

SWISHER®

ZT2452A & ZT2452A-CA **24 HP - 52" CUT**

**MADE IN THE
USA**



CELEBRATING 65 YEARS OF INNOVATION

1602 CORPORATE DRIVE, WARRENSBURG, MISSOURI 64093
PHONE: (660) 747-8183 FAX: (660) 747-8650

MANUFACTURING QUALITY LAWN CARE EQUIPMENT SINCE 1945

OWNER'S MANUAL
STARTING SERIAL # L111-002001

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 two (2) 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 Hot-Line is 1-800-233-3723.

2) Commercial Use

This product is not intended for commercial use and carries no commercial warranty.

3) Limitation

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. Conveniently located controls and dual 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 life-span of your machine .

GENERAL:

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

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.

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 the engine manufacturer's operating and maintenance instructions.
- ~Read and observe all safety instructions on your mower and in the manual.
- ~Check the engine oil.
- ~Check the fuel cap to be sure that it is tight and in place.
- ~Know how to set the parking brake.
- ~Be sure the mower blades are turned off – PTO switch pushed down.
- ~Know how to stop the engine – Turn the key to off
- ~Know how to stop the unit – Return control handles to neutral
- ~Know the process of how to start the engine

INTRODUCTION

UNCRATING AND ASSEMBLY

Tools Required:

- ~2 - 1/2" Wrenches or 1/2" Socket with drive ratchet
- ~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.
- ~Disengage spark plug wire and place where it cannot make a connection.
- ~Raise the mower deck to its highest position.

- ~Install steering levers. Remove the bolts from the control arms on the mower. Align the holes in the lever with the holes in the control arms and attach with the bolts provided. **Make sure both bolts on both handles are tight.**

- ~Install the seat. Remove the bolts from the seat bracket that is attached to the frame. Line up the seat bracket and reinstall the bolts. Securely tighten. Plug in the lead from the wiring harness to the bottom of the seat. It may be necessary to move the seat via the seat slide to gain access to plugging in the connector the seat switch.

- ~Disengage the parking brake by moving the lever to the "Disengage" position as indicated by the decal.

- ~Open the transmission valves at the rear of the unit by pulling the release handles and locking them in place. **SEE INSTRUCTION DECAL AT THE REAR OF THE UNIT.**

- ~Carefully push the mower off the crate to a safe and level area.

- ~Check the 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 1 hour, but no more than 2 hours at a rate of 6 to 10 amps.

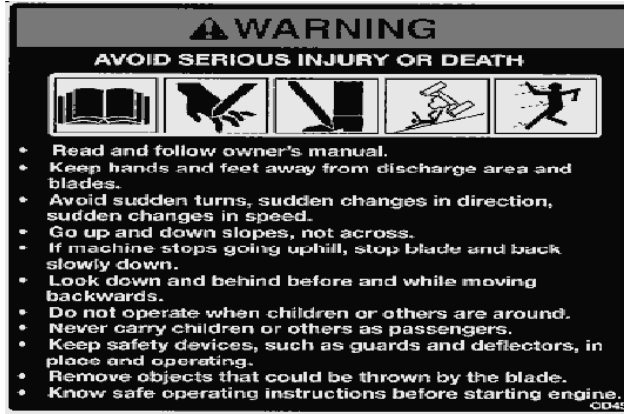
- ~Attach battery cables to battery. **Always attach the positive terminal first.**

- ~Close the transmission valves at the rear of the unit. **SEE INSTRUCTION DECAL AT THE REAR OF THE UNIT.**

- ~Reconnect the spark plug wire.

- ~Check tire pressure on all four wheels. **REFER TO UNIT SPECIFICATIONS TABLE**

SYMBOLS AND DECALS



OD45- Warning Decal



Swisher Flag U.S.A. – OD39



Notice Do Not Alter Wiring Decal – OD74



Flying Debris Decal – OD43



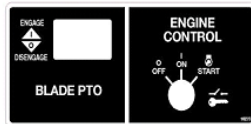
Operator Must Be Seated Decal – OD73



Triangle Danger Decal – OD55



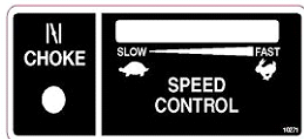
No Step Decal – OD11



Key/PTO Decal - 10273



Hydro Release - 10280



Throttle/Choke Decal - 10271



Danger/Warning Decal - 10276

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 and thrown out.

~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.

~Shut down the mower deck 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.

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.

SAFETY INSTRUCTIONS

General Use Continued...

- ~Always wear approved protective glasses or a full visor when assembling or driving.
- ~Ear Protection is recommended
- ~Never wear loose clothing that can get caught in moving parts.

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 rider on terrain that slopes more than 10 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, so that the machine slides.
- ~Do not try to stabilize the machine by putting a foot on the ground.

Towing:

- ~This machine is rated at a 50 lb maximum tongue capacity and a 250 lb maximum towing capacity. Powered pull behind accessories are not recommended for use with this vehicle.

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

MOWING SAFETY

- **WARNING** – Petrol 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 petrol while the engine is running or when the engine is hot.
 - if petrol 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 petrol vapors have dissipated;
 - replace all fuel tanks and container caps securely.
- Replace faulty silencers;
- 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 AND STORAGE

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition;
- never store the equipment with petrol in the tank inside a building 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, silencer, battery compartment and petrol storage area free of grass, leaves, or excessive grease;
- replace worn or damaged parts for safety;
- if the fuel tank has to be drained, this should be done outdoors.
- when machine is to be parked, stored or left unattended, lower the cutting means 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 reason for loss of control are:
 - i) insufficient wheel grip;
 - ii) being driven too fast;
 - iii) inadequate braking;
 - iv) the type of machine is unsuitable for its task;
 - v) lack of awareness of the effect of ground conditions, especially slopes;
 - vi) 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 making height adjustment unless adjustment can be made from the operator's position

CUSTOMER RESPONSIBILITIES

Operator Presence System

~Be sure the operator presence and interlock systems are working properly. If your mower does not function as described, repair the problem immediately.

~The engine should not start unless the parking brake is engaged, the control handles are placed in their outward positions, and the PTO (Blade Engagement – See OPERATION FEATURES section of this manual) switch is disengaged (pressed down).

~When the engine is running, the operator should never leave the seat without first setting the parking brake and shutting off the engine.

~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.

~When the engine is running and the control levers are rotated in, the operator should never attempt to leave the seat without rotating the control levers out, shutting off the engine and engaging the parking brake.

~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:



CAUTION

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

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

~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 terminal guard.

~Disconnect the BLACK battery cable first, then the RED battery cable and 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 grease or petroleum jelly

~Reinstall battery

~Reconnect the battery cables



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 hook-up 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 every 50 hours of operation 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 your mower periodically. Clean above and below deck.

~Keep all electrical connections clean and tight.

Driving and 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.

~The cutting deck should also be lowered to the lowest position and the parking brake engaged.

SPECIFICATIONS

GASOLINE CAPACITY AND TYPE	SINGLE 4.0 GAL TANK UNLEADED REGULAR
OIL TYPE (SPI-SF-SJ):	SEE ENGINE MANUAL
SPARK PLUG	SEE ENGINE MANUAL
GROUND SPEED	0 – 6 mph
TIRE SIZE	FRONT: 4.10x3.5-5 5/8 Bearing REAR: 18 X 9.5 X 8
TIRE PRESSURE	FRONT: 50 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	1.5" – 4.5"
CUTTING WIDTH	52" – 3 Mulching Blade System
PARKING BRAKE	Lever Actuated
FRONT AXLE	Non-Pivoting
SEAT	15" Back w/ 6" Adjustable Slide
TRANSMISSION	Hydro Gear Hydrostatic
DECK LIFT	Spring Assisted
UNIT MEASUREMENTS	LENGTH: 73" WIDTH: 55.8" Including Deck WEIGHT: 600 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			X ³				
Check Battery			X				X
Clean Battery & Terminals			X				X
Check Belts					X		
Check Engine Oil	X	X					
Change Engine Oil w/ filter				X ^{1,2}			
Change Engine Oil w/o filter			X ^{1,2}				
Replace Oil Filter					X ^{1,2}		
Clean Air Filter			X ²				
Inspect Muffler				X			
Clean Engine Cooling Fins					X ²		
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

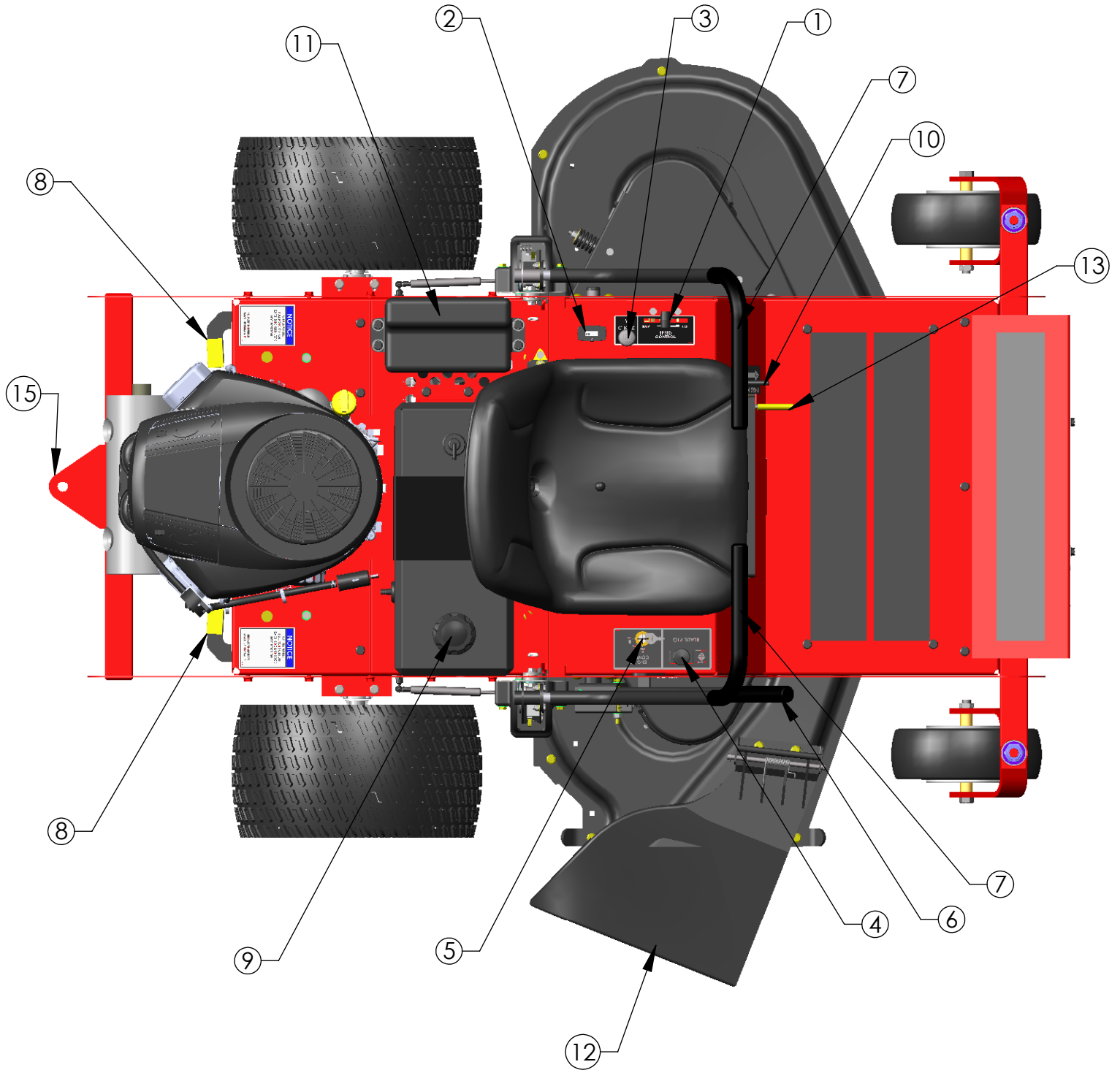
FEATURES:



- (1) Throttle Control (# 4226)– Used to control Engine Speed
- (2) Hour Meter (#17635 / 3803) – Indicates hours of operation
- (3) Choke Control (# 9914)– Used when starting a cold engine
- (4) PTO Switch (# 3605) – Used to engage or disengage the deck blades
- (5) Ignition Switch (# 3623) – Used to start or stop the engine
- (6) Deck Lift Handle – Used to raise and lower the cutting deck
- (7) Control Lever – Sets the speed of the mower in both the forward and reverse directions and also turns the mower.
- (8) Hydro Bypass – Engages transmissions for normal operation and disengages transmissions for pushing or pulling the unit
- (9) Fuel Tank – Single 4.0 gal fuel tank
- (10) Seat Slide (# 12938)
- (11) Battery
- (12) Discharge Chute
- (13) Parking Brake Lever - Must be in the "Engaged" position to start the mower
- (14) Tool Box - Used for storage under the seat and can be removed for access to belt adjustments and replacement
- (15) Tow Hitch

OPERATION

FEATURES:



OPERATION

Starting:

~Operator must be sitting in the seat. Control handles must be in the neutral (outward) position. PTO must be in the disengage position (pushed down) and the parking brake must be engaged.

~Set choke (if needed), turn key and release as soon as engine starts. Adjust throttle to half and shut choke off.

~Be sure all people are clear of the area. Set engine RPM to maximum and then engage the blades.

