SCAG
POWER EQUIPMENT

OPERATOR'S MANUAL

SWZ
Walk-Behind

Model: SWZ36A-14FS
SWZ48V-15FS
SWZ52V-18FS
SWZL52V-22FSE
SWZL61V-22FSE

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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⚠ WARNING

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

- Read this manual completely as well as other manuals that came with your mower.
- ALWAYS FOLLOW OSHA APPROVED OPERATION.
- DO NOT operate on steep slopes.
- Always travel across slopes.
- DO NOT mow on wet grass. Wet grass reduces traction and steering control.
- Keep all shields in place, especially the grass discharge chute.
- Before performing any maintenance or service, stop the machine and remove the spark plug wire 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:		
SWZ36A-14FS	with a serial number of	N4500001 to N4599999
SWZ48V-15FS	with a serial number of	N4600001 to N4699999
SWZ52V-18FS	with a serial number of	N4700001 to N4799999
SWZL52V-22FSE	with a serial number of	N5200001 to N5299999
SWZL61V-22FSE	with a serial number of	N5300001 to N5399999
Always use the entire serial number listed on the serial number tag when referring to this product.		

Table of Contents

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 on the frame of the machine near the engine and hydraulic pump as shown in Figure 1-1.

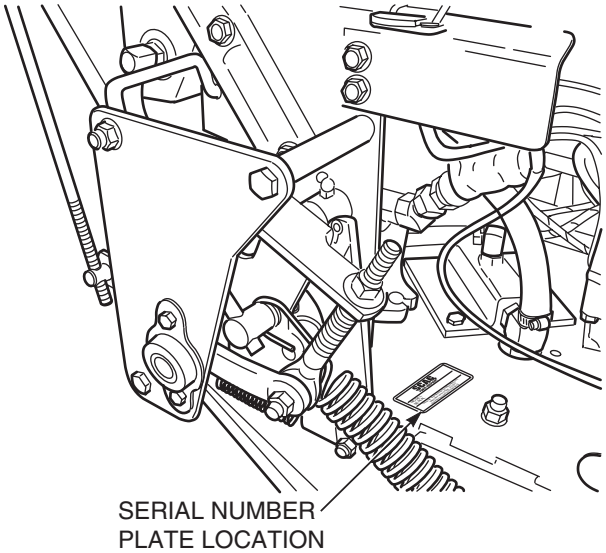


Figure 1-1. Mower Serial Number Plate Location

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.

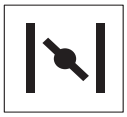
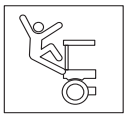
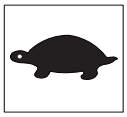
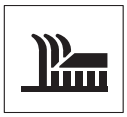
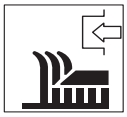
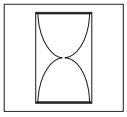
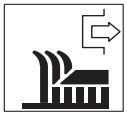
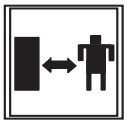
1.2 DIRECTION REFERENCE

The “Right” and “Left”, “Front” and “Rear” of the machine are referenced from the operator’s right and left when 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 and transmission 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.

1.4 SYMBOLS

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

SAFETY INFORMATION

2.1 INTRODUCTION

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

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.

⚠ WARNING

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

⚠ CAUTION

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

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

2.3 BEFORE OPERATION CONSIDERATIONS

⚠ 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 mower. Do not allow adults to operate this machine without proper instructions.
2. Do not mow when children and/or others are present. Keep children out of the mowing area and in the watchful care of a responsible adult other than the operator. Be alert and turn machine off if a child enters the area.

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

⚠ WARNING

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

9. Keep the machine and attachments in good operating condition. Keep all shields and safety devices in place. If a shield, safety device or decal is defective or damaged, repair or replace it before operating the machine.
10. Fuel is flammable; handle it with care. Fill the fuel tank outdoors. Never fill it indoors. Use a funnel or spout to prevent spillage. Clean up any spillage before starting the engine.
11. DO NOT add fuel to a running or hot engine. Allow the engine to cool for several minutes before adding fuel. Never fuel indoors or inside enclosed trailers.
12. Keep flammable objects (cigarettes, matches, etc.), open flames and sparks away from the fuel tank and fuel container. Use only approved containers.
13. See Section 7.5 ENGINE FUEL SYSTEM for fueling procedure.
14. Equipment must comply with the latest requirements per SAE J137 and/or ANSI/ASAE S279 when driven on public roads.
15. 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.
16. Check the blade mounting bolts at frequent intervals for proper tightness.
17. Be sure the interlock switches are functioning correctly.

2.4 TESTING THE SAFETY INTERLOCK SYSTEM

The safety interlock system should be tested each time before using the machine. If the safety interlock system does not operate as described below, contact your local Authorized Scag Power Equipment Dealer immediately to have the safety interlock system repaired.

⚠ 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 and the transmission is in neutral. The system shuts off the engine if the operator releases the operator presence levers with the deck drive engaged and/or the transmission is not in neutral. Never operate equipment with the interlock system disconnected or malfunctioning.

1. Place the steering control levers in the neutral lock position, place the speed control lever in the neutral position, engage the parking brake, and engage the PTO switch to the ON (up) position. Stand in the operating position for electric start models. Try to start the engine; the engine should not start.
2. Place the steering control levers in the neutral lock position, move the speed control lever out of the neutral lock position, engage the parking brake, move the PTO switch to the OFF (down) position, Stand in the operating position for electric start models. Try to start the engine; the engine should not start.

3. Place the steering control levers in the neutral lock position, place the speed control lever in the neutral position, engage the parking brake, move the PTO switch to the OFF (down) position. Stand in the operating position for electric start models. Start the engine. With the engine running, engage the PTO switch to the ON (up) position, and remove your hands from the operator presence controls on the handle bars. The engine should shut off.
4. Place the steering control levers in the neutral lock position, place the speed control lever in the neutral position, engage the parking brake, move the PTO switch to the OFF (down) position. Stand in the operating position for electric start models. Start the engine. With the engine running, release the parking brake, and remove your hands from the operator presence controls on the handle bars. The engine should shut off.
5. Place the steering control levers in the neutral lock position, place the speed control lever in the neutral position, engage the parking brake, move the PTO switch to the OFF (down) position. Stand in the operating position for electric start models. Start the engine. With the engine running, move speed control lever out of neutral, and remove your hands from the operator presence controls on the handle bars. The engine should shut off.

2.5 OPERATION CONSIDERATIONS

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

⚠ WARNING

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

2. Reduce speed and exercise extreme caution on slopes and in sharp turns to prevent tipping or loss of control. Be especially cautious when changing directions on slopes.
3. To prevent tipping or loss of control, start and stop smoothly, avoid unnecessary turns and travel at reduced speed.
4. Immediately apply the parking brake if you lose steering control while operating. Inspect the machine and correct the problem before continuing to operate.
5. When using any attachment, never direct the discharge of material toward bystanders or allow anyone near the machine while in operation.
6. Start the engine when the neutral latches are in the neutral lock position, the cutter blades are disengaged, parking brake is engaged and the speed control lever is in neutral.
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.

⚠ 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.

8. Be alert for holes, rocks, roots and other hidden hazards in the terrain. Keep away from any drop-offs. Beware of overhead obstructions (low limbs, etc.), underground obstacles (sprinklers, pipes, tree roots, etc.). Cautiously enter a new area. Be alert for hidden hazards.
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, 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.

⚠ CAUTION

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

⚠ DANGER

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

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.
20. When transporting the mower, make sure the speed control lever is in neutral, the neutral latches are in the neutral lock position, the engine is off with the key removed, the parking brake is engaged 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.

2.6 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.
2. Place the speed control lever in neutral, engage the parking brake, neutral latches in the neutral lock position, 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. Remove spark plug wire before making any repairs.
4. Keep all nuts, bolts and screws tight, to ensure the machine is in safe working condition. Check blade mounting bolts frequently to be sure they are tight.
5. Do not change the engine governor settings or overspeed the engine. See the engine operator's manual for information on engine settings.
6. To reduce fire hazard, keep the cutting units, drives, muffler and engine free of grass, leaves, excessive grease, oil and dirt.
7. Park the machine on level ground.
8. NEVER allow untrained personnel to service the machine.
9. Use care when checking blades. Use a Blade Buddy, 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.

⚠ WARNING

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.

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

WARNING

DO NOT OPERATE WITHOUT DISCHARGE CHUTE, MULCHING KIT, OR ENTIRE GRASS CATCHER INSTALLED

483405

483405

WARNING

INSTALL BELT COVER BEFORE OPERATING MACHINE

READ OPERATOR'S MANUAL

483402

WARNING

ROTATING BLADES AND BELTS

* Keep hands, feet & clothing clear
* Keep all guards in place
* Shut off engine & disengage blade clutch before servicing
* Use caution in directing discharge
* Read instruction manual before operating

DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED

483406

483406

DANGER

SPINNING BLADES

KEEP CLEAR

BLADE CONTACT & THROWN OBJECTS CAN INJURE

483505

483505

WARNING

Operation of this equipment may create sparks that can start fires around dry vegetation. A spark arrestor may be required. The operator should contact local fire agencies for laws or regulations relating to fire prevention requirements.

483900

483900
(supplied with California models only)

MOUNT RIDING ATTACHMENT HERE

WARNING

FALLING HAZARD
USE ONLY SCAG APPROVED RIDING ATTACHMENTS
SEE OPERATOR'S MANUAL 483404

483404

DANGER

Avoid injury from burns
- Shut off engine
- Allow to cool several minutes
- Remove cap slowly
- Do not overfill

Molded in Fuel Tank

SCAG POWER EQUIPMENT

ON
OFF

WARNING

BEFORE OPERATING

Read operator's manual
Solicite etiquetas en espanol a un distribuidor Scag
Make sure guards, shields & safety devices are in place & working
Clear area of children, bystanders & debris
Mow across face of slopes
Trained operators only

MOWER DECK
PULL OUT TO ENGAGE

PUSH IN TO DISENGAGE

486117

486117

2018 SW Safety Decals

SPECIFICATIONS

3.1 ENGINE

General Type ..... Heavy Duty Industrial/Commercial Gasoline
Brand ..... Kawasaki
Engine Model:
(Scag Model SWZ36A-14FS) ..... Kawasaki Model # FS481V
(Scag Model SWZ48V-15FS) ..... Kawasaki Model # FS541V
(Scag Model SWZ52V-18FS, SWZ-18FS) ..... Kawasaki Model # FS600V
(Scag Model SWZ-22FSE) ..... Kawasaki Model # FS651V
Displacement:
Kawasaki FS481V 603cc
Kawasaki FS541V 603cc
Kawasaki FS600V 603cc
Kawasaki FS651V 726cc
Cylinders ..... 2 with Cast-Iron Sleeves - Kawasaki
Governor ..... Mechanical Type with Variable Speed Control Set At 3600 RPM (+/- 100 RPM)
Idle Speed:
Kawasaki ..... 1550 RPM (+/- 150 RPM)
Fuel ..... Non-Leaded Gasoline with a Minimum Octane Rating of 87
Oil Pump ..... Varies - see engine manufacturer's specifications
Starter:
Kawasaki ..... Recoil or Electric Start

3.2 ELECTRICAL

Starter ..... Electrical Ignition with Recoil Starter
Interlock Switches ..... Operator Presence, Mower Engagement (PTO), Transmission Neutral
Instrument Panel ..... Key Switch, Throttle Lever, PTO Switch,

3.3 ENGINE DECK

Drive System .... Hydraulic Drive with Two Variable Displacement Pumps and Two Cast-Iron High Torque Wheel Motors
Hydraulic Pumps ..... Two Hydro-Gear model PG Series 10 cc. Hydraulic Pumps with Dump Valves for movement without the engine running
Hydraulic Drive Motors ..... Two Parker Model TE Series 12 cu. inch Cast-Iron Wheel Motors
Steering/Travel Control ..... Independent Handle Controls for each wheel, squeeze to move from forward to neutral to reverse, neutral lock lever, speed range controlled with single lever (patented design), in-field tracking adjustment with tool provided
Parking Brake ..... 7.5" Drum, Band Brake, one on each wheel
Wheels:
(2) Front Caster ..... 9 X 3.5 Flat-Free w/Roller Bearings
(2) Drive - ..... 16 x 6.5-8 Four-Ply Pneumatic Tubeless, Radius Edge
Tire Pressure:
Front Caster ..... Flat-Free
Drive ..... 12 PSI
Fuel Tank ..... 5-1/2 Gallon Seamless Polyethylene Tank with Large Opening and Fuel Cap
Travel Speed:
Forward ..... 0 up to 7.4 MPH
Reverse ..... 0 up to 3.0 MPH
-NOTE- The machine will travel at 7.4 mph for transport purposes. For best cutting performance the forward travel speed should be adjusted depending upon the cutting conditions.

3.4 CUTTER DECK

Type ..... Out-Front design with anti-scalp rollers
Construction ..... 36 / 48 = 7-Gauge Deck Top w/10-Gauge Reinforced Spindle Area, 7-gauge (3/16") Deck Skirt
52 / 61 = 10-Gauge Deck Top w/10-Gauge Reinforced Spindle Area, 7-Gauge (3/16") Deck Skirt
True Cutting Width:
36 ..... 35.5" (90.2 cm)
48 ..... 48" (122.0 cm)
52 ..... 52" (132.0 cm)
61 ..... 61" (155.0 cm)
Cutting Height Adjustment ..... Adjustment from, 1-3/4" to 4-1/4" in 1/4" increments
Cutter Blades ..... 0.197 in. Thick, Milled Edge, Wear Resistant
Blade Engagement ..... Electric Blade Engagement Clutch with Control Panel Switch Connected to the Cutter Deck through a Belt
Discharge Opening ..... Extra Wide Discharge Opening with Spring-Loaded Discharge Chute
Discharge Chute ..... Black, Polypropylene (Plastic), Flexible
Spindles ..... Cast-Iron Housing, Tapered Roller Bearings with Top Access Grease Fitting and Grease Overfill Relief Poppet
Spindle Pulleys ..... Split Steel with Tapered Locking Hub
Cutter Deck Belts ..... B-section with Kevlar Cords
Electric Clutch Type ..... Ogura Heavy Duty PTO Clutch Brake

3.5 WEIGHTS AND DIMENSIONS

	36A / 48V	52V	61V
Length	72" / 76"	76"	78"
Tracking Width	37" / 37"	37"*	41"
Overall Width w/chute down	47" / 60.5"	64.5"	73.5"
Overall Width w/chute up	37" / 49"	53"	62"
Overall Height	40.5" / 40.5"	40.5"	40.5
Operating Weight	515# / 565#	585#*	717#

3.6 PRODUCTIVITY

	36 / 48	52	61
Cutting Width	36" / 48"	52"	61"
Acres Per Day	9.3 / 12.4	13.5	15.8

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 4 MPH with a 20% allowance for overlap and turns.
* Large Frame = Tracking Width - 41", Weight - 605#

OPERATING INSTRUCTIONS

⚠ WARNING

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

4.1 CONTROLS AND INSTRUMENT IDENTIFICATION

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

1. **Ignition Switch (Figure 4-1).** The ignition switch is used to start the engine. Turn the key to the on position before pulling the recoil starter.
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. **Left Steering Control (Figure 4-1).** Used to control the mower's left wheel when traveling forward or reverse. Pull upward for neutral and reverse.
6. **Right Steering Control (Figure 4-1).** Used to control the mower's right wheel when traveling forward or reverse. Pull upward for neutral and reverse.
7. **Hourmeter (Figure 4-1).** Indicates the number of hours the engine has operated. It operates whenever the engine is running. Has preset maintenance reminders for engines and hydraulic system oil changes. Will start flashing scheduled maintenance 2 hours before preset time and continue flashing until 2 hours after. Automatically resets.

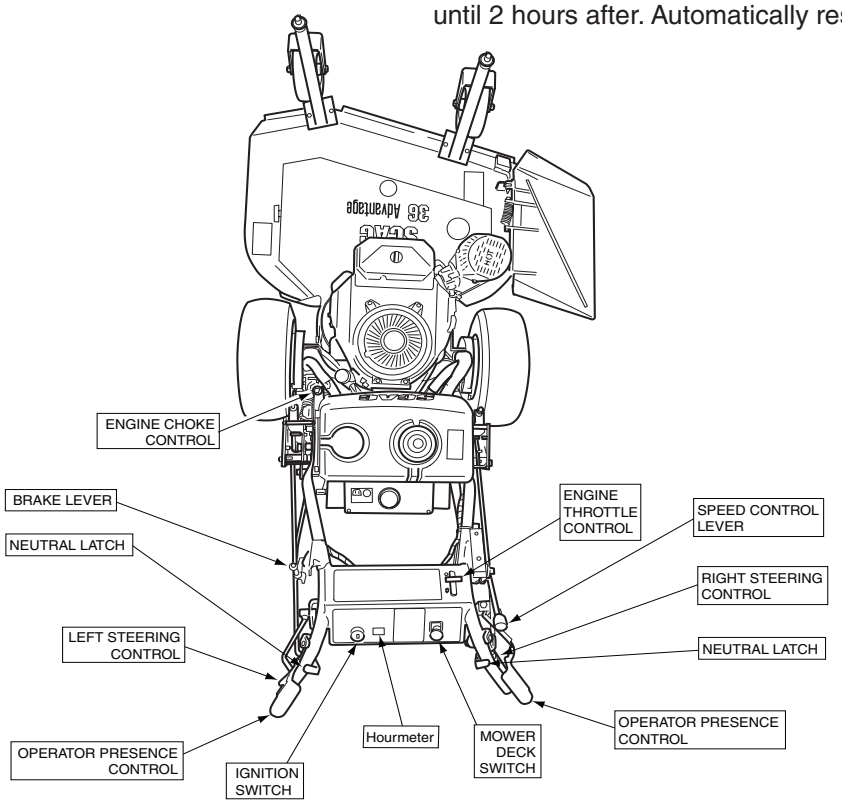


Figure 4-1. Controls and Instruments

8. **Speed Control Lever (Figure 4-1).** Used to select the forward speed.
9. **Neutral Latch (Figure 4-1).** Used to secure the hydraulic drive system in neutral. Apply neutral latches when parking the machine.
10. **Operator Presence Control (Figure 4-1)**The operator presence control levers must be depressed before the speed control lever is shifted out of neutral or engaging the mower deck.
11. **Parking Brake Lever (Figure 4-1)** Used to engage and disengage the parking brake. Pull the lever back to engage the parking brake. Push the lever forward to disengage the parking brake.

4.2 SAFETY INTERLOCK SYSTEM

The mower is equipped with a safety interlock system that shuts off the engine if the operator releases the operator presence levers with the deck drive engaged and/or the speed control lever not in neutral or the parking brake disengaged. Never operate equipment with the interlock system disconnected or malfunctioning.

⚠ 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 TESTING THE SAFETY INTERLOCK SYSTEM

The safety interlock system should be tested each time before using the machine. If the safety interlock system does not operate as described below, contact your local Authorized Scag Power Equipment Dealer immediately to have the safety interlock system repaired.

1. Place the steering control levers in the neutral lock position, place the speed control lever in the neutral position, engage the parking brake, and engage the PTO switch to the ON (up) position. Stand in the operating position for electric start models. Try to start the engine; the engine should not start.
2. Place the steering control levers in the neutral lock position, move the speed control lever out of the neutral lock position, engage the parking brake, move the PTO switch to the OFF (down) position, Stand in the operating position for electric start models. Try to start the engine; the engine should not start.
3. Place the steering control levers in the neutral lock position, place the speed control lever in the neutral position, engage the parking brake, move the PTO switch to the OFF (down) position. Stand in the operating position for electric start models. Start the engine. With the engine running, engage the PTO switch to the ON (up) position, and remove your hands from the operator presence controls on the handle bars. The engine should shut off.
4. Place the steering control levers in the neutral lock position, place the speed control lever in the neutral position, engage the parking brake, move the PTO switch to the OFF (down) position. Stand in the operating position for electric start models. Start the engine. With the engine running, release the parking brake, and remove your hands from the operator presence controls on the handle bars. The engine should shut off.
5. Place the steering control levers in the neutral lock position, place the speed control lever in the neutral position, engage the parking brake, move the PTO switch to the OFF (down) position. Stand in the operating position for electric start models. Start the engine. With the engine running, move speed control lever out of neutral, and remove your hands from the operator presence controls on the handle bars. The engine should shut off.

4.4 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.)
3. Check for loose hardware. Tighten as needed.
4. Check interlock system for proper operation. (See Section 4.2.)
5. Check tire pressure. Adjust pressure if necessary. (See Section 7.10.)

4.5 STARTING THE ENGINE

⚠ CAUTION

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

1. Be sure the fuel shutoff valve, located by the fuel tank, is completely open. (See Section 7.5.)
2. Apply the neutral latch levers.
3. Shift the speed control lever into neutral.
4. Place the PTO switch in the disengaged position.
5. Apply the parking brake.
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 ON position.
9. Pull the recoil starter on the engine.
10. Allow engine to warm before operating the mower.

4.6 GROUND TRAVEL AND STEERING

- IMPORTANT -

If you are not familiar with the operation of a walk behind mower with a hydrostatic transmission, 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, release the parking brake, select the desired speed using the speed control lever, pull steering control levers upward, release the neutral latch for both sides and slowly release both the left and right steering control levers. The higher the notch selected using the speed control lever, the faster the machine will travel.

To stop the forward travel, pull upward on the steering control levers, lock the neutral latches, shift the speed control lever into neutral and apply the parking brake.

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

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

- NOTE -

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

REVERSE TRAVEL

⚠ CAUTION

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.

⚠ CAUTION

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 steering control levers upward. Keep the travel speed low while traveling in reverse.

