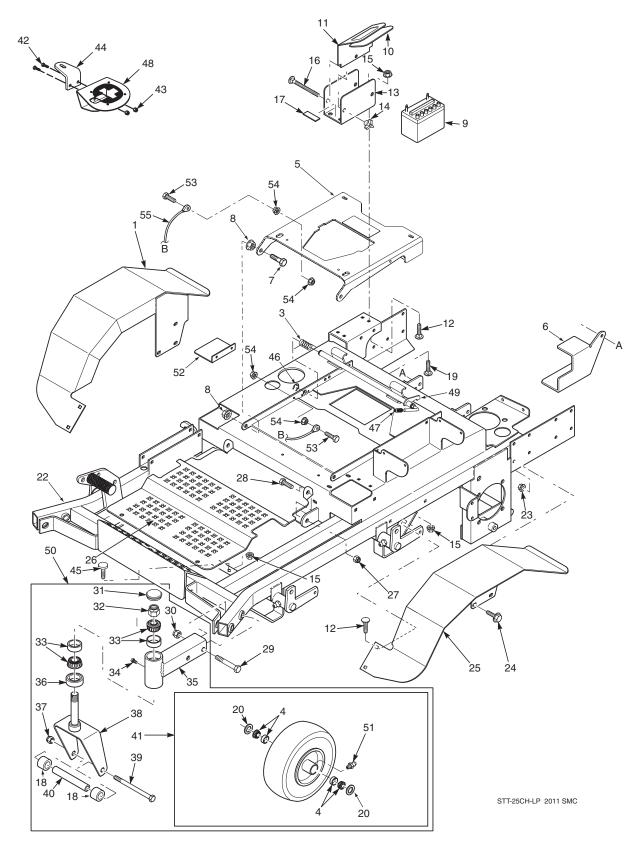


CUTTER DECK CONTROLS

Ref. No.	Part No.	Description	
1	481764	Link, Deck Lift	
2	04020-28	Nut, Jam 1/2-20 LH	
3	481766	Rod End, Female - 1/2-20 LH	
4	04050-10	Ring, Retaining 1/2" External "E"	
5	45905	Bellcrank Weldment, RH Rear	
6	43487	Pin, Decklift	
7	482429	Slide Weldment, Height Adjustment	
8	04009-02	Bolt, Shoulder 1/2 x 3/4"	
9	48100-14	Bushing, .502 ID.	
10	481428	Grip, Deck Latch	
11	462102	Deck Latch (Includes items 9 & 10)	
12	424857	Lockplate, Decklift	
13	04014-03	Screw, Cap 5/16-18 x 3" FHHS	
14	04019-04	Nut, Hex Serrated Flange 3/8-16	
15	423509	Guide, Long	
16	04003-04	Bolt, Carriage 5/16-18 x 1"	
17	422381	Guide, Short	
18	423463	Bracket, Cutting Height Adjustment Bolt, Hex Head 3/8-16 x 1-1/2"	
19	04001-20	Nut, Hex Serrated Flange 5/16-18	
20 21	04019 -03 481598	Spring, Helper (61" & 72" Cutter Decks Only)	
22	48114-04	Grease Fitting	
23	43526	Swivel Joint, LH	
24	04020-09	Nut, Hex 5/8-11	
25	04040-09	Flatwasher, 5/8" (.656 x 1.312 x .095)	
26	04061-07	Cotter Pin, 3/16 x 1"	
27	45904	Bellcrank Weldment, LH Rear	
28	48540	Chain	
29	04004-48	Stud, 5/8-11 x 26.0"	
30	461929	Lever Assembly, Deck Level	
31	43527	Swivel Joint, RH	
32	04021-05	Locknut, 3/8-16 Center Lock	
33	04050-08	Ring, Retaining 1" External "E"	
34	04041-14	Flatwasher, 1" (1.062 x 1.50 x .048)	
35	481547	Lanyard, Deck Height Pin	
36	04067-09	Ring Pin, 1/2 x 3.06"	
37	04021-09	Nut, 3/8-16 Elastic Stop	
38	424504	Foot Pedal, Height Adjustment	
39	04021-07	Nut, Hex Elastic Stop 1/2-13	
40	04030-07	Lockwasher, 5/8"	
41	04105-01	Capscrew, 5/8-11 x 1-1/2"	
42	481765	Rod End, Female - 1/2-20 RH	
43	04001-74	Bolt, Hex Head 1/2-13 x 3"	
44 45	04020-27	Nut, Jam 1/2-20 RH Spacer, Decklift Pedal	
40	43391		