~Disengage the parking brake and move the handles to start mowing.

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.

Parking Brake:

~This machine is equipped with a linkage type mechanical parking brake.

~It is only a parking brake and not an emergency brake!

~The parking brakes design is such that it has replaceable wear items which should be checked at regular intervals to observe wear.

~The wear items include the (1) cog wheel and the (2) tooth arm. These items are not included as warranty items! These are considered normal wear items and must be maintained.

~The parking brake must be kept in proper adjustment at all times to insure proper operation.

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.

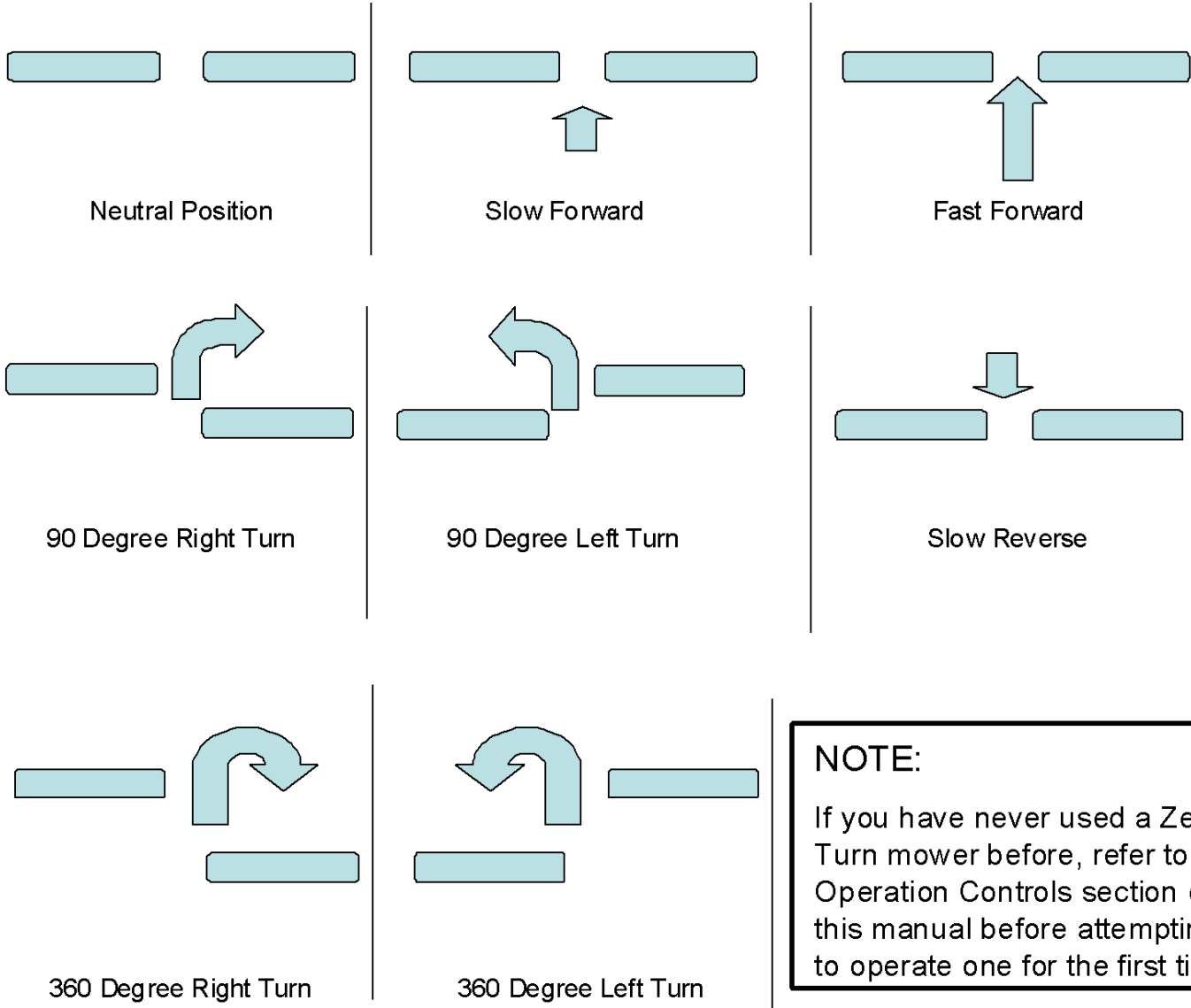
OPERATION

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 THE FIGURE BELOW



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

SERVICE AND ADJUSTMENTS

Adjusting The Cutting Height:

~Push out on the Deck Lift Handle and raise or lower the deck to the desired position.

~Position 1 is the lowest setting and Position 8 is the highest position

~The cutting range is from approximately 1 1/2" to approximately 4 1/2"

~Further fine tune the deck cutting height by raising or lowering the deck relative to the lift arm. This can be done by moving the hole location of 17408TK on both the right and left sides. Simply set the deck lift handle to the desired position, remove the bolts holding the right and left 17408TK's in place, and re assemble to another hole location in the 17408TK. Make sure both 17408TK's on your mower are assembled with the same hole location for a level cut. This adjustment will allow you to vary the lowest or highest deck settings.

Deck Leveling:

(TOOLS REQUIRED)

~ 2 - 1/2" Wrenches or 1/2" Socket with drive ratchet

~ Bubble Level

~Lower the cutting deck down to the lowest position (position 1)

~Loosen the nuts and bolts on the crescent slotted, rear adjustment plates (2 plcs).

~Place the level on a smooth part of the deck shell and with the front rollers on the ground raise or lower the rear of the deck.

~Re-tighten the nuts and bolts on the crescent adjustment plates once the desired adjustment is made.

~Lift deck using the deck lift handle to the desired position

Parking Brake:

~The Swisher ZT2452A is equipped with separate parking brake system.

~The parking brake is actuated with the lever in the front control panel of the mower frame. Up is engaged and down in disengaged.

~Adjustment for the system is located on the end of the brake linkage near the hydrostats under the rear of the mower.

~Raise both the rear wheels off the ground

~Disengage both hydro's with the hydro release handles at the rear of the unit. Pull the levers to disengage.

~Adjust the parking brake so that the wheels turn freely in the disengage position.

~The wheel should not turn when the handle is moved to the engaged or upward position.

~Lower unit back to the ground

~Re-engage the hydro's at the rear of the unit by pushing the levers inward.

~It is only a parking brake and not an emergency brake!

~The parking brakes design is such that it has replaceable wear items which should be checked at regular intervals to observe wear.

~The wear items include the (1) cog wheel and the (2) tooth arm. These items are not included as warranty items! These are considered normal wear items and must be maintained.

~The parking brake must be kept in proper adjustment at all times to insure proper operation.

SERVICE AND ADJUSTMENTS

(REFER TO THE BELT ROUTING DIAGRAMS ON THE NEXT PAGE)

Deck Belt Routing & Replacement:

Removal

- ~Apply the parking brake
- ~Disconnect the spark plug wire
- ~Lower the deck to its lowest position
- ~Remove the belt covers and floorboard access panel
- ~Disconnect tension idler
- ~Roll the belt over the top of the deck pulleys
- ~Remove belt

Replacement

- ~Install new belt by placing it around the deck pulleys. Refer to routing diagram on the next page
- ~Tightly secure the deck belt idler tension nut back to its original position
- ~Reinstall the belt covers
- ~Reconnect spark plug wire

Hydro Belt Routing & Replacement:

Removal

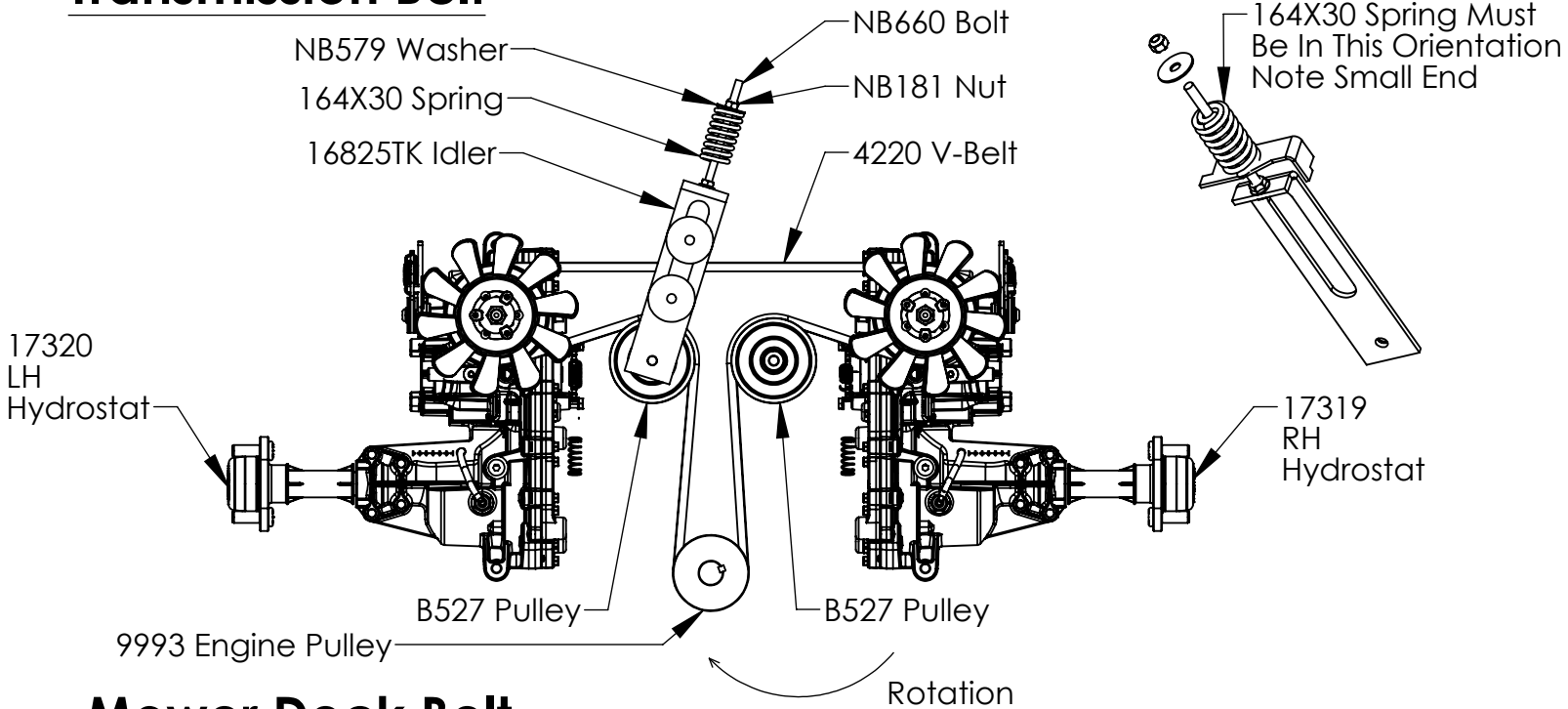
- ~Apply the parking brake
- ~Disconnect the spark plug wire
- ~Lower the deck to its lowest position
- ~Flip the seat forward and remove the tool box from its Velcro connection and set aside
- ~Remove the floorboard access panel
- ~Disconnect wiring connector to the electric clutch
- ~Remove clutch stop bracket
- ~Loosen the hydrostat belt sliding idler spring tension nut
- ~Loosen the deck belt idler tension nut
- ~Remove the engine to deck belt
- ~Remove the belt from the engine pulley and from the hydro pulleys