- NOTE -

The mower may not travel straight in reverse.

To steer left while traveling in reverse, pull upward on the right steering control lever. The further the lever is pulled upward, the quicker the mower will turn left.

To steer right while traveling in reverse, pull upward on the left steering control lever. The further the lever is pulled upward, the quicker the mower will turn right.

4.7 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 4-2.

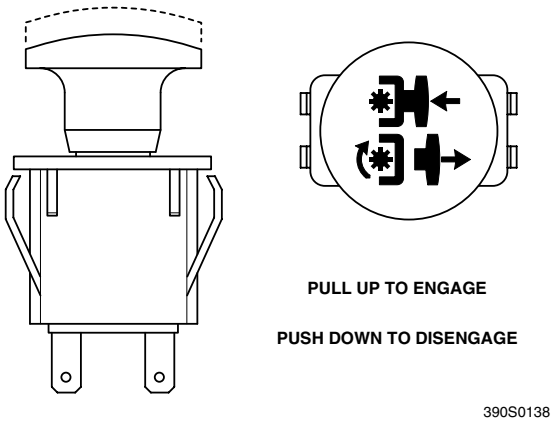


Figure 4-2. Cutter Engage Switch

- 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.

4.8 HILLSIDE OPERATION

⚠ WARNING

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

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

4.9 PARKING THE MOWER

1. Park the machine on a flat, level surface only. Do not park the machine on an incline.
2. Disengage the cutter blades.
3. Shift the speed control lever into the neutral position, lock the neutral latches and apply the parking brake.
4. Slow the engine to idle speed.
5. Turn the ignition key to the OFF position and remove the key.

4.10 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.

⚠ DANGER

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

4. After the mower has cooled down, fill the fuel tank with fresh, clean fuel at the end of every day of operation. See Engine Owner's Manual for proper octane requirements.
5. Check the tire pressure. Adjust pressure if necessary.

4.11 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.

4.12 MOVING MOWER WITH ENGINE STOPPED

To “free-wheel” or move the mower around without the engine running, turn the dump valve levers located on the back of the pumps counter clockwise to the "freewheel" position and move the mower by hand. To operate the mower, the dump valves must be turned clockwise to the closed position.

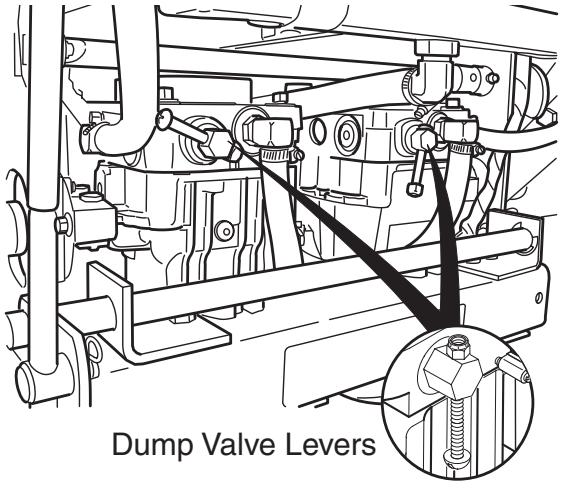


Figure 4-3. Dump Valves

4.13 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.

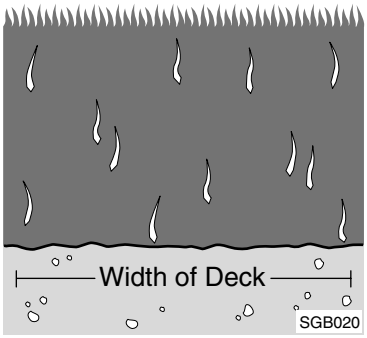
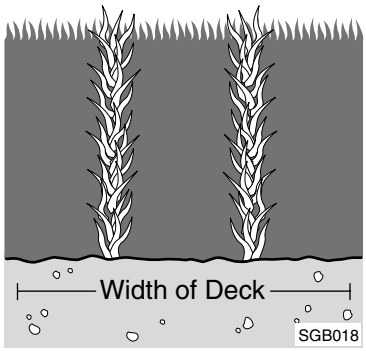
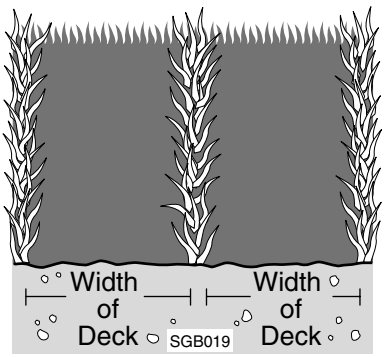
⚠ WARNING

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

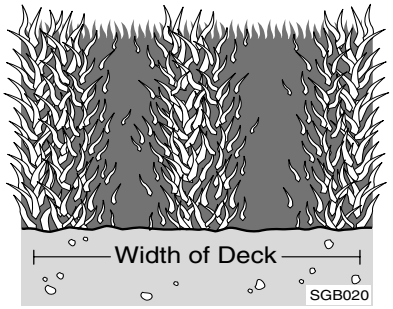
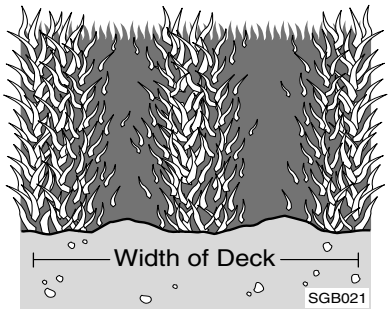
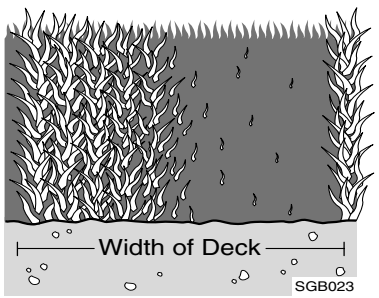
2. The discharge chute must not be removed and must be kept in the lowest position to deflect grass clippings and thrown objects downward. Direct the side discharge away from sidewalks or streets to minimize cleanup of clippings. When mowing close to obstacles, direct the discharge away from the obstacles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

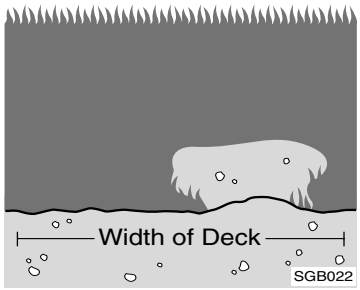
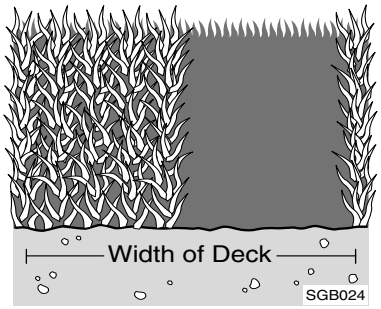
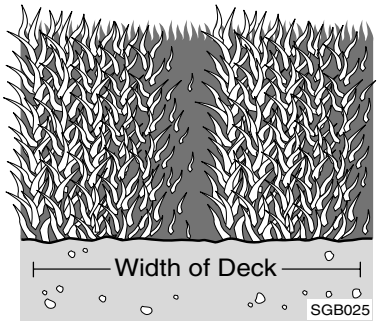
TROUBLESHOOTING CUTTING CONDITIONS

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

TROUBLESHOOTING CUTTING CONDITIONS (CONT'D)

CONDITION	CAUSE	CURE
UNEVEN CUT ON FLAT GROUND - WAVY HIGH-LOW APPEARANCE, SCALLOPED CUT, OR ROUGH CONTOUR 	Lift worn from blade	Replace blade
	Blade upside down	Mount with cutting edge toward ground
	Deck plugged, grass accumulation	Clean underside of deck
	Too much blade angle (deck pitch)	Adjust pitch and level
	Deck mounted improperly	See your authorized SCAG dealer
	Bent spindle area	See your authorized SCAG dealer
	Dull blade	Sharpen blade
UNEVEN CUT ON UNEVEN GROUND-WAVY APPEARANCE, HIGH-LOW SCALLOPED CUT, OR ROUGH CONTOUR 	Uneven ground	May need to reduce ground speed, raise cutting height, and/or change direction of cut
SLOPING RIDGE ACROSS WIDTH OF CUTTING PATH 	Tire pressures not equal	Check and adjust tire pressure
	Wheels uneven	Check and adjust tire pressure
	Deck mounted incorrectly	See your authorized SCAG dealer
	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 TO THE GROUND 	Low tire pressures	Check and adjust pressures
	Ground speed too fast	Slow speed to adjust for conditions
	Cutting too low	May need to reduce ground speed, raise cutting height, change direction of cut, and/or change pitch and level
	Rough terrain	May need to reduce ground speed, raise cutting height, and/or change direction of cut
	Wet grass	Cut grass after it has dried out
STEP CUT - RIDGE IN CENTER OF CUTTING PATH 	Blades not mounted evenly	Adjust pitch and level
	Bent blade	Replace blade
	Internal spindle failure	See your authorized SCAG dealer
	Mounting of spindle incorrect	See your authorized SCAG dealer
SLOPE CUT - SLOPING RIDGES ACROSS WIDTH OF CUTTING PATH 	Bent spindle mounting area	See your authorized SCAG dealer
	Internal spindle failure	See your authorized SCAG dealer
	Bent deck housing	See your authorized SCAG dealer

ADJUSTMENTS

6.1 PARKING BRAKE ADJUSTMENT

1. Adjust the parking brake so that when the brake hand lever is against the stop on the handle bar, the brake levers on the brake shaft weldment are against the stops on the engine deck.

⚠ CAUTION

Adjust the brake only enough to hold the machine. Excessive force may cause damage to the machine or brake components.

2. Adjust the brake actuator rod on either side of the machine to obtain proper brake adjustment.

6.2 NEUTRAL ADJUSTMENT

-NOTE-

Neutral has been set by your Scag dealer at the time of set up and normally does not need to be adjusted. If, however, you find that the neutral has come out of adjustment, follow the procedure below.

1. Raise the drive wheels off the ground and block the caster wheels to prevent the machine from moving.
2. Make sure the speed control lever is in neutral, the steering control levers are in the neutral latch position, and the parking brake is on. Start the engine.
3. Release the parking brake and note if the tires are rotating.
4. Start on the left side of the machine, using the adjustment wrench located on the left side of the machine. Rotate the tracking adjustment nut counter clockwise just until the LH wheel starts to creep forward. Make note of the position of the adjustment nut. Repeat on the right side as needed. See Figure 6-1.
5. Turn the adjustment nut clockwise just until the wheel turns rearward. Make note of the position of the adjustment nut. To adjust neutral, split the difference between the two noted positions of the adjustment nut. Repeat on the right side as needed.
6. Place the wrench in the holder on the left side of the machine and turn the engine off.

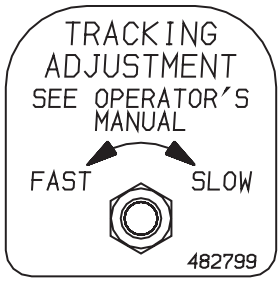


Figure 6-1. Neutral Adjustment

6.3 STEERING CONTROL ROD ADJUSTMENTS

-NOTE-

This adjustment is made to allow the steering control levers to be moved out of the neutral latch without engaging reverse.

Before making this adjustment be sure that the speed control bearing is just touching the speed control cam and that the bellcrank bearing is resting in the center groove of the neutral cam.

1. Remove the speed control spring. Remove the steering control rod swivel hair pin. Check the location of the swivel in the slotted hole in the bellcrank.
2. Turn the swivel joint on the steering control rods until the swivel joint is centered in the slot in the bellcrank.

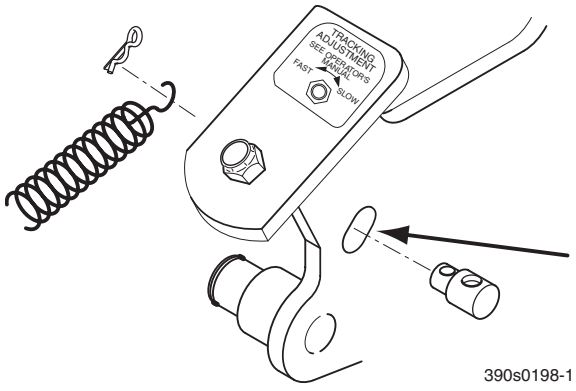


Figure 6-2. Control Rod Adjustment

3. Reinstall the speed control spring onto the swivel. Install the hair pin onto the swivel. See Figure 6-2.

6.4 TRACKING ADJUSTMENT

-NOTE-

Before proceeding with this adjustment, be sure that the tire pressures are correct and the neutral adjustment and the steering control rod adjustment have been completed.

1. With the machine on a flat level surface, start the engine, release the parking brake and place the speed control lever into the speed that will most often be used.
2. Squeeze the steering control levers and release the neutral latch. Slowly release the steering control levers, allowing the machine to move forward.

⚠ WARNING

Before attempting to make any tracking adjustments, move the speed control lever to the neutral position, place the blade engagement switch in the off position, apply the parking brake, and move the steering control levers into the neutral position.

3. If the machine pulls to one side, stop the mower by placing the steering control levers in the neutral position. Using the adjustment wrench located on the left side of the machine, turn the tracking adjustment nut on the slower side counter clockwise until the machine tracks straight.
4. Bring the steering control levers back to the neutral lock position and check to see that the machine does not creep forward on the adjusted wheel.
5. If the machine creeps in neutral, you have moved out of the neutral band and will have to turn the tracking adjustment nut clockwise until the machine does not creep.
6. Repeat steps 1 and 2. If the machine continues to pull to one side, stop the mower by placing the steering control levers in the neutral position. Turn the tracking adjustment nut on the faster side clockwise until the machine tracks straight.
7. If tracking cannot be achieved, contact your Scag servicing dealer.

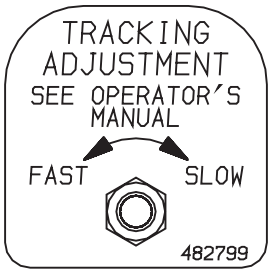


Figure 6-3. Tracking Adjustment

6.5 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.

6.6 CUTTER DECK BELT ADJUSTMENTS

⚠ WARNING

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

1. Remove the belt cover.
2. Adjust the cutter deck drive belt using a belt tension gauge. Adjust the belt so that the belt moves 1/2" with 10 pounds of pressure. Adjust the tension by tightening or loosening the J-bolt. See Figure 6-4.

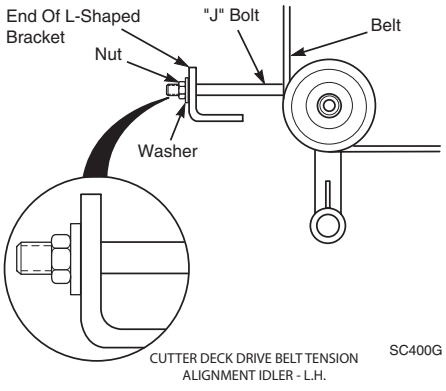


Figure 6-4. Deck Drive Belt Adjustment

-NOTE-

Due to initial belt stretch and to prevent the belt from slipping, check this adjustment after the first 2 hours, 4 hours and 8 hours of operation.

3. Adjust the RH blade drive belt using a belt tension gauge. Adjust the belt so that the belt moves 1/2" with 10 pounds of pressure. Adjust the tension by tightening or loosening the J-bolt. See Figure 6-5 and Figure 6-6.

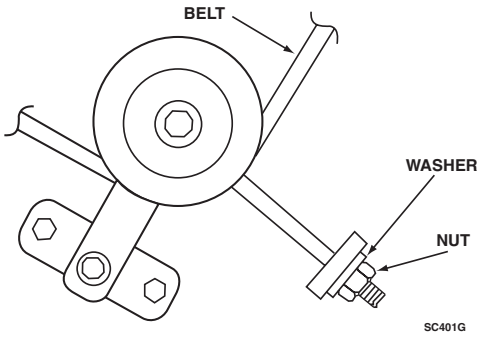


Figure 6-5. Cutter Deck Belt Adjustment R.H.

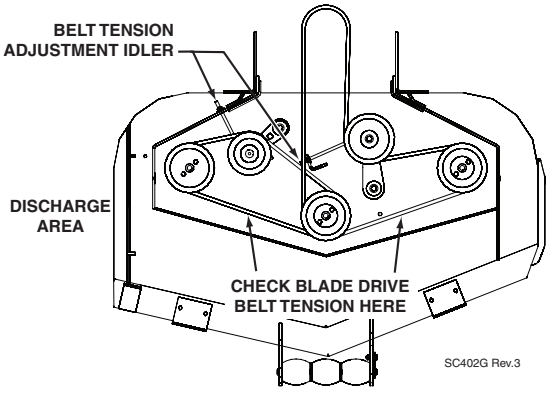


Figure 6-6. Cutter Deck Belt

6.7 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.

6.8 ADJUSTING CUTTING HEIGHT

The mower deck can be adjusted from a height of 1-3/4 inches to 4-1/4 inches at 1/4-inch intervals.

Due to many cutting conditions that exist, it is difficult to suggest a cutter deck setting that will work for every lawn. There are two adjustments that can be made to the cutter deck, pitch and height.

PITCH is the angle of the blades (comparing front to rear).

HEIGHT is the nominal distance the blade is off of the ground. This measurement is made with the blades pointed side to side and distance is measured between the cutting tip and ground. (Also see Blade Height Adjustment).

Changes to the cutting height can be achieved by repositioning the cutter deck. (This adjustment will also effect the pitch of the deck). There are three available positions. See Figure 6-7.

Caster spacers also can be repositioned to change the cutting heights and to change the pitch of the cutter deck. See Figure 6-8.

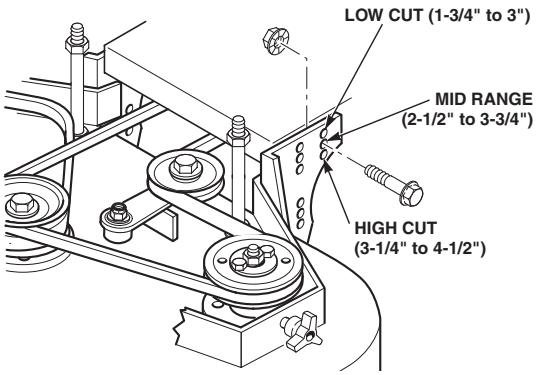


Figure 6-7. Adjusting Cutting Height

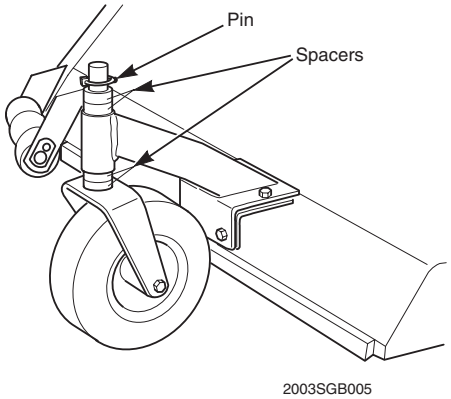


Figure 6-8. Caster Wheel Spacers

BLADE HEIGHT ADJUSTMENT

Adjusting the blade height can be done by moving any number of the five smaller 1/4" spacers on the blade mounting bolts to the top of the spindle shaft or below the spindle shaft.

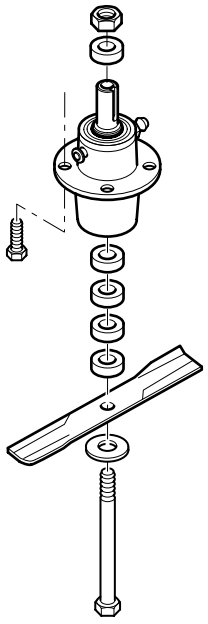
-NOTE-

All blades should be positioned equally.

⚠ WARNING

Blades have a sharp cutting edge. Wear proper eye protection and protective gloves or wrap the blades with protective material when removing, sharpening and installing blades.

For best cut and discharge, a minimum of three spacers should be installed between the blade and the spindle. See Figure 6-9.



2002 SC407G

Figure 6-9. Blade Spacers

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 6-10). For very tall, wiry or tough-to-cut grass.

B. 4" (factory setting), 4-1/4" or 4-1/2" Position - (See Figure 6-10). 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 6-10). 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".

