SCAG®
POWER EQUIPMENT

OPERATOR'S MANUAL

LIBERTY Z
USA SCAG

Models:

SZL-36H-18FR	SZL-48H-24SR
SZL-36H-20PX	SZL-52H-23FR
SZL-36H-20KT	SZL-52H-24PX
SZL-42H-21FR	SZL-52H-24SR
SZL-42H-22PX	SZL-52H-24KT
SZL-42H-22KT	SZL-61H-24FR
SZL-42H-24SR	SZL-61H-25PX
SZL-48H-21FR	SZL-61H-26KT
SZL-48H-22PX	SZL-61H-27SR
SZL-48H-22KT	

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.

Scag Power Equipment
Division of Metalcraft of Mayville, Inc.

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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.
- DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution.
- Under no circumstances should the machine be operated on slopes greater than 15 degrees. ALWAYS FOLLOW OSHA APPROVED OPERATION.
- Stay two cut widths away from slopes, drop offs, ditches, water and retaining walls.
- DO NOT mow on wet grass. Wet grass reduces traction and steering control.
- Keep all shields in place, especially the grass discharge chute.
- Before performing any maintenance or service, stop the machine and remove the spark plug wire and ignition key.
- If a mechanism becomes clogged, stop the engine before cleaning.
- Keep hands, feet and clothing away from power-driven parts.
- Keep others off the mower (only one person at a time).

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

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

This manual covers the operating instructions and illustrated parts list for:		
SZL-36H-18FR	with a serial number of	X0100001 to X0199999
SZL-36H-20KT	with a serial number of	X0200001 to X0299999
SZL-36H-20PX	with a serial number of	X0300001 to X0399999
SZL-42H-21FR	with a serial number of	X0400001 to X0499999
SZL-42H-22KT	with a serial number of	X0500001 to X0599999
SZL-42H-22PX	with a serial number of	X0600001 to X0699999
SZL-42H-24SR	with a serial number of	X0700001 to X0799999
SZL-48H-21FR	with a serial number of	X0800001 to X0899999
SZL-48H-22KT	with a serial number of	X0900001 to X0999999
SZL-48H-22PX	with a serial number of	X1000001 to X1099999
SZL-48H-24SR	with a serial number of	X1100001 to X1199999
SZL-52H-23FR	with a serial number of	X1200001 to X1299999
SZL-52H-24KT	with a serial number of	X1300001 to X1399999
SZL-52H-24PX	with a serial number of	X1400001 to X1499999
SZL-52H-24SR	with a serial number of	X1500001 to X1599999
SZL-61H-24FR	with a serial number of	X1600001 to X1799999
SZL-61H-25PX	with a serial number of	X1800001 to X1999999
SZL-61H-26KT	with a serial number of	X2000001 to X2199999
SZL-61H-27SR	with a serial number of	X2200001 to X2399999
Always use the entire serial number listed on the serial number tag when referring to this product.		

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GENERAL INFORMATION

1.1 INTRODUCTION

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

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

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

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

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

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

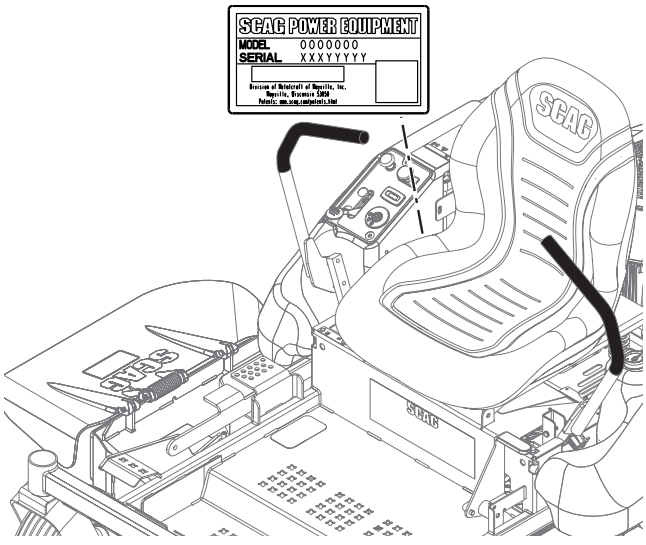


Figure 1-1. Mower Serial Number Plate Location

USE ONLY SCAG APPROVED ATTACHMENTS AND ACCESSORIES.

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

⚠ WARNING

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

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

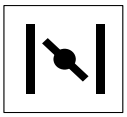
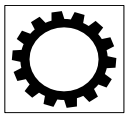
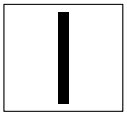
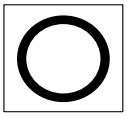
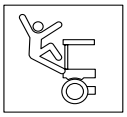
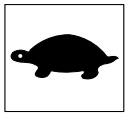
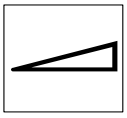
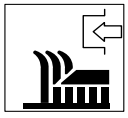
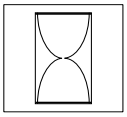
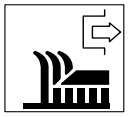
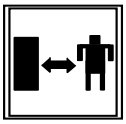
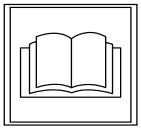
1.2 DIRECTION REFERENCE

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

1.3 SERVICING THE ENGINE AND DRIVE TRAIN COMPONENTS

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

1.4 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 IMPORTANT SAFETY PRACTICES FOR RIDE-ON MOWERS

This cutting machine is capable of amputating hands and feet and throwing objects. Failure to observe the following safety instructions could result in serious injury or death.

2.2 INTRODUCTION

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

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

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

Figure 2-1. SAFETY VIDEO QR CODE

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

2.3 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.

2.4 CHILDREN

Tragic accidents can occur if the operator is not alert to the presence of children. Children are often attracted to the machine and mowing activity. They do not understand the dangers of rotating blades or the fact that the operator is unaware of their presence. Never assume that the children will remain where you saw them.

1. NEVER allow children to operate this riding mower.
2. Keep keys stored in a safe location when the mower is not in use; i.e. where they are inaccessible to children.
3. Do not mow when children and/or others are present. Keep children indoors, out of the mowing area and in the watchful care of a responsible adult, other than the operator, when the mower is being operated.
4. Be alert and turn machine off if a child or other person enters the area.
5. DO NOT allow children to ride or play on the machine, it is not a toy.
6. Instruct all operators not to give children a ride on machine or attachment.
7. NEVER carry children on a machine or attachment, even with the blades off.
8. DO NOT tow children in a cart or trailer. They can fall off and be seriously injured or interfere with safe machine operation.
9. Children who have been given rides in the past may suddenly appear in the mowing area for another ride and be run over or backed over by the machine.
10. NEVER use the machine as a recreational vehicle or to entertain children.
11. Use extreme care when approaching blind corners, shrubs, trees, or other objects that may block your view of a child.
12. Before and while backing, look behind and down for small children.

2.5 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. Data indicates operators age 60 years and above are involved in a larger percentage of riding mower related injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.
2. Maintain or replace safety and instruction labels as necessary.
3. Only allow responsible adults who are familiar with the instructions to operate the machine.
4. Be sure area is clear of bystanders before operating. Stop the machine if anyone enters the area.
5. Clear the area to be mowed of objects that could be picked up and thrown by the cutter blades such as rocks, wire, toys, etc.
6. DO NOT carry passengers.
7. DO NOT operate the machine under the influence of alcohol or drugs.
8. DO NOT start the engine until any spilled fuel has been cleaned up or has evaporated.
9. If the operator(s) or mechanic(s) cannot read English, it is the owner's responsibility to explain this material to them.
10. 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 shoes and a helmet is advisable and is required by some local ordinances and insurance regulations.

⚠ WARNING

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

11. 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.
12. Check grass catcher components and discharge guard frequently and replace with manufacturer's recommended parts only, when necessary.
13. Never interfere with the intended function of a safety device or reduce the protection provided by the safety device. Check their proper operation regularly.
14. Equipment must comply with the latest requirements per SAE J137 and/or ANSI/ASAE S279 when driven on public roads.

- NOTE -

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

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. Make sure all hydraulic fluid connections are tight and all hydraulic hoses and lines are in good condition before starting the machine.

⚠ WARNING

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

18. Test the operation of the safety interlock system. See Section 2.6.
19. Be sure the interlock switches are functioning correctly.

2.6 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. Sit in the seat in the operating position, engage the parking brake, place the steering control levers in the neutral lock position, and engage the PTO switch to the ON (up) position. Try to start the engine; the engine should not start
2. Sit in the seat in the operating position, engage the parking brake, move the PTO switch to the OFF (down) position, move either of the steering control handles out of the neutral lock position. Try to start the engine; the engine should not start. Repeat for the other steering control lever.

-NOTE-

All SZL models will start with the parking brake engaged or disengaged. For all test procedures listed below, the engine should be started with the parking brake engaged unless specified otherwise.

3. Sit in the seat in the operating position, engage the parking brake, place the steering control levers in the neutral lock position, move the PTO switch to the OFF (down) position, and start the engine. With the engine running, release the parking brake and rise slightly off of the seat. The engine should shut off.
4. Sit in the seat in the operating position, engage the parking brake, place the steering control levers in the neutral lock position, move the PTO switch to the OFF (down) position, and start the engine. With the engine running, engage the PTO switch to the ON (up) position, and rise slightly off of the seat. The engine should shut off.
5. Sit in the seat in the operating position, engage the parking brake, place the steering control levers in the neutral lock position, move the PTO switch to the OFF (down) position, and start the engine. With the engine running, move either steering control lever out of the neutral lock position. The engine should shut off. Repeat for the other steering control lever.

2.7 SAFE HANDLING OF GASOLINE

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

1. See Section 7.5 ENGINE FUEL SYSTEM for fueling procedure.
2. Fuel is flammable; handle it with care. Clean up any spilled fuel immediately. If fuel spills on clothing, change clothing immediately. If fuel is spilled near the machine, DO NOT attempt to start the engine but move the machine away from the area of spillage. Avoid creating any source of ignition until fuel vapors have dissipated.
3. Prevent fire and explosion caused by static electric discharge. Static electric discharge can ignite fuel vapors in an ungrounded fuel container.
4. Never store the machine or fuel container where there is an open flame, spark, or pilot light such as a water heater or other appliances.
5. Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
6. Keep flammable objects (cigarettes, matches, etc.), open flames and sparks away from the fuel tank and fuel container.
7. Use only approved containers. Use only non-metal, portable fuel containers approved by the Underwriter's Labratory (U.L.) or the American Soceity for Testing & Materials (ASTM).

2.8 OPERATION CONSIDERATIONS

1. Know the function of all controls and how to stop quickly.
2. NEVER operate the machine in a closed area.
3. Keep hands and feet away from cutter blades. Contact can injure.
4. DO NOT put hands or feet near rotating parts or under the machine.
5. Keep clear of the discharge opening.
6. Follow the manufacturer's recommendations for wheel weights and counterweights.

⚠ WARNING

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-2, Page 11 to determine approximate slope or use a flat surface and an app on your cell phone. ALWAYS FOLLOW OSHA APPROVED OPERATION.

7. 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.
8. Stay at least 2 cutting widths away from drop-offs, ditches, retaining walls, water, avoid any slope exceeding 15-degrees.
9. To prevent tipping or loss of control, start and stop smoothly, avoid unnecessary turns and travel at reduced speed. Use caution when operating the mower on an incline with the optional grass catcher installed.
10. If the operator were to lose steering control of the mower while operating, move both steering levers to the neutral position and immediately apply the parking brake. Inspect the machine and correct the problem before continuing to operate.
11. Never direct the discharge of material toward anyone. Avoid discharging material against a wall or obstruction. Material may ricochet back toward operator.

12. Before attempting to start the engine, with the operator in the seat, disengage power to the cutter deck, place the steering control levers in the neutral position and engage the parking brake.
13. Shut off the engine, remove the ignition key, and wait for all movement to stop before cleaning the machine, removing grass catcher or unclogging the discharge guard.

⚠ 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.

14. 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.) and underground obstacles (sprinklers, pipes, tree roots, etc.). Cautiously enter a new area. Be alert for hidden hazards.
15. 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.
16. DO NOT turn sharply. Use care when backing up.
17. Disengage power to cutter deck before crossing roads, walks or gravel drives.
18. Watch for traffic when operating near or crossing roadways.
19. Mow only in daylight or good artificial light.
20. NEVER raise the deck with the blades engaged.
21. NEVER leave the machine running unattended.
22. Disengage the mower, lower the attachments, set the parking brake, stop the engine, and remove the key before dismounting.
23. Disengage power to the attachments when transporting or when not in use.
24. 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.

25. Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.

2.9 TRANSPORTING THE MOWER

1. 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.
2. Be cautious when loading and unloading onto trailers or trucks. Use only a full width ramp. Ramp angle should be no more than 15 degrees. See Figure 2-2, page 11 to help determine approximate slope.
3. Back up the ramp and drive down forward.
4. When transporting the mower, make sure the park brake is engaged, the steering control levers are in the neutral position, the engine is off with the key removed, and the wheels have been blocked.
5. Tie the mower down securely using straps, chains, cable, or ropes. Both front and rear straps must be directed down and outward from machine.

⚠ WARNING

Be cautious when loading and unloading onto trailers or trucks.

Use only a full width ramp.

Ramp angle should be no more than 15 Degrees. See Figure 2-2, Page 11 to help determine approximate slope or use a flat surface and an app on your cell phone. Reference the Safety Video using the QR Code in section 2.1.

Back up the ramp and drive down forward.

2.10 MAINTENANCE CONSIDERATIONS AND STORAGE

1. Never make adjustments to the machine with the engine running unless specifically instructed to do so. If the engine is running, keep hands, feet, and clothing away from moving parts.
2. Disengage drives, lower implement, set parking brake, stop engine and remove key or disconnect spark plug wire to prevent accidental starting of the engine when servicing or adjusting the machine. Wait for all movement to stop before adjusting, cleaning or repairing.
3. Disconnect battery or remove spark plug wire before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect the positive first and the negative last.
4. Keep all nuts, bolts and screws tight, to ensure the machine is in safe working condition. Check blade mounting bolts frequently to be sure they are tight.
5. Do not change the engine governor settings or overspeed the engine. See the engine operator's manual for information on engine settings.
6. To reduce fire hazard, keep the cutting units, drives, muffler and engine free of grass, leaves, excessive grease, oil and dirt. Clean up oil or fuel spillage and remove any fuel soaked debris. Allow the machine to cool before storing.
7. Park the machine on level ground and engage the parking brake.
8. NEVER allow untrained personnel to service the machine.
9. Use care when checking blades. Use a Blade Buddy (P/N 92125), 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.
17. Charge batteries in an open, well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.

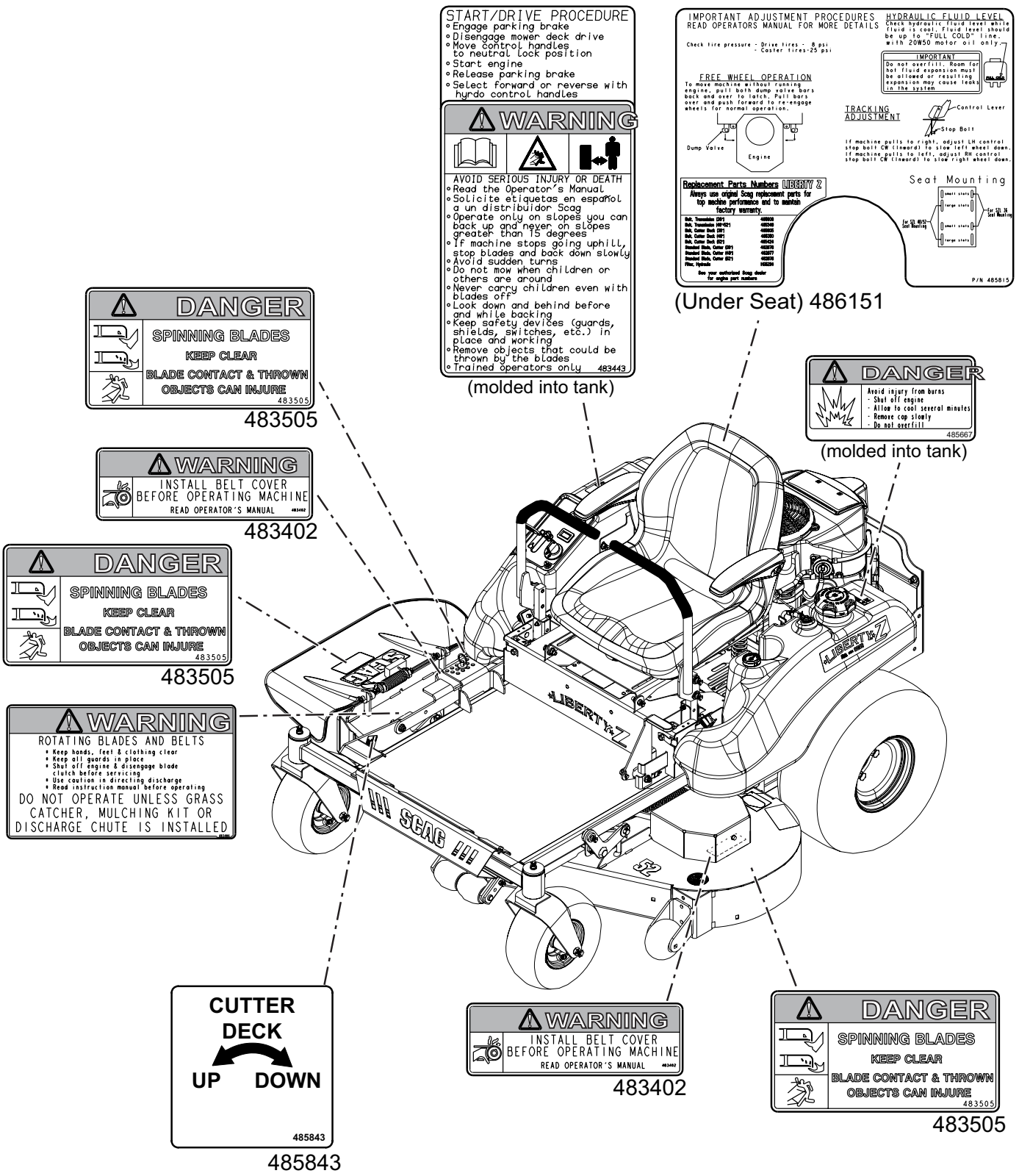
2.11 USING A SPARK ARRESTOR

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.

2.12 SPARK IGNITION SYSTEM

This spark ignition system complies with Canadian ICES-002.

2.13 SAFETY DECAL LOCATION



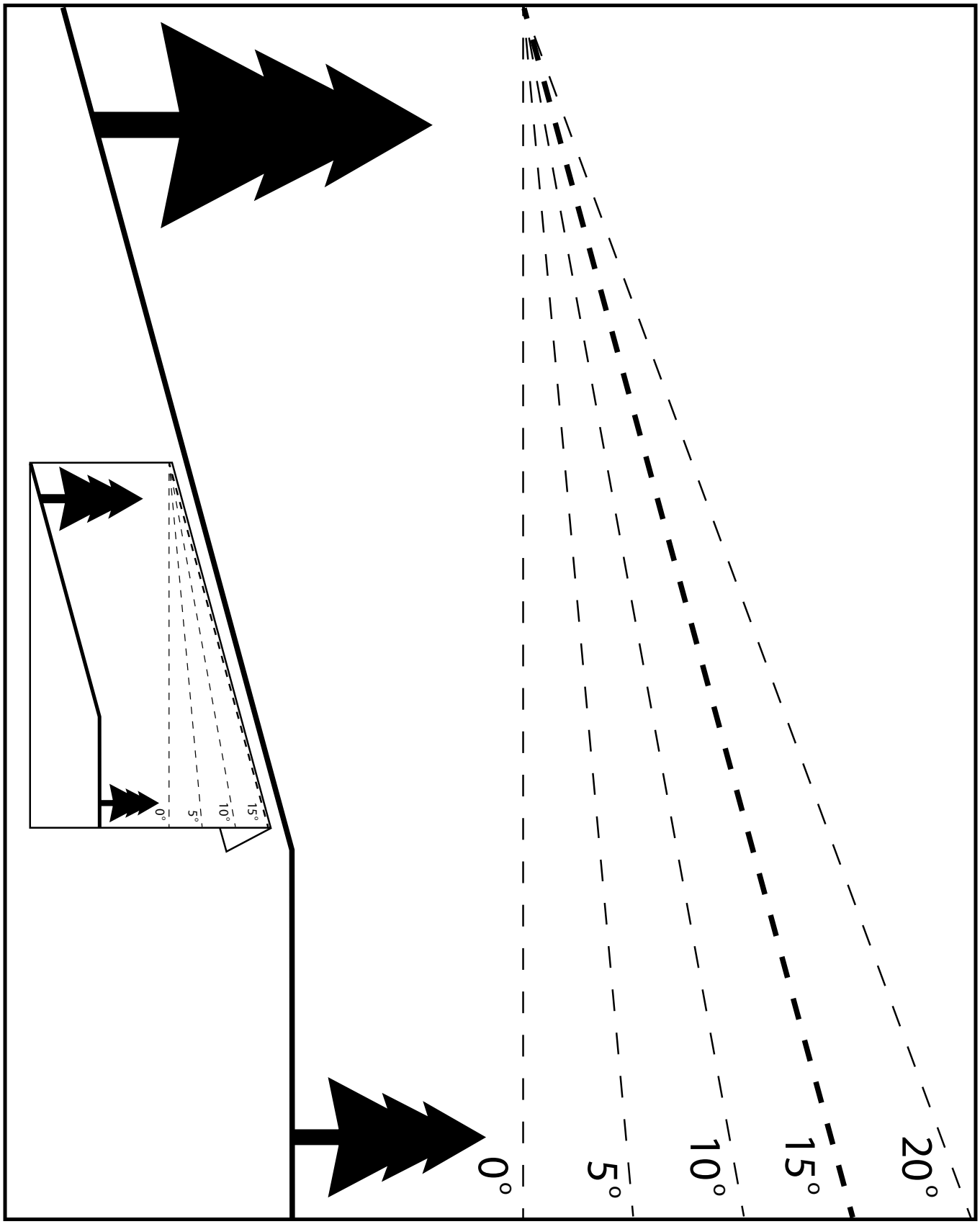


Figure 2-2. Slope Angle Graph

SPECIFICATIONS

3.1 ENGINE

General Type ..... Heavy Duty Industrial/Commercial Gasoline
Model:
- Scag Model SZL-36H-18FR ..... Kawasaki FR600V
- Scag Model SZL-36H-20PX ..... Briggs & Stratton PXi2000
- Scag Model SZL-36H-20KT ..... Kohler KT715
- Scag Model SZL-42H-21FR ..... Kawasaki FR651V
- Scag Model SZL-42H-22PX ..... Briggs & Stratton PXi2200
- Scag Model SZL-42H-22KT ..... Kohler KT725
- Scag Model SZL-42H-24SR ..... Scag LC2P77F
- Scag Model SZL-48H-21FR ..... Kawasaki FR651V
- Scag Model SZL-48H-22PX ..... Briggs & Stratton PXi2200
- Scag Model SZL-48H-24SR ..... Scag LC2P77F
- Scag Model SZL-48H-22KT ..... Kohler KT725
- Scag Model SZL-52H-23FR ..... Kawasaki FR691V
- Scag Model SZL-52H-24PX ..... Briggs & Stratton PXi2400
- Scag Model SZL-52H-24SR ..... Scag LC2P77F
- Scag Model SZL-52H-24KT ..... Kohler KT735
- Scag Model SZL-61H-24FR ..... Kawasaki FR730V
- Scag Model SZL-61H-25PX ..... Briggs & Stratton PXi2500
- Scag Model SZL-61H-26KT ..... Kohler KT745
- Scag Model SZL-61H-27SR ..... Scag LC2P82F

Displacement:
- Kawasaki FR600V 603cc
- Scag LC2P77F 708cc
- Briggs & Stratton PXi2000 ..... 656cc
- Briggs & Stratton PXi2200, PXi2400, PXi2500 ..... 724cc
- Kohler KT715, KT725 ..... 725cc
- Kawasaki FR651V, FR691V, FR7630V 726cc
- Kohler KT745 ..... 745cc
- Scag LC2P82F 803cc

Type ..... 4 Cycle Gasoline, Twin Cylinder, Vertical Shaft
Cylinders ..... 2 with Cast Iron Sleeves
Governor ..... Mechanical Type with Variable Speed Control Set At 3600 RPM
Idle Speed:
- Kawasaki / Kohler ..... 1550 RPM

Fuel Pump ..... Integral Fuel Pump with In-Line Fuel Filter
Fuel ..... Non-Leaded Gasoline with a Minimum Octane Rating of 87
Oil Pump ..... Positive Displacement Gerotor™
Starter: ..... Electric Starting with Bendix Shift Starter
Belts ..... Kevlar cord. Self-adjusting, Self-tightening

3.2 ELECTRICAL

Battery ..... 12 Volt
Charging System ..... Alternator
Charging Output:
- Kawasaki ..... 12 Volt, 15 Amp

System Polarity ..... Negative Ground
Starter ..... 12 Volt Electric Ring Gear Type, Key Operated
Interlock Switches ..... Seat, Neutral Control, Mower Engagement (PTO), Parking Brake
Instrument Panel ..... Key Switch, Throttle Lever, Manual Choke, PTO Switch, Hourmeter
Fuses ..... Two (2) 20 Amp

3.3 MOWER

Drive System ..... Hydraulic Drive with Two Hydro-Gear™ or Two Tuff Torq Integraded Zero-Turn Axles
- Scag Models (SZL-36H-18FR, SZL-36H-20KT) ..... Hydro-Gear™ ZT-2800
- Scag Models (SZL-42H-21FR, SZL-42H-22PX, SZL-42H-22KT) ..... Hydro-Gear™ ZT-2800
- Scag Models (SZL-48H & SZL-52H) (All Engine Models) ..... Tuff Torq TZ450
- Scag Models (SZL-61H-24FR, SZL-61H-26KT, SZL-61H-27SR) ..... Hydro-Gear™ ZT-3100 or Tuff Torq TZ450

Steering/Travel Control ..... Twin Lever Fingertip Steering Control with Individual Control to Each Wheel with Gas Spring Dampers
Parking Brake ..... Lever Actuated Linkage to Brakes on Both Drive Wheel Axles
Wheels:
- (2) Front Caster ..... 11 X 4 - 5 Two-Ply (36), 11 X 6 - 5 Two-Ply
- (2) Drive (36H) ..... 20 X 8-10 Four-Ply Pneumatic Tubeless, Radius Edge
- (2) Drive (42H, 48H, 52H) ..... 20 X 10-8 Four-Ply Pneumatic Tubeless, Radius Edge
- (2) Drive (61H) ..... 20 X 10-10 Four-Ply Pneumatic Tubeless, Radius Edge

Tire Pressure:
- Front Caster ..... 25 PSI
- Drive ..... 8 PSI

Fuel Tank ..... 3-1/2 Gallon (36) or 5-1/2 Gallon (48/52/61) Polyetholene Tank with Large Opening and Fuel Cap
Seat ..... Padded, Thick Cushion with Extra Spring Support and Armrests(Excludes 36" Model)
Travel Speed:
- Forward ..... 0 up to 7 MPH
- Reverse ..... 0 up to 5 MPH

-NOTE- The machine will travel up to 7 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 ..... Floating, Adjustable, Anti-Scalping, Hybrid Design Combines Out-Front and Belly-Mount Designs
Construction ..... 10-Gauge top with 11-Gauge reinforcement throughout the spindle area, 10-Gauge skirt (48/52) or 7-Gauge skirt (36/61) for strength and longevity
True Cutting Width:
- 36H ..... 36" (91.4 cm)
- 42H ..... 42" (106.68 cm)
- 48H ..... 48" (122.0 cm)
- 52H ..... 52" (132.0 cm)
- 61H ..... 61" (154.94 cm)

Cutting Height Adjustment ..... Foot-Operated Lever Adjustment from Operator's Seat, 1.5" to 4.5" 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 ..... Heavy-Duty Spindle Shaft, Cast Aluminum Housing, Sealed Ball Bearing, Maintenance-Free
Spindle Pulleys ..... Split Steel
Cutter Deck Belts ..... B-section with Kevlar Cord. Self-Adjusting, Self-Tightening
Electric Clutch Type ..... Ogura Heavy Duty PTO Clutch Brake

3.5 HYDRAULIC SYSTEM

Hydraulic Oil Filter ..... 40 Micron (Hydro Gear), 25 Micron (Tuff Torq)
Hydraulic Expansion Reservoir ..... Internal

3.6 WEIGHTS AND DIMENSIONS

Length:
- 36H....68"
- 42H....68"
- 48H....67.5"
- 52H....67.5"
- 61H....73.5"

Tracking Width:
- 36H....35.5"
- 42H....41"
- 48H....47"
- 52H....47"
- 61H....47"

Overall Width w/chute down:
- 36H....48"
- 42H....54.5"
- 48H....60.5"
- 52H....64.5"
- 61H....73.5"

Overall Width w/chute up:
- 36H....37"
- 42H....43"
- 48H....49"
- 52H....53"
- 61H....62"

Overall Height:
- 36H....42"
- 42H....42"
- 48H....43"
- 52H....43"
- 61H....43"

Operating Weight:
- 36H....550#
- 42H....580#
- 48H....612#
- 52H....646#
- 61H....695#

3.7 PRODUCTIVITY

Cutting Width:
- 36H....36"
- 42H....42"
- 48H....48"
- 52H....52"
- 61H....61"

Acres Per Day:
- 36H....14.0
- 42H....16.0
- 48H....18.6
- 52H....20.2
- 61H....23.6

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

OPERATING INSTRUCTIONS

⚠ 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 and has three positions; OFF, ON, and START.
2. **Mower Deck Switch (Figure 4-1).** Use 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).** Use to start a cold engine.
4. **Engine Throttle Control (Figure 4-1).** Use 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.

