

SWISHER®

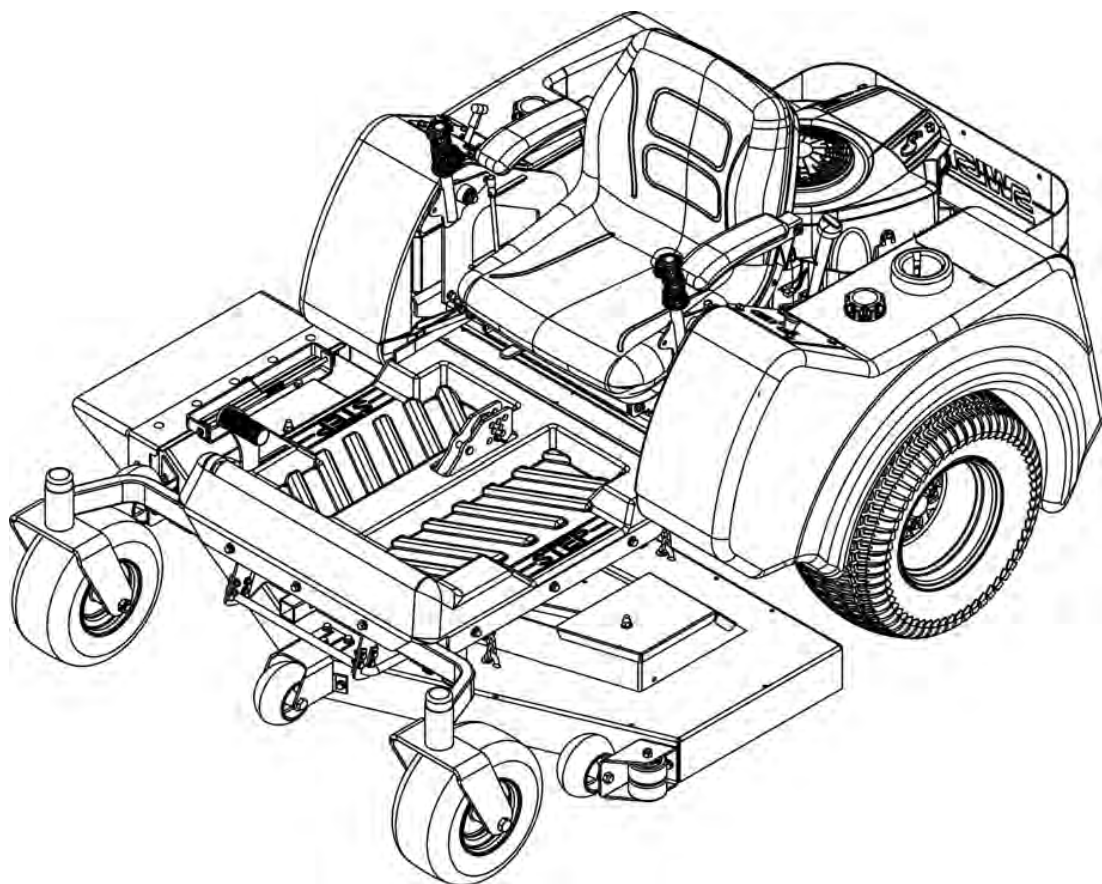
ZTR2454BS, ZTR2454BS-CA, ZTR2454KA, ZTR2454KA-CA
24 HP (Briggs & Stratton) or 24 HP (Kawasaki) – 54" Wide Cut

RESPONSE

with

Patent Pending

**RAPID
RESPONSE
CONTROL
SYSTEM**



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 65 years of innovation



OWNER'S MANUAL

STARTING SERIAL # L112-352001

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 from the date of purchase by the original consumer purchaser.

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 difficulty 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.

- 2) Commercial Use **This product is not intended for commercial use and carries no commercial warranty.**

- 3) 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.

- 4) 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.

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INTRODUCTION

Congratulations!

Thank you for purchasing a Swisher Zero Turn mower. This machine is built for the greatest efficiency and rapid mowing of large areas. 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 lifespan 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 only for mowing grass on lawns and other free and even ground without obstacles. This machine is not intended for commercial use. 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.
- 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 sure that they are in place.
- 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 mower from the crate:

- Dispose of top and side panels of the crate.
- Remove loose parts and packing material.
- Cut any banding or strapping that may be holding the mower to the crate.
- Disconnect the spark plug wire and place where it cannot make a connection.
- Raise the mower deck to its highest position.
- Disengage the parking brake by releasing the lock plates and lowering both handles down to the “Disengaged” position. **SEE INSTRUCTION DECAL ON FLOOR PAN OR GO TO PAGE 16.**
- Open the transmission bypasses by pulling up on only the inside handle located below the right side of the seat. **SEE INSTRUCTION DECAL ON FLOOR PAN OR GO TO PAGE 16.**
- Carefully push the mower 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.**
- Check the battery. If the battery is put into service after the “month & year” of the date on the battery, then 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.
- Close the transmission valves by releasing the lock plate and lowering the handle down to the “Disengaged” position. **SEE INSTRUCTION DECAL ON FLOOR PAN OR GO TO PAGE 16.**
- Reconnect spark plug wire.
- Check tire pressure on all four wheels. **REFER TO UNIT SPECIFICATIONS TABLE ON PAGE 12.**
- **Read all operating instructions, safety instructions, and customer responsibilities before operating this machinery.**

SYMBOLS & DECALS

			<p align="center">⚠ WARNING</p> <p align="center">AVOID SERIOUS INJURY OR DEATH</p> <ul style="list-style-type: none"> -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. <p align="right">18795</p>

18795 - 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

	<p align="center">⚠ CAUTION</p> <p align="center">UNSTABLE SURFACE</p> <p align="center">NO STEP</p> <p align="right">OD11</p>
--	--

No Step Decal - OD11

⚠ 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.

ENGAGE:

- PULL UP ON BOTH HANDLES UNTIL LOCKED IN THE ENGAGED POSITION.

DISENGAGE:

- PULL UP SLIGHTLY ON BOTH HANDLES UNTIL BOTH LOCK PLATES CAN BE PUSHED DOWN TO RELEASE THEM FROM THE LOCKED POSITION.
- ONCE UNLOCKED, PUSH BOTH HANDLES DOWN UNTIL OUT OF TRAVEL.

HYDRO BY-PASS OPERATION:

- THE LEFT HANDLE IS TO ACTIVATE THE HYDRO BY-PASS AND OPERATES, SEPARATELY, THE SAME AS THE BRAKE ARM.

Brake / Bypass Decal - 18944

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 / CARB Certification Decal – 18904 / 18967

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.
- Learn how to use the machine and its controls safely and learn how to stop quickly. Also learn to recognize the safety decals.
- Only allow the machine to be used by adults who are familiar with its use.
- Make sure nobody else is in the area of the machine when you start the engine, engage the drive, or run the machine.
- Stop the machine if someone enters the work area.
- Clear the area of objects such as stones, toys, steel wire, etc. that may become caught in the blades or thrown.
- **DO NOT use this machine without the Discharge Chute in place.**
- Stop the engine and disconnect the spark plug before cleaning the discharge deck.
- 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 objects, so that the blades do not hit them.
- Only operate the machine in daylight or other well-lit 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 or driving.
- Always wear ear protection.
- Never wear loose clothing that can get caught in moving parts.

NOTE:

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

SAFETY INSTRUCTIONS

Children:

- Serious accidents may occur if you fail to be on guard for children in the area of the machine. Children are often attracted to the machine and mowing work.
- 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, shut down the blades and drive slowly down the slope.
- Always drive evenly and slowly on slopes.
- Make no sudden changes in speed or direction.
- Avoid unnecessary turns on slopes, and if it proves 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 their grip, 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.



Remember:

The operator is responsible for avoiding dangers or accidents.

SAFETY INSTRUCTIONS

General Use Continued...

Mowing Safety:

- **WARNING – Gasoline is highly flammable.**
 - Store fuel in 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 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.

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 fire hazard, keep the engine, muffler, battery compartment and gasoline in storage area 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, lower the deck unless a positive mechanical lock is used.

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.
- Control of a ride-on machine sliding on a slope will not be regained by the application of the brake. The main reasons for loss of control are:
 - Insufficient wheel grip.
 - 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.
 - Incorrect hitching and load distribution.

Operation:

- Do not operate the engine in a confined space where dangerous carbon monoxide fumes can collect.
- When using any attachments, never direct discharge of material toward bystanders nor allow anyone near the machine while in operation.
- 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.
- Disengage drive to attachments, stop the engine and disconnect the spark plug wire(s) or remove the ignition key:
 - 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), stop the engine and disengage drive to attachment.
 - Before refueling.
 - Before removing 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 each use. If your mower does not function as described, repair the problem immediately.

- 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.

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 damage blades.

- Engage brakes & safely raise front of mower (SEE WARNING).
- Hold or block blade from turning.
- Loosen blade nut and remove blade.
- Replace blade (SEE SPECIFICATIONS).

Battery:

To clean battery and terminals

- 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 locate it where it cannot come into contact with the battery.
- Remove the 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.
- Reconnect the battery cables. Attach the RED cable first then the BLACK cable.



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



WARNING

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

CHARGING TIPS

- To avoid a battery 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 shorten its life.
- **Important:** Never overcharge batteries. Excessive charging will shorten battery life.
- 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!**
- **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 cutting deck 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 – 8 mph
TIRE SIZE	FRONT: 12 X 6 X6 w/ 5/8 Bearing / REAR: 20 X 10 X 10
TIRE PRESSURE	FRONT: 40 psi Max / REAR: 22 psi Max
BATTERY	12V / Heavy Duty 275 CCA / Type U1L
HYDRO BOLT TORQUE	27 ±3 ft. lbs
BLADE BOLT TORQUE	35 ft. lbs
CUTTING HEIGHT	Approximately 1.5" – 5"
CUTTING WIDTH	54" – Three 18 ½" Gator™ Mulching Blade System
PARKING BRAKE	Manual Lever
FRONT AXLE	Welded / 1 x 2 x 3/16" Wall Steel Tubing
SEAT	18" Back w/ Arm Rest / 4" Adjustable Slide
TRANSMISSION	Commercial Grade Hydro-Gear ZT-2800
DECK LIFT	Foot Operated, Spring Assisted
UNIT MEASUREMENTS	LENGTH: 81" WIDTH: 62" (Including Grass Chute) HEIGHT: 40" WEIGHT: 762 lbs

CUSTOMER RESPONSIBILITIES

Maintenance Schedule

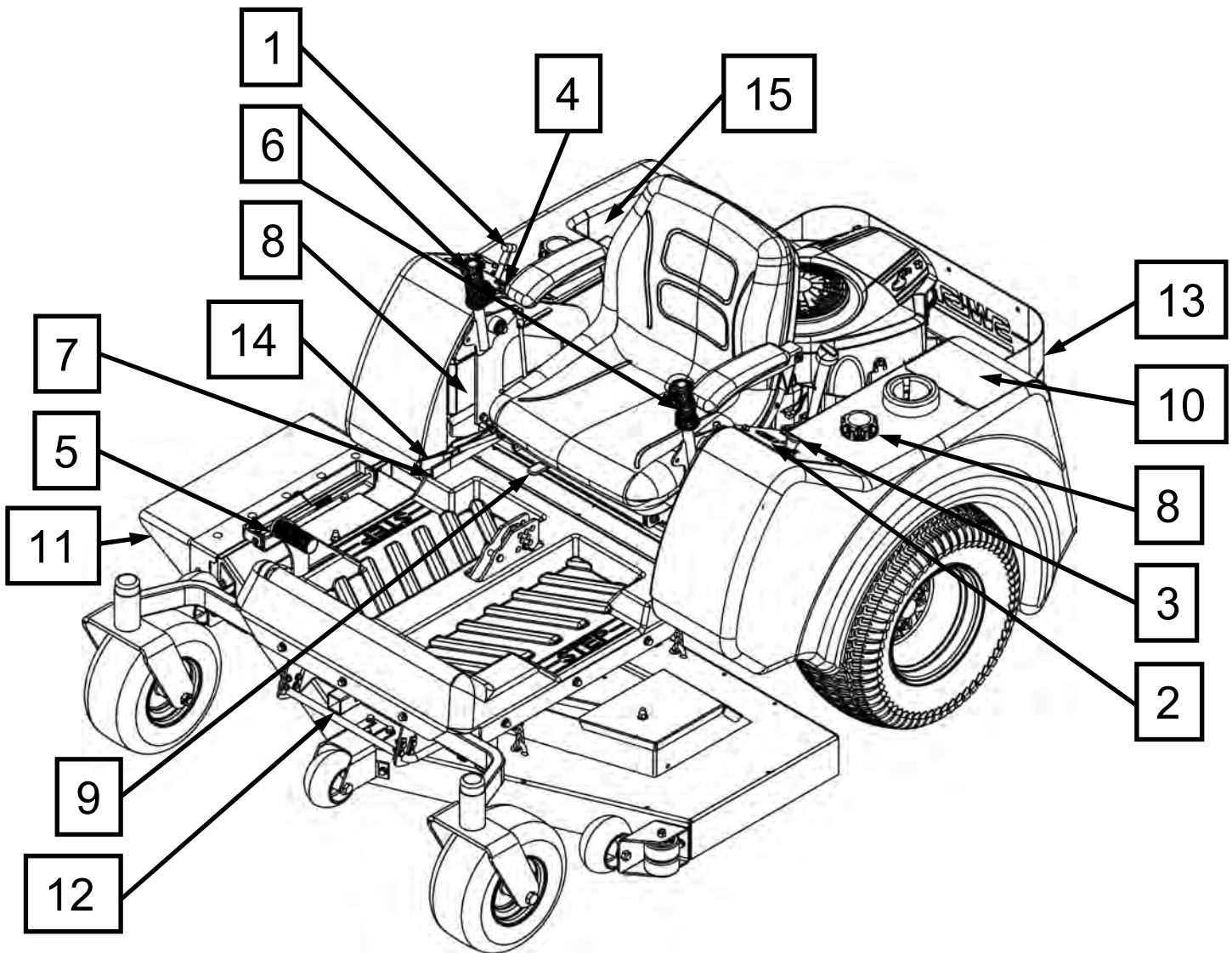
	Before Each Use	8 Hours	25 Hours	50 Hours	100 Hours	Season	Before Storage
Check Brake Operation	X	X					
Check Tire Pressure	X	X					
Check Operator Presence	X						
Parking Brake	X						
Check for Loose Fasteners	X				X		X
Sharpen/Replace Mower Blades			X3				
Check Battery			X				X
Clean Battery & Terminals			X				X
Check Belts	X						
Check Engine Oil	X	X					
Change Engine Oil w/ filter				X1,2			
Change Engine Oil w/o filter			X1,2				
Replace Oil Filter					X1,2		
Clean Air Filter			X2				
Inspect Muffler				X			
Clean Engine Cooling Fins					X2		
Replace Spark Plug					X	X	
Replace Fuel Filter						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.