SHEET METAL COMPONENTS

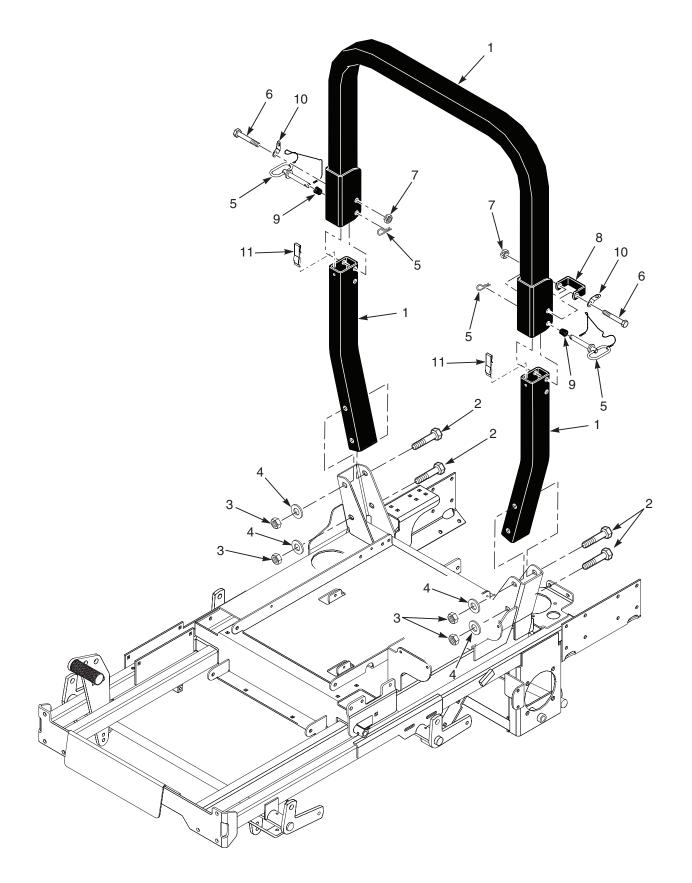




SHEET METAL COMPONENTS

STT ROLL-OVER PROTECTION SYSTEM

SCAG



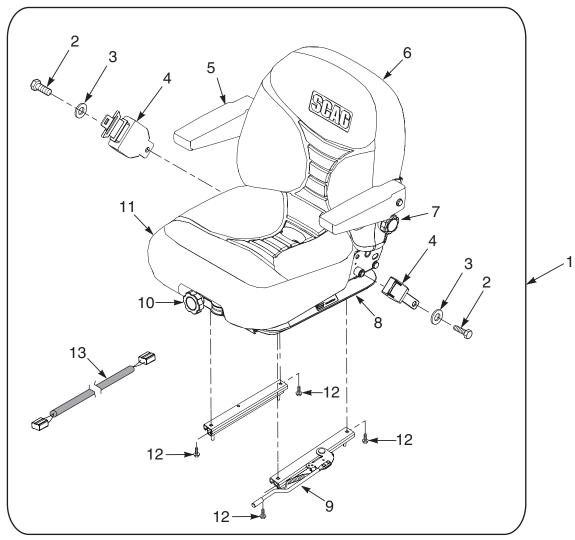
Section 8



STT ROLL-OVER PROTECTION SYSTEM

Ref. No.	Part No.	Description
1	462210	STT, ROPS
2	04001-87	Bolt, Hex Head 1/2-13 x 4"
3	04021-19	Nut, Center Lock 1/2-13
4	04040-13	Flatwasher, 1/2562 x 1.375 x .109
5	484168	Pin Assembly (incl. #9 & #10)
6	04001-163	Bolt, Hex Head 1/2-13 x 3-3/4"
7	04021-19	Nut, Center Lock 1/2-13
8	484166	Stop Bracket, ROPS
9	484170	Spring, ROPS
10	484169	Clip, ROPS
11	484167	Spring Clip, ROPS

STT SUSPENSION SEAT



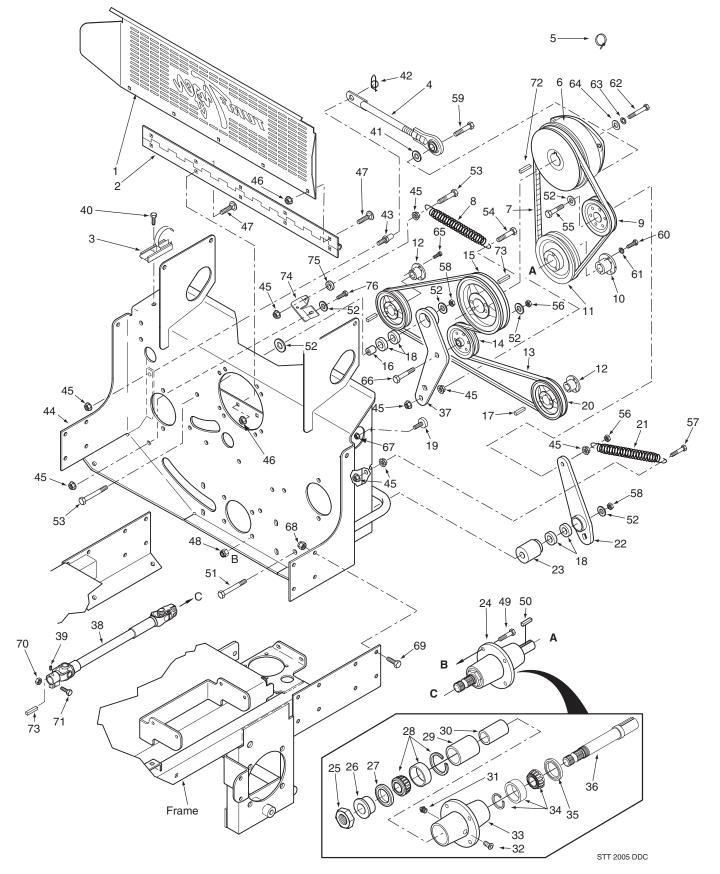
Ref. No.	Part No.	Description	
1	9292	Suspension Seat Assembly w/seat belt	
2	04001-178	Bolt, Hex Head 7/16-20 x 1"	
3	04040-11	Flatwasher, 7/16500 x 1.25 x .083	
4	483594	Retractable Seat Belt	
5	482950	Armrest Only	
	482945	Armrest Assembly Kit, LH	
	482946	Armrest Assembly Kit, RH	
6	482940	Back Cushion Kit	
7	482943	3 Lumbar Kit	
	482948	Knob Kit	
8	482942	Shock Absorber Kit	
9	482952	Seat Adjustment, Track Set	
10	482944		
	482948	Knob Kit	
11	482941	Seat Cushion Kit	
		Seat Drain Kit (Included with Seat Cushion)	
12	04001-12	Bolt, Hex Head 5/16-18 x 1-3/4"	
13	483440	Wire Harness Adapter	
		Bolt, Hex Head 5/16-18 x 1-3/4"	



NOTES



DECK DRIVE COMPONENTS



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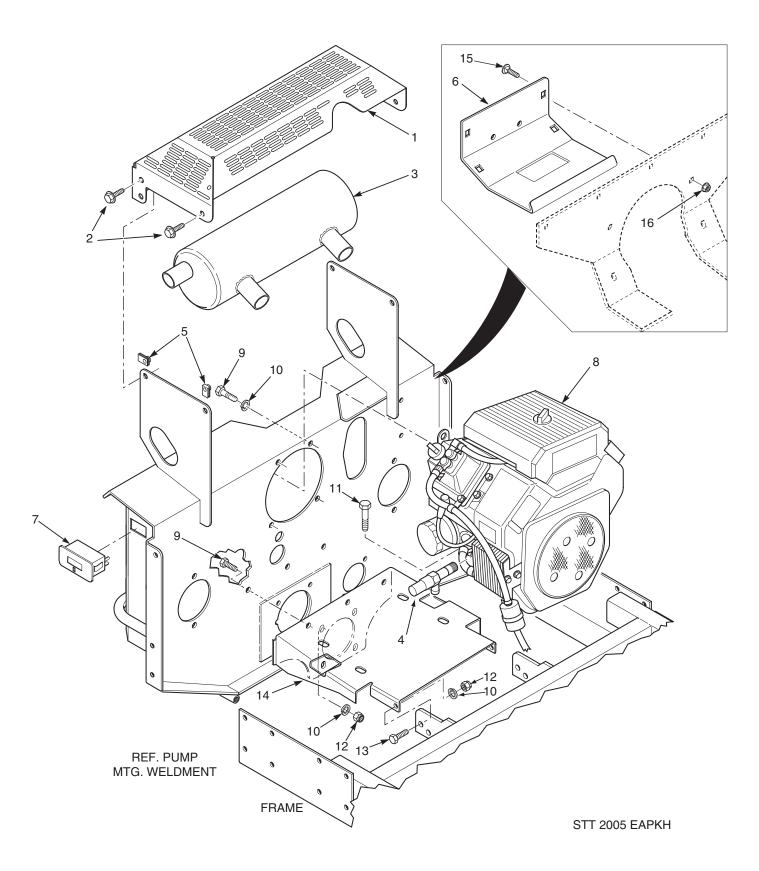
DECK DRIVE COMPONENTS