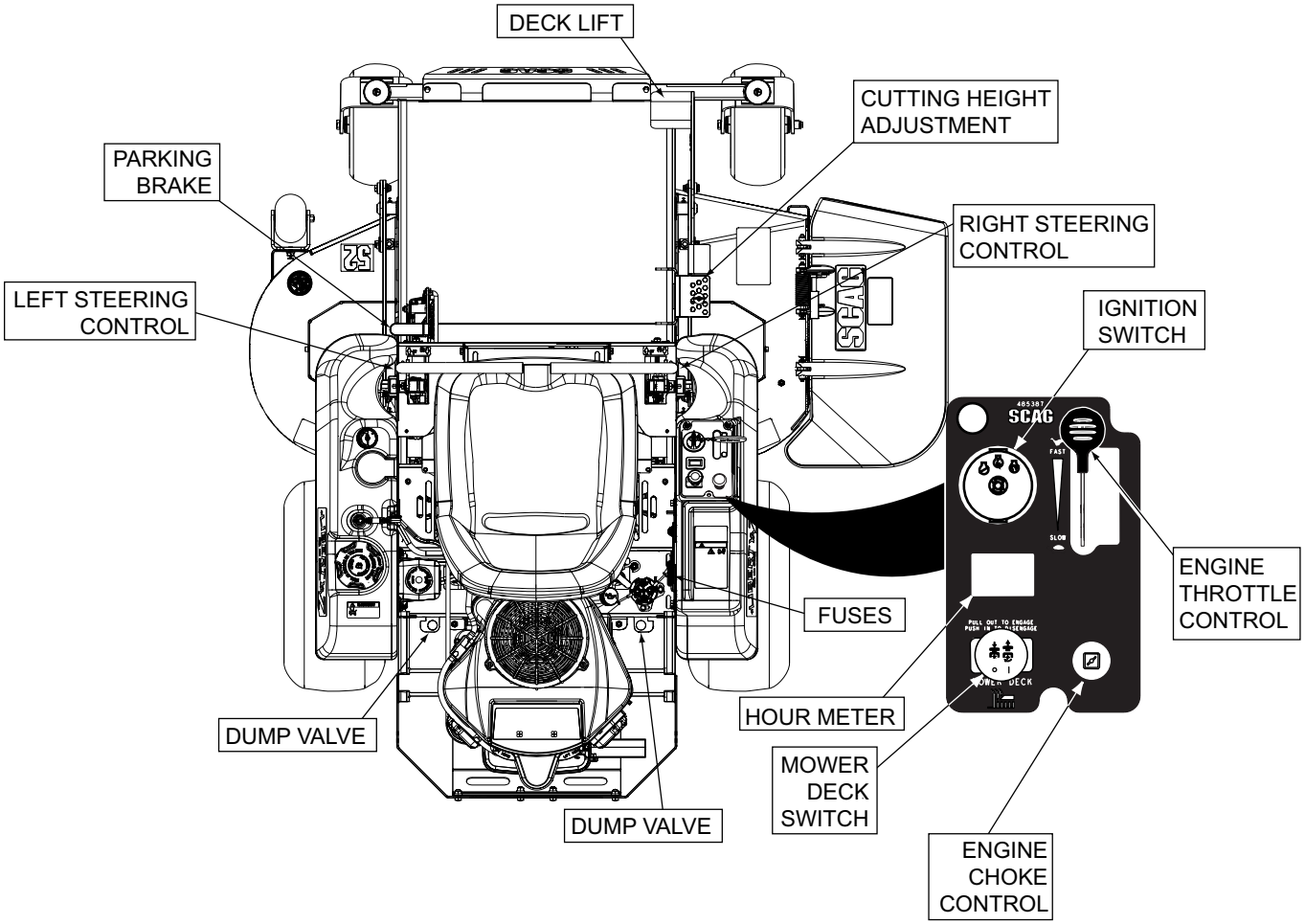


Figure 4-1. Controls and Instruments

5. **Hourmeter (Figure 4-1).** Indicates the number of hours the engine has been operated. It operates whenever the ignition key switch is in the ON position. Has preset maintenance reminders for engine and hydraulic system oil changes. Will start flashing scheduled maintenance 2 hours before preset time and continue flashing until 2 hours after. Automatically resets.
6. **Fuse Holders (Figure 4-1).** Two 20-amp fuses protect the mower's electrical system. To replace fuses, pull fuse out of the socket and install a new fuse.
7. **Left Steering Control (Figure 4-1).** Use to control the mower's left wheel when traveling forward or reverse.
8. **Right Steering Control (Figure 4-1).** Use to control the mower's right wheel when traveling forward or reverse.
9. **Parking Brake Control (Figure 4-1).** Use to engage and disengage the parking brakes. Pull the lever back to engage the parking brakes. Push the lever forward to disengage the parking brakes.
10. **Dump Valve Control Levers (Figure 4-2).** Located on the left and right side (at the back of the unit with Hydro-Gear axles), use to "free-wheel" the mower. Pushing the levers forward (towards the front of the mower) allows the unit to move under hydraulic power. Pulling the levers backward and locking in the notch (towards the rear of the mower and inward) allows the mower to be moved by hand (free-wheeling).

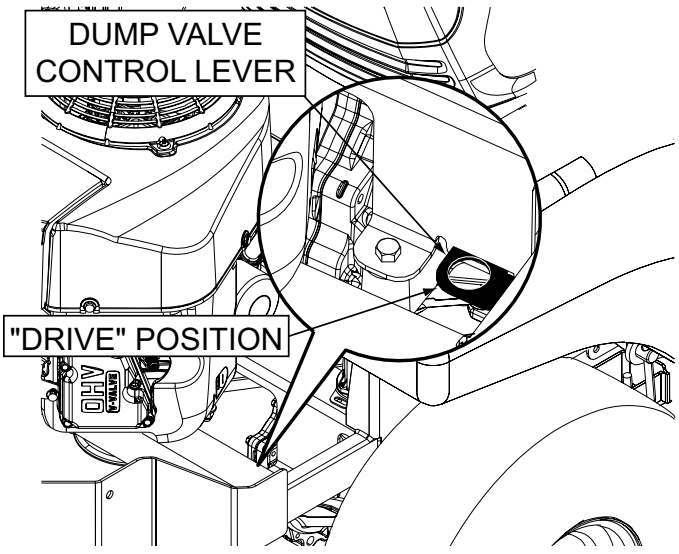


Figure 4-2. Hydro-Gear Dump Valve Control

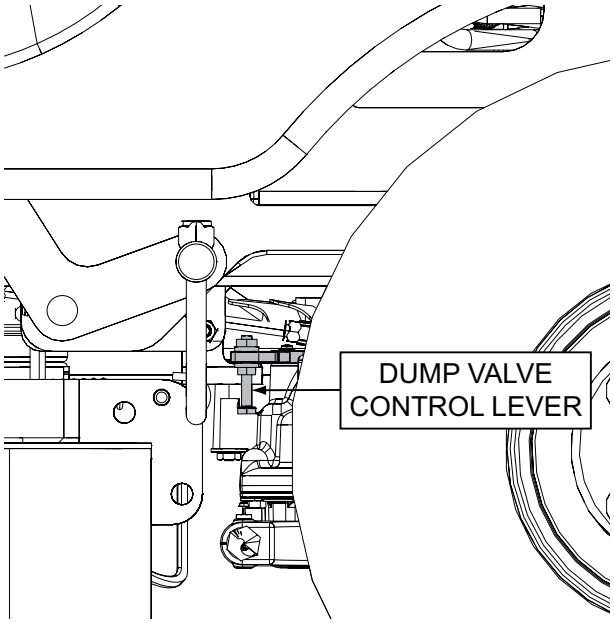


Figure 4-3. Tuff Torq Dump Valve Control

11. **Deck Lift Foot Lever (Figure 4-1).** Use to raise and lower the cutter deck.
12. **Cutting Height Adjustment (Figure 4-1).** Use to set the cutter deck at the desired cutting height.

4.2 SAFETY INTERLOCK SYSTEM

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

4.3 TESTING THE SAFETY INTERLOCK SYSTEM

Test the safety interlock system before you use the machine each time. If the safety interlcok system does not operate as descibed below, contact your local Authorized Scag Power Equipment Dealer immediately for repair of the safety interlock system.

1. Sit in the seat in the operating position, engage the parking brake, place the steering control levers in the neutral lock position, and engage the PTO switch to the ON (up) position. Try to start the engine; the engine should not start

2. Sit in the seat in the operating position, engage the parking brake, move the PTO switch to the OFF (down) position, move either of the steering control handles out of the neutral lock position. Try to start the engine; the engine should not start. Repeat for the other steering control lever.

-NOTE-

All SZL models will start with the parking brake engaged or disengaged. For all test procedures listed below, the engine should be started with the parking brake engaged unless specified otherwise.

3. Sit in the seat in the operating position, engage the parking brake, place the steering control levers in the neutral lock position, move the PTO switch to the OFF (down) position, and start the engine. With the engine running, release the parking brake and rise slightly off of the seat. The engine should shut off.
4. Sit in the seat in the operating position, engage the parking brake, place the steering control levers in the neutral lock position, move the PTO switch to the OFF (down) position, and start the engine. With the engine running, engage the PTO switch to the ON (up) position, and rise slightly off of the seat. The engine should shut off.
5. Sit in the seat in the operating position, engage the parking brake, place the steering control levers in the neutral lock position, move the PTO switch to the OFF (down) position, and start the engine. With the engine running, move either steering control lever out of the neutral lock position. The engine should shut off. Repeat for the other steering control lever.

⚠ 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.

4.4 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 hydraulic oil level in reservoir. (See Section 7.3.)
4. Check for loose hardware. Tighten as needed.
5. Check interlock system for proper operation. (See Section 4.2.)
6. Check tire pressure. Adjust pressure if necessary. (See Section 7.10.)

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 behind and to the left of the operator's seat, is completely open.
2. Sit in the operator’s seat and place the steering control levers in the neutral position.
3. Engage the parking brake.
4. Place the PTO switch in the disengaged position.
5. If the engine is cold, choke the engine as needed.
6. Move the engine throttle control to about half engine speed.
7. Turn the ignition key to the START position and release the key as soon as the engine starts. Do not hold the key in the START position for more than 15 seconds at a time. Allow at least 60 seconds between each cranking attempt to prevent overheating of the starter motor. Prolonged cranking can damage the starter motor and shorten battery life.
8. 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 machine with lever steering and/or hydrostatic transmissions, the steering and ground speed operations should be learned and practiced in an open area, away from buildings, fences, or obstructions.

Learn the operation on flat ground before operating on slopes.

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

Learn to feather the steering controls to obtain a smooth operating action.

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

FORWARD TRAVEL

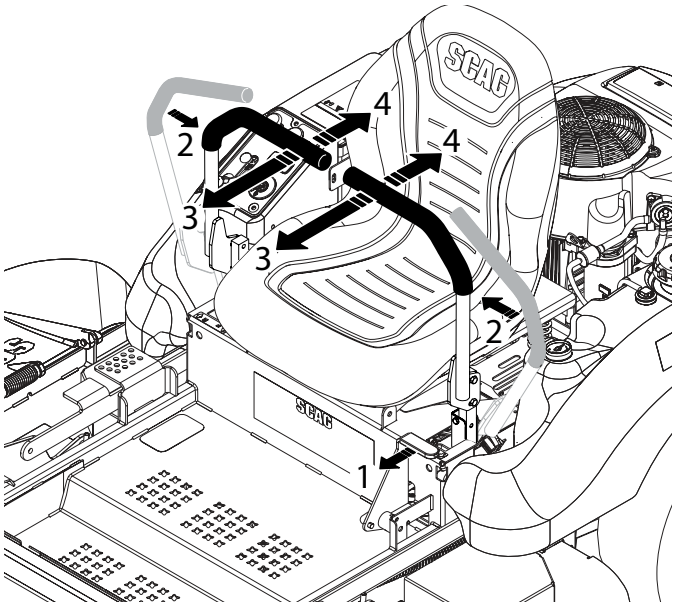


Figure 4-4. Travel Controls

1. Release parking brake.
2. Move control handles out of neutral.
3. Forward travel.
4. Reverse travel.

To travel forward with the mower, slowly push the steering control levers forward an equal distance. The further the steering control levers are pushed forward the greater the forward speed will be. To increase the speed, push the steering control levers further forward and to decrease the speed, pull the steering control levers back.

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

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

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

- NOTE -

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

- IMPORTANT -

Do not travel forward over a curb. The mower will hang up on the curb. Raise the deck and travel backwards over the curb at a 45 degree angle. (See Figure 4-1 and Section 4-1 item 11 for cutter deck raising description.)

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

- NOTE -

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

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

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

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

4.7 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 4-5.

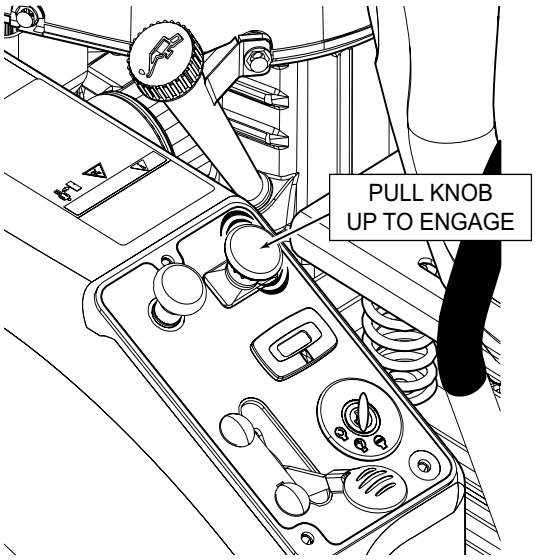


Figure 4-5. Cutter Engage Switch

- 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 SLOPE OPERATION

Slopes are a major factor related to loss of control and tip over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution. If you can not back up a slope or feel uneasy, do not mow it.

⚠ WARNING

DO NOT operate on steep slopes. To check a slope, attempt to back up it (with the cutter deck down). If the machine can back up the slope without the wheels slipping, reduce speed and use extreme caution. Under no circumstances should the machine be operated on slopes greater than 15 degrees. See Figure 2-2, Page 11 to help determine approximate slope of area to be mowed. 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.
2. DO NOT mow wet grass. Wet grass reduces traction and steering control.
3. Stay two cut widths away from slopes, drop offs, ditches, water and retaining walls.
4. Watch for holes, ruts, bumps, rocks, or other hidden objects. Uneven terrain could overturn the machine. Tall grass can hide obstacles.
5. Mow up and down slopes, not across.
6. Choose a low ground speed so you will not have to stop while on a slope.
7. Some areas may need to be mowed with a walk-behind mower or string trimmer.
8. 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.
9. Avoid sudden starts when mowing uphill. Sudden starts may cause the machine to tip backwards.
10. Keep all movement on slopes slow and gradual.
11. DO NOT make sudden changes in speed or direction, which could cause the machine to roll over.
12. Loss of traction may occur when traveling down hill. Weight transfers to the front of the machine and may cause the drive wheels to slip causing loss of braking or steering.
13. Keep tires properly inflated.
14. Use caution when operating the mower on an incline with the optional grass catcher or other attachments installed. They can affect the stability of the machine. Do not use on steep slopes.
15. DO NOT stabilize the machine by putting your foot on the ground.

⚠ WARNING

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

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

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

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

DO NOT permit untrained personnel to operate the machine.

Be cautious when loading and unloading onto trailers or trucks.

Use only a full width ramp.

Ramp angle should be no more than 15 degrees. See Figure 2-2, Page 11 to help determine approximate slope.

Back up the ramp and drive down forward.

4.9 PARKING THE MOWER

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

4.10 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. (See Section 7.10.)

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, place the dump valve levers in the FREE-WHEEL position. See Figure 4-2, page 16. Disengage the parking brake and move the mower by hand. When the machine is in the desired position, engage the parking brake and place the dump valve levers in the DRIVE position. The dump valve levers must be returned to the DRIVE position to drive the mower.

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.

4.14 ADJUSTING CUTTING HEIGHT

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

⚠ WARNING

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

1. Disengage the power to the cutter blades.
2. Push the cutting height adjustment foot pedal all the way forward using your right foot. See Figure 4-6.

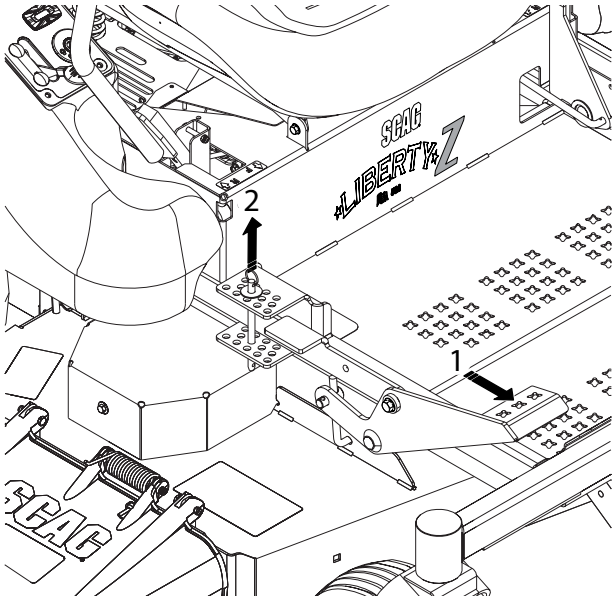


Figure 4-6. Adjusting Cutting Height

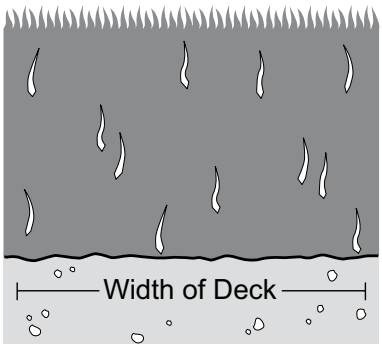
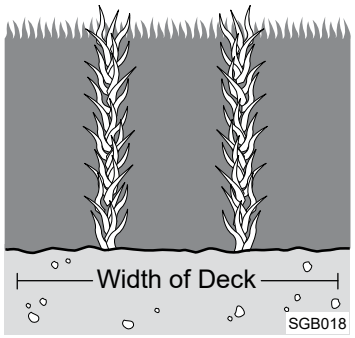
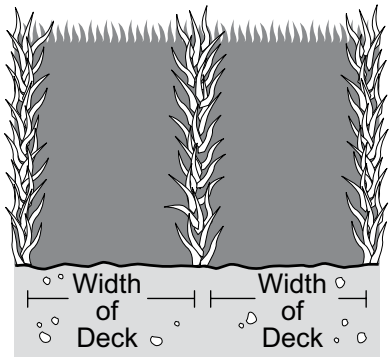
3. Lift the pin and insert into the cutting height index at the desired cutting height. See Figure 4-5. Slowly release the foot pedal. A deck height decal is located next to the cutting height index as an aid in adjusting the deck to the desired height.

4.15 TOWING (OPTIONAL HITCH ACCESSORY*)

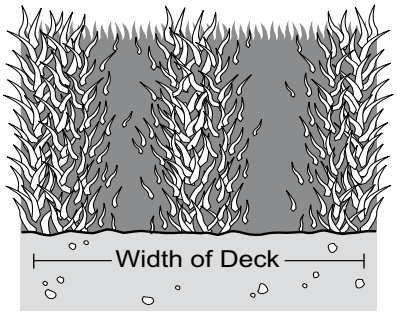
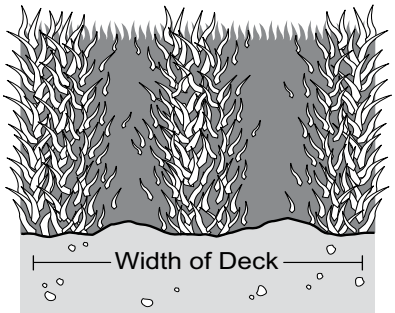
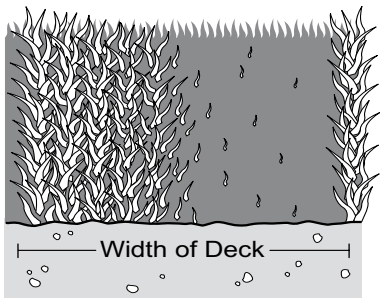
1. NEVER allow children or others in or on towed equipment.
2. Tow only with a machine that has a hitch designed for towing. Do not attach towed equipment except at the hitch point.
3. Follow manufacturer's recommendations for weight limit for towed equipment. 250/lbs. maximum towing weight.
4. NEVER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

*Not available for SZL36

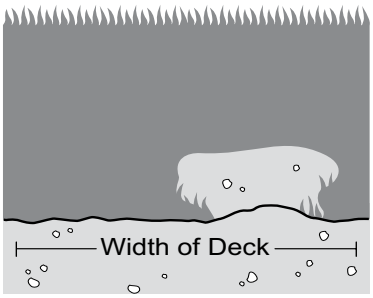
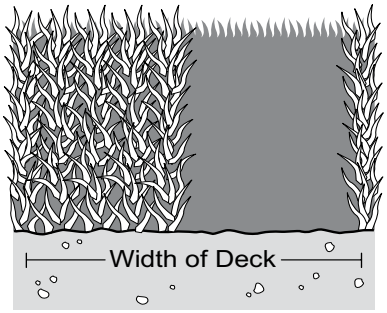
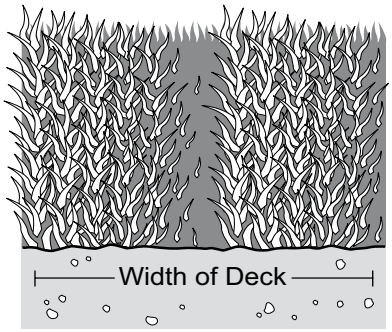
TROUBLESHOOTING CUTTING CONDITIONS

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

⚠ WARNING

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

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

1. Park the machine on a flat surface and block the caster wheels to prevent the machine from moving. Remove the ignition key.
2. Disengage the parking brake. See Figure 6-1.
3. Tilt the seat forward to gain access to the brake control linkage.
4. Remove the cotter pin securing the pivot to the brake control linkage. See Figure 6-2.
5. Push down on the brake control rod until it stops to disengage the parking brake.
6. Adjust the pivot until it meets the mounting hole. Insert the pivot into the brake control linkage and secure with the cotter pin.
7. Repeat steps 4 thru 6 on the other side of the machine.
8. Test the parking brake.

- NOTE -

If this procedure does not achieve proper brake adjustment, please contact your authorized Authorized Scag Power Equipment Dealer.

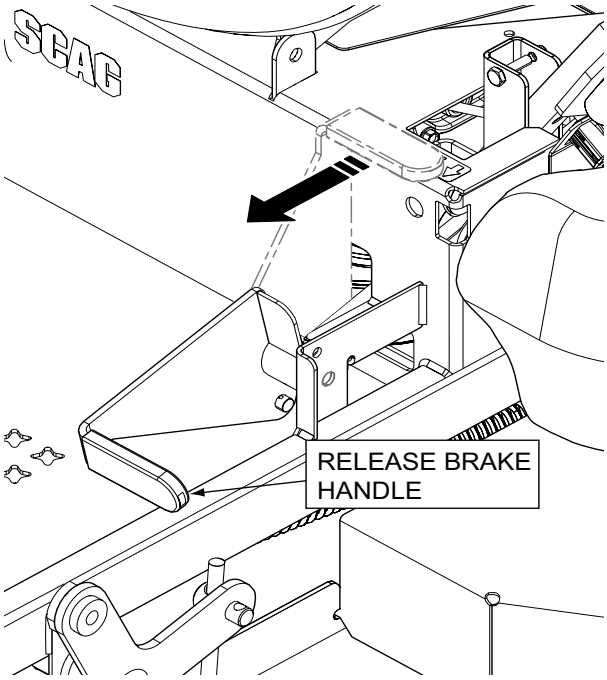


Figure 6-1. Brake Adjustment

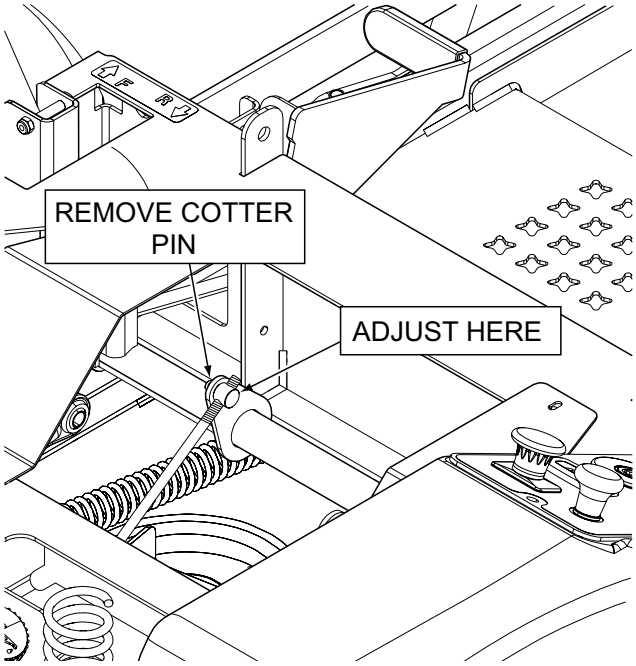


Figure 6-2. Brake Rod Adjustment

6.2 TRACKING ADJUSTMENT

⚠ CAUTION

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

⚠ CAUTION

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

- NOTE -

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

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

   A. Stop the machine and place the steering control levers in the neutral position. Turn the tracking adjustment bolt for the LH pump inward (clockwise). This will cause the control rod to stroke the LH pump less, slowing down the LH wheel. See Figure 6-3.

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

   A. Stop the machine and place the steering control levers in the neutral position. Turn the tracking adjustment bolt for the RH pump inward (clockwise). This will cause the control rod to stroke the RH pump less, slowing down the RH wheel. See Figure 6-3.

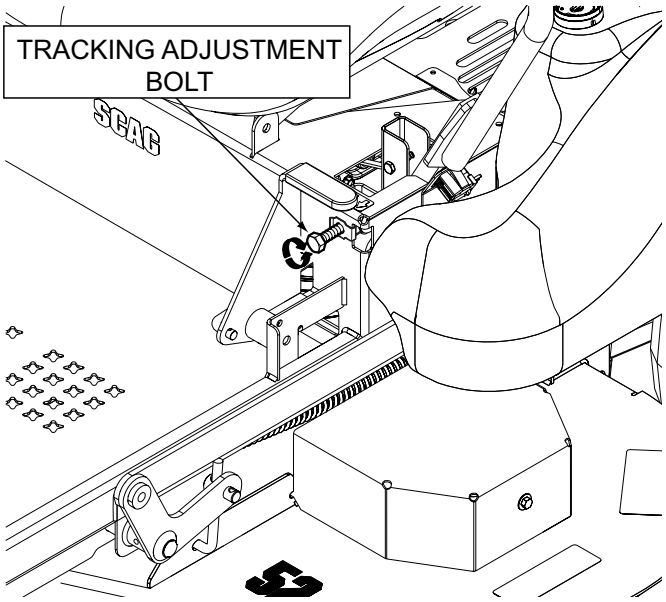


Figure 6-3. Tracking Adjustment Bolt

- NOTE -

If making the adjustment as outlined does not correct the tracking or neutral needs to be adjusted, contact your local Authorized Scag Power Equipment Dealer.

6.3 THROTTLE CONTROL AND CHOKE ADJUSTMENTS

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

6.4 BELT ADJUSTMENT

⚠ WARNING

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

All drive belts are spring loaded and self-tensioning, however after the first 2, 4, 8 and 10 hours of operation, the belts should be checked for proper alignment and wear. Thereafter, check the belts after every 40 hours of operation or weekly, whichever occurs first.

⚠ WARNING

If the pump drive belt fails, steering control will be lost which could result in serious injury or death. Replace the pump drive belt as needed or every 400 hours / 2 years, whichever occurs first.

6.5 BELT ALIGNMENT

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

6.6 CUTTER DECK ADJUSTMENTS

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

- NOTE -

Before proceeding with the cutter deck adjustments, be sure that all tires are properly inflated. If any of these procedures do not achieve proper cutter deck level, pitch or height, please contact your Authorized Scag Power Equipment Dealer.

CUTTER DECK LEVEL

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

1. If the cutter deck is lower on one side, locate the elastic stop nuts on the front and rear of the lower side of the cutter deck. See Figure 6-4.

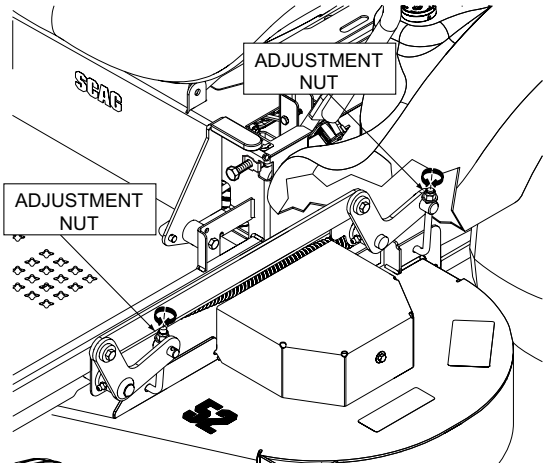


Figure 6-4. Cutter Deck Level Adjustment

2. Turn the elastic stop nuts on the front and rear deck level links clockwise until the cutter deck is level between both sides. See Figure 6-4
3. Tighten the two (2) elastic stop nuts to secure the cutter deck in the proper position.

CUTTER DECK PITCH

The pitch of the cutter deck should be equal between the front and rear of the cutter deck for proper cutting performance. To check for proper deck pitch, be sure that the mower is on a flat, level surface and the tires are properly inflated. (See Section 7.10.)

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

1. Loosen the elastic stop nuts securing the deck level links on the front of the cutter deck on both sides. See Figure 6-5 and 6-6.

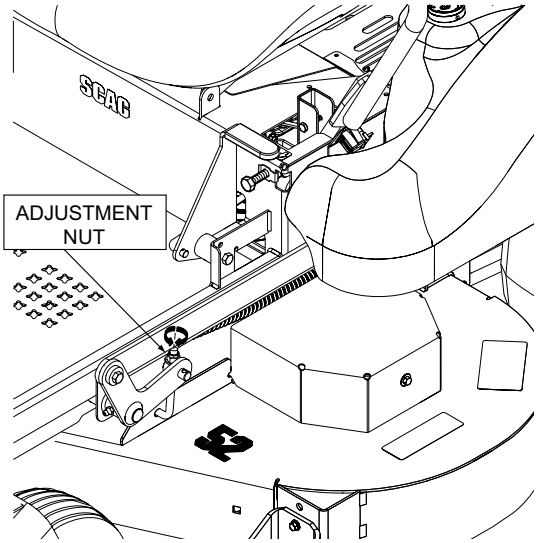


Figure 6-5. Cutter Deck Pitch Adjustment

2. Turn the adjustment bolts on both sides either clockwise to raise or counter-clockwise to lower the front of the cutter deck until the measurements are equal. Tighten the elastic stop nuts.

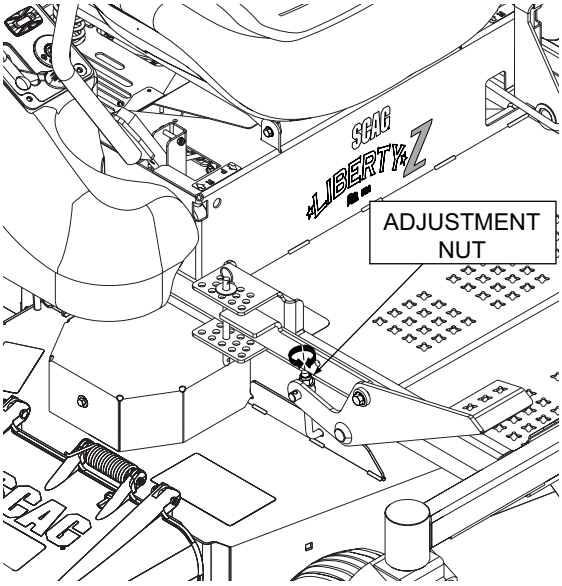


Figure 6-6. Cutter Deck Pitch Adjustment

- NOTE -

To prevent the cutter deck from teetering, all four (4) cutter deck hanging links must have tension on them. If all four links do not have tension on them and the deck teeters, you must readjust the cutter deck as outlined in the procedures above. All measurements should be taken from the top edge of the deck as the deck has an uneven bottom edge.