OPERATION & FEATURES



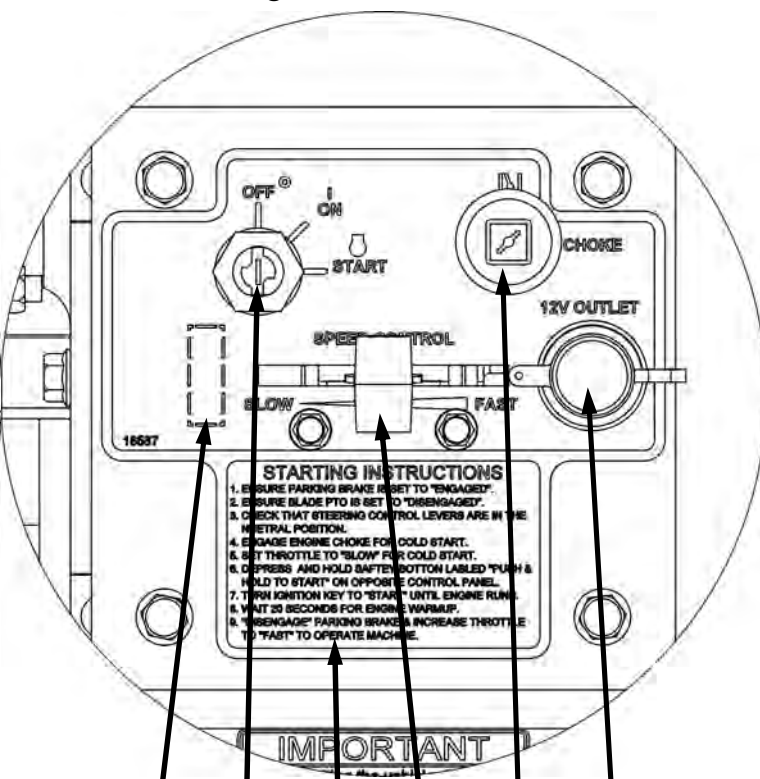
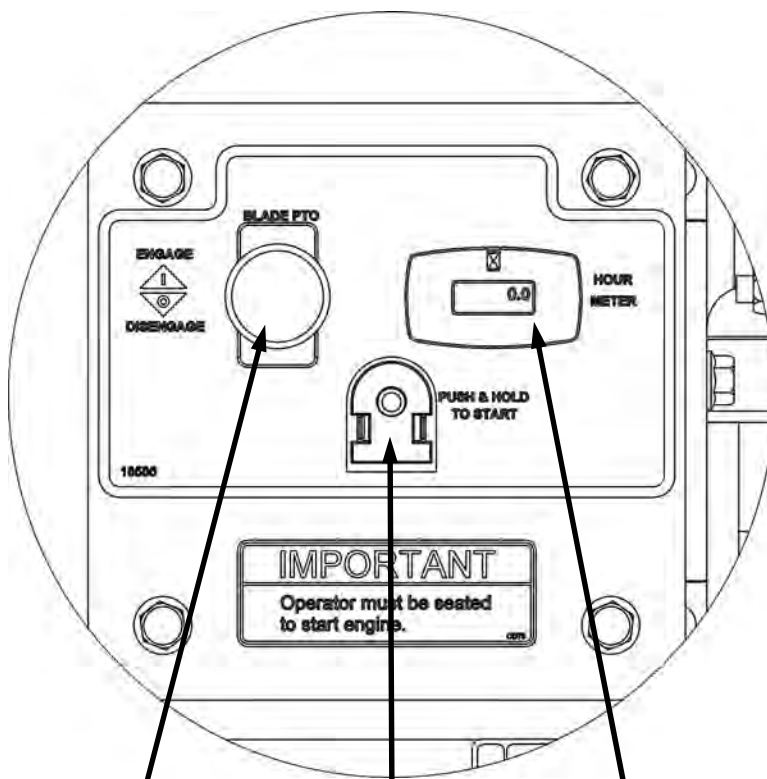
1. Throttle Control – Used to control Engine Speed.
2. Hour Meter – Indicates hours of operation.
3. PTO Switch – Used to engage or disengage the deck blades.
4. Ignition Switch – Used to start or stop the engine.
5. Deck Lift Pedal – Used to raise and lower the cutting deck.
6. Control Lever – Sets the speed of the mower in both the forward and reverse directions and also turns the mower.

7. Hydro Bypass – Engages transmissions for normal operation and disengages transmissions for pushing or pulling the unit.
8. Fuel Tanks – Dual 4.0 gal.
9. Seat Slide
10. Battery
11. Discharge Chute
12. Front Receiver Hitch
13. Rear Receiver Hitch (Not Shown)
14. Brake Lever
15. Toolbox / Storage compartment

OPERATION & FEATURES

Left Control Panel

Right Control Panel



1

3

2

9

4

8

6

5

7

1. PTO / Blade Engagement Switch
2. Hour Meter – Indicates hours of operation
3. Safety Starting Interlock Switch
4. Key Switch
5. Choke Cable (Only on 24HP Kawasaki Engines & 24HP Briggs & Stratton Engines)

6. Throttle Control Cable
7. 12V Accessory Outlet Plug
8. Starting Instructions Decal
9. Accessory hole for On/Off Toggle Switch (P/N 18782)

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.

Starting:

Starting Instructions are also included on the right side control panel decal.

- Before starting the vehicle, be sure all people are clear of the area.
- Operator must be sitting in the seat. Control handles must be in the neutral (vertical) position. PTO must be in the disengage position (pushed down). Brake must be engaged.
- Depress interlock button on left control panel and turn ignition key simultaneously until engine runs.
- Once started, set engine RPM to maximum (Fast) and then engage the blades.

OPERATION

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 you mow.
 - Example: If you mow going north and south, the next time you should mow going east and west.

Deck Leveling

- Deck leveling is not required as the deck is set level from the factory.
 - The only instance where the deck would not be level is if a component(s) is damaged or broken, which in this instance would need to be replaced.

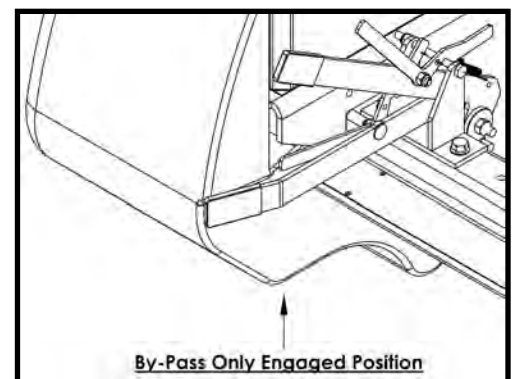
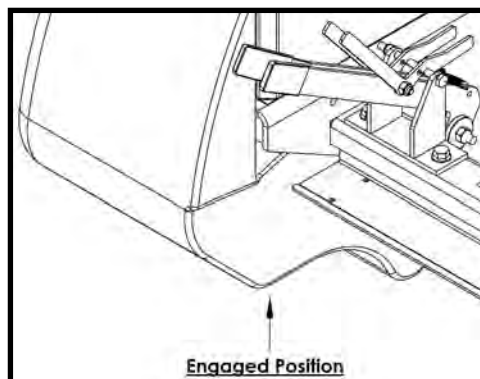
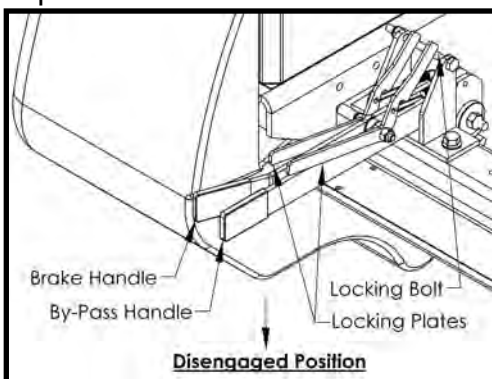
Brake / Transmission Bypass Operation

Brake:

- Be sure the vehicle is not moving before engaging the brake. Only engage the brake on level ground. DO NOT engage the brake on an inclined surface.
- To engage, pull up on the brake handle (outside lever) until the locking plate is seated in the locked position. Note both handles will come up as they are linked together for the brake application.
- To disengage, push down on both lock plates until they are released from the locked position. Once unlocked, push both arms down until they are out of travel.

Bypass:

- Engaging the Transmission bypass will cause the rear 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 (inside 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 arm down until it is out of travel.

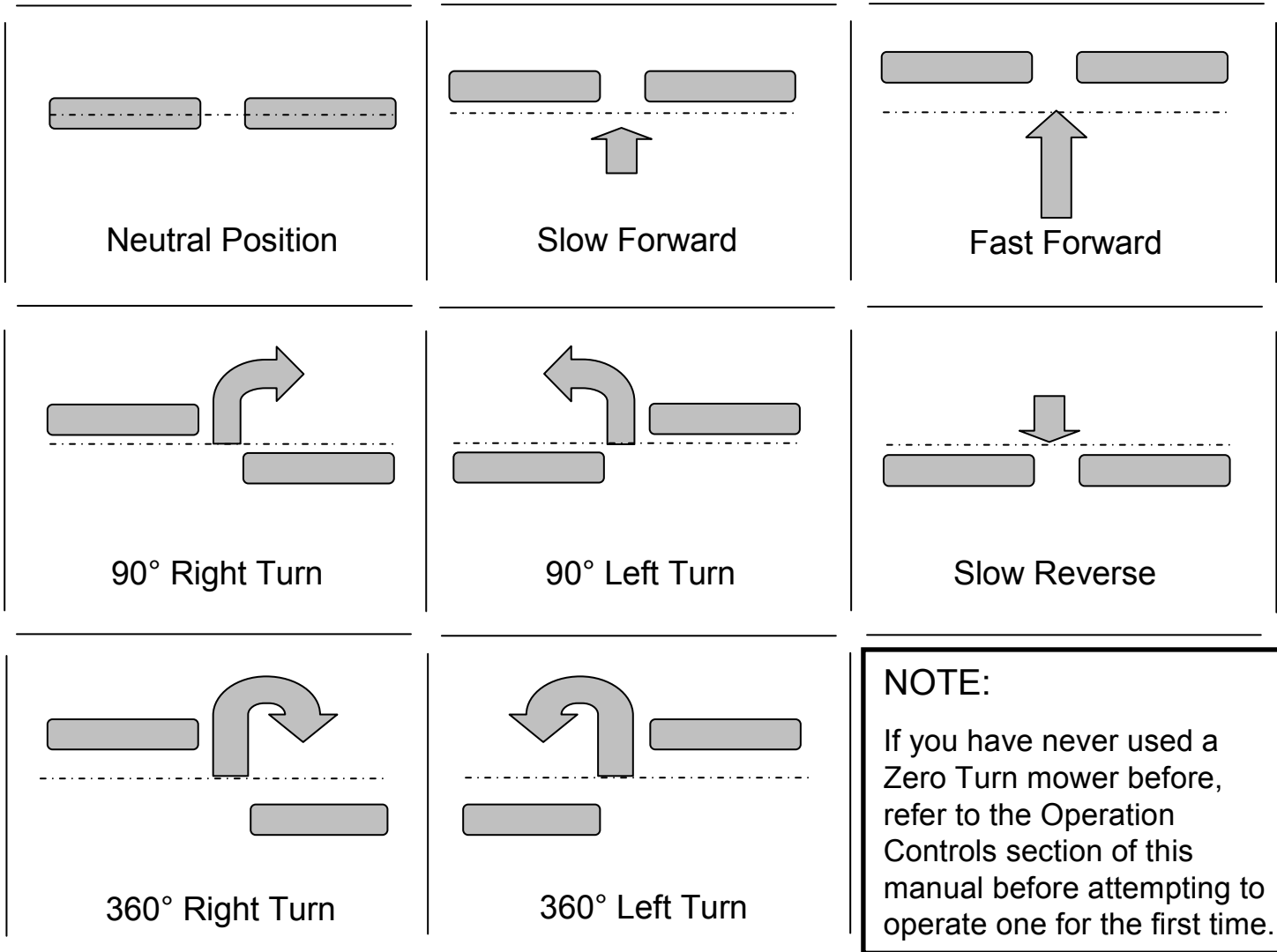


OPERATION

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 console control the direction of movement.
SEE FIGURE BELOW

Control Handles



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.

Note: The pressure required to operate the mower is very slight.

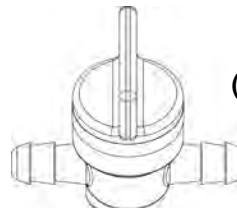
Fuel Shut-Off Valves

- The Swisher ZTR2454BS & ZTR2454KA are 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.

“ON” Position
(Parallel with fuel line)



“OFF” Position
(Perpendicular with fuel line)



SERVICE & ADJUSTMENTS

Adjusting The Cutting Height

- Push forward on the Deck Lift Pedal to raise the deck and place the locator pin in one the of the eight hole positions to set the desired cutting height. Once the desired height is selected, slowly release the pedal until the locator pin is engage by the deck lift.
- Position 1 is the highest setting and Position 8 is the lowest position.
- The cutting range is from approximately 1.5" to approximately 5".

Parking Brakes / Transmission Bypass Adjustments

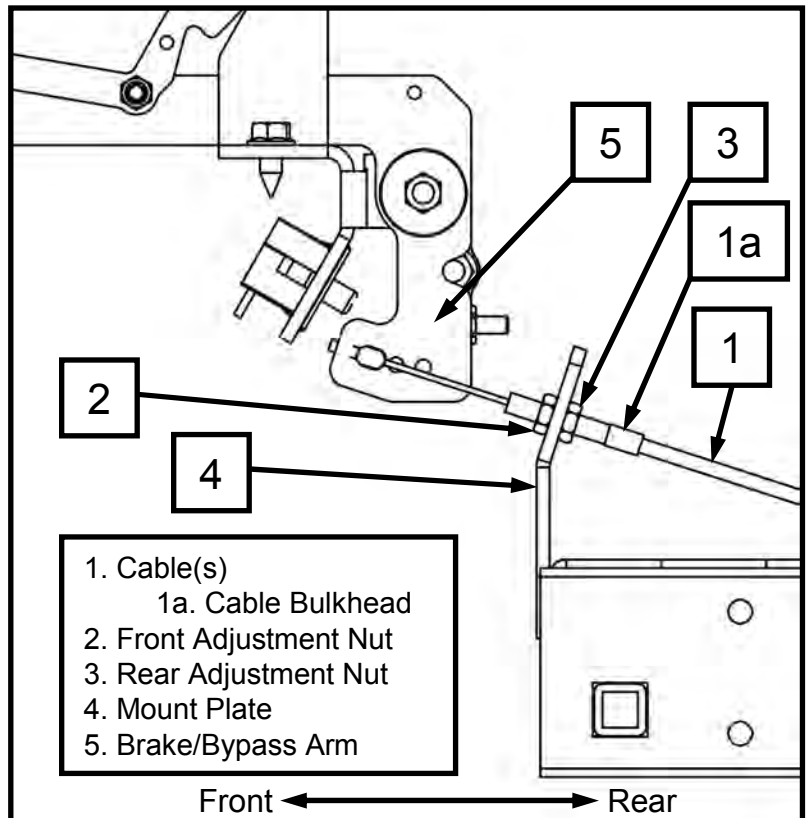
- The Swisher ZTR2454BS & ZTR2454KA are equipped with a manual parking brake linked with transmission bypasses. This system must be engaged by the operator before starting the vehicle and also before exiting the vehicle.
- Only when the control handles are in the neutral position and the machine is not 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 right side between the fuel tank and the seat.

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".
- 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 brakes are set to engaged.