Replacement

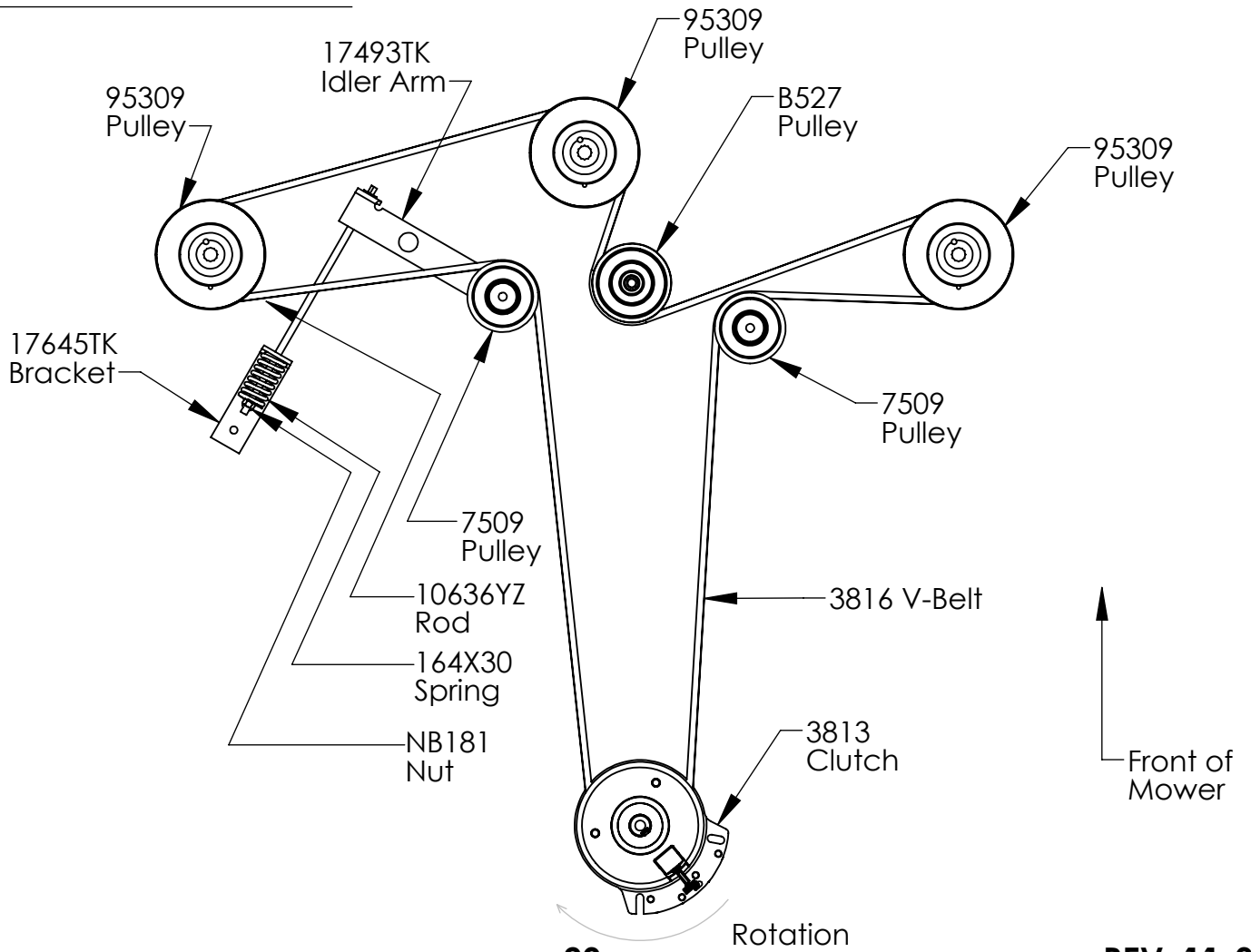
- ~Install new belt by placing it around the engine pulley and the hydro pulleys. Refer to the routing diagram on the next page.
- ~Tightly secure the belt tension back to its original position
- ~Reinstall the belt from the engine to the deck
- ~Retighten the deck belt idler tension nut
- ~Reassemble the clutch stop bracket
- ~Reconnect the wiring connector to the electric clutch
- ~Replace the floorboard access panel, the tool box and flip the seat back
- ~Reconnect the spark plug wire

BELT ROUTINGS

Transmission Belt



Mower Deck Belt



SERVICE AND ADJUSTMENTS

Seat Adjustment:

~The Swisher ZT2452A is equipped with a 6" range sliding seat.

~Release the tension on the seat adjustment lever by pushing the tip of the lever to the left. See features section in this manual

~Using your own weight, slide the seat to the desired position

~Release the lever

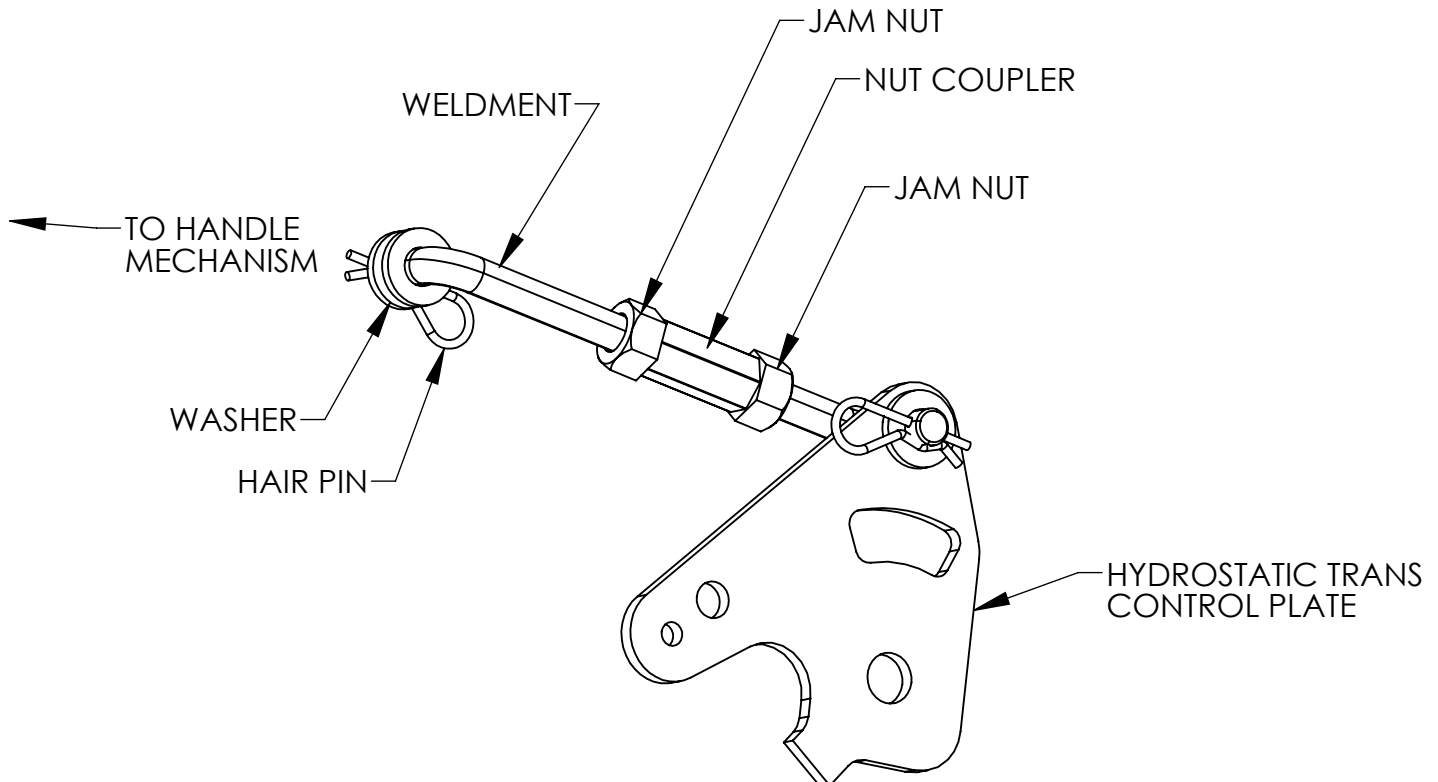
Travel Reduction Adjustment: (Hand Control Levers)

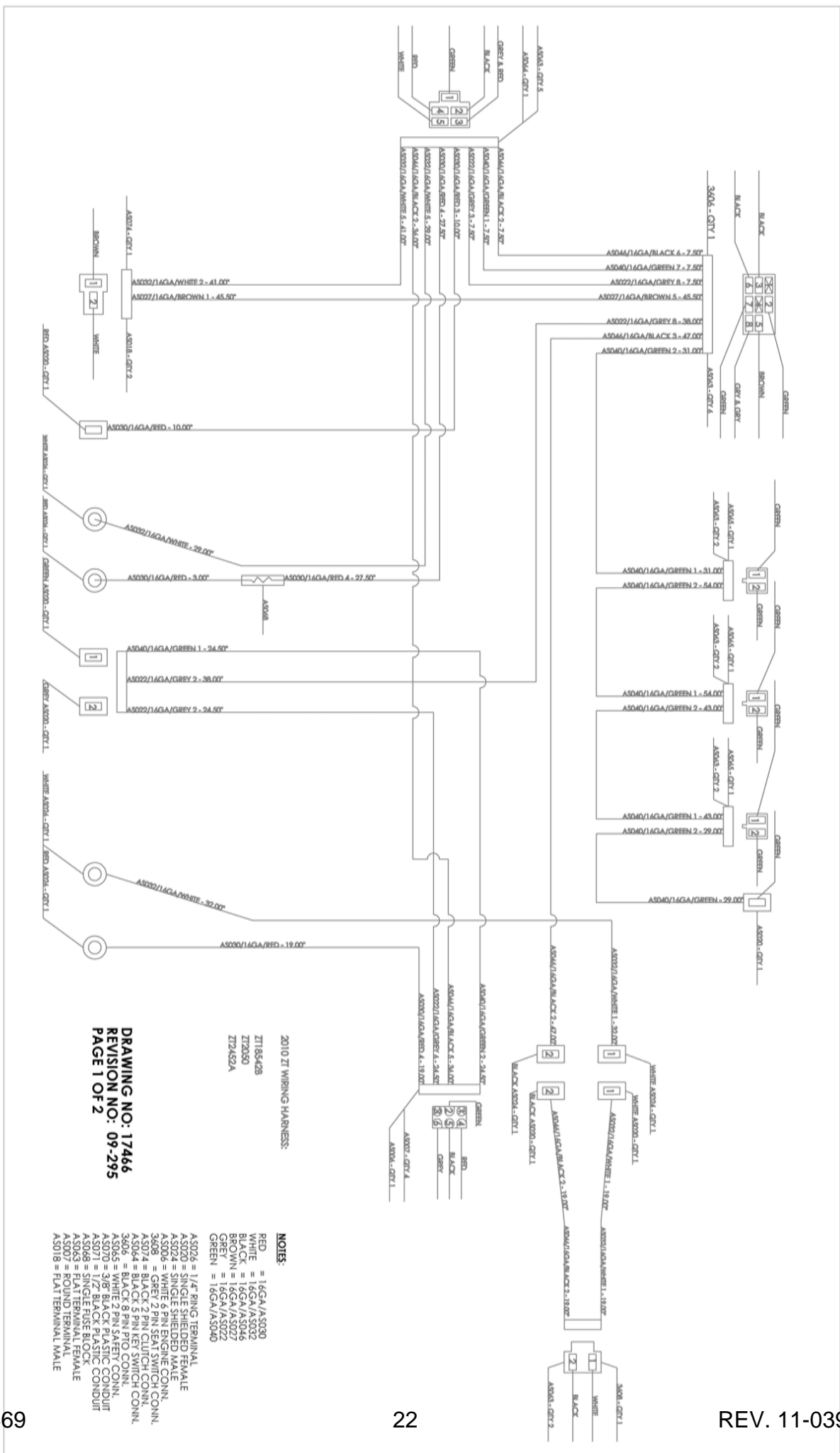
~To improve the tracking of the Swisher ZT2452A the speeds of the two hydrostatic transmissions must be the same. If one of the rear wheels needs to be increased or decreased this adjustment can be performed utilizing the control linkage assembly which is the control rod that connects the handle mechanism to the hydrostatic transmission. There is one for each transmission.

~If the ZT2452A pulls to the right the left wheel will need to decrease speed and if pulling to the left the right wheel will need to decrease speed.

~To decrease the speed in one of the rear wheels lengthen the linkage assembly between that side control handle mechanism and the hydrostatic transmission. Do this by removing the hair pin from the control handle end and disengaging the control linkage from the control handle. Loosen one of the jam nuts and by lengthening this control linkage you can decrease the speed of the hydro. Refer to the exploded view of the control mechanism on the following pages.

~Be sure the securely tighten the jam nuts against the nut coupler on the control linkage after the desired adjustment has been made. Reassemble and test. Repeat this process until the mower drives in a straight line.