CUTTER DECK HEIGHT

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

1. Push on the cutter deck foot pedal, place the cutter deck in the 3" cutting position and lower the cutter deck.
2. Check the measurement from the floor to the cutter blade tip. If the measurement is not 3", an adjustment can be made using the deck hangers.
3. Turn the elastic stop nuts an equal amount of turns either clockwise to raise or counter-clockwise to lower the cutter deck until the measurement at the cutter blade is 3" on both sides of the machine. See Figure 6-7 for the left side and 6-8 for the right side.

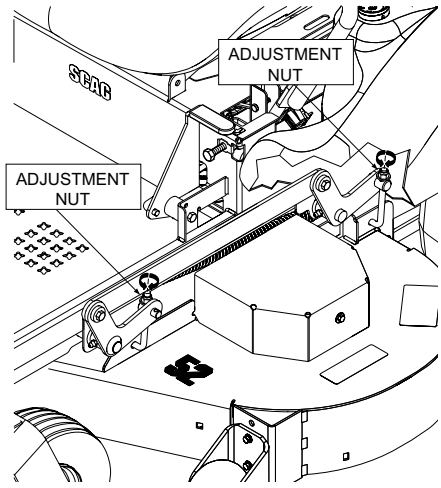


Figure 6-7. Cutter Deck Height Adjustment - Left Side

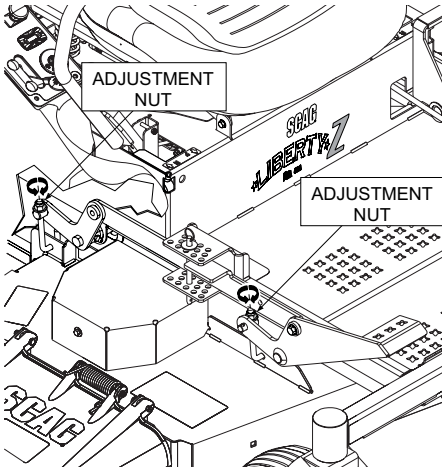


Figure 6-8. Cutter Deck Height Adjustment - Right Side

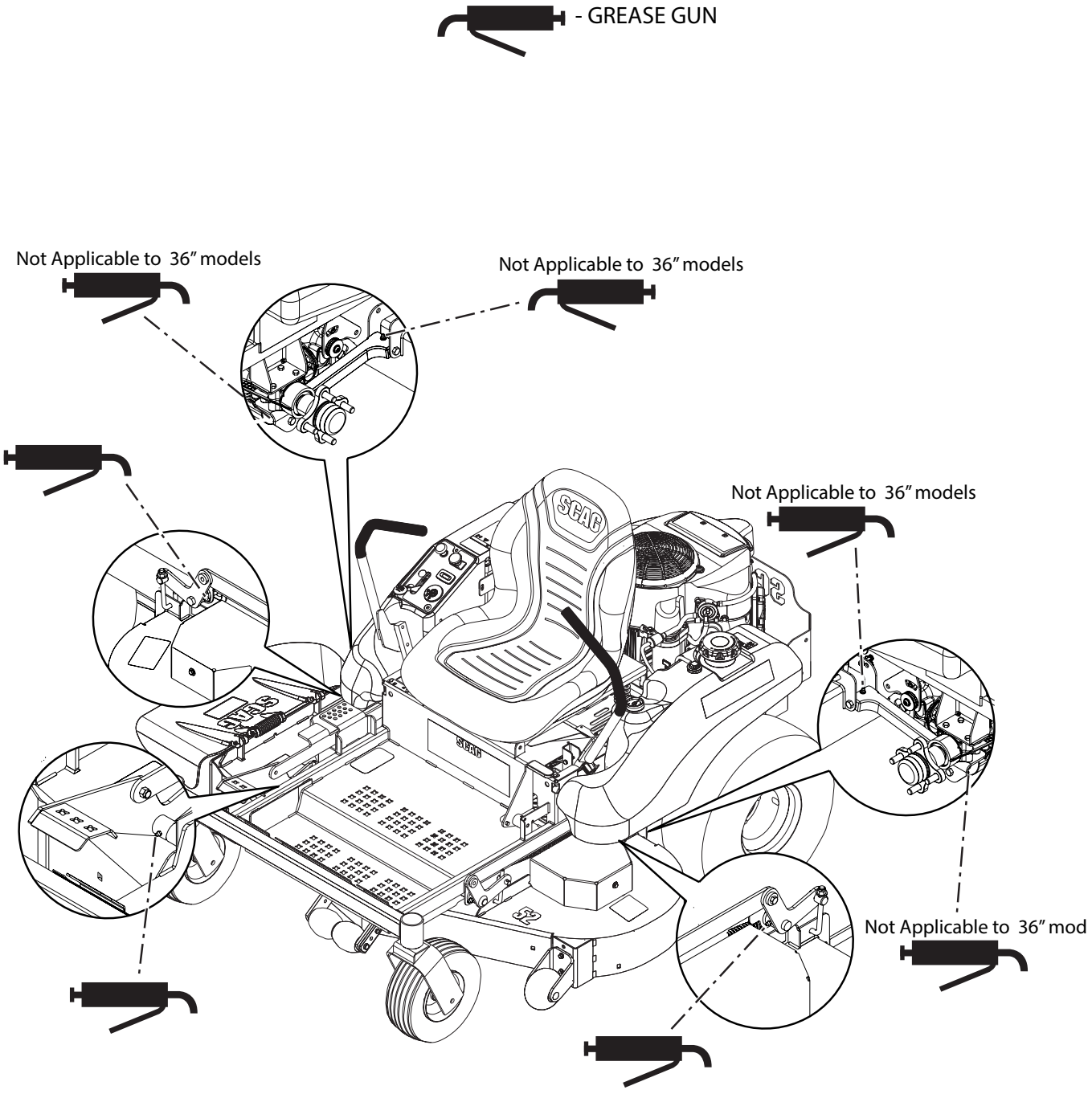
MAINTENANCE

7.7 MAINTENANCE CHART - RECOMMENDED SERVICE INTERVALS

HOURS								PROCEDURE	COMMENTS
BREAK-IN (FIRST 10)	8	40	50	100	150	200	400		
X								Check all hardware for tightness	
X								Check hydraulic oil level	See paragraph 7.3
X								Check all belts for proper alignment	See paragraph 7.8
	X							Change engine oil	See paragraph 7.4
	X							*Clean mower	See paragraph 7.11
	X							Check condition of blades	See paragraph 7.9
	X							Check tire pressure	See paragraph 7.10
	X							Check safety interlock system	See paragraph 4.2
		X						Check battery, clean battery posts and cables	See paragraph 7.7
		X						Inspect pump drive belt. Replace every 400 hours or 2 years, whichever occurs first.	See paragraph 6.4 & 7.8
		X						Check belts for proper alignment	See paragraph 7.8
			X					Change engine oil - Perform after every 50 hours of operation	See paragraph 7.4
				X				Check condition of fuel lines	
				X				Grease cutter deck bellcranks and pusharms	See paragraph 7.2
				X				Change engine oil and filter - Perform after every 100 hours of operation	See paragraph 7.4
			X	X				Drain hydraulic system, replace hydraulic oil and filters	Varies by drive system.See paragraph 7.3
				X				*Clean air cleaner element	See paragraph 7.6
					X			Change engine oil - Perform after every 50 hours of operation	See paragraph 7.4
						X		Check all hardware for tightness	
						X		Change engine oil and filter - Perform after every 100 hours of operation	See paragraph 7.4
						X		Check hydraulic oil level	See paragraph 7.3
						X	X	Drain hydraulic system, replace hydraulic oil and filters	Varies by drive system.See paragraph 7.3
							X	Replace pump drive belt	See paragraph 7.8

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

7.8 GREASE FITTING LOCATION CHART



* Compatible Greases: Scag Premium Chassis Grease p/n 486257

* PROCEDURE: Remove grease cap, part number 484195. Remove plug, part number 482028-01, and install grease zerk. Apply grease to the fitting until new grease appears at the top of the caster extension. Remove the grease zerk and reinstall the plug. Reinstall the grease cap. Special tool, part number 47007, is recommended for use in the installation of the grease cap.

7.9 HYDRAULIC SYSTEM

A. CHANGING HYDRAULIC OIL - HYDRO-GEAR ZT TRANSAXLES

For Hydro-Gear ZT transaxles, the hydraulic system oil and filter should be changed after the first 75-100 hours of machine operation and every 400 hours or annually thereafter, 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 system 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. Remove the three 1/4" filter guard screws and filter guard from both axles. See Figure 7-1. Clean any loose debris around the perimeter of the filter.

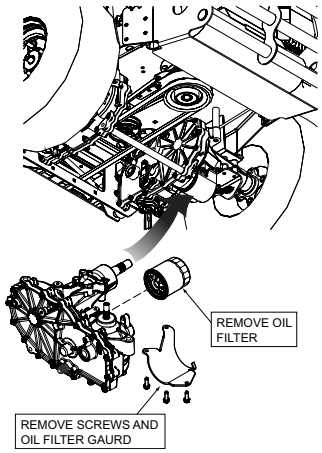


Figure 7-1. Hydraulic Oil Filter and Drain Plug

3. Place a suitable container under the hydraulic oil filters.
4. Remove the hydraulic filters from both axles and allow the fluid to drain into the container. Properly discard the oil when the system has drained completely. See Figure 7-1.
5. Once the hydraulic system has drained, install new hydraulic oil filters to both axles by hand, turn 3/4 to one complete turn after filter gasket contacts the filter base.
6. Reinstall the filter guards and torque the screws to 65 in/lbs.
7. Remove the top port plug from both axles before filling with oil. See Figure 7-2.

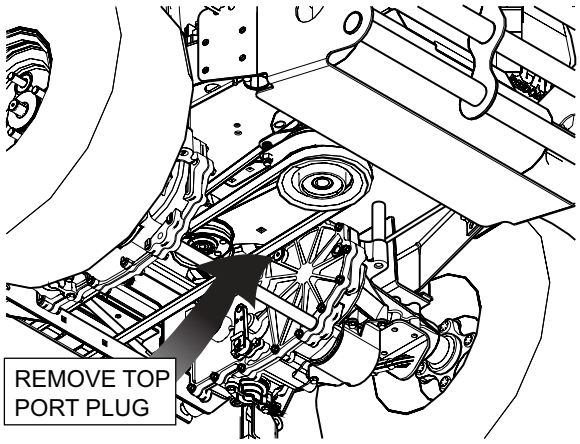


Figure 7-2. Top Port Plug Location

8. Remove the fill port plug from the top of both transaxle. See Figure 7-3. Fill each transaxle with Scag Hydraulic System Oil (p/n 486255 - 1 Quart or p/n 486254 - 1 Gallon) oil until the oil just appears at the bottom of each axle top port. Approximately 2 quart capacity per transaxle (4 quart total). Reinstall the top port plugs and torque to 180 in/lbs.

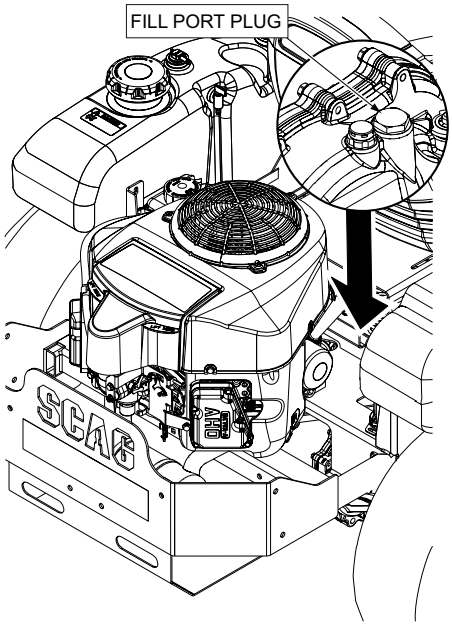


Figure 7-3. Right Side Fill Port Plug

9. Reinstall the fill port plug on the top of the transaxle.
10. The hydraulic system will need to be purged of all air. Raise the rear of the machine so the drive wheels are off the ground. Use jackstands and block the front caster wheels to prevent the machine from moving.

11. Move the dump valve controls to the "freewheel" position by pulling the levers backward and locking in the notch (towards the rear of the mower). See Figure 7-4.

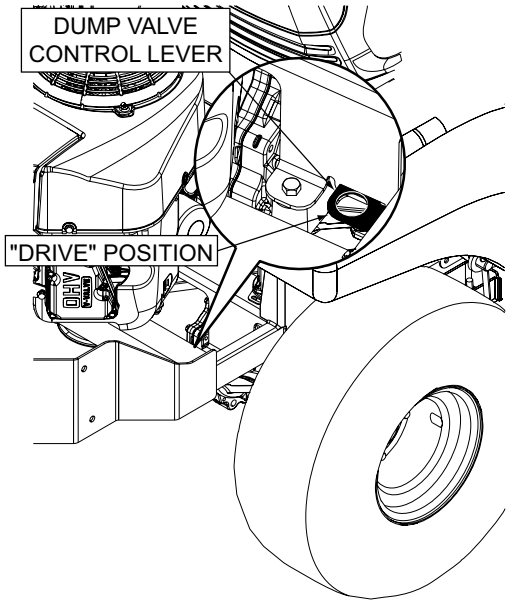


Figure 7-4. Dump Valve Control Lever

12. While in the operator's position, start the engine and disengage the parking brake.
13. Run the engine at 1/2 throttle and move the steering control levers to full forward and reverse 5 to 6 times.
14. Engage the parking brake. Move the dump valve control levers to the "drive" position. See Figure 7-4.
15. While in the operator's position, run the engine at 1/2 throttle. Release the parking brake, move the steering control levers to full forward and reverse 5 to 6 times. It may be necessary to repeat steps 12 to 15 until the air is completely purged from the system.
16. After the purge process is complete, remove the side top port plug from both transaxles to check the oil level. See Figure 7-2. If necessary, fill oil until the oil just appears at the bottom of each axle top port.

B. CHANGING HYDRAULIC OIL - TUFF TORQ TZ450 TRANSAXLES

For Tuff Torq TZ450 transaxles, the hydraulic system oil and filter should be changed after the first 50 hours of machine operation and every 250 hours or annually thereafter, 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 system 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. Clean any loose debris around the perimeter of the filter and drain plug on both transaxles.

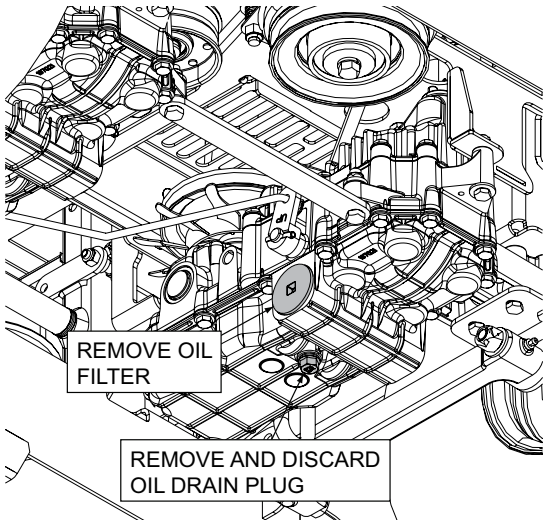


Figure 7-5. Hydraulic Oil Filter and Drain Plug

3. Place a suitable container under the drain plugs and hydraulic oil filters.
4. Remove the drain plugs from both axles and allow the fluid to drain into the container. Properly discard the oil when the system has drained completely. See Figure 7-5.
5. Once the hydraulic system has drained, remove the hydraulic filters from both axles.
6. Install new drain bolt hardware on both transaxles and torque to 15-18 ft/lbs.
7. Install new hydraulic oil filters to both axles.
8. Clean residual residue off caps and reinstall. Torque the cap to 6-9 ft/lbs.
9. Clean and remove the fill port dipstick and vent valve cap from the top of both transaxle. See Figure 7-6. Fill each transaxle with Tuff Torq Tuff Tech Oil. Approximately 1.95 quarts capacity per transaxle (3.9 quart total). Reinstall the fill port dipstick and vent valve cap.

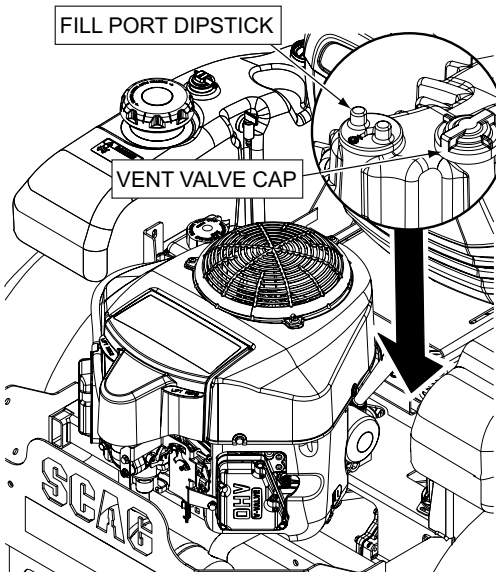


Figure 7-6. Right Side Fill Port Plug

10. The hydraulic system will need to be purged of all air. Raise the rear of the machine so the drive wheels are off the ground. Use jackstands and block the front caster wheels to prevent the machine from moving.

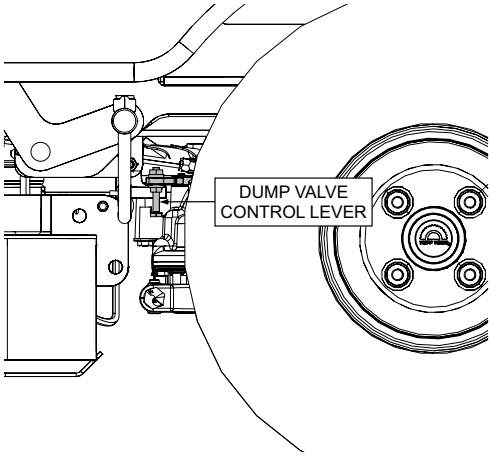


Figure 7-7. Dump Valve Control Lever

11. With an operator in the operator's position, start the engine.
12. Locate the by-pass lever on the transaxle. See Figure 7-7.
13. Cycle the by-pass lever on and off 10 times to allow the air to purge from the hydraulic circuit. It may be necessary to repeat this step until the air is completely purged from the system.
14. After the purge process is complete, remove the fill port dipstick from both transaxles to check the oil level. If necessary, fill oil until the oil is at the correct level on the dipstick.

7.10 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 8 hours of operation, change the engine crankcase oil and replace the oil filter. Thereafter, change the engine crankcase oil after every 50 hours of operation or yearly, whichever occurs first. Refer to the Engine Operator's Manual furnished with this mower for instructions.

C. CHANGING ENGINE OIL FILTER

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

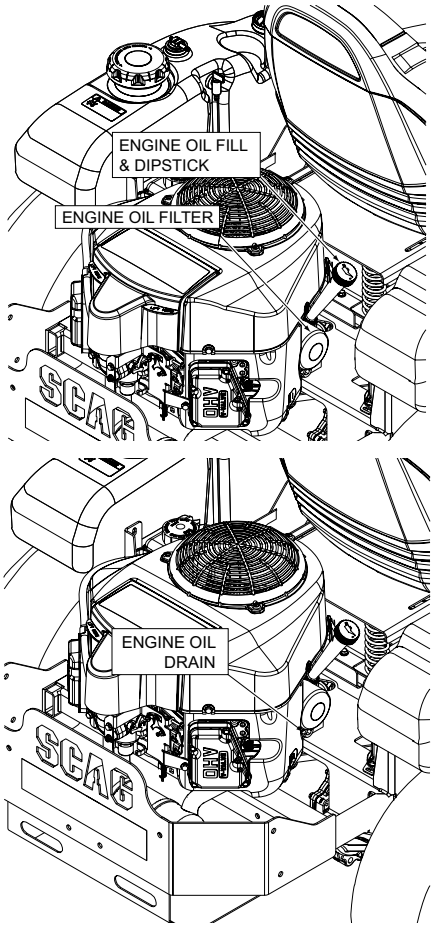


Figure 7-8. Oil Fill / Dipstick, Oil Filter, Oil Drain

7.11 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

Use clean, fresh unleaded gasoline with a minimum octane rating of 87 (90 for Scag LC2P77F and Scag LC2P82F) and a maximum of 10% Ethanol.

Fill to the bottom of the filler neck insert (approximately 5-1/2 gallons at the beginning of each operating day. See Figure 7-9.

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

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

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

Extinguish all cigarettes, cigars, pipes and other sources of ignition.

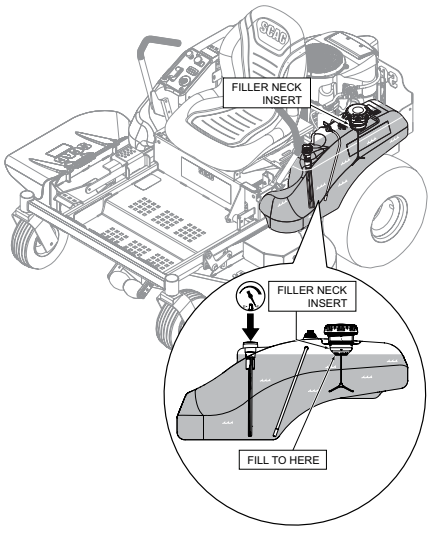


Figure 7-9. Fuel Tank Fill Level

1. Use only an approved gasoline container.
2. NEVER remove the gas cap or add fuel with the engine running. Allow the engine to completely cool before fueling.
3. NEVER fuel the machine indoors or in an enclosed trailer.
4. 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.
5. 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.
6. 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.
7. Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.
8. If fuel is spilled on clothing, change clothing immediately and wash affected skin.
9. DO NOT start the engine until any spilled fuel has been cleaned up or has evaporated.
10. NEVER over fill the fuel tank. Replace gas cap and tighten the fuel cap until it ratchets.

B. REPLACING IN-LINE FUEL FILTER ELEMENTS

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

1. Close the shut-off valve. See Figure 7-10.
2. Remove and replace the engine fuel filter. Open the fuel shut-off valve.

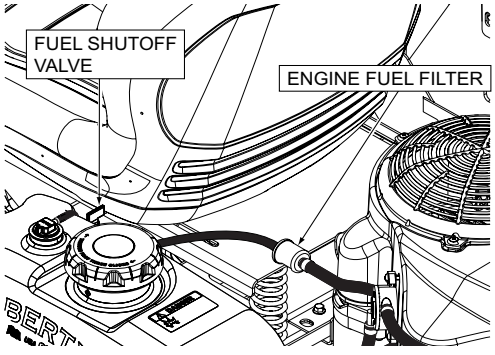


Figure 7-10. Fuel Filter

7.12 ENGINE AIR CLEANER

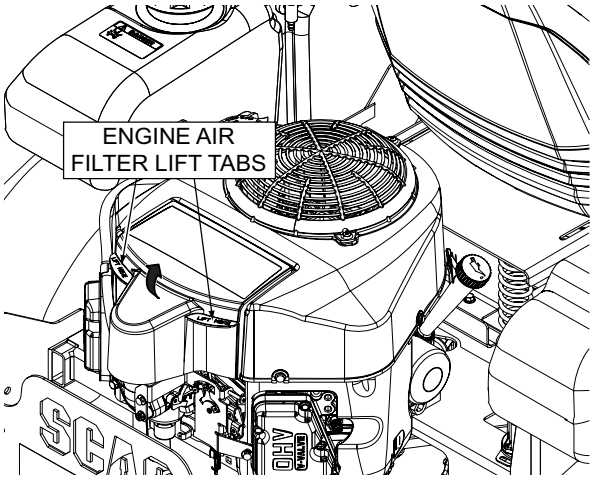
A. CLEANING AND/OR REPLACING AIR CLEANER ELEMENT

For any air cleaner, the operating environment dictates the air cleaner service periods. Inspect and clean the air filter after every 100 hours of operation. Replace the air cleaner element after every 200 hours or yearly, whichever comes first. Refer to Engine Operator's Manual.

- NOTE -

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

1. Lift up on the two tabs securing the air cleaner cover to the air cleaner assembly. See Figure 7-11.



1.

Figure 7-11. Engine Air Filter

2. Remove and inspect the air filter. Replace as recommended by the engine manufacturer. Refer to Engine Operator's Manual.
3. Replace the air cleaner cover and secure.

7.13 BATTERY

⚠ 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.

7.14 DRIVE BELTS

All drive belts are spring-loaded and self-tensioning, however after the first 2, 4, 8 and 10 hours of operation, the belts should be checked for proper alignment and wear. Thereafter, check the belts after every 40 hours of operation or weekly, whichever occurs first.

- NOTE -

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

⚠ WARNING

If the pump drive belt fails, steering control will be lost which could result in serious injury or death. Replace the pump drive belt as needed or every 400 hours / 2 years, whichever occurs first.

7.15 CUTTER BLADES

A. BLADE INSPECTION

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

⚠ WARNING

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

3. Check the cutter blades for straightness. If the cutter blades appear bent, they will need to be replaced.
4. 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.

5. If a blade cutting edge is dull or nicked, it should be sharpened. Remove the blades for sharpening. See Section 7.9C, 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 7-12.

1. Sharpen the cutting edge at the same bevel as the original. See Figure 7-12. Sharpen only the top of the cutting edge to maintain sharpness.

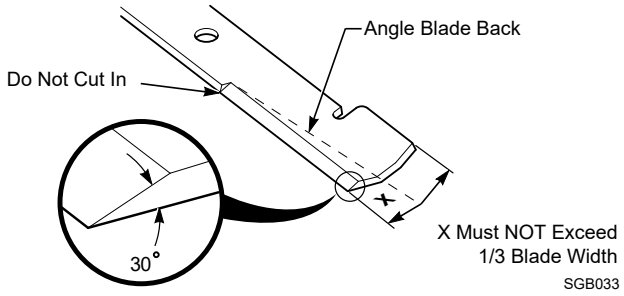


Figure 7-12. Blade Sharpening

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 Power Equipment Dealer for blade balancing or special tools, if you choose to balance your own blades.

C. BLADE REPLACEMENT

⚠ WARNING

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

1. Remove the ignition key before replacing the blades.
2. Raise the mower deck to the highest position. Place the lanyard pin in the highest cutting height position to prevent the cutter deck from falling.
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 7-13.

⚠ 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. To install the new cutter blade, put the lockwasher and flatwasher onto the blade bolt and slide the bolt into the hole in the cutter blade.

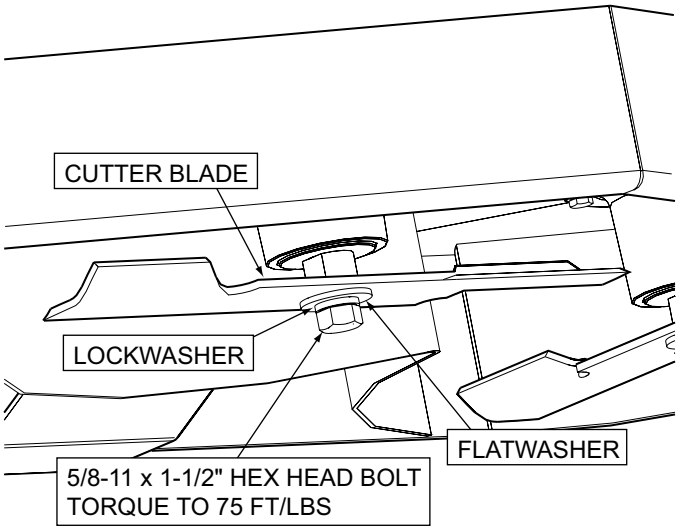


Figure 7-13. Blade Replacement

- NOTE -

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

5. Install the cutter blade onto the cutter spindle shaft. Secure the blades from rotating and torque to 75 ft/lbs. See Figure 7-13.

7.16 TIRES

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

Caster Wheels	25 PSI
Drive Wheels	8 PSI

7.17 BODY, DECK, AND UPHOLSTERY

⚠ CAUTION

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

1. After each use, wash the mower and cutter deck. Use cold water and automotive cleaners. Do not use pressure cleaners.
2. Do not spray electrical components.
3. Use a mild soap solution or a vinyl/rubber cleaner to clean the seat.
4. Repair damaged metal surfaces using Scag touch-up paint available from your authorized Scag dealer. Wax the mower for maximum paint protection.

