

# SWISHER®

## Response - Big Mow Commercial Pro

with

Patented

**RAPID  
RESPONSE  
CONTROL  
SYSTEM**



ZTR28BT Shown

Model #: ZTR28BT  
Description: 28HP B&S Vanguard Tractor  
Model #: Z31KT  
Description: 31HP Kawasaki Tractor

**SWISHER ACQUISITION INC.**

1602 Corporate Drive, Warrensburg Missouri 64093

Phone: 660-747-8183 FAX: 660-747-8650

Toll Free: 1-800-222-8183

**Manufacturing quality lawn care equipment since 1945,  
Celebrating over 70 years of innovation**



OF U.S. AND GLOBAL PARTS

### OWNER'S MANUAL

STARTING SERIAL # L116-172001

# TABLE OF CONTENTS

LIMITED WARRANTY	3
INTRODUCTION	4-5
- GENERAL	4
- BEFORE OPERATING	4
- UNCRATING & ASSEMBLY	5
SYMBOLS & DECALS	6
SAFETY INSTRUCTION	7-9
- GENERAL USE & SAFETY RULES	7-9
- CHILD SAFETY, SLOPE OPERATION, "ROPS"	10
CUSTOMER RESPONSIBILITY	11-14
- OPERATOR PRESENCE, TIRES, BATTERY	11
- CHARGING TIPS	12
- BELT, ENGINE, OVERALL UNIT CARE	13
- DRIVING AND TRANSPORT ON PUBLIC ROADS	13
- SPECIFICATIONS	13
- MAINTENANCE SCHEDULE	14
OPERATION & FEATURES	15-20
- FEATURES	15-16
- FUEL SHUT-OFF VALVES	16
- FOLDABLE FLOOR PAN	17
- STARTING INSTRUCTIONS	18
- HANDLE NEUTRAL LOCKOUT OPERATION	18
- STEERING CONTROLS	19
- BRAKE & BYPASS OPERATION	20
SERVICE & ADJUSTMENT	21-25
- PARKING BRAKE	21
- TRANSMISSION TRACKING ADJUSTMENT	22
- ENGINE-TO-GEARBOX BELT REPLACEMENT	23
- HYDRO BELT REPLACEMENT	24
- SEAT ADJUSTMENT	25
- HYDRO EXPANSION RESERVOIR	25
TROUBLESHOOTING	26-27
MOWER IDENTIFICATION	28
REPLACEMENT PARTS	29
LIST OF APPROVED ATTACHEMENTS	30

# LIMITED WARRANTY

The manufacturer's warranty to the original consumer purchaser is:

This product is free from defects in materials and workmanship for a period of three (3) years for residential use and one (1) year for commercial use from the date of purchase by the original consumer purchaser.

A Commercial Warranty is defined as the machine exceeding **250** hours of use within the first year from the date of purchase by the original purchaser. If the machine does not exceed **250** hours of use within the first year it is subject to fall under a Residential Warranty.

As required by CFR § 1060.120, the fuel system related components, which have been certified to this equipment by SAI are to be free of defects in material and workmanship for a period of two (2) years from the date of purchase by the original consumer purchaser.

We will repair or replace, at our discretion, parts found to be defective due to materials or workmanship. This warranty is subject to the following limitations and exclusions:

- 1) Engine Warranty            All engines utilized on our products have a separate warranty extended to them by the individual engine manufacturer. Any engine service warranty is the responsibility of the engine manufacturer and in no way is Swisher or its agents responsible for the engine warranty. The Briggs & Stratton Engine Service Hotline is 1-800-233-3723. The Kawasaki Engine Service Hotline is 1-877-364-6404 or email [kawpower-website@kmc-usa.com](mailto:kawpower-website@kmc-usa.com).
- 2) Limitations                This warranty applies only to products which have been properly assembled, adjusted, and operated in accordance with the instructions contained within this manual. This warranty does not apply to any product of Swisher that has been subject to alteration, misuse, abuse, improper assembly or installation, shipping damage, or to normal wear of the product.
- 3) Exclusions                 Excluded from this warranty are normal wear, normal adjustments, normal maintenance, and battery\*(see battery section).

In the event you have a claim under this warranty, you must return the product to an authorized service dealer. All transportation charges, damage or loss incurred during transportation of parts submitted for replacement or repair under this warranty shall be borne by the purchaser. Should you have any questions concerning this warranty, please contact us toll-free at 1-800-222-8183. The model number, serial number, date of purchase and the name of the authorized Swisher dealer from whom you purchased the mower will be needed before any warranty claim can be processed.

THIS WARRANTY DOES NOT APPLY TO ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AND ANY IMPLIED WARRANTIES ARE LIMITED TO THE SAME TIME PERIODS STATED HEREIN FOR ALL EXPRESSED WARRANTIES. Some states do not allow the limitation of consequential damages or limitations on how long an implied warranty may last, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may have other rights, which vary from state-to-state. This is a limited warranty as defined by the Magnuson-Moss Act of 1975.

# INTRODUCTION

## **Congratulations!**

Thank you for purchasing Swisher's Zero Turn tractor. This machine is built for the greatest efficiency for multiple tasks. Innovative handle control design and dual commercial grade hydrostatic transmissions regulated by steering levers contribute to the machine's performance.

**This manual is a valuable document. Following the instructions for use, service, maintenance, etc. can greatly increase the performance and life of your machine.**

### **NOTE:**

If you have never used a Zero Turn mower before, refer to the Operation Controls section of this manual before attempting to operate one for the first time.

## **General:**

In this operator's manual, left and right, backward and forward are used in relation to the normal operator's position.

## **Read Before Operating:**

- This machine is constructed to operate on smooth and relatively flat terrain. The manufacturer's directions concerning operation, maintenance and repairs must be carefully followed.
- This machine must only be operated, maintained, and repaired by persons that are familiar with the machine's special characteristics and who are well versed in safety instructions.
- Accident prevention regulations, other general safety regulations, occupational safety rules, and traffic regulations must be followed without fail.
- Unauthorized modifications to the design of the machine may absolve the manufacturer from liability for any resulting personal injury or property damage and void all warranties.
- Read engine manufacturer's operating and maintenance instructions.
- Read and observe all safety instructions on your mower and in the manual.
- Check engine oil.
- Check fuel caps to ensure that they are in place and securely tightened.
- Know how to set the parking brake.
- Be sure mower blades are turned off – PTO switch pushed down.
- Know how to stop the engine – Turn key to off.
- Know how to stop the unit – Return control handles to neutral.

### **IMPORTANT:**

This engine is not equipped with a spark arrester muffler. It is a violation of California Public Resource Code Section 4442 to use or operate the engine on any forest-covered, brush-covered, or grass-covered land. Other states or federal areas may have similar laws.

# INTRODUCTION

## Uncrating & Assembly:

### Tools Required:

- Tire pressure gauge
- Nail bar or claw hammer
- Wire snips

### **To remove the tractor from the crate:**

- Position crate on a flat, level surface
- Dispose of top and side panels of the crate.
- Remove packing material.
- Cut any banding or strapping that may be holding the tractor to the crate.
- Disconnect the spark plug wire and place where it cannot make a connection.
- Disengage the parking brake by releasing the lock plates and lowering the handle down to the “Disengaged” position. **SEE INSTRUCTION DECAL ON FLOOR PAN OR ON PAGE 20.**
- Remove and dispose of all wheel chocks that are holding the machine in place.
- Open the transmission bypasses by pulling up on the outside (straight) handle located below the left side of the seat. **SEE INSTRUCTION DECAL ON FLOOR PAN OR ON PAGE 20.**
- Carefully push the tractor off the crate to a safe and level area.
- Check engine oil. All engines are filled with oil and tested at the factory. Verify oil level and add if necessary before starting engine. **SEE ENGINE OWNER’S MANUAL FOR OIL GRADE AND PROCEDURES.**
- Check the battery; It may need to be charged with a 12 volt charger for a minimum of one hour, but no more than 2 hours at a rate of 6 to 10 amps. **REFER TO CHARGING TIPS ON PAGE 12.**
- Close the transmission bypasses by releasing the lock plate and lowering the handle down to the “Disengaged” position. **SEE INSTRUCTION DECAL ON FLOOR PAN OR ON PAGE 20.**
- Reconnect spark plug wire.
- Check tire pressure on all four wheels. **REFER TO UNIT SPECIFICATIONS TABLE ON PAGE 13.**
- Before attempting to operate the tractor there must be a front attachment properly connected. **SEE LIST OF APPROVED FRONT ATTACHMENTS ON PAGE 30.**
- **Read all operating instructions, safety instructions, and customer responsibilities before operating this machinery.**

# SYMBOLS & DECALS


**⚠ WARNING**

**AVOID SERIOUS INJURY OR DEATH**

- Read and follow owner's manual.
- Keep hands and feet away from discharge area and blades
- Avoid sudden turns, sudden changes in direction, and sudden changes in speed.
- Go up and down hills (15° maximum), not across.
- If machine stops going uphill, stop blades and back down slowly.
- Look down and behind before and while moving backwards.
- Do not operate when children or others are around.
- Never carry children or others as passengers.
- Keep safety devices (guards, shields, defectors, switches, etc.) in place and operating.
- Remove objects that could be thrown by blades.
- Always set parking brake before leaving seat.
- Be sure blades and engine have stopped before placing hands or feet near blades.
- Know safe operating instructions before starting engine.

18795

18795 - Warning Decal

**⚠ WARNING**

**SERIOUS INJURY OR DEATH MAY RESULT FROM MACHINE ROLLOVER**

- Failure to follow these instructions could result in serious injury or death
- Do not operate machine on steep slopes or near drop offs
- Avoid sharp and/or quick turns
- Do not exceed the machine weight rating of the ROPS
- Always use the seat belt when the ROPS is locked in the upright position
- Do not jump if machine tips
- If ROPS is foldable
  - Always keep the ROPS fully extended
  - **WHEN ROPS MUST BE DOWN-**
    - Do not use seat belt
    - Drive with extra care
- If equipped with seat platform, Do not operate machine without seat platform pins in place

286304500

ROPS Warning Decal

**IMPORTANT**

Operator must be seated to start engine.

OD73

Operator must be Seated Decal - OD73

**IMPORTANT**

Before exiting the vehicle disengage blades, turn off engine, and engage the parking brake

18797

Before Exiting Decal - 18797

**NOTICE**

DO NOT ALTER ELECTRICAL SYSTEM  
WRONG WIRING CONNECTIONS WILL DAMAGE  
ELECTRICAL COMPONENTS AND MAY MAKE  
THE SAFETY SWITCHES INOPERATIVE

OD74

Notice Do Not Alter Wiring Decal - OD74

**⚠ CAUTION**

UNSTABLE SURFACE

**NO STEP**

OD11

No Step Decal - OD11

DANGER

KEEP HANDS and FEET AWAY

OD55

Triangle Danger Decal - OD55

**⚠ DANGER**

**ROTATING DRIVELINE**

CONTACT CAN CAUSE DEATH  
**KEEP AWAY !**

DO NOT OPERATE WITHOUT -  
ALL DRIVELINE, MOWER AND  
EQUIPMENT SHIELDS IN PLACE.  
DRIVELINE IS SECURELY ATTACHED  
AT BOTH ENDS.

19486

Danger / Entanglement - 19486

**⚠ WARNING**

**FLYING DEBRIS**

EYE INJURY AND/OR CUTS  
POSSIBLE.  
KEEP PEOPLE CLEAR OF AREA  
WHEN MOWING.  
USE CHUTE GAURD/COVER OR  
COMPLETE GRASS CATCHER  
WHEN MOWING.  
DEBRIS MAY CAUSE INJURY

OD43

Flying Debris Decal - OD43

**(P) PARKING BRAKE**

CAUTION: VEHICLE MUST BE AT A COMPLETE STOP BEFORE ENGAGING THE BRAKES. DO NOT ATTEMPT TO ENGAGE THE BRAKES WHILE THE VEHICLE IS MOVING.

IMPORTANT: REFER TO MANUAL FOR FURTHER OPERATING INSTRUCTIONS.

**TO ENGAGE:**

1. PULL UP ON THE RIGHT (BENT) HANDLE UNTIL LOCKED IN THE UP (ENGAGED) POSITION.

**TO DISENGAGE:**

1. PULL UP SLIGHTLY ON THE BRAKE HANDLE TO RELEASE TENSION UNTIL THE LOCKING PLATE CAN BE PUSHED DOWN TO RELEASE ITSELF FROM THE LOCKED POSITION.
2. ONCE UNLOCKED, PUSH THE BRAKE HANDLE DOWN UNTIL OUT OF TRAVEL.

**HYDRO BY-PASS OPERATION:**

1. THE LEFT HANDLE IS TO ACTIVATE THE HYDRO BY-PASS AND OPERATES, SEPARATELY, THE SAME AS THE BRAKE ARM. USE ONLY WHEN ENGINE IS TURNED OFF AND MACHINE IS ON LEVEL GROUND.

19484

Brake / Bypass Decal - 19484

SWISHER

A TRADITION OF QUALITY SINCE 1945

www.swisherinc.com

MODEL NO.

SERIAL NO.

Serial # ID Tag

SWISHER

EMISSION CONTROL INFORMATION  
THIS EQUIPMENT MEETS US EPA EVAP STANDARDS:

EPA Certification Decal - 19853

# SAFETY INSTRUCTIONS

These instructions are for your safety. Read them carefully.



This Safety Alert Symbol indicates important messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury.

## General Use:

- Read all instructions in this operator's manual and on the machine before starting it. Ensure that you understand them and then abide by them.
- **DO NOT use this machine without the proper attachment in place.**
- Learn how to use the machine, operate its controls safely, how to stop quickly, and to recognize safety decals.
- Only allow the machine to be used by adults who are familiar with its use and operation.
- Make sure no one else is in the area of the machine when you start the engine, engage the drive, or operate the machine.
- Stop the machine if someone enters the work area.
- Clear the area of objects such as stones, toys, steel wire, branches etc. that may become caught in the blades or thrown.
- Stop the engine and disconnect the spark plug before cleaning the machine or any attachments.
- Never take passengers. The machine is only intended for use by one person.
- Always look around before and during reversing maneuvers.
- Slow down before turning.
- Disengage the attachment mechanism (blades, etc.) when transporting.
- Be careful when rounding fixed obstacles so that the attachment mechanism (blades, etc.) does not hit them.
- Extreme caution should be used when utilizing the equipped lights in low light conditions.
- Keep the machine a safe distance from holes or other irregularities in the ground.
- Never use the machine if you are tired, if you have consumed alcohol or if you are taking other drugs or medications that can affect your vision, judgment or coordination.
- Beware of traffic when working near or crossing a road.
- Never leave the machine unsupervised with the engine running.
- Always shut down the blades, engage the parking brake, stop the engine and remove the ignition key before leaving the machine.
- Never allow children or other persons not trained in the use of the machine to use or service it. Local laws may regulate the age of the user.
- Make sure that you have first aid equipment close at hand when using the machine.
- Never use the machine when barefoot. Always wear protective shoes or boots.
- Always wear protective glasses or a full visor when assembling and/or driving.
- Always wear hearing protection.
- Never wear loose clothing that can get caught in moving parts.
- Always make sure long hair is not left down when servicing and/or operating the machine. Make sure hair is out of the way of any moving parts or pinch points.



### **WARNING:**

Refer to the Operation Controls section of this manual before attempting to operate the mower for the first time.

# SAFETY INSTRUCTIONS

## Mowing Safety:

- WARNING – Gasoline is highly flammable.
  - Store fuel in approved containers specifically designed for this purpose.
  - Refuel outdoors only and do not smoke while refueling.
  - Add fuel before starting the engine. Never remove the cap of the fuel tank or add gasoline while the engine is running or when the engine is hot.
  - If gasoline is spilled, do not attempt to start the engine but move the machine away from the area of spillage and avoid creating any source of ignition until gasoline vapors have dissipated.
  - Replace all fuel tanks and container caps securely.
- Replace faulty or damaged muffler.
- Before using, always visually inspect to see that all bolts and nuts are secure.

## Maintenance & Storage:

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Never store equipment with gasoline in the tank inside a building(s) where fumes can reach an open flame or spark.
- Allow the engine to cool before storing in any enclosure.
- To reduce the risk of fire, keep the engine, muffler, battery compartment and gas tanks free of grass, leaves or excessive grease.
- Check the grass chute frequently for wear or deterioration.
- Replace worn or damaged parts for safety.
- If the fuel tank has to be drained, this should be done outdoors in an approved gasoline container and/or properly disposed of.
- When machine is to be parked, stored or left unattended the parking brake should be set and any attachments should not be left in the tilted position unless a positive lock is used to properly secure the attachment. Refer to the appropriate attachment operators manual for instructions on properly attaching the safety chains.



### **WARNING**

When it is necessary to raise the mower for any repair or service, use jackstands to provide adequate support. **DO NOT** rely on hydraulic or mechanical jacks.



# SAFETY INSTRUCTIONS

## General Use Continued...

### Training:

Important: All drivers should seek & obtain professional & practical instruction. Such instruction should emphasize:

- The need for care and concentration when working with ride-on machines.
- Control of a ride-on machine sliding on a slope will not be regained by the application of the parking brake. The main reasons for loss of control are:
  - Insufficient wheel grip.
  - Slick ground condition (wet).
  - Being driven too fast.
  - Inadequate braking.
  - The type of machine is unsuitable for its task.
  - Lack of awareness of the effect of ground conditions, especially slopes.
  - Slope is too steep.
  - Incorrect hitching and load distribution.

### Operation:

- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- Always disengage PTO switch, set the parking brake, turn the engine off, and remove the key when leaving the machine during operation.
- When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the machine while in operation.
- Never operate machine near bodies of water, retaining walls, cliffs or tall curbs. Give the machine ample room to operate, turn around and/or come to a complete stop.
- Engaging the transmission bypass will allow the drive wheels to turn freely. Only engage the bypass on level ground. DO NOT engage the bypass on an inclined surface.
- Never operate the machine with defective guards or without safety protective devices in place.
- Do not change the engine governor settings or over-speed the engine. Operating the engine at excessive speed can increase the hazard of personal injury. This may also void the warranty.
- Disengage drive to attachments, stop the engine, disconnect the spark plug wire(s) and remove the ignition key:
  - Before checking, clearing or working on the machine.
  - Before placing the attachment into the maintenance or tilted position.
  - Before clearing blockages or unclogging chute.
  - After striking a foreign object, inspect the machine immediately for damage and make repairs before restarting and operating the equipment.
  - If the machine starts to vibrate abnormally, check immediately.
  - Before refueling.
  - Before removing the safety shields.
  - Before making height adjustment unless adjustment can be made from the operator's position.

# SAFETY INSTRUCTIONS

## Children:

- Children are often attracted to the machine and mowing work. Serious accidents may occur if you fail to be cautious for children in the area of the machine.
- Never assume that children will stay put where you last saw them.
- Keep children away from the mowing area and under close supervision by another adult.
- Shut off the machine if children enter the work area.
- Never allow a child to ride with you.
- Never allow children to operate the machine.
- Be extra cautious near corners, bushes, trees or other objects that block your view.