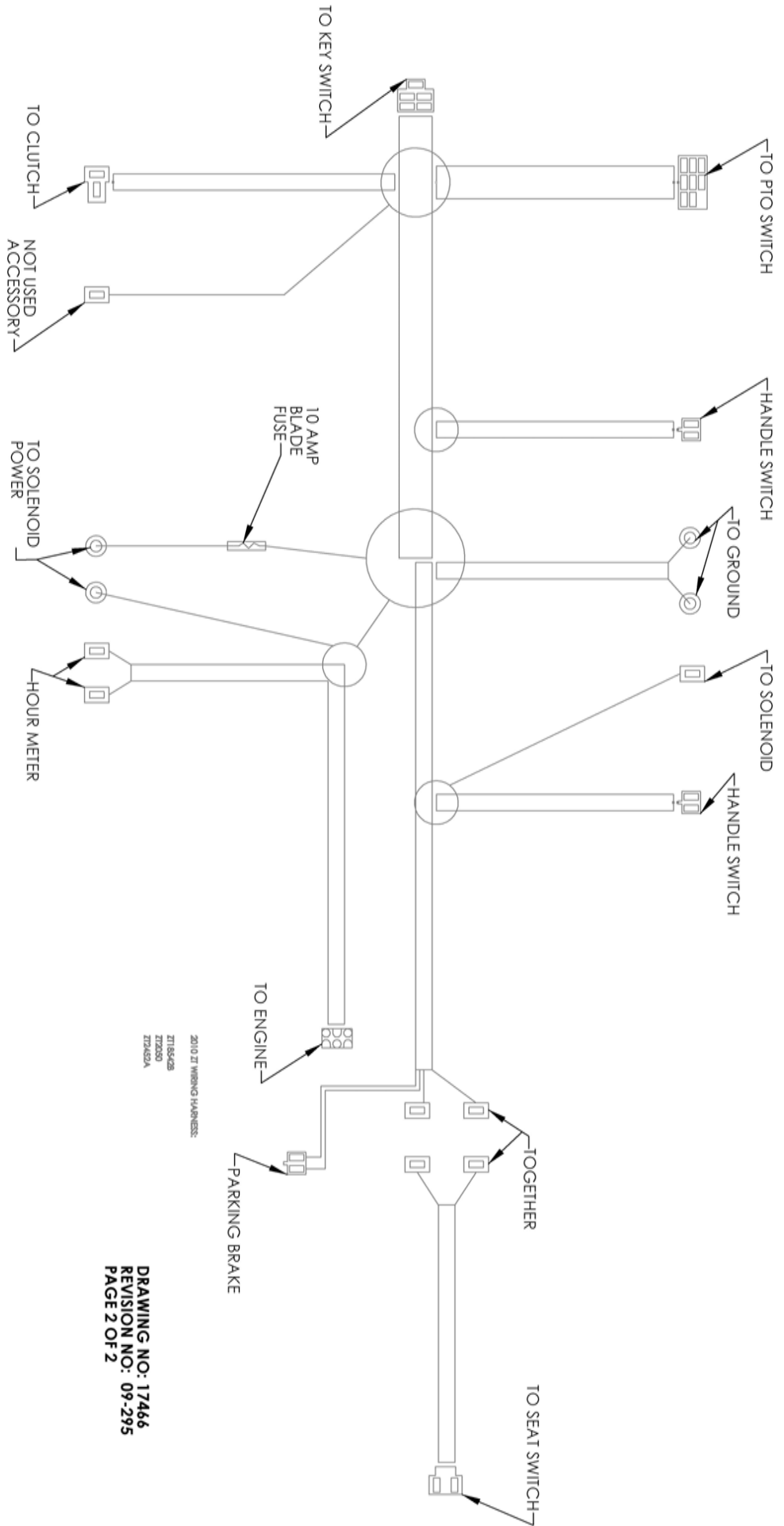




2010 ZI WIRING HARNESS:
 ZT18S428
 ZT20S50
 ZT24S2A

DRAWING NO: 17466
REVISION NO: 09-295
PAGE 1 OF 2

- NOTES:**
- ASD02 = 1/4" RING TERMINAL
 - ASD20 = SINGLE SHIELDED FEMALE
 - ASD24 = SINGLE SHIELDED MALE
 - ASD06 = WHITE 8 PIN ENGINE CONN.
 - ASD05 = GREY 2 PIN SEAL SWITCH CONN.
 - ASD01 = BLACK 8 PIN PTO CONN.
 - ASD04 = BLACK 5 PIN KEY SWITCH CONN.
 - ASD05 = WHITE 2 PIN SAFETY CONN.
 - ASD07 = 3/8" BLACK PLASTIC CONDUIT
 - ASD07 = 1/2" BLACK PLASTIC CONDUIT
 - ASD08 = SINGLE FUSE BLOCK
 - ASD07 = ROUND TERMINAL MALE
 - ASD18 = FLAT TERMINAL MALE

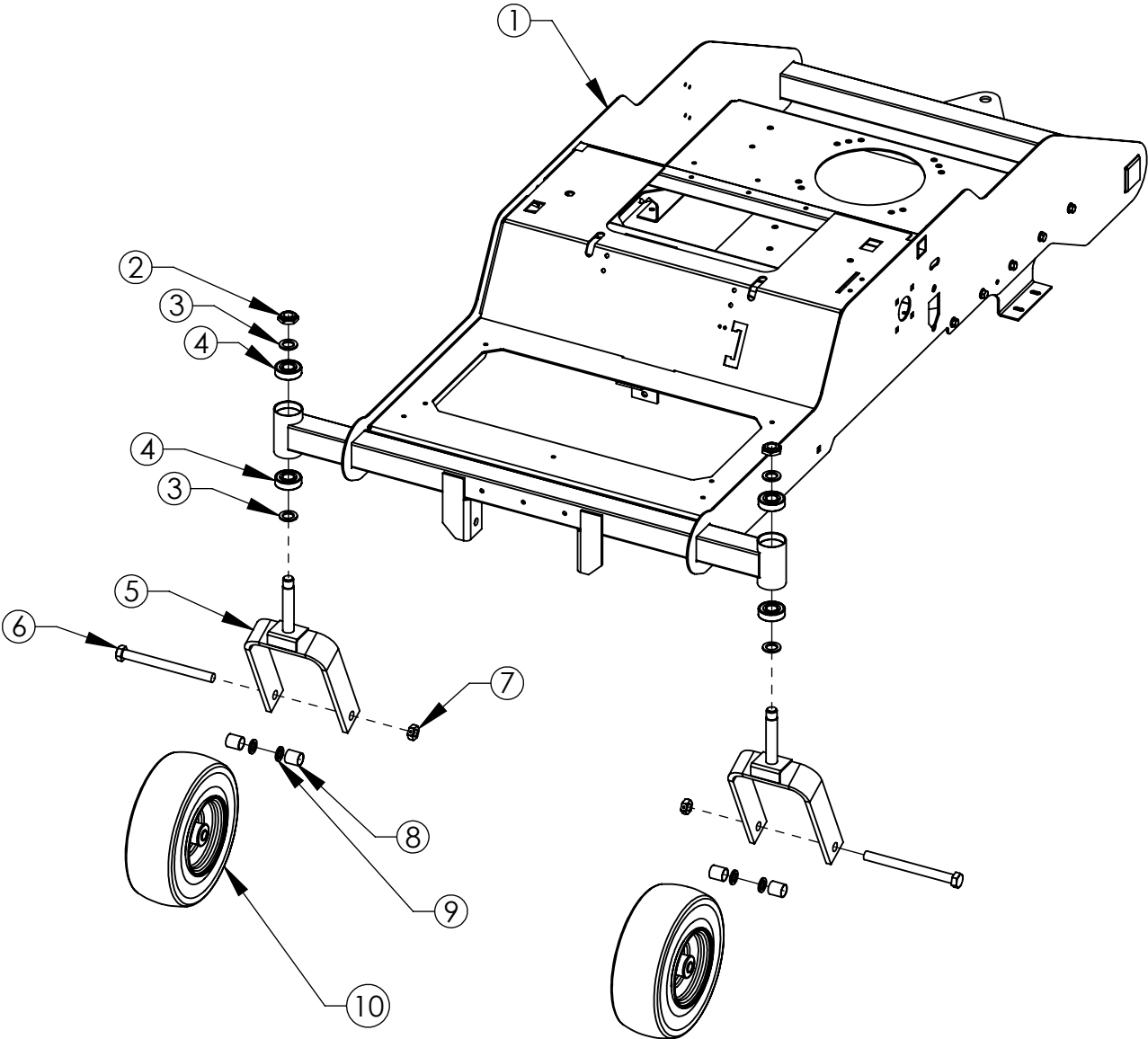


2010 ZI WIRING HARNESS
 ZT15SC2B
 ZT7200
 ZT7452A

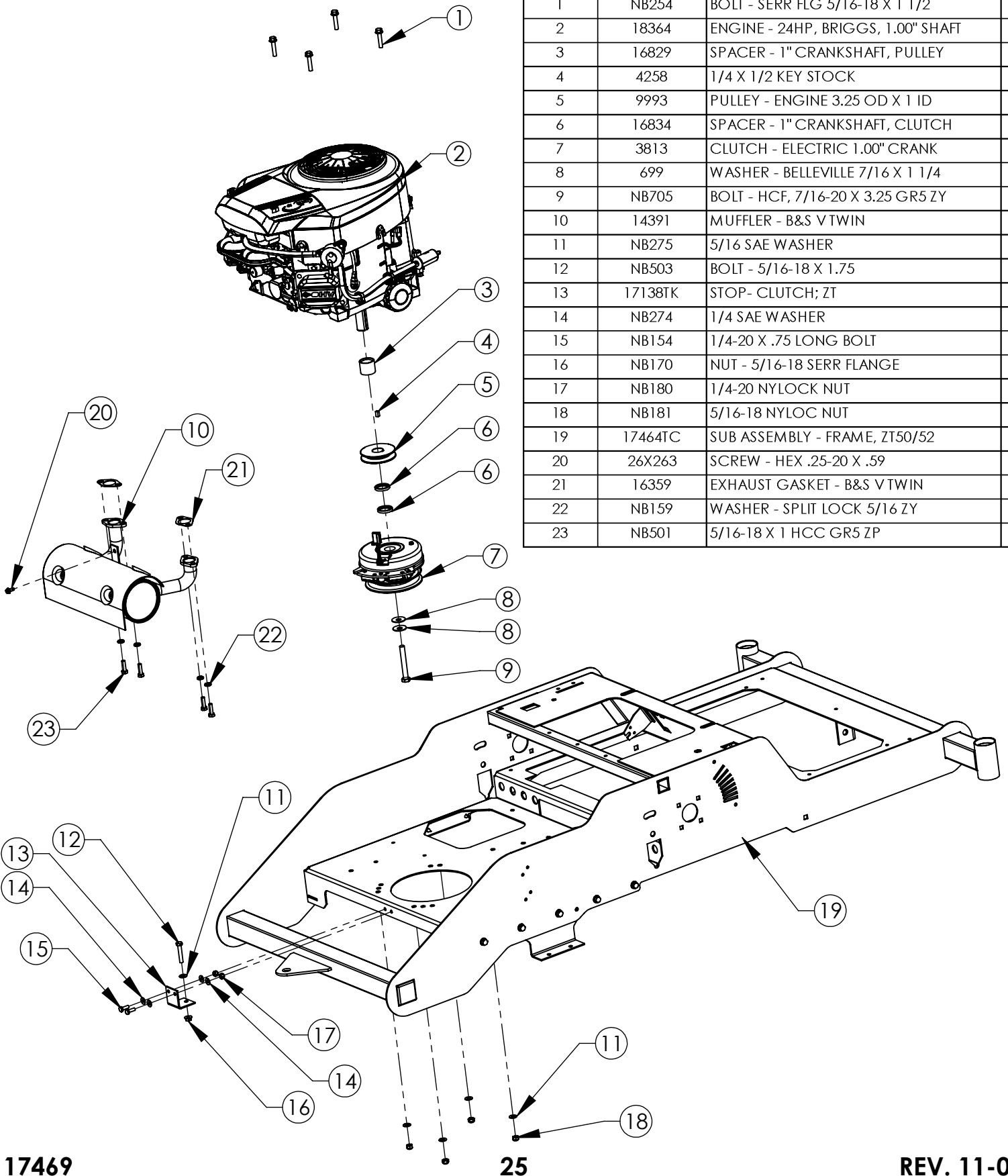
DRAWING NO: 17466
 REVISION NO: 09-295
 PAGE 2 OF 2

CASTER / FRONT WHEEL EXPLODED VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	17464TC	SUB ASSY - FRAME ZT50/52	1
2	NB122	NUT - JAM, NYLOCK 3/4-16 ZY GR2	2
3	NB195	WASHER - 13/16 ID X 1 1/4 OD X 1/8	4
4	B98	6204-2RS BEARING WITH 20mm BORE	4
5	665TC	WELDMENT - CASTER YOKE	2
6	NB624	BOLT - 5/8"-16 X 7" HCC ZY GRD5	2
7	NB595	NUT - LOCKING JAM, 2 WAY 5/8-11	2
8	3395	WHEEL SPACER 1"	4
9	NB178	WASHER - 5/8 ID X 1 OD 10 GA	4
10	3010	TIRE/WHEEL - SLICK 4.10 x 3.5 - 5, 5/8	2