ILLUSTRATED PARTS LIST

8.1 SCAG APPROVED ATTACHMENTS AND ACCESSORIES.

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

Scag approved attachments and accessories:

Grass Collection Systems	P/N
GC-SZL 2-bag catcher	901K
-Install Kit 36GC-SZL (36)	9071
-Install Kit 42GC-SZL (42)	901U
-Install Kit 48GC-SZL (48)	9069
-Install Kit 52GC-SZL (52)	9070
-Install Kit 61GC-SZL (61)	9073

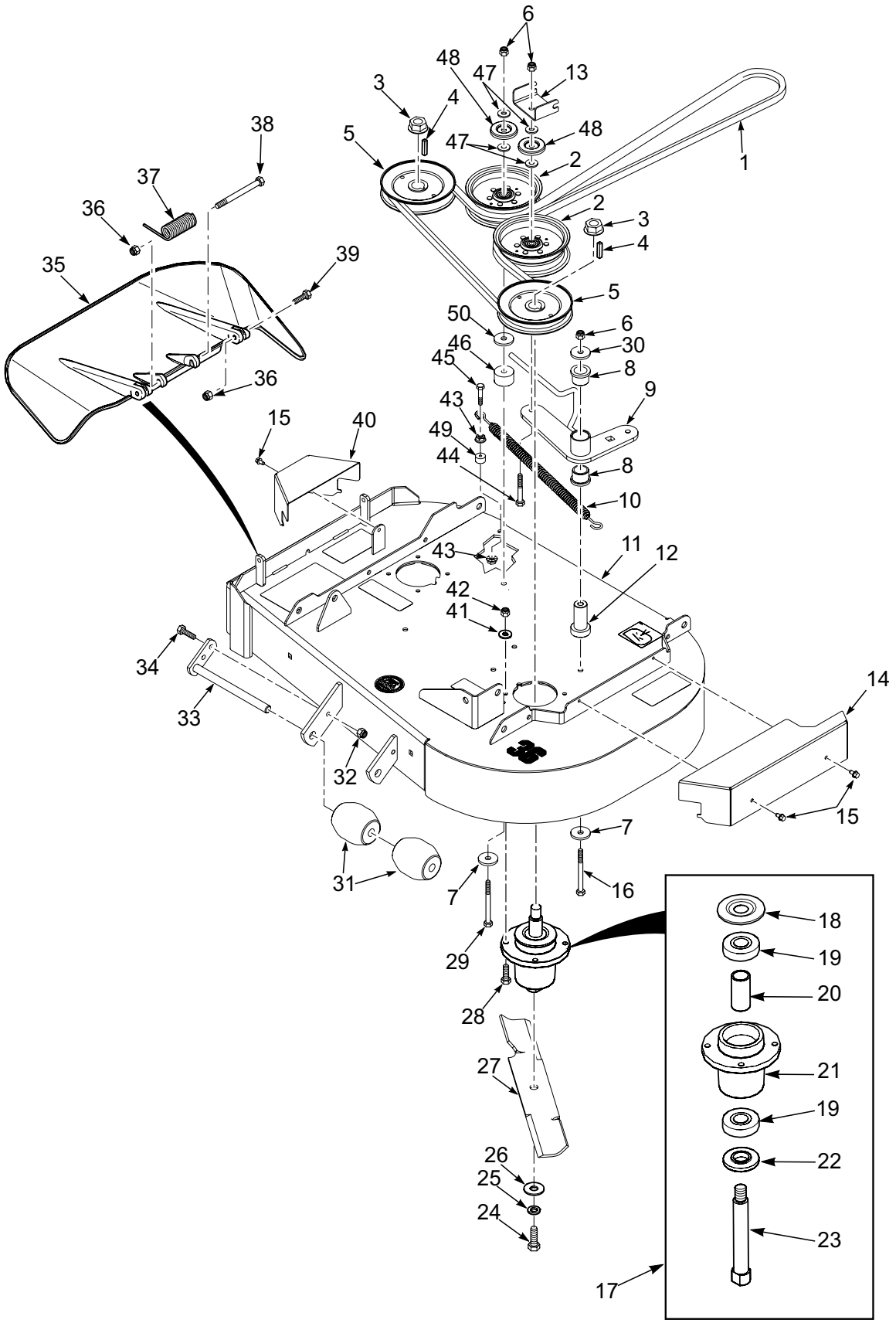
Mulching Accessories	P/N
Mulch Plate (36 & 42SZL)	920G
Mulch Plate (48SZL)	9298
Mulch Plate (52SZL)	9299
Mulch Plate (61SZL)	920U
Hurricane Mulch System (36)	920D
Hurricane Mulch System (42)	925G
Hurricane Mulch System (48)	9293
Hurricane Mulch System (52)	9294
Hurricane Mulch System (61)	920T

Scag Premium Lubricants:	
Chassis Grease	486257
20W50 Oil - Gallon	486254
20W50 Oil - Quart	486255

Miscellaneous	P/N
Blade Buddy	9212
LED Light Kit (SZL)	923Z
SZL Striper Install	925F
-SZL Striper (48/52/61)	923F
-SZL Striper (36/42)	923M
SZL Hitch	9242
SZL Deck Latch	922X
Anti-Blowout Kit, Hero Deck (36)	925P
Anti-Blowout Kit, Hero Deck (42)	925R
Anti-Blowout Kit, Hero Deck (48)	925S
Anti-Blowout Kit, Hero Deck (52)	925T
Anti-Blowout Kit, Hero Deck (61)	925V
Flat-Free Tire (36/42)	923K
Flat-Free Tire (48/52/61)	924D

NOTES

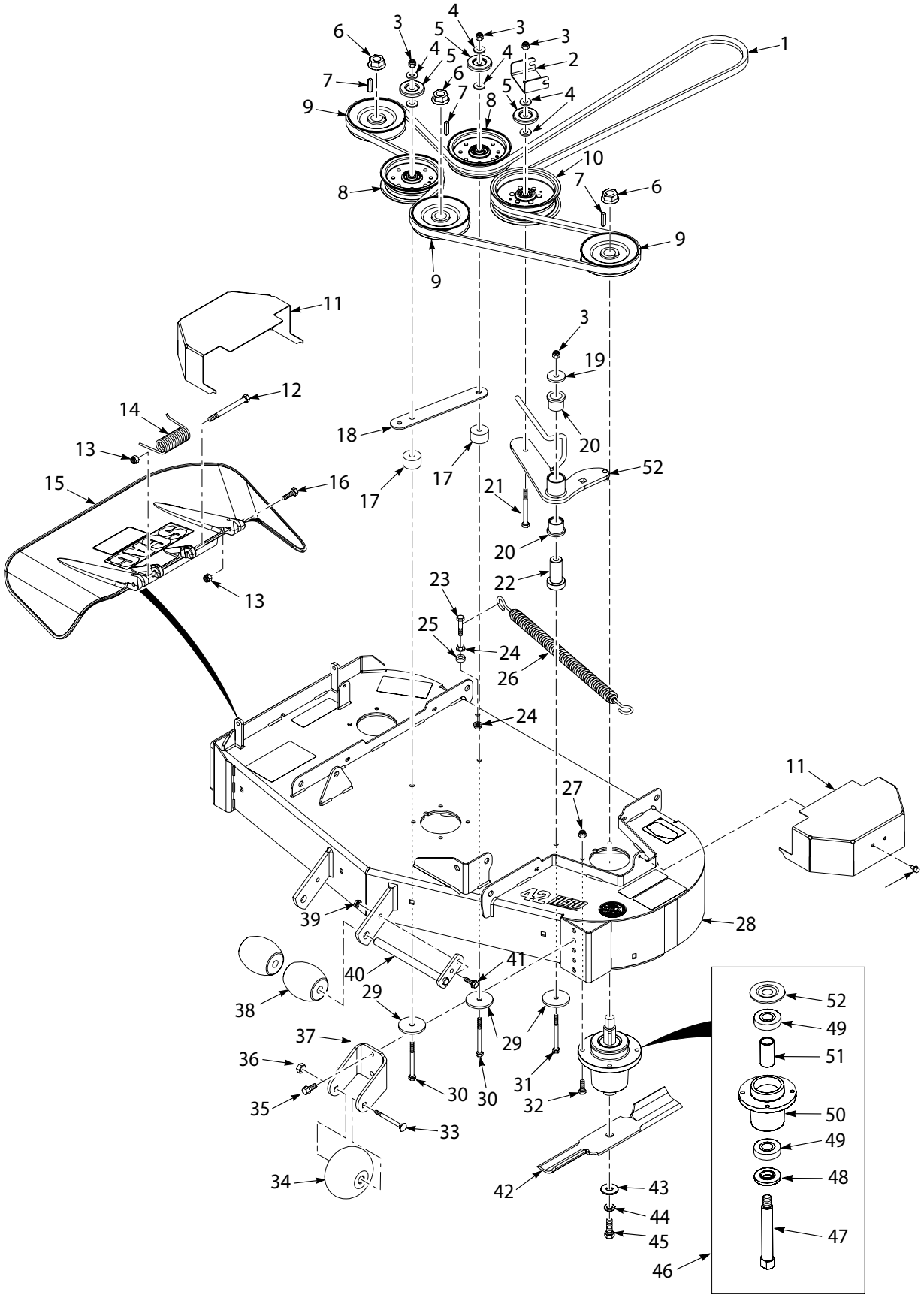
36H CUTTER DECK



36H CUTTER DECK

Ref. No.	Part No.	Qty	Description
1	485805	1	Belt, Cutter Deck
2	483422	2	Pulley, 5" Idler
3	04112-06	1	Nut, 3/4-16 Spiral Lock
4	04063-01	2	Key, 1/4 x 1/4 x 1-1/4"
5	483324	2	Pulley, 5.73" OD - 25mm Bore
6	04021-09	3	Nut, 3/8-16 Elastic Stop
7	04041-38	2	Flat washer, 3/8-.406 x 2.25 x .188
8	483453-03	2	Bearing, 1" ID
9	462944	1	Pivot, Idler Arm
10	483375	1	Spring, Cutter Deck Idler
11	463333	1	Cutter Deck w/Decals, SMLZ-36
12	43708	1	Pivot, Idler
13	424615	1	Bracket, Belt Guide
14	427325	1	Belt Cover LH SMZL-36
15	04011-29	3	Screw, 1/4-20 x .375"
16	04001-30	1	Bolt, Hex Head 3/8-16 x 4.00
17	461950	2	Spindle Assembly (INCL. 18,19,20,21,22,23)
18	483304	1	Debris Shield
19	483303	2	Bearing
20	43693	1	Spacer
21	462014	1	Spindle Housing Assembly (INCL. 19,20)
22	43694	1	Protector, Bearing
23	43695	1	Shaft, Spindle
24	04001-121	2	Bolt, Hex Head 5/8-11 x 1-1/2"
25	04030-07	2	Lockwasher, 5/8"
26	04043-06	2	Flatwasher, 5/8-.688 x 1.75 x .134 HD
27	482878	2	Cutter Blade, 18"
28	04001-175	8	Bolt, Hex Head 5/16-18 x 1-1/2" Gr.8
29	04001-77	1	Bolt, Hex Head 3/8-16 x 3-1/2"
30	04041-11	1	Flatwasher, 3/8-.406 x 1.50 x .1793
31	482295	2	Wheel, Anti-Scalp
32	04117-01	1	Nut, 5/16-18 Flange Elastic Stop
33	451926	1	Shaft Weldment, Guide Roller
34	04001-09	1	Bolt, Hex Head 5/16-18 x 1"
35	462031	1	Discharge Chute
36	04021-10	2	Nut, 5/16-18 Elastic Stop
37	482245	1	Spring, Discharge Chute
38	04001-154	1	Bolt, Hex Head 5/16-18 x 4-3/4"
39	04001-12	1	Bolt, Hex Head 5/16-18 x 1-3/4"
40	427319	1	Belt Cover, RH SMZL-36
41	04030-03	8	Lockwasher, 5/16"
42	04021-22	8	Nut, 5/16-18 Elastic Stop Grade 8
43	04019-04	2	Nut, 3/8-16 Serrated Flange
44	04001-31	1	Bolt, Hex Head 3/8-16 x 2½"
45	04001-136	1	Bolt, Hex Head 3/8-16 x 1-1/2" Gr.8
46	43711	1	Spacer
47	04043-04	4	Flatwasher, 3/8-.391 x .938 x .105 HD
48	424367	2	Dust Shield
49	43063	1	Spacer, Spring Anchor
50	04043-11	1	Flatwasher, 3/8-.438 x 1.5 x .1793 HD

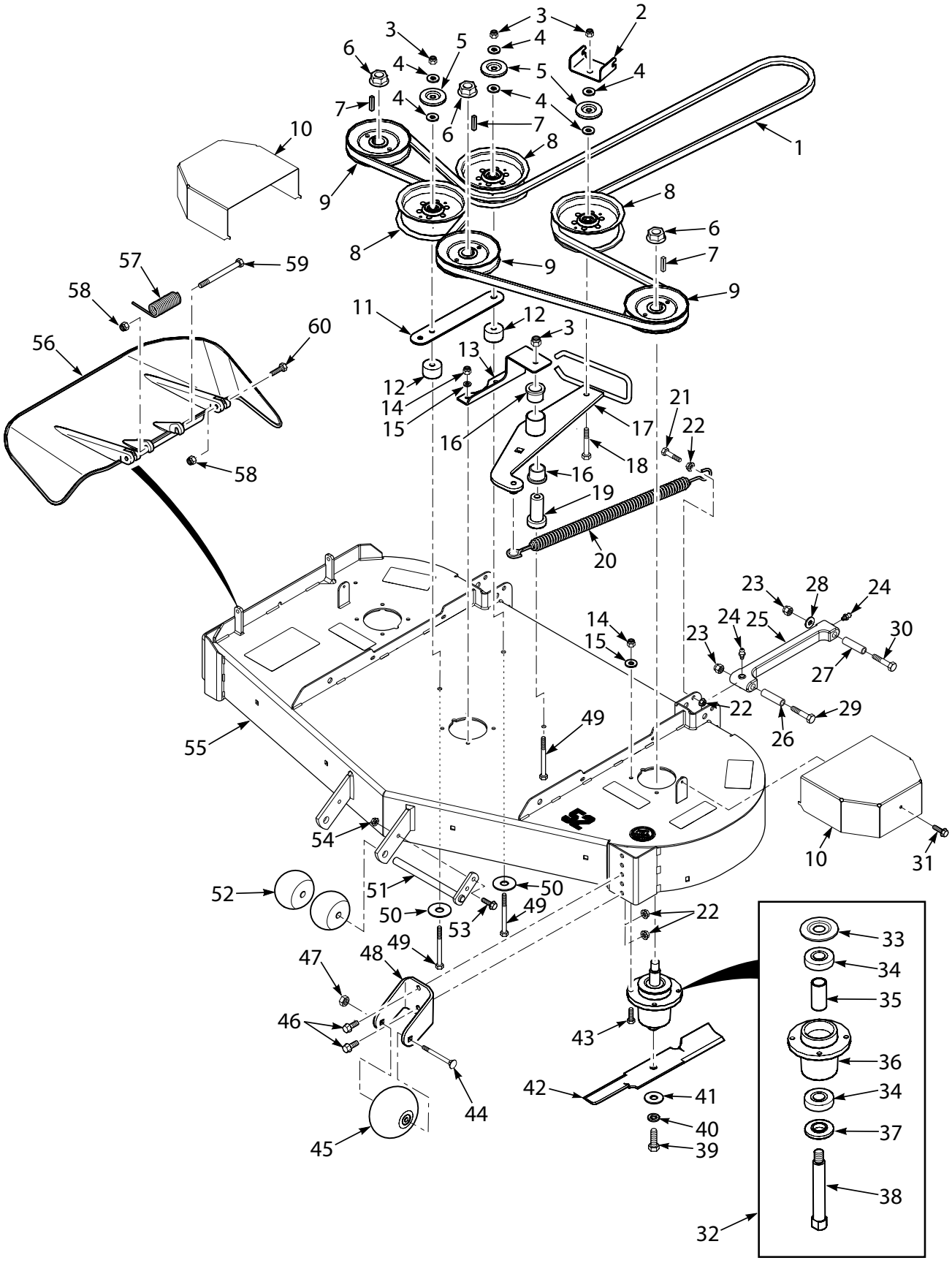
42H CUTTER DECK



42H CUTTER DECK

Ref. No.	Part No.	Qty	Description
1	484695	1	Belt, Cutter Deck
2	424615	1	Bracket, Belt Guide
3	04021-09	3	Locknut, 3/8 - 16 Elastic Stop
4	04043-04		Washer, Flat 3/8 - .391 x .938 x .105 HD
5	424367	3	Dust Shield
6	04112-06	3	Locknut, 3/4 - 16 Spiralock
7	04063-01	3	Key, 1/4 x 1/4 x 1-1/4"
8	483213	2	Pulley, 4.50" Idler
9	486910	3	Pulley, 4.62"
10	483422	1	Pulley, 5.00" Idler
11	428614	2	Belt Cover
12	04001-154	1	Bolt, Hex Head 5/16 - 18 x 4.75"
13	04021-10		Locknut, 5/16 - 18 Elastic Stop
14	482245	1	Spring, Discharge Chute
15	483496	1	Discharge Chute
16	04001-12		Bolt, Hex Head 5/16 - 18 x 1.75"
17	43711	2	Spacer
18	424479	1	Brace, Pulley
19	04043-11	1	Flat Washer, 3/8 - .438 x 1.500 x .1793 HD
20	483453-03	2	Bearing, Plastic
21	04001-31	1	Bolt, Hex Head 3/8 - 16 x 2.50"
22	43708	1	Pivot Idler
23	04001-135	1	Bolt, Hex Head 3/8 -16 x 1.75"
24	04019-04		Nut, 3/8 - 16 Serrated Flange
25	43063	1	Spacer
26	483375	1	Spring, Deck Idler
27	04021-22	12	Locknut, 5/16 - 18 Elastic Stop Gr. 8
28	463435	1	Cutter Deck w/Decals, SZL-42H
29	04041-38	3	Flat Washer, 3/8 - .406 x 2.25 x .1875
30	04001-77	2	Bolt, Hex Head 3/8 - 16 x 3.50"
31	04001-30	1	Bolt, Hex Head 3/8 - 16 x 4.00"
32	04001-175	12	Bolt, Hex Head 5/16 - 18 x 1.50" Gr. 8
33	04003-26	1	Bolt, Carriage 3/8 - 16 x 4.00"
34	481632	1	Wheel, Anti-Scalp
35	04017-27	1	Bolt, Hex Head 3/8 - 16 x 1.00" Serrated Flange
36	04021-05	1	Locknut, 3/8 - 16 Center Lock
37	427865	1	Bracket, Anti-Scalp
38	482295	2	Wheel, Anti-Scalp
39	04117-01	1	Locknut, 5/16 - 18 Flg. HH
40	451926	1	Shaft Weldment
41	04001-09	1	Bolt, Hex Head 5/16 - 18 x 1.00"
42	483014	3	Cutter Blade, 14.75"
43	04043-06	3	Washer, Flat 5/8 - .688 x 1.75 x .134 HD
44	04030-07	3	Lockwasher, 5/8 Spring
45	04001-121	3	Bolt, Hex Head 5/8 - 11x 1.50
46	461950	3	Spindle Assembly
47	43695	3	Shaft, Spindle
48	43694	3	Protector, Bearing
49	483303	6	Bearing, Ball
50	43696	3	Spindle Housing
51	43693	3	Spacer, Bearing
52	463436	1	Idler Arm Assy. (incl. #20)

48H, 52H & 61H CUTTER DECKS

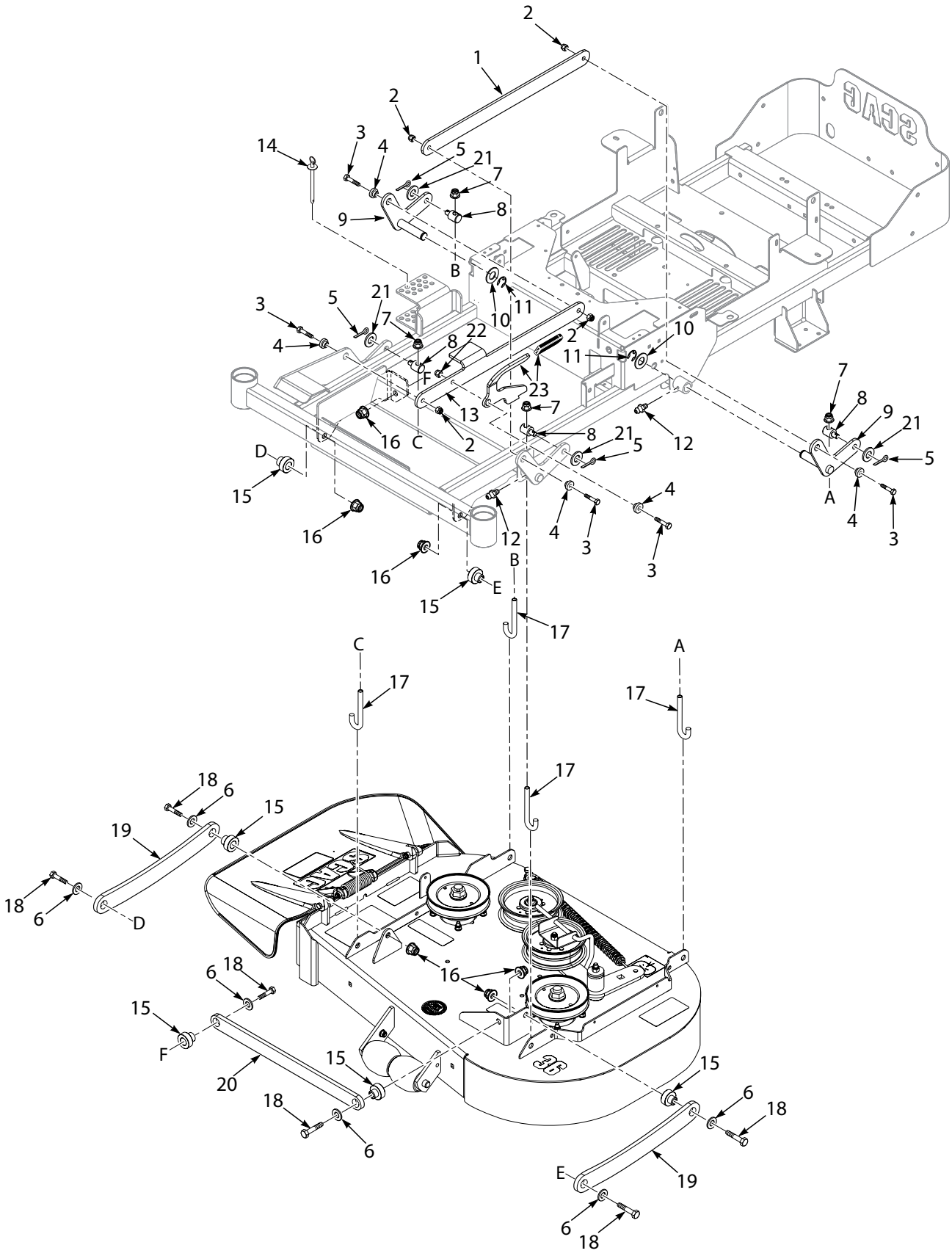


48H, 52H & 61H CUTTER DECKS

	Part No.	Qty	Description	48	52	61
1	485350	1	Belt, Cutter Deck - 48H	x		
	485424	1	Belt, Cutter Deck - 52H		x	
	486027	1	Belt, Cutter Deck - 61H			x
2	424615	1	Bracket, Belt Guide	x	x	x
3	04021-09	4	Nut, 3/8-16 x 16 Elastic Stop	x	x	x
4	04043-04	6	Flatwasher, 3/8-.391 x .938 x .105	x	x	x
5	424367	3	Dust Shield	x	x	x
6	04112-06	3	Nut, 3/4-16 Spiral Lock	x	x	x
7	04063-01	3	Key, 1/4 x 1/4 x 1-1/4"	x	x	x
8	483422	3	Pulley, 5" Idler	x	x	x
9	483323	3	Pulley, 5.13" OD - 25mm Bore	x		
	483324	3	Pulley, 5.73" OD - 25mm Bore		x	
	484026	3	Pulley, 6.32" OD - 25mm Bore			x
10	426729	2	Belt Cover, SZL	x	x	
	425260	2	Belt Cover, SZL61H			x
11	424479	1	Brace, Pulley	x	x	x
12	43711	2	Spacer	x	x	x
13	424548	1	Support, Idler Pivot - 48H	x		
	424547	1	Support, Idler Pivot - 52H		x	
	425264	1	Support, Idler Pivot - 61H			x
14	04021-22	12	Nut, 5/16-18 Elastic Stop Grade 8	x	x	x
15	04030-03	12	Lockwasher, 5/16"	x	x	x
16	483453-03	2	Bearing, 1" ID	x	x	x
17	462037	1	Idler Arm Assembly (incl. 16)	x	x	x
18	04001-31	1	Bolt, Hex Head 3/8-16 x 2-1/2"	x	x	x
19	43708	1	Pivot, Idler	x	x	x
20	483375	1	Spring, Cutter Deck Idler	x	x	x
21	04001-136	1	Bolt, Hex Head 3/8-16 x 1-1/2" Gr.8	x	x	x
22	04019-04	4	Nut, 3/8-16 Serrated Flange	x	x	x
23	04021-07	4	Nut, 1/2-13 Elastic Stop	x	x	x
24	48114-04	4	Grease Fitting, 1/4-28 Self Tap	x	x	x
25	462769	1	Pusharm Assembly, LH (incl. 24)	x	x	x
	462770	1	Pusharm Assembly, RH (incl. 24)	x	x	x
26	43985	2	Spacer, Pusharm - Deck	x	x	x
27	43986	2	Spacer, Pusharm - Axle	x	x	x
28	04040-07	2	Flatwasher, 1/2-.531 x 1.062 x .095	x	x	x
29	04001-145	2	Bolt, Hex Head 1/2-13 x 3-1/2"	x	x	x
30	04001-52	2	Bolt, Hex Head 1/2-13 x 2-1/2"	x	x	x
31	04011-29	2	Screw, 1/4-20 x .375"	x	x	
	04013-05	4	Screw, 3/8-16 x 3/4"			x
32	461950	3	Spindle Assembly	x	x	x
33	483304	1	Debris Shield	x	x	x

	Part No.	Qty	Description	48	52	61
34	483303	2	Bearing	x	x	x
35	43693	1	Spacer	x	x	x
36	462014	1	Spindle Housing (incl. 34, 35)	x	x	x
37	43694	1	Protector, Bearing	x	x	x
38	43695	1	Shaft, Spindle	x	x	x
39	04001-121	3	Bolt, Hex Head 5/8-11 x 1-1/2"	x	x	x
40	04030-07	3	Lockwasher, 5/8"	x	x	x
41	04043-06	3	Flatwasher, 5/8-.688 x 1.75 x .134 HD	x	x	x
42	482877	3	Cutter Blade, 16-1/2"	x		
	482878	3	Cutter Blade, 18"		x	
	482879	3	Cutter Blade, 21"			x
43	04001-175	12	Bolt, Hex Head 5/16-18 x 1-1/2" Gr.8	x	x	x
44	04003-26	1	Bolt, Carriage 3/8-16 x 4"	x	x	x
45	481632	1	Wheel, Anti-Scalp	x	x	x
46	04017-27	2	Bolt, Hex Head Serr. Flange 3/8-16 x 1"	x	x	x
47	04021-05	1	Nut, 3/8-16 Center Lock	x	x	x
48	427865	1	Bracket, Anti-Scalp	x	x	x
49	04001-77	3	Bolt, Hex Head 3/8-16 x 3-1/2"	x	x	x
50	04041-38	2	Flatwasher, 3/8-.406 x 2.250 x .188	x	x	x
51	451926	1	Shaft Weldment, Guide Roller	x	x	x
52	482295	2	Wheel, Anti-Scalp	x	x	x
53	04001-09	1	Bolt, Hex Head 5/16-18 x 1"	x	x	x
54	04117-01	1	Nut, 5/16-18 Flange Elastic Stop	x	x	x
55	463334	1	Cutter Deck w/Decals	x		
	463335	1	Cutter Deck w/Decals		x	
	463336	1	Cutter Deck w/Decals			x
56	462031	1	Discharge Chute	x		
	462032	1	Discharge Chute		x	
	462213	1	Discharge Chute			x
57	482245	1	Spring, Discharge Chute	x	x	x
58	04021-10	3	Nut, 5/16-18 Elastic Stop	x	x	x
59	04001-154	1	Bolt, Hex Head 5/16-18 x 4-3/4"	x	x	x
60	04001-12	2	Bolt, Hex Head 5/16-18 x 1-3/4"	x	x	x

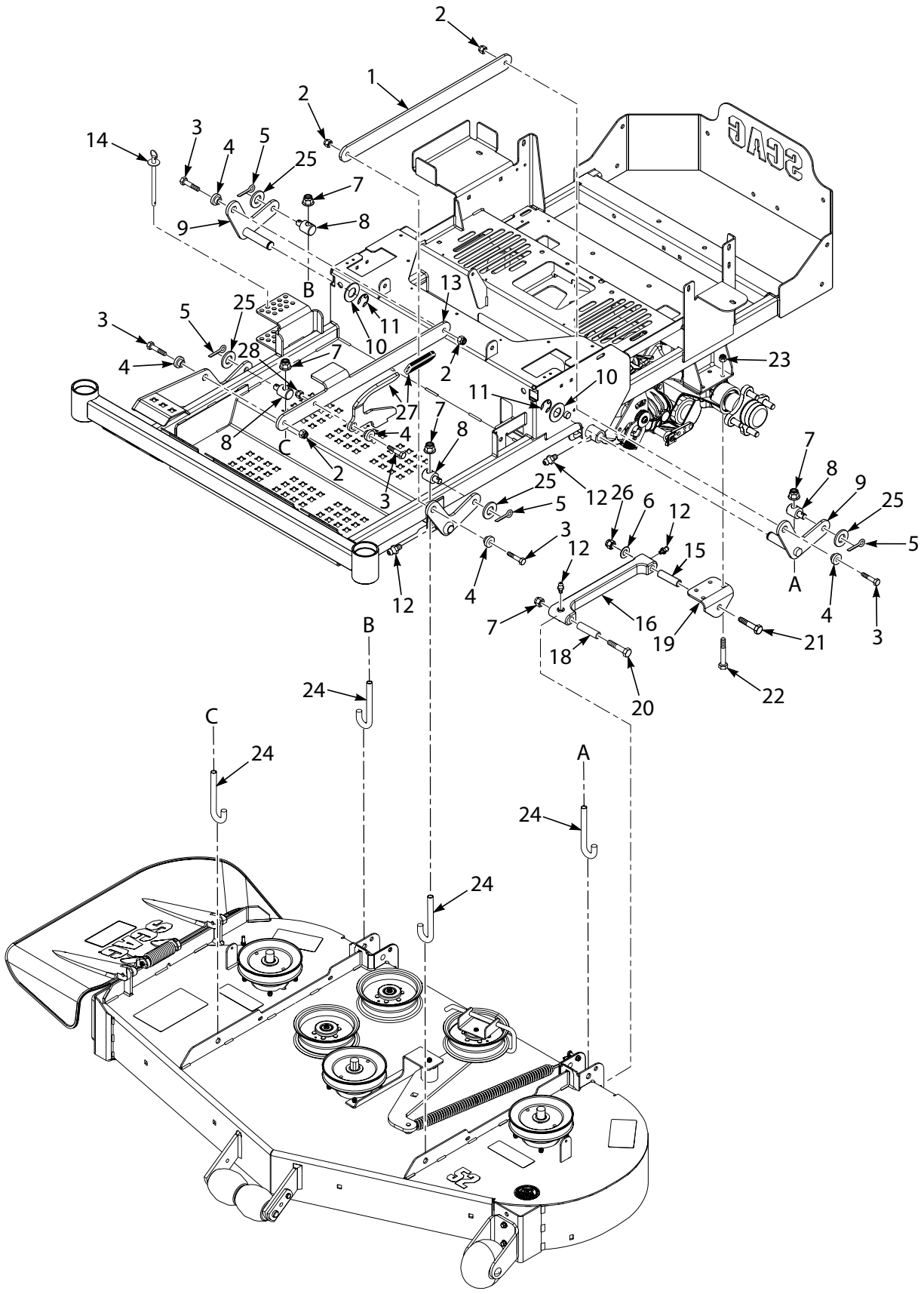
36H & 42H CUTTER DECK CONTROLS



36H & 42H CUTTER DECK CONTROLS

Ref. No.	Part No.	Qty	Description
1	428142	1	Link, Deck Lift - LH
2	04117-02	4	Nut, 3/8-16 Elastic Stop
3	04001-32	4	Bolt, Hex Head 3/8-16 x 1-1/4"
4	43086	4	Bushing
5	04061-07	4	Cotter Pin, 3/16 x 1"
6	04040-07	6	Flatwasher, 1/2-.531 x 1.062 x .095
7	04021-07	4	Nut, 1/2-13 Elastic Stop
8	431072	4	Joint, Swivel
9	452962	2	Lift Bellcrank Weldment
10	04041-08	2	Flatwasher, 3/4-.769 x 1.250 x .0598
11	04050-02	2	Retaining Ring, .750 "E"
12	48114-04	4	Grease Fitting, 1/4-28 Self Tap
13	428143	1	Link, Deck Lift - RH
14	485351	1	Pin Assembly, Deck Height
15	431087	6	Bushing, Deck latch
16	04117-04	6	Nut, 1/2-13 Elastic Stop
17	44220	6	Rod, Deck lift
18	04001-183	4	Bolt, Hex Head 1/2-13 x 1-3/4
19	427302	2	Pull Arm, Deck
20	427303	1	Lateral Link
21	04040-09	4	Flatwasher, 5/18 - .656 x 1.312 x .095
22	04021-09	1	Nut, 3/8-16 Elastic Stop
23	462887	1	Lever Assembly (incl. Grip)
	485718	1	Grip