## Slope Operation:

- Remove obstacles such as stones, tree branches, etc.
- Mow up and down, not side to side. Never drive the mower on terrain that slopes more than 15 degrees.
- Avoid starting or stopping on a slope. If the tires begin to slip, disengage the blades and drive slowly down the slope.
- Always drive evenly and slowly on slopes.
- Do not make sudden changes in speed or direction.
- Avoid unnecessary turns on slopes, if it become necessary, turn slowly and gradually downward, if possible.
- Watch for holes, ruts or bumps. On uneven terrain, the machine can tip more easily. Long grass can hide obstacles.
- Drive slowly and use small movements of the steering controls.
- Do not mow wet grass. It is slippery, and the tires can lose traction, allowing the machine to slide.
- Do not try to stabilize the machine by putting a foot on the ground.

### **Remember:**

**The operator is responsible for avoiding dangers or accidents.**



### **WARNING**

**When using the machine, approved personal protective equipment shall be used. Personal protective equipment cannot eliminate the risk of injury, but it will reduce the degree of injury if an accident does occur. Ask your retailer for help in choosing the right equipment.**



## Roll Over Protective Structure (ROPS) & Seat Belt Use:

- ALWAYS use the seat belt when the ROPS is in the upright and locked position.
- Do not jump if machine tips.
- If ROPS is foldable:
  - Always keep the ROPS fully extended.
  - WHEN ROPS MUST BE DOWN:
    - Do not use seat belt.
    - Drive with extra care.
- If equipped with foldable seat platform, do not operate machine without seat platform locks in place.

# CUSTOMER RESPONSIBILITIES

## Operator Presence System:

Be sure check that the operator presence and safety interlock systems are working properly before every use. If your tractor and attachment do not function together as described, the machine should not be used until repaired.

- The engine should not start unless the parking brake is engaged and the PTO (Blade Engagement Switch) is disengaged (pressed down). – See OPERATION FEATURES section of this manual.
- When the engine is running and the brake is disengaged, the operator should never leave the seat without first setting the parking brake and shutting off the engine. If the operator attempts to leave the seat without first setting the brake, the engine should shut off.
- When the engine is running and the PTO switch is engaged, any attempt by the operator to leave the seat without first disengaging the PTO switch should shut off the engine.
  - The PTO switch should never engage without the operator on the seat.
- If using a finish cut mower attachment, any attempt to tilt the deck into the maintenance position with the engine still running should shut off the engine. If this happens tilt the deck back down to a level position before attempting to re-start the engine.
- Some attachment height/tilt switches will cut out at the top of the height adjustment as well as the end of the tilt function. This is to prevent overloading of the winch. When these positions are reached the winch should not be able to continue lifting. However the attachment can be let down, which should reset the switch operation.

## Tires:

- Maintain proper air pressure in all tires (SEE SPECIFICATIONS section)
- Keep tires free of gasoline, oil or insect control chemicals which can harm rubber.
- Avoid stumps, stones, deep ruts, sharp objects and other hazards that may cause tire damage.

## Battery:

### **To clean battery and terminals:**

- Always wear proper protective gear when working on batteries.
- Open the battery compartment and place lid to the side.
- Remove the BLACK terminal guard.
- Disconnect the BLACK battery cable and locate it where it cannot come into contact with the battery.
- Remove the RED terminal guard.
- Disconnect the RED battery cable and other wires. Locate it where it cannot come into contact with the battery.
- Remove the battery hold down bracket and remove battery.
- Rinse the battery with plain water and dry.
- Clean terminals and battery cable ends with wire brush until shiny.
- Coat terminals with Dielectric Grease or Petroleum Jelly. (This helps seal and prevent corrosion.)
- Reinstall battery and secure the battery hold down bracket.
- Reconnect the battery cables. Attach the RED cable first then the BLACK cable.
- Reinstall the battery covers for each cable and terminal.
- Reinstall the battery compartment lid.



### **WARNING**

•When it is necessary to raise the mower for any repair or service, use jackstands to provide adequate support. DO NOT rely on hydraulic or mechanical jacks.

•The battery contains sulfuric acid and electrolytes which are poisonous and corrosive.

# CUSTOMER RESPONSIBILITIES

## Charging Tips:

- To avoid a battery damage/explosion, never attempt to charge a frozen battery.
- **Warning:** Gel and AGM (Absorbed Glass Mat) batteries require a voltage-limited charger. Charging a Gel or AGM battery on a typical shop charger, even one time, may greatly reduce its life.
- **Important:** Never overcharge batteries. Excessive charging will reduce battery life or could result in the battery exploding
- Prior to charging, read the manufacturer's instructions for proper charger hook-up and use.
- Turn off charger prior to hookup to avoid dangerous sparks. **PROTECT YOUR EYES!** Safety glasses and gloves should be worn.
- **Warning:** If the electrolyte is accessible, verify that plates are covered before beginning to charge. At the end of charge, add distilled water as needed to bring levels to the proper height. If water is added, charge for an additional 30 minutes to mix. If electrolyte levels are low but battery is not accessible, remove battery from service.
- The maximum charge rate in amperes should be no more than 1/3 of the battery's reserve capacity minute rating. If the terminal voltage exceeds 16.0 volts while charging, reduce the charge rate.
- Continue charging and reduce the rate as needed until a 2 hour period results in no increase in voltage or decrease in current.
- If violent gassing or spewing of electrolyte occurs or the battery case feels hot to the touch, temporarily reduce or halt charging.

VOLTAGE		STATE OF CHARGE	APPROX. BATTERY CHARGING TIME * TO FULL CHARGE AT 80°F/27°C			
STANDARD BATTERY			MAXIMUM RATE AT			
6 V	12 V		50 AMPS	30 AMPS	20 AMPS	10 AMPS
6.3	12.6	100%	FULL CHARGE			
6.2	12.4	75%	20 MIN.	35 MIN.	48 MIN.	90 MIN.
6.1	12.2	50%	45 MIN.	75 MIN.	95 MIN.	180 MIN.
6	12	25%	65 MIN.	115 MIN.	145 MIN.	280 MIN.
5.9	11.8	0%	85 MIN.	150 MIN.	195 MIN.	370 MIN.

\* Test wet batteries every 4-6 months and recharge if necessary.  
Always test and charge if necessary before installation.

# CUSTOMER RESPONSIBILITIES

## V-Belts:

Check V-belts for deterioration and wear before each use and replace if necessary. Replace belts if they begin to slip from wear. SEE SPECIFICATION for belt part numbers and SERVICE section of this manual for instructions on how to replace the belt.

## Engine:

REFER TO YOUR ENGINE OWNERS MANUAL.

## Overall Unit Care:

- Reduce the risk of fire by removing grass, leaves and other debris that may have accumulated on the machine.
- Allow the machine time to cool before cleaning or putting it in storage.
- Wash mower periodically. Clean above and below deck.
- Keep all electrical connections clean and tight.

## Driving & Transport on Public Roads:

- Check applicable road traffic regulations before driving and transporting on public roads.
- If the machine is transported, you should always use approved fastening equipment and ensure that the machine is well anchored to the towing vehicle.
- The attachment should also be lowered to the lowest position and the parking brake engaged during transport.

## Specifications

GASOLINE CAPACITY AND TYPE	DUAL 4.0 GAL TANKS; UNLEADED REGULAR
OIL TYPE (SPI-SF-SJ):	SEE ENGINE MANUAL
SPARK PLUG	SEE ENGINE MANUAL
GROUND SPEED	0 – 10 mph
CASTER WHEEL SIZE (REAR)	11 X 6 - 5 Smooth w/ 5/8 Bearing
DRIVE WHEEL SIZE	23 X 10 – 10 Chevron Tread
TIRE PRESSURE	FRONT: 40 psi Max / REAR: 22 psi Max
BATTERY	12V / Heavy Duty 340 CCA / Type U1L
HYDRO BOLT TORQUE	27 ±3 ft. lbs
PARKING BRAKE	Manual Lever
REAR AXLE	Pivoting; Welded 2 x 2 x 1/8" Wall Steel Tubing
SEAT	Suspension; 18" Back w/ Adjustable Arm Rest / 6" Adjustable Slide / Seat Belt / Adjustable Lumbar Tilt
TRANSMISSION	Commercial Grade Hydro-Gear ZT-3400
ATTACHMENT HEIGHT ADJUST	Electric Hand & Foot Operated Switches
STRAP DRUM WINCH	12V / 45 AMP Max: 600 lbs. Line Pull Max
UNIT MEASUREMENTS	LENGTH: 81" WIDTH: 68" (Including Grass Chute) HEIGHT: 66 ½" / 46" (w/ ROPS folded down) WEIGHT: 890 lbs (B&S) / 975 lbs (Kawasaki)

# CUSTOMER RESPONSIBILITIES

## Maintenance Schedule

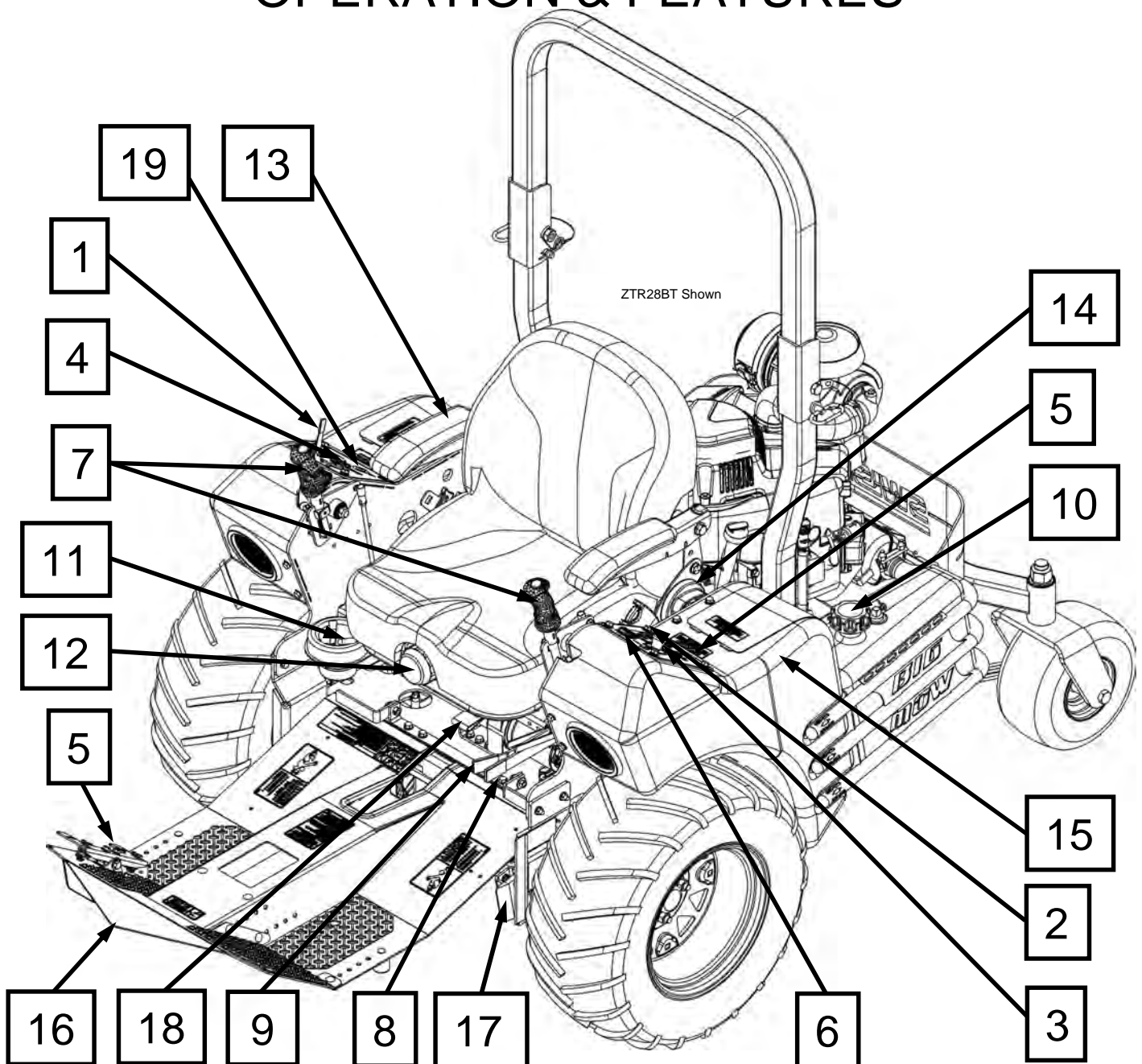
	Before Each Use	8 Hours	25 Hours	50 Hours	100 Hours	Season	Before Storage
Check Brake Operation	<b>X</b>	<b>X</b>					
Check Tire Pressure	<b>X</b>	<b>X</b>					
Check Operator Presence	<b>X</b>						
Parking Brake	<b>X</b>						
Check for Loose Fasteners	<b>X</b>				<b>X</b>		<b>X</b>
Check Battery			<b>X</b>				<b>X</b>
Clean Battery & Terminals			<b>X</b>				<b>X</b>
Check Belts	<b>X</b>						
Check Engine Oil	<b>X</b>	<b>X</b>					
Change Engine Oil w/ Filter				<b>X<sub>1,2</sub></b>			
Change Engine Oil w/o Filter			<b>X<sub>1,2</sub></b>				
Clean Air Filter			<b>X<sub>2</sub></b>				
Inspect Muffler				<b>X</b>			
Inspect Winch Strap	<b>X</b>		<b>X</b>				
Clean Engine & Hydro Cooling Fins					<b>X<sub>2</sub></b>		
Replace Spark Plug					<b>X</b>	<b>X</b>	
Replace Fuel Filter						<b>X</b>	
Remove Debris	<b>X<sub>3</sub></b>					<b>X</b>	<b>X</b>

1 – Change more often when operating under a heavy load or in high ambient temperatures.

2 – Service more often when operating in dirty or dusty conditions.

3 – Clean off more frequent when mowing in tall or dry grass conditions or with excessive debris.

# OPERATION & FEATURES



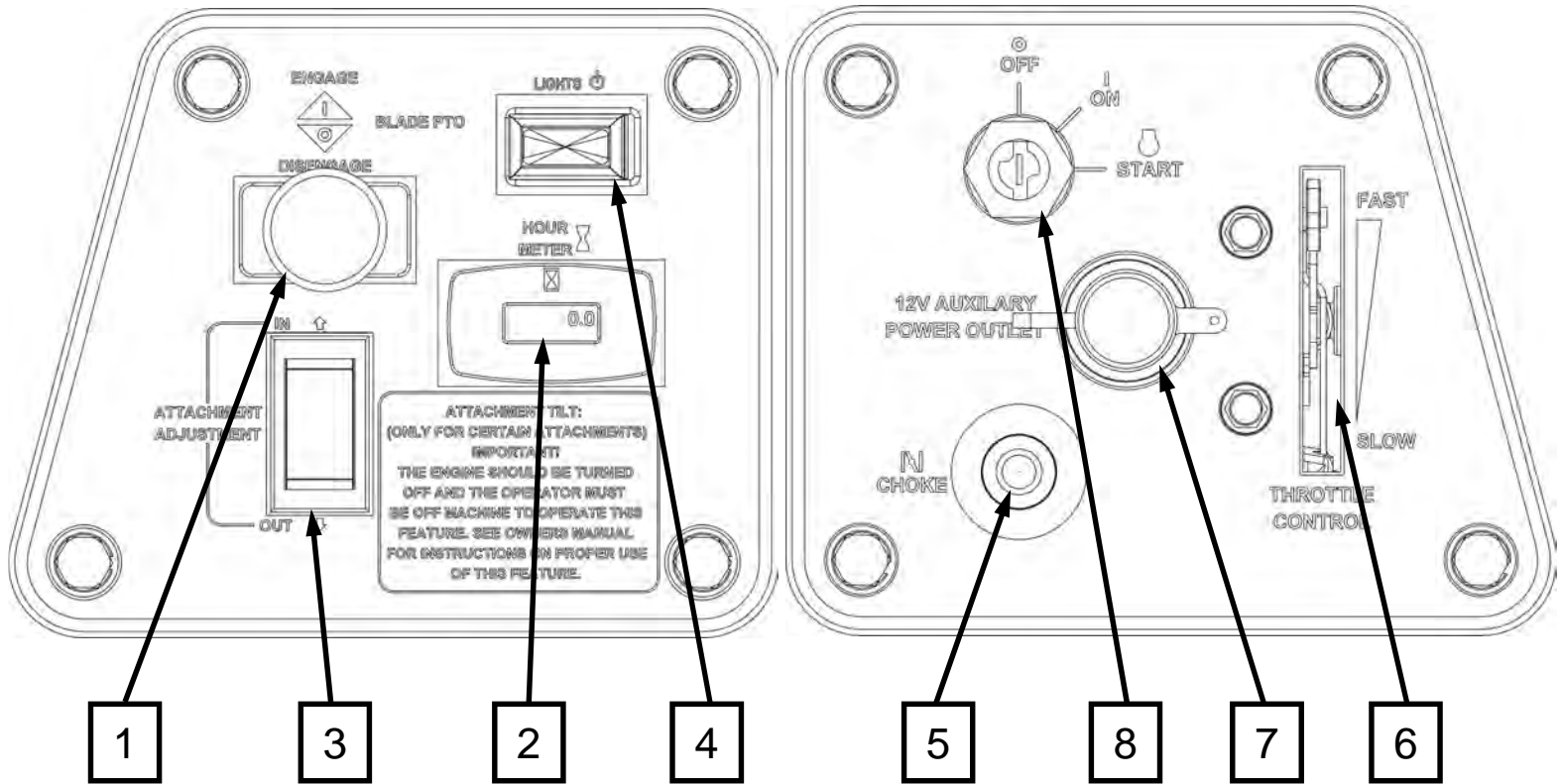
1. Throttle Control – Used to control engine speed.
2. Hour Meter – Indicates hours of operation.
3. PTO Switch – Used to engage or disengage the attachment mechanism.
4. Ignition Switch – Used to start or stop the engine.
5. Attachment Lift Switch – Used to raise and lower the attachment (if equipped).
6. Light Switch – Turns lights on and off
7. Control Lever – Sets the speed of the mower in both the forward and reverse directions and also turns the mower.
8. Hydro Bypass – Allows transmissions to be moved manually by pushing and pulling.

9. Brake Lever – Engages the parking brakes.
10. Fuel Tanks – Dual 4.0 gal.
11. Seat Slide – Adjusts the seat front to back
12. Seat Weight Adjustment – Adjusts the stiffness of the seat suspension.
13. Adjustable Arm Rests – Raise and lower
14. Seat Lumbar Adjustment – Adjust the seat back angle.
15. Battery – Power the machine
16. Adjustable Foot Switch Plate - Moves the position of the foot switch.
17. Attachment Receiver – Connects to attachment
18. Winch & Strap
19. Choke Cable – Kawasaki Only

# OPERATION & FEATURES

## Left Control Panel

## Right Control Panel



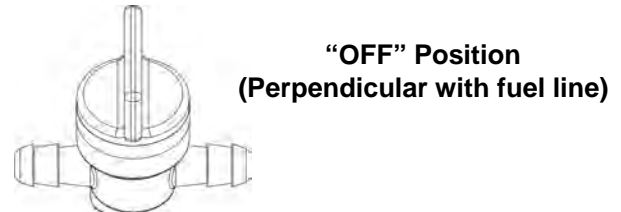
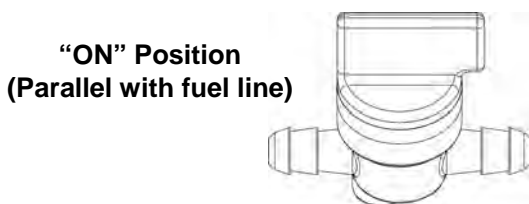
1. PTO / Attachment Engagement Switch
2. Hour Meter – Indicates hours of operation
3. Attachment Height/Tilt Adjustment Switch
4. Light Power Switch

5. Choke Cable (Not on 28HP Vanguard EFI Engine)
6. Throttle Control Cable
7. 12V Accessory Outlet Plug
8. Starting Key Switch

**NOTE:**  
If you have never used a Zero Turn mower before, refer to the Operation Controls section of this manual before attempting to operate one for the first time.