WARNING

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

SERVICE & ADJUSTMENTS

Deck Belt Routing & Replacement

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

Removal

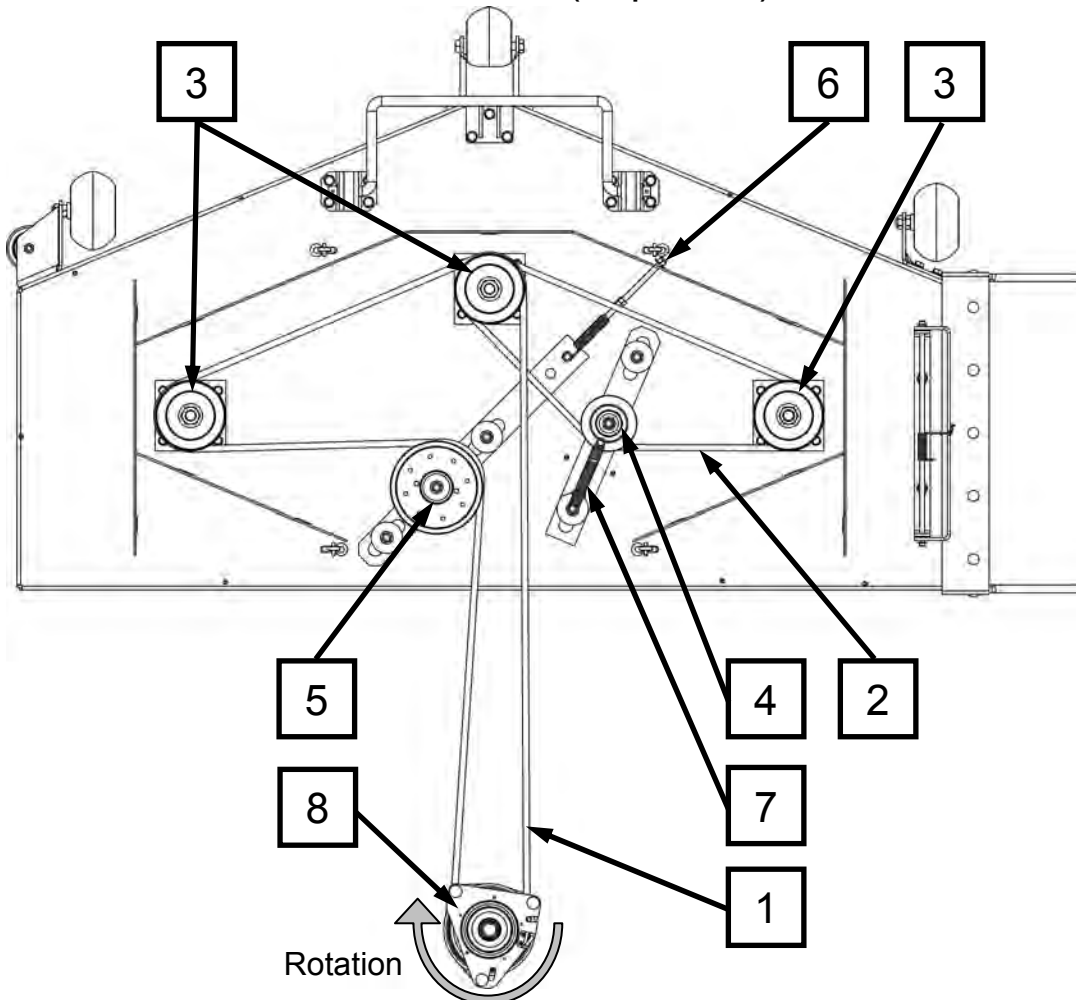
- Disconnect spark plug wire.
- Apply parking brake.
- Lower the deck to its lowest position.
- Remove the belt covers.
- Disconnect tension idler(s).
- Roll the belt over the top of the deck pulleys.
 - To remove the Deck Idler belt the Engine-to-Deck belt will need to be removed first.

1. Engine-to-Deck belt
2. Deck idler belt
3. Deck pulleys
4. Inside deck idler
5. Backside deck idler
6. Engine-to-Deck belt idler tensioner
7. Deck idler tensioner
8. Engine Clutch

Replacement

- Install new belt by placing it around the deck pulleys. Refer to routing diagram below.
- The belt will be loose at this time.
- Tightly secure the belt tension back to its original position.
- Reinstall the belt covers.
- Check for sufficient tension on all belts.
- Reconnect the spark plug.

Front of Unit (Top View)



SERVICE & ADJUSTMENTS

Hydro Belt Routing & Replacement

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

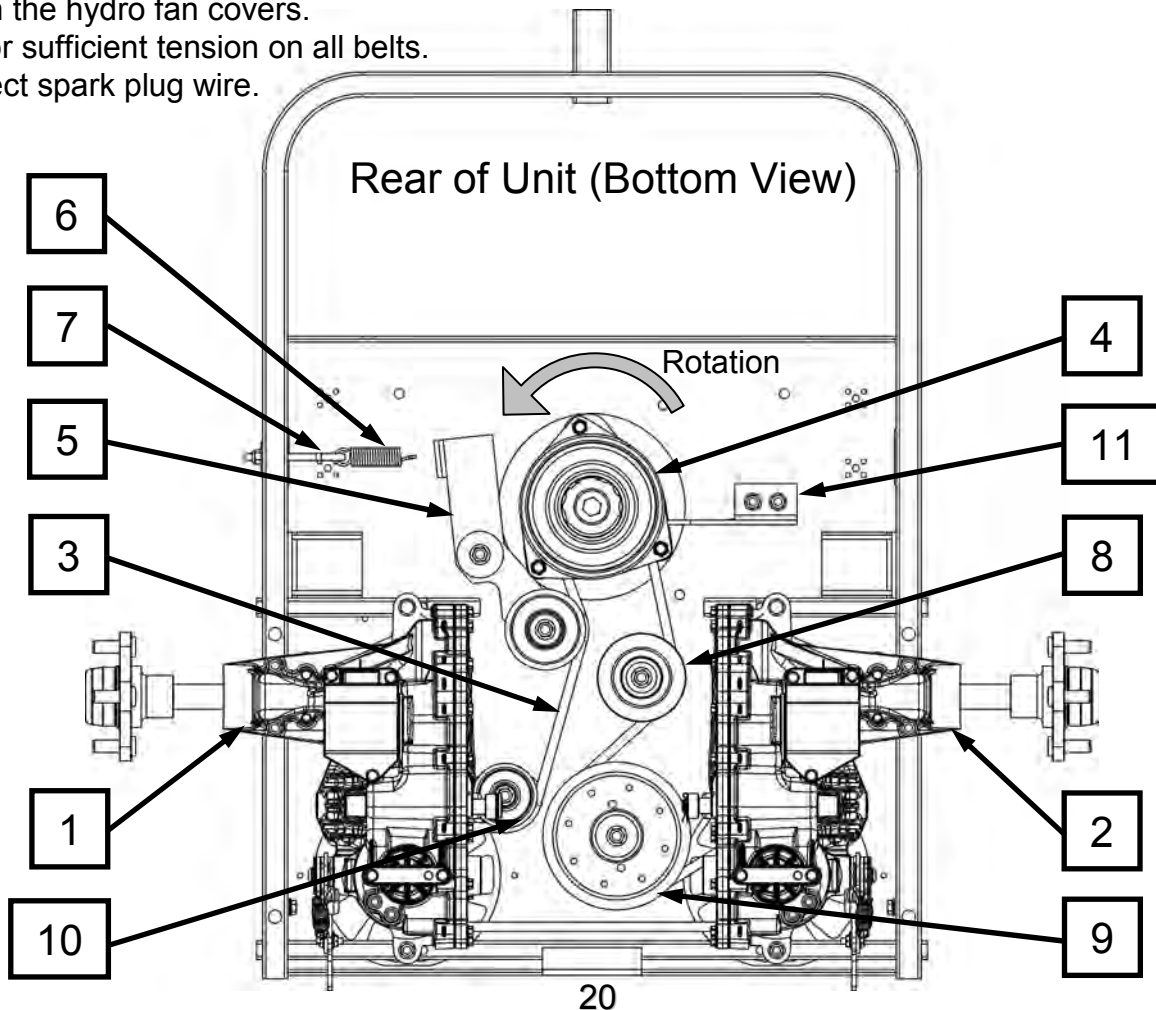
Removal

- Disconnect spark plug wire.
- Apply parking brake.
- Remove both hydro fan covers (18691TK).
- Disconnect wiring from electric clutch.
- Remove clutch stop (18667TK).
- Remove the engine-to-deck belt.
- Loosen the tension on the idler spring.
 - If loosening the spring is not enough, disconnect the idler spring from eyebolt completely.
- 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. Pivoting idler
6. Idler spring
7. Idler eyebolt
8. Inside stationary idler
9. Large backside stationary idler
10. Small backside stationary idler
11. 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 will be loose at this time.
- Tightly secure the belt tension back to its original position.
- Reinstall the engine-to-deck belt.
- 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.



SERVICE & ADJUSTMENTS

Seat Adjustment

- The Swisher ZTR2454BS & ZTR2454KA are equipped with a 4" range sliding seat.
- Release the tension on the seat adjustment lever by pushing the grey tip 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.

PTO Clutch Adjustment

- Please visit www.ogura-clutch.com/files/pdfIMP/PTOinstallation.pdf to view maintenance, adjustment and installation instructions.

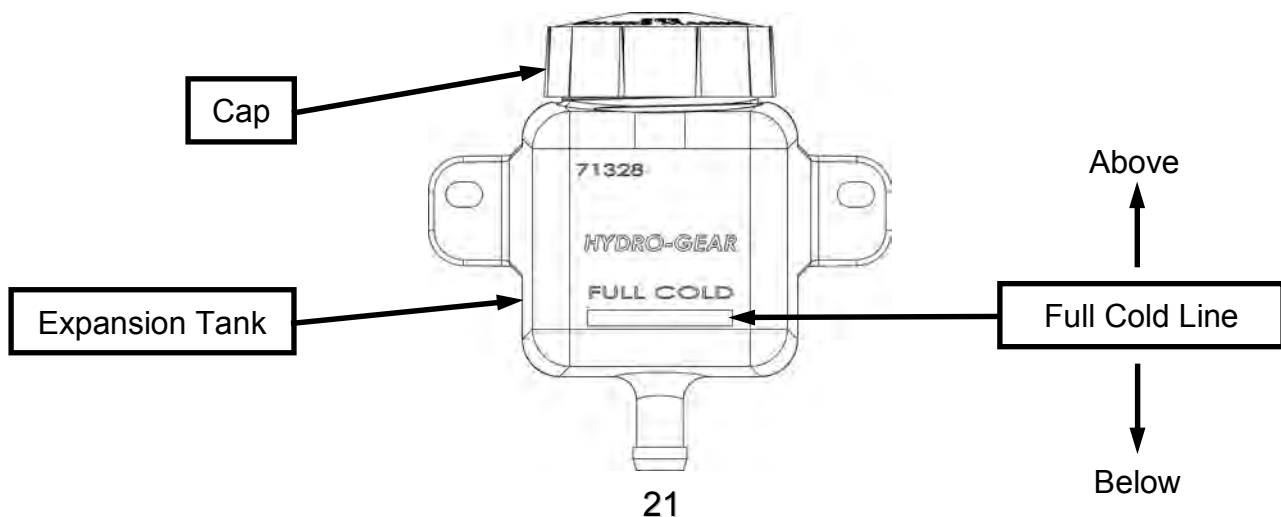
Hydro Expansion Tank Oil Levels

- The Swisher ZTR2454BS & ZTR2454KA are equipped with two hydrostatic transmission expansion tanks to allow for oil expansion during regular use. These are located directly behind the seat and in front of the engine.
- Oil levels in both expansion tanks (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 oil has cooled back to the ambient temperature before checking the oil levels. See image below for reference.
- If oil level in either tank is below the "full cold" line please 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:

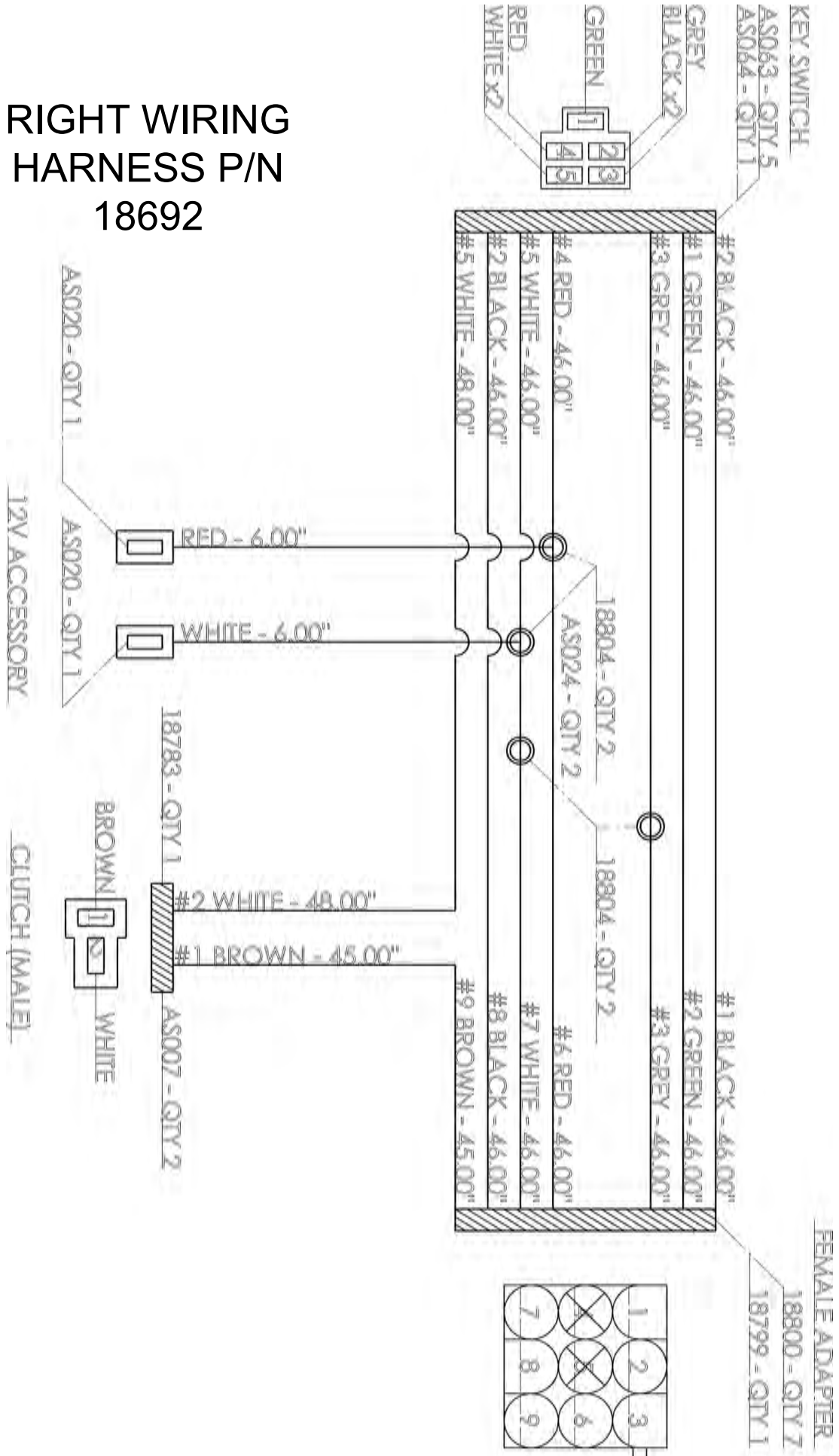
- Viscosity Rating: 162 @ 40°C / 18.1 @100°C
- 13cSt & 9cSt min @ 110°C
- API Classification: SL

- Using another type of oil may void the warranty.