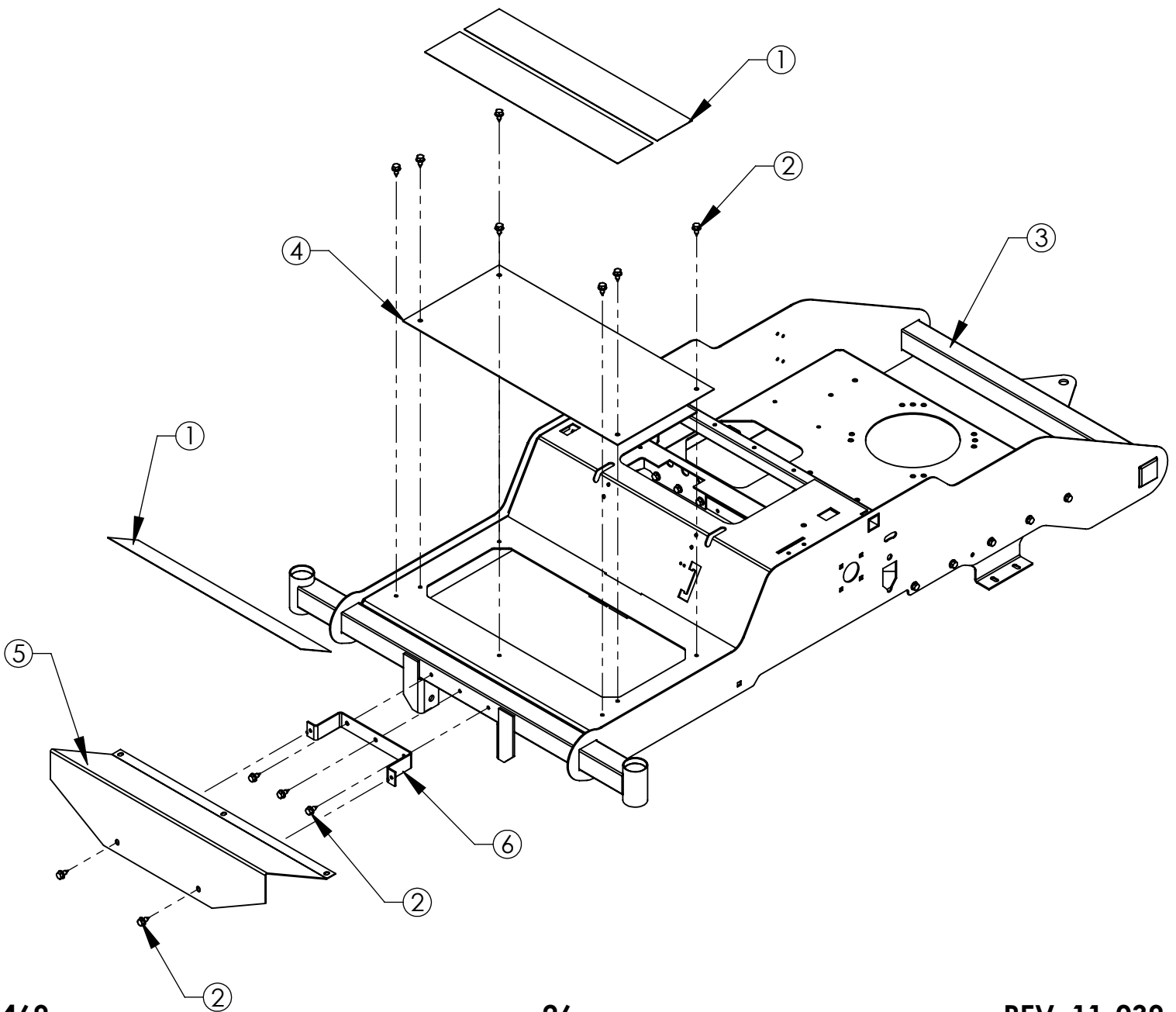
ENGINE / CLUTCH EXPLODED VIEW



ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	NB254	BOLT - SERR FLG 5/16-18 X 1 1/2	4
2	18364	ENGINE - 24HP, BRIGGS, 1.00" SHAFT	1
3	16829	SPACER - 1" CRANKSHAFT, PULLEY	1
4	4258	1/4 X 1/2 KEY STOCK	1
5	9993	PULLEY - ENGINE 3.25 OD X 1 ID	1
6	16834	SPACER - 1" CRANKSHAFT, CLUTCH	2
7	3813	CLUTCH - ELECTRIC 1.00" CRANK	1
8	699	WASHER - BELLEVILLE 7/16 X 1 1/4	2
9	NB705	BOLT - HCF, 7/16-20 X 3.25 GR5 ZY	1
10	14391	MUFFLER - B&S VTWIN	1
11	NB275	5/16 SAE WASHER	5
12	NB503	BOLT - 5/16-18 X 1.75	1
13	17138TK	STOP - CLUTCH; ZT	1
14	NB274	1/4 SAE WASHER	4
15	NB154	1/4-20 X .75 LONG BOLT	2
16	NB170	NUT - 5/16-18 SERR FLANGE	1
17	NB180	1/4-20 NYLOCK NUT	2
18	NB181	5/16-18 NYLOC NUT	4
19	17464TC	SUB ASSEMBLY - FRAME, ZT50/52	1
20	26X263	SCREW - HEX .25-20 X .59	1
21	16359	EXHAUST GASKET - B&S VTWIN	2
22	NB159	WASHER - SPLIT LOCK 5/16 ZY	4
23	NB501	5/16-18 X 1 HCC GR5 ZP	4

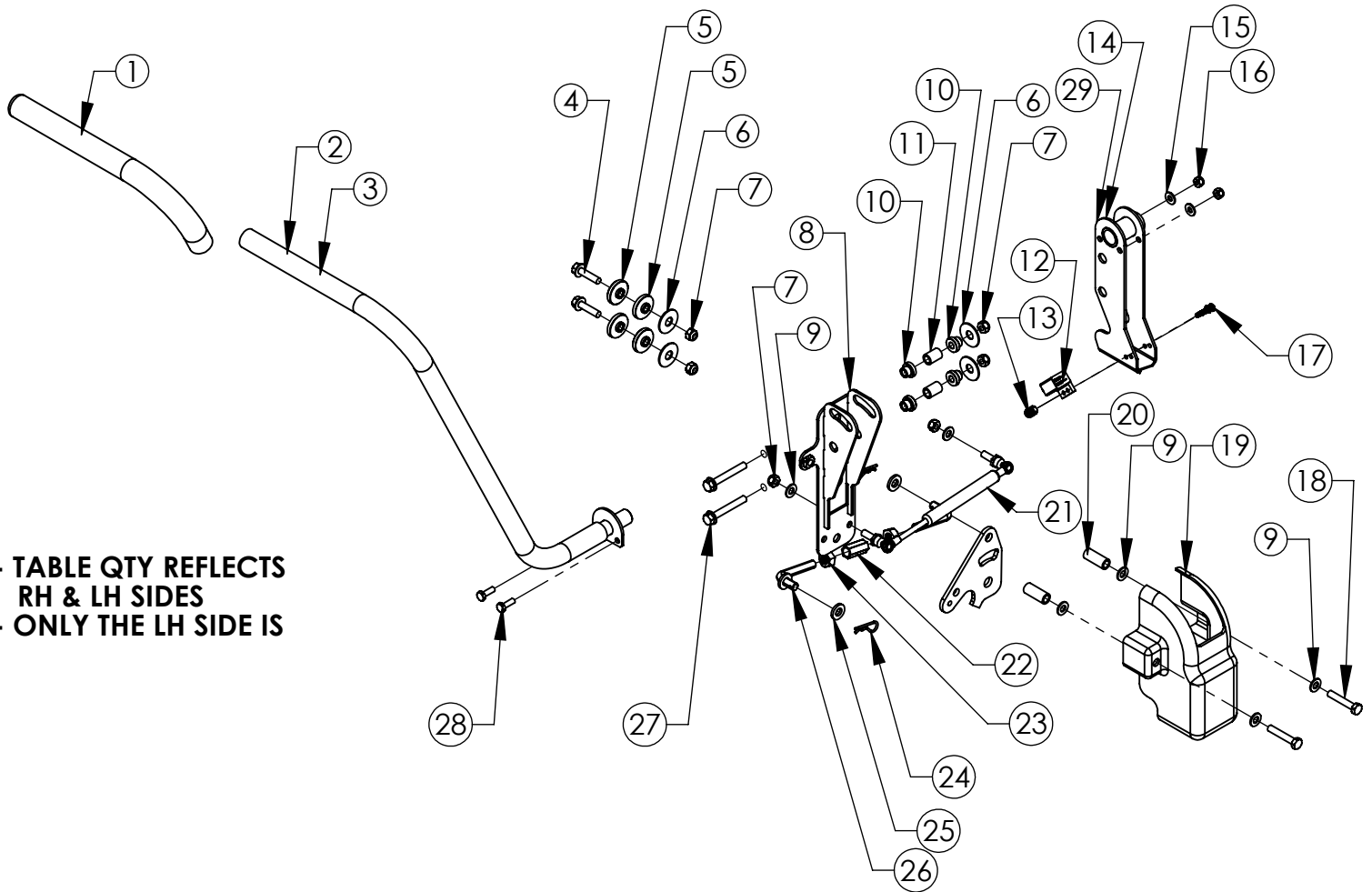
KICK PLATE / ACCESS PANEL EXPLODED VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	17263	MAT - FLOOR, ZT42	3
2	26X249	SCREW - .312-18 x .75	12
3	17464TC	SUB ASSEMBLY - FRAME, ZT50/52	1
4	16840TC	PANEL - ACCESS, ZT60	1
5	17177TC	KICKPLATE; ZT	1
6	17178TK	BRACKET - KICK PLATE, ZT	1



HYDRO CONTROLS EXPLODED VIEW

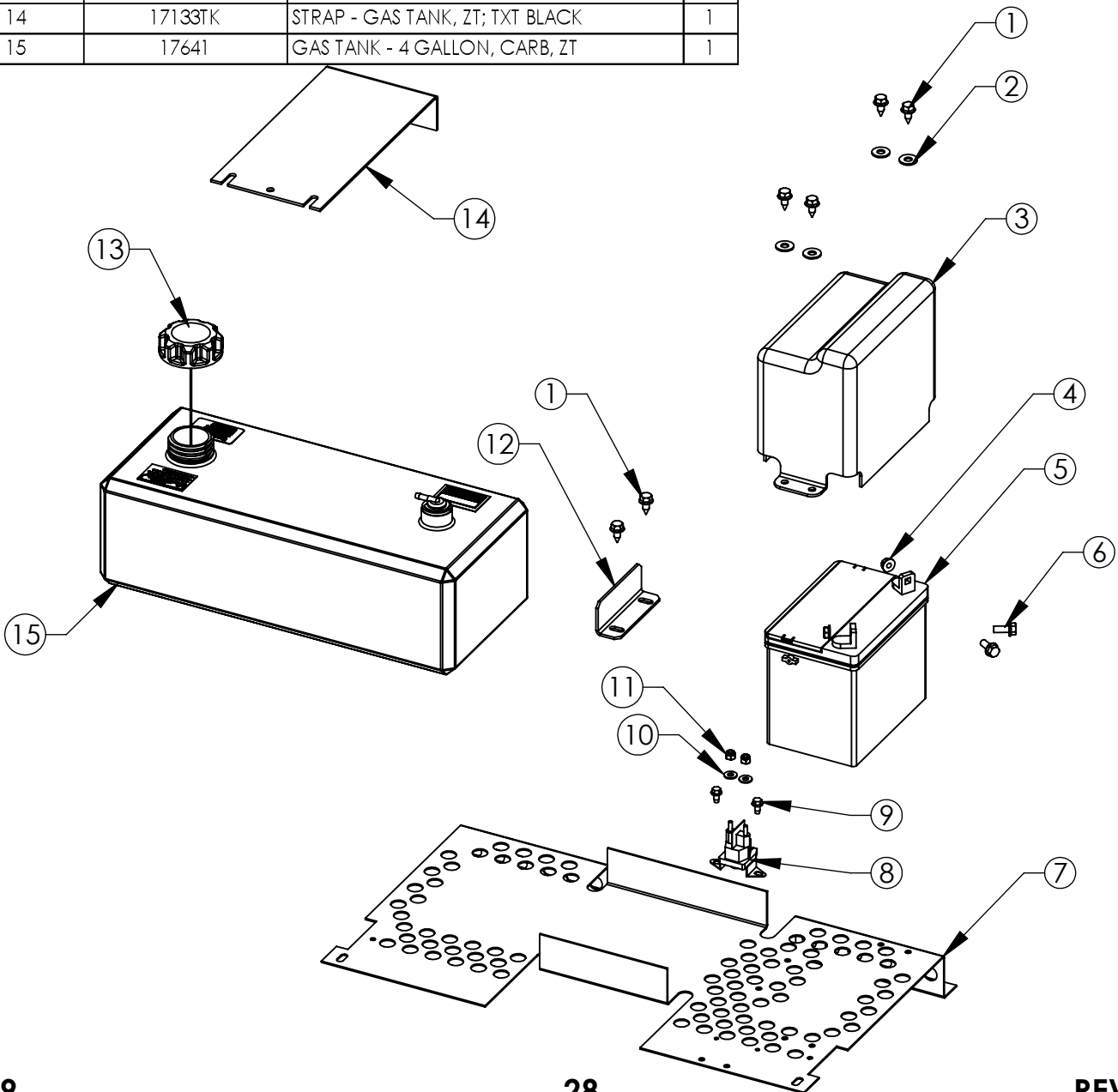
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	3673	GRIP - DIRECTIONAL HANDLE	2	16	NB180	NUT - NYLOCK 1/4-20	4
2	17330TK	WELDMENT - LEFT HANDLE, ZT;TXT BLACK	1	17	024203	SCREW - 10-24 X 3/4 PHIL TRUSS HEAD ZP	4
3	17331TK	WELDMENT - RIGHT HANDLE, ZT;TXT BLACK	1	18	NB503	BOLT - 5/16-18 X 1 3/4 HCC GR5 ZP	4
4	NB253	BOLT - SERR FLANGE, 5/16-18 X1 1/4ZY GR5	4	19	16920	HANDLE COVER - ZT MOWER	2
5	16823	BUSHING - SHOULDER 3/8	8	20	16923TK	SPACER - HANDLE COVER, ZT; TXT BLACK	4
6	699	WASHER - BELLEVILLE 7/16 X 1 1/4	8	21	17135	DAMPER - CONTROL, ZT	2
7	NB181	NUT - NYLOCK 5/16-18 ZY	12	22	17051	NUT COUPLER - 7/16 - 14 X 1 1/4, ZP	2
8	17003TK	WELDMENT - HANDLE PIVOT, ZT;TXT BLACK	2	23	NB692	NUT - 7/16-14 GR 2	4
9	NB275	WASHER - SAE FLAT 5/16 ZY	12	24	NB127	PIN - HAIR, #39 (A155H) ZY STD	4
10	16929	BUSHING - SHOULDER 3/8, ZT60	8	25	17050	WASHER - FLAT 7/16;ID X .875OD X .156	4
11	16930TK	SPACER - HANDLE COVER, ZT;TXT BLACK	4	26	17005	WELDMENT - CONTROL ROD, ZT	4
12	3695	SWITCH - RETURN TO NEUTRAL	2	27	NB622	BOLT - SERR FLANGE, 5/16-18X2 1/4 GR5 ZY	4
13	024900	NUT - 10-24 NYLOCK	4	28	NB250	BOLT - 1/4-20 X 3/4 GR5 ZY	4
14	17004TK	WELDMENT - LEFT HANDLE PIVOT, ZT;TXT BLACK	1	29	17001TK	WELDMENT - RIGHT HANDLE PIVOT, ZT;TXT BLACK	1
15	NB274	WASHER - SAE FLAT 1/4 ZY	4				