## Fuel Shut-Off Valves

- The Swisher Big Mow is equipped with two shut-off valves, one for each tank. These are located behind the seat and in front of the engine.
- Only one tank should be used while operating the machine. When that tank runs empty or is close to running empty, turn off that fuel shut-off valve and turn on the opposite shut-off valve. Operating the machine with both valves open could cause the system to pull air from an empty tank.





# OPERATION & FEATURES

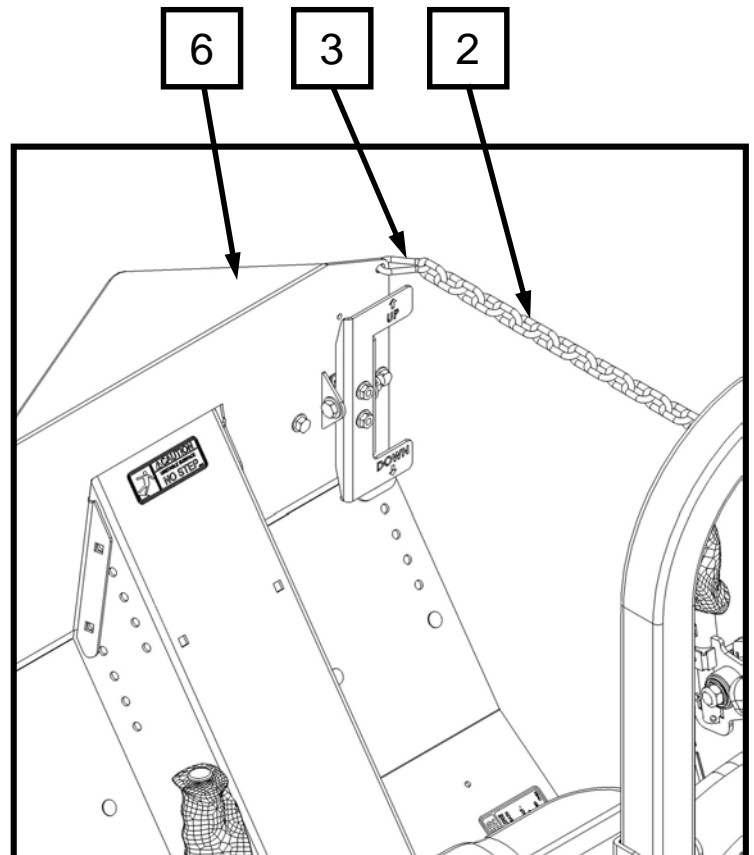
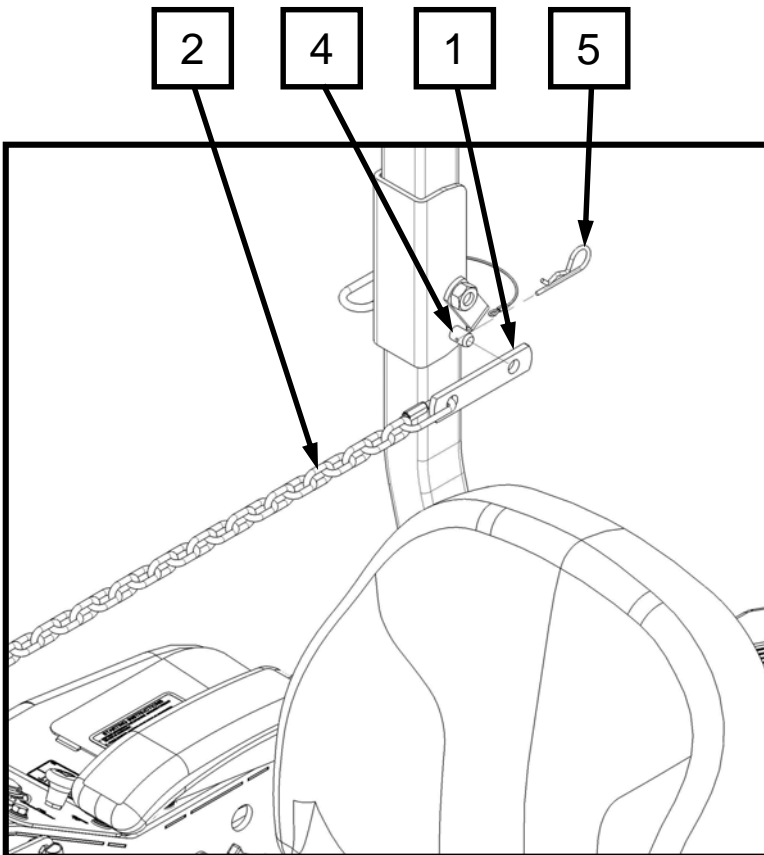
## Foldable Floor Pan:

- The Swisher Big Mow is equipped with a foldable floor pan. It is used for resting your feet while operating the machine.
- The floor pan is foldable to allow it to be raised up and out of the way while adding or removing an attachment or while servicing the machine.
- Two safety chains with plates and clips should be installed on the machine in the crate and is used for supporting the floor pan when folded up.
- Always use both safety chains when working underneath the floor pan. Failure to follow this could result in injury.

## Steps for attaching the safety chain:

- Attach the chain support plate to the ROPS pin and secure it using the ROPS clip pin.
- Once the chain plate is connected to the ROPS, check the positioning of the carbine clip. It should be located on the 36<sup>th</sup> chain link when counting from the chain plate.
- Lift the floor pan up and attach the carbine clip to the floor pan.
- Repeat these steps for the opposite side.

- |    |                     |
|----|---------------------|
| 1. | Chain Support Plate |
| 2. | Support Chain       |
| 3. | Carbine Clip        |
| 4. | ROPS Pin            |
| 5. | ROPS Clip Pin       |
| 6. | Floor Pan           |



# OPERATION

## Starting:

Starting Instructions are also included on the right side fender compartment decal.

- Before starting the vehicle, be sure the area is clear of any people or animals.
- Operator must first be sitting in the seat (with seat belt fastened only with ROPS in the upright position).
  - Control handles must be in the neutral lockout position.
  - PTO switch must be in the disengaged position (pushed down).
  - Brake must be engaged.
  - Front attachment must be in an operating position, not in the maintenance/tilt position.
  - Throttle should be in “slow” position.
- Turn ignition key until engine runs. If the engine struggles to start, engage the choke until the engine fires, then disengage the choke before operating.
  - The 28HP Vanguard EFI engine is not equipped with a choke cable.
- Once started, set engine RPM to maximum (Fast) and then engage the blades to begin mowing.

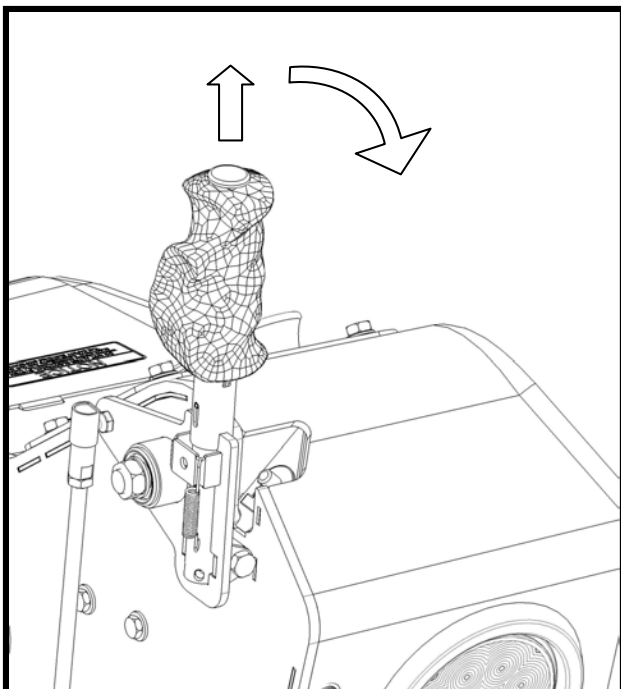
## Control Handle Operation:

To engage the neutral lockout position for starting, lift both control handles up and lay them towards the outside of the mower until they are resting in the notched area and out of travel.

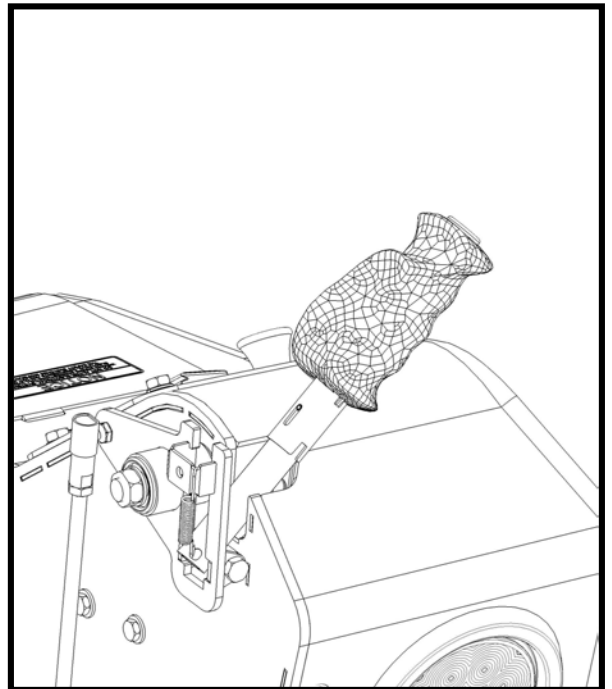
- The machine will only start if the control handles are placed in the neutral lockout position.
- The handles are spring loaded so some force will be needed to lift the handles up.
- The spring that is visible helps assist the handles into the neutral lockout position.

When bringing the handles back to the operating position some force will be needed to lift the handles upward and also inward until they are locked on the handle plate.

Operating Position



Neutral Lockout Position

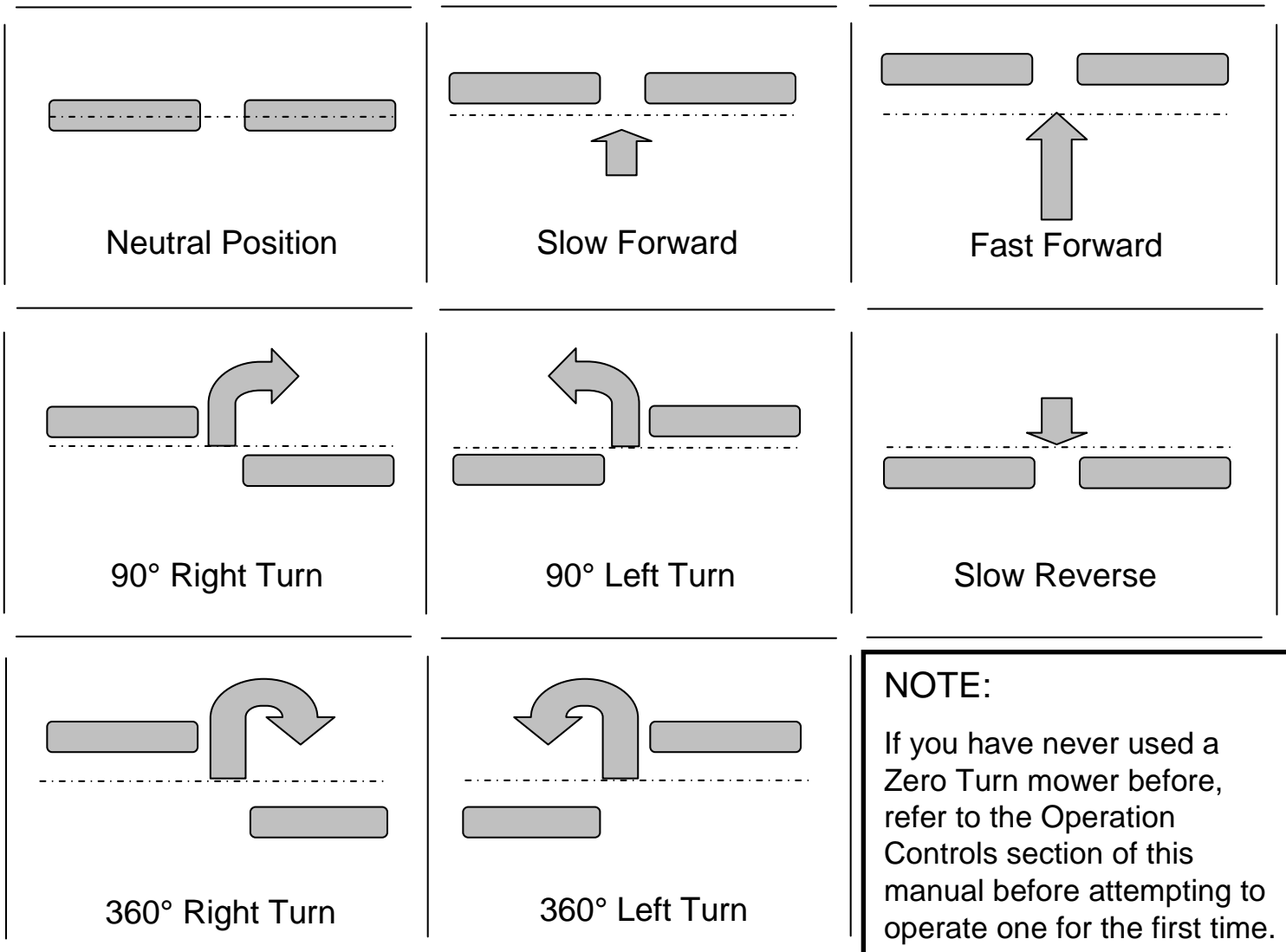


# OPERATION

## Controls

- Be familiar with all controls, their functions and how to operate them before starting the machine.
- Motion control levers on each side of the seat control the direction of movement.  
SEE FIGURE BELOW
- When operating use smooth, controlled movements on the control handles. Using quick, erratic movements can cause the machine to become out of control.

## Control Handles



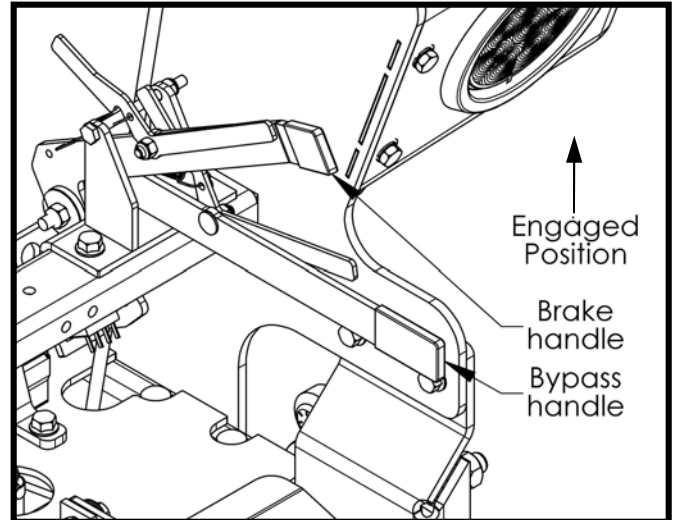
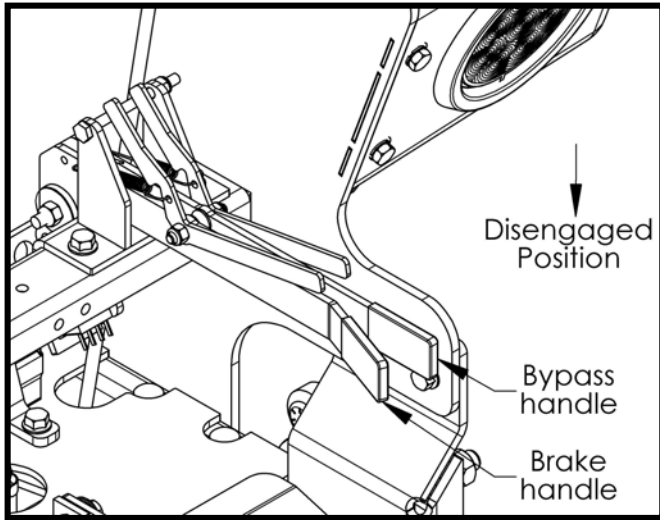
**Note: The force required to operate the mower control handles is minimal.**

# OPERATION

## Parking Brake / Transmission Bypass Operation

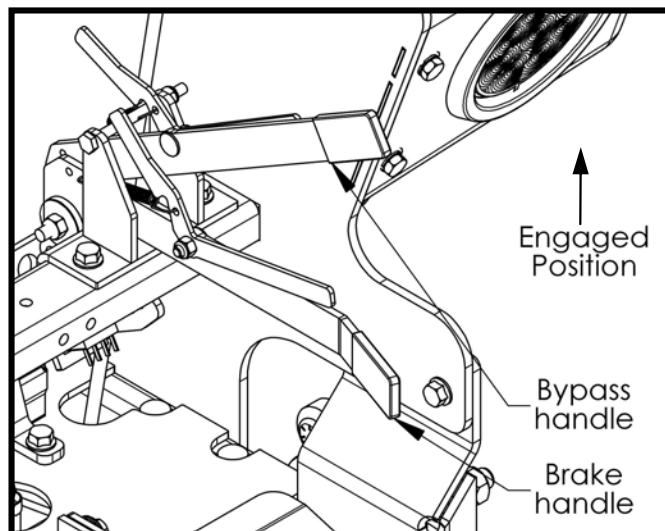
### Parking Brake:

- Be sure the vehicle is not moving before engaging the brake. Only engage the parking brake on level ground. DO NOT engage the brake on an inclined surface.
- To engage, pull up on the brake handle (inside lever) until the locking plate is seated in the locked position.
- To disengage, push down on the lock plate until it is released from the locked position. Once unlocked, push the brake handle down until it is out of travel.



### Bypass:

- Engaging the transmission bypass will allow the drive wheels to turn freely. Only engage the bypass on level ground. DO NOT engage the bypass on an inclined surface.
- To engage the transmission bypass, pull up on the bypass handle (outside lever) only. Note only this handle should come up.
- To disengage, push down on the lock plate until it is released from the locked position. Once unlocked, push the bypass handle down until it is out of travel.