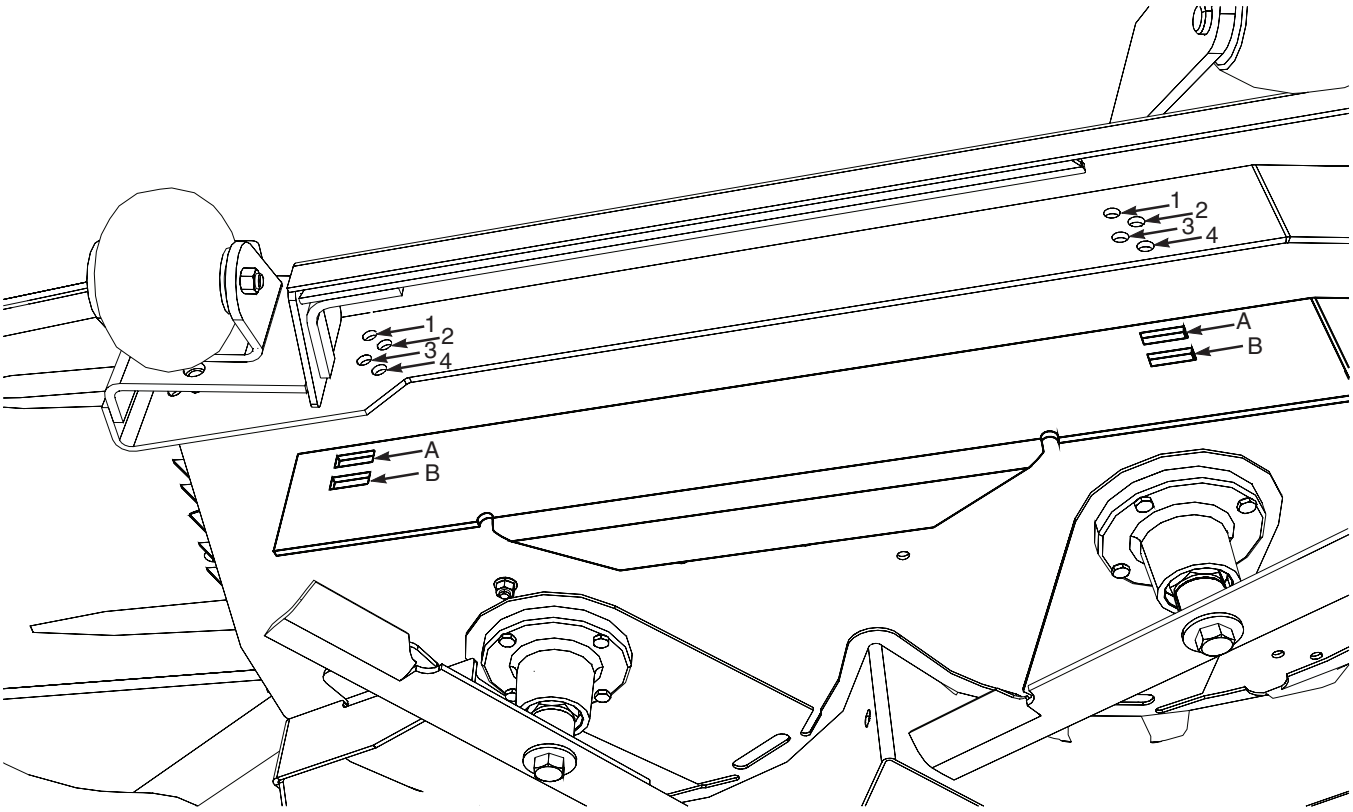
To adjust the Custom-Cut Baffle height:

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 6-10).
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 6-10. Custom-Cut Baffle Adjustment

6.9 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 6-11.

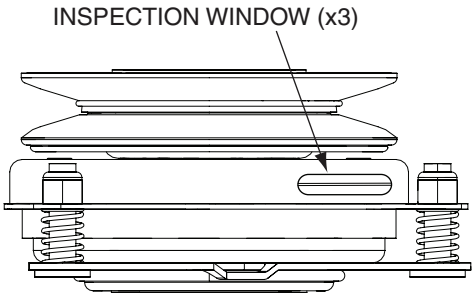


Figure 6-11. Clutch Air Gap Adjustment

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 6-12.

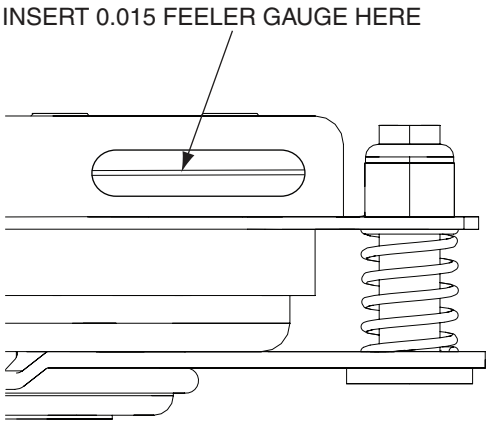


Figure 6-12. Clutch Air Gap Adjustment

3. Tighten or loosen the adjusting bolt as needed to achieve the 0.015 inch airgap. See Figure 6-13. Perform this operation at all three inspection windows.

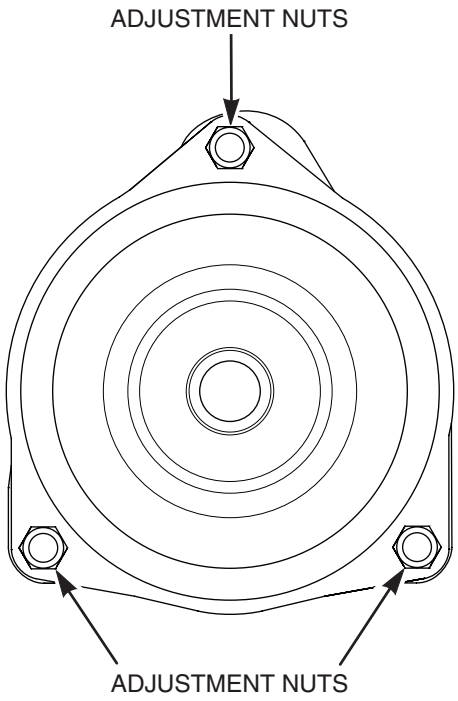


Figure 6-13. Clutch Air Gap Adjustment

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							PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	20	40	100	200	500		
X							Check all hardware for tightness	
X							Check all belts for proper alignment	See paragraph 7.6
	X						Check all hydraulic fittings and hoses for leaks	See paragraph 2.5
	X						Check engine oil level	See paragraph 7.3
	X						*Clean mower	
	X						Check tire pressure	See paragraph 7.8
	X						*Clean air filter element	See paragraph 7.5
	X						Check condition of blades	See paragraph 7.7
	X						Sharpen cutter blades	See paragraph 7.7
	X						Check tire pressure	See paragraph 7.10
	X						Check belt tension	See paragraph 6.3
	X						Check the operator interlock system	See paragraph 2.4 / 4.3
		X					Change engine oil and filter	See paragraph 7.3
			X				Grease spindle bearings	
			X				Check belts for proper alignment	See paragraph 7.6
				X			Check condition of fuel lines	
				X			Check all belts for proper alignment	
				X			*Replace engine air filter	See engine operator's manual
				X			Grease caster wheel bearings	See paragraph 7.2
				X			Check hydraulic system oil level	See paragraph 7.3
				X			Check all hardware for tightness	
				X			Change engine oil	See paragraph 7.4
				X			Grease brake lever and brake actuator levers	See paragraph 7.2
				X			*Clean air cleaner element	See paragraph 7.5

MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS (CONT'D)

HOURS						PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	40	100	200	500		
				X		Check hardware for tightness	
				X		Change engine oil filter	See paragraph 7.4
					X	Replace engine fuel filter	See paragraph 7.5
					X	Grease caster wheel pivot shafts	See paragraph 7.2
					X	Drain hydraulic system and replace oil and filter	See paragraph 7.3
					X	Adjust electric PTO clutch	See paragraph 6.6

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

7.2 LUBRICATION

GREASE FITTING LUBRICATION CHART

LOCATION	LUBRICATION INTERVAL	LUBRICANT	NO. OF PLACES
1 - Caster Wheel Pivot	100 Hours / Bi-Weekly	Chassis Grease	2
2 - Caster Wheel Bearings	100 Hours / Monthly	Chassis Grease	2
3 - Brake Actuator Levers	100 Hours / Bi-Weekly	Chassis Grease	2
4 - Cutter Deck Spindles	40 Hours / Weekly	Spindle Grease	2 / 3
5 - Pump Control Pivot	100 Hours / Monthly	Chassis Grease	2
6 - Brake Lever	100 Hours / Bi-Weekly	Chassis Grease	1
7 - Neutral Cam Pivot	200 Hours / Monthly	Chassis Grease	2

+ Compatible Greases: Scag Premium Chassis Grease p/n 486257
Scag Premium Spindle Grease p/n 486258

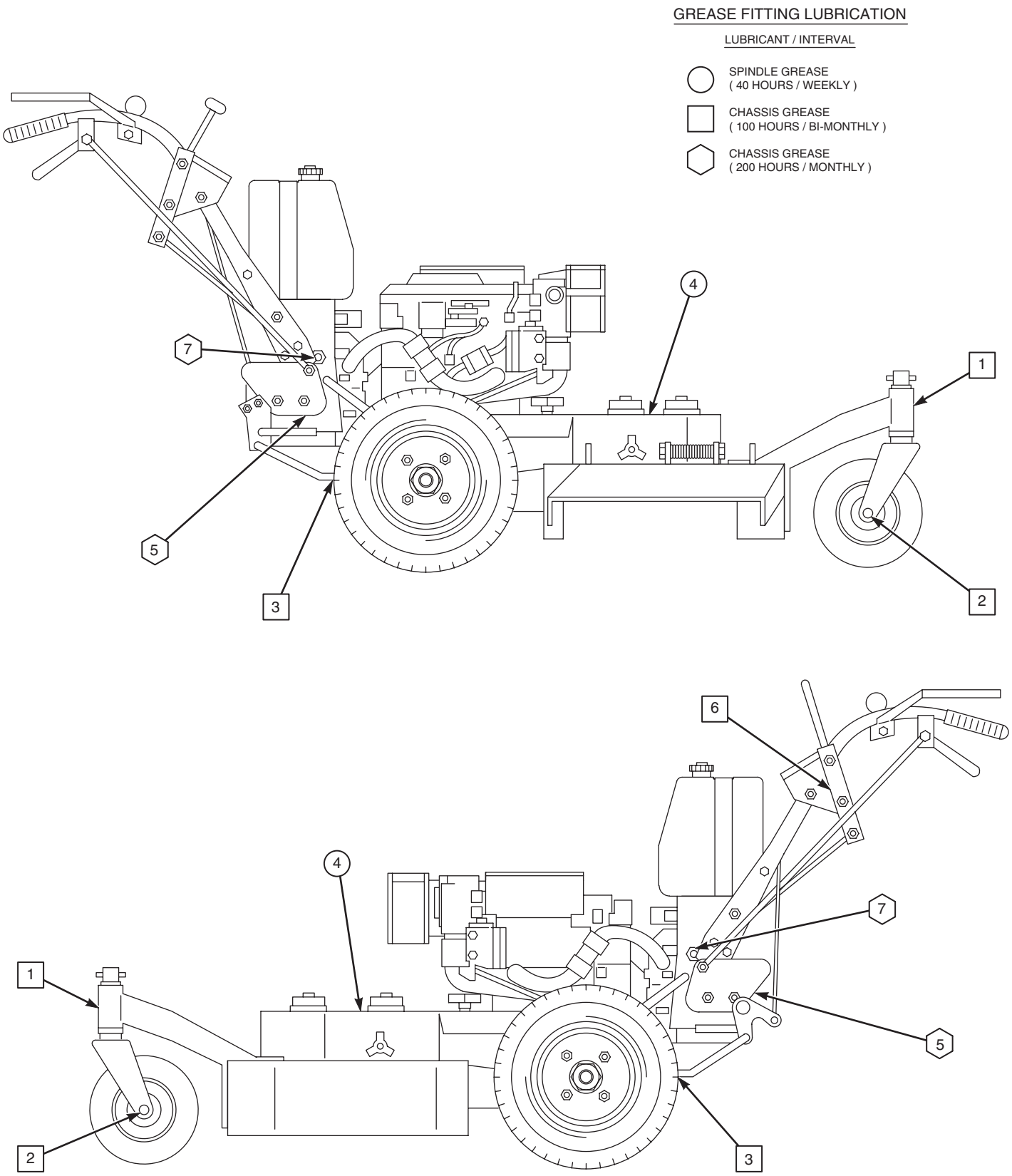


Figure 7-1. Lubrication Fitting Points

7.3 HYDRAULIC SYSTEM

A. CHECKING HYDRAULIC OIL LEVEL

The hydraulic oil level should be checked after the first 8 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.
2. Visually check the level of hydraulic oil. Hydraulic oil must be at least 2" 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 drain. Remove the fill cap from the reservoir. Remove the drain cap from the tee fitting located on the hydraulic system filter head. See Figure 7-2. Allow the fluid to drain into the container and properly discard it.

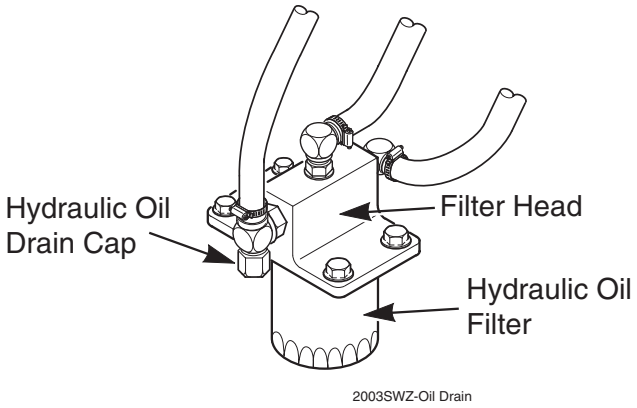


Figure 7-2. Hydraulic Oil Filter and Drain Plug

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".

4. Fill the reservoir to 2" 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 7-2. 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.
3. Check the oil level in the hydraulic tank. It must be 2" inches from the top of the filler neck. If necessary, add SAE 20W50 motor oil.

7.4 ENGINE OIL

A. CHECKING ENGINE CRANKCASE OIL LEVEL

The engine oil level should be checked after every 8 hours of operation or daily as instructed in the Engine 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.

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

⚠ DANGER

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

A. FILLING THE FUEL TANK

Fill to the bottom of the filler neck insert (approximately 5-1/2 gallons indicating Full (F) on the fuel gauge) at the beginning of each operating day. See Figure 7-3. Do not overfill. Use clean, fresh unleaded gasoline with a minimum octane rating of 87 and a maximum of 10% Ethanol.

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

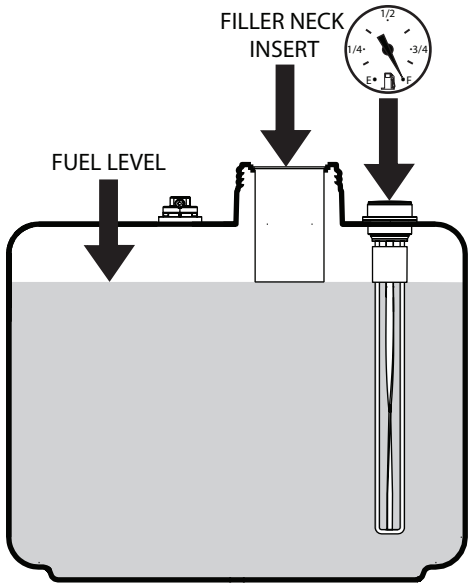


Figure 7-3. C.A.R.B. / EPA Phase 3 Fuel Level

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

1. Extinguish all cigarettes, cigars, pipes and other sources of ignition.
2. Use only an approved gasoline container.
3. Never remove the gas cap or add fuel with the engine running. Allow the engine to completely cool before fueling.
4. Never fuel the machine indoors or in an enclosed trailer.
5. Never store the machine or fuel container where there is an open flame, spark or pilot light such as on a water heater or other appliances.
6. Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.
7. Remove the machine from the truck or trailer and fuel on level ground. If this is not possible, then refuel the machine with a portable container, rather than from a gasoline dispenser nozzle.
8. Keep the nozzle in contact with the rim of fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
9. If fuel is spilled on clothing, change clothing immediately and wash affected skin.

10. Replace gas cap and tighten securely. For Low Emission (LE) and EPA Phase 3 (produced after 1/1/2011) models, tighten the fuel cap until it ratchets.

B. REPLACING IN-LINE FUEL FILTER ELEMENTS

The engine fuel filter should be replaced after every 500 hours of operation or annually, whichever occurs first.

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

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.

- NOTE -

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

1. Remove the air cleaner cover. 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 secure.

7.7 BATTERY - ELECTRIC START MODELS

⚠ WARNING

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.

⚠ WARNING

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

⚠ 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.

⚠ 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 CUTTER BLADES

A. BLADE INSPECTION

1. Remove the ignition key before servicing the blades.

⚠ WARNING

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

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

⚠ WARNING

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

4. Check the cutter blades for gouges. If there are gouges on the top or bottom surfaces of the cutter blade, replace the cutter blade.
5. If a blade cutting edge is dull or nicked, it should be sharpened. Remove the blades for sharpening. See "Blade Replacement."

- NOTE -

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

B. BLADE SHARPENING

- NOTE -

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

- NOTE -

DO NOT sharpen the blades beyond 1/3 of the width of the blade. See Figure 7-4.

1. Sharpen the cutting edge at the same bevel as the original. See Figure 7-3. Sharpen only the top of the cutting edge to maintain sharpness.

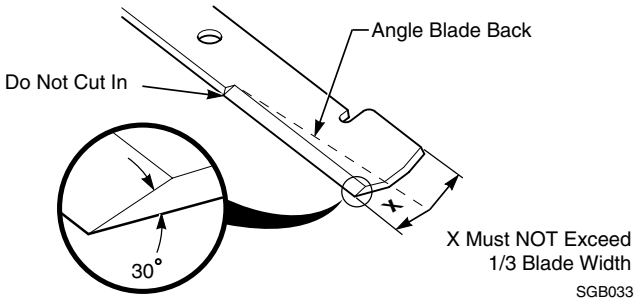


Figure 7-4. Blade Sharpening

2. Check the balance of the blade. If the blades are out of balance, vibration and premature wear can occur. The cutter blades should be balanced to 1-1/2 oz-in. 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. Remove the belt cover.
3. 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 blade attaching bolt. Remove the cutter blade, bolt, lockwasher and flatwasher from the spindle shaft. See Figure 7-5.

- NOTE -

Be sure that the blade is installed with the lift wing towards the top of the cutter deck.

⚠ CAUTION

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

4. Install the cutter blade on to the cutter spindle shaft. Secure the blades from rotating and torque to 75 ft/lbs. See Figure 7-5.
5. Install the belt cover.

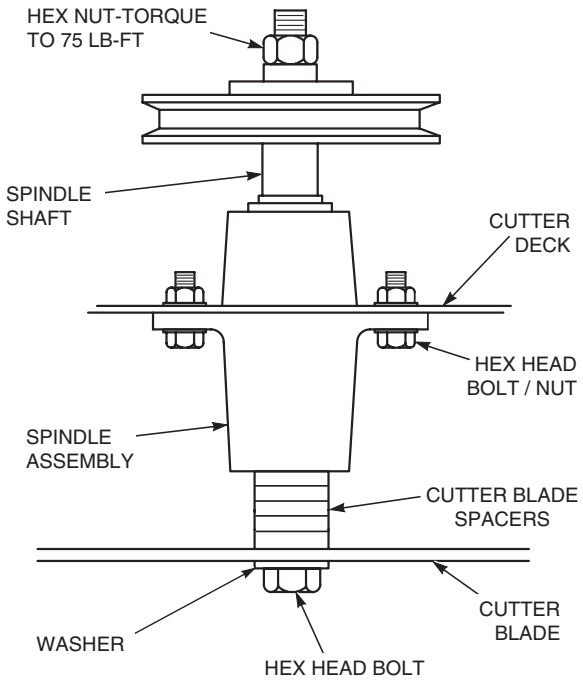


Figure 7-5. Blade Replacement

7.9 TIRES

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

Caster Wheels	Flat-Free
Drive Wheels	12 PSI

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.