Ref. No.	Part No.	Description	Ref. No.
$\begin{array}{c} 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ 6 \\ 7 \\ 8 \\ 9 \\ 10 \\ 11 \\ 12 \\ 13 \\ 14 \\ 15 \\ 16 \\ 17 \\ 18 \\ 19 \\ 21 \\ 22 \\ 24 \\ 25 \\ 26 \\ 27 \\ 28 \\ 9 \\ 30 \\ 12 \\ 23 \\ 34 \\ 35 \\ 36 \\ 37 \\ 38 \\ 9 \\ 40 \\ 14 \\ 23 \\ 44 \\ 45 \\ \end{array}$	423925 481531 481309 482845 48030-09 461661 482876 483088 48181 481536 482949 481884 483165 483214 483082 43631 04063-14 48224 481284 482745 482667 461609 43632 461697 481035 43297 481025 481022 43312 43296 48114-04 48677 43644 481022 43312 43296 48114-04 48677 43644 481022 43354 461608 482424 04012-08 04011-11 04041-07 04069-01 43507 452105 04019-04	Belt Guard, Rear Hinge, Belt Guard Latch, Hood Rod Assembly, Clutch Anti-Rotation Clamp, Cable Clutch, Ogura GT-3.5 Belt, Deck Drive Spring, Transmission Idler Pulley, Idler 5" Dia. Tapered Hub, 1" Bore Pulley, 6.70" Tapered Bore Tapered Hub, 1"Tmm Bore Belt, Pump Drive STT Pulley, Idler 4" Dia. Pulley, 4.55" Dia1.125" Bore Spacer, Idler Bearing Key, 5.0 x 5.0 x 25mm Ball Bearing Bumper, Rubber Pulley, 6.35" O.D. Spring, PTO Idler Arm Weldment, PTO Drive Pivot, Idler PTO Spindle Assembly, Deck Drive Nut, 1.06"-18 Thread Spindle Bushing, Bottom Seal, 2.0" OD x 1.625" Bore Roller Bearing Tapered Spacer, Outside Spacer, Inside Grease Fitting, 1/4-28 Relief Fitting Spindle Housing Roller Bearing Tapered Seal, 2.0" OD x 1.5" Bore Shaft, Deck Drive Idler Arm Weldment, Pump Drive Driveshaft (Air-Cooled Engine) Set Screw, 3/8-16 x 3/4" Torx Socket Screw, #10-32 x .56" Flatwasher, 3/8 (.391 x .938 x .105") Pin, Rue Cotter 3/8" Dia. Stud, Anti Rotation Pump Mounting Plate Weldment (STT-25CH-LP) Nut, Serrated Flange 3/8-16	$\begin{array}{c} 46\\ 47\\ 48\\ 49\\ 50\\ 51\\ 52\\ 53\\ 54\\ 55\\ 56\\ 57\\ 58\\ 59\\ 60\\ 61\\ 62\\ 63\\ 64\\ 66\\ 67\\ 68\\ 69\\ 70\\ 71\\ 72\\ 73\\ 74\\ 75\\ 76\\ \end{array}$

	PONENTS	
Ref. No.	Part No.	Description
46 47 48 49 50 51 52 53 4 55 56 57 58 59 60 61 62 63 45 66 67 68 970 71 273 74 75 76	04019-02 04003-07 04021-22 04001-176 04063-06 04001-171 04043-04 04001-135 04001-136 04001-136 04021-05 04001-170 04021-09 04001-45 04001-109 04030-02 04001-109 04001-21 04019-03 04021-09 04001-21 040121-05 04001-21 04063-02 04063-20 424138 43063 04001-19	Nut, Serrated Flange 1/4-20 Bolt, Carriage 1/4-20 x 1/2" Nut, Elastic Stop 5/16-18 Grade 8 Bolt, Hex Head 5/16-18 x 1-3/4" Grad 8 Black Washer, 3/8" Hardened Bolt, Hex Head 3/8-16 x 4-1/2" Grd 8 Black Bolt, Hex Head 3/8-16 x 1-1/2" Grd 8 Black Bolt, Hex Head 3/8-16 x 2-1/2" Grd 8 Black Nut, Center Lock 3/8-16 Bolt, Hex Head 3/8-16 x 2-1/2" Grd 8 Black Nut, Elastic Stop 3/8-16 Bolt, Hex Head 3/8-16 x 2" Bolt, Hex Head 3/8-16 x 2" Bolt, Hex Head 3/8-16 x 2" Bolt, Hex Head 7/16-20 x 2-1/2" UNF Lockwasher, 1/4" Spring Flatwasher, 7/16 (.469 x 1.75 x .25") Bolt, Hex Head 1/4-20 x 1" Grade 8 Bolt, Hex Head 3/8-16 x 1-3/4" Nut, Serrated Flange 5/16-18 Nut, Elastic Stop 3/8-16 Bolt, Hex Head 3/8-16 x 1-3/4" Nut, Center Lock 3/8-16 Bolt, Hex Head 3/8-16 x 1" Nut, Center Lock 3/8-16 Bolt, Hex Head 3/8-16 x 1.3/4" Key, 1/4 x 1/4 x 2-1/4" Key, 1/4 x 1/4 x 2-1/4" Key, 1/4 x 1/4 x 1" Bracket Spacer Bolt, Hex Head 3/8-16 x 1"