- TABLE QTY REFLECTS
RH & LH SIDES
- ONLY THE LH SIDE IS

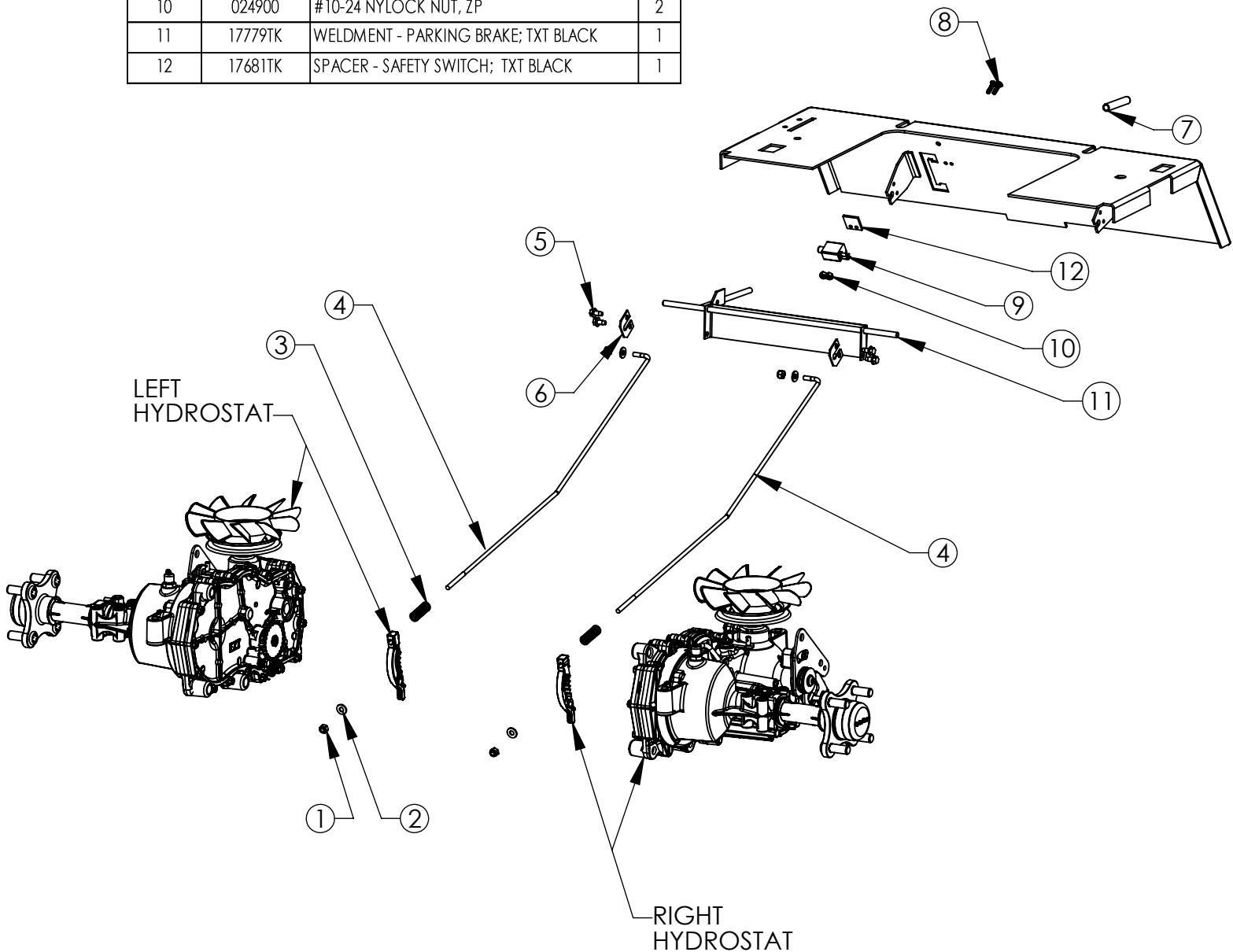
GAS TANK / BATTERY EXPLODED VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	26X249	SCREW - .312-18 x .75	6
2	NB556	5/16 USS FLAT WASHER	4
3	17238	COVER - BATTERY, ZT	1
4	NB170	NUT - 5/16-18 SERR FLANGE	2
5	EBAT230	BATTERY	1
6	NB596	BOLT - 5/16" X 18 UNC X .75" FLANGE HEAD	2
7	17259TC	COVER - HYDRO, ZT	1
8	1002004	SOLENOID - 3 POLE	1
9	NB114	BOLT - TCS 1/4-20 X 1/2 UNSLOT ZY GR2	2
10	NB274	1/4 SAE WASHER	2
11	NB180	1/4-20 NYLOCK NUT	2
12	17777TC	BRACKET - GAS TANK, ZT	1
13	18221	CAP, FUEL - 2.50 GALLON, CARB SEALED	1
14	17133TK	STRAP - GAS TANK, ZT; TXT BLACK	1
15	17641	GAS TANK - 4 GALLON, CARB, ZT	1



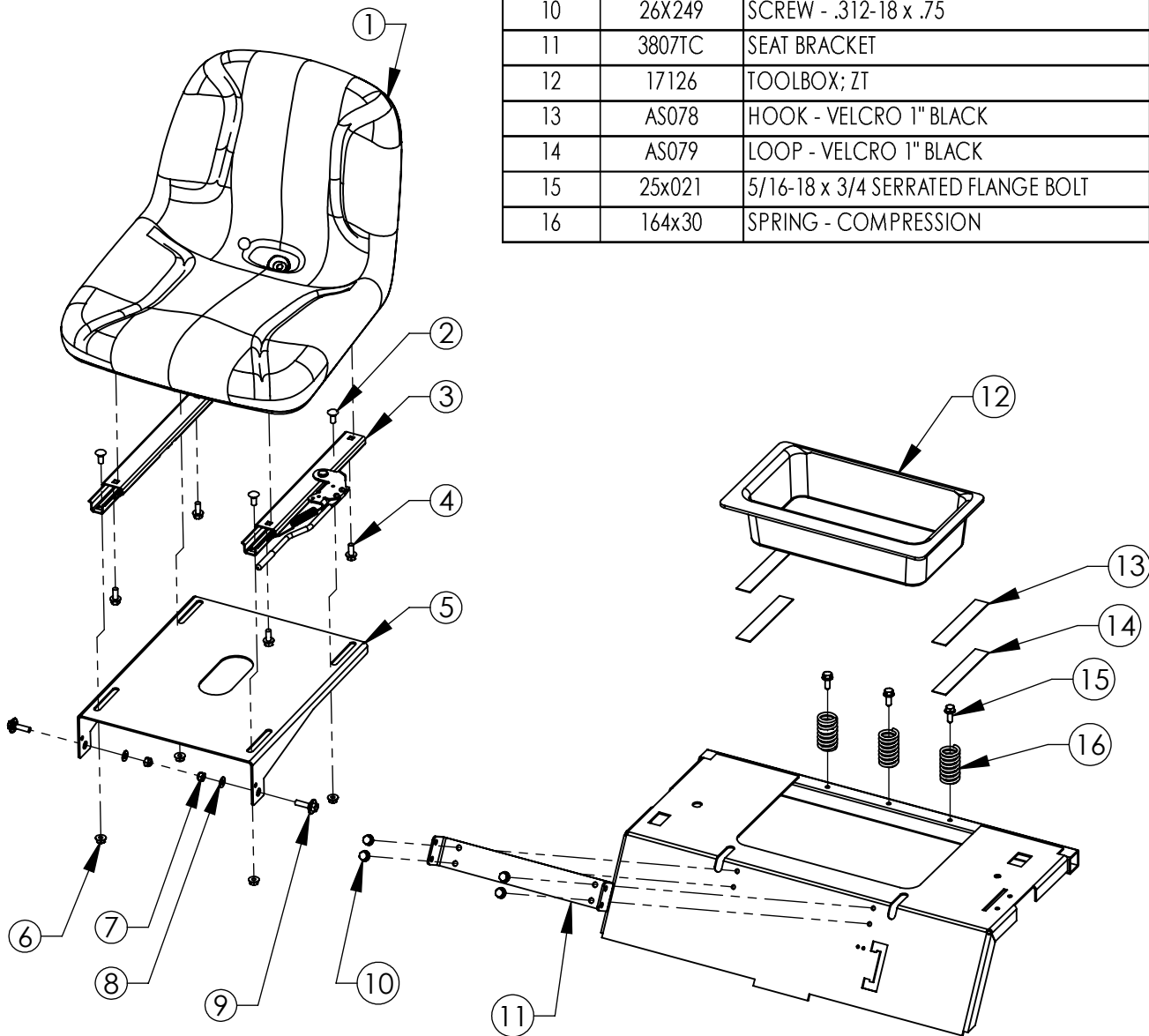
PARKING BRAKE EXPLODED VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	NB180	1/4-20 NYLOCK NUT	4
2	NB274	1/4 SAE WASHER	4
3	10535	SPRING - DECK LIFT HANDLE	2
4	17787	ROD - PARKING BRAKE, ZT	2
5	NB114	BOLT - TCS 1/4-20 X 1/2 UNSLOT ZY GR2	4
6	17783TK	BRACKET - PARKING BRAKE; TXT BLACK	2
7	2078	GRIP - TILT HANDLE; YELLOW	1
8	024203	SCREW, MACHINE - # 2 PHILLIPS, 10-24 X 3/4,	2
9	3695	RETURN TO NEUTRAL SWITCH	1
10	024900	#10-24 NYLOCK NUT, ZP	2
11	17779TK	WELDMENT - PARKING BRAKE; TXT BLACK	1
12	17681TK	SPACER - SAFETY SWITCH; TXT BLACK	1



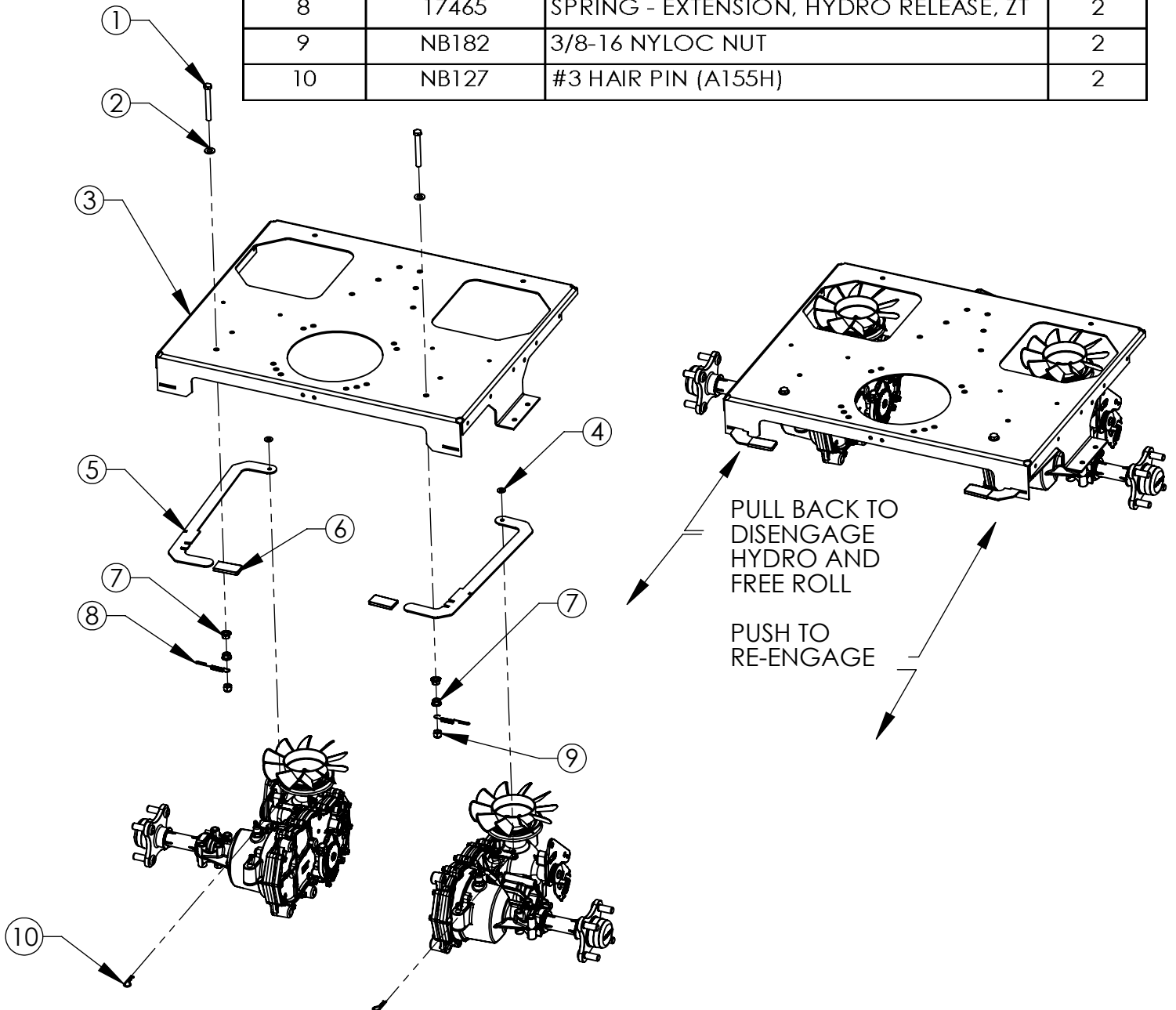
SEAT/TOOLBOX EXPLODED VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	10569	SEAT - ZT, 15" NO ARM REST W/BRACKET	1
2	10216	5/16-18 X 3/4 CARRIAGE BOLT GR5	4
3	12938	SEAT SLIDE; W/OUT STUDS	1
4	NB596	BOLT - 5/16" X 18 UNC X .75" FLANGE HEAD	4
5	15281TK	SEAT MOUNT; ZT42-EC	1
6	NB170	NUT - 5/16-18 SERR FLANGE	4
7	NB181	5/16-18 NYLOC NUT	2
8	NB275	5/16 SAE WASHER	2
9	NB743	BOLT - HEX HEAD FLNG .496/.490 X 1.113 ZY	2
10	26X249	SCREW - .312-18 x .75	4
11	3807TC	SEAT BRACKET	1
12	17126	TOOLBOX; ZT	1
13	AS078	HOOK - VELCRO 1" BLACK	2
14	AS079	LOOP - VELCRO 1" BLACK	2
15	25x021	5/16-18 x 3/4 SERRATED FLANGE BOLT	3
16	164x30	SPRING - COMPRESSION	3