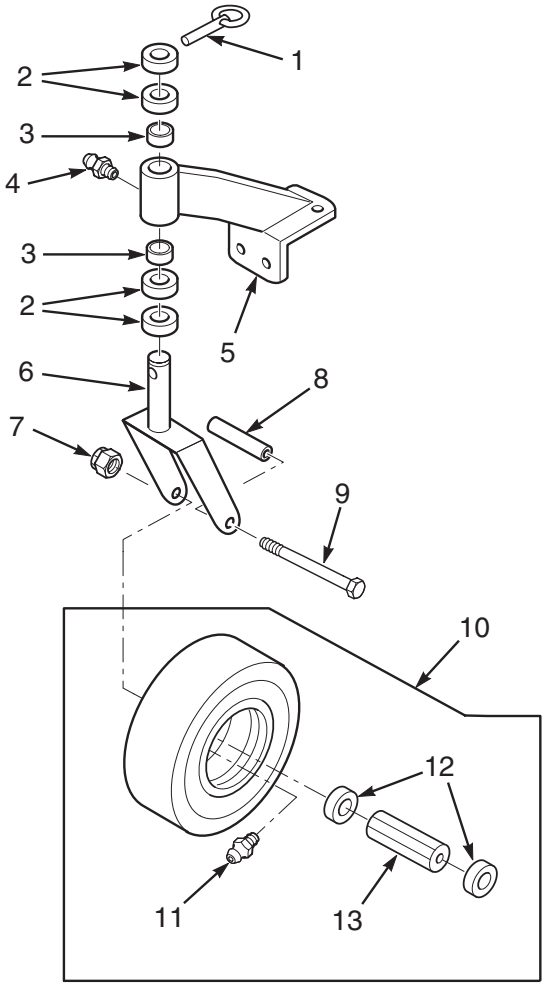
Scag approved attachments and accessories:

- Mulch Plate (p/n 9258, 9286, 9287, 9288)
- Hurricane Mulch (p/n 9263, 9283, 9284, 9285)
- GC-F4 (p/n 9075)
- Blade Buddy (p/n 9212)
- Hour Meter (p/n 48023)
- Turbo Baffle 48V & 52V (p/n 424677)
- Turbo Baffle 61V (p/n 424209)

Scag Premium Lubricants:

- Chassis Grease (p/n 486257)
- Spindle Grease (p/n 486258)
- 20W50 Oil - Gallon (p/n 486254)
- 20W50 Oil - Quart (p/n 486255)

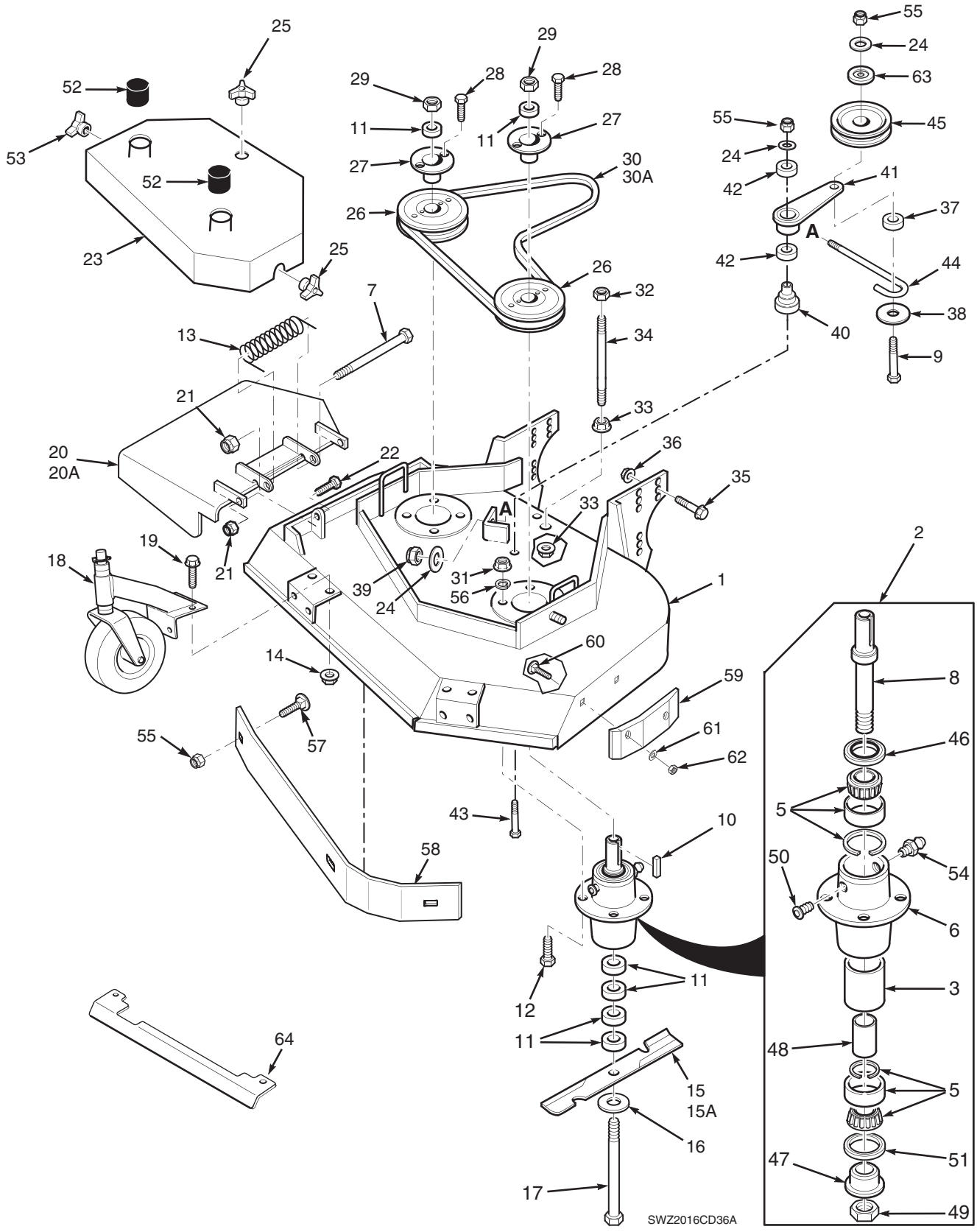
CASTER ASSEMBLY



SW-SWZ2006CSTR

Ref. No.	Part No.	Description
1	04066-01	Quick Pin
2	43037-01	Spacer, Spacer Yoke, 1/2" Long
3	48100-01	Bronze Bearing
4	48114-04	Greasing Fitting
5	46082	Support Assembly (Incl. #3 & #4)
6	45006	Caster Yoke
7	04021-07	Nut, Elastic Stop 1/2-13
8	43022	Sleeve, Caster Wheel Bearing
9	04001-37	Bolt, Hex Head 1/2-13 x 5-1/2"
10	See Note	Flat-Free Tire Assy. (Incl. #11, #12, #13)
11	48114-03	Grease Fitting, 45 Degree 1/4-28
12	481770	Retainer, Caster Wheel Bearing
13	481769	Roller Bearing, Caster Wheel

36A CUTTER DECK



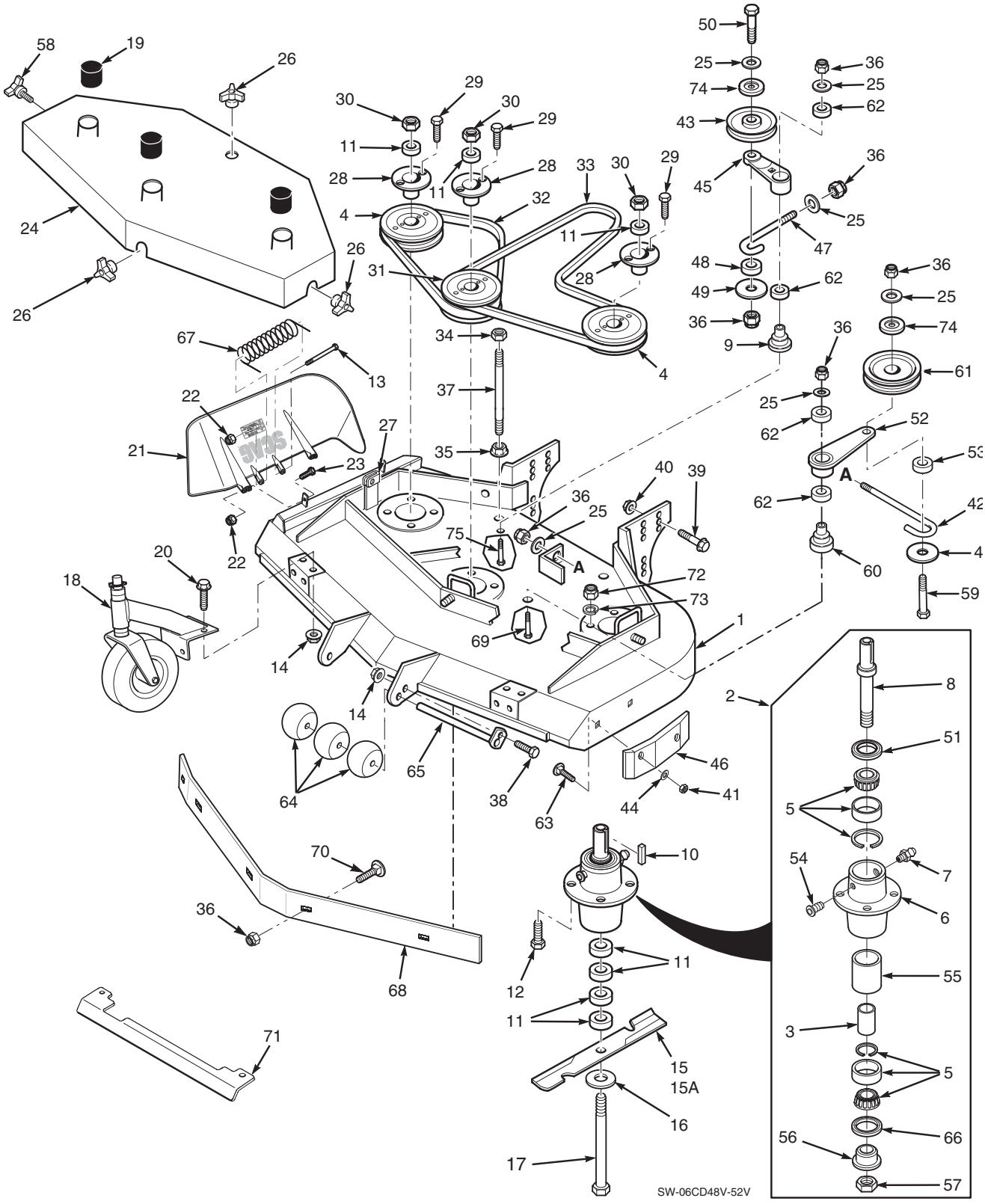
36A CUTTER DECK

Ref. No.	Part No.	Description	36
1	461848	Cutter Deck w/Decals	x
2	461663	Cutter Spindle Assembly	x
3	43312	Spacer, Outside	x
5	481022	Bearing, Tapered	x
6	43644	Spindle Housing	x
7	04001-154	Bolt, 5/16-18 x 4-3/4"	x
8	43589	Spindle Shaft	x
9	04001-51	Bolt, 3/8-16 x 3-3/4" Hex Head	x
10	04063-08	Key, 1/4 x 1/4 x 2"	x
11	43592	Spacer, Cutter Blade - Small	x
12	04001-175	Bolt, 5/16-18 x 1-1/2" Hex Head Grade 8	x
13	482245	Spring, Chute Return	x
14	04019-03	Nut 5/16-18 Serrated Flange	x
15	481707	Cutter Blade, 18"	x
15A	481711	Cutter Blade, 18 Hi-Lift	x
16	04043-06	Flatwasher, 5/8 W	x
17	04001-41	Hex Hd. Bolt, 5/8-11 x 9-1/2"	x
18	461023	Caster Assembly	x
19	04017-16	Cpscrw,5/16-18 x 3/4" Ser.Flg. Hex Head	x
20	461295	Discharge Chute	x
20A	*462469	CA Discharge Chute	x
	*425872	Turbo Baffle	x
21	04021-10	Hex Nut, 5/16-18 Elastic Stop	x
22	04001-09	Hex Hd Bolt, 5/16-18 x 1"	x
23	462393	Belt Cover Assy (Incl. Decal)	x
24	04043-04	Flat Washer, 3/8" Special	x
25	04029-03	Wing Nut, 3/8-16	x
26	482744	Pulley	x
27	48926	Tapered Hub	x
28	04001-172	Hex Hd. Bolt, 1/4-20 x 1"	x
29	04020-09	Hex Nut, 5/8-11	x
30	48204	Belt, Blade Drive	x
31	04021-22	Elastic Stop Nut, 5/16-18 Grade 8	x
32	04021-05	Hex Nut, 3/8-16 Center Locknut	x
33	04019-04	Nut, 3/8-16 Serrated Flange	x
34	04004-02	Support, Belt Cover	x
35	04017-37	Cpscrw, 1/2-13 x 1=1/4" Ser.Flg. HH	x

Ref. No.	Part No.	Description	36
36	04117-04	Nut, 1/2-13 Flange Elastic Stop	x
37	43277	Spacer, J-Hook	x
38	04041-12	Flatwasher, 3/8 x 1-1/2 x 16 GA	x
39	04021-09	Elastic Stop Nut, 3/8-16	x
40	43681	Idler Pivot	x
41	461841	Idler Arm Assy. (Inc. 42)	x
42	48224	Bearing	x
43	04001-62	Cpscrw, 3/8-16 x 3-1/4" Hex Head	x
44	44078	J-Hook	x
45	483215	Idler Pulley, Belt Clutch	x
46	481024	Seal, Cutter Spindle	x
47	43297	Spindle Bushing	x
48	43296	Spacer, Inside	x
49	481035	Nut,1.06-18	x
50	48677	Relief Fitting, Cutter Spindle	x
51	481025	Seal, Cutter Spindle	x
52	484368	Cap, Spindle	x
53	04029-04	Wing Nut, 3/8-16 (Small) RH side	x
54	48114-04	Grease Fitting	x
55	04021-09	Nut, Hex Elastic Stop 3/8-16	x
56	04030-03	Lock Washer, 5/16"	x
57	04003-23	Bolt, Carriage 3/8-16 x 1"	x
58	423783	Baffle Weldment	x
59	483174	Pad, Deck Wear	x
60	04003-12	Bolt, Carriage 5/16-18 x 3/4"	x
61	04040-04	Flatwasher, 5/16"	x
62	04021-04	Hex Nut, 5/16-18 Center Locknut	x
63	424367	Dust Shield	x
64	424661	Heatshield	x

* = California Models Only (not shown)

48V & 52V CUTTER DECKS



48V & 52V CUTTER DECKS

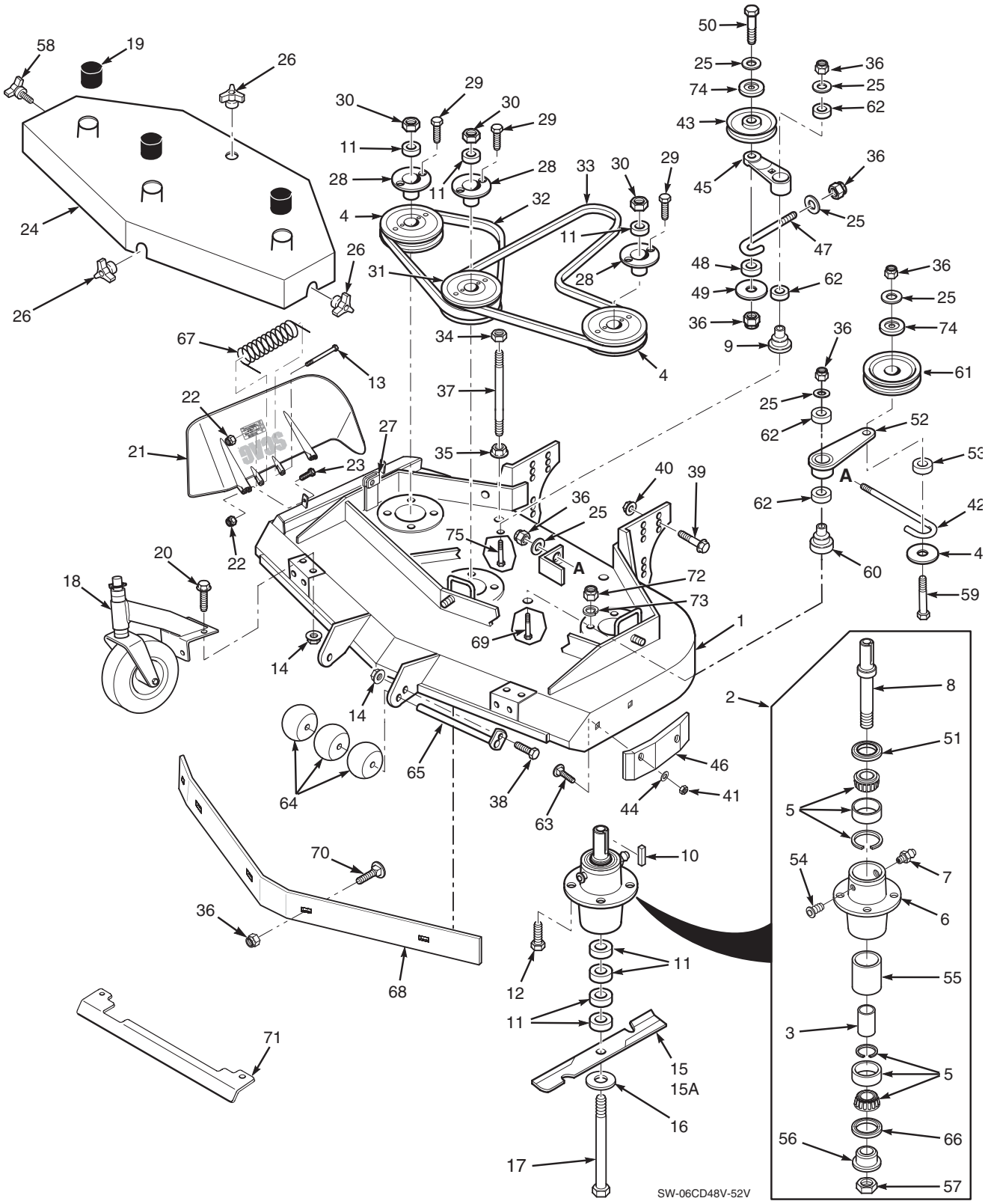
Ref. No.	Part No.	Description	48	52
1	461852	Cutter Deck w/Decals	x	
1*	461855	Cutter Deck w/Decals		x
1*	461992	Cutter Deck w/Decals		x
2	461663	Spindle Assembly	x	x
3	43296	Spacer, Inside	x	x
4	482744	Pulley	x	x
5	481022	Tapered Bearing	x	x
6	43644	Spindle Housing	x	x
7	48114-04	Grease Fitting Str. 5/16"	x	x
8	43589	Spindle Shaft	x	x
9	43682	Idler Pivot	x	x
10	04063-08	Key, 1/4 x 1/4 x 2"	x	x
11	43592	Spacer, Cutter Blade - Small	x	x
12	04001-175	Bolt, 5/16-18 x 1-1/2" Hex Head Gr. 8	x	x
13	04001-154	Bolt, 5/16-18 x 4-3/4" Hex Head	x	x
14	04019-03	Serr. Flange Nut, 5/16-18	x	x
15	481706	Cutter Blade 16-1/2"	x	
	481707	Cutter Blade 18"		x
15A	481710	Cutter Blade 16-1/2 Hi-Lift	x	
	481711	Cutter Blade 18 Hi-Lift		x
16	04043-06	Flatwasher,5/8" (.688 x 1.75 x .134)	x	x
17	04001-41	Hex Head Bolt, 5/8-11 x 9-1/2"	x	x
18	461023	Caster Assembly	x	x
19	484368	Cap, Spindle	x	x
20	04017-16	Capscrew, 5/16-18 x 3/4"	x	x
21	461844	Discharge Chute 48V	x	
	462473**	CA Discharge Chute, 48V	x	
	425619**	Turbo Baffle, 48V	x	
	461845	Discharge Chute 52V		x
	462475**	CA Discharge Chute, 52V		x
	424211**	Turbo Baffle, 52V		x
22	04021-10	Nut, 5/16-18 Elastic Elastic Stop	x	x
23	04001-11	Bolt, 5/16-18 x 1-1/2" Hex Head	x	x
24	462394	Belt Cover (Incl. decals)	x	
	462395	Belt Cover (Incl. decals)		x
25	04043-04	Flat Washer, 3/8" Special	x	x
26	04029-03	Wing Nut, 3/8-16 (Large)	x	x
27	04110-03	U-Nut, 3/8-16	x	x
28	48926	Tapered Hub		x
29	04001-172	Bolt, 1/4-20 x 1" Hex Head Grade 8	x	x
30	04020-09	Nut, 5/8-11 Hex	x	x
31	48923	Pulley, Double	x	x
32	48087	Belt, RH Blade Drive	x	
	48285	Belt, RH Blade Drive		x
33	48089	Belt, Blade Drive	x	
	483518	Belt, Blade Drive		x

Ref. No.	Part No.	Description	48	52
34	04021-05	Nut, 3/8-16, Nut Centerlock	x	x
35	04019-04	Nut, 3/8-16, Serrated Flange	x	x
36	04021-09	Nut, 3/8-16 Elastic Stop	x	x
37	04004-02	Bolt, 5/16-18 x 1" Hex Head	x	x
38	04001-09	Bolt, 5/16-18 x 1" Hex Head		x
39	04017-37	Cpscrw, 1/2-13 x 1-1/4" Ser. Flg. HH	x	x
40	04117-04	Nut, 1/2-13 Flange El. Stop	x	x
41	04021-04	Hex Nut, 5/16-18 Center Locknut	x	x
42	44078	J-Hook, 48V	x	
	43028	J-Hook, 52V		x
43	48181	Idler Pulley, “V” Groove	x	x
44	04040-04	Flatwasher, 5/16"	x	x
45	461091	Idler Arm Assy. (Incl. 62)	x	x
46	483176	Pad, Deck Wear	x	x
47	43028	J-Rod, Idler Pulley	x	x
48	43077	Spacer, J-Rod	x	x
49	04041-12	Washer, 3/8 x 1-1/2 x 16 ga.	x	x
50	04001-31	Bolt, 3/8-16 x 2-1/2" Hex Head	x	x
51	481024	Seal, Cutter Spindle	x	x
52	461841	Idler Arm Assy (Includes 62)	x	x
53	43277	Spacer, J-Rod	x	x
54	48677	Relief Fitting, Cutter Spindle	x	x
55	43312	Spacer, Outside, Cutter Spindle	x	x
56	43297	Spindle Bushing	x	x
57	481035	Nut, Cutter Spindle	x	x
58	481625-01	Knob, w/stud	x	x
59	04001-51	Bolt, 3/8-16 x 3-3/4" Hex Head	x	x
60	43681	Idler Pivot	x	x
61	483215	Idler Pulley, Belt Clutch	x	x
62	48224	Bearing	x	x
63	04003-12	Bolt, Carriage 5/16-18 x 3/4"	x	x
64	482295	Guide Roller	x	x
65	45944	Roller Shaft	x	x
66	481025	Seal, Cutter Spindle	x	x
67	483378	Spring, Chute Return	x	x
68	424839	Baffle Weldment 48V	x	
	424840	Baffle Weldment 52V		x
69	04001-62	Bolt, 3/8-16 x 3-1/4" Hex Head	x	x
70	04003-23	Bolt, Carriage 3/8-16 x 1"	x	x
71	424661	Heatshield	x	x
72	04021-22	Nut, Hex Lock 5/16-18	x	x
73	04030-03	Lock Washer 5/16"	x	x
74	424367	Dust Shield	x	x
75	04001-22	Bolt, 3/8-16 x 2-3/4" Hex Head	x	x

*Measure the engine deck to determine frame size. 461855 is for small frame (16") & 461992 is for large frame (20")