# SERVICE & ADJUSTMENTS

## Parking Brakes / Transmission Bypass Adjustments

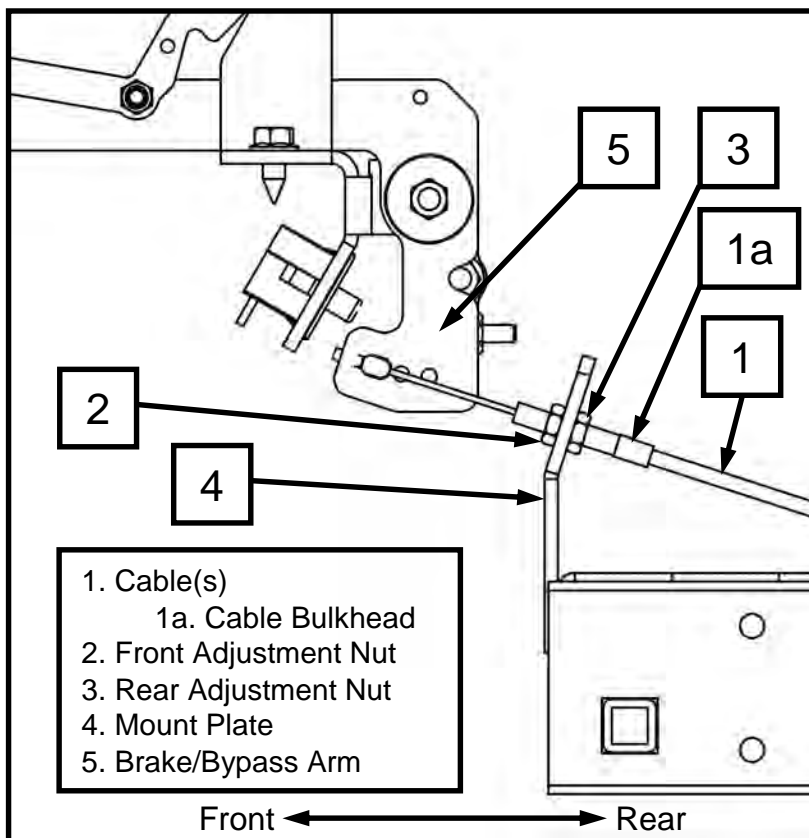
- The Swisher Big Mow is equipped with a manual parking brake and transmission bypasses levers. This system must be engaged by the operator before starting the vehicle and also before exiting the vehicle.
- Only when the control handles are in the neutral position and the machine is not moving should the brakes be engaged. DO NOT attempt to engage the brake while the vehicle is moving or on an inclined surface.
- Adjustments for the system are located on the left side underneath the seat and brake/bypass levers.

### Checking if adjustments are needed:

- Raise wheels off the ground and place jack stands underneath the vehicle.
- Engage the brakes. To see if the brakes are fully engaged, spin the rear wheel by hand.
- If the rear wheels spin more than 10° while the brake is set to engaged then adjustments are needed.

### Making Adjustments:

- Disengage the brake before performing adjustments.
- Start by loosening the front adjustment nut.
- Tighten the rear adjustment nut while making sure the cable bulkhead does not spin. Pliers may be needed to keep the bulkhead from spinning.
  - Make small adjustments approximately an 1/8" to a 1/4" at a time.
- Tighten the front adjustment nut once all adjustments are made.
- Re-engage the brake to check if the adjustments were enough to fully engage the brakes. If not repeat the previous steps until the wheels can no longer spin more than 10° while the brake lever is set to engaged.



### WARNING

When it is necessary to raise the tractor for any repair or service, use jack stands to provide adequate support. DO NOT rely on hydraulic, pneumatic or mechanical jacks.

# SERVICE & ADJUSTMENTS

## Hydro Transmission Tracking Adjustment:

**Note: Operating the machine at full speed is not recommended. Rough terrain could cause the machine to become out of control, resulting in injury or loss.**

When operating the machine in a straight line with both handles pushed fully forward, if the machine pulls to one side over an extended length the hydrostatic transmissions may be in need of a tracking adjusting. Before making any adjustments, first check the tracking of the machine on a smooth level surface like a cement or paved surface. Uneven terrain makes it difficult to determine if a machine is tracking properly.

Example: If the machine pulls to the right this means the left side transmission is spinning faster than the right transmission. Follow the steps to properly adjust the tracking.

- Determine which side needs to be adjusted (see example above).
- Turn off the engine, apply the parking brake, and remove the key from the ignition
- Disconnect spark plug wire.
- Once it is determined which transmission needs to be adjusted, find the adjustment bolt (2).
- Loosen the locking nut (3).
- Have a second person hold the handle of the transmission needing the adjustment all the way forward.
- Turn the adjustment bolt clockwise until it comes into contact with the frame tube.
- Once the adjustment bolt is touching the frame tube, continue to turn it clockwise  $\frac{1}{4}$  to  $\frac{1}{2}$  turn.
- Release the handle and tighten the locking nut.
- Operate the machine in a straight line to test the adjustment made.
- If needed, continue repeating the steps above on the same transmission until the problem is corrected and the machine will operate in a straight line.

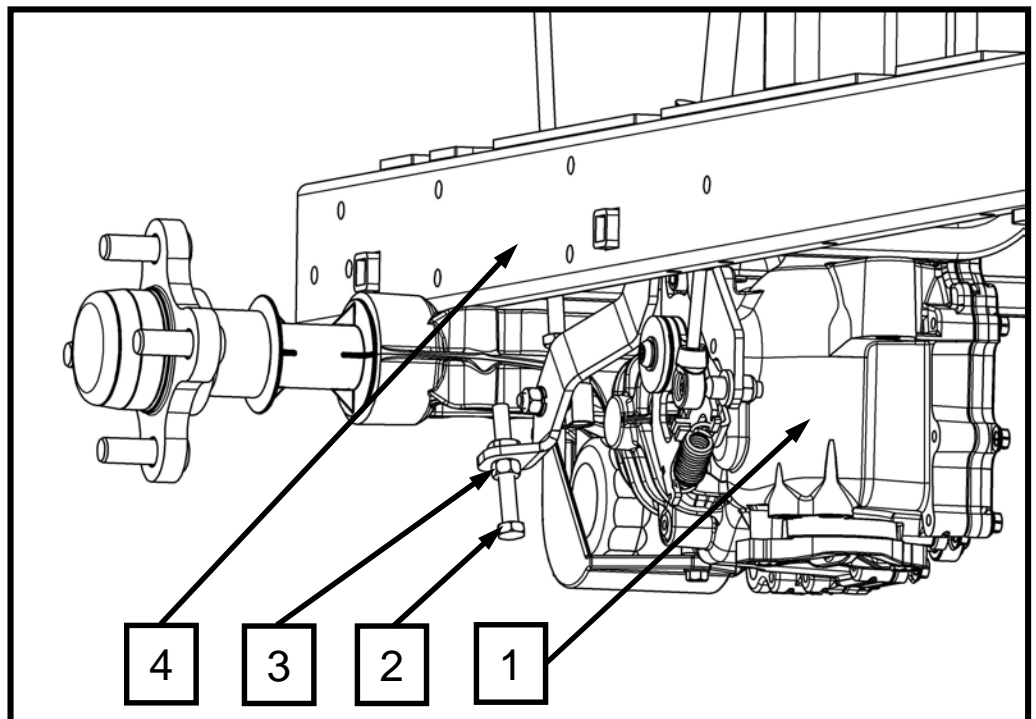
*Note: this view is looking underneath the left side of the machine. Some parts have been hidden for clarity.*

1. Hydro Transmission
2. Adjustment Bolt
3. Locking Nut
4. Frame Tube



### WARNING

When it is necessary to raise the machine for any repair or service, use jack stands to provide adequate support. DO NOT rely on hydraulic, pneumatic or mechanical jacks.



# SERVICE & ADJUSTMENTS

## Engine-to-Gearbox Belt Routing & Replacement

For replacement belt part number refer to Replacement Parts Quick Reference Chart in this manual.

### Removal

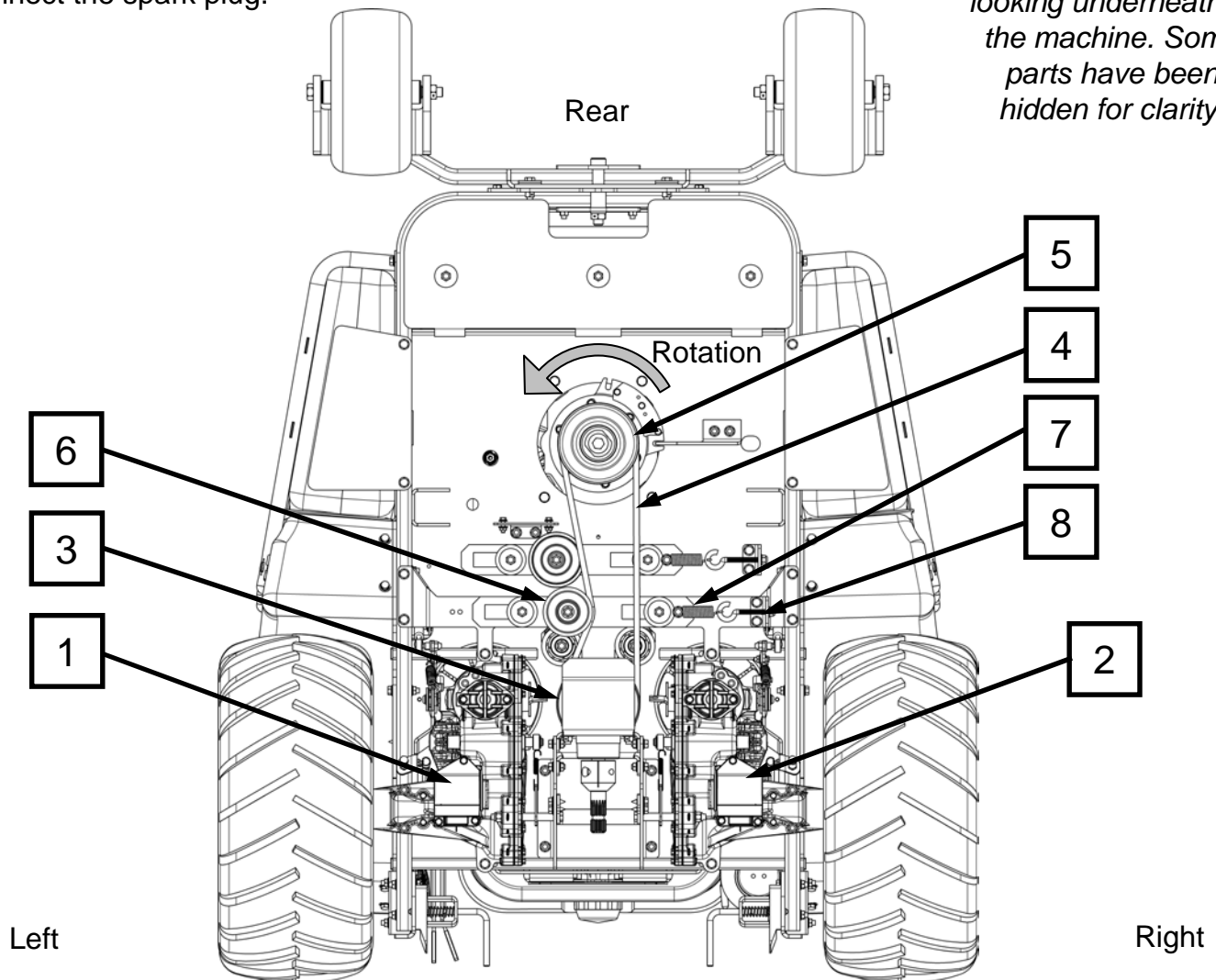
- Disconnect spark plug wire.
- Apply parking brake.
- Loosen the nut on the idler eyebolt.
- Remove the idler spring from the idler eyebolt to relieve tension in the belt.
- Slide the tension idler pulley to the end of the travel.
- Roll the belt over the top of the gearbox pulley.
- Remove the belt from the clutch pulley.

1. Left Side Hydro
2. Right Side Hydro
3. Gearbox Pulley
4. Engine-to-Gearbox Belt
5. Clutch Pulley
6. Sliding Tension Idler Pulley
7. Idler Spring
8. Idler Eyebolt

### Replacement

- Install new belt by placing it around the engine-to-gearbox pulley.
- Roll the belt onto the clutch pulley. Refer to routing diagram below.
- The belt will be loose at this time.
- Reconnect the idler spring to the idler eyebolt.
- Tightly secure the belt tension back to its original position.
- Check for sufficient tension on all belts.
- Reconnect the spark plug.

*Note: this view is looking underneath of the machine. Some parts have been hidden for clarity.*



# SERVICE & ADJUSTMENTS

## Hydro Belt Routing & Replacement

For replacement belt part number refer to Replacement Parts Quick Reference Chart in this manual.

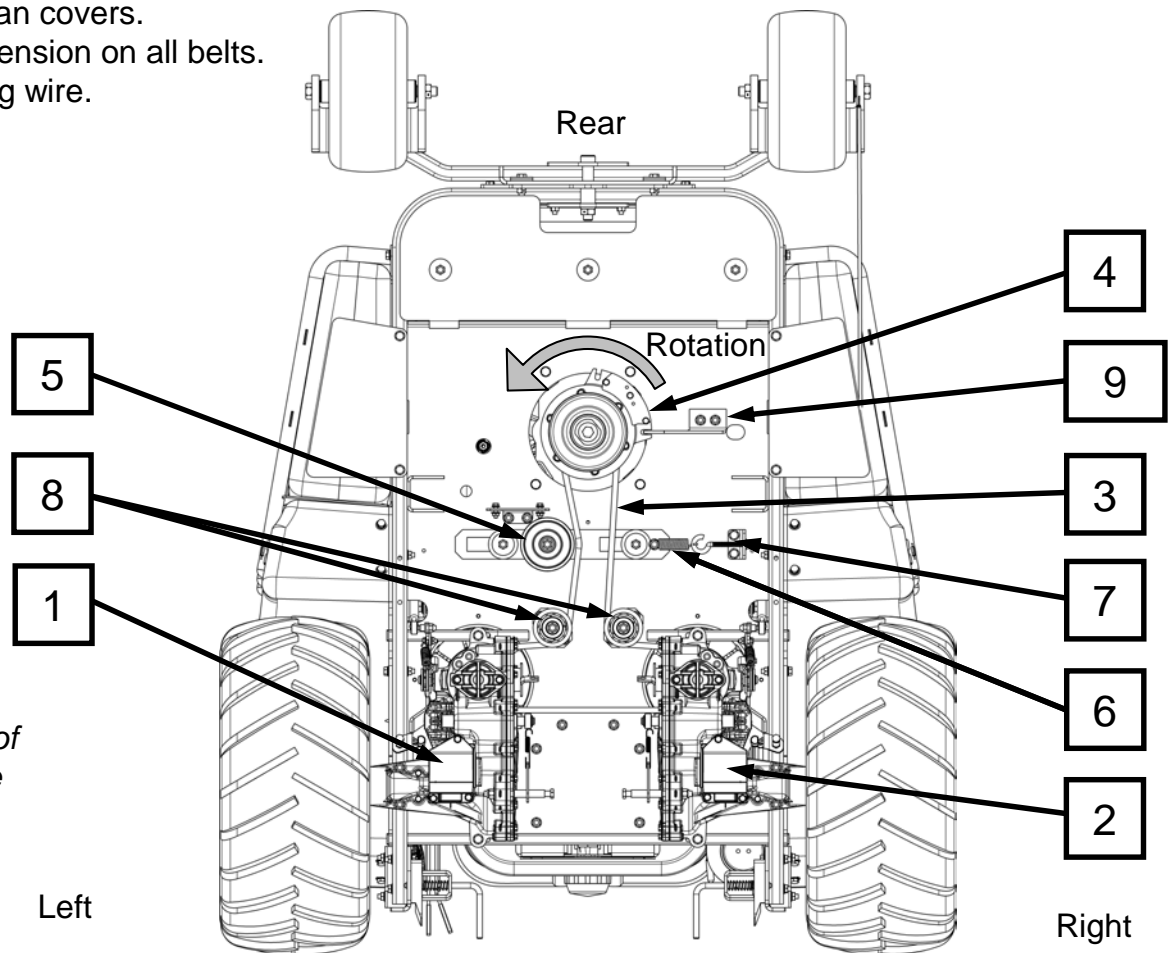
### Removal

- Disconnect spark plug wire.
- Apply parking brake.
- Remove both hydro fan covers.
- Remove the engine-to-gearbox belt (refer to page 23).
- Disconnect wiring from electric clutch.
- Remove clutch stop.
- Loosen the nut on the idler eyebolt.
- Remove the idler spring from the idler eyebolt to relieve tension in the belt.
- Slide the tension idler pulley to the end of the travel.
- Remove belt from the engine pulley and from the hydro pulleys.

- |    |                           |
|----|---------------------------|
| 1. | Left Side Hydro           |
| 2. | Right Side Hydro          |
| 3. | Hydro Belt                |
| 4. | Engine Pulley / Clutch    |
| 5. | Sliding Idler             |
| 6. | Idler Spring              |
| 7. | Idler Eyebolt             |
| 8. | Backside Stationary Idler |
| 9. | Clutch Stop               |

### Replacement

- Install new belt by placing it around the hydro pulleys first, then around the idler pulleys and engine pulley. Refer to routing diagram below. The belt should be loose.
- Reconnect the Idler spring to the idler eyebolt
- Tightly secure the belt tension back to its original position.
- Reinstall the engine-to-gearbox belt (refer to page 23).
- Reconnect wiring to the electric clutch.
- Reattach the clutch stop in the groove of the clutch.
- Reattach the hydro fan covers.
- Check for sufficient tension on all belts.
- Reconnect spark plug wire.



*Note: this view is looking underneath of the machine. Some parts have been hidden for clarity.*



# SERVICE & ADJUSTMENTS

## Seat Adjustment

- The Swisher Big Mow is equipped with a 6" range sliding seat.
  - Release the tension on the seat adjustment lever by pushing the handle lever to the left. SEE FEATURES section in this manual.
  - Using your own weight, slide the seat to the desired position.
  - Release the lever and be certain you feel the seat slide lock into place.
- The seat also includes adjustable weight setting for different size operators.
  - To adjust, turn the dial on the front of the seat clockwise or counter-clockwise to set the dial to a similar weight as the operator for ideal comfort.
- The seat also includes adjustable arm rests.
  - Lift the arm rests up and turn the dial underneath the arm pads clockwise or counter-clockwise to adjust the preferred height of the arm rests for ideal comfort.
- The seat also includes adjustable lumbar.
  - Turn the dial on either side in the lower corner of the seat clockwise or counter-clockwise to adjust the backrest to the preferred angle for ideal comfort.