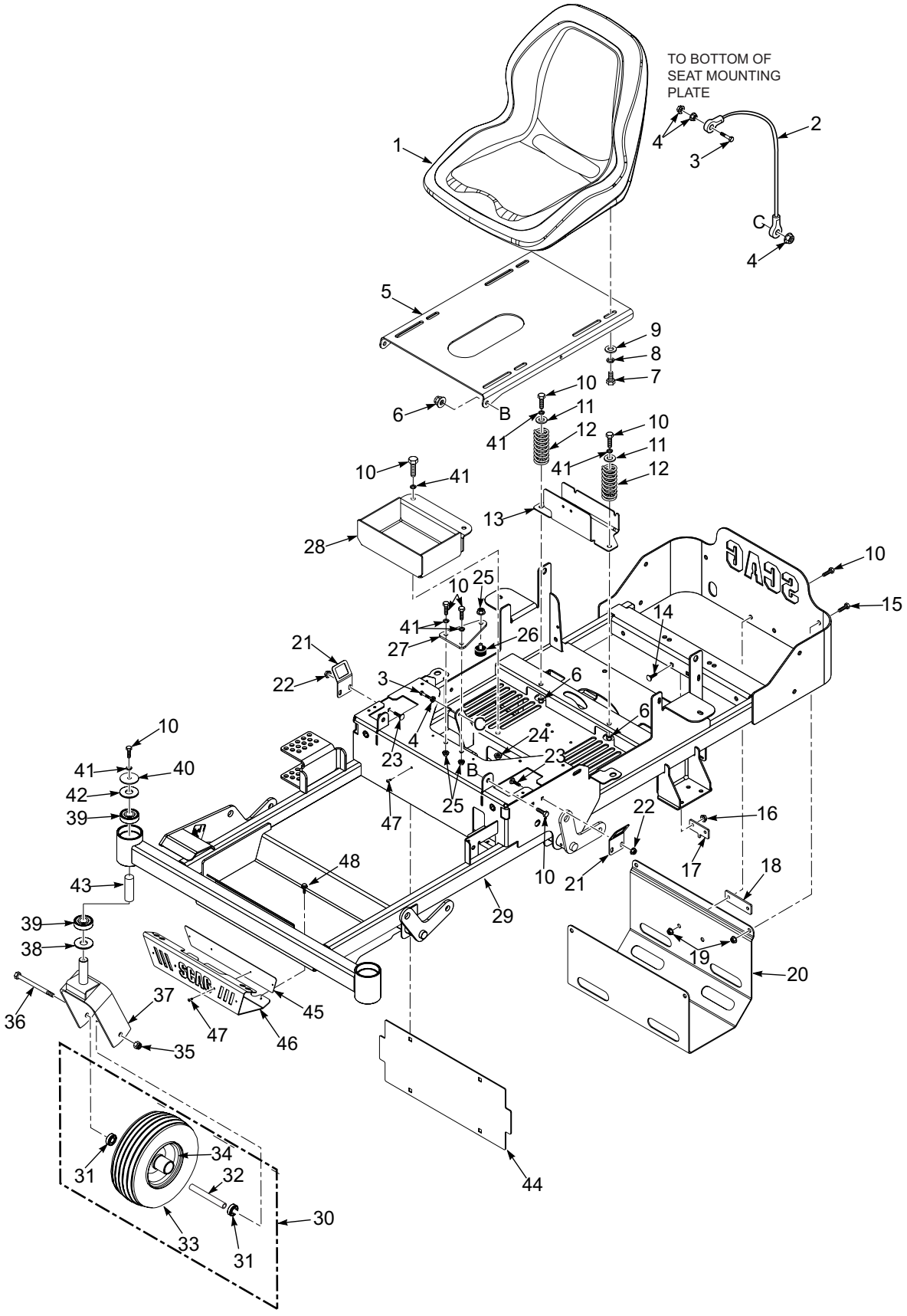
48H, 52H & 61H CUTTER DECK CONTROLS



48H, 52H & 61H CUTTER DECK CONTROLS

Ref. No.	Part No.	Qty	Description
1	428142	1	Link, Deck Lift - LH
2	04117-02	4	Nut, 3/8-16 Elastic Stop
3	04001-32	4	Bolt, Hex Head 3/8-16 x 1-1/4"
4	43086	4	Bushing
5	04061-07	4	Cotter Pin, 3/16 x 1"
6	04040-07	2	Flatwasher, 1/2-.531 x 1.062 x .095
7	04021-07	6	Nut, 1/2-13 Elastic Stop
8	431072	4	Joint, Swivel
9	452962	2	Lift Bellcrank Weldment
10	04041-08	2	Flatwasher, 3/4-.769 x 1.250 x .0598
11	04050-02	2	Retaining Ring, .750 "E"
12	48114-04	8	Grease Fitting, 1/4-28 Self Tap
13	428143	1	Link, Deck Lift - RH
14	485351	1	Pin Assembly, Deck Height
15	43986	2	Spacer, Pusham - Axle
16	462769	1	Pusharm Assembly, LH (incl. 12)
17	462770	1	Pusharm Assembly, RH (incl. 12)
18	43985	2	Spacer, Pusharm - Deck
19	424489	2	Bracket, Pusharm
20	04001-145	2	Bolt, Hex Head 1/2-13 x 3-1/2"
21	04001-52	2	Bolt, Hex Head 1/2-13 x 2-1/2"
22	04001-49	8	Bolt, Hex Head 5/16-18 x 3"
23	04021-10	8	Nut, 5/16-18 Elastic Stop
24	44220	4	Rod, Deck Lift
25	04040-09	4	Washer, Flat, 5/8 - .656 x 1.312 x .095
26	04021-19	2	Nut, 1/2-13 Center Lock
27	462887	1	Lever Assembly (incl. Grip)
	485718	1	Grip
28	04021-09	1	Nut, 3/8-16 E;astic Stop

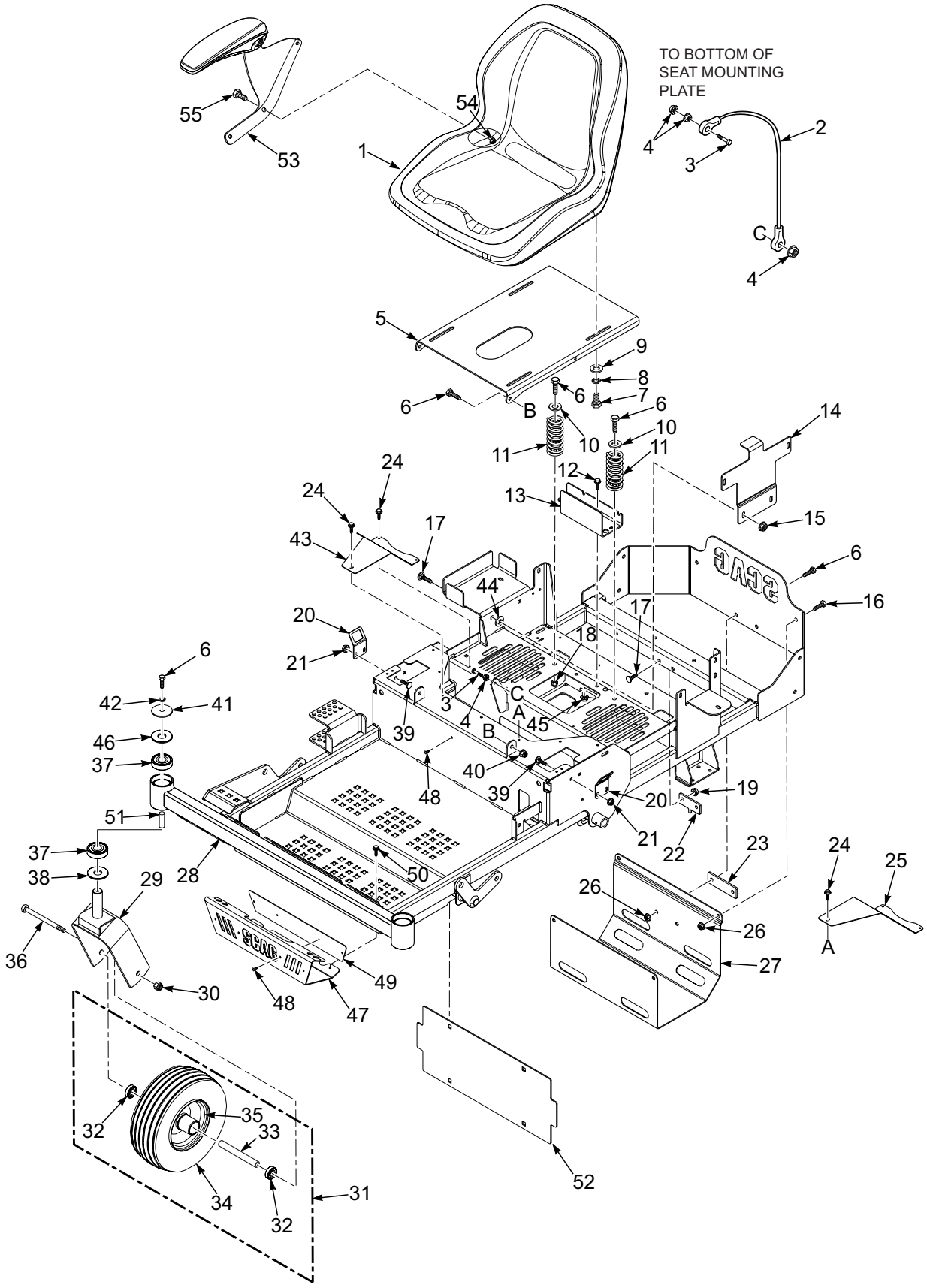
36H & 42H SHEET METAL COMPONENTS



36H & 42H SHEET METAL COMPONENTS

Ref. No.	Part No.	Qty	Description
1	486499	1	Seat, SZL
2	483559	1	Cable, Seat Stop
3	04001-59	2	Bolt, Hex Head 1/4-20 x 1-1/4"
4	04019-02	4	Nut, 1/4-20 Serrated Flange
5	463384	1	Seat-Plate W/Decal
6	04117-02	2	Nut, Flanged Elastic Stop, 3/8-16
7	04001-09	4	Bolt, Hex Head 5/16-18 x 1"
8	04030-03	4	Lockwasher, 5/16"
9	04040-15	4	Flatwasher, 5/16-.375 x .875 x .083
10	04001-19	10	Bolt, Hex Head 3/8-16 x 1"
11	04041-07	2	Flatwasher, 3/8-.391 x .938 x .105
12	483372	2	Spring, Seat
13	427341	1	Seat Stop
14	04003-12	2	Bolt, Carriage 5/16-18 x 3/4"
15	04001-18	4	Bolt, Hex Head 3/8-16 x 3/4"
16	04117-01	2	Nut, 5/16-18 Elastic Stop
17	427961	1	Plate, Anti-Rotation
18	428187	1	Plate, Spacer
19	04019-04	6	Nut, 3/8-16 Serrated Flange
20	428131	1	Skid Plate, SZL-36
21	426727	2	Bracket, Switch
22	04117-03	4	Nut, 1/4-20 Flange Elastic Stop
23	04003-02	4	Bolt, Carriage 1/4-20 x 3/4"
24	04132-01	2	Threaded Insert, 3/8-16
25	04132-01	3	Threaded Insert, 3/8-16
26	481284	1	Bumper, Rubber
27	428183	1	Battery Hold Down
28	428186	1	Battery Box
29	463349	1	Frame Assembly, SZL-36H & SZL42H
30	485207	2	Caster Wheel Assembly (incl. 31, 32, 33, 34)
31	485243	4	Bearing
32	43974	2	Spacer, Wheel Bearings
33	483417	2	Tire, 11 x 4 x 5
34	485242	2	Rim Assembly (incl. 31, 32)
35	04021-07	2	Nut, 1/2-13 Elastic Stop
36	04001-80	2	Bolt, Hex Head 1/2-13 x 6-1/2"
37	463183	2	Caster Assembly (INCL 30,35,36)
	453060	2	Yoke Weldment, Caster
38	424636	2	Spacer, Yoke
39	483466	4	Bearing
40	04041-38	2	Flatwasher, 3/8-.406 x 2.25 x .188
41	04030-04	8	Lockwasher, 3/8"
42	04040-11	2	Flatwasher, 7/16-.500 x 1.25 x .83
43	43736	2	Spacer, Caster Bearing
44	428141	1	Plate, Backing
45	427875	1	Plate, Decal
46	427868	1	Bumper, Front
47	04090-03	6	Pop, Rivet 3/16 x .402
48	04011-29	4	Screw, 1/4-20 x .375 Shakeproof

48H, 52H & 61H SHEET METAL COMPONENTS

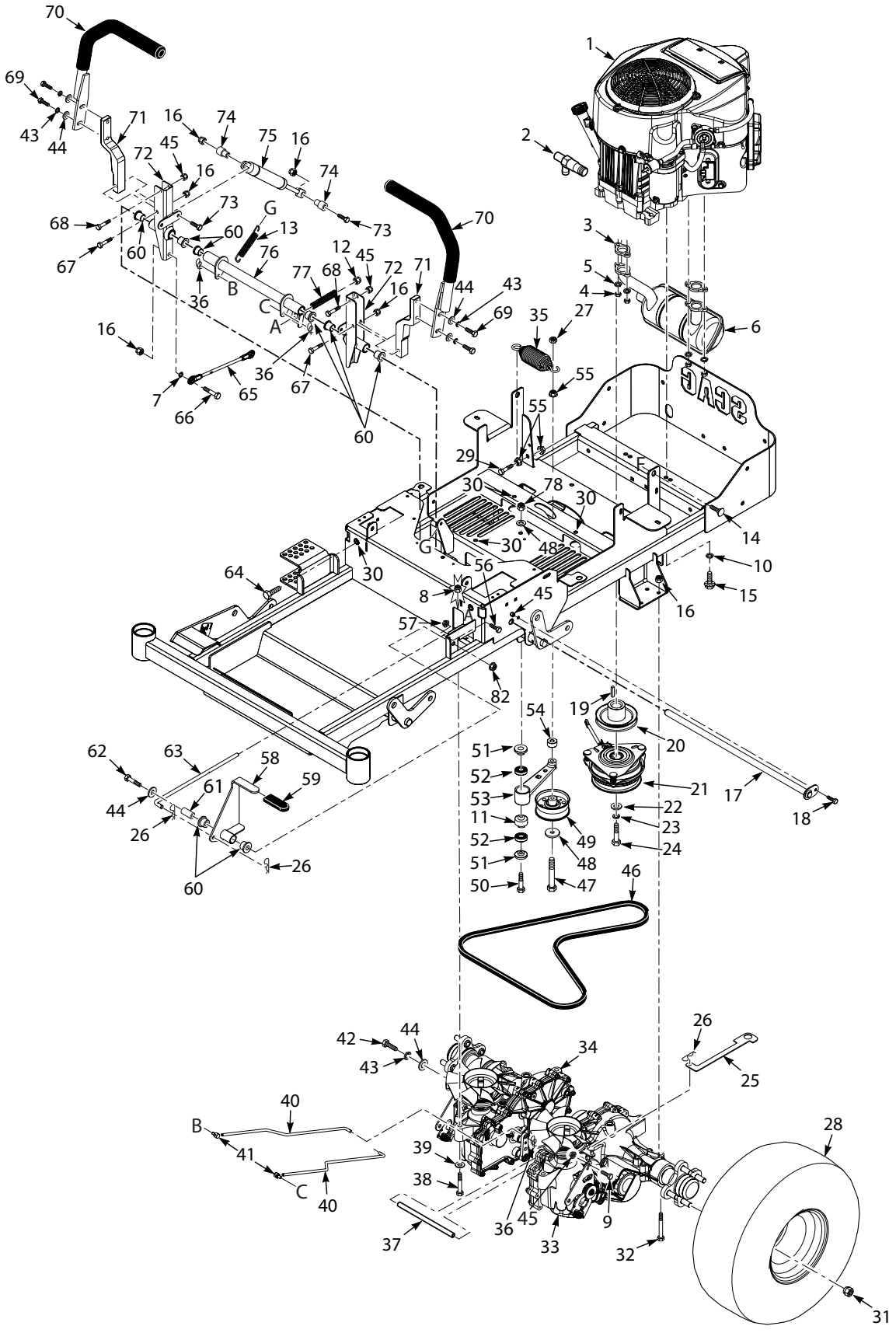


48H, 52H & 61H SHEET METAL COMPONENTS

	Part No.	Qty	Description
1	486602	1	Seat, SZL w/Armrests
	486633	1	Armrest, RH (48H, 52H, 61H)
	486634	1	Armrest, LH (48H, 52H, 61H)
2	483559	1	Cable, Seat Stop
3	04001-59	2	Bolt, Hex Head 1/4-20 x 1-1/4"
4	04019-02	4	Nut, 1/4-20 Serrated Flange
5	463384	1	Seat Plate w/Decal
6	04001-19	8	Bolt, Hex Head 3/8-16 x 1"
7	04001-09	4	Bolt, Hex Head 5/16-18 x 1"
8	04030-03	4	Lockwasher, 5/16"
9	04040-15	4	Flatwasher, 5/16-.375 x .875 x .083
10	04041-07	2	Flatwasher, 3/8-.391 x .938 x .105
11	483372	2	Spring, Seat
12	04017-16	2	Bolt, Hex Head 5/16-18 x 3/4" Serrated Flange
13	426768	1	Channel, Hose
14	428184	1	Battery Hold Down
15	04117-01	2	Nut, 5/16-18 Flange Elastic Stop
16	04001-18	4	Bolt, Hex Head 3/8-16 x 3/4"
17	04003-12	4	Bolt, Carriage 5/16-18 x 3/4"
18	04021-09	2	Nut, 3/8-16 Elastic Stop
19	04117-01	2	Nut, 5/16-18 Flange Elastic Stop
20	426727	2	Bracket, Switch
21	04117-03	4	Nut, 1/4-20 Flange Elastic Stop
22	427961	1	Plate, Anti-Rotation
	428752	1	Plate, Anti-Rotation - Warner (SZL-48)
23	428187	1	Plate, Spacer
24	04011-11	6	Screw, #10-32 x .56
25	426767	1	Guard, Belt - LH
26	04019-04	6	Nut, 3/8-16 Serrated Flange
27	428132	1	Skid Plate, SZL
28	463421	1	Mainframe w/Decals - SZL48H/52H
	463422	1	Mainframe w/Decals - SZL61H
29	463184	2	Caster Assembly (INCL 30,31,36)
	453010	2	Yoke Weldment, Caster
30	04021-07	2	Nut, 1/2-13 Elastic Stop

	Part No.	Qty	Description
31	485939	2	Caster Wheel Assembly (incl. 32, 33, 34, 35)
32	485243	4	Bearing
33	431052	1	Spacer, Wheel Bearing
34	485941	1	Tire, 11 x 6 x 5
35	485940	1	Rim Assembly (incl. 32, 33)
36	04001-134	2	Bolt, Hex Head 1/2-13 x 6-1/2"
37	483466	4	Bearing
38	424636	2	Spacer, Yoke
39	04003-02	4	Bolt, Carriage 1/4-20 x 3/4"
40	04117-02	2	Nut, 3/8-16 Flange Elastic Stop
41	04041-38	2	Flatwasher, 3/8-.406 x 2.25 x .188
42	04030-04	2	Lockwasher, 3/8"
43	426785	1	Guard, Belt - RH
44	04024-03	2	U-Nut, 5/16 Push-On
45	04019-03	2	Nut, 5/16-18 Serrated Flange
46	04040-11	2	Flatwasher, 7/16-.500 x 1.25 x .83
47	427868	1	Bumper, Front
48	04090-03	4	Rivet, 3/16 x .402
49	427875	1	Plate, Decal
50	04011-29	4	Screw, 1/4-20 x .375
51	43736	2	Spacer, Caster Bearing
52	428141	1	Plate, Backing
53	486633	1	Armrest, SZL LH
	486634		Armrest, SZL RH
54	04110-06	6	U-nut, 1/4-14
55	04011-32	6	Screw, Self Tapping 1/4-14 x 1"
56	04003-12	7	Bolt, Carriage 5/16-18 x 3/4"
57	453255	1	Mounting Weldment, Axle - Tuff Torq
	453454	1	Mounting Weldment, Axle - Hydro-Gear

36H & 42H DRIVE SYSTEM COMPONENTS - HYDRO-GEAR AXLES



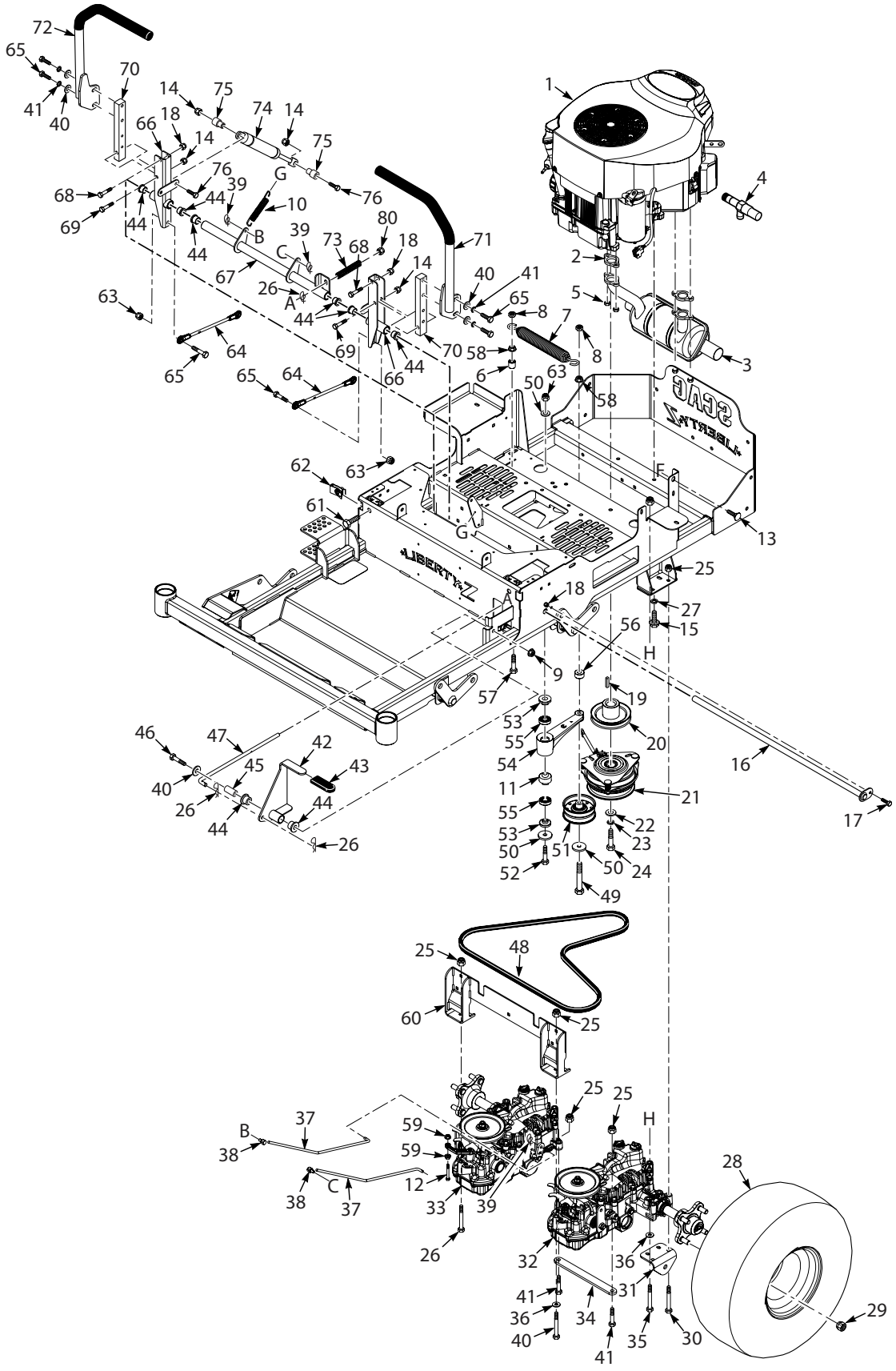
36H & 42H DRIVE SYSTEM COMPONENTS - HYDRO-GEAR AXLES

	Part No.	Qty	Description
1	*485192	1	Engine, Kawasaki - FR600V (INCL. 3,4,5)
	*487153	1	Engine, Briggs & Stratton PXi2000
	*487203	1	Engine, Briggs & Stratton PXi2200
	*485219	1	Engine, Kawasaki - FR651V (INCL. 3,4,5)
	487171	1	Engine, Scag LC2P77F
2	*	1	Oil Drain, Kawasaki
3	484210	2	Gasket, Exhaust
4	04025-04	4	Nut, M8 x 1.25 Hex Special
5	04033-01	4	Lockwasher, M8 Metric Spring
6	485193	1	Muffler, Kawasaki FR600V
	487151	1	Muffler, Briggs & Stratton PXi
	485225	1	Muffler, Kawasaki FR651V
	487170	1	Muffler, Scag LC2P77F/82F
7	04030-03	4	Washer, Lock 5/16 Spring
8	04117-01	2	Nut, 5/16-18 Flanged Elastic Stop
9	04001-04	4	Bolt, Hex Head, 1/4-20 x 1½"
10	04030-04	1	Washer, Lock 3/8 Spring
	04031-03	1	Washer, Lock 5/16 Ext Tooth (ground)
11	431073	1	Spacer, Idler Arm
12	04117-02	1	Nut, 3/8-16 Flange Elastic Stop
13	483600	2	Spring, Brake Return
14	04003-02	4	Bolt, Carriage 1/4-20 x 3/4"
15	04001-32	14	Bolt, Hex Head 3/8-16 x 1¼"
16	04021-10	1	Nut, 5/16-18 Elastic Stop
17	452847	1	Shaft Weldment, Control Arm
18	04001-06	1	Bolt, Hex Head 1/4-20 x 5/8"
19	04063-01	1	Key, 1/4 x 1/4 x 1-1/4"
20	485956	1	Pulley, 4-1/2" - 1" Bore
21	462715	1	Clutch, GT1- 1" Bore
22	04041-28	1	Flatwasher, 7/16-.496 x 1.75 x .25
23	04030-05	1	Lockwasher, 7/16"
24	04102-12	2	Bolt, 7/16-20 x 3-1/4" w/Patch
25	427283	4	Lever, Dump Valve
26	04062-02	1	Hair Pin Cotter, .080 x 1.19
27	04021-05	2	Nut, 3/8-16 Center Lock
28	485801	2	Wheel Assembly, 20 x 8.0-10 (36H)
	485802	2	Rim W/Valve Stem 10 x 5.0 (36H)
	485803	2	Tire, 20 x 8.0-10 (36H)
	485948	2	Wheel Assembly, 20 x 10-10 (42H)
	485949	2	Rim W/Valve Stem 10 x 7.0 (42H)
	485950	1	Tire, 20 x 10-10 (42H)
29	04001-136	8	Bolt, Hex Head 3/8-16 x 1-1/2"
30	04132-01	8	Threaded insert, Hex Head (Pressed)
31	04028-02	8	Wheel Nut, 1/2-20 x 13/16
32	04001-13	1	Bolt, Hex Head 3/8-16 x 1-1/2"
33	486787	1	Transaxle, LH- ZT-2800
34	486788	1	Transaxle, RH- ZT2800
35	483112	4	Spring, Transmission Drive
36	04069-01	1	Pin, Rue Cotter - 3/8"
37	431039	4	Spacer, Axle
38	04001-39	4	Bolt, Hex Head 5/16-18 x 2-1/4
39	04040-15	2	Flatwasher, 5/16-.375 x .875 x .083
40	44225	2	Rod, Brake
41	43876	2	Joint, Swivel
42	04001-46	6	Bolt, Hex Head 1/4-20 x 1-1/2
43	04030-04	7	Lockwasher, 3/8"
44	04041-07	5	Flatwasher, 3/8-.391 x .938 x .105

	Part No.	Qty	Description
46	485808	1	Belt, Transmission SZL-36/42
47	04001-51	1	Bolt, Hex Head 3/8-16 x 3-3/4"
48	04043-04	2	Flatwasher, 3/8-.391 x .938 x .105
49	486045	1	Pulley, 3-1/2" Idler
50	04001-54	1	Bolt, Hex Head 3/8-16 x 3"
51	431049	2	Pivot Idler
52	48224	2	Bearing
53	463017	1	Idler Arm Assembly (incl. 52, 83)
54	43720	1	Spacer, Idler Arm
55	04019-04	4	Nut, 3/8-16 Serrated Flange
56	04001-11	1	Bolt, Hex Head 5/16-18
57	04117-02	1	Nut, 3/8-16 Flange Elastic Stop
58	463186	1	Brake Lever Assembly (INCL 59,60)
59	482102	1	Grip, Brake Handle
60	483453-05	8	Bearing
61	43969	1	Pivot, Brake Lever
62	04001-31	1	Bolt, Hex Head 3/8-16 x 2-1/2"
63	44231	1	Rod, Upper Brake Linkage
64	04107-08	2	Bolt, Hex Head 3/8-16 x 3.0
65	485794	2	Linkage Assembly, Steering
66	04001-10	2	Bolt, Hex Head 5/16-18 x 1-1/4
67	04001-12	2	Bolt, Hex Head 5/16-18 x 1-3/4"
68	04001-02	2	Bolt, Hex Head 1/4-20 x 1-3/4"
69	04001-19	4	Bolt, Hex Head 3/8-16 x 1"
70	463163	2	Handlebar W/ Grip, SZL-36
71	485835	2	Lever, Control Arm
72	462941	2	Control Arm Weldment, SZL-36 (INCL 60)
73	04001-17	4	Bolt, Hex Head 5/16-18 x 1-1/2"
74	43833	4	Spacer, Pump Dampener
75	484193	2	Dampener
76	463023	1	Bellcrank Assembly, Brake (INCL 60)
77	483538	1	Spring, Brake
78	04021-09	2	Nut, 3/8-16 x 16 Elastic Stop

* Available through individual engine manufacturer.