**California Models Only (not shown)

61V CUTTER DECK

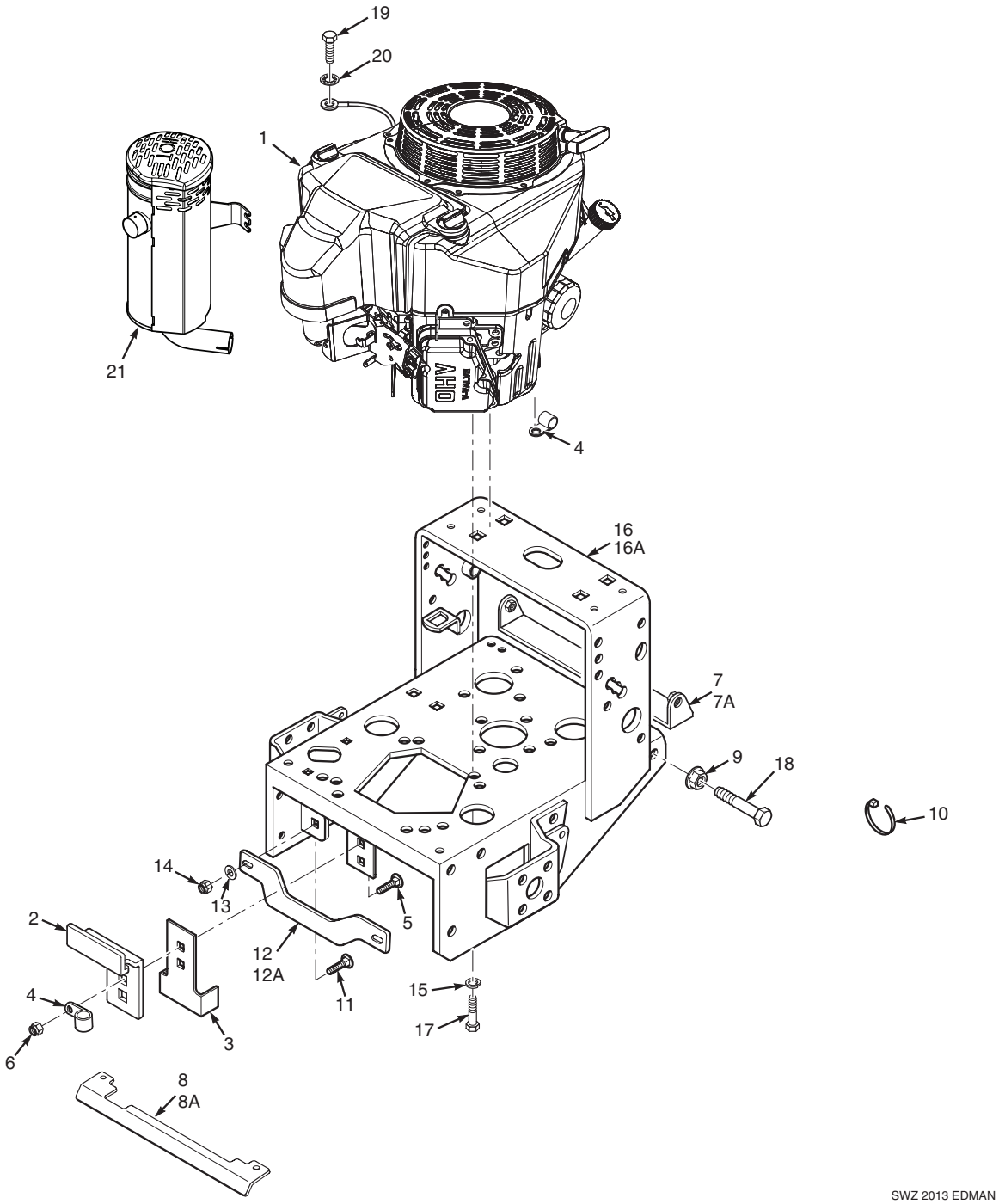


61V CUTTER DECK

Ref. No.	Part No.	Description
1	461860	Cutter Deck w/Decals
2	461663	Spindle Assembly
3	43296	Spacer, Inside
4	482745	Pulley
5	481022	Tapered Bearing
6	43644	Spindle Housing
7	48114-04	Grease Fitting Str. 5/16"
8	43589	Spindle Shaft
9	43682	Idler Pivot
10	04063-08	Key, 1/4 x 1/4 x 2"
11	43592	Spacer, Cutter Blade - Small
12	04001-175	Bolt, 5/16-18 x 1-1/2" Hex Head Gr. 8
13	04001-154	Bolt, 5/16-18 x 4-3/4" Hex Head
14	04019-03	Serr. Flange Nut, 5/16-18
15	481708	Cutter Blade 21"
15A	481712	Cutter Blade 21" Hi-Lift
16	04043-06	Flatwasher,5/8" (.688 x 1.75 x .134)
17	04001-41	Hex Head Bolt, 5/8-11 x 9-1/2"
18	461023	Caster Assembly
19	484368	Cap, Spindle
20	04017-16	Capscrew, 5/16-18 x 3/4"
21	461846	Discharge Chute 61V
22	04021-10	Nut, 5/16-18 Elastic Elastic Stop
23	04001-11	Bolt, 5/16-18 x 1-1/2" Hex Head
24	461868	Belt Cover (Incl. decals)
25	04043-04	Flat Washer, 3/8" Special
26	04029-03	Wing Nut, 3/8-16 (Large)
27	04110-03	U-Nut, 3/8-16
28	48926	Tapered Hub
29	04001-172	Bolt, 1/4-20 x 1" Hex Head Grade 8
30	04020-09	Nut, 5/8-11 Hex
31	48940	Pulley, Double
32	48265	Belt, RH Blade Drive
33	48088	Belt, Blade Drive
34	04021-05	Nut, 3/8-16, Nut Centerlock
35	04019-04	Nut, 3/8-16, Serrated Flange
36	04021-09	Nut, 3/8-16 Elastic Stop
37	04004-02	Bolt, 5/16-18 x 1" Hex Head
38	04001-09	Bolt, 5/16-18 x 1" Hex Head
39	04017-37	Cpscrw, 1/2-13 x 1-1/4" Ser.Flg. HH
40	04117-04	Nut, 1/2-13 Flange Elastic Stop
41	04021-04	Hex Nut, 5/16-18 Center Locknut
42	44078	J-Hook, 61V
43	48181	Idler Pulley, “V” Groove
44	04040-04	Flatwasher, 5/16"

Ref. No.	Part No.	Description
45	461091	Idler Arm Assy. (Incl. 62)
46	483176	Pad, Deck Wear
47	43028	J-Rod, Idler Pulley
48	43077	Spacer, J-Rod
49	04041-12	Washer, 3/8 x 1-1/2 x 16 ga.
50	04001-31	Bolt, 3/8-16 x 2-1/2" Hex Head
51	481024	Seal, Cutter Spindle
52	461841	Idler Arm Assy (Includes 62)
53	43277	Spacer, J-Rod
54	48677	Relief Fitting, Cutter Spindle
55	43312	Spacer, Outside, Cutter Spindle
56	43297	Spindle Bushing
57	481035	Nut, Cutter Spindle
58	481625-01	Knob, w/stud
59	04001-51	Bolt, 3/8-16 x 3-3/4" Hex Head
60	43681	Idler Pivot
61	483215	Idler Pulley, Belt Clutch
62	48224	Bearing
63	04003-12	Bolt, Carriage 5/16-18 x 3/4"
64	482295	Guide Roller
65	45944	Roller Shaft
66	481025	Seal, Cutter Spindle
67	483378	Spring, Chute Return
68	424841	Baffle Weldment 61V
69	04001-62	Bolt, 3/8-16 x 3-1/4" Hex Head
70	04003-23	Bolt, Carriage 3/8-16 x 1"
71	424730	Heatshield
72	04021-22	Nut, Hex Lock 5/16-18
73	04030-03	Lock Washer 5/16"
74	424367	Dust Shield
75	04001-22	Bolt, 3/8-16 x 2-3/4" Hex Head

ENGINE DECK - MANUAL START

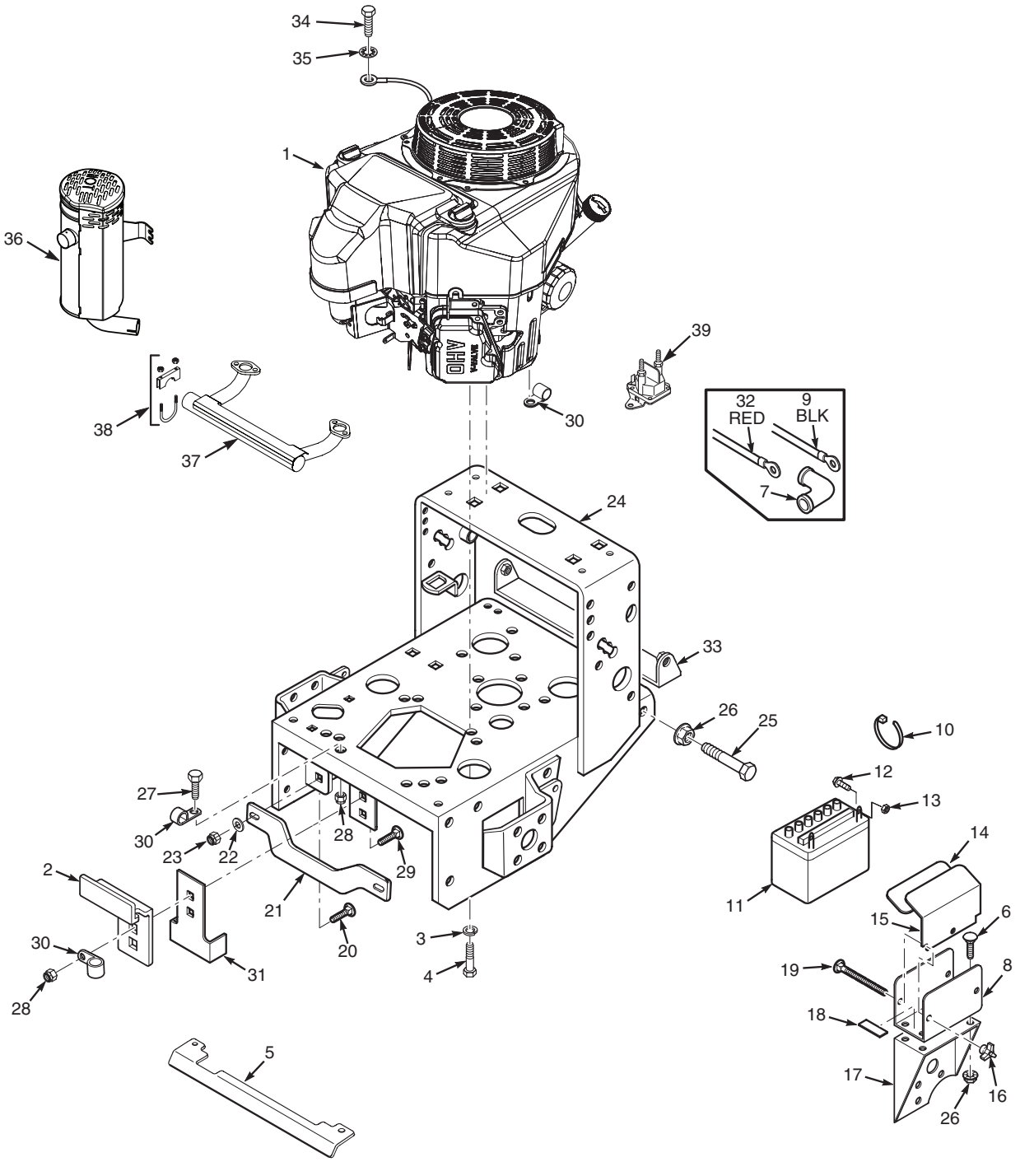


ENGINE DECK - MANUAL START

Ref. No.	Part No.	Description
1	485014*	Engine, Kawasaki 14FS (FS481V)
	485015*	Engine, Kawasaki 15FS (FS541V)
	485016*	Engine, Kawasaki 18FS (FS600V)
2	424620	Plate, Clutch Bracket
3	421370	Clutch Bracket
4	48030-09	Clamp
5	04003-04	Bolt, Carriage 5/16-18 x 1"
6	04021-10	Nut, 5/16-18 Elastic Stop
7	45418	Pulley Guard, 16" Small Frame
7A	45419	Pulley Guard, 20" Large Frame
8	424661	Heatshield, 16" Small Frame
8A	424730	Heatshield, 20" Large Frame
9	04019-03	Nut, 5/16-18 Serr. Flange
10	48028-05	Cable Tie
11	04003-11	Bolt, Carriage 3/8-16 x 1-1/4"
12	424002	Brace, 16" Small Frame
12A	424009	Brace, 20" Large Frame
13	04043-04	Flatwasher, .391 x .938 x .105
14	04021-09	Nut, 3/8-16 Elastic Stop
15	04030-04	Lockwasher, 3/8"
16	462287	Engine Deck, 16" Wide w/Decals
16A	462288	Engine Deck, 20" Wide w/Decals
17	04001-32	Bolt, Hex Head 3/8-16 x 1-1/4"
18	04001-17	Bolt, 5/16-18 x 2" Hex Head
19	04002-06	Bolt, Hex Head M8-1.25 x 16
20	04031-03	Lockwasher, 5/16" Ext. Tooth
21	484620	Muffler, Kawasaki FS/FX

* Not available through Scag.

ENGINE DECK - ELECTRIC START

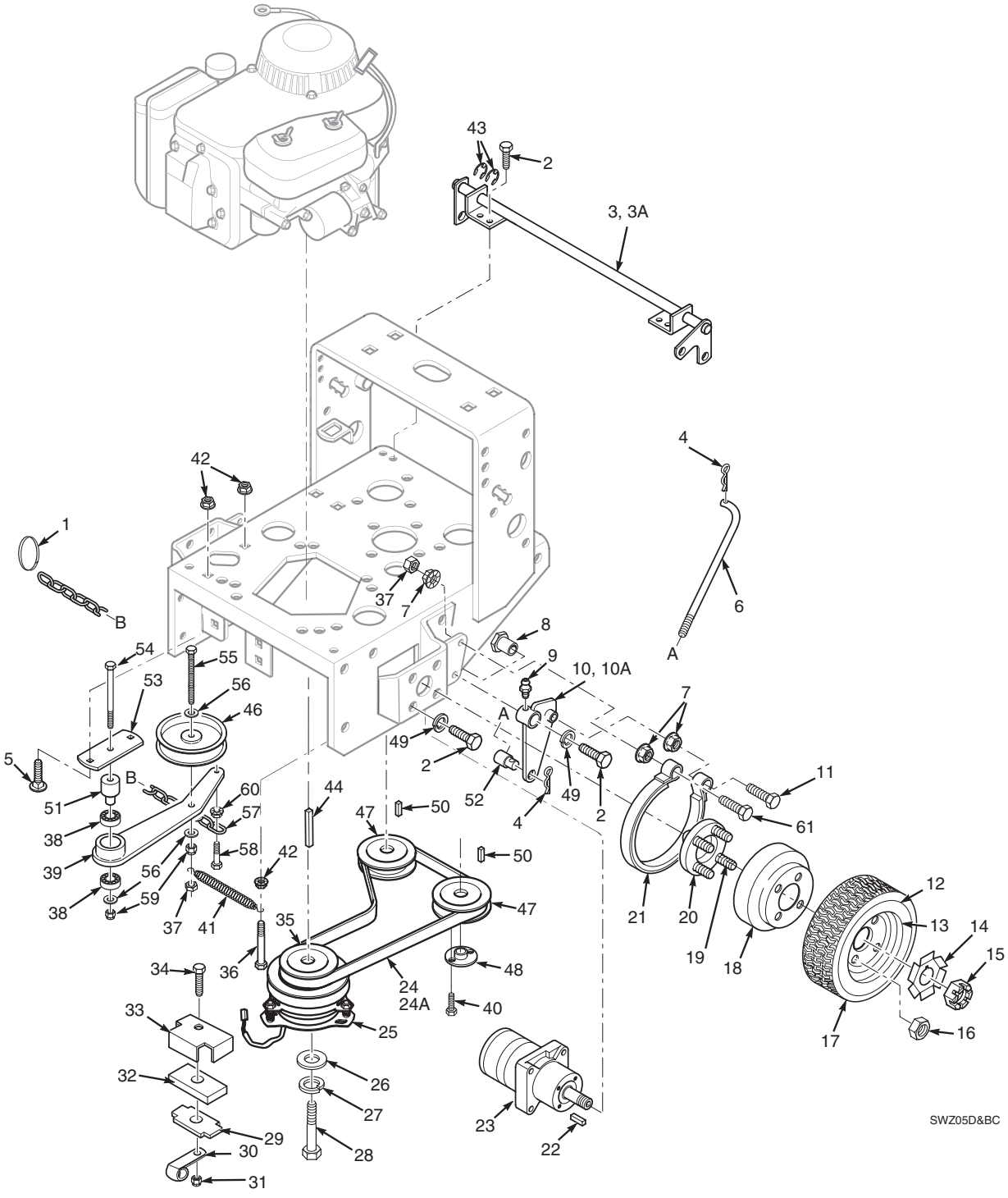


ENGINE DECK - ELECTRIC START

Ref. No.	Part No.	Description
1	485017*	Engine, Kawasaki FS22 (FS651V)
2	424620	Plate, Clutch Bracket
3	04030-04	Lock Washer 3/8"
4	04001-32	Bolt, Hex Head 3/8-16 x 1-1/4"
5	424730	Heatshield, 20" Large Frame
6	04003-12	Carriage Bolt, 5/16-18 x .75"
7	48126	Rubber Boot
8	423308	Battery Box
9	48029-14	Battery Cable, 31.5" Black
10	48028-05	Cable Tie
11	**	Battery (Not Available Through Scag)
12	04001-44	Bolt, 1/4-20 x 1/2"
13	04020-02	Nut, 1/4-20
14	48099	Pad
15	42392	Battery Cover
16	04029-01	Wing Nut, 1/4-20
17	423746	Battery Support
18	48661	Pad, Rubber
19	04003-01	Bolt, 1/4-20 x 6" Carriage
20	04003-11	Carriage Bolt, 3/8-16 X 1-1/4"
21	424009	Brace, 20" Large Frame
22	04043-04	Flat Washer .391 x .938 x .105
23	04021-09	Nut, 3/8-16 Elastic Stop
24	462288	Engine Deck, 20" Wide, w/decals
25	04001-17	Bolt, 5/16-18 x 2" Hex Head
26	04019-03	Nut, 5/16-18 Serr. Flange
27	04001-08	Hex Head Bolt, 5/16-18 x .75"
28	04021-10	Nut, 5/16-18 Elastic Stop
29	04003-04	Carriage Bolt, 5/16-18 x 1"
30	48030-09	Clamp
31	421370	Clutch Bracket
32	48029-13	Battery Cable, 25" Red
	48029-06	Battery Cable, 18" Red
33	45419	Pulley Guard, 20" Frame
34	04002-06	Bolt, Hex Head M8-1.25 x 16
35	04031-03	Lockwasher, 5/16" Ext. Tooth
36	485571	Muffler
37	485572	Exhaust Manifold
38	481259	Clamp, Muffler 1-1/4" Dia.
39	483278	Solenoid

* Not available through Scag.