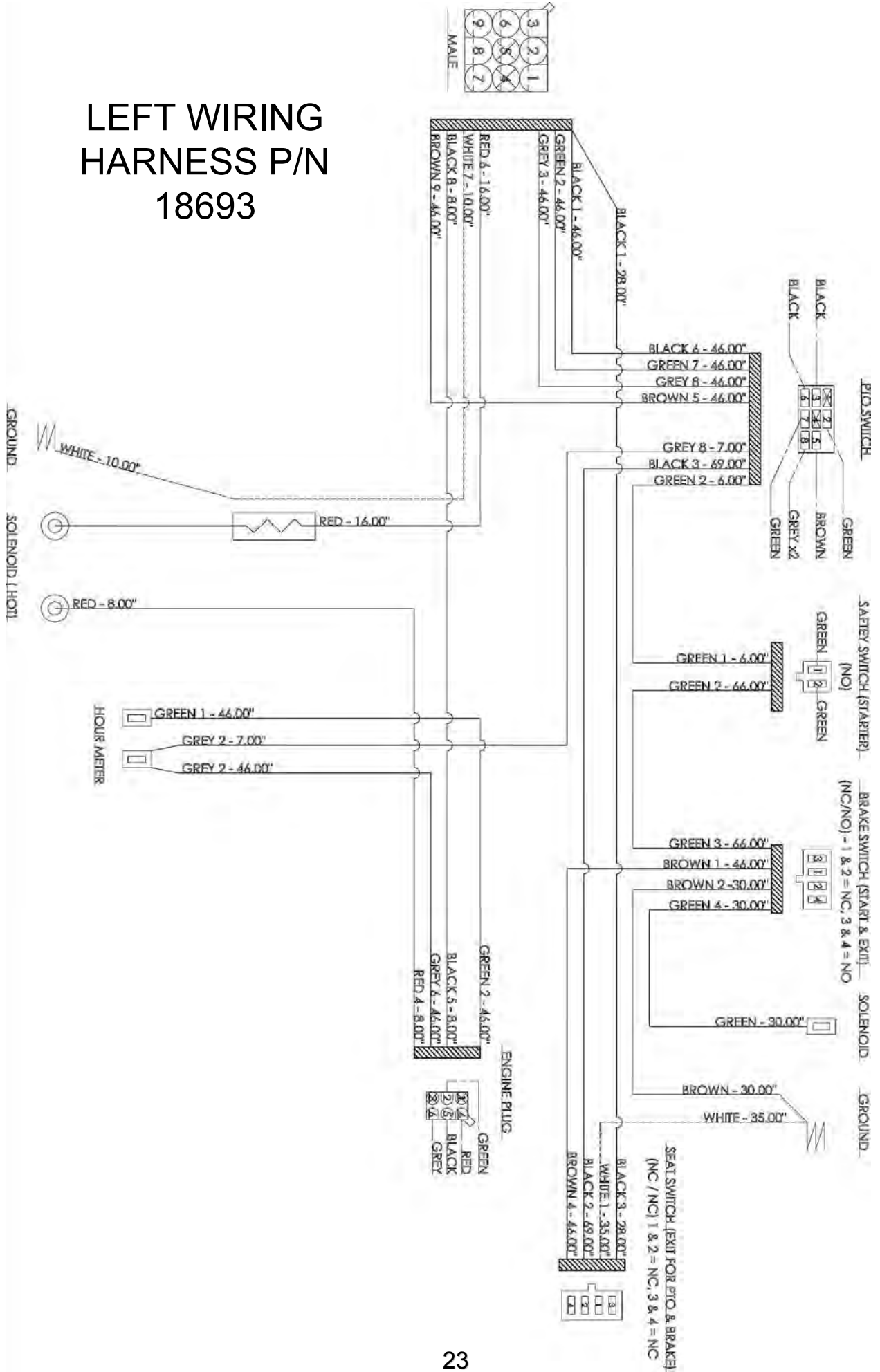
WIRING HARNESS

RIGHT WIRING HARNESS P/N 18692



WIRING HARNESS

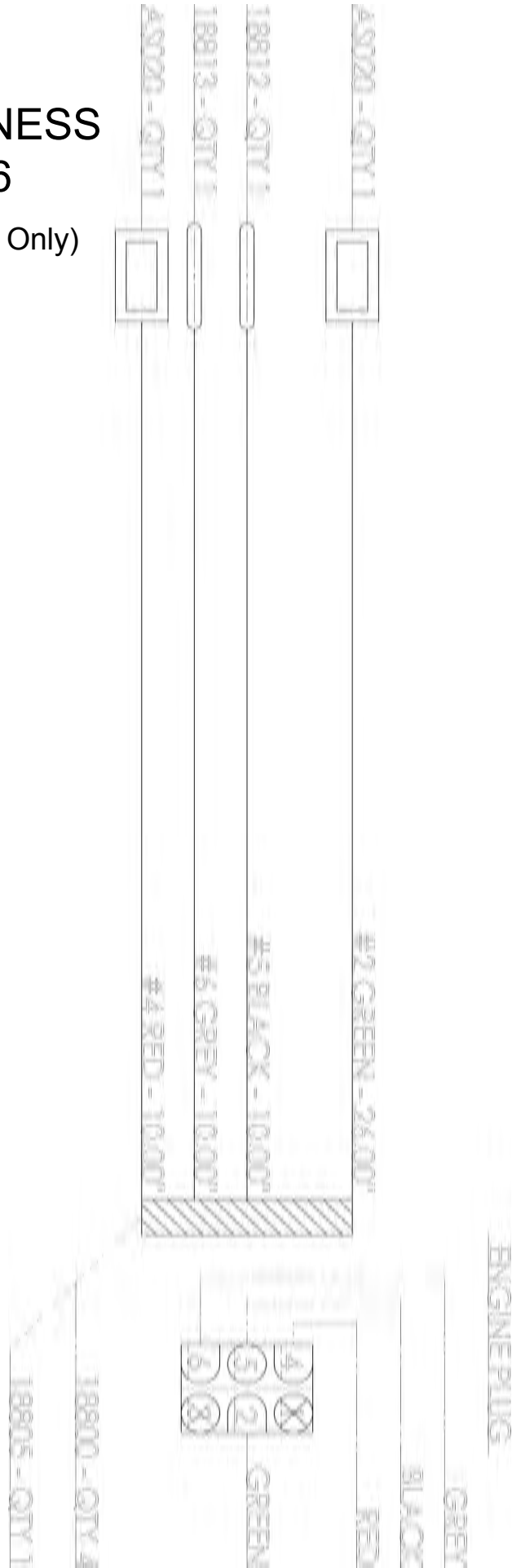
LEFT WIRING HARNESS P/N 18693



WIRING HARNESS

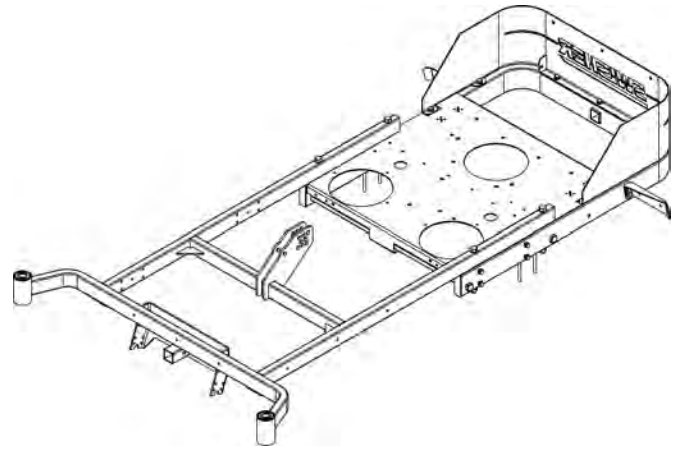
WIRING HARNESS P/N 18806

(Kawasaki Engines Only)



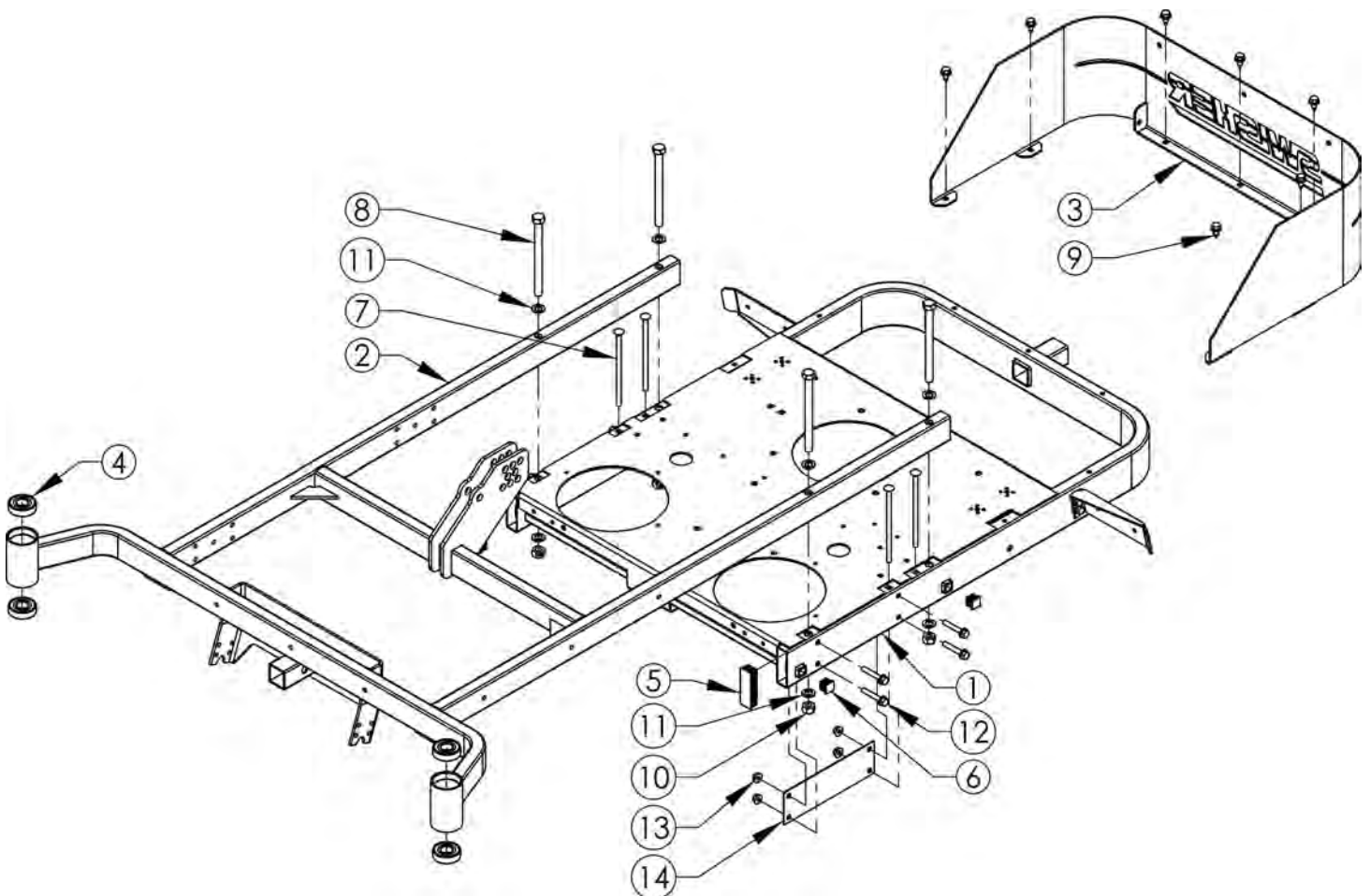
PARTS BREAKDOWN

Item #	Part #	Description	Qty.
1	18881TK	Weldment - Frame, Rear; Txt Blk	1
2	18704TK	Weldment - Front Frame, HD; Txt Blk	1
3	18737TK	Wrap - Engine; Txt Blk	1
4	B98	Bearing	4
5	18581	Plug - Finishing, 1 x 3 x .083 Tube	2
6	18629	Plug - Finishing, 3/4 x 3/4 x .120 Tube	4
7	18635	Bolt - Carriage 5/16-18 x 6; GR5, Full Thrd	4
8	18589	Bolt - Hex, 1/2-13 x 6 1/4; GR8, ZP	4
9	26X249	Screw - 5/16-18 X 3/4	7
10	12165	Nut - Two Way Locking, 1/2-13	4
11	NB177	Washer - Mach, 1/2 NR 14 GA.	8
12	NB515	Bolt - Serr Flange 5/16-18 x 1 3/4; GR5, ZY	8
13	NB170	Nut - Serr Flange 5/16-18 ; Case Hrd, ZY	8
14	18928TK	Plate - Seat Base Support, Txt Blk	2

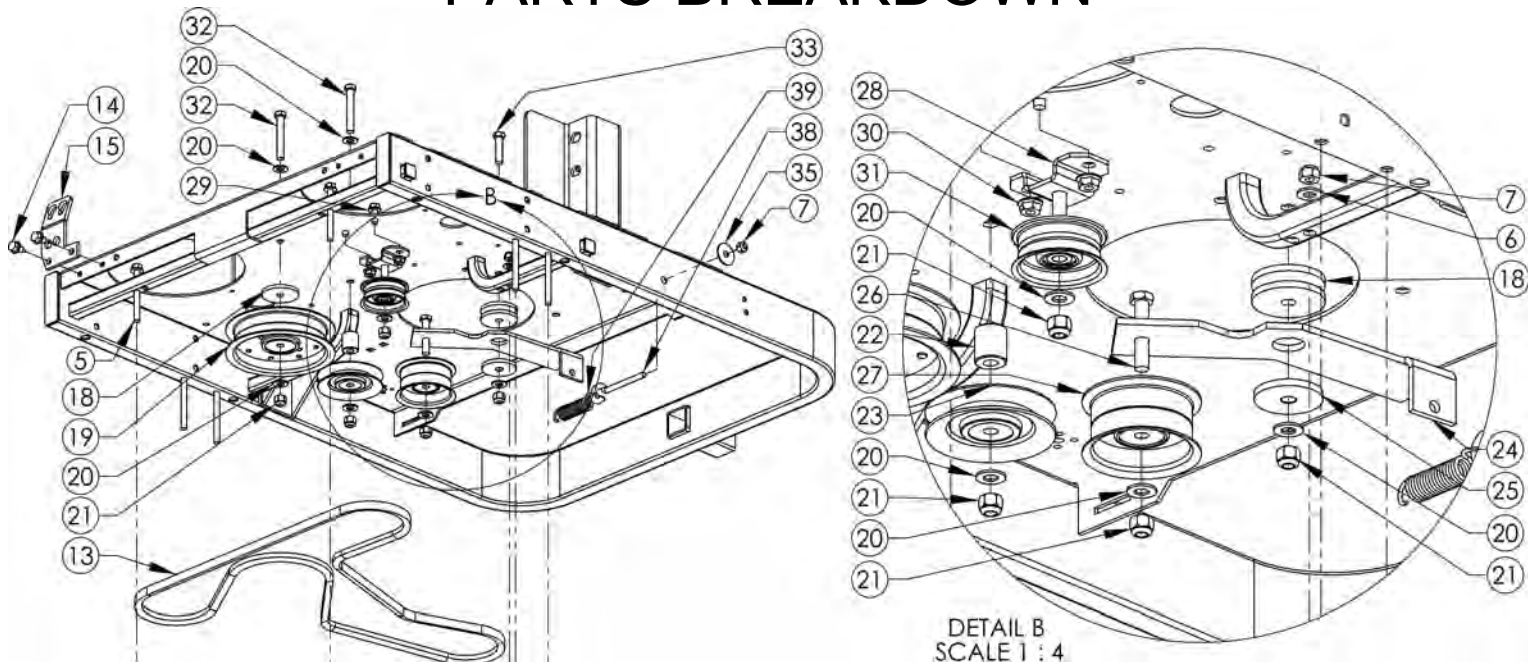


Notes:

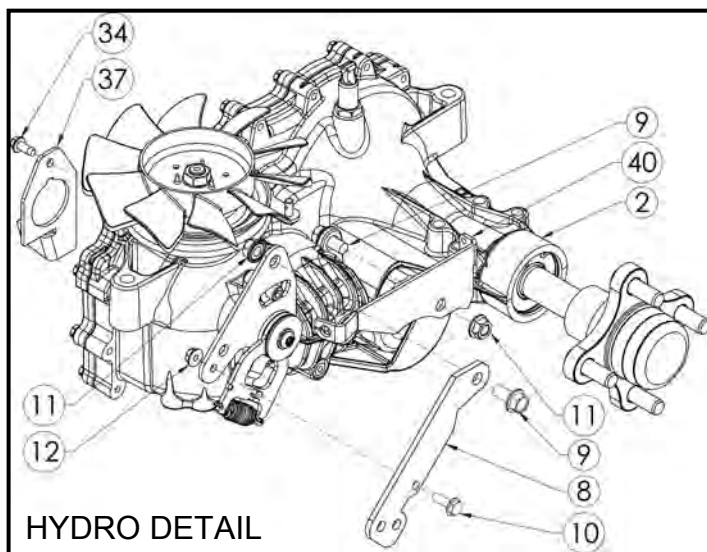
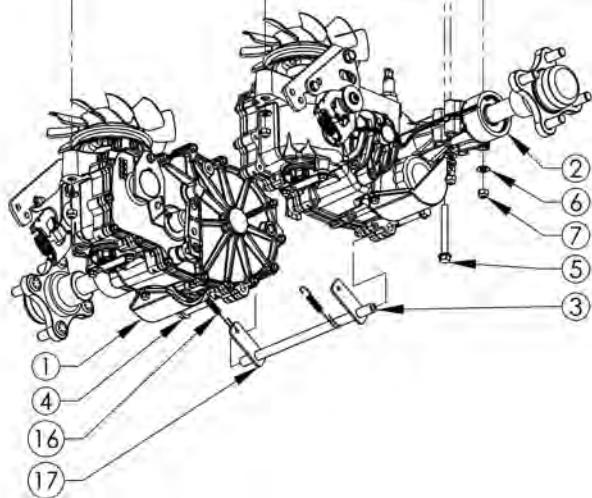
Torque settings for bolt number 8 should be set at 25 ft./lbs.



PARTS BREAKDOWN



DETAIL B
SCALE 1 : 4

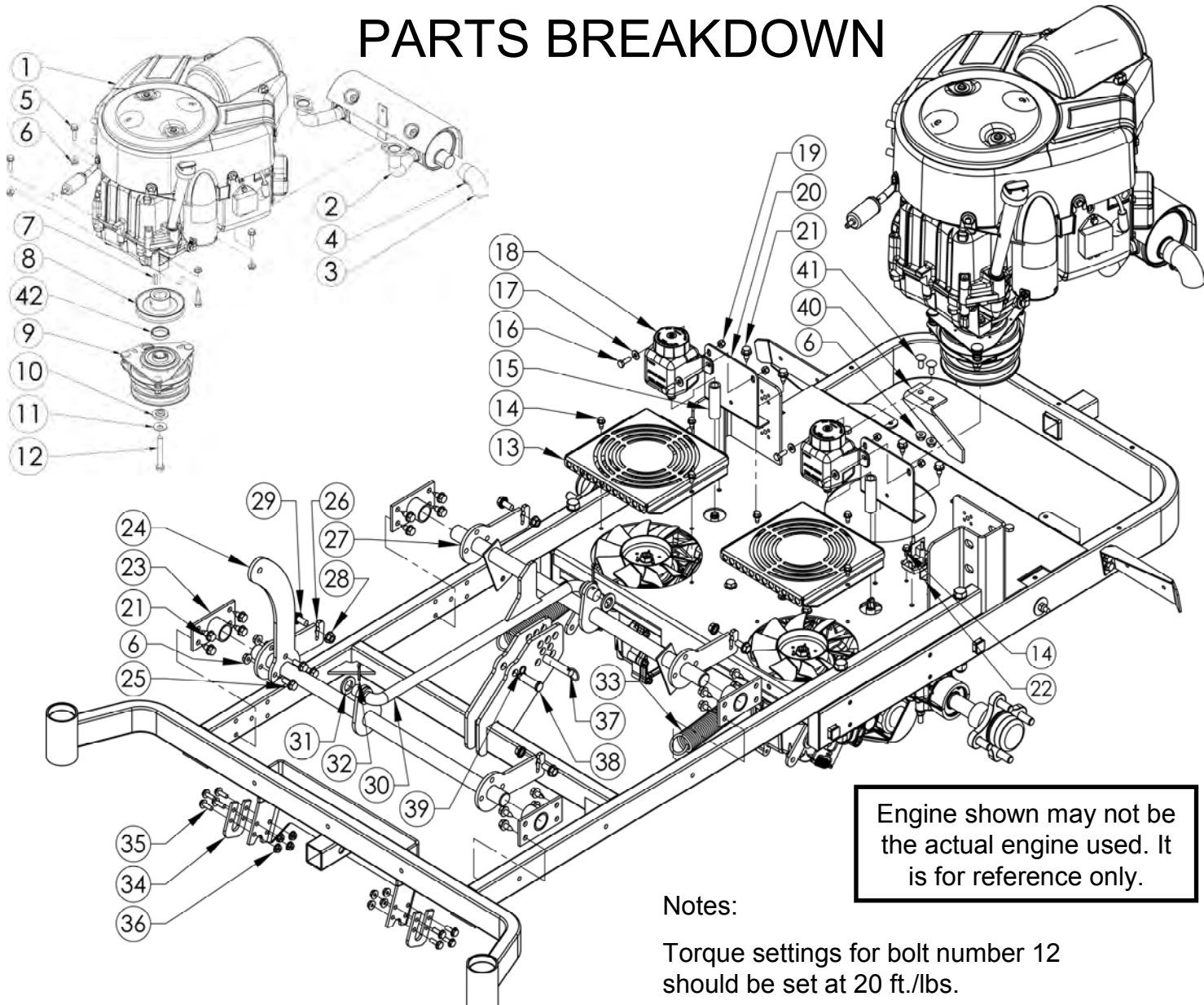


HYDRO DETAIL

Item #	Part #	Description	Qty.
1	18094	Hydrostat - Hydro-Gear ZT2800, Right	1
2	18093	Hydrostat - Hydro-Gear ZT2800, Left	1
3	18858TK	Weldment - Hydro Link Support; Txt Blk	1
4	NB515	Bolt - Serr Flange, 5/16-18 x 1 3/4; GR5, ZY	2
5	18580	Bolt - Serr Flange, 5/16-18 x 3; GR5, ZP	4
6	NB275	Wahser - SAE Flat, 5/16; ZY	8
7	NB181	Nut - Nyloc, 5/16-18; ZY	9
8	18664TK	Plate - Hydro Control; Txt Blk	2
9	NB780	Bolt - Serr Flange, 3/8-16 x 3/4; GR5, ZY	2
10	NB690	Bolt - Serr Flange, 1/4-20 x 3/4; GR5, ZY	2
11	NB779	Nut - Serr Flange, 3/8-16; ZY	4
12	NB524	Nut - Serr Flange, 1/4-20; GR5, ZY	2
13	18811	Belt - Hydro; 1/2 x 80 1/4"	1
14	26X249	Screw - .313-18 x .75	2
15	18938TK	Bracket - Bulkhead Cable Mount; Txt Blk	1
16	17465	Spring - Extension, Hydro Release, ZT	4
17	18952TK	Plate - Brake Spring Return, Txt Blk	2
18	6040Z	Washer - Idler, 3/8; ZP	3
19	18607	Pulley - Backside Idler, 5"	1
20	NB272	Washer - SAE Flat, 3/8; Carbon Steel, ZY	7
21	NB182	Nut - Nyloc, 3/8-16; ZY	5

Item #	Part #	Description	Qty.
22	18628	Spacer - 7/8 OD x 3/8 ID x 1"	1
23	3622	Pulley - V, Idler; 3.54 OD x 3/8 ID	1
24	18674TK	Plate - Idler; Txt Blk	1
25	6037	Bushing - Idler	1
26	NB198	Bolt - HCC, 3/8-16 x 2; GR5, ZY	1
27	7509	Pulley - Idler, 2 3/4 OD x 3/8 ID	1
28	18714TK	Weldment - Idler Pulley Offset; Txt Blk	1
29	NB596	Bolt - Serr Flange, 5/16-18 x 3/4; GR5, ZY	2
30	NB170	Nut - Serr Flange, 5/16-18; Case Hard, ZY	2
31	B27	Pulley - Idler, 2.16 OD x 3/8 ID	1
32	NB221	Bolt - HCC, 3/8-16 x 2 1/2; GR5, ZY	2
33	NB107	Bolt - HCC, 3/8-16 x 1 1/2; GR5, ZY	1
34	26X263	Screw - Hex .25-20 x 0.59	2
35	NB579	Washer - Fender, 5/16 x 1 1/4; GR2, ZY	1
36	NB231	Bolt - HTC, 3/8-16 x 2; GR5, ZY	2
37	18950TK	Bracket - Brake Cable, Left; Txt Blk	1
	18949TK	Bracket - Brake Cable, Right; Txt Blk	1
38	NB315	Eyebolt - 5/16-18 x 3; w/ Gap, ZY	1
39	7821	Spring - Latch	1
40	18941TK	Mount - Bypass cable, Left; Txt Blk (Left)	1
	18940TK	Mount - Bypass cable, Left; Txt Blk (Right)	1

PARTS BREAKDOWN



Notes:

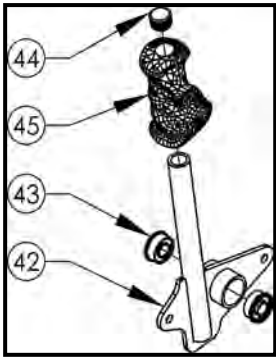
Torque settings for bolt number 12 should be set at 20 ft./lbs.

Item #	Part #	Description	Qty.
1	18364	Engine - 24HP B&S (ZTR2454BS & CA)	1
	18729	Engine - 24HP Kawasaki (ZTR2454KA & CA)	1
2	14391	Muffler - B&S V-Twin (for BS)	1
	18730	Muffler - Kawasaki (for KA)	1
3	226462	Deflector - Muffler, B&S (for BS)	1
	18853	Deflector - Muffler Turn Down, 90° (for KA)	1
4	NB783	Screw - 10-16 x 3/4 (for BS)	1
	18876	Clamp - Muffler (for KA)	1
5	NB253	Bolt - Serr Flange, 5/16-18 x 1 1/4; (for BS)	4
	NB618	Bolt - 3/8-16 x 1 1/4; GR5, ZY (for KA)	4
6	NB170	Nut - Serr Flange, 5/16-18; (for BS)	9
	NB711	Washer - Split Lock, 3/8; Medium (for KA)	4
7	9031	Key Stock - 1/4 x 1"; Under Size, Plain Fin.	1
8	18585	Pulley - Engine	1
9	18632	Clutch - Ogura, 1" Shaft	1
10	18631	Bushing - Clutch, Ogura	1
11	10291	Washer - Bellville, 1/2 x 1 1/4 x 10GA; GR2	1
12	NB685	Bolt - 7/16-20 X 2 1/2 GR5 (BS Models)	1
	NB705	Bolt - 7/16-20 x 3 1/4"; GR5 (KA Models)	1
13	18691TK	Cover - Hydro Fan; Txt Blk	2
14	NB114	Bolt - TCS, 1/4-20 x 1/2; Unslot, GR2, ZY	8
15	AS161	Hose - bulk, Oil Drain	2.5" x 2
16	NB250	Bolt - 1/4-20 x 3/4; GR5, ZY	4
17	NB274	Washer - SAE Flat, 1/4; ZY	4
18	17015	Tank Expansion - Hydro Resivoir (71328)	2

Item #	Part #	Description	Qty.
19	NB180	Nut - Nyloc, 1/4-20	4
20	18696TK	Bracket - Hydro Expansion Tank; Txt Blk	2
21	26X249	Screw - 5/16-18 x 3/4	20
22	1002004	Solenoid - 3 Pole	1
23	18709TK	Weldment - Contnmnt. Rocker Shaft; Txt Blk	4
24	18614TK	Plate - Deck Lift Pedal; Txt Blk	1
25	NB596	Bolt - Serr Flange, 5/16-18 x 3/4; GR5, ZY	3
26	18706TK	Weldment - Rocker Shaft, Front; Txt Blk	1
27	18700TK	Weldment - Rocker Shaft, Rear; Txt Blk	1
28	NB779	Nut - Serr Flange, 3/8-16; ZY	4
29	NB780	Bolt - Serr Flange, 3/8-16 x 3/4; GR5, ZY	4
30	18592	Weldment - Deck Height Stop Rod	1
31	NB184	Washer - 3/4ID x 1 1/4 OD x 10 GA.	2
32	NB126	Pin - Cotter, 1/8 x 1"; Carbon Steel	2
33	2335	Spring - Tilt	2
34	18650TK	Plate - Drag Link Capture; Txt Blk	2
35	NB690	Bolt - Serr Flange, 1/4-20 x 3/4; GR5, ZY	8
36	NB524	Nut - Serr Flange, 1/4-20; GR5, ZY	8
37	NB651	Pin - Ball Lock, 1/2 x 2 1/2	1
38	18602	Pin - Clevis 1/2 OD x 1-33/64	1
39	NB127	Pin - Hair, #39; Std, ZY	1
40	18667TK	Bracket - Clutch Stop, Ogura; Txt Blk	1
41	10216	Bolt - Carriage, 5/16-18 x 3/4; GR5, ZY	2
42	18883	Spacer - Clutch Stop	1