48H, 52H & 61H DRIVE SYSTEM COMPONENTS - TUFF TORQ AXLES



48, 52H & 61H DRIVE SYSTEM COMPONENTS - TUFF TORQ AXLES

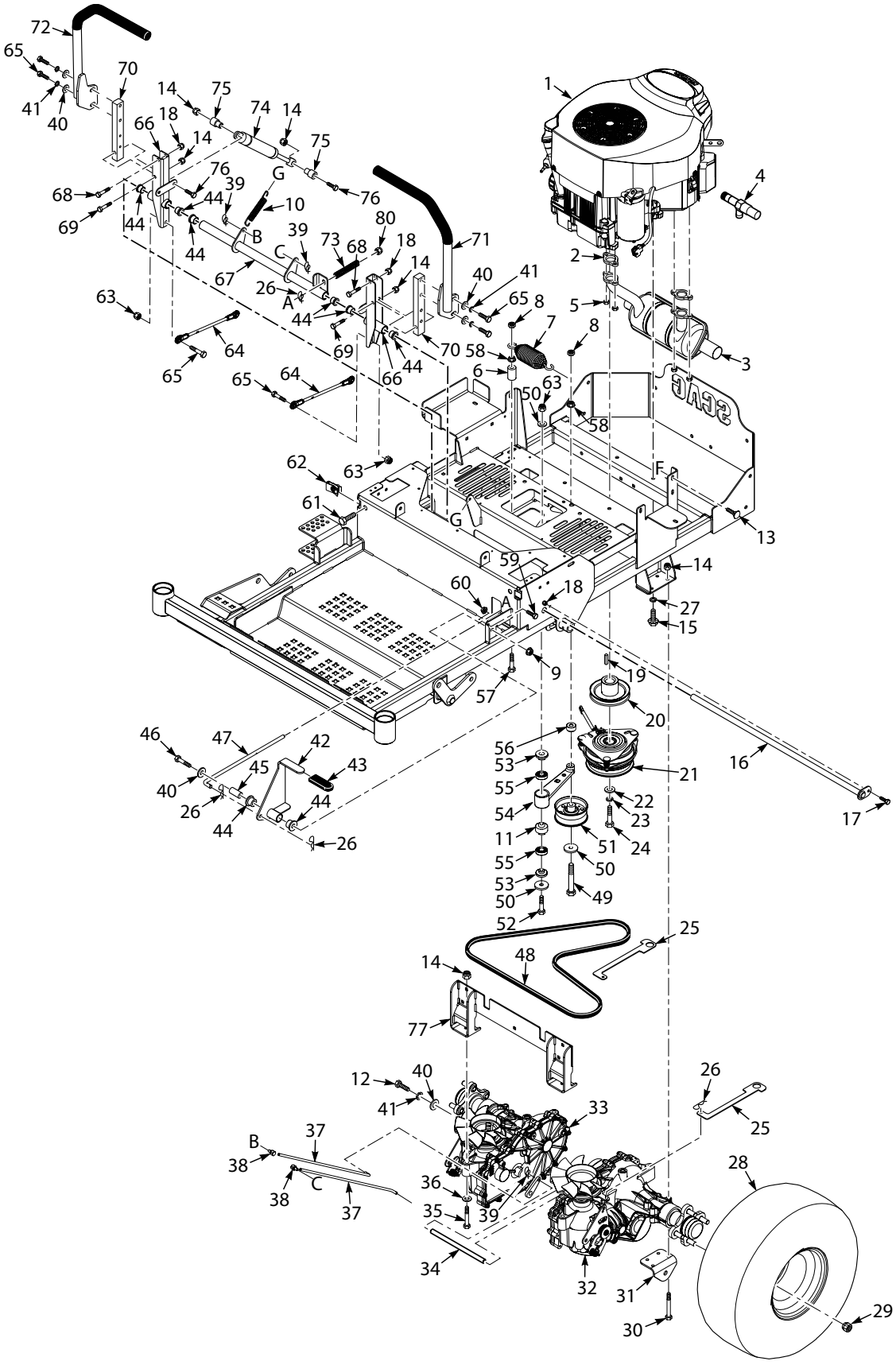
	Part No.	Qty	Description
1	*485219	1	Engine, Kawasaki - FR651V
	*487203	1	Engine, Briggs & Stratton PXi2200
	487171	1	Engine, Scag LC2P77F
	*485971	1	Engine, Kohler - 22KT
	*485972	1	Engine, Kohler - 24KT
	*487204	1	Engine, Briggs & Stratton PXi2400
	*485220	1	Engine, Kawasaki - FR691V
	*487205	1	Engine, Briggs & Stratton PXi2500
	*486809	1	Engine, Kawasaki - FR730V
	*486021	1	Engine, Kohler - 26KT
	487173	1	Engine, Scag LC2P82F
2		2	Gasket, Exhaust
3	485225	1	Muffler, Kawasaki FR651V
	487151	1	Muffler, Briggs & Stratton PXi
	487170	1	Muffler, Scag LC2P77F/82F
	485336	1	Muffler, Kohler
4	*	1	Oil Drain, Kawasaki
	482510	1	Oil Drain, Hose Assy.
5	04025-04	4	Nut, M8-1.25 Hex Flange
6	43674	1	Spacer
7	483112	1	Spring, Transmission Drive
8	04021-05	2	Nut, 3/8-16 Center Lock
9	04117-02	2	Nut, 3/8-16 Flange Elastic Stop
10	483600	1	Spring, Brake Return
11	431073	1	Spacer, Idler Arm
12	04001-46	2	Bolt, 3/8-16 x 2¼"
13	04003-02	2	Bolt, Carriage 1/4-20 x 3/4"
14	04021-10	18	Nut, 5/16-18 Elastic Stop
15	04001-32	4	Bolt, 3/8-16 x 1-1/4"
16	452620	1	Shaft Weldment, Control Arm
17	04001-06	1	Bolt, Hex Head 1/4-20 x 5/8"
18	04021-08	3	Nut, 1/4-20 Elastic Stop
19	04063-01	1	Key, 1/4 x 1/4 x 1-1/4" (48H, 52H)
	04063-42	1	Key, 1/4 x 1/4 x 3" (61H)
20	487032	1	Pulley, 4-1/2" - 1" Bore
	487394	1	Pulley, 4-1/4" - 1-1/8" Bore (61H)
21	487077	1	Clutch
	462228	1	Clutch, GT2 (61H)
22	04030-05	1	Flatwasher, 7/16-.496 x 1.75 x .25
23	04102-12	1	Lockwasher, 7/16"
24	04102-12	1	Bolt, 7/16-20 x 3 1/4" w/Patch
	04102-03	1	Bolt, 7/16-20 x 2 1/4" w/Patch (61H)
25	04117-01	12	Nut, 5/16-18 Flange Elastic Stop
26	04001-39	1	Bolt, Hex Head 5/16-18 x 2-1/4"
27	04030-04	4	Washer, Lock 3/8 Spring
	04031-03	1	Washer, Lock 5/16 Ext Tooth (ground)
28	483390	2	Wheel Assembly
	481868	1	Rim w/Valve Stem
	483389	1	Tire, 20 x 10-8
	485948	1	Wheel Assembly (61H)
	485949	1	Rim w/Valve Stem (61H)
	485948	1	Tire, 20 x 10-10 (61H)

	Part No.	Qty	Description
29	04028-02	8	Wheel Nut, 1/2-20 x 13/16
30	04001-49	8	Bolt, Hex Head 5/16-18 x 3"
31	428348	2	Bracket, Pusharm
32	486650	1	Transaxle - Tuff Torq, LH - SZL
33	486651	1	Transaxle - Tuff Torq, RH - SZL
34	428891	1	Stiffener, Axle
35	04001-39	4	Bolt, Hex Head 5/16-18 x 2-1/4"
36	04040-15	6	Flatwasher, 5/16-.375 x .875 x .083
37	44244	1	Rod, Brake - LH
	44245	1	Rod, Brake - RH
38	43876	2	Joint, Swivel
39	04069-01	4	Pin, Rue Cotter - 3/8"
40	04001-39	1	Bolt, Hex Head 5/16-18 x 2-1/4"
41	04001-21	2	Bolt, Hex Head 3/8-16 x 1-3/4"
42	463187	1	Brake Lever Assembly (incl. 43, 44)
43	482102	1	Grip, Brake Handle
44	483453-05	8	Bearing
45	43969	1	Pivot, Brake Lever
46	04001-31	1	Bolt, Hex Head 3/8-16 x 2-1/2"
47	44231	1	Rod, Upper Brake Linkage
48	486649	1	Belt, Tuff Torq Transmission-SZL
49	04001-51	1	Bolt, Hex Head 3/8-16 x 3-3/4"
50	04043-04	3	Flatwasher, 3/8-.391 x .938 x .105 HD
51	486045	1	Pulley, 3-1/2" Idler
52	04001-54	1	Bolt, Hex Head 3/8-16 x 3"
53	431049	2	Pivot Idler
54	463017	1	Idler Arm Assembly (incl. 55, 84)
55	48224	2	Bearing
56	43720	1	Spacer, Pump Idler
57	04001-45	1	Bolt, Hex Head 3/816 x 2"
58	04019-04	2	Nut, 3/8-16 Serrated Flange
59	04019-02	4	Nut, 1/4-20 Serrated Flange
60	453255	1	Mounting Weldment, Tuff Torq Axle - Front
61	04107-05	2	Bolt, Hex Head 3/8-16 x 2-1/2" Special
62	04110-04	2	Lock
63	04021-09	6	U-Nut, 3/8-16
64	486691	2	Nut, 3/8-16 Elastic Stop
65	04001-32	8	Linkage, Pump
66	462797	2	Bolt, Hex Head 3/8-16 x 1-1/4"
67	463019	1	Control Arm Assembly (incl. 44)
68	04001-02	2	Bellcrank Assembly (incl. 44)
69	04001-12	2	Bolt, Hex Head 1/4-20 x 1-3/4"
70	422372	2	Bolt, Hex Head 5/16-18 x 1-3/4"
71	462740	1	Bar, Control Lever
	484376	1	Handlebar w/Grip
72	462741	1	Grip, Control Lever
	484376	1	Handlebar w/Grip
73	483538	1	Grip, Control Lever
74	484193	2	Spring, Brake
75	43602	4	Dampener, Steering
76	04001-11	4	Spacer, Damper
			Bolt, Hex Head 5/16-18

* Available through individual engine manufacturer.

Serial Number Range for SZL-61H models produced with Tuff Torq TZ-450 Axles:		
SZL-61H-24FR	**with a serial number of**	**X1700001 to X1799999**
SZL-61H-25PX	**with a serial number of**	**X1900001 to X1999999**
SZL-61H-26KT	**with a serial number of**	**X2100001 to X2199999**
SZL-61H-27SR	**with a serial number of**	**X2300001 to X2399999**
Always use the entire serial number listed on the serial number tag when referring to this product.		

61H DRIVE SYSTEM COMPONENTS - HYDRO-GEAR AXLES



61H DRIVE SYSTEM COMPONENTS - HYDRO-GEAR AXLES

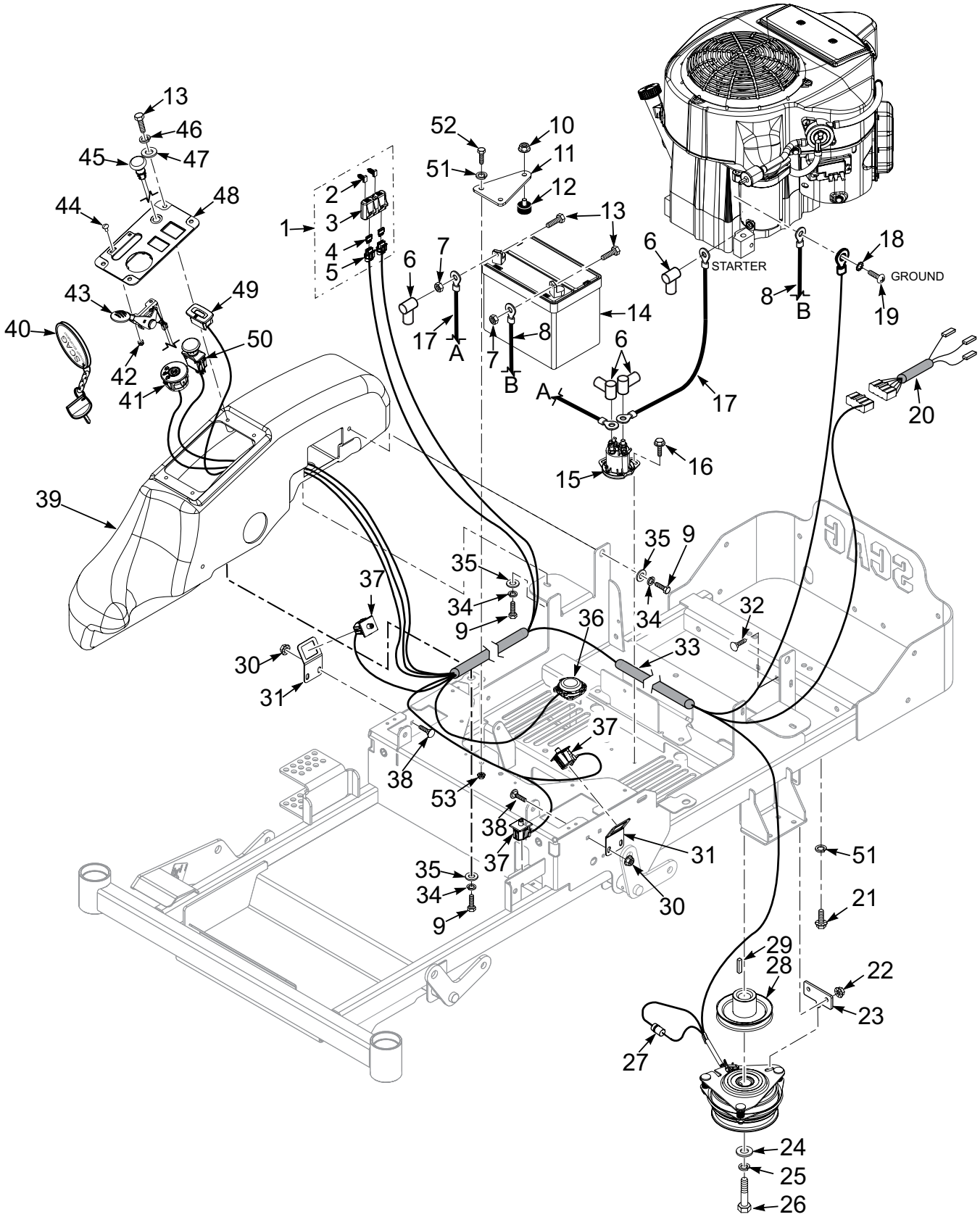
	Part No.	Qty	Description
1	*487205	1	Engine, Briggs & Stratton PXi2500
	*486809	1	Engine, Kawasaki - FR730V
	*486021	1	Engine, Kohler - 26KT
	487173	1	Engine,Scag LC2P82F
2	*	2	Gasket, Exhaust
3	485225	1	Muffler, Kawasaki FR
	485336	1	Muffler, Kohler
	487151	1	Muffler, Briggs & Stratton PXi
	487170	1	Muffler, Scag LC2P77F/82F
4	*	1	Oil Drain, Kawasaki
	482510	1	Oil Drain, Hose Assy.
5	04025-04	4	Nut, M8-1.25 Hex Flange
6	43674	1	Spacer
7	483112	1	Spring, Transmission Drive
8	04021-05	2	Nut, 3/8-16 Center Lock
9	04117-02	2	Nut, 3/8-16 Flange Elastic Stop
10	483600	1	Spring, Brake Return
11	431073	1	Spacer, Idler Arm
12	04001-46	2	Bolt, 3/8-16 x 2¼"
13	04003-02	2	Bolt, Carriage 1/4-20 x 3/4"
14	04021-10	18	Nut, 5/16-18 Elastic Stop
15	04001-32	4	Bolt, 3/8-16 x 1-1/4"
16	452620	1	Shaft Weldment, Control Arm
17	04001-06	1	Bolt, Hex Head 1/4-20 x 5/8"
18	04021-08	3	Nut, 1/4-20 Elastic Stop
19	04063-42	1	Key, 1/4 x 1/4 x 3" (SZL-61)
20	486326	1	Pulley, 4-1/2" - 1.125" Bore (SZL-61)
21	462228	1	Clutch, GT2 (SZL-61)
22	04041-28	1	Flatwasher, 7/16-.496 x 1.75 x .25
23	04030-05	1	Lockwasher, 7/16"
24	04102-12	1	Bolt, 7/16-20 x 2 1/4" w/ Patch (SZL-61)
25	426592	2	Lever, Dump Valve
26	04062-02	5	Hair Pin Cotter, .080 x 1.19
27	04030-04	4	Washer, Lock 3/8 Spring
	04031-03	1	Washer, Lock 5/16 Ext Tooth (ground)
28	485948	2	Wheel Assembly (SZL-61)
	485949	1	Rim w/Valve Stem (SZL-61)
	485948	1	Tire, 20 x 10-10 (SZL-61)
29	04028-02	8	Wheel Nut, 1/2-20 x 13/16
30	04001-49	8	Bolt, Hex Head 5/16-18 x 3"
31	424489	2	Bracket, Pusharm
32	486791	1	Transaxle, LH - SZL-61
33	486792	1	Transaxle, RH - SZL-61
34	43984	1	Spacer
35	04001-39	4	Bolt, Hex Head 5/16-18 x 2-1/4"
36	04040-15	6	Flatwasher, 5/16-.375 x .875 x .083
37	44218	2	Rod, Brake
38	43876	2	Joint, Swivel

	Part No.	Qty	Description
39	04069-01	4	Pin, Rue Cotter - 3/8"
40	04041-07	7	Flatwasher, 3/8-.391 x .938 x .105
41	04030-04	6	Lockwasher, 3/8"
42	463187	1	Brake Lever Assembly (incl. 43, 44)
43	482102	1	Grip, Brake Handle
44	483453-05	8	Bearing
45	43969	1	Pivot, Brake Lever
46	04001-31	1	Bolt, Hex Head 3/8-16 x 2-1/2"
47	44219	1	Rod, Upper Brake Linkage
48	485349	1	Belt, Transmission-SZL
49	04001-51	1	Bolt, Hex Head 3/8-16 x 3-3/4"
50	04043-04	3	Flatwasher, 3/8-.391 x .938 x .105 HD
51	486045	1	Pulley, 3-1/2" Idler
52	04001-54	1	Bolt, Hex Head 3/8-16 x 3"
53	431049	2	Pivot Idler
54	463017	1	Idler Arm Assembly (incl. 55, 84)
55	48224	2	Bearing
56	43720	1	Spacer, Pump Idler
57	04001-45	1	Bolt, Hex Head 3/816 x 2"
58	04019-04	2	Nut, 3/8-16 Serrated Flange
59	04001-14	1	Bolt, Hex Head 1/4-20 x 1"
60	04019-02	1	Nut, 1/4-20 Serrated Flange
61	04107-05	2	Bolt, Hex Head 3/8-16 x 2-1/2" Special
62	04110-04	2	Lock
63	04021-09	6	U-Nut, 3/8-16
64	485312	2	Nut, 3/8-16 Elastic Stop
65	04001-32	8	Linkage, Pump
	04001-21	4	Bolt, Hex Head 3/8-16 x 1-1/4"
66	462797	2	Bolt, Hex Head 3/8-16 x 1-3/4"(used when armrests are installed)
67	463019	1	Control Arm Assembly (incl. 44)
68	04001-02	2	Bellcrank Assembly (incl. 44)
69	04001-12	2	Bolt, Hex Head 1/4-20 x 1-3/4"
70	422372	2	Bolt, Hex Head 5/16-18 x 1-3/4"
71	462740	1	Bar, Control Lever
	484376	1	Handlebar w/Grip
72	462741	1	Grip, Control Lever
	484376	1	Handlebar w/Grip
73	483538	1	Grip, Control Lever
74	484193	2	Spring, Brake
75	43602	4	Dampener, Steering
76	04001-11	4	Spacer, Damper
77	453454	1	Bolt, Hex Head 5/16-18 Mounting Weldment, Axle - Hydro-Gear

* Available through individual engine manufacturer.

Serial Number Range for SZL-61H models produced with produced with Hydro-Gear ZT-3100 Axles:		
SZL-61H-24FR	**with a serial number of**	**X1600001 to X1699999**
SZL-61H-25PX	**with a serial number of**	**X1800001 to X1899999**
SZL-61H-26KT	**with a serial number of**	**X2000001 to X2099999**
SZL-61H-27SR	**with a serial number of**	**X2200001 to X2299999**
Always use the entire serial number listed on the serial number tag when referring to this product.		

36 & 42 ELECTRICAL SYSTEM

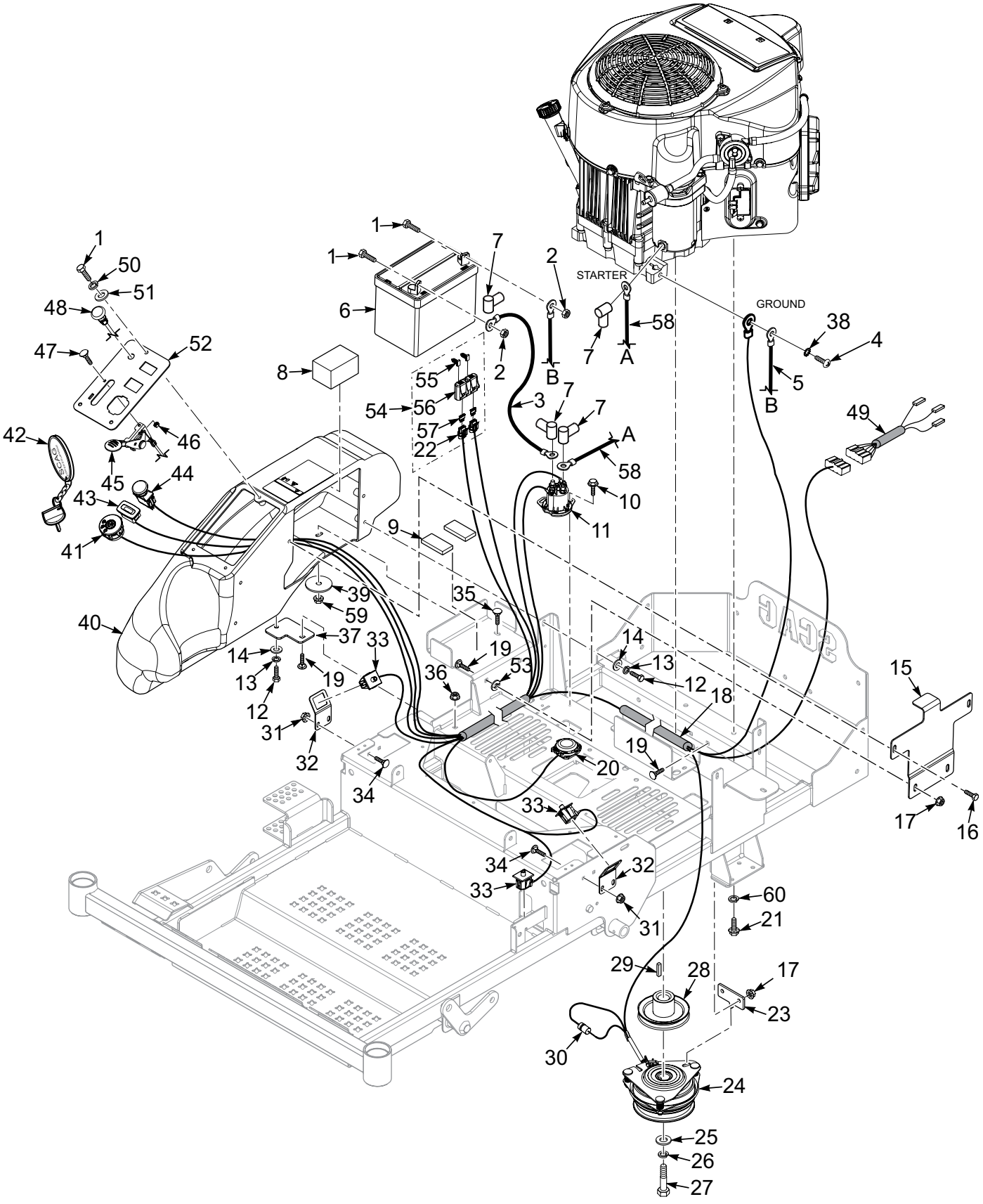


36 & 42 ELECTRICAL SYSTEM

Ref. No.	Part No.	Qty	Description
1	483642	1	Double Fuse Assembly (incl. 2, 3, 4, 5)
2	482588	2	Clip, Wire
3	483571	1	Cover, Double
4	48298	2	Fuse, 20 Amp
5	483629	2	Fuse Holder
6	48126	4	Rubber Boot
7	04020-02	2	Nut, 1/4-20 UNC
8	48029-14	1	Battery Cable, Black 31.50
9	04001-08	4	Bolt, Hex Head 5/16-18 x 3/4"
10	04019-03	1	Nut, 5/16-18 Serrated Flange
11	428183	1	Battery Hold Down
12	481284	1	Bumper, Rubber
13	04001-44	6	Bolt, Hex Head 1/4-20 x 1/2"
14	485212*	1	Battery, 12v - 230CCA
15	483278	1	Solenoid, Sealed
16	04011-14	2	Screw, Self-Tapping 1/4-20 x 3/4
17	48029-29	2	Battery Cable, Red 18.0 w/Braid
18	04031-03	1	Lockwasher, 5/16" Ext.
19	04002-06	1	Bolt, Hex Head M8 x 1-1/4 x 16
20	483529	1	Wire Harness Adapter, Kawasaki
21	04001-32	4	Bolt, Hex Head 3/8-16 x 1¼"
22	04117-01	2	Nut, 5/16-18 Flange Elastic Stop
23	427961	1	Plate, Anti-Rotation
24	04041-28	1	Flatwasher, 7/16-.496 x 1.75 x .25
25	04030-05	1	Lockwasher, 7/16"
26	04102-12	1	Bolt, 7/16-20 x 3¼" w/Patch
27	483958	1	Diode, 600V 6 Amp
28	485956	1	Pulley, 4-1/2" - 1" Bore
29	04063-01	1	Key, 1/4 x 1/4 x 1-1/4"
30	04117-03	4	Nut, 1/4-20 Flange Elastic Stop
31	426727	2	Bracket, Switch
32	04003-12	2	Bolt, Carriage 5/16-18 x 3/4"
33	486518	1	Wire Harness
34	04030-03	4	Lockwasher, 5/16"
35	04040-15	4	Flatwasher, 5/16-.375 x .875 x .083
36	483474	1	Switch, Double Pole - Twist
37	483473	3	Switch, Double Pole - Plunger
38	04003-02	4	Bolt, Carriage 1/4-20 x 3/4"
39	463189	1	Console Tank w/Decals, SZL-36
40	462069	1	Key Fob Assembly
41	483472	1	Ignition Switch
42	04021-26	2	Nut, #10-24 Elastic Stop
43	483645	1	Throttle Control, Kawasaki / Briggs & Stratton
44	04003-43	2	Bolt, Carriage #10-24 x 1/2"
45	483646	1	Choke Control, Kawasaki / Briggs & Stratton
46	04030-02	4	Lockwasher, 1/4"
47	04040-14	4	Flatwasher, 1/4-.312 x .750 x .065
48	462942	1	Instrument Panel w/Decal, SZL-36
49	484565	1	Hourmeter, Inductive
50	485833	1	Switch, PTO
51	04030-04	6	Washer, Lock 3/8 Spring
52	04001-19	2	Bolt, Hex Head 3/8-16 x 1"
53	04132-01	2	Threaded Insert, 3/8-16

* Not available through Scag Power Equipment. Purchase locally.