ENGINE AND ATTACHING PARTS - KOHLER LP





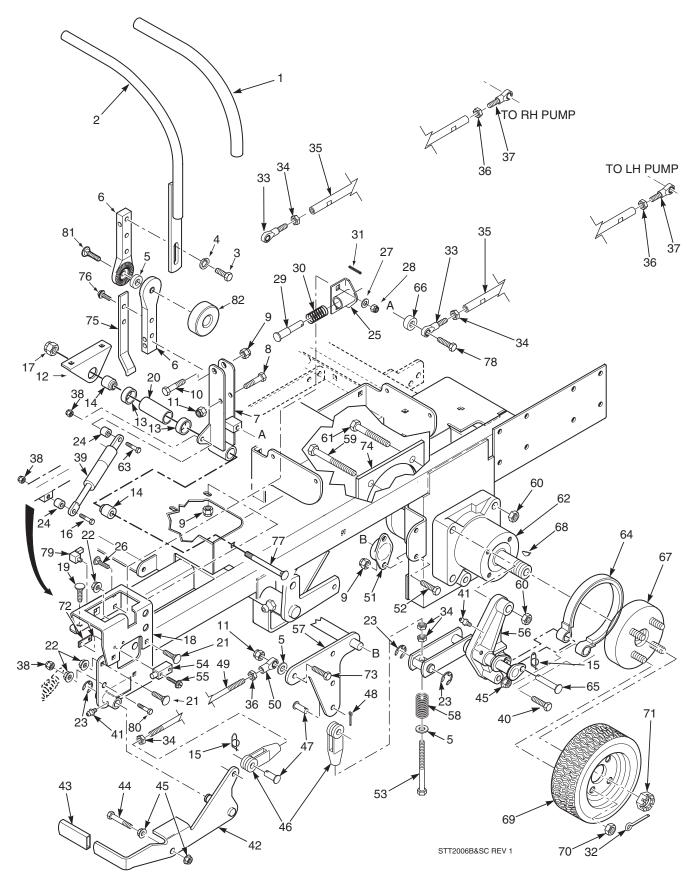
ENGINE AND ATTACHING PARTS - KOHLER LP

Ref. No.	Part No.	Description
1	422593	Muffler Guard
2	04017-05	Screw, Hex Serrated Flange 1/4-20 x 3/4"
3	**	Muffler, Part Of Engine (Available only through Kohler)
4	482510	Oil Drain Extension
5	04110-01	U-Nut, 1/4-20
6	424691	Rear Cover
7	483537	Hour Meter
8	484052**	Engine, Kohler 25 CH LP (Available only through Kohler, Eng. Spec. PS-CH730-0220)
9	04001-19	Bolt, Hex Head 3/8-16 x 1"
10	04030-04	Lockwasher, 3/8" Spring
11	04001-21	Bolt, Hex Head 3/8-16 x 1-3/4"
12	04021-09	Nut, Hex Elastic Stop 3/8-16
13	04001-32	Bolt, Hex Head 3/8-16 x 1-1/4"
14	451459	Plate, Engine Mounting
15	04003-12	Bolt, Carriage 5/16-18 x 3/4"
16	04019-03	Nut, Hex Serrated Flange 5/16-18

** Available through the individual engine manufacturer.



BRAKE AND STEERING COMPONENTS



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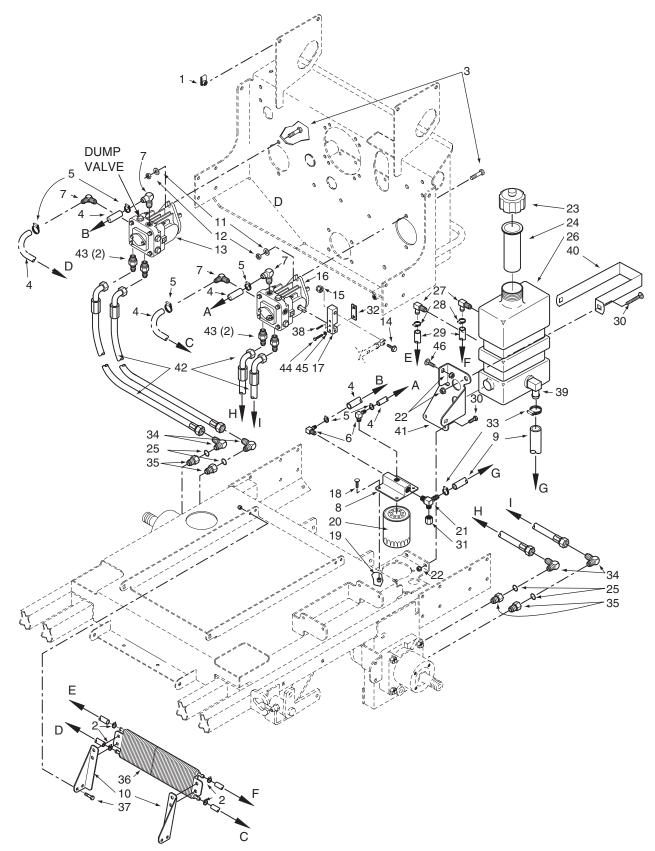
BRAKE AND STEERING COMPONENTS