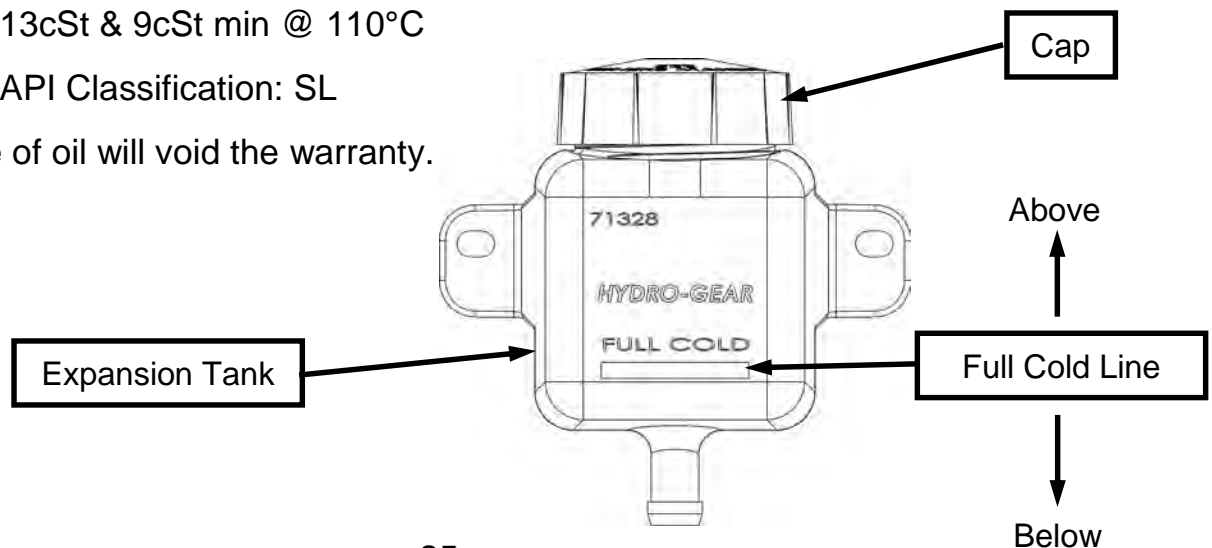
## Hydro Expansion Tank Oil Levels

- The Swisher Big Mow is equipped with one hydrostatic transmission expansion tank to allow for oil expansion during regular use. This tank is located inside the storage compartment in the right fender.
- Oil levels in the expansion tank (when oil is cold or at ambient temperature) should always be kept at the "full cold" line. Note: Oil levels could rise above this line once the oil has been used and has increased in temperature. Wait until the oil has cooled back to the ambient temperature before checking the oil levels. See image below for reference.
- If oil level in the tank is below the "full cold" line, remove the cap and add \*oil to the tank until it reaches the "full cold" line.

\*Only use SAE 20w-50 engine oil; preferably with the following specifications:

- Viscosity Rating: 162 @ 40°C / 18.1 @ 100°C
- 13cSt & 9cSt min @ 110°C
- API Classification: SL

- Using another type of oil will void the warranty.



# TROUBLESHOOTING

Problem	Cause	Correction
<b>Engine Will Not Start</b>	<ol style="list-style-type: none"> <li>1. Out of fuel.</li> <li>2. Engine flooded.</li> <li>3. Bad spark plug.</li> <li>4. Dirty air filter.</li> <li>5. Dirty fuel filter.</li> <li>6. Water in fuel.</li> <li>7. Loose or damaged wiring.</li> <li>8. Carburetor out of adjustment.</li> <li>9. Engine valves out of adjustment.</li> <li>10. Extreme cold conditions.</li> </ol>	<ol style="list-style-type: none"> <li>1. Fill fuel tank.</li> <li>2. Wait several minutes before attempting to restart.</li> <li>3. Replace spark plug.</li> <li>4. Clean or replace air filter.</li> <li>5. Replace fuel filter.</li> <li>6. Drain fuel tank &amp; carburetor, refill tank with fresh gas and replace fuel filter.</li> <li>7. Check all wiring.</li> <li>8. Contact an authorized service center.</li> <li>9. See Engine Manual.</li> </ol>
<b>Engine Hard To Start</b>	<ol style="list-style-type: none"> <li>1. Bad spark plug.</li> <li>2. Dirty air filter.</li> <li>3. Dirty fuel filter.</li> <li>4. Weak or dead battery.</li> <li>5. Carburetor out of adjustment.</li> <li>6. Engine valves out of adjustment.</li> <li>7. Loose or damaged wiring.</li> <li>8. Stale or dirty fuel.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace spark plug.</li> <li>2. Clean or replace air filter.</li> <li>3. Replace fuel filter.</li> <li>4. Recharge or replace battery.</li> <li>5. See Engine Manual.</li> <li>6. Contact an authorized service center.</li> <li>7. Check all wiring.</li> <li>8. Drain fuel tank &amp; refill with fresh gasoline.</li> </ol>
<b>Engine Will Not Turn Over</b>	<ol style="list-style-type: none"> <li>1. Brake not engaged or needs adjustment.</li> <li>2. PTO switch is engaged.</li> <li>3. Weak or dead battery.</li> <li>4. Blown fuse.</li> <li>5. Corroded battery terminals.</li> <li>6. Loose or damaged wiring.</li> <li>7. Faulty ignition switch.</li> <li>8. Faulty solenoid.</li> <li>9. Faulty operator presence switch/switches.</li> <li>10. Attachment is in maintenance/tilted position.</li> </ol>	<ol style="list-style-type: none"> <li>1. Engage Brake or check to make sure safety interlock switch is engaged.</li> <li>2. Push PTO switch down to disengage.</li> <li>3. Recharge or replace battery.</li> <li>4. Replace fuse.</li> <li>5. Clean battery terminals – See Battery section of this manual.</li> <li>6. Check all wiring.</li> <li>7. Check/replace ignition switch.</li> <li>8. Check/replace solenoid.</li> <li>9. Contact an authorized service center.</li> <li>10. Lower attachment to the operating position.</li> </ol>
<b>Engine Clicks but Will Not Start</b>	<ol style="list-style-type: none"> <li>1. Weak or dead battery.</li> <li>2. Corroded battery terminals.</li> <li>3. Loose or damaged wiring.</li> <li>4. Faulty solenoid.</li> </ol>	<ol style="list-style-type: none"> <li>1. Recharge or replace battery.</li> <li>2. Clean battery terminals – See Battery section of this manual.</li> <li>3. Check all wiring.</li> <li>4. Check/replace solenoid.</li> </ol>
<b>Unit Does Not Travel in a Straight Line</b>	<ol style="list-style-type: none"> <li>1. Incorrect tire pressure.</li> <li>2. Drive wheels rotating at different speeds.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check tire pressure (See Specifications).</li> <li>2. Tracking adjustments are needed or Return-to-Neutral assembly may need adjustments.</li> <li>3. Contact an authorized service center.</li> </ol>
<b>Excessive Vibration</b>	<ol style="list-style-type: none"> <li>1. Worn, bent or loose PTO Shaft.</li> <li>2. Loose drive wheel hardware.</li> <li>3. Bent or damaged wheel/tire.</li> <li>4. Loose/damaged part or parts.</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace PTO Shaft if bent or damaged.</li> <li>2. Tighten and torque down wheel hardware.</li> <li>3. Replace wheel/tire.</li> <li>4. Tighten loose part or parts. Replace damaged parts.</li> </ol>

# TROUBLESHOOTING

Problem	Cause	Correction
<b>Loss Of Power</b>	<ol style="list-style-type: none"> <li>1. Cutting too much grass/ too fast.</li> <li>2. Buildup of grass, leaves and trash under attachment.</li> <li>3. Dirty air filter.</li> <li>4. Low oil level/dirty oil.</li> <li>5. Faulty spark plug.</li> <li>6. Dirty fuel filter.</li> <li>7. Stale or dirty fuel.</li> <li>8. Water in fuel.</li> <li>9. Spark plug wire loose.</li> <li>10. Dirty engine air screen/fins.</li> <li>11. Dirty/clogged muffler.</li> <li>12. Loose or damaged wiring.</li> <li>13. Carburetor out of adjustment.</li> <li>14. Engine valves out of adjustment.</li> <li>15. Loose drive belt.</li> <li>16. Front attachment tilted to maintenance mode during operation.</li> <li>17. Fuel tank runs out of fuel.</li> </ol>	<ol style="list-style-type: none"> <li>1. Set in highest cut setting and reduce speed.</li> <li>2. Clean underside of mower deck.</li> <li>3. Clean or replace air filter.</li> <li>4. Check oil level/change oil.</li> <li>5. Clean and re-gap or change plug.</li> <li>6. Replace fuel filter.</li> <li>7. Drain fuel tank &amp; refill tank with fresh gas.</li> <li>8. Drain fuel tank &amp; carburetor, refill tank with fresh gas and replace fuel filter.</li> <li>9. Connect and tighten spark plug wire.</li> <li>10. Clean engine air screen/fins.</li> <li>11. Clean/replace muffler.</li> <li>12. Check all wiring.</li> <li>13. See Engine Manual.</li> <li>14. Contact an authorized service center.</li> <li>15. Adjust idler/replace belt.</li> <li>16. Lower front attachment to operating position.</li> <li>17. Switch tanks using fuel shut off valves or refill tanks if both are empty.</li> </ol>
<b>Engine Backfires When Turning Off</b>	<ol style="list-style-type: none"> <li>1. Engine throttle control not set at "SLOW" position for 30 seconds before stopping engine.</li> <li>2. Throttle control placed into "SLOW" from "FAST" setting too rapid.</li> </ol>	<ol style="list-style-type: none"> <li>1. Move throttle control to "SLOW" position and allow engine to idle for 30 seconds before stopping engine.</li> <li>2. Move throttle control to half throttle and let engine run for 30 seconds before moving throttle control to slow. Once in "SLOW" then shut engine off.</li> </ol>
<b>Battery Will Not Charge</b>	<ol style="list-style-type: none"> <li>1. Bad battery.</li> <li>2. Poor cable connections.</li> <li>3. Faulty solenoid.</li> <li>4. Faulty engine charging system</li> </ol>	<ol style="list-style-type: none"> <li>1. Replace battery.</li> <li>2. Check/clean all connections. See section in this manual.</li> <li>3. Replace solenoid.</li> <li>4. Contact engine manufacturer for service/repairs.</li> </ol>
<b>Loss Of Drive</b>	<ol style="list-style-type: none"> <li>1. Bypass linkages in the "Engaged" position.</li> <li>2. Hydro belt worn, damaged, or broken.</li> <li>3. Idler spring loose or broken.</li> <li>4. Low transmission fluid level.</li> </ol>	<ol style="list-style-type: none"> <li>1. Make sure that the bypass handle is in the drive or disengaged position. Refer to page 20</li> <li>2. Replace Hydro belt.</li> <li>3. Replace Idler spring.</li> <li>4. Add specified transmission fluid. Refer to page 25</li> </ol>

# MOWER IDENTIFICATION

## Mower Identification

Each mower has its own model number. Each engine has its own model number. The model number for the mower will be found behind the seat. The model number for the engine will be found on the top of the blower fan housing.

All mower parts listed herein may be ordered directly from Swisher or your nearest Swisher dealer. All engine parts may be ordered from the nearest dealer of the engine supplied with your mower.

## Unauthorized Replacement Parts

Use only Swisher replacement parts. The replacement of any part on this unit with anything other than Swisher authorized replacement part may adversely affect the performance, durability and safety of this unit and may void the warranty. Swisher disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts.

### WHEN ORDERING PARTS, PLEASE HAVE THE FOLLOWING INFORMATION AVAILABLE:

- MODEL NUMBER - \_\_\_\_\_
- SERIAL NUMBER - \_\_\_\_\_
- DATE PURCHASED - \_\_\_\_\_
- PURCHASED FROM - \_\_\_\_\_
- ENGINE MODEL NUMBER - \_\_\_\_\_
- ENGINE TYPE - \_\_\_\_\_
- PART NUMBER (W/ PAINT CODE) - \_\_\_\_\_
- PART DESCRIPTION - \_\_\_\_\_

**SWISHER ACQUISITION INC.**  
1602 CORPORATE DRIVE  
WARRENSBURG, MO 64093

**www.swisherinc.com**  
TELEPHONE - 1-800-222-8183  
FAX - 1-660-747-3160

**cust.serv@swisherinc.com**

# REPLACEMENT PARTS

## Quick Reference

Swisher Part #	Part Description
19423	Belt – Hydro, ½ x 76”
19424	Belt – Gearbox Idler, ½ x 50”
19249R	Tire/Wheel – 23 x 10-10, Chevron; Right
19429L	Tire/Wheel – 23 x 10-10, Chevron; Left
19290	Tire/Wheel – 11 x 6 – 5, 4 Ply
AS069	Fuse – 10 Amp
15710	Fuse – 30 Amp
20374	Fuse – Maxi, 40 Amp



## CAUTION

Use extreme care when working on machinery.

Before performing any maintenance, turn off engine, allow the unit to cool and remove the key. Disconnect spark plug wire.

Set Parking Brake by pulling up on brake arm until locked into the “engaged” position. **SEE PAGE 20 FOR BRAKE OPERATION INSTRUCTIONS.**

Do not wear watch or jewelry. Do not wear loose fitting clothes. Observe all common safety practices with tools.

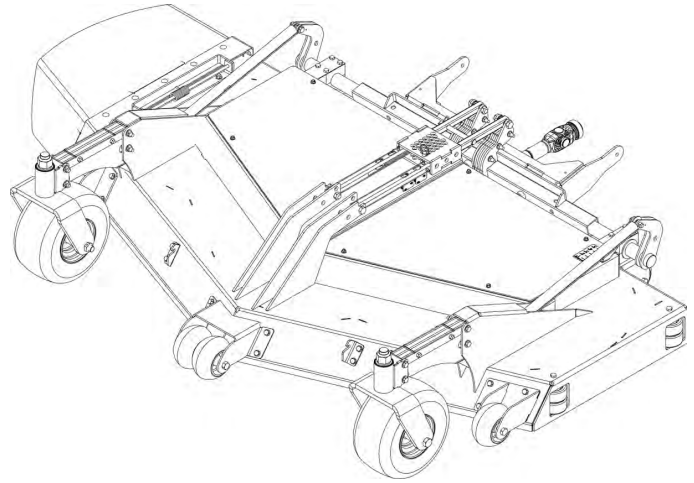
# SWISHER TRACTOR ATTACHMENTS

**Model #:**

**Description**

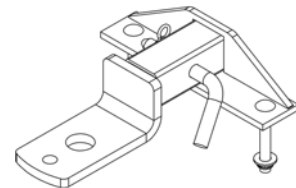
ZTR66FC

66" Finish Cut Mower



20620

Rear Hitch Kit

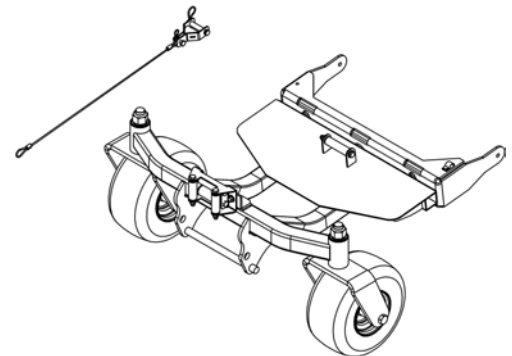


20670

Plow Mount Accessory

Compatible with Plow Blades:

- 2645R     50"
- 2850     62"
- 20099    50" Commercial Pro
- 20100    62" Commercial Pro

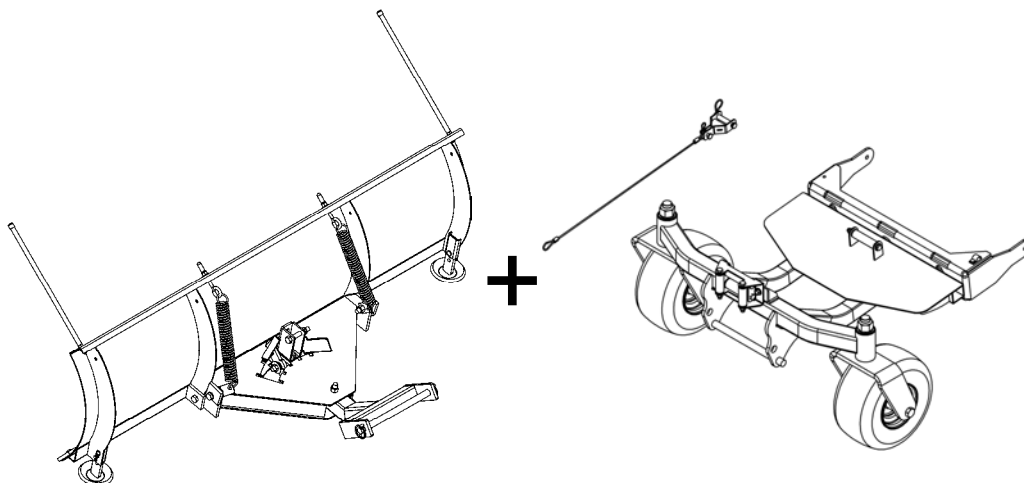


21000

Plow Mount Combo

Combo Package Contains:

- 20670     Plow Mount Accessory
- 20100     62" Commercial Pro



# NOTES


# SWISHER HISTORY



Back before electricity came to rural Missouri Max Swisher was producing lawn mowers from his mother's chicken house. Max never liked to mow grass. He installed a gearbox on his family's lawn mower creating a self-propelled unit. By tying one end of a rope to the mower and the other end to a tree in the center of the yard the mower circled the tree, shortening the rope and guiding the mower in concentric circles. Max enjoyed relaxing under a shade tree while his invention did all the work.

Max had designed his first self-propelled rotary lawn mower to do his dirty work for him. Neighbors noticed his new invention and began asking him to make more. Today, over 70 years later, Swisher is still producing innovative lawn and garden and ATV/UTV equipment designed to give us all more "relaxing in the shade" time.

Swisher products have been featured nationally on television programs such as Regis and Kathie Lee and seen in publications like ATV Magazine, Country Journal, Popular Mechanics Magazine and others. In January 2000 Popular Mechanics Magazine named Max's zero turning radius riding mower one of the 20<sup>th</sup> century's top household inventions.

Swisher offers value and function in its products to meet your grounds maintenance needs.