48, 52 & 61 ELECTRICAL SYSTEM



48, 52 & 61 ELECTRICAL SYSTEM

	Part No.	Qty	Description
1	04001-44	5	Bolt, Hex Head 1/4-20 x 1/2"
2	04020-02	2	Nut, 1/4-20 UNC
3	48029-29	1	Cable, Battery - 18" Red
4	04002-06	1	Screw, M8-1.25 X 16 Shakeproof
	04011-14		Screw, 1/4" - 20 x .75" (Kohler)
5	48029-14	1	Cable, Battery - 31-1/2" Black
6	*485212	1	Battery, 12v - 230CCA
7	48126	4	Rubber Boot
8	485506	1	Pad, Battery - Rubber
9	485505	2	Pad, Battery - Rubber
10	04011-14	2	Screw, 1/4-20 x 3/4" Shakeproof
11	483278	1	Solenoid, Sealed
12	04001-08	3	Bolt, Hex Head 5/16-18 x 3/4"
13	04030-03	3	Lockwasher, 5/16"
14	04040-15	3	Flatwasher, 5/16-.375 x .875 x .083
15	428184	1	Battery Hold Down
16	04017-15	2	Bolt, Hex Head 5/16-18 x 1/2" Serrated Flange
17	04117-01	4	Nut, 5/16-18 Elastic Stop
18	486518	1	Wire Harness
19	04003-12	5	Bolt, Carriage 5/16-18 x 3/4"
20	483474	1	Switch, Double Pole - Twist
21	04001-32	4	Bolt, Hex Head 3/8-16 x 1-1/4"
22	483629	2	Fuse Holder
23	427961	1	Plate, Anti-Rotation
	428752	1	Plate, Anti-Rotation - Warner (SZL-48H)
24	487077	1	Clutch, Warner (SZL-48H, SZL-52H)
	484063	1	Clutch, GT2 (SZL-61H)
25	04041-28	1	Flatwasher, 7/16-.496 x 1.75 x .25 (not used on SZL-48)
26	04030-05	1	Lockwasher, 7/16"
27	04102-12	1	Bolt, Hex Head 7/16-20 x 3¼" w/Patch
28	487032	1	Pulley, 4-1/2" Dia. - 1" Bore (SZL-48H, SZL-52H)
	487394	1	Pulley, 4-1/2" Dia. - 1" Bore (SZL-61H)
29	04063-01	1	Key, 1/4 x 1/4 x 1-1/4" (SZL-48H, SZL-52H)
	04063-42	1	Key, 1/4 x 1/4 x 3" (SZL-61H)
30	483958	1	Diode (part of wire harness)
31	04117-03	4	Nut, 1/4-20 Flange Elastic Stop
32	426727	2	Bracket, Switch
33	483473	3	Switch, Double Pole - Plunger
34	04003-02	4	Bolt, Carriage 1/4-20 x 3/4"

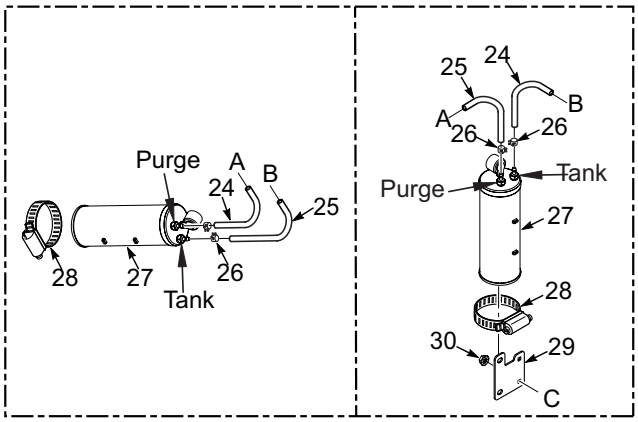
	Part No.	Qty	Description
35	04003-04	1	Bolt, Carriage 5/16-181 x 1"
36	04019-03	1	Nut, 5/16-18 Serrated Flange
37	428185	1	Mounting Bracket, Fuel Tank Front
38	04031-03	1	Lockwasher, 5/16" Ext.
39	04041-38	1	Flatwasher, 3/8-.406 x 2.25 x .188
40	463191	1	Console Tank, SZL
41	483472	1	Ignition Switch
42	462069	1	Key Fob Assembly
	483609	1	Key w/Shroud Only
43	484565	1	Hourmeter, Inductive
44	485833	1	Switch, PTO Sealed
45	483434		Throttle Cable - Kohler
	483645	1	Throttle Cable - Kawasaki, Briggs, Scag
46	04021-26	2	Nut, #10-24 Elastic Stop
47	04003-43	2	Bolt, Carriage #10-24 x 1/2"
48	483435	1	Choke Control - Kohler
	483646	1	Choke Control - Kawasaki, Briggs, Scag
49	483529	1	Wire Harness Adapter, Kawasaki Only
50	04030-02	3	Lockwasher, 1/4"
51	04040-14	3	Flatwasher, 1/4-.312 x .750 x .065
52	462793	1	Instrument Panel w/Decal
53	04024-03	2	Nut, 5/16 Push-On
54	483642	1	Double Fuse Assembly (incl. 22, 55, 56, 57)
55	482588	2	Clip, Wire
56	483571	1	Cover, Double
57	48298	2	Fuse, 20 Amp
58	48029-29	1	Cable, Battery - 18" Red (Kawasaki)
	48029-13	1	Cable, Battery - 25" Red (Kohler)
59	04021-10	1	Nut, 5/16-18 Elastic Stop
60	04030-04	4	Washer, Lock 3/8 Spring
	04031-03	1	Washer, Lock 5/16 Ext Tooth (ground)

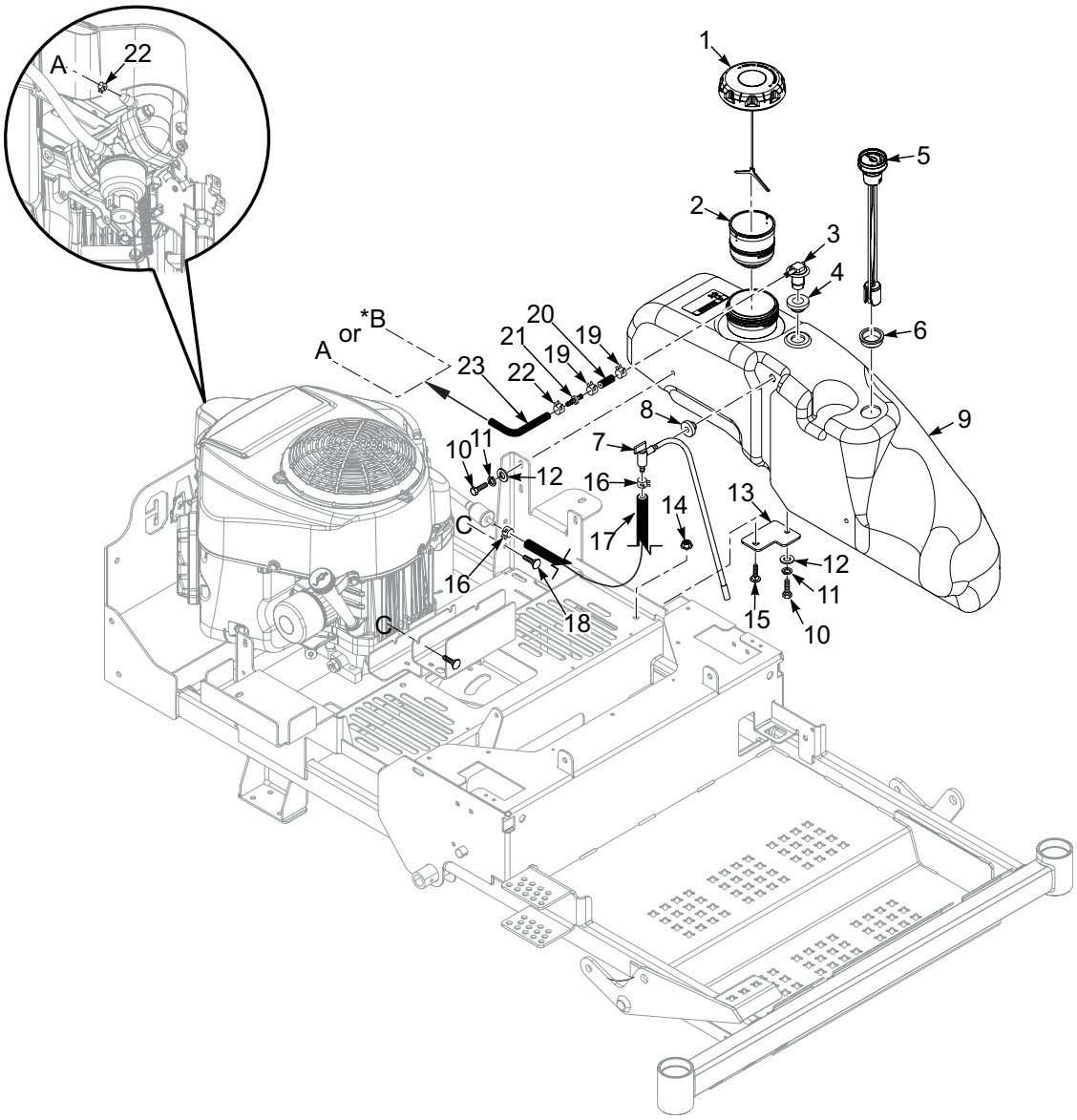
* Not available through Scag Power Equipment. Purchase locally.

FUEL SYSTEM

*For California Only

SZL-36 & 42 Models Only SZL-48 52 & 61 Models Only



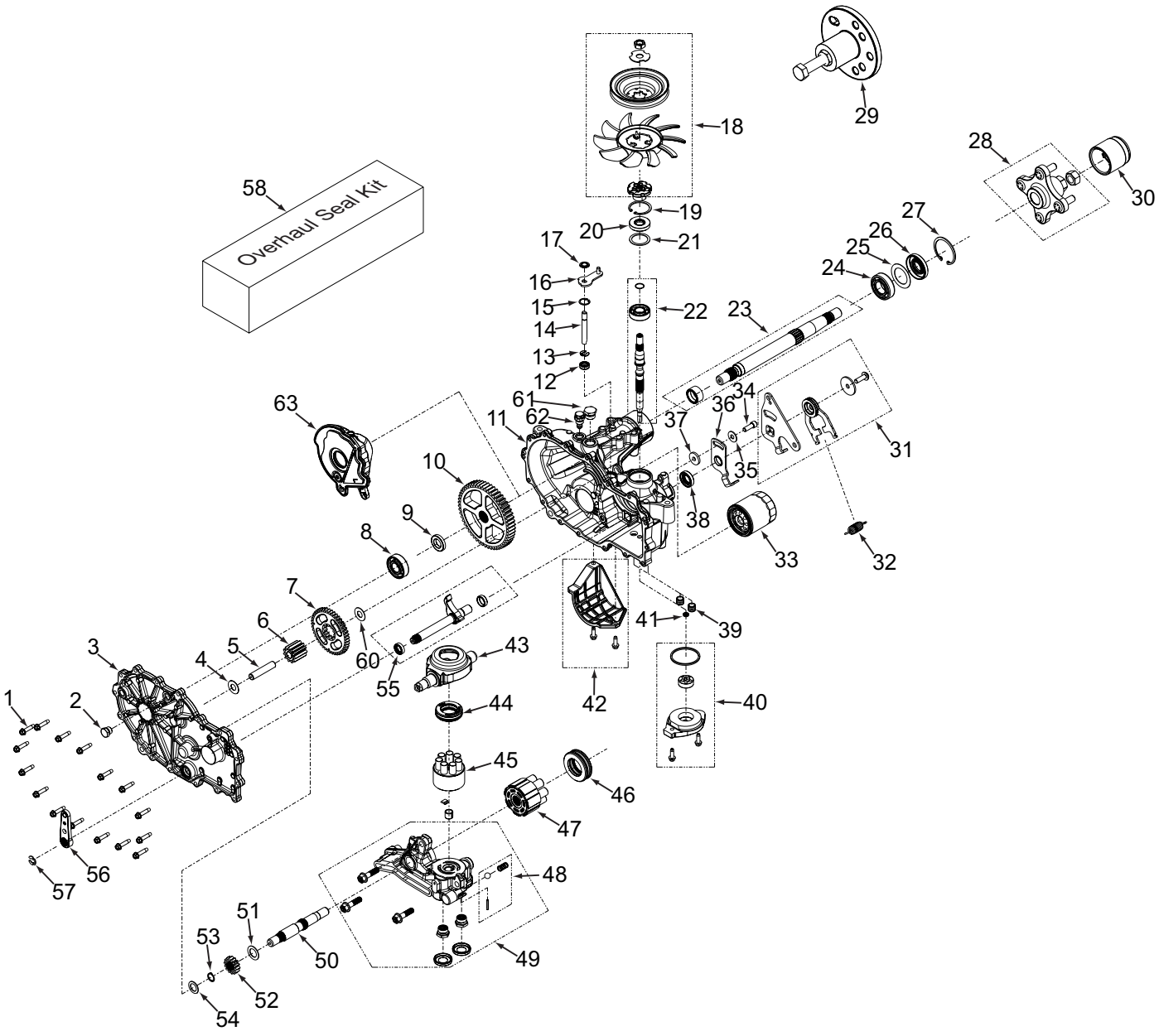


FUEL SYSTEM

Ref. No.	Part No.	Qty	Description
1	484286	1	Fuel Cap
	*484297	1	Fuel Cap, C.A.R.B.
2	484279-03	1	Fuel Neck Insert
3	484333	1	Remote Vent, No Valve
4	484285	1	Grommet, Kelch
5	485393	1	Fuel Gauge (requires #6)
6	485394	1	Grommet, Fuel Gauge
7	485391	1	Valve, Fuel Shut Off
8	482571	1	Bushing, .56 Dia. Viton
9	463188	1	Fuel Tank Assembly (incl. 1, 2, 3, 4, 5, 6, 7, 8) SZL-36, 42
	463190	1	Fuel Tank Assembly (incl. 3, 4, 5, 6, 7, 8) SZL-48, 52 & 61
10	04001-08	4	Bolt, Hex Head 5/16-18 x 3/4"
11	04030-03	4	Lockwasher, 5/16"
12	04040-15	4	Flatwasher, 5/16-.375 x .875 x .083
13	**428185	1	Mounting Bracket, Fuel Tanks Front
14	**04019-03	1	Nut, 5/16-18 Serrated Flange
15	**04003-12	1	Bolt, Carriage 5/16-18 x 3/4"
16	48059-01	2	Clamp, Fuel Hose 1/4"
17	483617	-	Hose, Non-perm Fuel - 1/4" Dia. (order by inch)
18	04003-02	2	Bolt, Carriage 1/4-20 x 3/4"
19	48059-02	2	Clamp, Fuel Hose 7/32" ID
20	484347	2	Hose, 1/4" Vapor Return (order by inch)
21	484343-01	1	Mender, 1/4 x 3/16 w/.02 Hole
22	48059-05	2	Clamp, Vapor Hose -3/16"
23	484345	-	Hose, Vapor (order by inch)
*24	484345	-	Hose, Vapor (order by inch)
*25	484345	-	Hose, Vapor (order by inch)
*26	48059-05	2	Clamp, Vapor Hose - 3/16"
*27	484287	1	Carbon Canister, 400cc
	484366	1	Dust Filter (not shown. Incl. with #27)
*28	48136-17	17	Clamp, 3-1/2" Max. Dia.
*29	**426326	1	Bracket, Canister Mount
*30	04019-02	1	Nut, 1/4-20 Serrated Flange

* California Only
** Excludes SZL-36

HYDRO-GEAR TRANSAXLE (ZT-2800 36"/42")



HYDRO-GEAR TRANSAXLE (ZT-2800 36"/42")

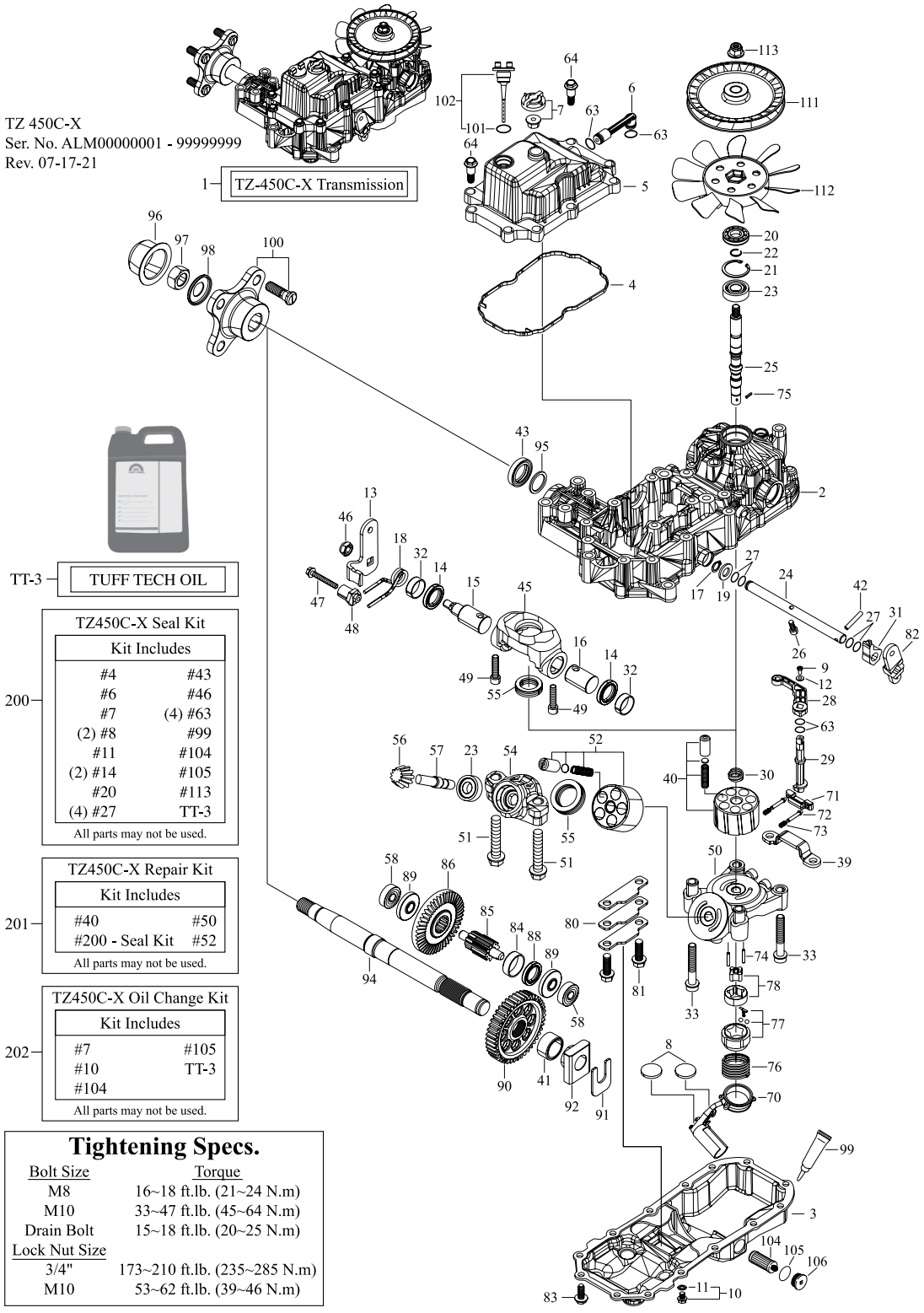
Ref. No.	Part No.	Description
1	HG53246	Screw, Hex Washer
2	HG54730	Plug, External Hex Vent 9/16-18
3	HG73096	Kit, Side Cover LH
	HG73095	Kit, Side Cover RH
4	HG50132	Washer, Flat, .51 x 1 x .03
5	HG51083	Pin, Jackshaft
6	HG52583	Gear, 11T
7	HG52110	Gear, 45T
8	HG72749	Kit, Bearing
9	HG53336	Spacer, .75 x 1.32 x .257
10	HG52108	Gear, 54T
11	HG73073	Kit, Main Housing LH, Charge, Control
	HG73069	Kit, Main Housing RH, Charge, Control
12	HG55232	Seal, Lip, .375 x .75 x .25
13	HG51628	Ring, Retaining External .375
14	HG52136	Rod, Bypass .375 x 2.88
15	HG51627	Ring, Retaining .75, Internal
16	HG52370	Arm, Bypass (LH)
	HG51910	Arm, Bypass (RH)
17	HG51630	Ring, Retaining .375, External
18	HG72979	Kit, Fan/Pulley
19	HG50329	Ring, Retaining Internal
20	HG51161	Seal, Lip, 17 x 40 x 7
21	HG50951	Washer, Flat, 1.23 x 1.57 x .04
22	HG73047	Kit, Input Shaft
23	HG71569	Kit, Shaft Axle
24	HG53656	Bearing, 25.4 x 52 x 15 Ball (6205R)
25	HG53514	Washer, Flat, 1.355 x 2.035 x .021
26	HG53699	Seal, Lip, TC4, 1 x 2.06 x .38
27	HG50859	Ring, Retaining 2.25 Internal
28	HG71446	Kit, Hub 4 Bolt
29	HG72320	Kit, Hub Puller
30	HG53501	Cap, Axle
31	HG71598	Kit, RTN Bidirectional (LH)
	HG71595	Kit, RTN Bidirectional (RH)
32	HG51605	Spring, Extension
33	HG52114	Filter, Spin-on 2.6 x 3
34	HG51616	Bolt, 5/16-24 x 7/8 (w/patch)
35	HG44130	Washer, Flat .34 x .88 x .06
36	HG51946	Arm, Return Left (LH)
	HG51945	Arm, Neutral Right (RH)
37	HG54315	Spacer, .32 ID x 1.005 OD x .1495 THK
38	HG51140	Seal, Lip 18 x 32 x 7
39	HG54501	Tube, Charge Triple O-Ring
40	HG72274	Kit, Charge
41	HG72291	Kit, Gerotor Seal

Ref. No.	Part No.	Description
42	HG71854	Kit, Filter Guard (LH)
	HG73041	Kit, Filter Guard (RH)
43	HG51048	Swashplate, Trunnion
44	HG50551	Bearing, Thrust 30 x 52 x 13
45	HG70723	Kit, Block 7 Piston
46	HG51462	Bearing, Thrust 35 x 62 x 18
47	HG72882	Kit, 16cc Cylinder Block Assembly
48	HG71436	Kit, Charge Relief
49	HG72515	Kit, Center Section, LH Charge
	HG72516	Kit, Center Section, RH Charge
50	HG52150	Shaft, Motor
51	HG51069	Washer, Flat, .71 x 1.16 x .04
52	HG52109	Gear, 14T
53	HG44145	Ring, Retaining, Motor Shaft
54	HG44371	Washer, Flat, .63 x 1 x .05
55	HG73121	Kit, Inboard, RH Rot B / LH Rot A (LH)
	HG73120	Kit, Inboard, RH Rot A / LH Rot B (RH)
56	HG53973	Handle, Actuating
57	HG53019	Ring, Retaining - External .438
58	HG73107	Kit, Seal (ZT-2800) (INCL. 12,13,14,15,17,19 20,38,39,41,53,57)
59	*HG50928	Tube, Sealant
60	HG50132	Washer, .51 x 1.00 .03 Flat
61	HG54974	Plug 3/4 - 16
62	HG55380	Fitting 9/16 - 18, Breather
63	HG55072	Expansion Tank LH, Internal
	HG55071	Expansion Tank RH, Internal

* Item not shown

TUFF TORQ TRANSAXLE - LH (TZ-450C-X 48")

TZ 450C-X
Ser. No. ALM00000001 - 99999999
Rev. 07-17-21



TZ450C-X Seal Kit

Kit Includes	
#4	#43
#6	#46
#7	(4) #63
(2) #8	#99
#11	#104
(2) #14	#105
#20	#113
(4) #27	TT-3

All parts may not be used.

TZ450C-X Repair Kit

Kit Includes	
#40	#50
#200 - Seal Kit	#52

All parts may not be used.

TZ450C-X Oil Change Kit

Kit Includes	
#7	#105
#10	TT-3
#104	

All parts may not be used.

Tightening Specs.

Bolt Size	Torque
M8	16~18 ft.lb. (21~24 N.m)
M10	33~47 ft.lb. (45~64 N.m)
Drain Bolt	15~18 ft.lb. (20~25 N.m)
Lock Nut Size	
3/4"	173~210 ft.lb. (235~285 N.m)
M10	53~62 ft.lb. (39~46 N.m)

TUFF TORQ TRANSAXLE - LH (TZ-450C-X 48")

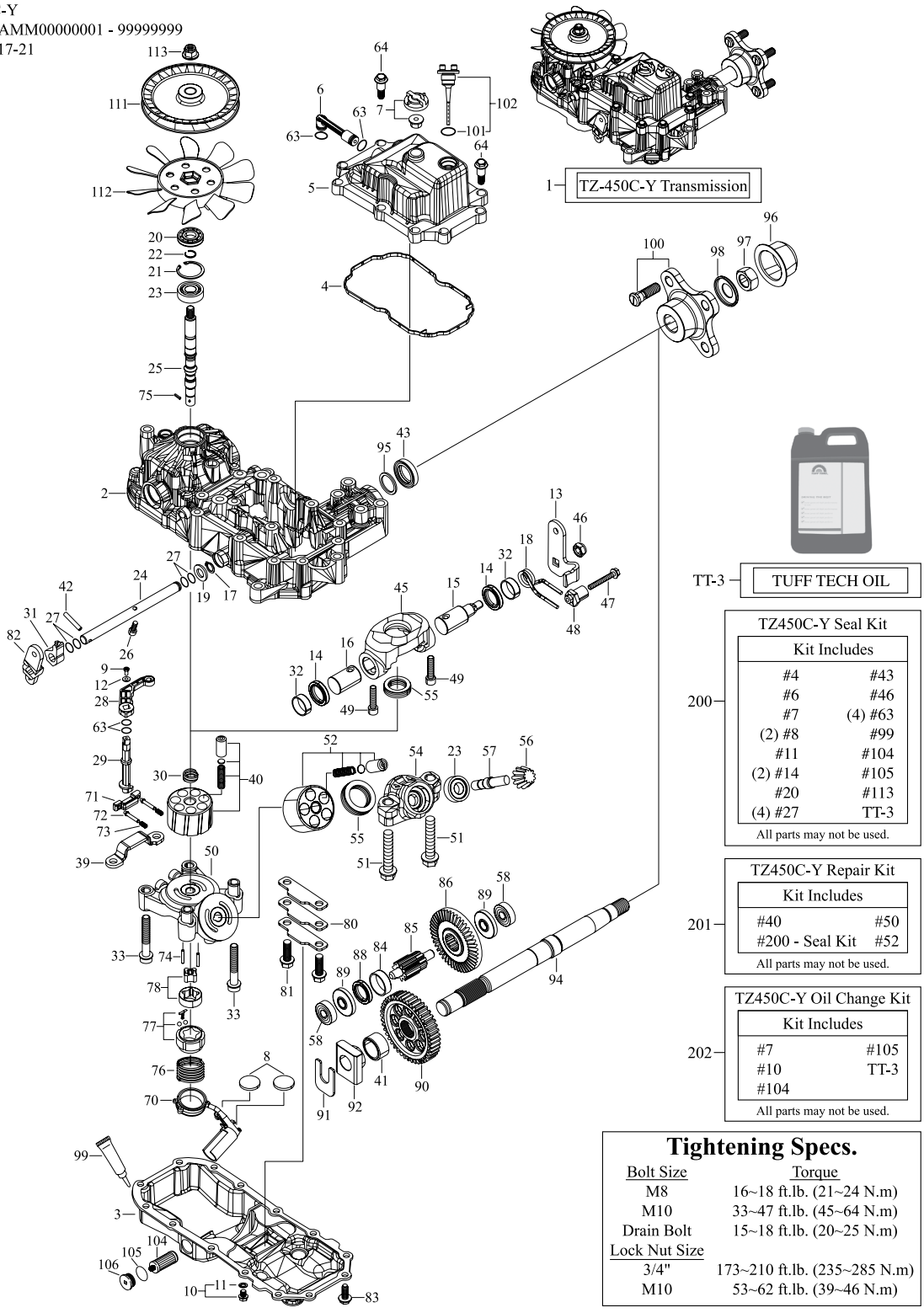
Ref. No.	Part No.	Description
TT-3	TT187Q0899000	Tuff Tech Oil (3 Liter Bottle)
*1	486650	Tz-450c-X Transaxle (Pre-Filled)
2	TT187Q1624150	Upper Housing X
3	TT187Q2124360	Lower Housing Fy
4	TT187Q1624450	Square Seal
5	TT187Q2124550	Top Cover A
6	TT187Q1624440	Bypass Piping
7	TT168T2024250	Vent Valve
8	TT19216324360	Magnet 28 * 3.5
9	TT22857400080	Screw 4.0*8
10	TT1A632099320	Drain Bolt Kit
11	TT22190-100000	Washer Seal 10
12	TT187Q1629410	Washer 4.5*10*1
13	TT187Q1629710	Control Lever L
14	TT187Q1629100	Seal, Tc253506
15	TT187Q1629800	Control Shaft
16	TT187Q1629810	Control Shaft Short
17	TT19215489090	Snap Ring
18	TT187Q1629860	Torsion Spring
19	TT22137120000	Washer 12
20	TT187T0134390	Oil Seal 15*35*07
21	TT22252000350	Snap Ring C 35
22	TT17808002080	Ring 1.2
23	TT1A646034770	Bearing
24	TT187Q1636200	Brake Shaft
25	TT187Q2125100	Pump Shaft C
26	TT26450060162	Socket Bolt 6*16
27	TT24311000120	O-Ring 1a P12
*28	TT187Q1629510	Bypass Lever
29	TT187Q1629310	Bypass Shaft
30	TT19215425200	Pump Spring
31	TT187Q1636370	Brake Fork 20 Cr
32	TT187Q1629450	Control Bush Lfb2510
33	TT1A632010650	M10 * 65 Bolt
39	TT187Q2124740	Check Stopper Pfg
40	TT187Q1625150	Cylinder Block Kit / Order Repair Kit
41	TT19215434240	Bushing 25.4
42	TT22351050032	Spring Pin 5 * 32
43	TT187Q1634050	Seal Tc284008
45	TT187Q1684530	Swashplate
46	TT187Q0610070	Lock Nut 10
47	TT26106060452	Bolt 6*45
48	TT187T0029940	Fulcrum
49	TT26450080352	Bolt 8 * 35
50	TT187Q2124450	Centercase Cp / Order Repair Kit
51	TT26106120652	Bolt 12*65
52	TT168T2025080	Cylinder Block Kit(Motor / Order Repair Kit
54	TT187Q1624500	Motor Housing
55	TT187T0034750	Thrust Bearing
56	TT187Q1625430	Motor Gear S
57	TT187Q1625300	Motor Shaft
58	TT187Q1633520	Bearing 6201 Cn

Ref. No.	Part No.	Description
63	TT24311240100	0-Ring 1a P10a
64	TT26476080302	Tapping Bolt 8*30
70	TT187Q2124800	Bracket Assy Fts
71	TT187Q1629350	Bypass Guide
72	TT187Q1629370	Bypass Pin
73	TT187Q1629390	Bypass Spring
74	TT22351030018	Pin 3.0 * 18
75	TT1A646088410	Pin 2.5* 9.8
76	TT1A646088450	Charge Spring
77	TT187Q0826100	Pump Case
78	TT1A646031100	Rotor Set
80	TT187Q1624300	Final Plate
81	TT26106100302	Bolt 10 * 30
82	TT187Q2136150	Brake Arm
83	TT26476080202	Tapping Screw 8 * 20
84	TT187Q1633380	Final Pinion Collar
85	TT187Q2133400	Final Pinion Shaft
86	TT187Q1633150	Reduction Gear S
88	TT187Q2133420	Reduction Collar
89	TT187Q2133420	Washer 14.1 X 30 X 3.5
90	TT187Q1633710	Final Gear Sv
91	TT187Q1634060	Clip
92	TT19215434240	Axle Bush
94	TT187Q1634150	Axle Shaft T
95	TT187Q0834370	Washer
*96	TT187Q0634410	Nut Cap
*97	TT187Q0634120	Lock Nut 3/4-16
*98	TT187Q2134300	Flange Spacer
99	TT1A646099500	Sealant
*100	TT187Q2134800	Flange Assy.
101	TT24311000160	O-Ring 1a P16
*102	TT187P0113190	Dipstick Assy.
*104	TT1A632026450	Filter
*105	TT24351240400	O-Ring 1a 24040
*106	TT1A637024380	Cap 40
*111	TT187Q2125700	Pulley,5.5
*112	TT187Q1683060	Fan
*113	TT19216829860	Lock Nut 10
*200	TT187Q2199050	Seal Kit Tz-450
*201	TT187Q2199140	Repair Kit Tz-450 C
*202	TT187Q2199300	Tz 450 Oil Change Kit

* Available through Scag Power Equipment

TUFF TORQ TRANSAXLE - RH (TZ-450C-Y 48")

TZ 450C-Y
Ser. No. AMM00000001 - 99999999
Rev. 07-17-21



TZ450C-Y Seal Kit (200)

Kit Includes	
#4	#43
#6	#46
#7	(4) #63
(2) #8	#99
#11	#104
(2) #14	#105
#20	#113
(4) #27	TT-3

All parts may not be used.

TZ450C-Y Repair Kit (201)

Kit Includes	
#40	#50
#200 - Seal Kit	#52

All parts may not be used.

TZ450C-Y Oil Change Kit (202)

Kit Includes	
#7	#105
#10	TT-3
#104	

All parts may not be used.

Tightening Specs.