Ref. No.	Part No.	Description]	Ref. No.	Part No.
-					
1	482340	Grip, Handle Bar		46	48343-04
2	461914	Handle Bar, LH (Includes item 1)		47	04064-02
_	461923	Handle Bar, RH (Includes item 1)		48	04061-02
3	04001-09	Bolt, Hex Head 5/16-18 x 1"		49	04004-34
4	04030-03	Lockwasher, 5/16"		50	48544
5	483250	Rubber Spacer		51	48796
6	483238	Bar, Control Lever		52	04001-08
7	451483	Control Lever Weldment, LH		53	04001-147
	451484	Control Lever Weldment, RH		54	481637
8	04001-17	Bolt, Hex Head 5/16-18 x 2"		55	04010-12
9	04021-10	Nut, Hex Elastic Stop 5/16-18			
10	04001-45	Bolt, Hex Head 3/8-16 x 2"		56	462100
11	04021-09	Nut, Hex Elastic Stop			462101
12	423488	Mount, Control Linkage		57	45953
13	48224	Ball Bearings, Neutral Return		58	48807
14	43607	Spacer		59	04001-163
15	04069-01	Pin, Rue Cotter 3/8" Dia.		60	04021-19
16	04001-13	Bolt, Hex Head, 5/16-18 x 2.75" Zinc		61	04001-52
17	04021-13	Nut, Hex Elastic Stop 5/8-11		62	482639
18	461601	Bracket, Control Lever LH		63	04001-12
	461602	Bracket, Control Lever RH		64	483644
19	04003-04	Bolt, Carriage 5/16-18 x 1"		65	04064-16
20	43600	Spacer, Bearing		66	43063
21	04003-12	Bolt, Carriage 5/16-18 x 3/4"		67	461438
22	04019-03	Nut, Hex Serrated Flange 5/16-18		68	04063-25
23	04050-01	Ring, Retaining 5/8" External "E"		69	481552
24	43602	Spacer			481659
25	45918	Bracket, Neutral Return			481660
26	04003-02	Bolt, Carriage 1/4-20 x 3/4"			481850
27	04040-14	Flatwasher, 1/4" (.312 x .750 x .065")			481851
28	04021-08	Nut, Hex Elastic Stop 1/4-20			481852
29	43477	Pin, Retaining Spring		70	04028-02
30	481389	Spring		71	48680
31	04060-01	Roll Pin, Spring 5/32" x 3/4"		72	422373
32	04061-06	Pin, Cotter 9/16" x 1-1/2"		73	04001-20
33	482586	Rod End, Male 3/8"-24 RH Thread		74	423279
34	04020-25	Nut, 3/8"-24 RH Thread		75	423491
35	43629	Tube, Control Link Air-Cooled Engine		76	04017-16
	43624	Tube, Control Link Liquid-Cooled Engine		77	04003-36
36	04020-26	Nut, Hex 3/8"-24 LH Thread		78	04001-19
37	482585	Rod End, Male 3/8"-24 LH Thread		79	481638
38	04021-10	Locknut, 5/16-18, Elastic Stop		80	04001-168
39	482794	Gas Damper		81	04003-38
40	04001-187	Bolt, Hex Head 1/2-13 x 2-1/2" Grade 8		82	483269
41	48114-04	Grease Fitting			
42	461082	Lever, Parking Brake (Includes item 43)			
43	481548	Grip, Parking Brake			
44	04001-22	Bolt, Hex Head 3/8-16 x 2-3/4"			
45	04019-06	Nut, Hex Serrated Flange 1/2-13			
		1	1		

ef. D.	Part No.	Description
6	48343-04	Clevis, Traction Control
7	04064-02	Pin, Clevis 3/8-16 x 1-1/16"
3	04061-02	Pin, Cotter 3/32 x .75"
Э	04004-34	Rod, Parking Brake
C	48544	Rod End, LH Thread
1	48796	Bushing, Self Align
2	04001-08	Bolt, Hex Head 5/16-18 x 3/4"
3	04001-147	Bolt, Hex Hd 3/8-24 x 5-1/4", 23/4" Thrd
4	481637	Switch
5	04010-12	Screw, Hex-Slotted Washer Head #10 32 x 3/4"
6	462100	Brake Linkage, LH
	462101	Brake Linkage, RH
7	45953	Bellcrank, Brake Actuator
3	48807	Spring
9	04001-163	Bolt, Hex Head 1/2-13 x 3-3/4"
)	04021-19	Locknut, Hex 1/2-13 Center Lock
1	04001-52	Bolt, Hex Head 1/2-13 x 2-1/2"
2 3	482639 04001-12	Wheel Motor, Ross Bolt, Hex Head, 5/16-18 x 1.75", Zinc
5 4	483644	Bolt, Hex Head, 5/16-16 x 1.75 , Zinc Brake Band Assembly
5	04064-16	Pin, Clevis 3/8" Dia. x 1.93"
5	43063	Spacer
7	461438	Wheel Hub/Brake Drum Assembly
3	04063-25	Key, Woodruff 5/16 x 1"
9	481552	Wheel Assembly 23 x 10.5-12 (52" Only)
	481659	Rim W/Valve Stem (52" Only)
	481660	Tire, 23 x 10.5-12 (52" Only)
	481850	Wheel Assembly 24 x 12-12 Turf Master
	481851	Rim W/Valve Stem
	481852	Tire, 24 x 12-12 Turf Master
)	04028-02	Lug Nut, 1/2-20
1	48680	Nut, Hex Castle
2	422373	Threaded Plate
3 4	04001-20 423279	Bolt, Hex Head 3/8-16 x 1-1/2" Plate Weldment, Motor Backing
5	423491	Actuator Switch
5	04017-16	Bolt, Hex Serrated Flange 5/16-18 x 3/4"
7	04003-36	Bolt, Carriage 3/8-16 x 4-3/4"
3	04001-19	Bolt, Hex Head 3/8-16 x 1"
9	481638	Switch
C	04001-168	Bolt, Hex Head 3/8-16 x 1-1/4" Grade 8
1	04003-38	Bolt, Carriage 5/16-18 x 1-1/2"
2	483269	Knob