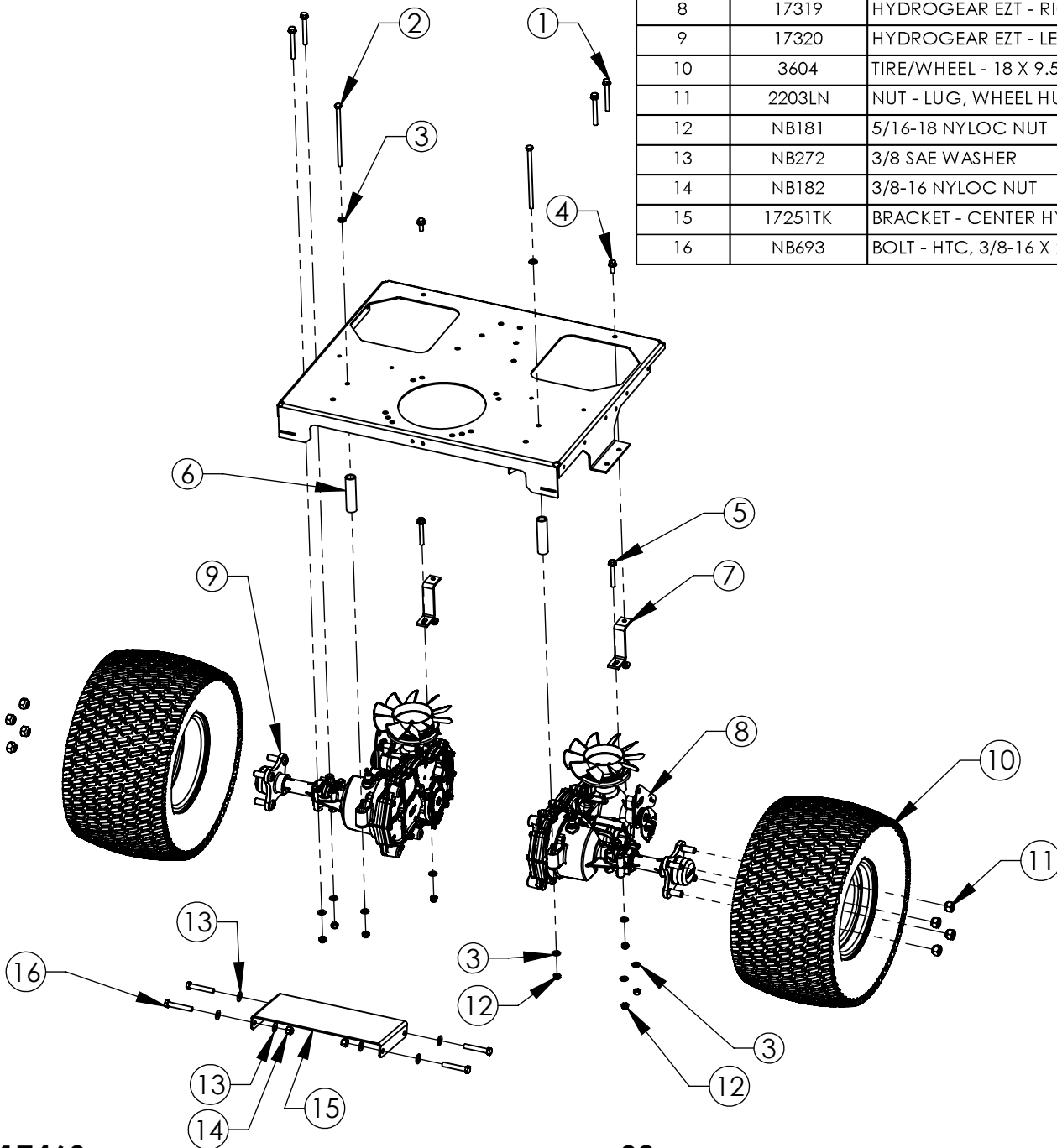
HYDRO RELEASE EXPLODED VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	NB150	3/8 - 16 x 3	2
2	NB272	3/8 SAE WASHER	2
3	17464TC	SUB ASSEMBLY - FRAME, ZT50/52	1
4	NB274	1/4 SAE WASHER	2
5	17264TK	HANDLE - HYDRO RELEASE, ZT42	2
6	2077	HANDLE GRIP, PIVOT	2
7	NB779	HEX FLANGE SERRATED NUT ZP 3/8-16	4
8	17465	SPRING - EXTENSION, HYDRO RELEASE, ZT	2
9	NB182	3/8-16 NYLOC NUT	2
10	NB127	#3 HAIR PIN (A155H)	2

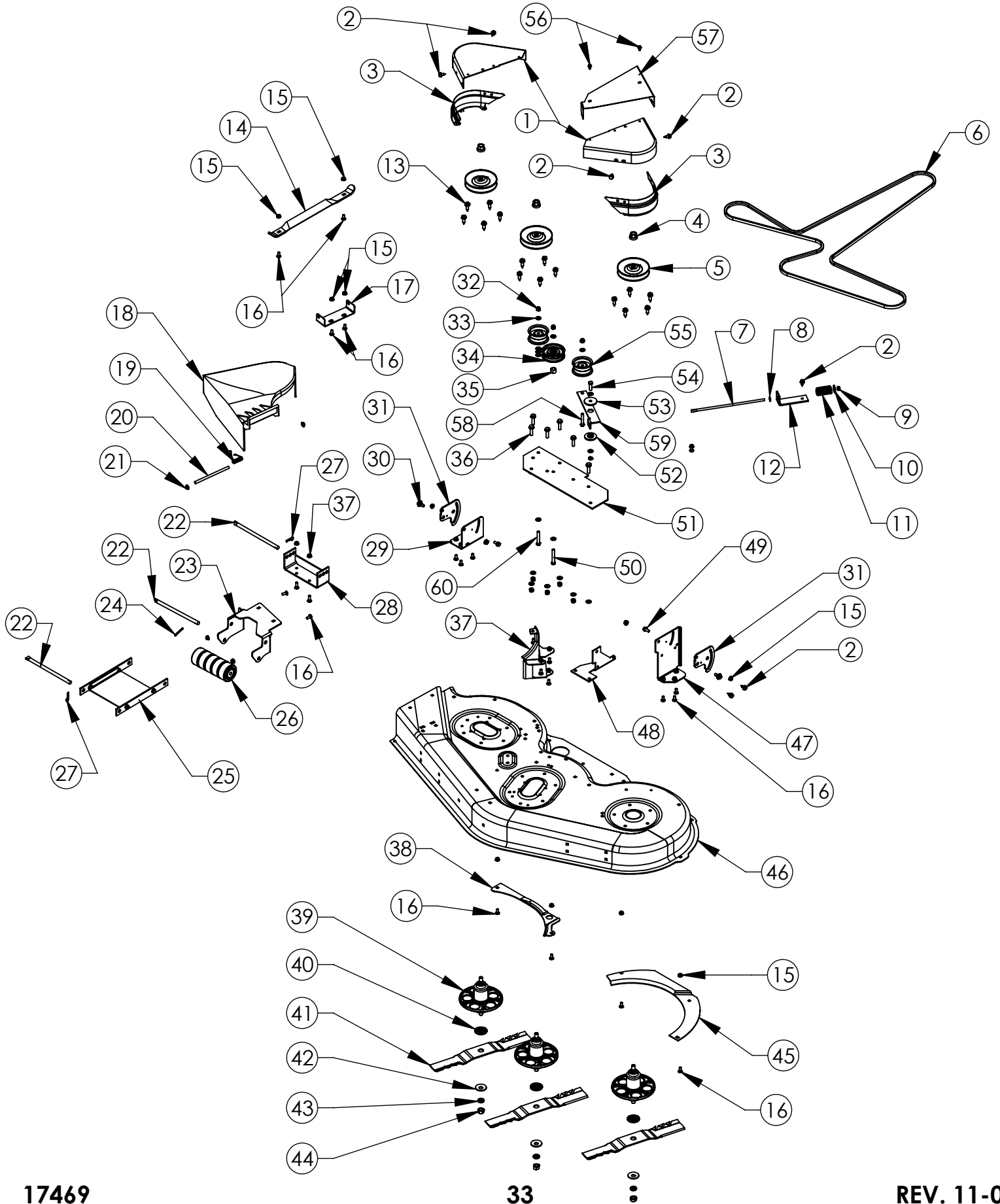


HYDROSTATS EXPLODED VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	16836	BOLT - SERR FLNG 5/16-18 X 2 3/4 GR5 ZP	4
2	17265	5/16-18 x 5 3/4 SERR FLG BOLT, GR 5, ZY	2
3	NB275	5/16 SAE WASHER	60
4	NB596	BOLT - 5/16" X 18 UNC X .75" FLANGE HEAD	10
5	NB622	BOLT - SERR FLNG 5/16-18 X 2 1/4 GR5 ZP	6
6	17257TK	TUBE - HYDRO SPACER, ZT42	2
7	17255TK	BRACKET - HYDRO MNT, ZT42	2
8	17319	HYDROGEAR EZT - RIGHT HAND	1
9	17320	HYDROGEAR EZT - LEFT HAND	1
10	3604	TIRE/WHEEL - 18 X 9.50-8	2
11	2203LN	NUT - LUG, WHEEL HUB, 1/2-20 ZY GR5	8
12	NB181	5/16-18 NYLOC NUT	45
13	NB272	3/8 SAE WASHER	44
14	NB182	3/8-16 NYLOC NUT	23
15	17251TK	BRACKET - CENTER HYDRO, ZT	1
16	NB693	BOLT - HTC, 3/8-16 X 2 1/4 GR5 ZP	5