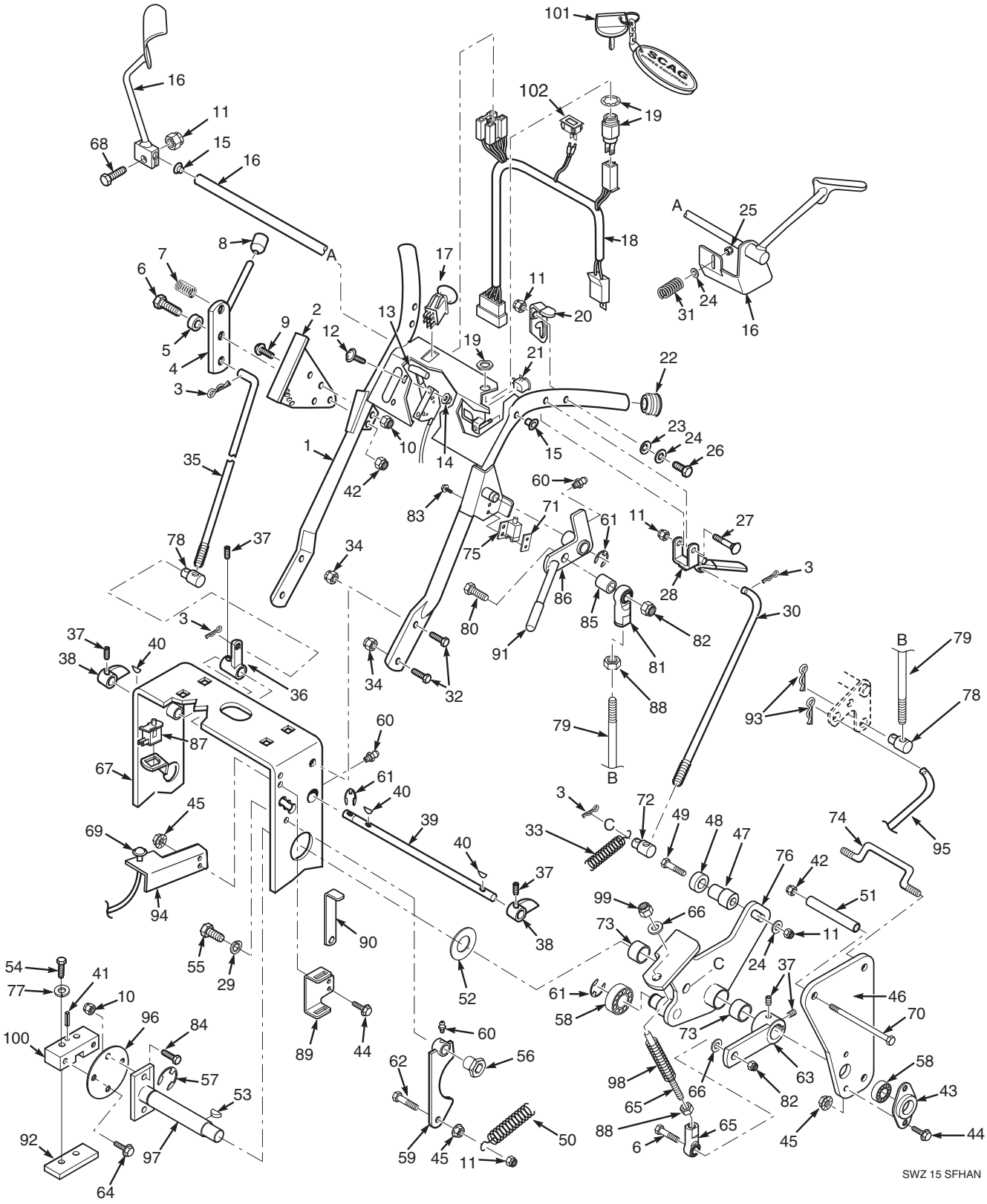
DRIVE AND BRAKE COMPONENTS



DRIVE AND BRAKE COMPONENTS

Ref. No.	Part No.	Description
1	481876	Ring, Split
2	04001-19	Bolt, 3/8-16 x 1" Hex Head
3	45842	Brake Shaft Assembly Weldment, 16" Small Frame
3A	45854	Brake Shaft Assembly Weldment, 20" Large Frame
4	04062-01	Hair Pin Cotter, .094 x 1.62
5	04003-12	Carrage Bolt, 5/16-18 x .75"
6	44126	Rod, Brake Lower
7	04019-04	Nut, 3/8-16 Serr. Flange
8	43415	Bushing, Brake
9	48114-05	Grease Fitting
10	45860	Brake Actuator Weldment-LH
10A	45861	Brake Actuator Weldment-RH
11	04001-46	Bolt, 3/8-16 x 2-1/4"
12	481618	Tire, 16 x 6.50, 4 ply
13	481890	Rim Assy
14	422214	Lock Washer, Wheel Motor
15	48679	Hex Castle Nut, 3/4-28 UNEF
16	04028-02	Nut, Lug
17	481502	Wheel Assy., (incl. 12,13)
18	422215	Brake Drum
19	04008-01	1/2-20 Serrated Bolt
20	46928	Hub, Wheel
21	481470	Brake Band, 7.5"
22	04063-07	Key, 3/16 X .75 Woodruff
23	481416	Wheel Motor
24	48553	Belt, Pump Drive, 16" Small Frame
24A	48587	Belt, Pump Drive, 20" Large Frame
25	461397	Electric Clutch
26	04041-28	Flat Washer .469 x 1.75 x .25
27	04030-05	Lock Washer, 7/16"
28	04102-05	Hex Head Bolt, 7/16-20 x 2-3/4"
29	422534	Plate, Backing
30	48030-09	Clamp
31	04021-10	Nut, 5/16-18 Elastic Stop
32	481716	Rubber Pad, Clutch Stop
33	422533	Retainer, Clutch Stop
34	04001-12	Hex Head Bolt, 5/16-18 x 1.75"
35	482755	Pulley, Pump Drive Engine
36	04001-13	Hex Head Bolt, 5/16-18 x 2.75"
37	04021-05	Nut, 3/8-16 Center Lock
38	48224	Ball Bearings
39	461783	Idler Arm Weldment, Pump (incl. 38)
40	04001-172	Bolt, Hex Head 1/4-20 x 1" Grd 8
41	483526	Spring, Pump Belt Idler
42	04019-03	Nut, 5/16-18 Serr. Flange
43	04050-02	Retaining Ring, 3/4" Ext. "E"
44	04063-29	Key, 1/4x1/4 x 3.75"
45	04041-07	Flat Washer, 3/8"
46	483213	Pulley, Idler 4.5"
47	482649	Pulley, Pump Shaft
48	482085	Tapered Hub
49	04030-04	Lockwasher, 3/8"
50	04063-14	Key, 5.0 x 5.0 x 25mm
51	43504	Pivot, Idler (Long)
52	43032	Swivel Joint
53	422713	Base, Idler Pivot
54	04001-54	Bolt, Hex Head 3/8-16 x 3"
55	04001-161	Bolt, Hex Head 3/8-16 x 2.75"
56	04043-04	Flatwasher 3/8"
57	481873	Chain
58	04001-59	Bolt, Hex Head 1/4-20 x 1.25"
59	04021-09	Nut, Hex Elastic Stop 3/8-16
60	04019-02	Nut, Serrated Flange 1/4-20
61	04001-151	Bolt, Hex Head 3/8-16 x 2.63"

HANDLE ASSEMBLY - 16" SMALL FRAME

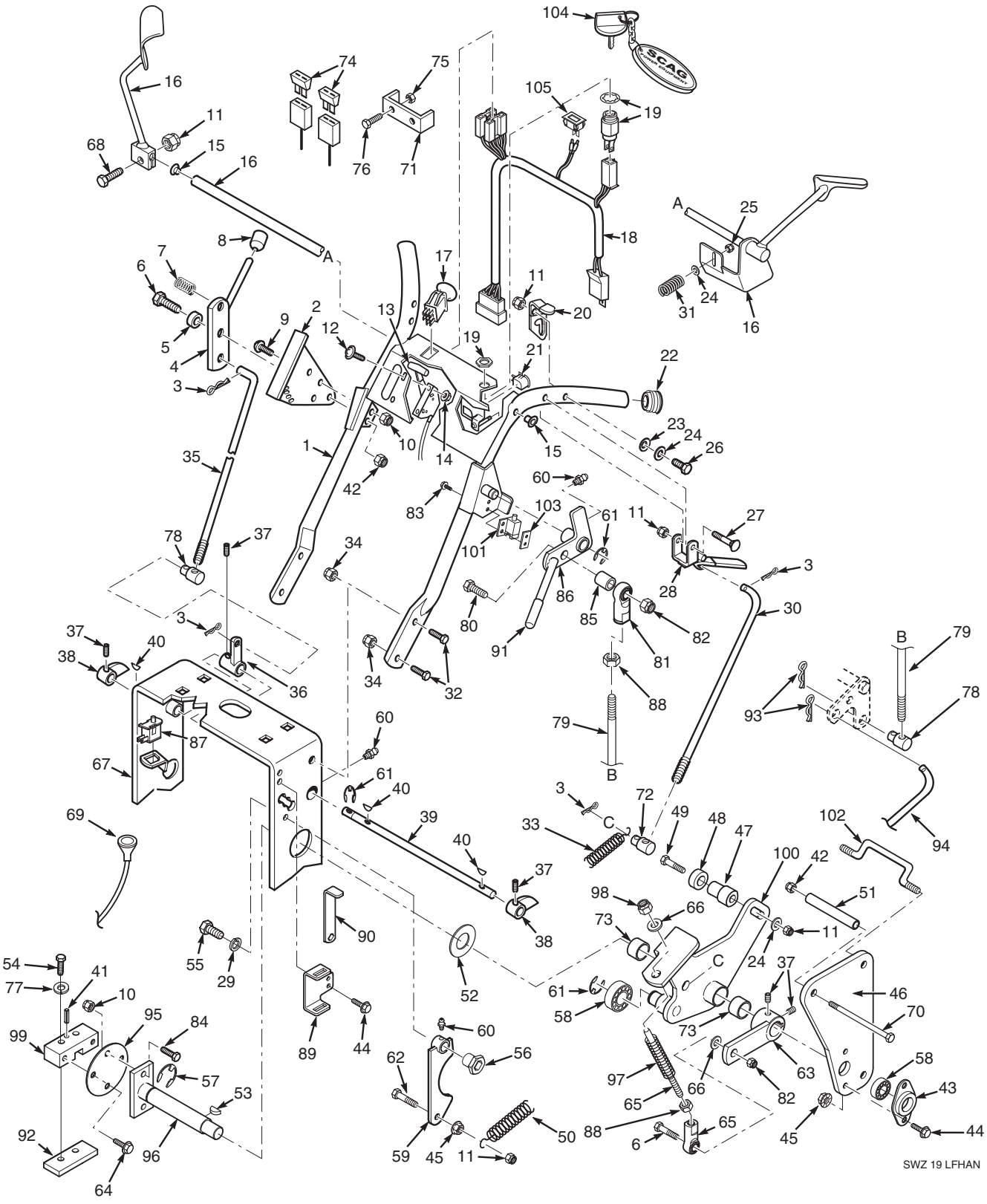


HANDLE ASSEMBLY - 16" SMALL FRAME

Ref. No.	Part No.	Description
1	463098	Upper Handle Wlmt. W/Decals
2	42675	Quadrant, Speed Control
3	04062-02	Hairpin, .094 x 1.19
4	45282	Lever, Speed Adjustment
5	43086	Bushing, Speed Adjustment Lever
6	04001-20	Hex Head Bolt, 3/8-16 x 1.5"
7	48493-01	Ball Plunger
8	48092	Knob, Speed Adjustment
9	04014-01	Capscrew, 1/4-20 x 3/4" FHHS
10	04021-08	Nut, 1/4-20 Elastic Stop
11	04021-10	Nut, 5/16-18 Elastic Stop
12	04010-01	Screw, #10-32 x 1/2" PW HD
13	48946	Throttle Control
14	04019-01	Nut, #10-32 Serr. Flange
15	483142	Bushing
16	451917	Handle, Oper. Presence-RH
	451915	Handle, Oper. Presence-LH
17	485833	Switch, Electric Clutch Engage
18	486119	Wire Harness, Manual Start
19	48609	Key Switch, Manual Srt. (inc. Hdw)
20	461242	Neutral Latch-RH
	461241	Neutral Latch-LH
21	48717	Switch, Neutral Interlock
22	483161	Plug, Handlebar
23	04032-01	Washer, Curved Spring
24	04040-15	Flat Washer
25	04021-10	Nut, 5/16-18 Elastic Stop
26	04001-17	Hex Head Bolt, 5/16-18 x 2"
27	04001-53	Hex Hd. Bolt, 5/16-18 x 2.5"
28	483160	Lever, Steering Control
29	04030-04	Lockwasher, 3/8 Spring
30	44141	Rod, Steering Control
31	483040	Spring, Operator Presence
32	04017-27	Capscr., 3/8-16 x 1" Ser. Flange
33	483470	Spring
34	04019-04	Nut, 3/8-16 Serr. Flange
35	44142	Rod Speed Control
36	43887	Bellcrank, Speed Control
37	04012-02	Setscrew, 1/4-28 x .25"
38	46335	Cam, Speed Control (incl. 37)
39	43166	Jackshaft, Speed Control
40	04063-13	Key, 1/8 x 1/2" Woodruff
41	04060-06	Roll Pin, 3/16-.75
42	04021-10	Nut, Elastic Stop 3/8-16
43	48223	Flange, Bearing
44	04017-17	Capscrew, 5/16-18 x 1" Serr. Flg.
45	04019-03	Nut, 5/16-18 Serrated Flange
46	422795	Plate, Side
47	43536	Spacer, Neutral Bearing
48	48409	Bearing, Speed Ctrl. Bellcrank
49	04001-69	Hex Head Bolt, 5/16-18 x 1-3/4"
50	48494-02	Spring, Return
51	43522	Spacer, Side Plate
52	04041-08	Flatwasher, .766 x 1.25 x .035

Ref. No.	Part No.	Description
53	04063-07	Key, Woodruff, 3/16 x .75
54	04001-59	Bolt, Hex Head, 1/4-20 x 1.25"
55	04001-19	Bolt, Hex Head, 3/8-16 x 1"
56	43415	Bushing, Brake
57	04050-02	Clip, Retaining .750 diameter
58	48224	Bearing, Ball Neutral Return
59	46747	Cam, Neutral (incl. grease ftng.)
60	48114-05	Grease Fitting, 1/4-28 UNF
61	04050-01	Retaining Ring, 5/8"
62	04001-09	Hex Head Bolt, 5/16-18 x 1"
63	483414	Lever, Speed Control
64	04017-05	Bolt, Hex Head 1/4-20 x.75"
65	482431	Linkage Assembly
66	04041-07	Flat Wshr., 15/16 x .3906 x 12 ga
67	462287	Deck, Engine 16" Wide
68	04001-10	Hex Head Bolt, 5/16-18 x 1.25"
69	482314	Choke Control
70	04001-152	Bolt, Hex Head 3/8-16 x 4.25"
71	422373	Plate, Threaded
72	43520	Swivel Joint, Steering Rod
73	48100-06	Bushing
74	44144	Rod, Offset
75	481545	Switch, Parking Brake
76	461964	Control, LH (inc. bush. & decal)
	461965	Control, RH (inc. bush. & decal)
77	04030-02	Lockwasher, 1/4"
78	43032	Swivel Joint
79	44143	Rod, Brake Lever
80	04001-45	Hex Hd. Bolt, 3/8-16 x 2"
81	48464	Ball Joint, RH Thread
82	04021-09	Nut, 3/8-16 Elastic Stop
83	04010-12	Screw #10-32 Sltd Hex Wshr Hd
84	04001-01	Bolt, 1/4-20 x .75"
85	43286	Spacer
86	462746	Parking Brake Lever w/Grip & Grease Fitting
87	48717	Switch, Safety
88	04020-14	Nut, 3/8-24
89	423876	Mounting Bracket, Wrench
90	423875	Wrench
91	48342	Grip, Parking Brake
92	421203	Plate, Threaded
93	04062-01	Hairpin, .094 x 1.62"
94	424113	Bracket, Choke Mtg.
95	44126	Rod, Lower Brake
96	422273	Plate, Coupler
97	451113	Shaft, Pump Control
98	481879	Spring
99	04021-09	Nut, 3/8-16 Elastic Stop
100	48829	Block, Pump Control
101	462069	Key Chain with Keys
	483609	Key with Shroud
102	484565	Hourmeter

HANDLE ASSEMBLY - 20" LARGE FRAME

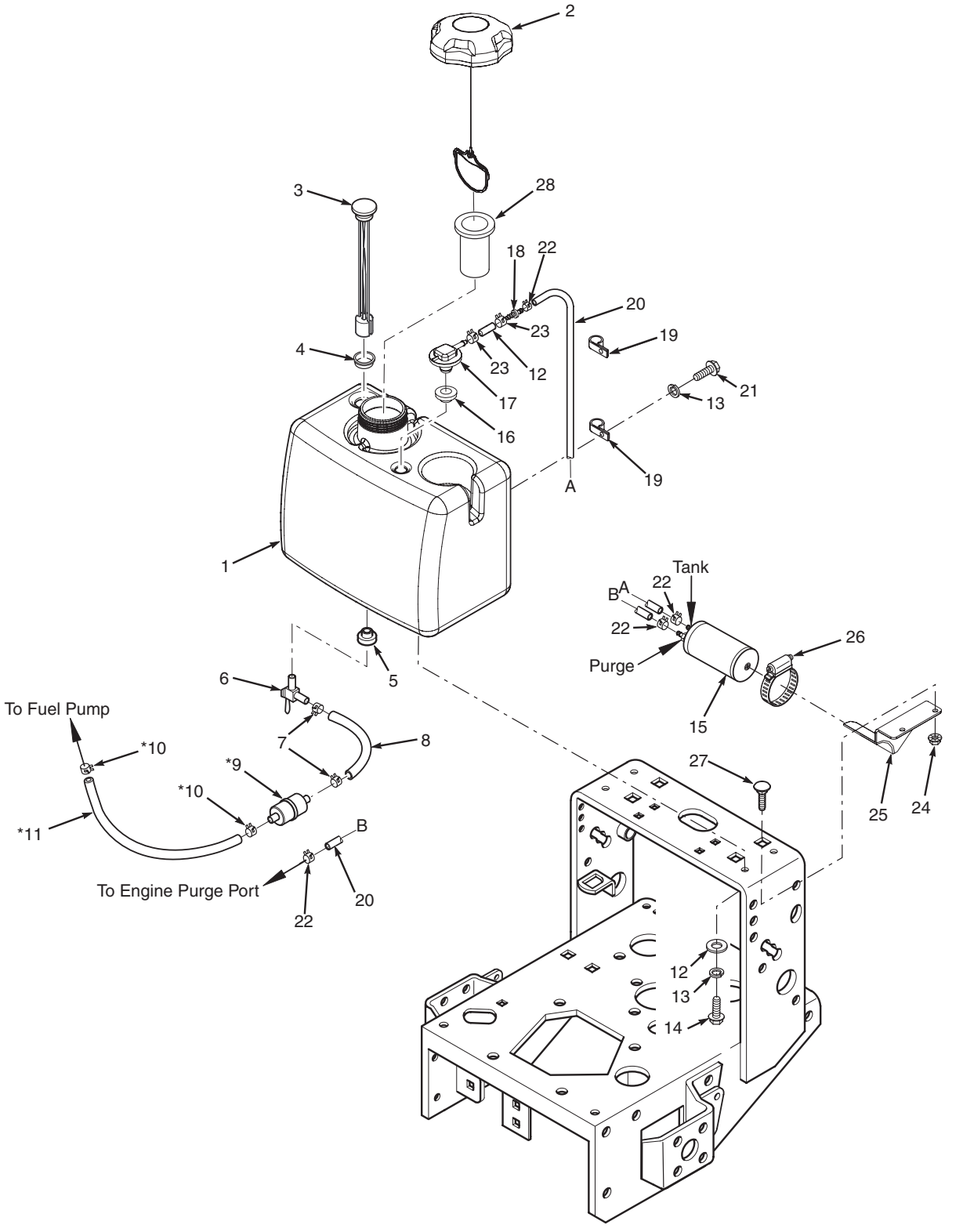


HANDLE ASSEMBLY - 20" LARGE FRAME

Ref. No.	Part No.	Description
1	463099	Upper Handle Wlmt. W/Decals
2	42675	Quadrant, Speed Control
3	04062-02	Hairpin, .094 x 1.19
4	45282	Lever, Speed Adjustment
5	43086	Bushing, Speed Adjustment Lever
6	04001-20	Hex Head Bolt, 3/8-16 x 1.5"
7	48493-01	Ball Plunger
8	48092	Knob, Speed Adjustment
9	04014-01	Capscrew, 1/4-20 x 3/4" FHHS
10	04021-08	Nut, 1/4-20 Elastic Stop
11	04021-10	Nut, 5/16-18 Elastic Stop
12	04010-01	Screw, #10-32 x 1/2" PW HD
13	48946	Throttle Control
14	04019-01	Nut, #10-32 Serr. Flange
15	483142	Bushing
16	451917	Handle, Oper. Presence-RH
	451916	Handle, Oper. Presence-LH
17	485833	Switch, Electric Clutch Engage
18	486119	Wire Harness, Manual Start
	486120	Wire Harness, Electric Start
19	48609	Key Switch, Manual Srt. (inc. Hdw)
	48798	Key Switch, Electric Srt. (inc. Hdw)
20	461242	Neutral Latch-RH
	461241	Neutral Latch-LH
21	48717	Switch, Neutral Interlock
22	483161	Plug, Handlebar
23	04032-01	Washer, Curved Spring
24	04040-15	Flat Washer
25	04021-10	Nut, 5/16-18 Elastic Stop
26	04001-17	Hex Head Bolt, 5/16-18 x 2"
27	04001-53	Hex Hd. Bolt, 5/16-18 x 2.5"
28	483160	Lever, Steering Control
29	04030-04	Lockwasher, 3/8 Spring
30	44141	Rod, Steering Control
31	483040	Spring, Operator Presence
32	04017-27	Capscr., 3/8-16 x 1" Ser. Flange
33	483470	Spring
34	04019-04	Nut, 3/8-16 Serr. Flange
35	43887	Rod Speed Control
36	451562	Bellcrank, Speed Control
37	04012-02	Setscrew, 1/4-28 x .25"
38	46335	Cam, Speed Control (incl. 37)
39	43155	Jackshaft, Speed Control
40	04063-13	Key, 1/8 x 1/2" Woodruff
41	04060-06	Roll Pin, 3/16-.75
42	04021-10	Nut, Elastic Stop 3/8-16
43	48223	Flange, Bearing
44	04017-17	Capscrew, 5/16-18 x 1" Serr. Flg.
45	04019-03	Nut, 5/16-18 Serrated Flange
46	422795	Plate, Side
47	43536	Spacer, Neutral Bearing
48	48409	Bearing, Speed Ctrl. Bellcrank
49	04001-69	Hex Head Bolt, 5/16-18 x 1-3/4"
50	48494-02	Spring, Return
51	43522	Spacer, Side Plate
52	04041-08	Flatwasher, .766 x 1.25 x .035