SCAG

HYDRAULIC SYSTEM - KOHLER LP



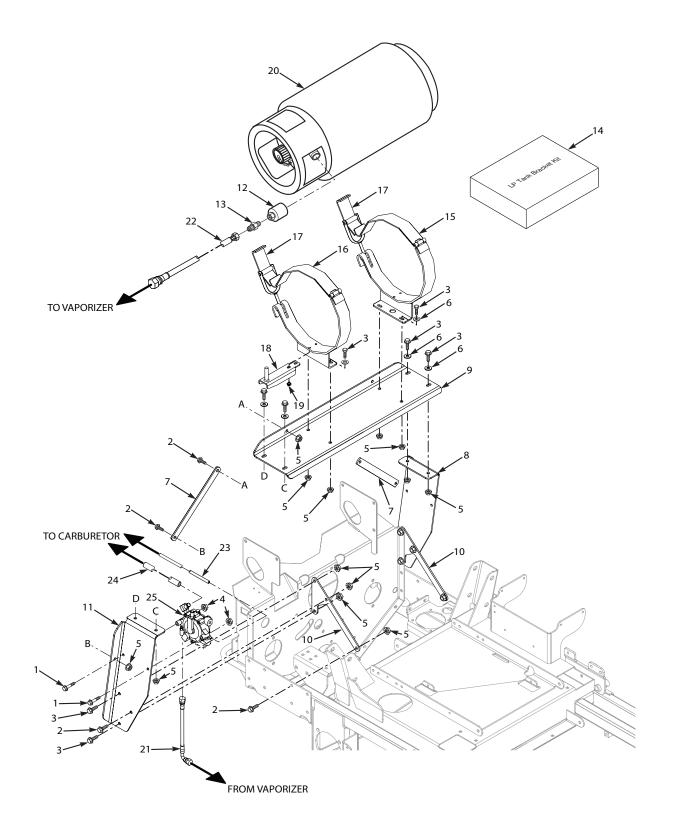
2009 STT-25CH-LP HS.eps



HYDRAULIC SYSTEM - KOHLER LP

Ref. No.	Part No.	Description		ef. o.	Part No.	Description
1	04110-01	U-Nut 1/4-20	4	1	423485	Support Bracket, Hydraulic Tank
2	48136-13	Hose Clamp, 0.69" Dia.	4	2	481611	Hose Assembly, Pump
3	04001-03	Bolt, Hex Head 1/4-20 x 2.0"	4	3	48572-04	Union, 3/4"-16 JIC x 3/4"-16 O-Ring
4	48811	Hose, 3/8" ID Pushlock - (order by inch)	4	4	04001-59	Bolt, Hex Head, 1/4-20 x 1-1/4"
5	48136-07	Clamp, Hose 1/2"	4	5	04030-02	Lockwasher, 1/4" Spring
6	481301-03	Elbow, 90 Degree - 1/4" NPT x 3/8" Hose		6	04001-01	Bolt, Hex Head 1/4-20 x 3/4"
7	482266-01	Elbow, 90 Degree - 9/16" O-Ring x 3/8"				
		Hose				
8	48471-02	Oil Filter Base				
9	482606	Hose Assembly, 1/2" ID (Tank to Filter				
		Base)				
10	423524	Mounting Bracket - LH, Oil Cooler				
	423525	Mounting Bracket - RH, Oil Cooler				
11	04043-04	Flatwasher, 3/8" (.391 x .938 x .105") Grade 8				
12	04021-09	Nut, Hex Elastic Stop 3/8-16				
13	482696	Pump, Right Hand				
14	04001-32	Bolt, Hex Head, 3/8-16 x 1-1/4"				
15	04021-09	Nut, Hex, Elastic Stop 3/8-16				
16	482695	Pump, Left Hand				
17	481793	Block, Pump Control				
18	04001-09	Bolt, Hex Head 5/16-18 x 1.0" Zinc				
19	04019-03	Nut, Serrated Flange 5/16-18				
20	48758	Oil Filter				
21	482483	Tee, 3/4" O-Ring x JIC x 1/2" Hose				
22	04021-08	Nut, Hex Elastic Stop 1/4-20				
23	481164	Cap, Hydraulic Tank				
24	481507	Insert, Filler Neck				
25	48603-02	O-Ring				
26	461451	Oil Reservoir Assembly (incl. 24, 27, 39)				
27	482572	Elbow, 90 Degree .38" Hose				
	482571	Bushing, .56" Dia. Viton				
28	48136-13	Hose Clamp, 0.69" Dia.				
29	48811	Hose, 3/8" ID, Pushlock (order by inch)				
30	04010-10	Screw, Phillips Head, 1/4-20 x 2"				
31	48571-02	Сар				
32	422694	Clamp Plate, Pump Control				
33	48136-05	Clamp, Hose				
34	48350-02	Elbow, 90 Degree, 1/2" x 1/2"				
35	48938-02	Bushing, 7/8"-14 JIC x 3/4"-16 O-Ring				
36	482505	Cooler, Oil				
37	04001-08	Bolt, Hex Head 5/16-18 x 3/4"				
38	04060-09	Roll Pin, Spring 3/16 x 3/4"				
39	482574	Elbow, 90 Degree				
	482573	Bushing, .78" Dia. Viton				
40	423513	Strap, Hydraulic Tank				

LP SYSTEM - KOHLER



Section 8	3
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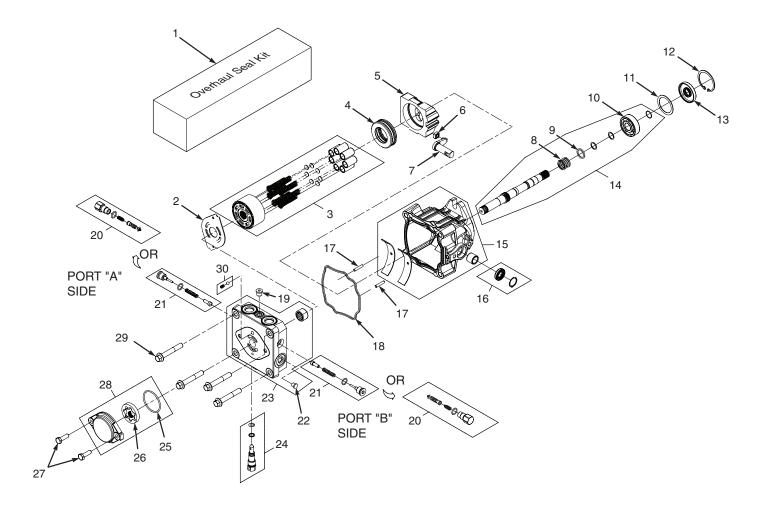
LP SYSTEM - KOHLER

Ref. No.	Part No.	Description			
1	04001-12	Bolt, Heax Head 5/16-18 x 1-3/4"			
2	04001-18	Bolt, Head Head 3/8-16 x 3/4"			
3	04001-19	Bolt, Hex Head 3/8-16 x 1"			
4	04019-03	Nut, Serrated Flange 5/16-18			
5	04019-04	Nut, Serrated Flange 3/8-16			
6	04041-07	Flatwasher, 3/8391 x .938 x .105			
7	422386	Brace			
8	425254	Mounting Bracket, Tank Support LH			
9	425261	Support, LP Tank			
10	425262	Brace, LP Tank Mounting Bracket			
11	425263	Mounting Bracket, Tank Support RH			
12	483888	LP Quick Coupler			
13	483889-01	Adapter Fitting, 9/16-18 SAE x 1/4" Pipe			
14	483903	Mounting Bracket Kit (incl. # 15, 16, 17, 18, 19)			
15	483909	Mounting Bracket, LP Tank Front			
16	483910	Mounting Bracket, LP Tank Rear			
17	483911	Handle, LP Tank Mounting Bracket			
18	483912	Bracket, LP Tank Locator			
19	484000	Bolt, Hex Head 1/4-20 x 3/8" Locking			
20	483899	LP Tank			
21	484033	LP Fuel Line, 10"			
22	484034	LP Fuel Line, 32"			
23	**	Hose			
24	**	Hose			
25	**	LP Regulator			