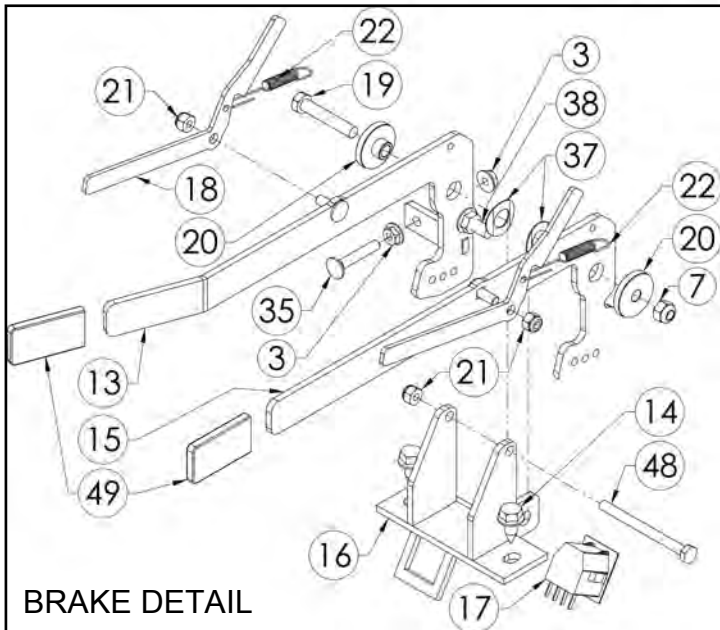
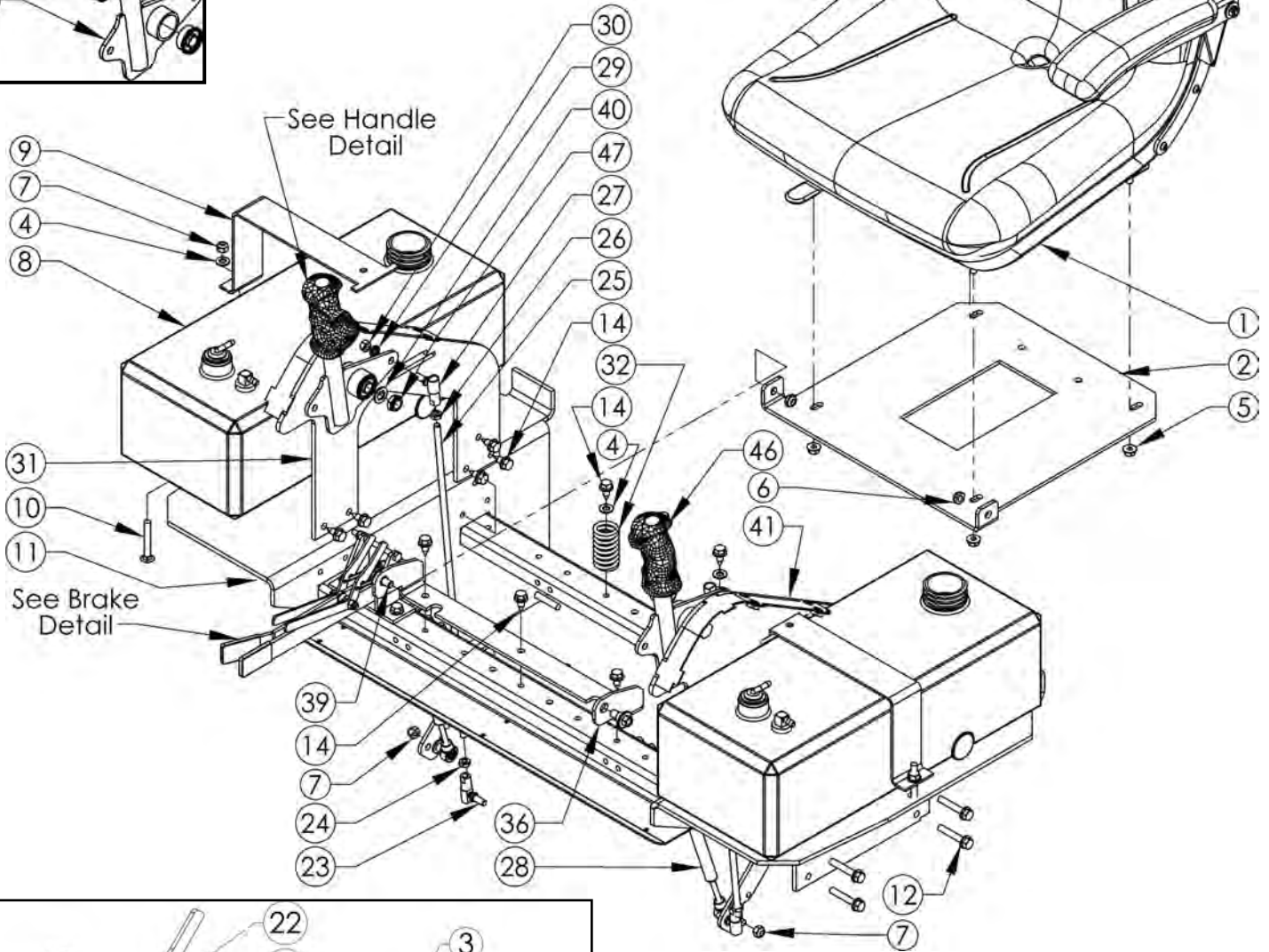
PARTS BREAKDOWN

HANDLE DETAIL

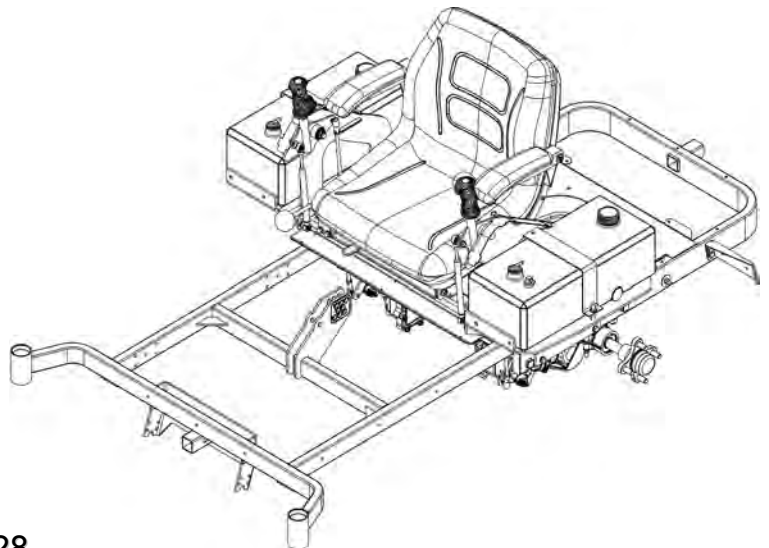


Notes:

-Item number 23 (two places) attaches to item number 8 from Page 26 using item numbers 29 & 30.



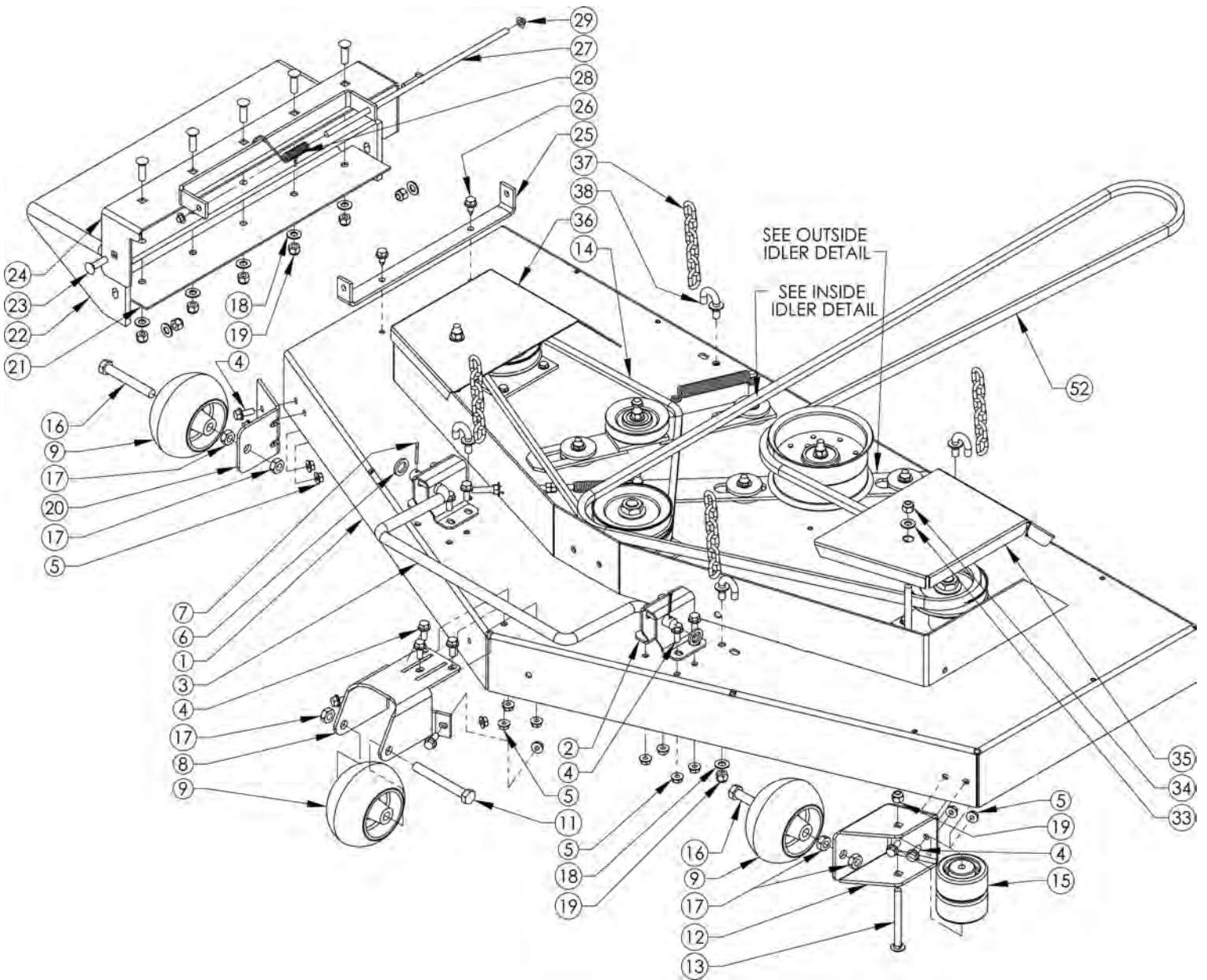
BRAKE DETAIL



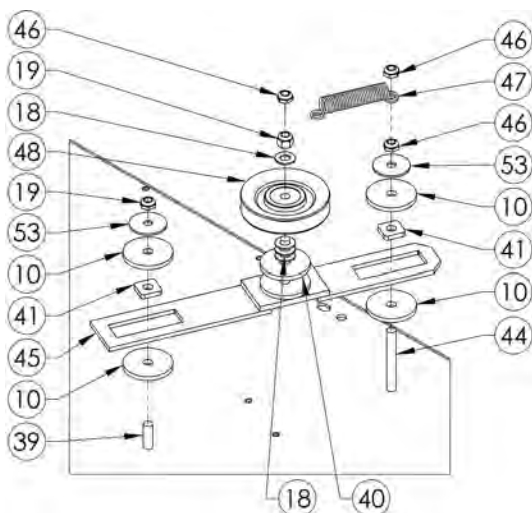
PARTS BREAKDOWN

Item #	Part #	Description	Qty.
1	18882	Seat - High Back; w/ Seat Slide, Armrest	1
2	18679TK	Base - Seat; Txt Blk	1
3	NB524	Nut - Serr Flange, 1/4-20 Grade 5 ZY	2
4	NB275	Washer - SAE Flat, 5/16; ZY	6
5	NB170	Nut - Serr Flange, 5/16-18; Case Hard, ZY	15
6	NB207	Nut - Jam, Nyloc 3/8-16 ZY	2
7	NB181	Nut - Nyloc, 5/16-18; ZY	5
8	18582	Gas Tank - 4 Gallon, ZT	2
9	18686TK	Strap - Tank Hold Down; Txt Blk	2
10	NB110	Bolt - Carriage, 5/16-18 x 2 1/4; GR2, ZY	2
11	18713TK	Weldment - Tank & Seat Mount; Txt Blk	1
12	NB515	Bolt - Serr Flange 5/16-18 x 1 3/4; GR5, ZY	8
13	18931TK	Weldment - Brake Arm, Txt Blk	1
14	26X249	Screw - 5/16-18 x 3/4	22
15	18951TK	Weldment - Bypass Arm, Txt Blk	1
16	18936TK	Weldment - Brake Mount Bracket	1
17	18945	Switch - 2 Pole, NC/NO	1
18	18933TK	Plate - Swivel lock, Txt Blk	2
19	NB503	Bolt - HCC, 5/16-18 x 1 3/4; GR5, ZP	1
20	14029	Bushing	2
21	NB180	Nut - Nyloc, 1/4-20	3
22	17465	Spring - Extension, Hydro Release, ZT	2
23	NB264	Linkage - Ball, Left; Moridge # 265616	2
24	NB265	Nut - Jam, 5/16-24; Left-Hand Thrd; GR2, ZY	2
25	18627	Linkage - 5/16-24 x 1; LHT & RHT	2
26	NB190	Nut - Jam, 5/16-24; GR2, ZY	2
27	NB263	Linkage - Ball, Right; Moridge # 265615	2
28	18723	Damper - AVM, ZT	2
29	NB159	Washer - Split Lock, 5/16; Medium Duty, ZY	4
30	NB215	Nut - Hex, 5/16-24; GR2, ZY	4
31	18710TK	Weldment - Handle Mount, Right; Txt Blk	1
32	3609	Spring - Tapered	3
33	18685TK	Bracket - Damper Mount, Right; Txt Blk (Hidden)	1
34	18687TK	Bracket - Damper Mount, Left; Txt Blk (Hidden)	1
35	NB583	Bolt - Carriage, 1/4-20 x 1 1/2; GR2, ZY	1
36	18680TK	Bracket - Seat Swivel; Txt Blk	1
37	18937	Washer - Wave, 1/2 ID x 1 OD x .087	2
38	10548	Bolt - Serr Flange, 5/16-18 x 1; GR5, ZY	1
39	009X58	Bolt - Shoulder, 3/8-16	2
40	NB177	Washer - Mach, 1/2 x 14 GA; NR	2
41	18711TK	Weldment - Handle Mount, Left; Txt Blk	1
42	18712TK	Weldment - Handle; Txt Blk	2
43	MWB	Bearing - Wheel, 1 1/8" OD x 1/2" ID	4
44	18852	Plug - Plastic, 7/8 OD x 11 GA Tube; Blk	2
45	18807	Grip - Hand Conforming, Right	1
46	18808	Grip - Hand Conforming, Left	1
47	NB688	Nut - Nyloc Jam, 1/2-13; ZY	2
48	NB574	Bolt - 1/4-20 x 3; GR2, ZP	1
49	2077	Pivot - Handle Grip	2
50	18942	Cable - Brake w/ Junction Box (Not Shown)	1
51	18943	Cable - Bypass w/ Junction Box (Not Shown)	1

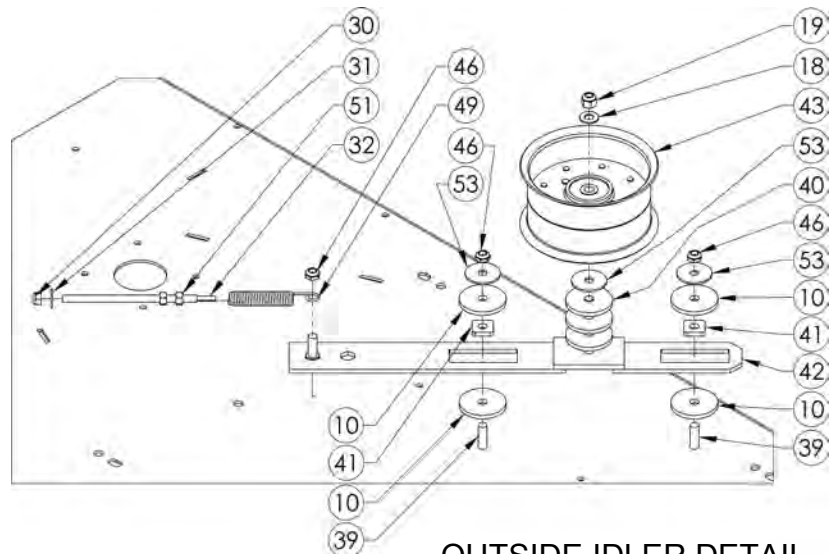
PARTS BREAKDOWN



-Item number 3 attaches to item number 2 from Page 25 using item numbers 34, 35 & 36 from Page 27.