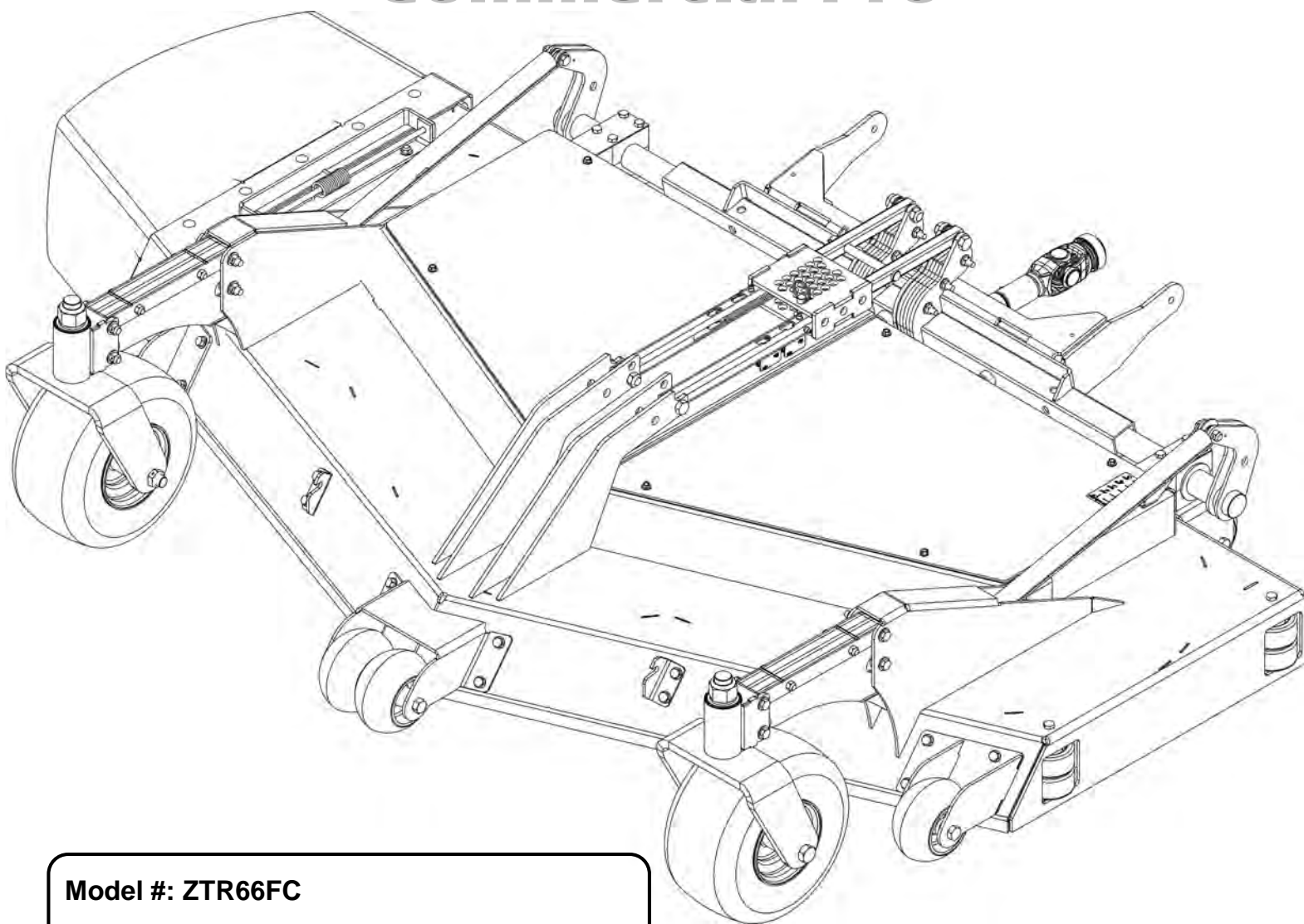
**CELEBRATING OVER 70 YEARS OF INNOVATION  
SINCE 1945**





# SWISHER®

## Response - Big Mow Commercial Pro



**Model #: ZTR66FC**

**Description: 66" Finish Cut Deck Attachment**

**SWISHER ACQUISITION INC.**

**1602 Corporate Drive, Warrensburg Missouri 64093**

**Phone: 660-747-8183 FAX: 660-747-8650**

**Toll Free: 1-800-222-8183**

**Manufacturing quality lawn care equipment since 1945,  
Celebrating over 70 years of innovation**



### OWNER'S MANUAL

STARTING SERIAL # L116-001001

# TABLE OF CONTENTS

LIMITED WARRANTY	3
INTRODUCTION	4-5
- GENERAL	4
- BEFORE OPERATING	4
- UNCRATING & ASSEMBLY	5
SYMBOLS & DECALS	6
SAFETY INSTRUCTION	7-9
- GENERAL USE	7
- CHILD SAFETY, SLOPE OPERATION, MOWING SAFETY	8
- MAINTENANCE, TRAINING, OPERATION	9
CUSTOMER RESPONSIBILITY	10-11
- OPERATOR PRESENCE, TIRES, BLADE MAINTENANCE	10
- V-BELTS, OVERALL UNIT CARE	10
- DRIVING & TRANSPORT ON PUBLIC ROADS	11
- SPECIFICATIONS, MAINTENANCE SCHEDULE	11
FEATURES	12
OPERATION	13
- STARTING INSTRUCTIONS	13
- GRASS HEIGHT AND CUTTING SUGGESTIONS	13
- ADJUSTING THE CUTTING HEIGHT	13
SERVICE & ADJUSTMENT	14-18
- DECK MAINTENANCE MODE	14-15
- DECK LEVELING	16
- DECK BELT ROUTING & REPLACEMENT	17
- PTO SHAFT, GEARBOX	18
TROUBLESHOOTING	19
ATTACHMENT IDENTIFICATION	20
REPLACEMENT PARTS	21
NOTES	22-23
SWISHER HISTORY	24

# LIMITED WARRANTY

The manufacturer's warranty to the original consumer purchaser is:

This product is free from defects in materials and workmanship for a period of three (3) years for residential use and one (1) year for commercial use from the date of purchase by the original consumer purchaser.

A Commercial Warranty is defined as the machine exceeding **250** hours of use within the first year from the date of purchase by the original purchaser. If the machine does not exceed **250** hours of use within the first year it is subject to fall under a Residential Warranty.

We will repair or replace, at our discretion, parts found to be defective due to materials or workmanship. This warranty is subject to the following limitations and exclusions:

- 1) Limitations                      This warranty applies only to products which have been properly assembled, adjusted, and operated in accordance with the instructions contained within this manual. This warranty does not apply to any product of Swisher that has been subject to alteration, misuse, abuse, improper assembly or installation, shipping damage, or to normal wear of the product.
  
- 2) Exclusions                        Excluded from this warranty are normal wear, normal adjustments, normal maintenance, and battery\*(see battery section).

In the event you have a claim under this warranty, you must return the product to an authorized service dealer. All transportation charges, damage or loss incurred during transportation of parts submitted for replacement or repair under this warranty shall be borne by the purchaser. Should you have any questions concerning this warranty, please contact us toll-free at 1-800-222-8183. The model number, serial number, date of purchase and the name of the authorized Swisher dealer from whom you purchased the mower will be needed before any warranty claim can be processed.

THIS WARRANTY DOES NOT APPLY TO ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES AND ANY IMPLIED WARRANTIES ARE LIMITED TO THE SAME TIME PERIODS STATED HEREIN FOR ALL EXPRESSED WARRANTIES. Some states do not allow the limitation of consequential damages or limitations on how long an implied warranty may last, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may have other rights, which vary from state-to-state. This is a limited warranty as defined by the Magnuson-Moss Act of 1975.

# INTRODUCTION

## **Congratulations!**

Thank you for purchasing Swisher's Finish Cut Deck Attachment. This machine is built for the greatest efficiency and rapid mowing of large areas. The tilt feature along with the safety chains allow operators to perform routine maintenance. The fully enclosed deck baffling accompanied with mulching blades helps to efficiently discharge the grass and debris for a smoother, cleaner cut.

**This manual is a valuable document. Following the instructions for use, service, maintenance, etc. can greatly increase the performance and life of your machine.**

### **NOTE:**

If you have never used a Zero Turn mower before, refer to the Operation Controls section of this manual before attempting to operate one for the first time.

## **General:**

In this operator's manual, left and right, backward and forward are used in relation to the normal operator's position on the tractor.

## **Read Before Operating:**

- This machine is constructed only for mowing grass on lawns and other free and even ground without obstacles. The manufacturer's directions concerning operation, maintenance and repairs must be carefully followed.
- This machine must only be operated, maintained and repaired by persons that are familiar with the machine's special characteristics and who are well versed in safety instructions.
- Accident prevention regulations, other general safety regulations, occupational safety rules and traffic regulations must be followed without fail.
- Unauthorized modifications to the design of the machine may absolve the manufacturer from liability for any resulting personal injury or property damage and may void the warranty.
- Read and observe all safety instructions on your mower and in the manual.

### **Refer to tractor manual for the following instructions:**

- Know how to set the parking brake – Lift up on the brake handle until locked.
- Know how to turn mower blades off – PTO switch pushed down.
- Know how to stop the engine – Turn key to off.
- Know how to stop the unit – Return control handles to neutral.

# INTRODUCTION

## Uncrating & Assembly:

### Tools Required:

- Tire pressure gauge
- Nail bar or claw hammer
- Wire snips

### **To remove the attachment from the crate:**

- Before disassembling the crate and connecting the two machines make sure they are both on a level surface.
- Using nail bar or claw hammer, remove the top and side crate panels.
- Dispose of top and side panels of the crate.
- Remove loose parts and packing material.
- Cut any banding, strapping, or chocks that may be holding the attachment to the crate.
- Push the attachment towards the rear of the crate base but do not let it roll off completely.
- Disconnect the spark plug wire of the accompanying tractor and place where it cannot make a connection.
- Engage the bypass lever on the accompanying tractor and push it towards the back edge of the crate base where the attachment and tractor connect. Line up the mounting arms and the mating connection point on the tractor.
- Connect the wire harnesses of the machines. **DO NOT** start the engine.
- Raise the attachment using the switch on the tractor until the mounting arms are in line with the attachment connection points.
- Push the tractor close enough to connect the PTO shaft securely to the tractor gearbox.
- Once the PTO shaft is securely connected continue pushing the tractor forward until the spring loaded connecting pins lock in to the holes of the mounting arms on the attachments.
- Once everything is securely connected carefully push the machine off the crate base.
- Once both machines are off of the crate bases, disengage the bypass lever and engage the brake lever.
- Check tire pressure on all wheels. **REFER TO UNIT SPECIFICATIONS TABLE ON PAGE 11.**
- Reconnect spark plug wire.
- **Read all operating instructions, safety instructions, and customer responsibilities before operating this machinery.**

# SYMBOLS & DECALS


**⚠ WARNING**

**AVOID SERIOUS INJURY OR DEATH**

- Read and follow owner's manual.
- Keep hands and feet away from discharge area and blades
- Avoid sudden turns, sudden changes in direction, and sudden changes in speed.
- Go up and down hills (15° maximum), not across.
- If machine stops going uphill, stop blades and back down slowly.
- Look down and behind before and while moving backwards.
- Do not operate when children or others are around.
- Never carry children or others as passengers.
- Keep safety devices (guards, shields, defectors, switches, etc.) in place and operating.
- Remove objects that could be thrown by blades.
- Always set parking brake before leaving seat.
- Be sure blades and engine have stopped before placing hands or feet near blades.
- Know safe operating instructions before starting engine.

18795

18795 - Warning Decal

**⚠ WARNING**

**SERIOUS INJURY OR DEATH MAY RESULT FROM MACHINE ROLLOVER**

- Failure to follow these instructions could result in serious injury or death
- Do not operate machine on steep slopes or near drop offs
- Avoid sharp and/or quick turns
- Do not exceed the machine weight rating of the ROPS
- Always use the seat belt when the ROPS is locked in the upright position
- Do not jump if machine tips
- If ROPS is foldable
  - Always keep the ROPS fully extended
  - WHEN ROPS MUST BE DOWN-
    - Do not use seat belt
    - Drive with extra care
- If equipped with seat platform, Do not operate machine without seat platform pins in place

286304500

ROPS Warning Decal

**IMPORTANT**

Operator must be seated to start engine.

OD73

Operator must be Seated Decal - OD73

**IMPORTANT**

Before exiting the vehicle disengage blades, turn off engine, and engage the parking brake

18797

Before Exiting Decal - 18797

**NOTICE**

DO NOT ALTER ELECTRICAL SYSTEM  
WRONG WIRING CONNECTIONS WILL DAMAGE  
ELECTRICAL COMPONENTS AND MAY MAKE  
THE SAFETY SWITCHES INOPERATIVE

OD74

Notice Do Not Alter Wiring Decal - OD74

**⚠ CAUTION**

UNSTABLE SURFACE

**NO STEP**

OD11

No Step Decal - OD11

**⚠ DANGER**

**ROTATING DRIVELINE**

CONTACT CAN CAUSE DEATH  
**KEEP AWAY !**

DO NOT OPERATE WITHOUT -  
ALL DRIVELINE, MOWER AND  
EQUIPMENT SHIELDS IN PLACE.  
DRIVELINE IS SECURELY ATTACHED  
AT BOTH ENDS.

19486

Danger / Entanglement - 19486

**⚠ WARNING**

**FLYING DEBRIS**

EYE INJURY AND/OR CUTS  
POSSIBLE.  
KEEP PEOPLE CLEAR OF AREA  
WHEN MOWING.  
USE CHUTE GAURD/COVER OR  
COMPLETE GRASS CATCHER  
WHEN MOWING.  
DEBRIS MAY CAUSE INJURY

OD43

Flying Debris Decal - OD43

DANGER

KEEP HANDS and FEET AWAY

OD55

Triangle Danger Decal - OD55

**(P) PARKING BRAKE**

CAUTION: VEHICLE MUST BE AT A COMPLETE STOP BEFORE ENGAGING THE BRAKES. DO NOT ATTEMPT TO ENGAGE THE BRAKES WHILE THE VEHICLE IS MOVING.

IMPORTANT: REFER TO MANUAL FOR FURTHER OPERATING INSTRUCTIONS.

TO ENGAGE:

1. PULL UP ON THE RIGHT (BENT) HANDLE UNTIL LOCKED IN THE UP (ENGAGED) POSITION.

TO DISENGAGE:

1. PULL UP SLIGHTLY ON THE BRAKE HANDLE TO RELEASE TENSION UNTIL THE LOCKING PLATE CAN BE PUSHED DOWN TO RELEASE ITSELF FROM THE LOCKED POSITION.
2. ONCE UNLOCKED, PUSH THE BRAKE HANDLE DOWN UNTIL OUT OF TRAVEL.

HYDRO BY-PASS OPERATION:

1. THE LEFT HANDLE IS TO ACTIVATE THE HYDRO BY-PASS AND OPERATES, SEPARATELY, THE SAME AS THE BRAKE ARM. USE ONLY WHEN ENGINE IS TURNED OFF AND MACHINE IS ON LEVEL GROUND.

19484

Brake / Bypass Decal - 19484

SWISHER

A TRADITION OF QUALITY SINCE 1945

www.swisherinc.com

MODEL NO.

SERIAL NO.

Serial # ID Tag

# SAFETY INSTRUCTIONS

These instructions are for your safety. Read them thoroughly & carefully.



This Safety Alert Symbol indicates important messages in this manual. When you see this symbol, carefully read the message that follows and be alert to the possibility of personal injury.

## General Use:

- Read all instructions in this operator's manual and on the machine before starting it. Ensure that you understand them and then abide by them.
- Learn how to use the machine, operate its controls safely, how to stop quickly, and recognize safety decals.
- **DO NOT use this machine without the tractor in place and both machines properly connected.**
- Only allow the machine to be used by adults who are familiar with its use and operation.
- Make sure nobody else is in the area of the machine when you start the engine, engage the drive, or operate the machine.
- Stop the machine if someone enters the work area.
- Clear the area of any objects such as stones, toys, etc. that may be caught or thrown by the blades.
- **DO NOT use this machine without the Discharge Chute in place.**
- Stop the engine and disconnect the spark plug before clearing the discharge chute.
- Never take passengers. The machine is only intended for use by one person.
- Always look around before and during reversing maneuvers.
- Slow down before turning.
- Disengage the blades when not mowing.
- Be careful when rounding fixed obstacles so that the blades do not hit them.
- Extreme caution should be used when utilizing the equipped lights in low light conditions.
- Keep the machine a safe distance from holes or other irregularities in the ground.
- Never use the machine if you are tired, if you have consumed alcohol or if you are taking other drugs or medications that can affect your vision, judgment or coordination.
- Beware of traffic when working near or crossing a road.
- Never leave the machine unsupervised with the engine running.
- Always disengage the blades, engage the parking brake, stop the engine and remove the ignition key before leaving the machine.
- Never allow children or other persons not trained in the use of the machine to use or service it. Local laws may regulate the age of the user.
- Make sure that you have first aid equipment close at hand when using the machine.
- Never use the machine when barefoot. Always wear protective shoes or boots.
- Always wear protective glasses or full visor and hearing protection when assembling or operating.
- Never wear loose clothing that can get caught in moving parts.
- Always make sure long hair is not left down when servicing and/or operating the machine. Make sure hair is out of the way of any moving parts or pinch points.

# SAFETY INSTRUCTIONS

## Children:

- Children are often attracted to the machine and mowing work. Serious accidents may occur if you fail to be on guard for children in the area of the machine.
- Never assume that children will stay put where you last saw them.
- Keep children away from the mowing area and under close supervision by another adult.
- Shut off the machine if children enter the work area.
- Never allow a child to ride with you.
- Never allow children to operate the machine.
- Be extra cautious near corners, bushes, trees or other objects that block your view.

### Remember:

**The operator is responsible for avoiding dangers or accidents.**

## Slope Operation:

- Remove obstacles such as stones, tree branches, etc.
- Mow up and down, not side to side. Never drive the mower on terrain that slopes more than 15 degrees.
- Avoid starting or stopping on a slope. If the tires begin to slip, disengage the blades and drive slowly down the slope.
- Always drive evenly and slowly on slopes.
- Do not make sudden changes in speed or direction.
- Avoid unnecessary turns on slopes, if it becomes necessary, turn slowly and gradually downward, if possible.
- Watch for holes, ruts or bumps. On uneven terrain, the machine can tip more easily. Long grass or other debris can hide obstacles.
- Drive slowly and use small movements of the steering controls.
- Do not mow wet grass. It is slippery, and the tires can lose their traction, allowing the machine to slide.
- Do not try to stabilize the machine by putting a foot on the ground.

### WARNING



When using the machine, approved personal protective equipment shall be used. Personal protective equipment cannot eliminate the risk of injury, but it will reduce the degree of injury if an accident does occur. Ask your retailer for help in choosing the right equipment.



## Mowing Safety:

- Before using, always visually inspect to see that the blades, blade bolts and cutter assembly are not worn or damaged. Replace worn or damaged blades and bolts in sets to preserve balance.
- On multi-bladed machines, take care as rotating one blade can cause other blades to rotate.
- Do not attempt to tilt the machine to the maintenance position while mowing.
- Before using, always visually inspect to see that all bolts and nuts are secure.



# SAFETY INSTRUCTIONS

## Maintenance & Storage:

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Check the grass chute frequently for wear or deterioration.
- If storing equipment over long periods of time remove all grass clippings, grass build up, and debris from the equipment to prevent corrosion.
- Replace worn or damaged parts for safety.
- When machine is to be parked, stored or left unattended the parking brake should be set and any attachments should never be left in the tilted position unless the safety chains are used to secure the attachments.
- Only tilt the deck to maintenance mode when on a smooth and level surface.

## Training:

**All drivers should seek and obtain professional and practical instruction. Such instruction should emphasize:**

- The need for care and concentration when working with ride-on machines.
- How to properly connect and disconnect the tractor and attachment.
- How to properly drive, control, and operate a ride-on machine with an attachment connected.

## Operation:

- Do not operate the machine in a confined space.
- Always disengage PTO, set parking brake, turn the engine off, and remove the key when leaving the machine during operations.
- Never direct discharge of material toward bystanders or allow anyone near the machine while in use.
- Never operate the machine near bodies of water, retaining walls, cliffs or tall curbs. Give the machine ample room to operate and turn around.
- Never operate the machine with defective guards or without safety protective devices in place.
- Disengage the PTO switch, set the brake, stop the engine, remove the ignition key and disconnect the spark plug wire(s).
  - Before clearing blockages or unclogging chute.
  - Before checking, clearing or working on the machine.
  - After striking a foreign object, inspect the machine for damage and make repairs before restarting and operating the equipment.
  - If the machine starts to vibrate abnormally (check immediately).
  - Before lifting up the grass chute.
  - Before making height adjustment unless adjustment can be made from the operator's position.

# CUSTOMER RESPONSIBILITIES

## Operator Presence System:

Be sure to check that the operator presence and interlock systems are working properly before every use. If your mower does not function as described, repair the problem immediately. See the tractor manual for all tractor related safety interlocks.