** Available through the individual engine manufacturer.

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BDP-16A HYDRAULIC PUMP ASSEMBLY

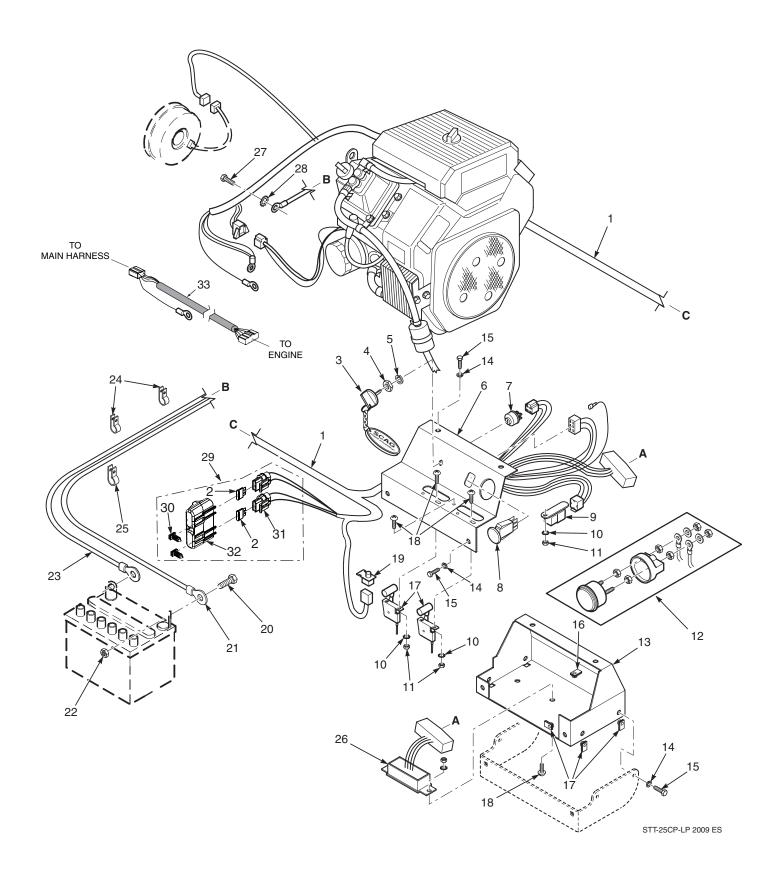


BDP-16A HYDRAULIC PUMP ASSEMBLY

Ref. No.	Part No.	Description
1	HG70740	Overhaul Seal Kit
2	HG51455	Valve Plate
3	HG70735	Cylinder Block Kit - 16cc
4	HG51462	Thrust Ball Bearing Assembly
5	HG51436	Variable Swashplate
6	HG2000015	Slot Guide
7	HG2000014	Trunnion Arm
8	HG2000025	Block Spring
9	HG2000024	Block Thrust Washer
10	HG2000032	Shaft Ball Bearing
11	HG2000023	Spacer
12	HG2000038	Retaining Ring
13	HG51092	Seal
14	HG70581	Kit, Pump Shaft
15	HG70738	Housing Kit
16	HG70739	Trunnion Seal Kit
17	HG50641	Pin
18	HG51437	O-Ring
19	HG9005110-7500	Straight Thread Plug
20	HG70743	Shock Valve Kit (.031 Orifice)
21	HG70742	Shock Valve Kit (.024 Orifice)
22	HG9005200-7500	Straight Thread Plug
23	HG70736	End Cap Kit
24	HG2513030	Bypass Valve Kit
25	HG9004100-1430	O-Ring
26	HG50406	Gerotor Assembly (.19 cu.in./rev.)
27	HG50173	Socket Head Cap Screw (M8 x 1.25-25mm)
28	HG2510071	Charge Pump Kit (.19 STD. Splined)
29	HG51457	Hex Screw, Flanged Head (M10 x 1.50-65mm)
30	HG70402	Charge Relief Kit



ELECTRICAL SYSTEM - KOHLER LP



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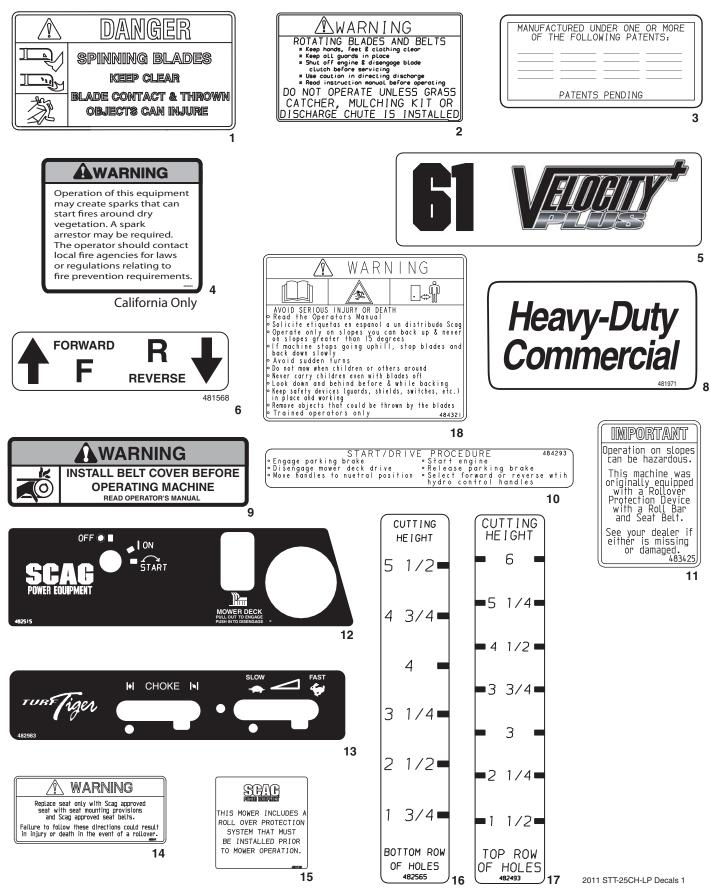