INSIDE IDLER DETAIL

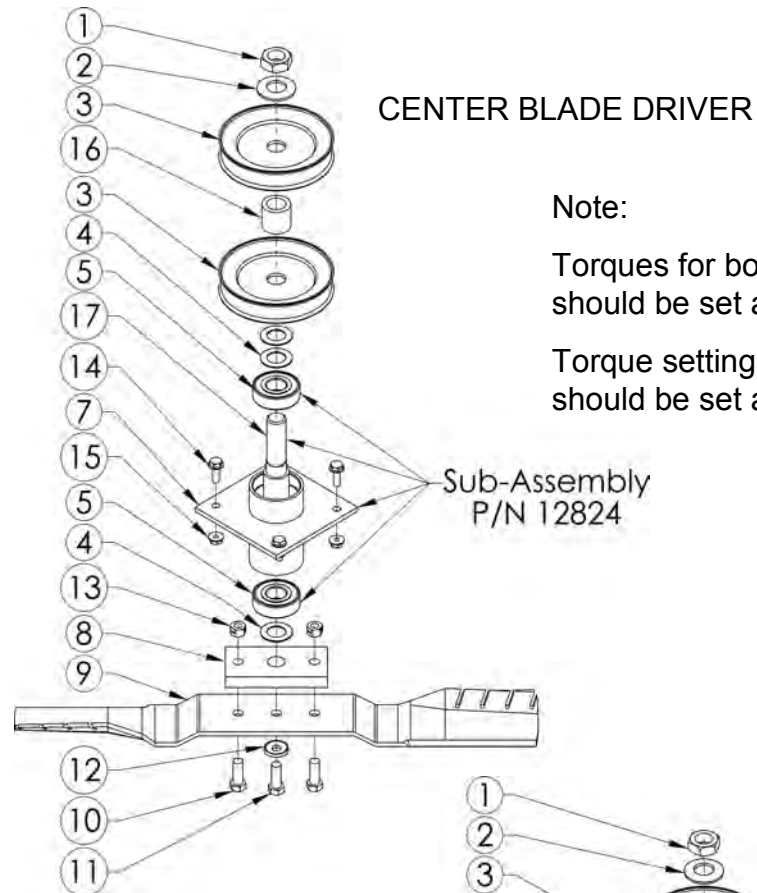


OUTSIDE IDLER DETAIL

PARTS BREAKDOWN

Item #	Part #	Description	Qty.
1	18701TK	Weldment - 60" deck; Txt Blk	1
2	18786TK	Bracket - Deck Stabilizer; Txt Blk	2
3	18601	Tod - Drag Link Bar	1
4	NB596	Bolt - Serr Flange, 5/16-18 x 3/4; GR5, ZY	17
5	NB170	Nut - Serr Flange, 5/16-18; Case Hard, ZY	19
6	NB178	Washer - 5/8" ID x 1" OD x 10 GA; ZY	2
7	NB126	Pin - Cotter, 1/8 x 1"; Carbon Steel, Ext Prng	2
8	18383TK	Bracket - Middle Toller; Txt Blk	1
9	3511	Gauge - Wheel	3
10	18874	Washer - UHMW, 2" OD x 3/8" ID x .188"	8
11	NB132	Bolt - Hex, 1/2-13 x 4; GR5	1
12	15779TK	Bracket - Left Wheel; Txt Blk	1
13	NB707	Bolt - Carriage, 3/8-16 x 4; Full Thread, GR2	1
14	18637	Belt - Deck Idler, 1/2" x 55"	1
15	AS001	Roller - Anti-Scalp, 3/8 ID	2
16	NB577	Bolt - 1/2-13 x 3 1/2; GR5, ZY	2
17	NB121	Nut - Jam Lock, 1/2-13; 2-way, GR A	5
18	NB272	Washer - SAE Flat, 3/8; Carbon Steel, ZY	20
19	NB182	Nut - Nyloc, 3/8-16; ZY	14
20	15780TK	Bracket - Anti-Scalp; Txt Blk	1
21	18652TK	Bracket - Grass Chute; Txt BLk	1
22	18604	Rubber - Grass Chute	1
23	10501	Bolt - Carriage, 3/8-16 x 1 1/4; GR5, ZY	7
24	18702TK	Weldment - Grass Chute; Txt Blk	1
25	18654TK	Bracket - Grass Chute Mount; Txt Blk	1
26	26X249	Screw - 5/16-18 x 3/4	2
27	18595	Rod - Deck, Grass Chute; ZP	1
28	166X34	Spring - Torsion	1
29	NB117	Nut - Push, 5/16; ZP	2
30	NB181	Nut - Nyloc, 5/16-18; ZY	1
31	NB275	Washer - SAE Flat, 5/16; ZY	1
32	18622	Bolt - Spade, 5/16-18; ZY	1
33	18532	Nut - Clip, 10-24	4
34	18531	Washer - Bent, 1/4" ID x 18 GA; Belt Cover	4
35	024203	Screw - Phillips Truss Head, 10-34; ZP	4
36	18621	Cover - Deck Belt, Short	2
37	18722	Chain - Deck Hanger, Six Links	4
38	18597	Bolt - Hook, 3/8-16	4
39	NB618	Bolt - 3/8-16 x 1 1/4; GR5, ZY	3
40	6040Z	Washer - Idler, ZP	9
41	18875	Spacer - UHMW, 7/8" Sq. x 3/8" ID x .200"	4
42	18707TK	Weldment - deck Idler, Backside; Txt Blk	1
43	18613	Pulley - 4 1/2" OD x 2 1/2"	1
44	NB164HT	Wahser - 1 x 1 1/2 x 10 GA; Hardened	1
45	18708TK	Weldment - Deck Idler, Inside; Txt Blk	1
46	NB207	Nut - Nyloc Jam, 3/8-16; ZY	7
47	18605	Spring - Extension, Idler; ZP	1
48	3622	Pulley - V, Idler; 3.54 OD x 3/8 ID	1
49	4422	Spring - Idler Tension, Bent Leg	1
50	NB779	Nut - Serr Flange, 3/8-16; ZY	1
51	NB210Z	Nut - HNC, 5/16-18; GR2, ZY	2
52	18746	Belt - Engine to Deck, 1/2 x 126, Gates	1
53	10177	Washer - Fender 3/8X1 1/2, Crbn Stl GR 2	5

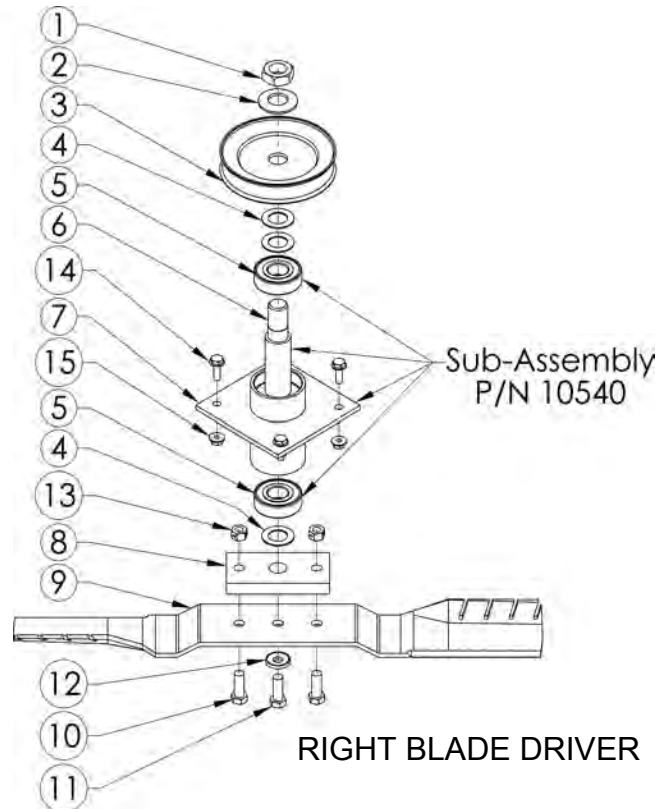
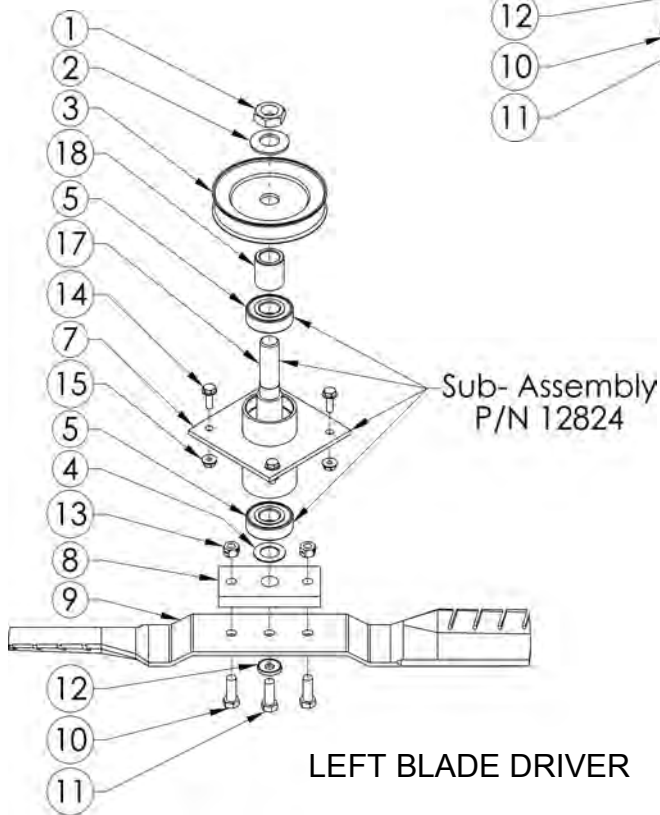
PARTS BREAKDOWN



Note:

Torques for bolt numbers 10 & 11 should be set at 35 ft./lbs.

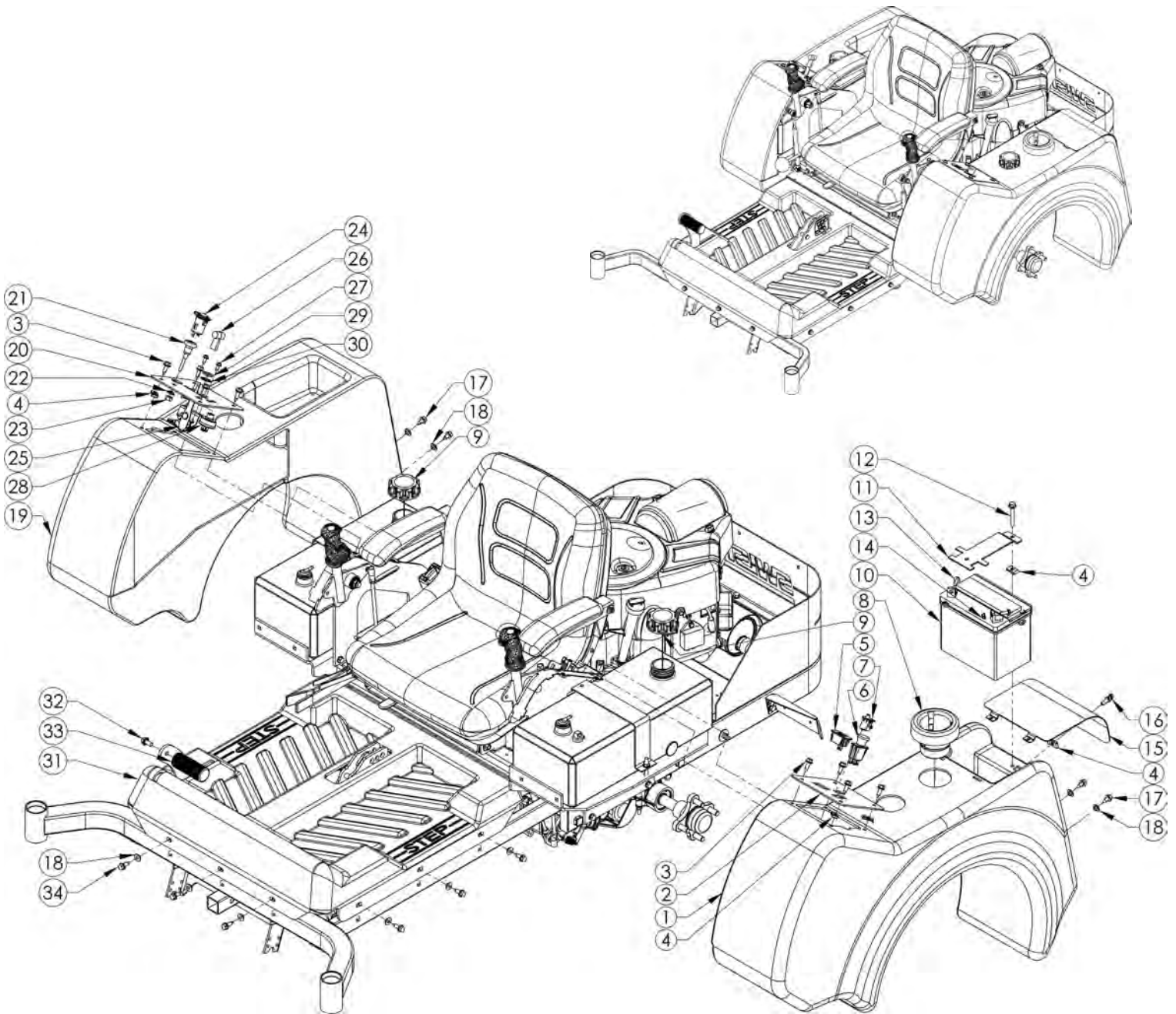
Torque settings for nut number 1 should be set at 35 ft./lbs.