- The attachment must be connected in order to start the engine of the tractor. If it is not properly or securely connected, the engine will not start.
- If using a finish cut mower attachment, any attempt to tilt the deck into the maintenance position with the engine still running should shut off the engine. If this happens lower the deck back down to a level position before attempting to restart the engine.
- The deck height/tilt switches will cut out at the top of the deck height as well as the end of the tilt function. This is to prevent overloading of the winch. When these positions are reached the winch should not be able to continue lifting. However the deck can be let down, which should reset the switch operation.

## Tires:

- Maintain proper air pressure in all tires (SEE SPECIFICATIONS section)
- Keep tires free of gasoline, oil or insect control chemicals which can harm rubber.
- Avoid stumps, stones, deep ruts, sharp objects and other hazards that may cause tire damage.

## Blade Maintenance:

For best results, mower blades must be kept sharp.  
Replace bent or damaged blades.

- Engage brakes & safely tilt front of mower (SEE WARNING).
- Install safety chains (supplied with tractor) to the front edge of the deck before working under the machine.
- Hold or block blade from turning.
- Loosen blade nut and remove blade.
- Replace blade (SEE SPECIFICATIONS).

## V-Belts:

Check V-belts for deterioration and wear before each use and replace if necessary. Replace belts if they begin to slip from wear. Refer to Quick Reference and Service & Adjustment sections of this manual for instructions on belt part numbers and how to properly replace belts.

## Overall Unit Care:

- Reduce the risk of fire by removing grass, leaves and other debris that may accumulate on the machine.
- Allow the machine time to cool before cleaning or putting it in storage.
- Wash mower periodically. Clean above and below deck.
- Keep all electrical connections clean and secure.



### CAUTION

Stop engine, apply brakes, and remove ignition key for safety. Disconnect spark plug wire. Wear heavy, thick gloves when holding onto blade. Avoid the sharp edge of the blade.



### WARNING

When it is necessary to tilt the mower for any repair or service, use safety chains and/or jackstands to provide adequate support. DO NOT rely on hydraulic or mechanical jacks.

# CUSTOMER RESPONSIBILITIES

## Driving & Transport on Public Roads:

- Check applicable road traffic regulations before driving and transporting on public roads.
- If the machine is transported, you should always use approved fastening equipment and ensure that the machine is well anchored to the towing vehicle.
- The cutting deck should also be lowered to the lowest position and the parking brake engaged during transport.

## Specifications

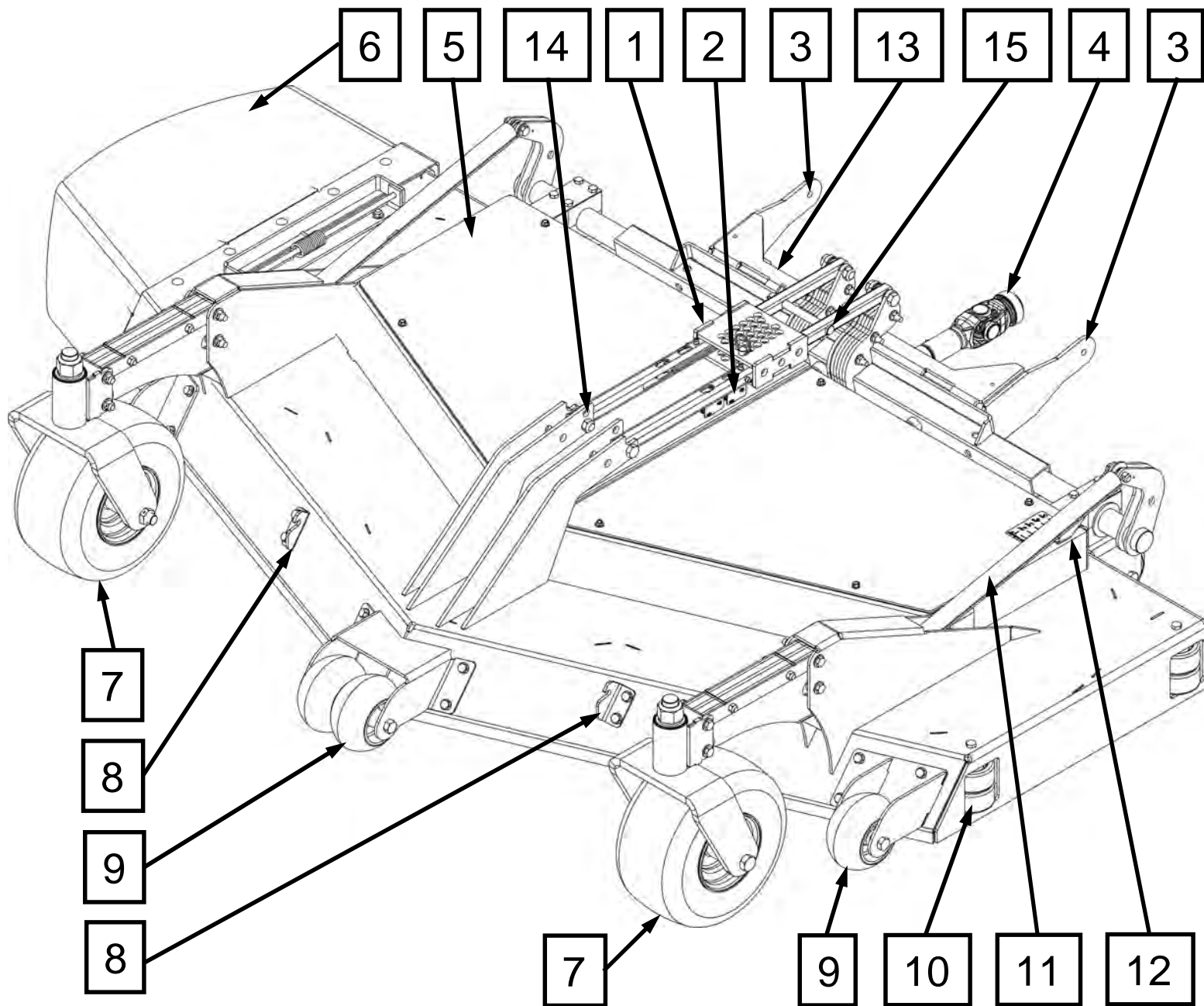
PTO STYLE	Splined w/ Spring Loaded Locking Collar
LIFT MECHANISM	Supplied on accompanying tractor
DECK LEVELING	Chain w/ Adjustable Turnbuckles
ARTICULATION DIRECTION(S)	Front to Back & Side to Side
TIRE SIZE	FRONT: 11 X 6 X 6 w/ 5/8 Bearing
TIRE PRESSURE	FRONT: 40 psi Max
BLADE BOLT TORQUE	35 ft. lbs
CUTTING HEIGHT	Approximately 1.25" – 5"
CUTTING WIDTH	66"
BLADES	Three 22 ½" Mulching Blades
DECK LIFT	Electric switch; Foot or Hand Operated
UNIT MEASUREMENTS	LENGTH: 56" WIDTH: 72" / 83" w/ Grass Chute Down) HEIGHT: 17" WEIGHT: 495 lbs

## Maintenance Schedule

	Before Each Use	8 Hours	25 Hours	50 Hours	100 Hours	Season	Before Storage
Check Tire Pressure	X	X					
Check Operator Presence	X						
Check for Loose Fasteners	X				X		X
Sharpen/Replace Mower Blades			X3				
Grease PTO Shaft Joints		X2		X			
Grease Slide Tubes			X2				
Check Belts	X						
Remove Any Debris	X4					X	X

- 1 – Change more often when operating under a heavy load or in high ambient temperatures.
- 2 – Service more often when operating in dirty or dusty conditions.
- 3 – Replace blades more often when mowing in sandy soil.
- 4 – Clean off more frequent when mowing in tall or dry grass conditions or with excessive debris.

# FEATURES



1. Deck Height Adjust Pin Weldment
2. Deck Height Adjust & Tilt Safety Switch
3. Deck to Tractor Mounting Points
4. Splined PTO Shaft w/ Spring Loaded Locking Collar
5. Removable Deck Belt & Pulley Covers
6. Foldable Grass Chute
7. Swiveling Caster Wheels

8. Deck Tilt Safety Chain Mounting Points
9. Horizontal Anti-Scalp Rollers
10. Vertical Anti-Scalp Rollers
11. Chains w/ Adjustable Turnbuckle
12. Deck Height Indicator
13. Side to Side Pivot Bracket
14. Deck Tilt: Winch Strap Mount Location
15. Deck Height Adjust: Strap Mount Location

# OPERATION

## Starting:

Starting Instructions are also included on the right side fender compartment decal of the tractor.

- Before starting the vehicle, be sure the area is clear of any people or animals.
- Operator must be sitting in the seat (with seat belt fastened and the ROPS in the upright position).
  - Control handles must be in the neutral lockout position.
  - PTO switch must be in the disengaged position (pushed down).
  - Brake must be engaged.
  - Front attachment must be in an operating position, not in the maintenance/tilt position.
  - Throttle should be in the “slow” position.
- Turn ignition key until engine starts. If the engine struggles to start, engage the choke until the engine fires, then disengage the choke before operating.
- Once started, set engine RPM to maximum (Fast) and then engage the blades.

## Grass Height & Cutting Suggestions:

- Do not attempt to cut wet grass.
- The average lawn should be cut to 2 ½” during the cool season and to over 3” during the hot months. For healthier and better looking lawns, mow often and after moderate growth.
- As a rule, never cut more than 1/3 of the total grass blade length. Correct mowing height can reduce weeds and lawn disease.
- For best performance, grass over 6 inches in height should be mowed twice. The first cut should be set relatively high and the second set to the desired height.
- For best looking results and a healthier lawn, mow in different directions each time.
  - Example: If you mow going north and south, the next time mow going east and west.

## Adjusting The Cutting Height

1. Starting with the deck resting on the ground, make sure the winch strap is attached to the correct place.
2. Lift the deck higher than the desired position then place the pin in the desired hole on the height adjust bracket.
  - The cutting height is displayed in inches on the left rear portion of the deck. It has a cutting range of approximately 1 ¼” to 5”.
3. Once the pin is securely positioned, lower the deck until the pin is contacted and tension is released from the winch strap.
  - **Important:** Always release tension from the winch strap when operating to help extend the life of the strap.
4. To change the deck height repeat the steps listed above.

# SERVICE & ADJUSTMENTS

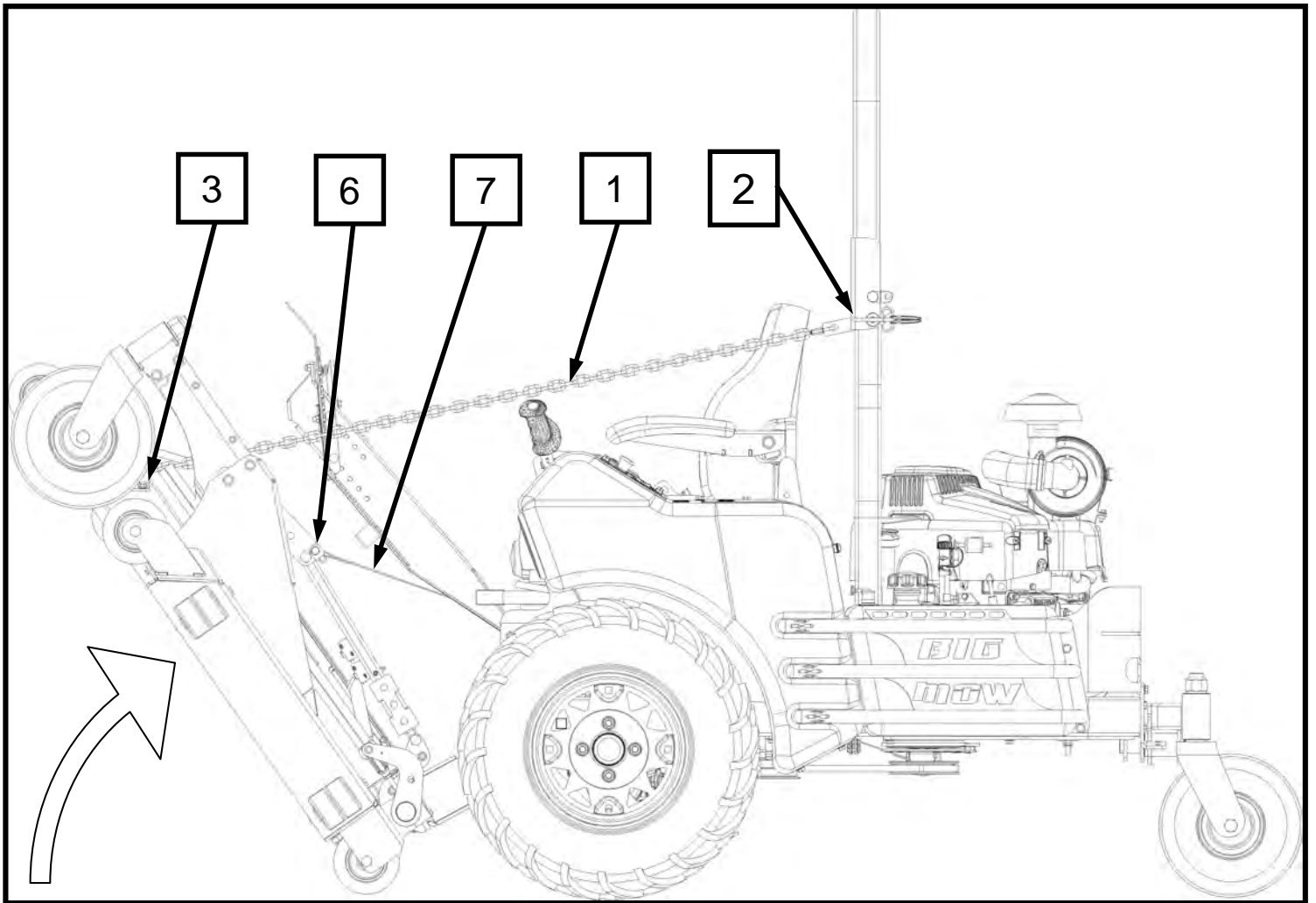
## Deck Maintenance Mode

Whenever placing the deck into the tilted maintenance position ALWAYS secure the deck using both safety chains to prevent injury or loss.

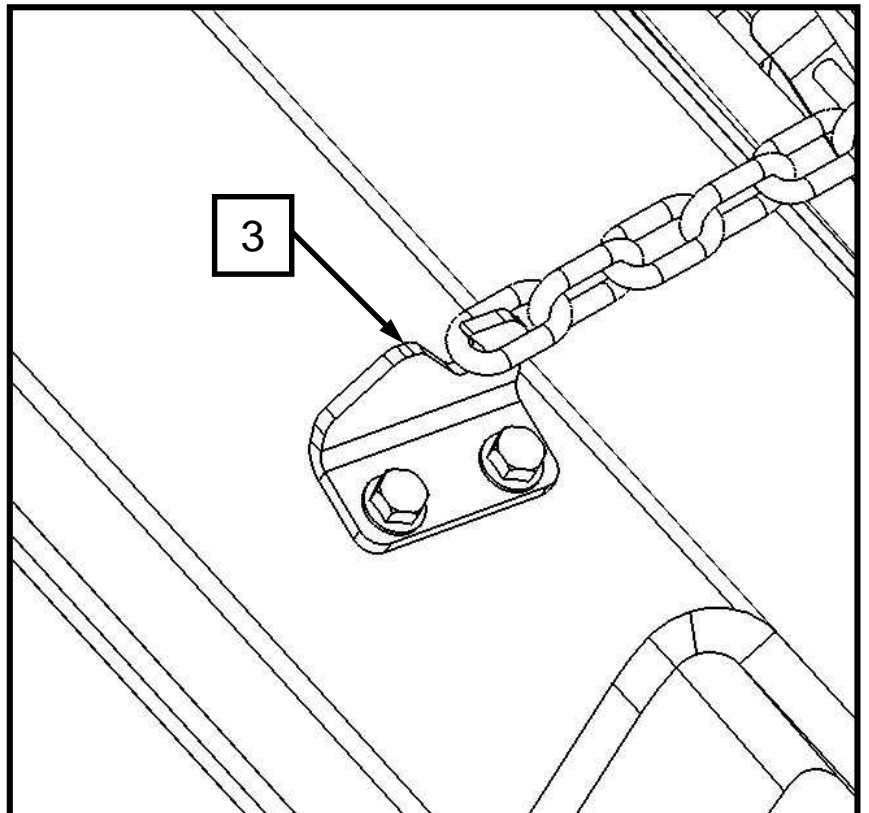
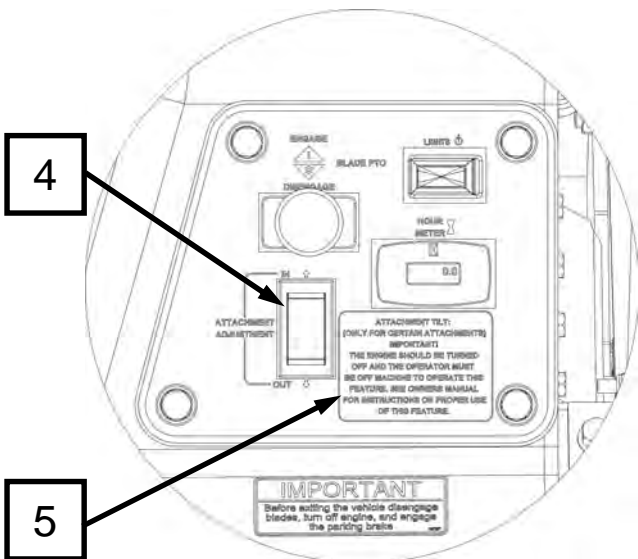
Refer to Page 12 for all features, descriptions and strap mounting locations

- To tilt the deck start by finding a safe, smooth and level area before performing the following steps.
- Engage the brake, turn off the engine, remove the key and disconnect the spark plugs.
- Exit the machine and stand on the left side next to the left control panel. Keep your hands and feet clear of the deck when performing these steps to reduce risk of injury
- Use the deck height switch to raise the deck and relieve tension off of the deck height pin. Once there is no tension on the pin, remove it and set it aside.
- Lower the deck until the anti-scalp rollers make contact with the ground and make sure there is slack on the winch strap.
- Connect the two safety chains to each side of the ROPS.
- Lift the floor pan and secure it in an upright position using the safety chains. Refer to the accompanying tractor manual for steps on properly connecting the safety chains to the floor pan.
- Remove the pin securing the winch strap to the rear of the deck
- Use the deck height switch to gain more slack until the strap is long enough to pin the strap to the front of the deck using the longer pin you just removed. Refer to page 12 for proper location.
- Use the same switch to begin removing the slack in the strap. Once all slack is removed and slight tension is on the strap, start tilting the deck into the maintenance position.
  - The switch will cut out once the deck reaches its maximum height. This is normal to the function of the machine and can be reset by lowering the deck back towards the ground.
- Remove the safety chains from the floor pan and allow it to rest against the deck.
- Connect the safety chains to the mounting points on the front edge of the deck, leaving as little amount of slack as possible.
- Once both chains are properly connected and secure, lower the deck slightly to remove the slack in the chains, or until there is slack in the winch strap.
- Use extreme caution when working underneath the deck.
- Always wear proper hearing and eye protection when working on equipment.