Bolt Size	Torque
M8	16~18 ft.lb. (21~24 N.m)
M10	33~47 ft.lb. (45~64 N.m)
Drain Bolt	15~18 ft.lb. (20~25 N.m)
Lock Nut Size	
3/4"	173~210 ft.lb. (235~285 N.m)
M10	53~62 ft.lb. (39~46 N.m)

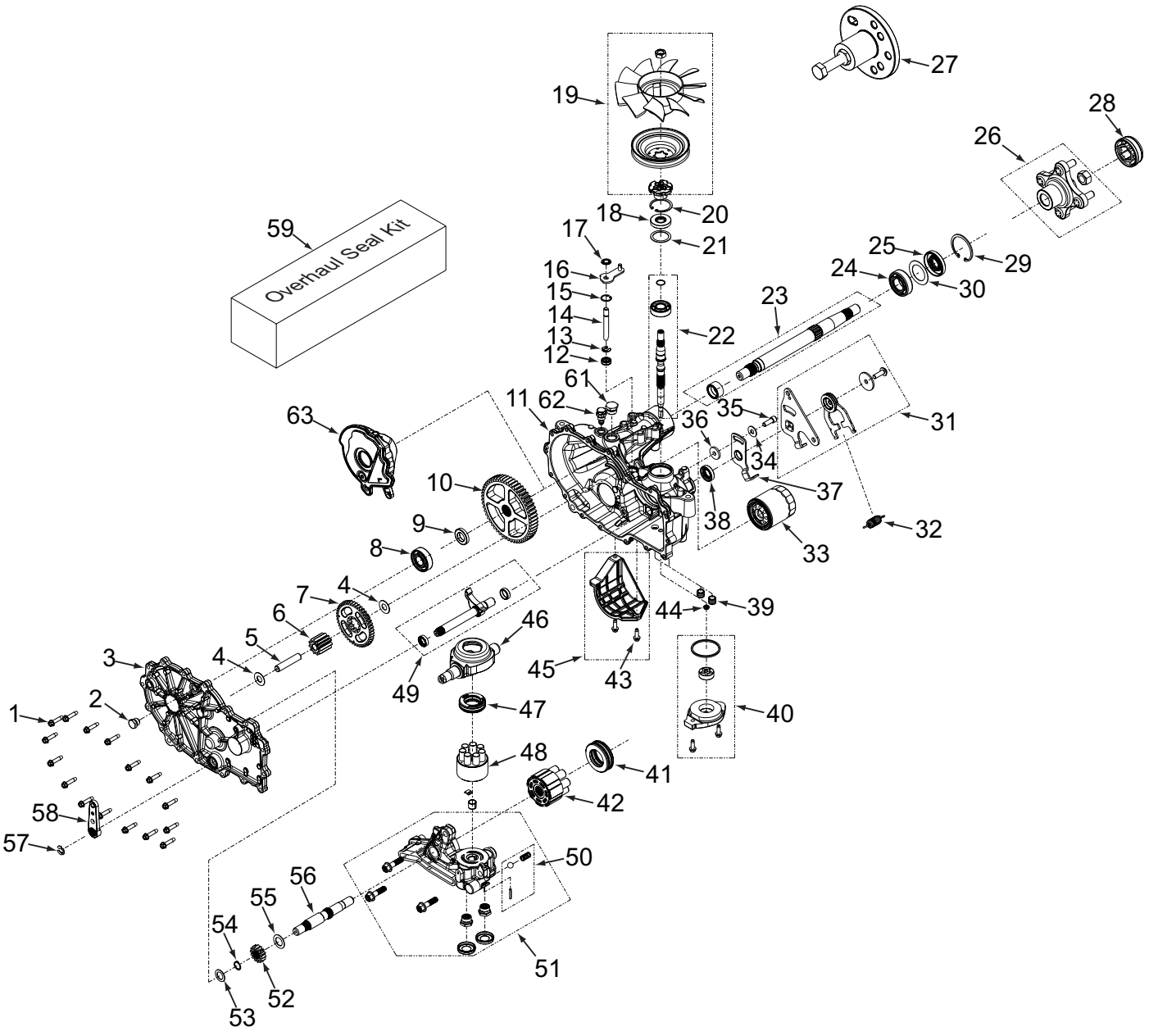
TUFF TORQ TRANSAXLE - RH (TZ-450C-Y 48")

Ref. No.	Part No.	Description
TT-3	TT187Q0899000	Tuff Tech Oil (3 Liter Bottle)
*1	486651	Tz-450c-Y Transaxle (Pre-Filled)
2	TT187Q1624160	Upper Housing X
3	TT187Q2124351	Lower Housing Fy
4	TT187Q1624450	Square Seal
5	TT187Q2124550	Top Cover A
6	TT187Q1624440	Bypass Piping
7	TT168T2024250	Vent Valve
8	TT19216324360	Magnet 28 * 3.5
9	TT22857400080	Screw 4.0*8
10	TT1A632099320	Drain Bolt Kit
11	TT22190-100000	Washer Seal 10
12	TT187Q1629410	Washer 4.5*10*1
13	TT187Q1629720	Control Lever L
14	TT187Q1629100	Seal, Tc253506
15	TT187Q1629800	Control Shaft
16	TT187Q1629810	Control Shaft Short
17	TT19215489090	Snap Ring
18	TT187Q1629860	Torsion Spring
19	TT22137120000	Washer 12
20	TT187T0134390	Oil Seal 15*35*07
21	TT22252000350	Snap Ring C 35
22	TT17808002080	Ring 1.2
23	TT1A646034770	Bearing
24	TT187Q1636200	Brake Shaft
25	TT187Q2125100	Pump Shaft C
26	TT26450060162	Socket Bolt 6*16
27	TT24311000120	O-Ring 1a P12
*28	TT187Q1629510	Bypass Lever
29	TT187Q1629310	Bypass Shaft
30	TT19215425200	Pump Spring
31	TT187Q1636370	Brake Fork 20 Cr
32	TT187Q1629450	Control Bush Lfb2510
33	TT1A632010650	M10 * 65 Bolt
39	TT187Q2124740	Check Stopper Pfg
40	TT187Q1625150	Cylinder Block Kit / Order Repair Kit
41	TT19215434240	Bushing 25.4
42	TT22351050032	Spring Pin 5 * 32
43	TT187Q1634050	Seal Tc284008
45	TT187Q1684530	Swashplate
46	TT187Q0610070	Lock Nut 10
47	TT26106060452	Bolt 6*45
48	TT187T0029940	Fulcrum
49	TT26450080352	Bolt 8 * 35
50	TT187Q2124450	Centercase Cp / Order Repair Kit
51	TT26106120652	Bolt 12*65
52	TT168T2025080	Cylinder Block Kit(Motor / Order Repair Kit
54	TT187Q1624500	Motor Housing
55	TT187T0034750	Thrust Bearing
56	TT187Q1625430	Motor Gear S
57	TT187Q1625300	Motor Shaft
58	TT187Q1633520	Bearing 6201 Cn

Ref. No.	Part No.	Description
63	TT24311240100	0-Ring 1a P10a
64	TT26476080302	Tapping Bolt 8*30
70	TT187Q2124800	Bracket Assy Fts
71	TT187Q1629350	Bypass Guide
72	TT187Q1629370	Bypass Pin
73	TT187Q1629390	Bypass Spring
74	TT22351030018	Pin 3.0 * 18
75	TT1A646088410	Pin 2.5* 9.8
76	TT1A646088450	Charge Spring
77	TT187Q0826100	Pump Case
78	TT1A646031100	Rotor Set
80	TT187Q1624300	Final Plate
81	TT26106100302	Bolt 10 * 30
82	TT187Q2136150	Brake Arm
83	TT26476080202	Tapping Screw 8 * 20
84	TT187Q1633380	Final Pinion Collar
85	TT187Q2133400	Final Pinion Shaft
86	TT187Q1633150	Reduction Gear S
88	TT187Q2133420	Reduction Collar
89	TT187Q2133420	Washer 14.1 X 30 X 3.5
90	TT187Q1633710	Final Gear Sv
91	TT187Q1634060	Clip
92	TT19215434240	Axle Bush
94	TT187Q1634150	Axle Shaft T
95	TT187Q0834370	Washer
*96	TT187Q0634410	Nut Cap
*97	TT187Q0634120	Lock Nut 3/4-16
*98	TT187Q2134300	Flange Spacer
99	TT1A646099500	Sealant
*100	TT187Q2134800	Flange Assy.
101	TT24311000160	O-Ring 1a P16
*102	TT187P0113190	Dipstick Assy.
*104	TT1A632026450	Filter
*105	TT24351240400	O-Ring 1a 24040
*106	TT1A637024380	Cap 40
*111	TT187Q2125700	Pulley,5.5
*112	TT187Q1683060	Fan
*113	TT19216829860	Lock Nut 10
*200	TT187Q2199050	Seal Kit Tz-450
*201	TT187Q2199140	Repair Kit Tz-450 C
*202	TT187Q2199300	Tz 450 Oil Change Kit

* Available through Scag Power Equipment

HYDRO-GEAR TRANSAXLE (ZT-2800 48" / 52")



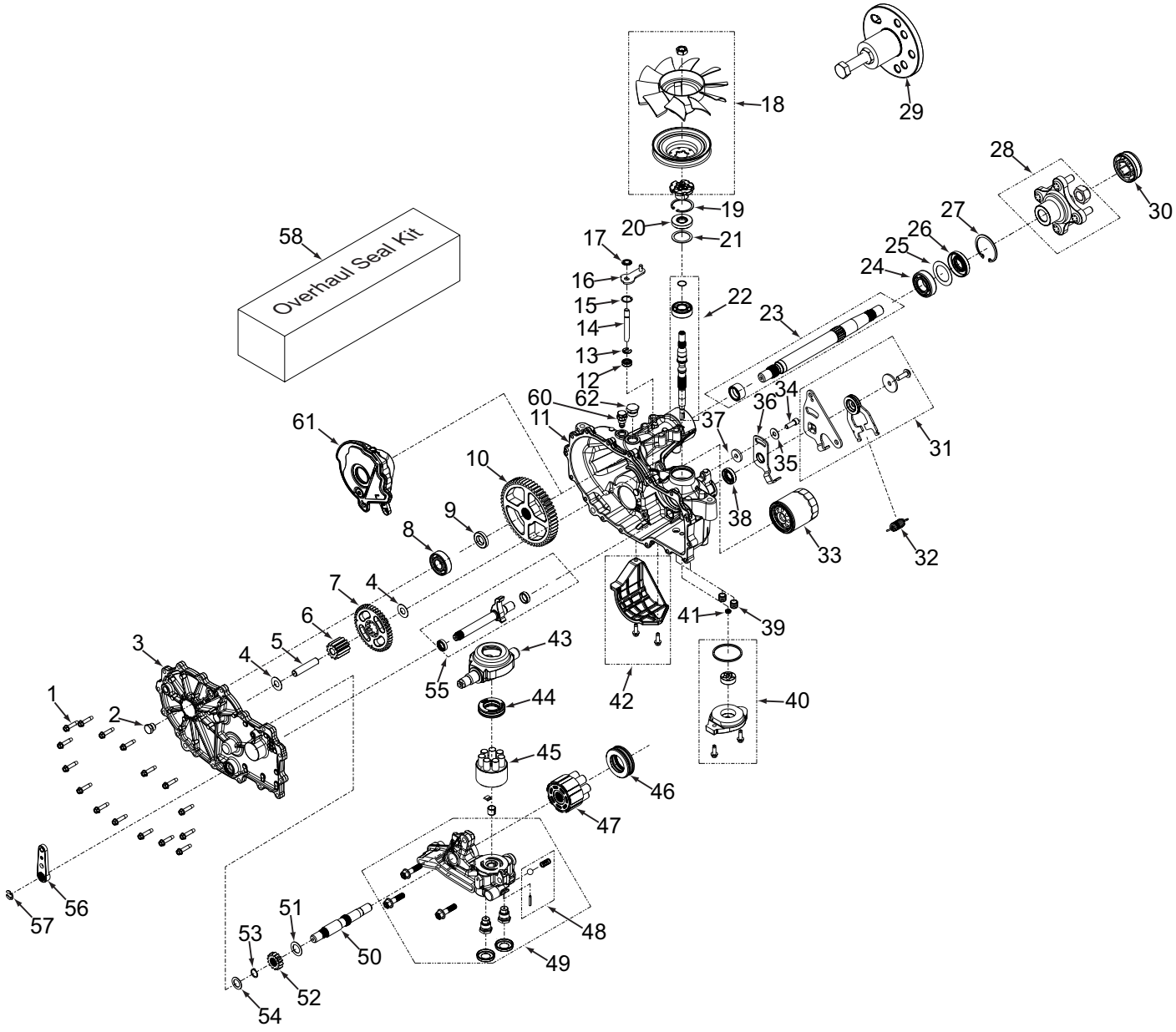
HYDRO-GEAR TRANSAXLE (ZT-2800 48" / 52")

Ref. No.	Part No.	Description
1	HG53246	Screw, Hex Washer
2	HG54730	Plug, External Hex Vent 9/16-18
3	HG73096	Kit, Side Cover LH
	HG73095	Kit, Side Cover RH
4	HG50132	Washer, Flat, .51 x 1 x .03
5	HG51083	Pin, Jackshaft
6	HG52583	Gear, 11T
7	HG52110	Gear, 45T
8	HG72749	Kit, Bearing
9	HG53336	Spacer, .75 x 1.320 x .257
10	HG52108	Gear, 54T
11	HG73073	Kit, Main Housing LH, Charge, Control
	HG73069	Kit, Main Housing RH, Charge, Control
12	HG55232	Seal, Lip .375 x .75 x .25
13	HG51628	Ring, Retaining External .375
14	HG52136	Rod, Bypass .375 x 2.88
15	HG51627	Ring, Retaining .750, Internal
16	HG52370	Arm, Bypass LH
	HG51910	Arm, Bypass RH
17	HG51630	Ring, Retaining .375 External
18	HG51161	Seal, Lip 17 x 40 x 7
19	HG72972	Kit, Fan/Pulley
20	HG50329	Ring Retaining Internal
21	HG50951	Washer, Flat, 1.23 x 1.57 x .04
22	HG73047	Kit, Input Shaft
23	HG71569	Kit, Shaft Axle
24	HG53656	Bearing, 25.4 x 52 x 15 Ball (6205R)
25	HG53699	Seal, Lip, TC4, 1 x 2.06 x .38
26	HG71405	Kit, Hub, 4 Bolt
27	HG72320	Kit, Hub Puller
28	HG53088	Cap, axle
29	HG50859	Ring, Retaining 2.25 Internal
30	HG53514	Washer, Flat, 1.355 x 2.035 x .21
31	HG71598	Kit, Rtn Bidirectional LH
	HG71595	Kit, Rtn Bidirectional RH
32	HG51605	Spring, Extension
33	HG52114	Filter, Spin-on 2.6 x 3
34	HG44130	Washer Flat, .34 x .88 x .06
35	HG51616	SHCS, 5/16-24 x 7/8 (w/ patch)
36	HG54315	Spacer, .320 ID x 1.005 OD x .1495 Thk
37	HG51946	Arm, Return Left (LH)
	HG51945	Arm, Return Right (RH)
38	HG51140	Seal, Lip 18 x 32 x 7
39	HG54501	Tube, Charge Triple O-ring
40	HG72274	Kit, Charge
41	HG51462	Bearing, Thrust 35 x 62 x 18

Ref. No.	Part No.	Description
42	HG72882	Kit, 16cc Cylinder Block Assembly
43	HG50752	Screw, Hex Washer 1/4-20 x .75
44	HG72291	Kit, Gerotor Seal
45	HG71854	Guard, Filter, LH
	HG73041	Guard, Filter, RH
46	HG51048	Swashplate, Trunnion
47	HG50551	Bearing, Thrust 30 x 52 x 13
48	HG70723	Kit, Block 7 Piston
49	HG73121	Kit, Inboard, RH Rot B / LH Rot A (LH)
	HG73120	Kit, Inboard, RH Rot A / LH Rot B (RH)
50	HG71436	Kit, Charge Relief
51	HG72515	Kit, Center Section, LH Charge
	HG72516	Kit, Center Section, RH Charge
52	HG52109	Gear, 14T
53	HG44371	Washer, Flat, .63 x 1 x .5
54	HG44145	Retaining Ring, Motor Shaft
55	HG51069	Washer, Flat, .71 x 1.16 x .04
56	HG52150	Shaft, Motor
57	HG53019	Ring, Retaining - External .438
58	HG53973	Handle, Actuating
59	HG73107	Kit, Seal (ZT-2800) (INCL.12,13,15,17,18,20,
60	*HG50928	38,39,44,54,57)
61	HG54974	Tube, Sealant
62	HG55380	Plug 3/4 - 16
63	HG55072	Fitting, 9/16 - 18 Breather
	HG55071	Expansion Tank LH, Internal
		Expansion Tank RH, Internal

* Item not shown

HYDRO-GEAR TRANSAXLE (ZT-3100 61")



HYDRO-GEAR TRANSAXLE (ZT-3100 61")

Ref. No.	Part No.	Description
1	HG53246	Screw, Hex Washer
2	HG54730	Plug, External Hex Vent 9/16-18
3	HG73096	Kit, Side Cover LH
	HG73095	Kit, Side Cover RH
4	HG50132	Washer, Flat, .51 x 1 x .03
5	HG51083	Pin, Jackshaft
6	HG52586	Gear, 11T (Steel)
7	HG52110	Gear, 45T
8	HG72749	Kit, Bearing
9	HG53336	Spacer, .75 x 1.32 x .257
10	HG52108	Gear, 54T
11	HG73073	Kit, Main Housing LH, Charge, Control
	HG73069	Kit, Main Housing RH, Charge, Control
12	HG55232	Seal, Lip, .375 x .75 x .25
13	HG51628	Ring, Retaining External .375
14	HG52136	Rod, Bypass .375 x 2.88
15	HG51627	Ring, Retaining .75, Internal
16	HG52370	Arm, Bypass (LH)
	HG51910	Arm, Bypass (RH)
17	HG51630	Ring, Retaining .375, External
18	HG72972	Kit, Fan/Pulley
19	HG50329	Ring, Retaining Internal
20	HG51161	Seal, Lip, 17 x 40 x 7
21	HG50951	Washer, Flat, 1.23 x 1.57 x .04
22	HG73047	Kit, Input Shaft
23	HG71569	Kit, Shaft Axle
24	HG53656	Bearing, 25.4 x 52 x 15 Ball (6205R)
25	HG53514	Washer, Flat, 1.355 x 2.035 x .021
26	HG53699	Seal, Lip, TC4, 1 x 2.06 x .38
27	HG50859	Ring, Retaining 2.25 Internal
28	HG71405	Kit, Hub 4 Bolt
29	HG72320	Kit, Hub Puller
30	HG53088	Cap, Axle
31	HG71598	Kit, RTN Bidirectional (LH)
	HG71595	Kit, RTN Bidirectional (RH)
32	HG51605	Spring, Extension
33	HG52114	Filter, Spin-on 2.6 x 3
34	HG51616	Bolt, 5/16-24 x 7/8 (w/patch)
35	HG44130	Washer, Flat .34 x .88 x .06
36	HG51946	Arm, Return Left (LH)
	HG51945	Arm, Neutral Right (RH)
37	HG54315	Spacer, .32 ID x 1.005 OD x .1495 THK
38	HG51140	Seal, Lip 18 x 32 x 7
39	HG54501	Tube, Charge Triple O-Ring
40	HG72274	Kit, Charge
41	HG72291	Kit, Gerotor Seal

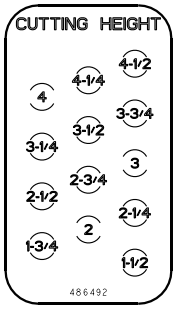
Ref. No.	Part No.	Description
42	HG71854	Kit, Filter Guard (LH)
	HG73041	Kit, Filter Guard (RH)
43	HG51048	Swashplate, Trunnion
44	HG50551	Bearing, Thrust 30 x 52 x 13
45	HG70723	Kit, Block 7 Piston
46	HG51462	Bearing, Thrust 35 x 62 x 18
47	HG72882	Kit, 16cc Cylinder Block Assembly
48	HG71436	Kit, Charge Relief
49	HG73286	Kit, Center Section, LH Charge
	HG73285	Kit, Center Section, RH Charge
50	HG52150	Shaft, Motor
51	HG51069	Washer, Flat, .71 x 1.16 x .04
52	HG52341	Gear, 14T (Steel)
53	HG44145	Ring, Retaining, Motor Shaft
54	HG44371	Washer, Flat, .63 x 1 x .05
55	HG73121	Kit, Inboard, RH Rot B / LH Rot A (LH)
	HG73120	Kit, Inboard, RH Rot A / LH Rot B (RH)
56	HG53973	Handle, Actuating
57	HG53019	Ring, Retaining - External .438
58	HG73107	Kit, Seal (ZT-2800) (INCL. 12,13,14,15,17,19 20,38,39,41,53,57)
59	*HG50928	Tube, Sealant
60	HG55380	Fitting 9/16-18, Breather
61	HG55072	Expansion Tank, Internal LH
	HG55071	Expansion Tank, Internal RH
62	HG54974	Plug, 3/4 - 16

* Item not shown

REPLACEMENT DECALS AND INFORMATION PLATES

1

2



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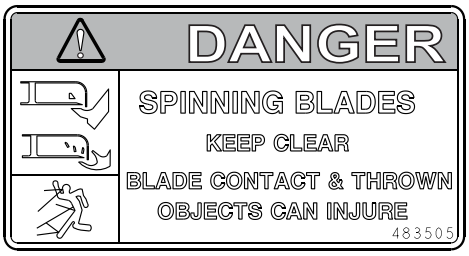

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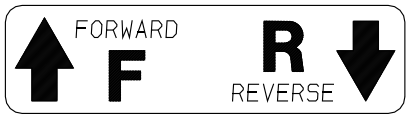

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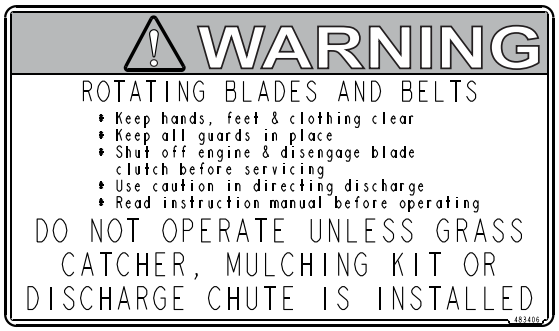

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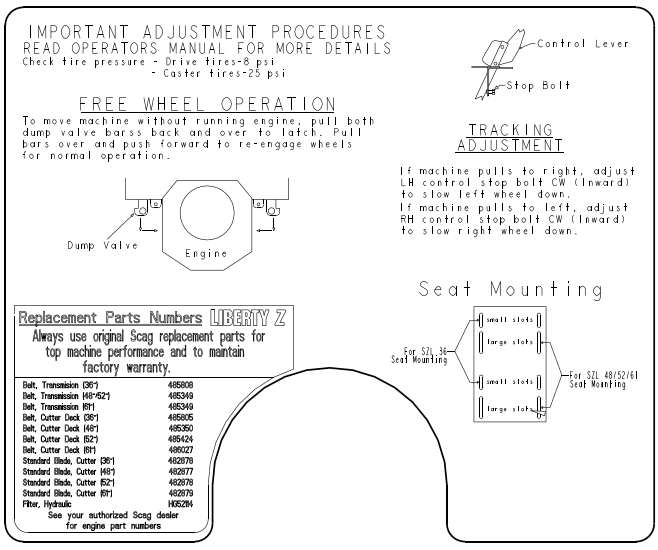

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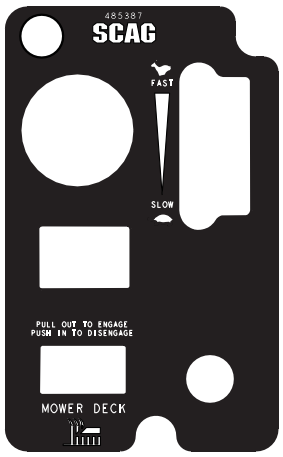

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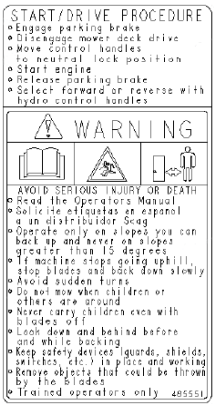

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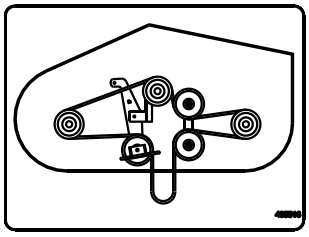

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52 HERO

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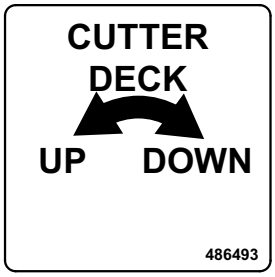

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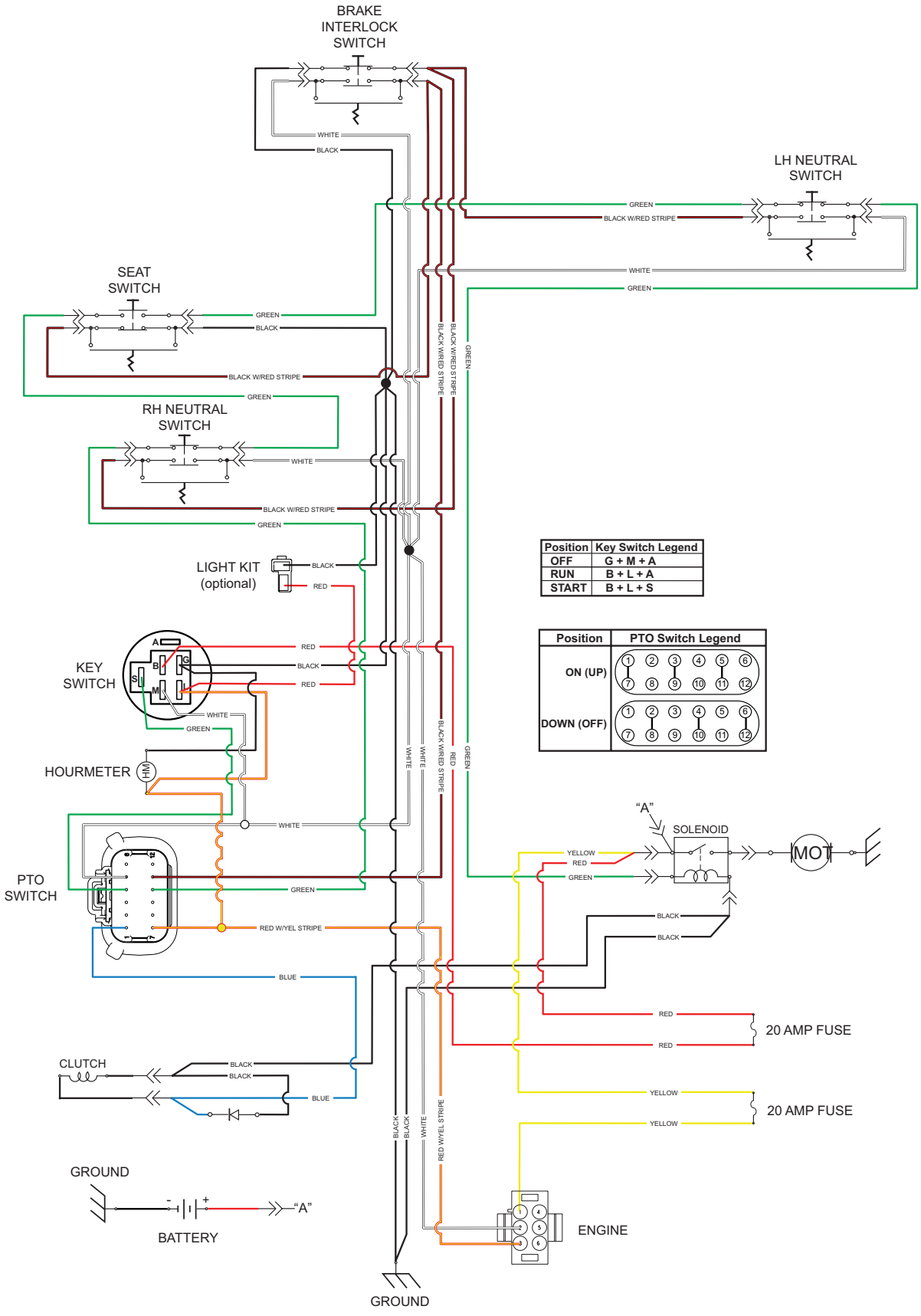
LIBERTY Z
USA SCAG

11

REPLACEMENT DECALS AND INFORMATION PLATES

Ref. No.	Part No.	Qty	Description
1	483402	2	Decal, Belt Cover
2	483405	1	Decal, Warning
3	485551	1	Decal, Start/Drive
4	483505	2	Decal, Spinning Blades
5	482100	2	Decal, Traction Control
6	486492	1	Decal, Height of Cut
7	486797	1	Decal, 36 Hero
	486896	1	Decal, 42 Hero
	486798	1	Decal, 48 Hero
	486799	1	Decal, 52 Hero
	486800	1	Decal, 61Hero
8	483406	1	Decal, Knives
9	486992	1	Decal, Adjustments - SZL
10	485820	1	Decal, Instrument Panel - SZL (36)
	485387	1	Decal, Instrument Panel - SZL (48 52 & 61)
11	486517	2	Decal. Liberty Z - Fuel Tank
12	485821	1	Decal, Belt Routing - SZL (36)
	485516	1	Decal, Belt Routing - SZL(48 52& 61)
13	486493	1	Decal, Cutter Deck Lift Control
*	483900	1	Decal, Warning Spark Arrestor (California Only) - Not Shown
14	485403	1	Decal, USA

ELECTRICAL SCHEMATIC



LIMITED WARRANTY - SZL

Any part of the Scag 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 non-commercial 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 the oil reservoir are warranted for five (5) years / 750 hours (whichever comes first) (Parts and labor) for non-commercial use.
- Cutter decks are warranted against cracking for a period of five (5) years / 750 hours (whichever comes first). First and second year of the warranty covers parts and labor and years three (3) to five (5) covers parts or labor to repair for non-commercial use. The repair or replacement of the cutter deck will be at the option of Scag Power Equipment. We reserve the right to request components for evaluation. This warranty does not cover any mower that has been subject to misuse, neglect, negligence, 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 five (5) year / 750 hour (whichever comes first) (Parts and labor) for non-commercial use by Scag Power Equipment (warranty excludes fittings, hoses, drive belts). The repair or replacement of the hydraulic axles 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 five (5) year / 750 hours (whichever comes first) (Parts and labor) for non-commercial use.
- Spindle assemblies have a Limited Warranty for five (5) years / 750 hours (whichever comes first). First and second year of the warranty covers parts and labor and years three (3) to five (5) covers parts only for non-commercial use.
- Any Scag Liberty Z (SZL) used for Commercial or Rental purposes is not covered under this 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 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. 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 five (5) years / 750 hours for non-commercial use. Accordingly, any such implied warranties including merchantability, fitness for a particular purpose, or otherwise, are disclaimed in their entirety after the expiration of the five (5) year / 750 hour 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 other communication 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