Item #	Part #	Description	Qty.
1	NB175	Nut - Jam, 3/4-16; GR2	3
2	AS155	Washer - Belleville, 3/4 x 1 1/2 x .098	3
3	B4104TK	Pulley - Blade 4 1/2"; Txt Blk	4
4	NB179	3/4 ID X 1 1/4 OD 18 GA Washer	7
5	B98	Bearing - Blade	6
6	9077	Shaft - Blade 5", Long Shoulder	1
7	10539TK	Blade Driver; Txt Blk	3
8	9008	Plate - Blade Mount	3
9	14326	Blade - 18.5" Mulching	3

Item #	Part #	Description	Qty.
10	NB238	Bolt - 3/8-24 x 1; GR5, ZY	6
11	NB238N	Bolt - HHc, 3/8-24 x 1; GR5, Nyloc	3
12	NB607	Washer - SP Belleville, .413 x .945 x .118	3
13	NB216	Nut - Two Way Lock, 3/8-24; GR A, ZY	6
14	NB596	Bolt - Serr Flange, 5/16-18 x 3/4; GR5	12
15	NB170	Nut - Serr Flange, 5/16-18; Case Hard, ZY	12
16	12823	Spacer - 3/4 ID x 1, Powder Metal	1
17	9078	Shaft - Blade 6", Long Shoulder	2
18	18620	Spacer - Pulley, Deck Idler	1

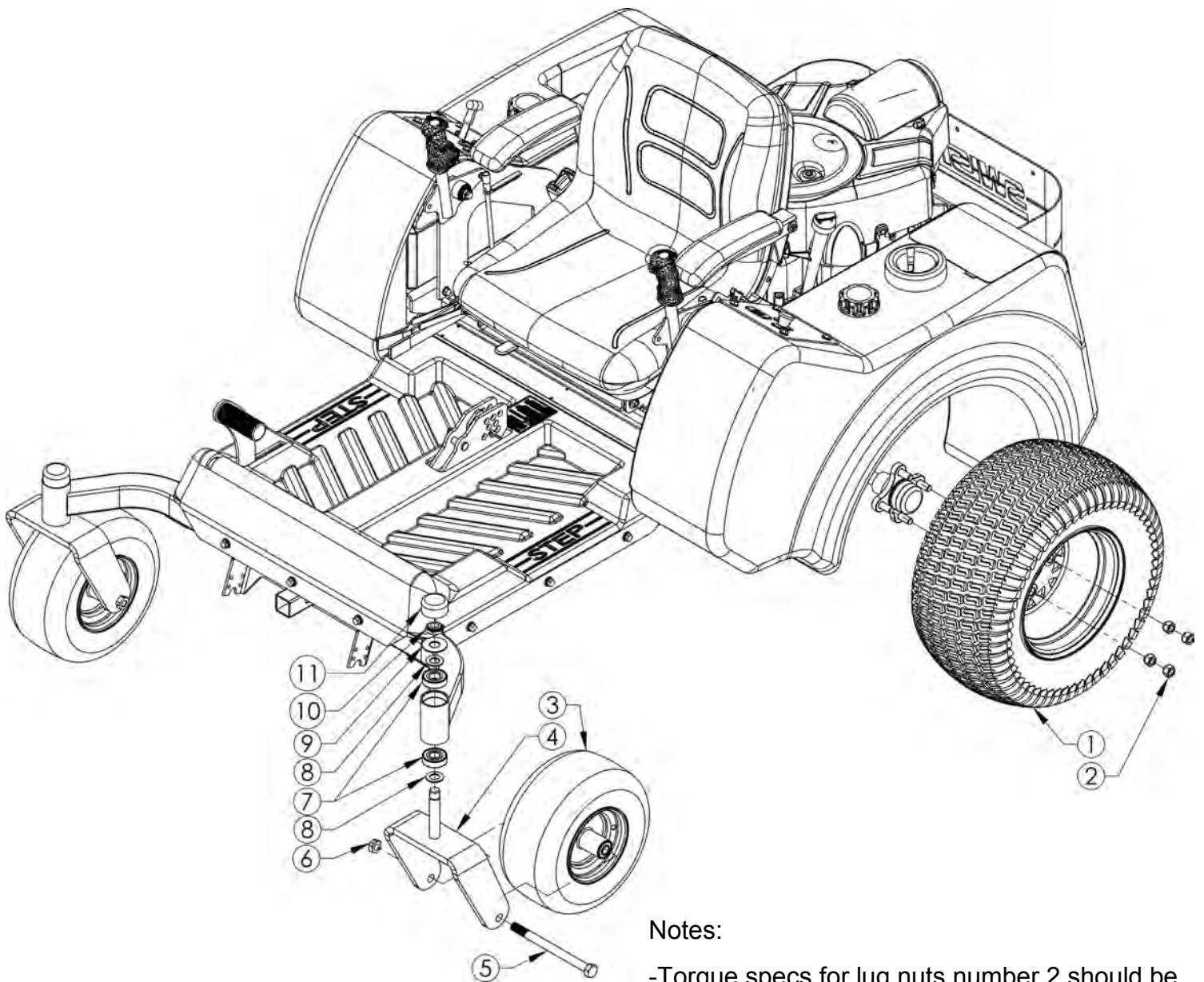
PARTS BREAKDOWN



Item #	Part #	Description	Qty.
1	18610	Fender - Left	1
2	18578TK	Panel - Control, Left; Txt Blk	1
3	18743	Screw - Rolok, 5/16-18 x 1; STD, ZY	8
4	3706	Clip - Timmerman, 5/16-18	6
5	17635	Hour Meter - LCD	1
6	3605	Switch - PTO	1
7	18636	Switch - Starter	1
8	1001542	Holder - GA, Beverage	1
9	18221	Cap, Fuel - 2.5 Gallon, Carb Sealed	2
10	EBAT230	Battery - 12V (8U1L)	1
11	18698TK	Strap - Battery Hold Down; Txt Blk	1
12	NB622	Bolt - Serr Flange, 5/16-18 x 2 1/4; GR5, ZY	1
13	NB690	Bolt - Serr Flange, 1/4-20 x 3/4; GR5, ZY	2
14	NB524	Nut - Serr Flange, 1/4-20; GR5, ZY	2
15	18697TK	Cover - Battery, Fender; Txt Blk	1
16	18802	Screw - Thumb w/ Shoulder, 5/16-18 x 3/4	1
17	26X249	Screw - 5/16-18 x 3/4	4

Item #	Part #	Description	Qty.
18	18717	Spacer - Fender	13
19	18609	Fender - Right	1
20	18639TK	Panel - Control, Right; Txt Blk	1
21	18606	Cable - Control, Engine Choke 66"	1
22	NB711	Washer - Split Lock, 3/8; Medium, ZY	1
23	NB456	Nut - HNF, 3/8-24; GR2, ZY	1
24	18745	Adapter - 12V Power Plug	1
25	4226	Cable - Throttle	1
26	4226K	Knob - T, for Throttle Cable	1
27	26X263	Screw - 1/4-20 x 1/2	2
28	3623	Switch - Key	1
29	9087	Nut - Key Switch	1
30	9088	Washer - Lock, Key Switch	1
31	18588	Floor Pan - ZT	1
32	NB780	Bolt - Serr Flange, 3/8-16 x 3/4; GR5, ZY	1
33	18603B	Bar - Foot Pedal, Black Oxide	1
34	18743	Screw - Thread Cut, 5/16-18 x 1; Black Oxide	9

PARTS BREAKDOWN



Notes:

-Torque specs for lug nuts number 2 should be set at 40 ft./lbs.

-Nut number 10 should not be fastened tightly. It should only be tight enough to engage the Nyloc nut but also allow the caster (#4) to spin freely. There should be no up and down axial movement in the caster once fastened.

-Bolt & nut numbers 5 & 6 should also not be fastened tightly. They should be tight enough that the bolt has no axial movement side to side but also allow the wheel (#3) to spin freely.

Item #	Part #	Description	Qty.
1	18784	Tire/Wheel - 20 x 10-10; Spoked, Blk	2
2	2203LN	Nut - Lug, Wheel Hub, 1/2-20; GR5, ZY	8
3	18785	Tire/Wheel - 12/600 x 6-4Ply; Smooth, Blk	2
4	18816TK	Weldment - Caster, 3/8"; Txt Blk	2
5	14430	Bolt - HCC, 5/8-11 x 8; GR8, ZY	2
6	NB595	Nut - 2-way Jam Lock, 5/8-11; GR A	2

Item #	Part #	Description	Qty.
7	B98	Bearing - Blade	4
8	NB195	Washer - 13/16 x 1 1/4 x 1/8; Mild, ZY	4
9	17X195	Washer - Flat	2
10	NB313	Nut - Myloc Jam, 3/4-10	2
11	094618	Cap - Hub	2

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Engine Will Not Start	<ol style="list-style-type: none"> 1. Out of fuel. 2. Engine flooded. 3. Bad spark plug. 4. Dirty air filter. 5. Dirty fuel filter. 6. Water in fuel. 7. Loose or damaged wiring. 8. Carburetor out of adjustment. 9. Engine valves out of adjustment. 10. Extreme cold conditions. 	<ol style="list-style-type: none"> 1. Fill fuel tank. 2. Wait several minutes before attempting to restart. 3. Replace spark plug. 4. Clean or replace air filter. 5. Replace fuel filter. 6. Drain fuel tank & carburetor, refill tank with fresh gas and replace fuel filter. 7. Check all wiring. 8. See Engine Manual. 9. Contact an authorized service center. 10. See Engine Manual.
Engine Hard To Start	<ol style="list-style-type: none"> 1. Bad spark plug. 2. Dirty air filter. 3. Dirty fuel filter. 4. Weak or dead battery. 5. Carburetor out of adjustment. 6. Engine valves out of adjustment. 7. Loose or damaged wiring. 8. Stale or dirty fuel. 	<ol style="list-style-type: none"> 1. Replace spark plug. 2. Clean or replace air filter. 3. Replace fuel filter. 4. Recharge or replace battery. 5. See Engine Manual. 6. Contact an authorized service center. 7. Check all wiring. 8. Drain fuel tank & refill with fresh gasoline.
Engine Will Not Turn Over	<ol style="list-style-type: none"> 1. Brake not engaged. 2. PTO engaged. 3. Weak or dead battery. 4. Blown fuse. 5. Corroded battery terminals. 6. Loose or damaged wiring. 7. Faulty ignition switch. 8. Faulty solenoid. 9. Faulty operator presence switch/switches. 	<ol style="list-style-type: none"> 1. Engage Brake. 2. Push PTO switch down to disengage. 3. Recharge or replace battery. 4. Replace fuse. 5. Clean battery terminals – See Battery section of this manual. 6. Check all wiring. 7. Check/replace ignition switch. 8. Check/replace solenoid. 9. Contact an authorized service center.
Engine Clicks but Will Not Start	<ol style="list-style-type: none"> 1. Weak or dead battery. 2. Corroded battery terminals. 3. Loose or damaged wiring. 4. Faulty solenoid. 	<ol style="list-style-type: none"> 1. Recharge or replace battery. 2. Clean battery terminals – See Battery section of this manual. 3. Check all wiring. 4. Check/replace solenoid.
Unit Does Not Travel in a Straight Line	<ol style="list-style-type: none"> 1. Incorrect tire pressure. 2. Rear wheels rotating at different speeds. 	<ol style="list-style-type: none"> 1. Check tire pressure (See Specifications). 2. Return-to-Neutral assembly may need adjustments. Take to service center. 3. Contact an authorized service center.
Excessive Vibration	<ol style="list-style-type: none"> 1. Worn, bent or loose blade. 2. Bent blade driver. 3. Loose/damaged part or parts. 4. Faulty blade driver assembly. 	<ol style="list-style-type: none"> 1. Replace blade. Tighten blade bolt. 2. Replace blade driver. 3. Tighten loose part or parts. Replace damaged parts. 4. Replace blade driver assembly.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Loss of Power	<ol style="list-style-type: none"> 1. Cutting too much grass/ too fast. 2. Buildup of grass, leaves and trash under deck. 3. Dirty air filter. 4. Low oil level/dirty oil. 5. Faulty spark plug. 6. Dirty fuel filter. 7. Stale or dirty fuel. 8. Water in fuel. 9. Spark plug wire loose. 10. Dirty engine air screen/fins. 11. Dirty/clogged muffler. 12. Loose or damaged wiring. 13. Carburetor out of adjustment. 14. Engine valves out of adjustment. 15. Loose drive belt. 	<ol style="list-style-type: none"> 1. Set in High Cut (position 1)/reduce speed. 2. Clean underside of mower deck. 3. Clean or replace air filter. 4. Check oil level/change oil. 5. Clean and re-gap or change plug. 6. Replace fuel filter. 7. Drain fuel tank & refill tank with fresh gas. 8. Drain fuel tank & carburetor, refill tank with fresh gas and replace fuel filter. 9. Connect and tighten spark plug wire. 10. Clean engine air screen/fins. 11. Clean/replace muffler. 12. Check all wiring. 13. See Engine Manual. 14. Contact an authorized service center. 15. Adjust idler/replace belt.
Engine Backfires When Turning Engine OFF	<ol style="list-style-type: none"> 1. Engine throttle control not set at "SLOW" position for 30 seconds before stopping engine. 	<ol style="list-style-type: none"> 1. Move throttle control to "SLOW" position and allow to idle for 30 seconds before stopping engine.
Poor Cut - Uneven	<ol style="list-style-type: none"> 1. Worn, bent or loose blade. 2. Mower deck not level. 3. Buildup of debris under deck. 4. Bent deck. 5. Faulty blade driver assembly. 	<ol style="list-style-type: none"> 1. Replace blade. Tighten blade bolt. 2. Possible damaged or bent components. 3. Clean underside of mower deck. 4. Replace deck. 5. Replace blade driver assembly.
Battery Will Not Charge	<ol style="list-style-type: none"> 1. Bad battery. 2. Poor cable connections. 3. Faulty solenoid. 	<ol style="list-style-type: none"> 1. Replace battery. 2. Check/clean all connections. See section in this manual. 3. Replace solenoid.
Loss of Drive	<ol style="list-style-type: none"> 1. Bypass linkages in the disengaged position. 2. Hydro belt worn, damaged, or broken. 3. Idler spring loose or broken. 4. Low transmission fluid level 	<ol style="list-style-type: none"> 1. Make sure that the bypass handle is in the drive or disengaged position. Refer to page 16 2. Replace Hydro belt. 3. Replace Idler spring. 4. Add transmission fluid. Refer to page 21

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:

- Date Purchased _____
- Purchased From _____
- PRODUCT – ZTR2454BS ZTR2454BS-CA ZTR2454KA ZTR2454KA-CA
- SERIAL NUMBER - _____
- ENGINE MODEL NUMBER - _____
- TYPE - _____
- PART NUMBER WITH 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
18811	Belt – Hydro, ½ x 80 ¼
18787	Belt – Engine to Deck ½ x 122
18638	Belt – Deck Idler, ½ x 54
18784	Tire/Wheel – 20 x 10-10, Spoked
18785	Tire/Wheel – 12/600 x 6-4 Ply
14326	Blade – 18 ½” Mulching
AS069	Fuse – 10 Amp
10540	Blade – Driver Assembly (Right)
12824	Blade – Driver Assembly (Center & Left)



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 both arms until locked into the “engaged” position. **SEE PAGE 16 FOR BRAKE OPERATION INSTRUCTIONS.**

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 65 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 20th century's top household inventions.

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

**CELEBRATING OVER 65 YEARS OF INNOVATION
SINCE 1945**