ELECTRICAL SYSTEM - KOHLER LP

Ref. No.	Part No.	Description
1	483623	Wire Harness, STT Air-Cooled
2	48298	Fuse, 20 AMP
3	483366	Key, Ignition
	462069	Key Assembly w/Fob
4	48017-04	Nut, Hex 5/8-32
5	48017-03	Lockwasher, 5/8" Internal
6	461916	Instrument Panel, Top w/Decals
7	48798	Key Switch
8	483957	Switch, PTO
9	483013	Relay
10	04031-01	Lockwasher, #10 External Tooth
11	04020-01	Nut, Hex #10-32
12	481755	Ammeter
13	451879	Base, Instrument Panel
14	04030-02	Lockwasher, 1/4"
15	04001-01	Bolt, Hex Head 1/4-20 x 3/4"
16	04110-01	U-Nut, 1/4-20
17	481544	Throttle And Choke Controls (Kohler)
18	04010-01	Screw, Phillips Washer Head #10-32 x 1/2"
19	481638	Switch, Interlock-Seat
20	04001-44	Bolt, Hex Head 1/4-20 x 1/2"
21	48029-22	Cable, Battery - Red
22	04020-02	Nut, Hex 1/4-20
23	48029-11	Cable, Battery - Black
24	48030-09	Clamp, Cable 1/2" ID.
25	48136-05	Clamp, Cable 3/4" ID.
26	483599	Electronic Module
27	04002-12	Bolt, Hex Head M8-1.25 x 20mm
28	04031-03	Lockwasher, 5/16" External Tooth
29	483642	Double Fuse Assembly, Sealed (Incl. items 2, 42, 43, 44)
30	482588	Clip, Wire
31	483629	Fuse Holder
32	483571	Cover, Sealed Double
33	484078	Wire Harness Adapter, Kohler



REPLACEMENT DECALS AND INFORMATION PLATES



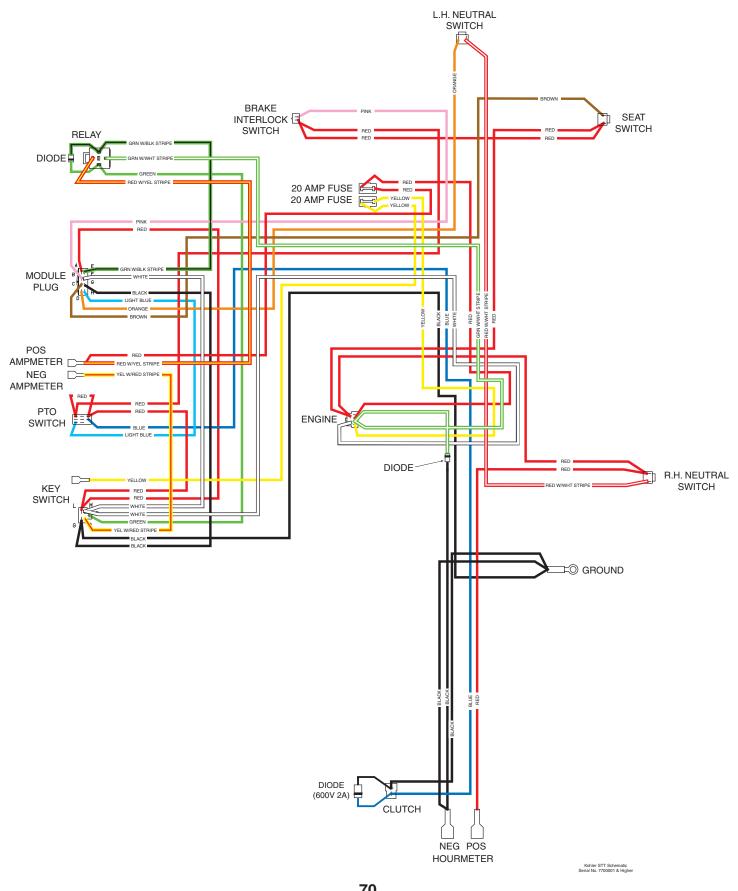
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REPLACEMENT DECALS AND INFORMATION PLATES

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1 2	483407 483406	Decal, Danger-Spinning Blades Decal, Warning-Rotating Blades	21 22	483405 483229	Decal, Warning Decal, Turf Tiger
3	483044	Decal, Patents	23	483727	Decal, Scag Logo
4	483900	Decal, Warning Spark Arrestor	24	48404	Decal, Metalcraft-Made In USA
5	483200	Decal, 52" Velocity Plus	25	484070	Decal, Turf Tiger Propane
Ē	483201	Decal, 61" Velocity Plus	26	481664	Decal, Stripes-RH
6	481568	Decal, Traction Control	**	461982	Spanish Decal Kit, STT
7	481663	Decal, Stripes-LH	**	01411	DVD Video, Tips for Safe Operation of
8	481971	Decal, Heavy Duty Commercial			Your Scag Zero-Turn Mower (not shown)
9	483402	Decal, Belt Cover			
10	484293	Decal, Start / Drive			
11	483425	Decal, ROPS			
12	482515	Decal, Instrument Panel - Upper			
13	482983	Decal, Instrument Panel - Lower			
14	483633	Decal, Seat Replacement			
15	483158	Decal, ROPS			
16	482565	Decal, Cutting Height - Lower			
17	482493	Decal, Cutting Height - Upper			
18	484321	Decal, Start/Drive Procedure			
19	484320	Decal, STT Adjustments			
20	482577	Decal, Turf Tiger			



ELECTRICAL SCHEMATIC - KOHLER LP



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LIMITED WARRANTY - COMMERCIAL EQUIPMENT

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 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, blades, hydraulic hoses and tires are warranted for ninety (90) days.
- Batteries are covered for ninety (90) days.
- Frame and structural components including oil reservoir and oil coolers are warranted for two (2) years (parts and labor) for commercial use or three (3) years / 500 hours (whichever comes first) (parts and labor) for non-commercial use.
- Cutter decks are warranted against cracking for a period of three (3) years. (parts and labor 1st and 2nd year; parts only 3rd year.) 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, or accident, or that has been operated in any way contrary to the operating instructions as specified in the Operator's Manual.
- Engines and electric starters are covered by the engine manufacturer's warranty period.
- Major drive system components are warranted for two (2) years (parts and labor) for commercial use or three (3) year / 500 hour (whichever comes first) (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 hydraulic pump or hydraulic motor 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.
- Electric clutches have a Limited Warranty for two (2) years (parts and labor) for commercial use or three (3) year / 500 hours (whichever comes first) (parts and labor) for non-commercial use.
- Spindle assemblies have a Limited Warranty for three years (parts and labor 1st year and 2nd; parts only 3rd year).
- 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, 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 two (2) year for commercial use, three (3) years / 500 hour 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 two 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.

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