Ref. No.	Part No.	Description
53	04063-07	Key, Woodruff, 3/16 x .75
54	04001-59	Bolt, Hex Head, 1/4-20 x 1.25"
55	04001-19	Bolt, Hex Head, 3/8-16 x 1"
56	43415	Bushing, Brake
57	04050-02	Clip, Retaining .750 diameter
58	48224	Bearing, Ball Neutral Return
59	46747	Cam, Neutral (incl. grease ftng.)
60	48114-05	Grease Fitting, 1/4-28 UNF
61	04050-01	Retaining Ring, 5/8"
62	04001-09	Hex Head Bolt, 5/16-18 x 1"
63	483414	Lever, Speed Control
64	04017-05	Bolt, Hex Head 1/4-20 x.75"
65	482431	Linkage Assembly
66	04041-07	Flat Wshr., 15/16 x .3906 x 12 ga
67	462288	Deck, Engine 20" Wide
68	04001-10	Hex Head Bolt, 5/16-18 x 1.25"
69	482314	Choke Control
70	04001-152	Bolt, Hex Head 3/8-16 x 4.25"
71	42413	Fuse Holder - 21KAE
72	43520	Swivel Joint, Steering Rod
73	48100-06	Bushing
74	48298	Blade Fuse, 20A - 22FSE
75	04021-01	Nut, #10-32 Elastic Stop - 2FSE
76	04010-03	Screw, #10-32 x 1.5" Phillips - 22FSE
77	04030-02	Lockwasher, 1/4"
78	43032	Swivel Joint
79	44143	Rod, Brake Lever
80	04001-45	Hex Hd. Bolt, 3/8-16 x 2"
81	48464	Ball Joint, RH Thread
82	04021-09	Nut, 3/8-16 Elastic Stop
83	04010-12	Screw #10-32 Sltd Hex Wshr Hd
84	04001-01	Bolt, 1/4-20 x .75"
85	43286	Spacer
86	462746	Parking Brake Lever w/Grip & Grease Fitting
87	48717	Switch, Safety
88	04020-14	Nut, 3/8-24
89	423876	Mounting Bracket, Wrench
90	423875	Wrench
91	48342	Grip, Parking Brake
92	421203	Plate, Threaded
93	04062-01	Hairpin, .094 x 1.62"
94	44126	Rod, Lower Brake
95	422273	Plate, Coupler
96	451113	Shaft, Pump Control
97	481879	Spring
98	04021-09	Nut, 3/8-16 Elastic Stop
99	48829	Block, Pump Control
100	461964	Control, LH (inc. bush. & decal)
	461965	Control, RH (inc. bush. & decal)
101	481545	Switch, Parking Brake
102	44144	Rod, Offset
103	422373	Plate, Threaded
104	462069	Key Chain with Keys
	483609	Key with Shroud
105	484565	Hourmeter

SWZ FUEL SYSTEM



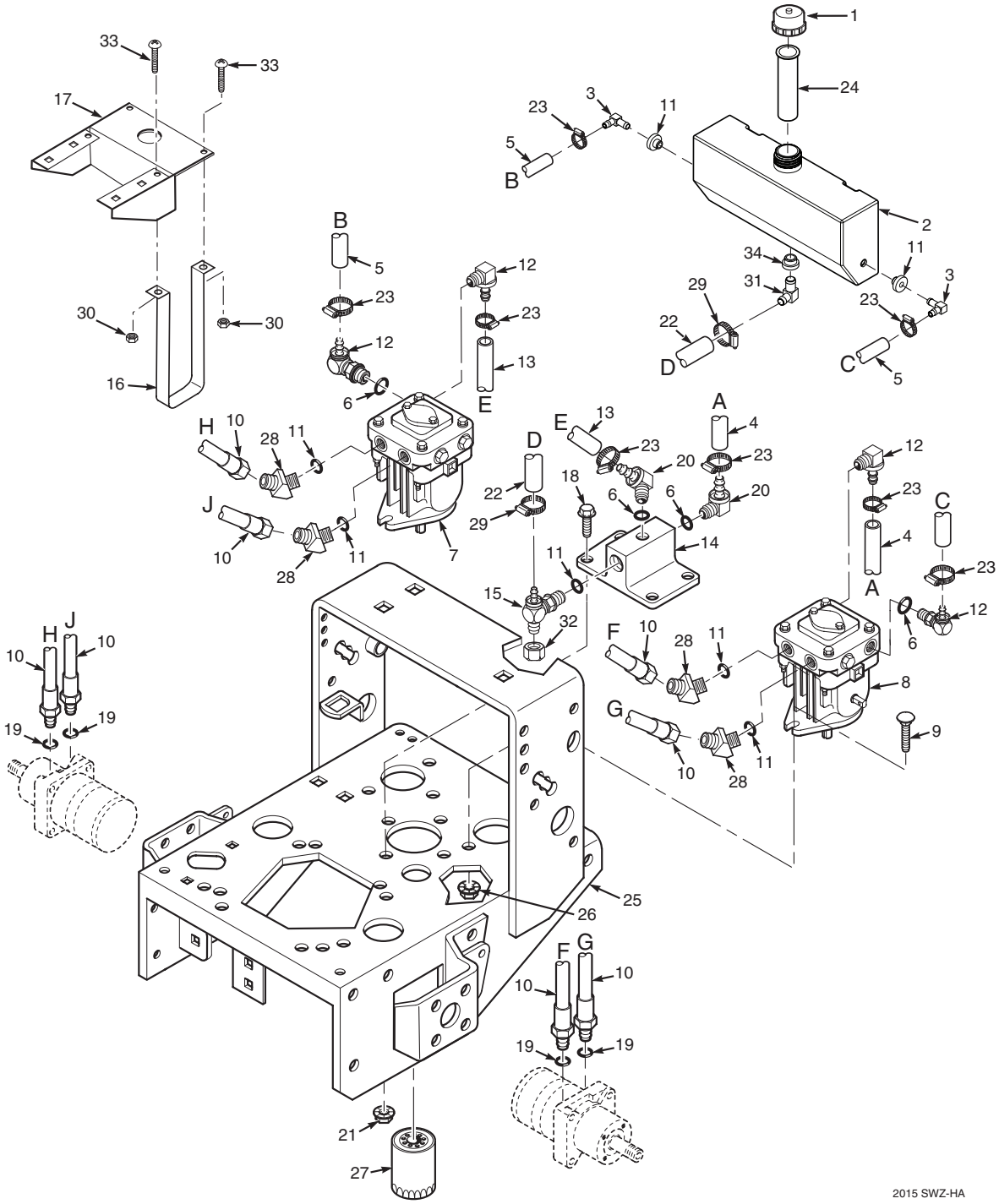
2011 SWZ EPA Phase 3 Fuel System

SWZ FUEL SYSTEM

Ref. No.	Part No.	Description
1	463029	Fuel Tank Assembly (incl. #3, 4, 5, 6, 16, 17)
2	484286	Fuel Cap w/ Tether
	484297	Fuel Cap w/Tethered - California Models Only (not shown)
3	484259	Fuel Gauge Assembly (incl. #4)
4	484242	Seal, Fuel Gauge
5	482571	Bushing, .56 Dia. Viton
6	483747	Ball Valve w/Screen
7	48059-01	Clamp, Fuel Hose
8	483617	Fuel Hose, 1/4" ID (order by inch)
9	*	Fuel Filter
10	*	Clamp, Fuel Hose
11	*	Fuel Hose
12	484347	Hose, Vapor Recovery 1/4" (order by inch)
13	04030-03	Lockwasher, 5/16" Spring
14	04001-09	Bolt, Hex Head 5/16-18 x 1"
15	484287	Carbon Canister
16	484285	Grommet, Viton,
17	484333	Fitting, Remote Vent
18	484343-01	Mender, 1/4 x 3/16 w/.02 Hole
19	48030-22	Clamp, 3/8"
20	484345	Hose, Vapor Recovery 3/16" (order by inch)
21	04001-08	Bolt, Hex Head 5/16-18 x 3/4"
22	48059-05	Clamp, Vapor Recovery Hose 3/16"
23	48059-02	Clamp, Fuel Hose 7/32" ID
24	04019-03	Nut, Serrated Flange 5/16-18
25	452176	Bracket, Canister Mounting
26	48136-17	Clamp
27	04003-04	Bolt, Carriage 5/16-18 X 1"
28	484279-01	Tube, Fuel Tank Insert - 4"

* = Available through engine manufacturer only.

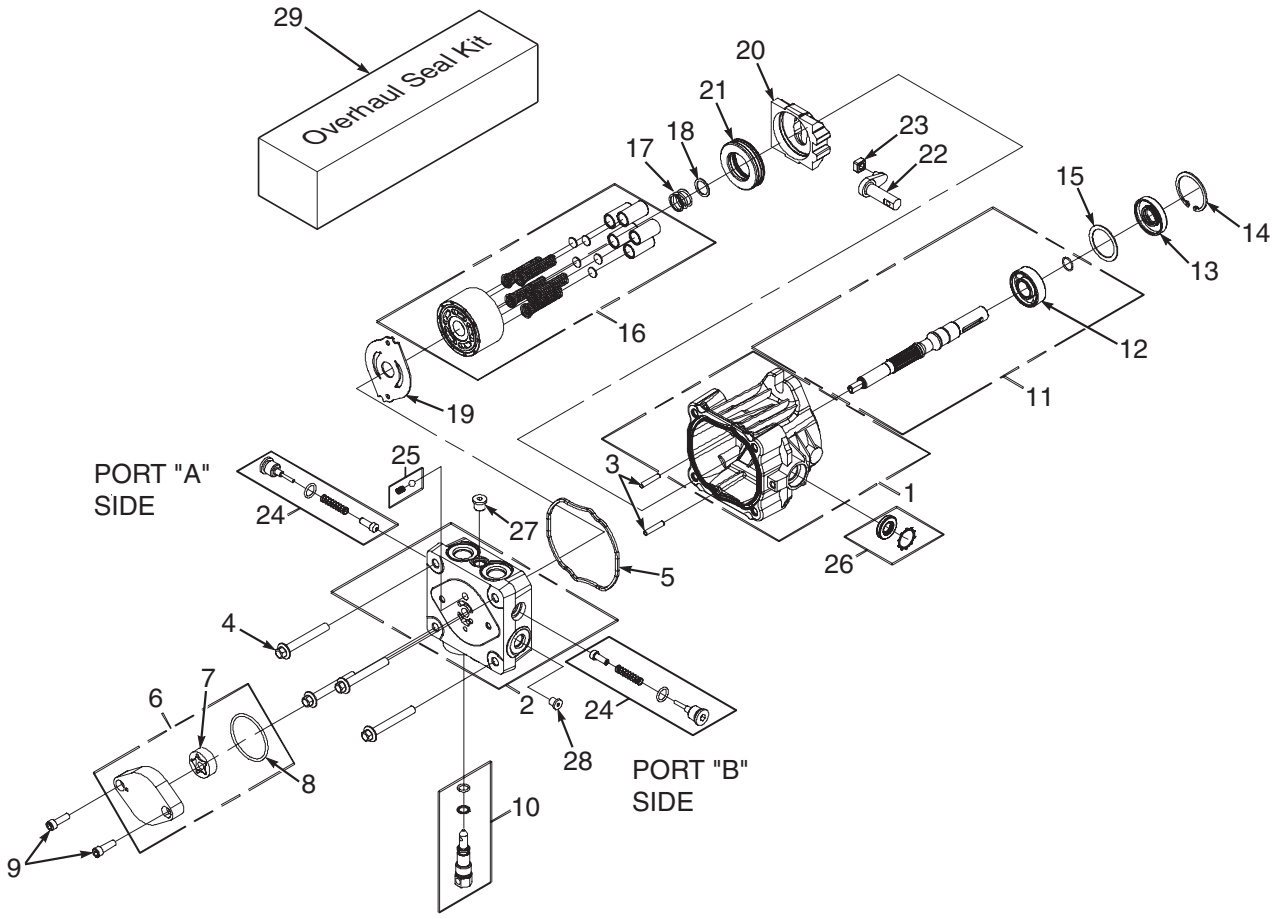
HYDRAULIC ASSEMBLY



HYDRAULIC ASSEMBLY

Ref. No.	Part No.	Description
1	481164	Cap, Oil Reservoir
2	462773	Oil Reservoir (With Fittings)
3	482572	Fitting, 90 Degree - 3/8" Hose
4	48811	Hose, 3/8" ID - 10-1/4" Long (Order By The Inch)
5	48811	Hose, 3/8" ID - 7" Long (Order By The Inch)
6	48603-06	O-Ring
7	483097	Pump, PG-1JQQ-DY1X-XXXX (R.H.)
8	483098	Pump, PG-1GQQ-DY1X-XXXX (L.H.)
9	04003-11	Bolt, Carriage, 3/8-16 x 1.25"
10	481265	Hose, Pump to Wheel Motor
11	482571	Bushing, .56 Dia. Viton
12	482266-03	Elbow, 7/16-20 O-Ring x 3/8" Hose
13	48811	Hose, 3/8" ID - 11" Long (Order By The Inch)
14	482417	Oil Filter Base
15	482477	Tee, 3/8 O-Ring x JIC x 1/2" Hose
16	422794	Strap, Hydraulic Tank
17	422793	Bracket, Hydraulic Tank
18	04017-16	Capscrew, 5/16-18 x .75" Serr. Flange
19	48603-04	O-Ring
20	482266-01	Elbow, 9/16 O-Ring x 3/8" Hose
21	04019-03	Nut, 5/16-18 Serr. Flange
22	482305	Hose, Formed 1/2" ID
23	48136-13	Clamp, .69 max dia.
24	481507	Tube, Filler Neck
25	462287	Engine Deck (16" Wide) with Decals - Small Frame
	462288	Engine Deck (20" Wide) with Decals - Large Frame
26	04019-04	Nut, 3/8-16 Serr. Flange
27	48462-01	Oil Filter
28	48485-01	Elbow, 45 Deg.-3/4-16 JIC Male x Male 3/4-16 O-Ring
29	48136-05	Clamp, .87 max di.
30	04021-08	Nut, 1/4-20
31	482574	Fitting, 90 Degree - 1/2" Hose
32	48571-02	Cap, 3/4-16
33	04010-10	Screw, 1/4-20 x 2.0" Round Head Phillips
34	482573	Bushing, .78 Dia. Viton

HYDRAULIC PUMP ASSEMBLY

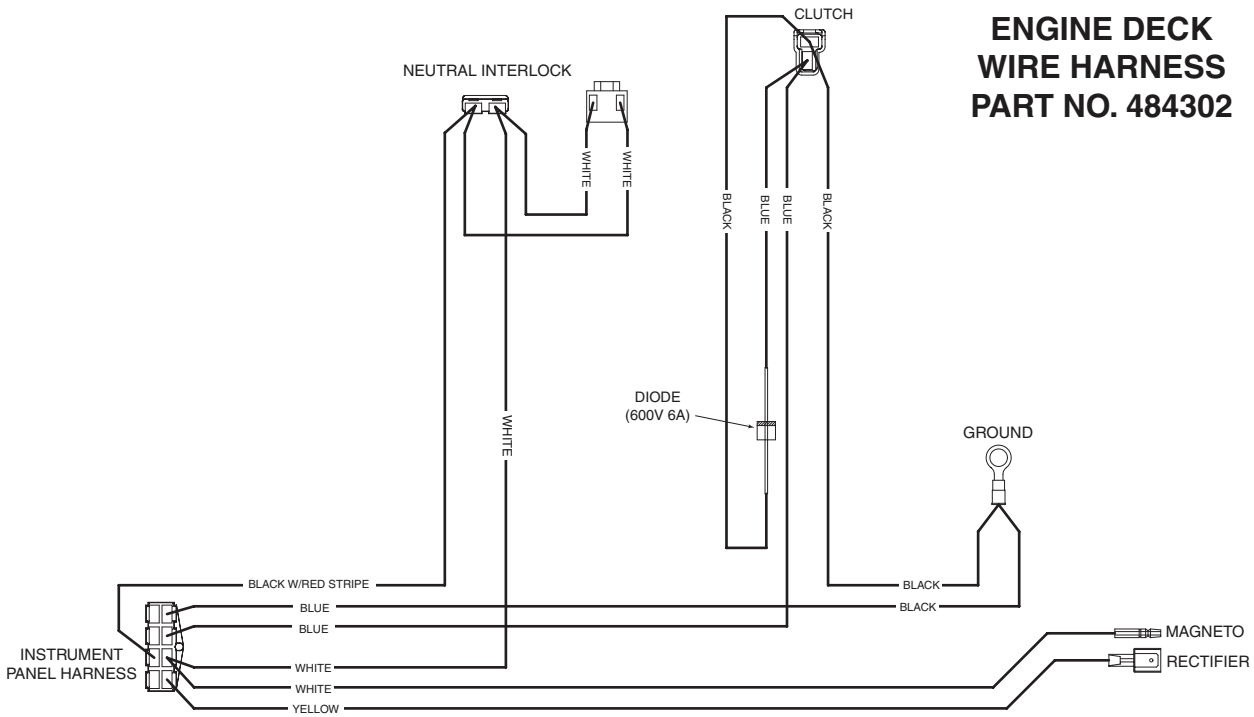


HYDRAULIC PUMP ASSEMBLY

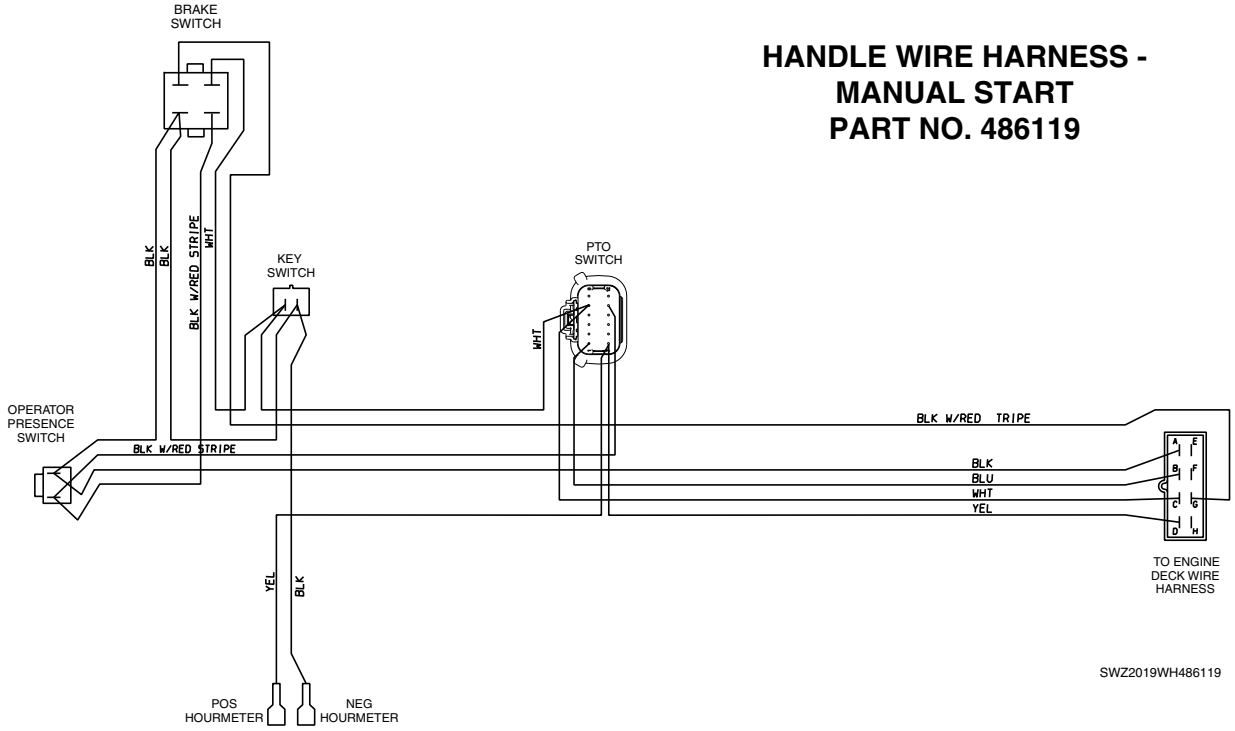
Ref. No.	Part No.	Description
1	HG 70516	Housing Kit
2	HG 70517	End Cap Kit
3	HG 50641	Straight Headless Pin
4	HG 50969	Hex Flange Bolt, M8-1.25 x 60mm
5	HG 52629	Housing O-Ring
6	HG 2513027	Charge Pump Kit
7	HG 50273	Gerotor Assembly
8	HG 9004101-1340	O-Ring
9	HG 50095	Socket Head Screw, M6 x 1.0-20mm
10	HG 2513030	Bypass Valve Kit
11	HG 70521	Pumpshaft Kit
12	HG 50315	Ball Bearing, 17 x 40 x 12
13	HG 51161	Lip Seal
14	HG 50329	Retaining Ring
15	HG 50951	Spacer
16	HG 70331	Cylinder Block Kit
17	HG 2003014	Block Spring
18	HG 2003017	Block Thrust Washer
19	HG 51444	Valve Plate
20	HG 2003087	Swash Plate
21	HG 50551	Ball Thrust Bearing
22	HG 2003005	Trunnion Arm
23	HG 2000015	Slot Guide
24	HG 2510062	Check Valve Kit (.024” Orfice) port “A” on Left Hand Pump, port “B” on Right Hand Pump
25	HG 70403	Charge Relief Kit
26	HG 2513043	Trunnion Seal with Retainer
27	HG 9005110-4400	Straight Thread Plug
28	HG 50408	Straight Headless Pin
29	HG 70525	Overhaul Seal Kit