# SERVICE & ADJUSTMENTS



1. Safety Chain(s)
2. ROPS Safety Chain Mount
3. Deck Safety Chain Mount
4. Deck Height/Tilt Switch
5. Maintenance Mode Instructions
6. Front Strap Mounting Location
7. Winch Strap

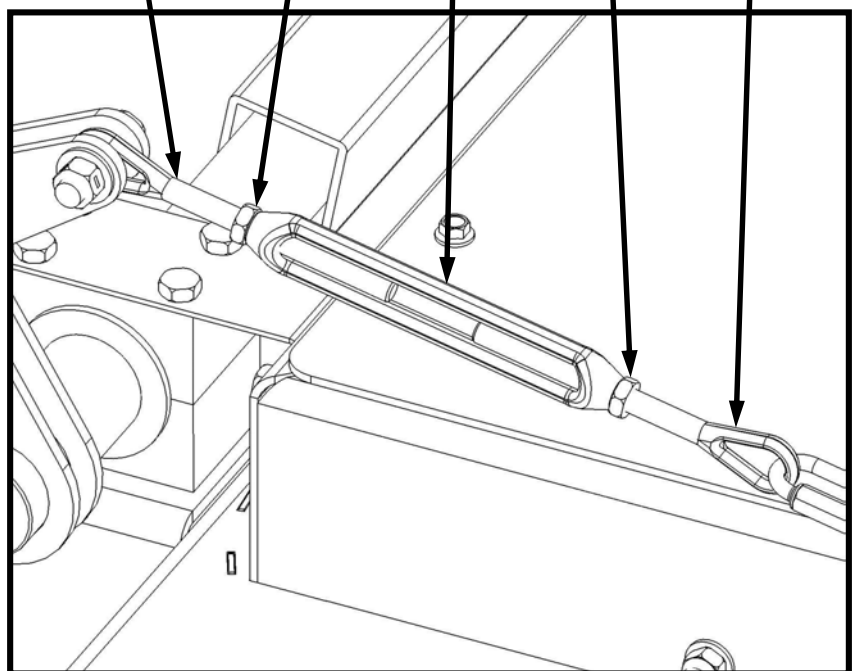
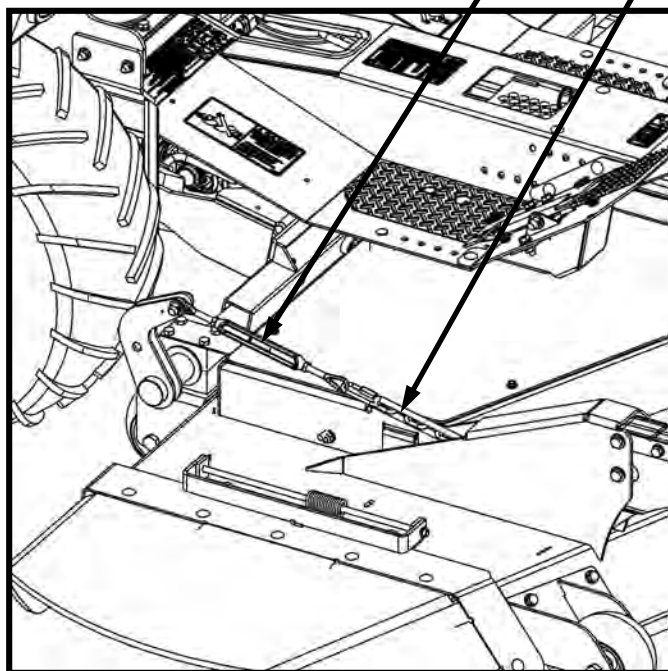


# SERVICE & ADJUSTMENTS

## Deck Leveling

- If the deck does need adjustment either side to side or front to back, following the steps below;
- Find a level and smooth area to perform the work.
  - Apply the parking brake, shut off the machine, remove the key and disconnect the spark plug.
  - Raise the deck to the highest cutting height setting (5" mark in the height adjustment decal).
  - Determine which side needs to be adjusted by measuring from the ground to the tip of each blade on each side of the mower. For side to side adjustment the blades should be parallel with the back edge of the deck for accurate measurements. If the measurements are within a ¼" of 5" then no adjustment is needed.
  - Pull back the GnarlyWraps™ from the chain that needs to be adjusted. Only perform adjustments on one side if possible.
  - Loosen each locking nut on the turnbuckle.
  - Hold the eyebolt on the end that is connected to the chain to keep it from spinning and begin turning the turnbuckle until the measurements are within ¼" of each other. Shortening the turnbuckle will increase the measurement whereas lengthening the turnbuckle will reduce it. Use small adjustment increments (1 to 2 full turns at a time).
  - Once no more adjustments are needed, tighten the locking nuts on the turnbuckle while continuing to hold the eyebolt that is connected to the chain.
  - Reinstall the GnarlyWraps™ onto the chain. The wraps are required for safe and proper operation.

1. Turnbuckle Assembly
2. Chain
3. Turnbuckle Eyebolt
4. Lock Nut(s)
5. Turnbuckle





# SERVICE & ADJUSTMENTS

## Deck Belt Routing & Replacement

For replacement belt part number refer to Replacement Parts Quick Reference Chart in this manual.

### Removal

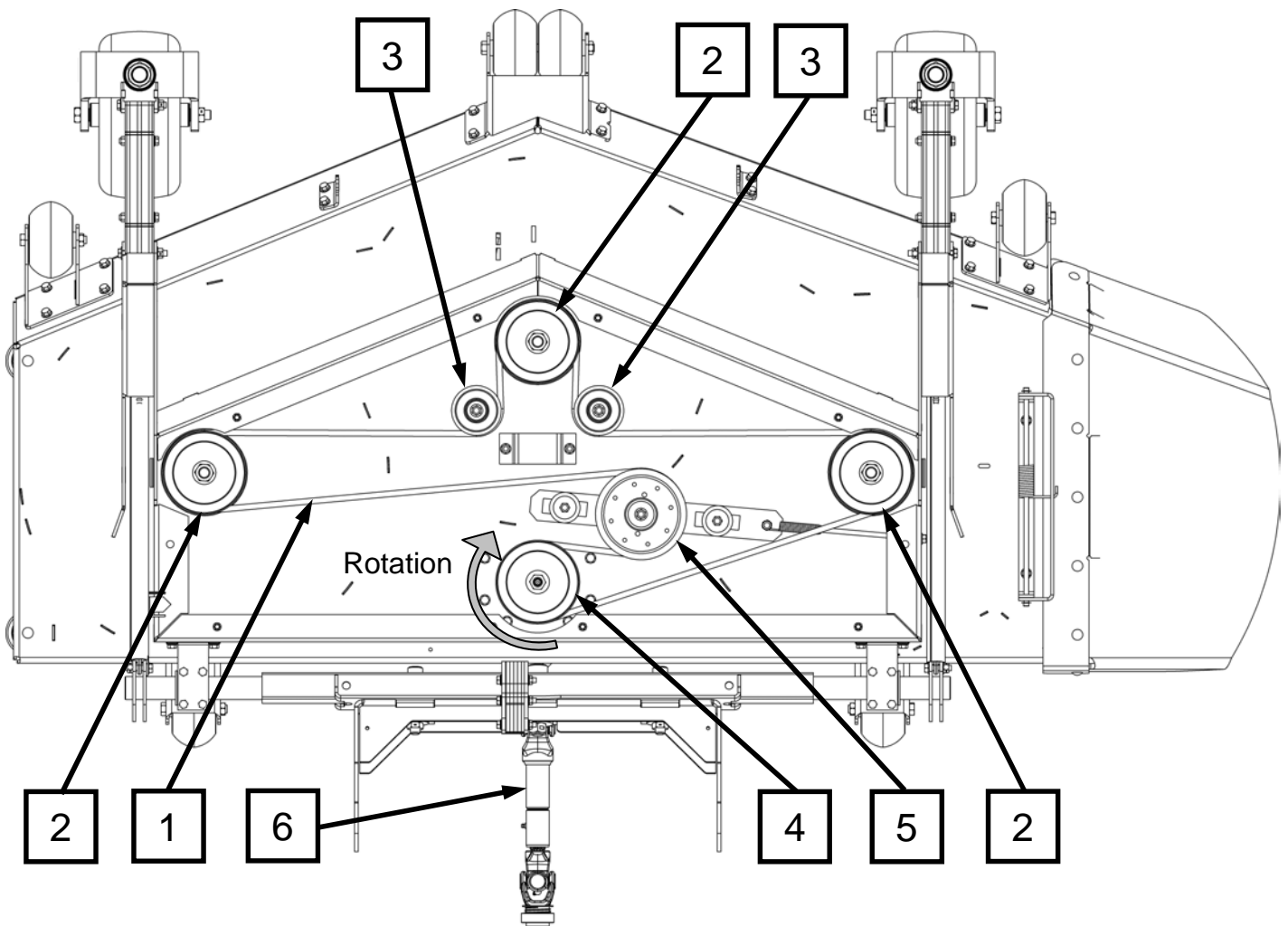
- Apply parking brake.
- Turn off machine and disconnect spark plug wire.
- Lower the deck to its lowest position.
- Remove the belt covers (not shown).
- Loosen or disconnect backside tensioning idler.
- Roll the belt over the top of one of the blade pulleys.
- Once loose, remove the belt from the deck.

- |                              |
|------------------------------|
| 1. Deck Belt                 |
| 2. Blade Pulleys             |
| 3. Stationary Idler Pulleys  |
| 4. Gearbox Pulley            |
| 5. Backside Tensioning Idler |
| 6. PTO Shaft (Input)         |

### Replacement

- Install new belt by placing it around all pulleys. Refer to routing diagram below.
- The belt should be loose at this time.
- Tighten the backside tensioning idler to its original location.
- Check for sufficient tension on all belts. If belt is still loose, continue tightening.
- Reinstall the belt covers.
- Reconnect the spark plug.

Front of Unit (Top View)

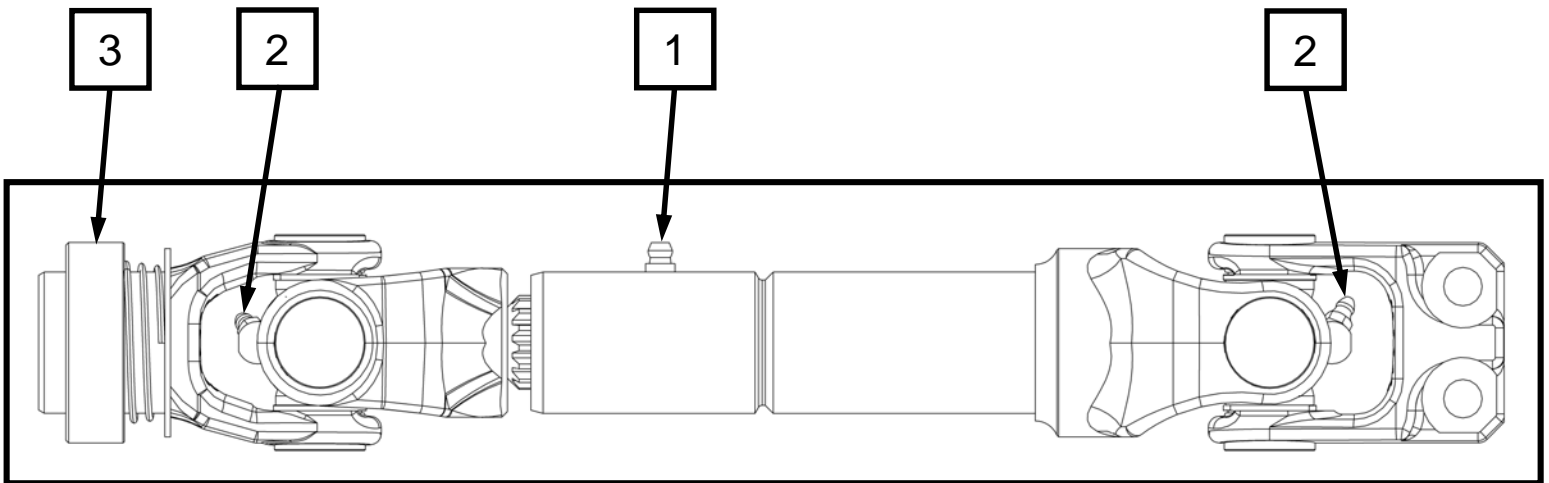


# SERVICE & ADJUSTMENTS

## PTO Shaft

- Before every use, check to make sure the PTO shaft is securely attached to both the tractor and attachment gearboxes.
- Before every use, check the PTO shaft u-joints to make sure they are not damaged or worn. Simply lift up and down on the shaft when it is securely connected to both pieces of equipment. If there is excessive movement then the PTO shaft may need to be replaced.
- If there is excessive vibration during operation; disengage the PTO switch, set the brake, stop the engine, remove the ignition key and disconnect the spark plug wire(s) and immediately inspect the PTO shaft. Refer to Troubleshooting section.
- It is recommended to grease all PTO Shaft joints every 8 hours (50 hours for extended intervals)
- Lubricate all fittings with a good quality lithium soap compatible E.P. grease meeting the N.L.G.I. #2 specification and containing no more than 1% Molybdenum Disulfide.
- An E.P. grease meeting the N.L.G.I. #2 specification and containing 3% Molybdenum Disulfide may be substituted in the telescoping members only.

- |    |                                |
|----|--------------------------------|
| 1. | Telescoping Shaft Grease Point |
| 2. | U-Joint Grease Point(s)        |
| 3. | Sliding Locking Collar         |



## Gearbox

- The gearboxes are lubricated and sealed components. If used and maintained properly, these gearboxes do not require lubrication changes.
- If there are internal component failures within the gearbox, it is recommended to replace the entire gearbox.
- However, if the failed internal components are serviced and/or replaced then new lubrication is required.
- This gearbox requires 4 oz. of Bentonite grease.
  - A recommended brand is Brooks Benalene 900-P-RP.

# TROUBLESHOOTING

<b>Problem</b>	<b>Cause</b>	<b>Correction</b>
<b>Engine Will Not Turn Over</b>	1. Deck still in maintenance/tilt mode.	1. Put the deck into its highest cutting height setting before starting.
<b>Excessive Vibration</b>	1. Worn, bent or loose blade(s). 2. Bent or damaged blade driver component(s). 3. Loose part(s) and/or fastener hardware. 4. Faulty blade driver assembly.	1. Replace blade(s); Tighten blade bolt. 2. Replace blade driver or component(s). 3. Tighten loose part(s) and/or hardware; Check for damage. 4. Replace blade driver assembly.
<b>Loss of Power To Engine</b>	1. Faulty fuse. 2. Deck lifted into maintenance/tilt mode. 3. Wire harness not fully connected.	1. Replace faulty fuse. 2. Put deck back into a proper operating position to restart engine. 3. Ensure wire harness is connected.
<b>Poor or Uneven Cut</b>	1. Worn, bent or loose blade(s). 2. Mower deck is not level. 3. Buildup of debris under deck. 4. Bend deck plate. 5. Faulty /damaged blade driver assembly or components.	1. Replace blade(s); Tighten blade bolt. 2. Level deck using turnbuckles. 3. Clean underside of mower deck. 4. Replace deck weldment. 5. Replace blade driver assembly or components.
<b>No Power To Winch</b>	1. Faulty fuse. 2. Wire harness not fully connected. 3. Damaged wire harness 4. Winch spool is bent or damaged. 5. Strap is damaged or broke	1. Replace faulty fuse. 2. Ensure wire harness is connected. 3. Replace wire harness 4. Replace winch. 5. Replace strap.
<b>No Power To Blades</b>	1. No operator in seat when PTO switch is engaged. 2. PTO shaft not connected to Tractor Gearbox. 3. Bent or Damaged PTO shaft 4. Loose or damaged deck belt. 5. Loose or damaged engine-to-gearbox belt (Tractor). 6. Loose or faulty clutch wiring harness. 7. Faulty clutch.	1. Must be an operator in seat when attempting to engage blades. 2. Ensure the PTO shaft is connected to the Tractor gearbox. 3. Replace PTO shaft. 4. Tighten or replace deck belt. 5. Tighten or replace engine-to-gearbox belt. 6. Ensure clutch wiring is properly connected to clutch and harness. 7. Replace clutch.

**Note: Refer to the tractor manual for more troubleshooting tips that may include other symptoms or causes not included in this list.**

# MOWER IDENTIFICATION

## Mower Identification

Each mower has its own model number and serial number. The number for the attachment can be found on the back side of the upper belt surround (refer to Symbols & Decal section for reference). All mower parts listed herein may be ordered directly from Swisher or your nearest Swisher dealer.

## Unauthorized Replacement Parts

Use only Swisher replacement parts. The replacement of any part on this unit with anything other than a Swisher authorized replacement part may adversely affect the performance, durability and safety of this unit and may void the warranty. Swisher disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts.

### WHEN ORDERING PARTS, PLEASE HAVE THE FOLLOWING INFORMATION AVAILABLE:

- MODEL NUMBER - \_\_\_\_\_
- SERIAL NUMBER - \_\_\_\_\_
- DATE PURCHASED - \_\_\_\_\_
- PURCHASE FROM - \_\_\_\_\_
- PART NUMBER (W/ PAINT CODE) - \_\_\_\_\_
- PART DESCRIPTION - \_\_\_\_\_

**S.A.I.**  
1602 CORPORATE DRIVE  
WARRENSBURG, MO 64093

**www.swisherinc.com**  
TELEPHONE - 1-800-222-8183  
FAX - 1-660-747-3160

**cust.serv@swisherinc.com**

# REPLACEMENT PARTS

## Quick Reference

Swisher Part #	Part Description
12509	Blade – Mulching, 22.5”
B98	Bearing – Blade
19422	Belt – 146”, A-Section; Deck
19290	Tire/Wheel – 11 x 6 – 5, 4 Ply
3511	Gauge – Wheel
AS001	Roller – Anti-Scalp 3/8 ID
19295	Chute – Discharge, Rubber
18874	Washer – Plastic 2” OD x 3/8” ID
18875	Washer – Plastic 7/8 Sq. x 3/8” ID
19369	Shaft – PTO Quick Disconnect



## CAUTION

Use extreme care when working on machinery.

Before performing any maintenance, turn off engine, allow the unit to cool and remove the key. Disconnect spark plug wire.

Set Parking Brake by pulling up on brake arm until locked into the “engaged” position.

Do not wear watch or jewelry. Do not wear loose fitting clothes. Observe all common safety practices with tools.





# SWISHER HISTORY



Back before electricity came to rural Missouri Max Swisher was producing lawn mowers from his mother's chicken house. Max never liked to mow grass. He installed a gearbox on his family's lawn mower creating a self-propelled unit. By tying one end of a rope to the mower and the other end to a tree in the center of the yard the mower circled the tree, shortening the rope and guiding the mower in concentric circles. Max enjoyed relaxing under a shade tree while his invention did all the work.

Max had designed his first self-propelled rotary lawn mower to do his dirty work for him. Neighbors noticed his new invention and began asking him to make more. Today, over 70 years later, Swisher is still producing innovative lawn and garden and ATV/UTV equipment designed to give us all more "relaxing in the shade" time.

Swisher products have been featured nationally on television programs such as Regis and Kathie Lee and seen in publications like ATV Magazine, Country Journal, Popular Mechanics Magazine and others. In January 2000 Popular Mechanics Magazine named Max's zero turning radius riding mower one of the 20<sup>th</sup> century's top household inventions.

Swisher offers value and function in its products to meet your grounds maintenance needs.

**CELEBRATING OVER 70 YEARS OF INNOVATION  
SINCE 1945**