WIRE HARNESSES

ENGINE DECK WIRE HARNESS PART NO. 484302

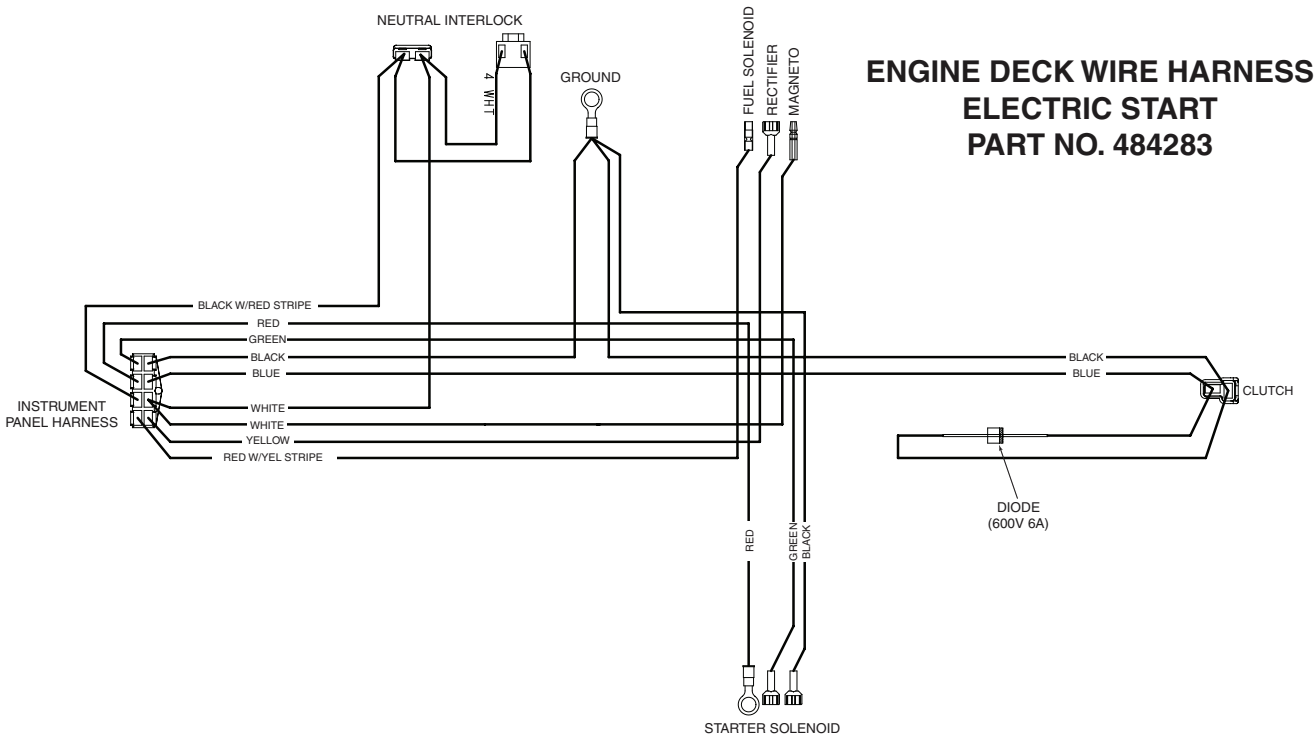


HANDLE WIRE HARNESS - MANUAL START PART NO. 486119

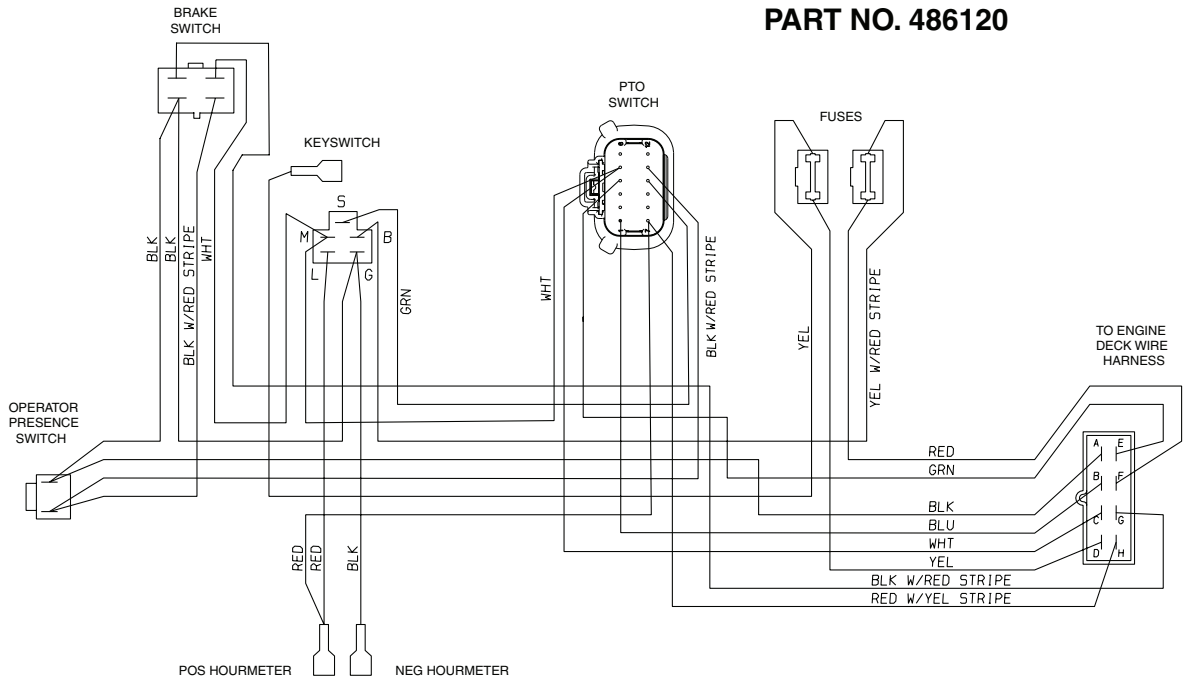


WIRE HARNESSES

ENGINE DECK WIRE HARNESS ELECTRIC START PART NO. 484283

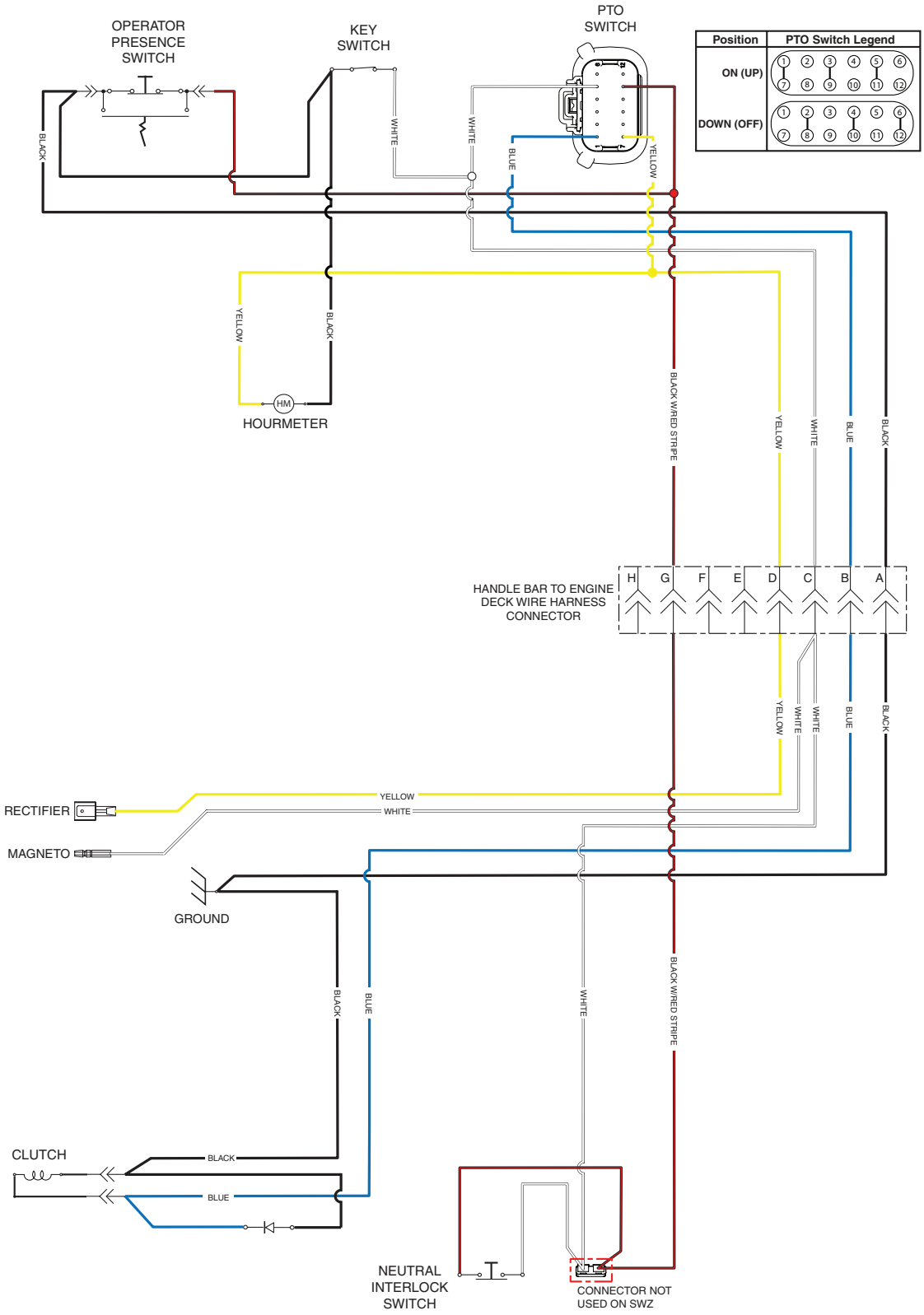


HANDLE WIRING HARNESS KAWASAKI ELECTRIC START PART NO. 486120



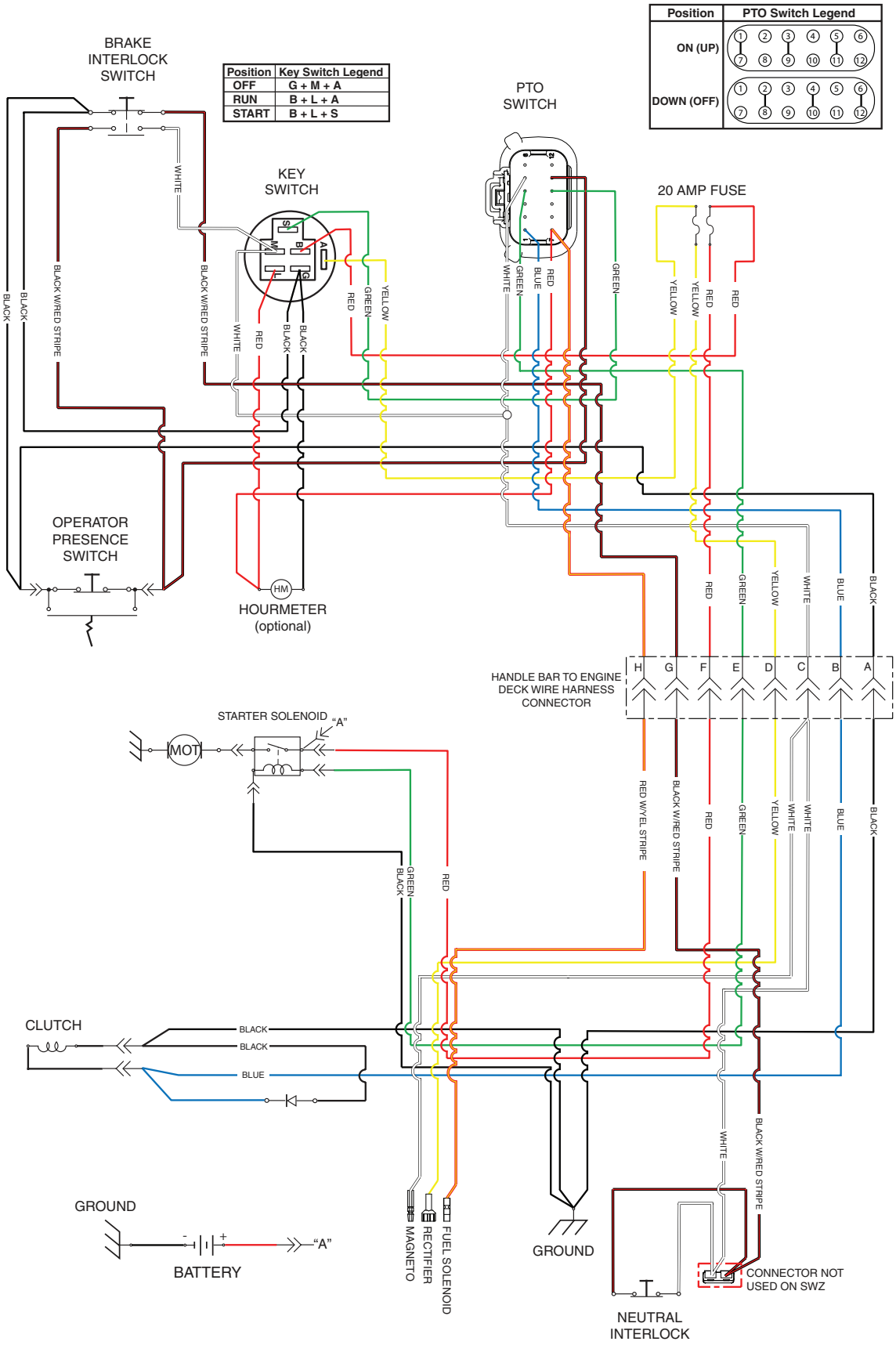
SWZ ELECTRICAL SCHEMATIC - RECOIL START

(shown with Key off, PTO Off, Speed Control Lever in Neutral, OPC Disengaged)



SWZ ELECTRICAL SCHEMATIC - ELECTRIC START

(shown with Key off, PTO Off, Speed Control Lever in Neutral, OPC Disengaged)



REPLACEMENT DECALS AND INFORMATION PLATES

WARNING

DO NOT OPERATE WITHOUT DISCHARGE CHUTE, MULCHING KIT, OR ENTIRE GRASS CATCHER INSTALLED

483405

1

SCAG

2

DANGER

SPINNING BLADES

KEEP CLEAR

BLADE CONTACT & THROWN OBJECTS CAN INJURE

483407

3

WARNING

ROTATING BLADES AND BELTS

* Keep hands, feet & clothing clear
* Keep all guards in place
* Shut off engine & disengage blade clutch before servicing
* Use caution in directing discharge
* Read instruction manual before operating

DO NOT OPERATE UNLESS GRASS CATCHER, MULCHING KIT OR DISCHARGE CHUTE IS INSTALLED

483406

4

MOUNT RIDING ATTACHMENT HERE

WARNING

FALLING HAZARD
USE ONLY SCAG APPROVED RIDING ATTACHMENTS
SEE OPERATOR'S MANUAL

483404

8

SCAG POWER EQUIPMENT
MAYVILLE
WEST BEND
BEAVER DAM, WI
USA
ISO 9001 Registered
METALCRAFT OF MAYVILLE

6

SCAG POWER EQUIPMENT

ON
OFF

WARNING

BEFORE OPERATING

Read operator's manual
Solicite etiquetas en espanol a un distribuidor Scag
Make sure guards, shields & safety devices are in place & working
Clear area of children, bystanders & debris
Mow across face of slopes
Trained operators only

MOWER DECK
PULL OUT TO ENGAGE
PUSH IN TO DISENGAGE

486117

7

WARNING

INSTALL BELT COVER
BEFORE OPERATING MACHINE
READ OPERATOR'S MANUAL

483402

9

Replacement Parts Numbers SWZ

Always use original Scag replacement parts for top machine performance and to maintain factory warranty.

Belt, Pump Drive (36", 48", 52" small)	48553	Standard Blade, Cutter (36" & 52")	481707
Belt, Pump Drive (52" large, 61")	48587	Standard Blade, Cutter (48")	481706
Belt, Cutter Deck Drive (36")	48204	Standard Blade, Cutter (61")	481708
Belt, Cutter Deck Drive (48")	48089	Spindle Grease:	Mobilgrease XHP™ 222
Belt, Cutter Deck Drive (52")	483518		Exxon Mobil Ronex MP
Belt, Cutter Deck Drive (61")	48088		Exxon Mobil Unirex EP2
Belt, Cutter Deck (RH-48")	48087	Filter, Hydraulic (10 micron)	48462-01
Belt, Cutter Deck (RH-52")	48285		
Belt, Cutter Deck (RH-61")	48265		

See your authorized Scag dealer for engine part numbers.

p/n 485369

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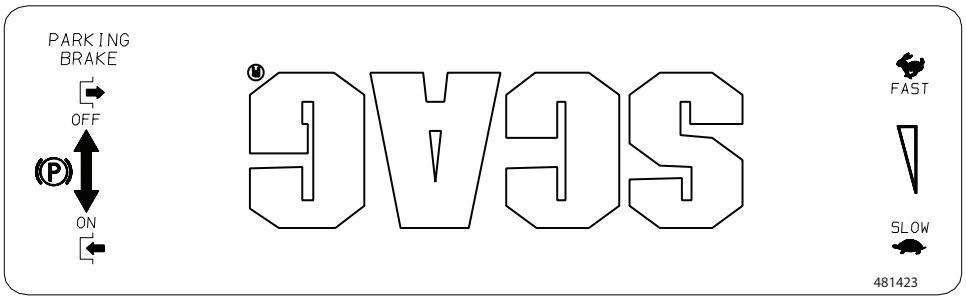
REPLACEMENT DECALS AND INFORMATION PLATES



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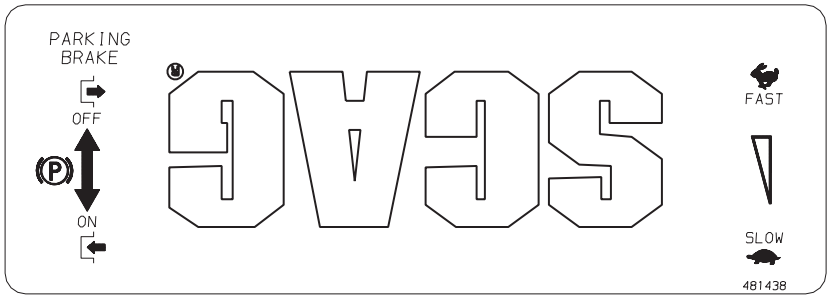

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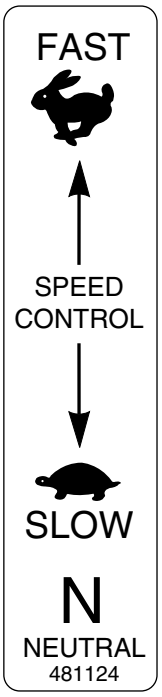

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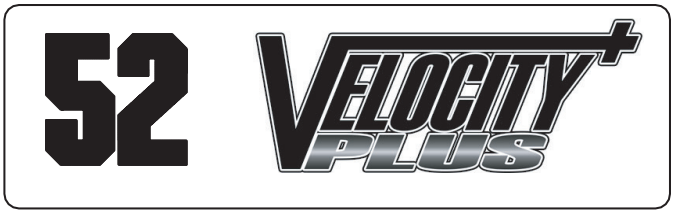

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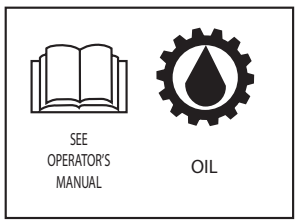
REPLACEMENT DECALS AND INFORMATION PLATES

Ref. No.	Part No.	Description
1	483405	Decal, Discharge Chute
2	48314	Decal, Scag Logo
3	483407	Decal, Danger-Spinning Blades
4	483406	Decal, Warning-Rotating Blades
5	482816	Decal, Height of Cut
6	485403	Decal, Metalcraft - USA
7	486117	Decal, Instrument Panel - Rear
8	483404	Decal, Sulky Attachment
9	483402	Decal, Belt Cover
10	481423	Decal, Instrument Panel - Front (SWZ-18FS & SWZ-22FSE only)
11	481483	Decal, Instrument Panel - Front
12	482297	Decal, 36 Advantage
13	483199	Decal, 48 Velocity Plus
	483200	Decal, 52 Velocity Plus
	483201	Decal, 61 Velocity Plus
14	481971	Decal, Heavy Duty Commercial
15	481124	Decal, Speed Control
16	481942	Decal, Scag Zero Turn
17	481425	Decal, Oil
18	482799	Decal, Tracking Adjustment
19	485526	Decal, Belt Routing - 36A
	485527	Decal, Belt Routing - 48V, 52V & 61V
20	485369	Decal, SWZ Replacement Parts
**	461986	Spanish Decal Kit, Walk-Behinds (Not Shown)
**	483900	Decal, Warning Spark Arrest (Not Shown) - California Models Only
21	486136	Decal. Scag Logo - Fuel Tank



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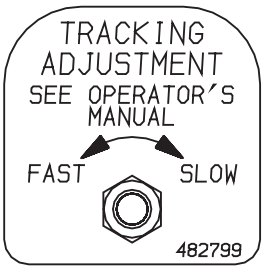


18

482816

CUTTING HEIGHT ADJUSTMENT

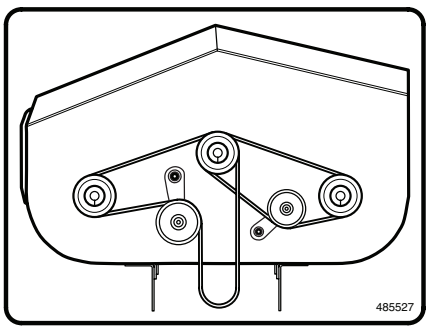
DECK MOUNTING HOLE POSITION

NUMBER OF CASTER SPACERS (BELOW SUPPORT)

		NUMBER OF SPACERS ABOVE CUTTER BLADES 0		1		2	3
TOP	0	-	-	2-3/8	2-1/8	1-7/8	1-5/8
MIDDLE	0	-	-	2-5/8	2-3/8	2-1/8	1-7/8
MIDDLE	1	-	-	2-3/4	2-1/2	2-1/4	2
BOTTOM	2	-	-	-	-	2-7/8	2-5/8
BOTTOM	3	-	4	3-3/4	3-1/2	3-1/4	3
BOTTOM	4	4-3/8	4-1/8	3-7/8	3-5/8	3-3/8	3-1/8

5

16



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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 provided the product was purchased from an Authorized Scag Power Equipment Dealer and is not transferable. Proof of purchase will be required by the dealer to substantiate any warranty claims. All warranty work must be performed by an Authorized Scag Service Dealer.

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

- Wear items including drive belts, 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, three year / 500 hour 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.