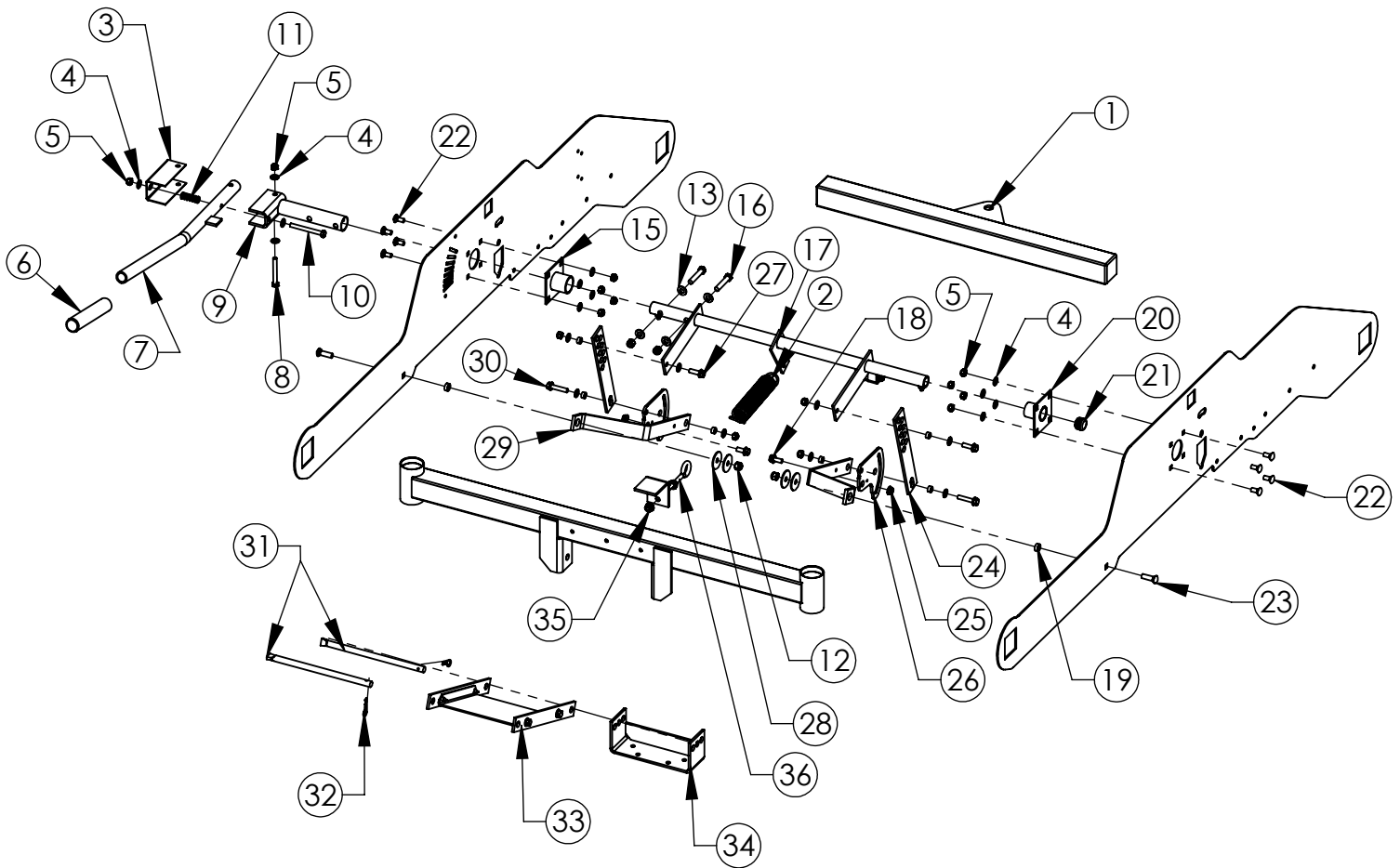
MOW DECK EXPLODED VIEW



MOW DECK EXPLODED VIEW

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	094645TK	COVER - LEFT PULLEY	2	29	094694TK	BRACKET - RIGHT LIFTER	1
2	26X249	SCREW - .312-18 x .75	9	30	009X58	BOLT - SHD.	2
3	690221TK	BRACKET - PULLEY COVER	2	31	094128TK	PLATE - SUSPENSION	2
4	15X140	NUT - HEX PULLEY .56--18 ZINC	3	32	NB182	3/8-16 NYLOC NUT	9
5	95309	PULLEY - SPLIT STEEL, 46"	3	33	NB272	3/8 SAE WASHER	22
6	3816	Belt - V, 1/2" X 146.5" ID X 148.5" OD	1	34	B527	IDLER PULLEY OD-3.25", ID-3/8"	1
7	10636YZ	5/16-18 X 12 PLATED SPADE BOLT	1	35	17517	SPACER - .840 OD X .546 ID X .563 L	1
8	NB556	5/16 USS FLAT WASHER	1	36	NB107	3/8-16 X 1 1/2 HCCG	6
9	NB181	5/16-18 NYLOC NUT	1	37	690092TK	BAFFLE - RIGHT	1
10	NB579	WASHER - FENDER 5/16 X 1 1/4" OD ZY	1	38	094117TK	BAFFLE - BOTTOM	1
11	164x30TC	SPRING - COMPRESSION	1	39	1001200	HOUSING - JACKSHAFT ASSY	3
12	17645TK	BRACKET - SPRING MOUNT, ZT	1	40	690411	ADAPTER - BLADE	3
13	0025X7	BOLT - ENGINE 3/8"-16 X 1 1/4	15	41	13046	BLADE - 17 11/16" MULCHING	3
14	095176TK	BRACKET - CHUTE SUPPORT	1	42	17X166	WASHER - BELLVILLE FLAT, 62-1.7	3
15	NB170	NUT - 5/16-18 SERR FLANGE	27	43	17X165	WASHER - FLAT .625 X 1 X .18	3
16	10216	5/16-18 X 3/4 CARRIAGE BOLT GR5	21	44	15X100	NUT - QA, HEX REG. UNC, 5/16"-18 Z-	3
17	92104TK	BRACKET - HINGE	1	45	094118TK	BAFFLE - LEFT	1
18	092100	DEFLECTOR - CHUTE	1	46	094663TK	HOUSING - BLADE	1
19	166x34	TORSION SPRING - BENT LEG	1	47	690164TK	BRACKET - LEFT LIFTER	1
20	092159 Z	ROD - DEFLECTOR	1	48	17675TK	BRACKET - LIFTER	1
21	028X23	CAP - PUSH .375	2	49	NB596	BOLT - 5/16" X 18 UNC X .75"	2
22	094996YZ	ROD - DECK SUSPENSION	3	50	NB619	3/8-16 X 2 1/2 HTC GR5 ZP	1
23	094693TK	BRACKET - 50 / 52 DECK MOUNT	1	51	17520TK	WELDMENT - IDLER ARM BRACKET	1
24	030x49	PIN - COTTER.13D-1.25L	1	52	6037	IDLER BUSHING	1
25	17304TK	ASSY - DECK ARM, ZT	1	53	6040Z	Washer for Idler, ZP	1
26	AS003	ROLLER - ANTI-SCALP 1/2 ID	5	54	NB618	3/8-16 X 1 1/4 GR5 ZP	1
27	NB127	#3 Hair Pin (A155H)	2	55	7509	IDLER PULLEY OD-2.75", ID-3/8"	2
28	17663TK	WELDMENT - FRONT DECK BRACKET,	1	56	NB114	BOLT - TCS 1/4-20 X 1/2 UNS LOT ZY G	2
				57	17775TK	GUARD - BELT, ZT2452A/ZT2050 TXT BL	1
				58	NB231	BOLT - HTC, 3/8-16 X 2 GR5 ZY	1
				59	17493TK	PLATE - IDLER ARM; TXT BLACK	1
				60	NB693	BOLT - HTC, 3/8-16 X 2 1/4 GR5 ZY	1

DECK LIFT EXPLODED VIEW



ITEM	PART	DESCRIPTION	QTY.	ITEM NO.	PART	DESCRIPTION	QTY.
1	17464TC	SUB ASSY - FRAME, ZT50/52, TXT RED	1	19	7840Z	GUIDE - LATCH PIN BUSHING	2
2	2335	SPRING - TILT	1	20	17294TC	WELDMENT - ROCKER ARMBUSHING, TXT RED	1
3	9941TK	COVER - FRONT, HANDLE, TXT BLACK	1	21	17006	PLASTIC PLUG for 1" RD TUBING	1
4	NB275	WASHER - SAE FLAT 5/16 ZY	20	22	10216	BOLT - CARRIAGE 5/16-18X3/4 GR5 ZY	8
5	NB181	NUT - NYLOCK 5/16-18 ZY	14	23	10501	BOLT - CARRIAGE 3/8-16 X 1 1/4 GR5 ZY	2
6	7826	GRIP - HANDLE	1	24	17408TK	STRAP - DECK LIFT, ZT50/52, TXT BLACK	2
7	17345TK	WELDMENT - HEIGHT Adj HANDLE; TXT BLACK	1	25	NB170	NUT - SERR FLANGE 5/16-18 ZY CASE HRD	2
8	NB138	Bolt - 5/16-18 X 2 1/2 HCC GR5 ZY	1	26	094128TK	PLATE - SUSPENSION; TXT BLACK	2
9	17301TK	Weldment - Handle Pivot, ZT; Txt BLACK	1	27	10548	BOLT - SERR FLANGE, 5/16-18X1 GR5 ZY	2
10	NB563	BOLT - 5/16-18 X 3 GR2 ZY	1	28	10177	WASHER - FENDER 3/8X1 1/2, CRBN STL GR 2	2
11	10535	SPRING - DECK LIFT HANDLE	1	29	17342TK	BRACKET - LIFT ARM, ZT; TXT BLACK	4
12	NB182	NUT - NYLOCK 3/8-16 ZY	4	30	NB254	BOLT - SERR FLANGE, 5/16-18 X 1 1/2 GR5	2
13	NB272	WASHER - SAE FLAT 3/8 ZY CARBON STEEL	4	31	094996	ROD - DECK SUSPENSION	2
14	7839Z	BUSHING - LATCH PIN	6	32	NB127	PIN - HAIR, #39 (A155H) ZYStd	2
15	17297TC	WELDMENT - ROCKER ARMBUSHING, ZT TXT RD	1	33	17304TK	ASSY - DECK ARM; TXT BLACK	2
16	NB198	BOLT - 3/8-16 X 2 HCC GR5 ZY	2	34	17663TK	WELDMENT - FRONT DECK BRACKET; TXT BLACK	1
17	17299TK	WELDMENT - ROCKER SHAFT, ZT; TXT BLACK	1	35	NB779	NUT - SERR FLANGE, HEX ZY 3/8-16	2
18	NB596	BOLT - SERR FLANGE, 5/16-18 X 3/4 GR 5	2	36	NB635	EYEBOLT - TURNED 3/8-16 X 3 ZY	1

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
Engine Will Not Start	<ol style="list-style-type: none"> 1. Out of fuel 2. Engine not "choked" properly 3. Engine flooded 4. Bad spark plug 5. Dirty air filter 6. Dirty fuel filter 7. Water in fuel 8. Loose or damaged wiring 9. Carburetor out of adjustment 10. Engine valves out of adjustment 11. Extreme cold conditions 12. Fuel shut off valves closed 	<ol style="list-style-type: none"> 1. Fill fuel tank 2. Choked engine and attempt to restart 3. Wait several minutes before attempting to restart. 4. Replace spark plug 5. Clean or replace air filter 6. Replace fuel filter 7. Drain fuel tank & carburetor, refill tank with fresh gas and replace fuel filter 8. Check all wiring 9. See Engine Manual 10. Contact an authorized service center 11. See Engine Manual 12. Open
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. Directional handles not in correct position 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 10. Parking Brake is not Engaged 	<ol style="list-style-type: none"> 1. Place handles in the out most position 2. Push PTO switch down 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 10. Engage Parking Brake
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. Adjust travel reduction weldment.
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
Unit Won't to Move Forward	<ol style="list-style-type: none"> 1. Parking Brake is Engaged 2. Parking Brake needs adjusting 	<ol style="list-style-type: none"> 1. Disengage Parking Brake 2. Adjust Parking Brake according to page 18

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
<p>Loss of Power</p>	<ol style="list-style-type: none"> 1. Cutting too much grass/ too fast 2. "Choke" position 3. Buildup of grass, leaves and trash under deck. 4. Dirty air filter 5. Low oil level/dirty oil 6. Faulty spark plug 7. Dirty fuel filter 8. Stale or dirty fuel 9. Water in fuel 10. Spark plug wire loose 11. Dirty engine air screen/fins 12. Dirty/clogged muffler 13. Loose or damaged wiring 14. Carburetor out of adjustment 15. Engine valves out of adjustment 16. Loose drive belt 	<ol style="list-style-type: none"> 1. Set in High Cut (position 8)/reduce speed 2. Push choke control in 3. Clean underside of mower deck 4. Clean or replace air filter 5. Check oil level/change oil 6. Clean and re-gap or change plug 7. Replace fuel filter 8. Drain fuel tank & refill tank with fresh gas 9. Drain fuel tank & carburetor, refill tank with fresh gas and replace fuel filter 10. Connect and tighten spark plug wire 11. Clean engine air screen/fins 12. Clean/replace muffler 13. Check all wiring 14. See Engine Manual 15. Contact an authorized service center 16. Adjust idler/replace belt
<p>Engine backfires when turning engine OFF</p>	<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
<p>Poor cut - uneven</p>	<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. Level deck. See section in this manual 3. Clean underside of mower deck 4. Replace deck 5. Replace blade driver assembly
<p>Poor cut - uneven</p>	<ol style="list-style-type: none"> 1. Worn, bent or loose blade 2. Mower deck not level 3. Buildup of grass, leaves and trash under deck. 4. Bent deck 5. Faulty Blade driver assembly 	<ol style="list-style-type: none"> 1. Replace blade. Tighten blade bolt 2. Level deck. See section in this manual 3. Clean underside of mower deck 4. Replace deck 5. Replace blade driver assembly
<p>Battery will not charge</p>	<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
<p>Loss of drive</p>	<ol style="list-style-type: none"> 1. Bypass linkages in the bypass position 2. Hydro belt worn, damaged, or broken 3. Idler spring loose or broken 	<ol style="list-style-type: none"> 1. Make sure that the bypass linkages are in the drive or engaged position. Located at the rear of the machine. Refer to decal on the rear of the unit. 2. Replace Hydro belt. 3. Replace Idler spring

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 on a decal located on the inboard side of the frame side plate. 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 – ZT2452A

SERIAL NUMBER - _____

MODEL NUMBER - _____

ENGINE MODEL NUMBER - _____

TYPE - _____

PART NUMBER WITH PAINT CODE _____

*PART DESCRIPTION _____

SWISHER
1602 CORPORATE DRIVE
WARRENSBURG, MO 64093

www.swisherinc.com

TELEPHONE - 1-800-222-8183
FAX - 1-660-747-8650

Cust.serv@swisherinc.com

WARRANTY RIGHTS AND OBLIGATIONS

YOUR WARRANTY RIGHTS AND OBLIGATIONS: The California Air Resources Board and Swisher, are pleased to explain the evaporative emission control system (EECS) on your model year 2006 and later Swisher product. In California, new Outdoor Power Equipment, must be designed, built and equipped to meet the State's stringent anti-smog standards. Swisher must warrant the EECS on your Power Equipment, for the period of time listed below provided there has been no abuse, neglect, or improper maintenance. For model year 2006 the EECS on your mower includes the liquid fuel lines, fuel line connectors, and fuel line clamps. Where a warrantable condition exists, Swisher will repair at no cost to you. Expenses covered under warranty include diagnosis, parts, and labor.

MANUFACTURER'S WARRANTY COVERAGE: For a period of two years, any evaporative emission-related part included in the list of EECS parts for your mower is defective, the part will be repaired or replaced by Swisher.

OWNER'S WARRANTY RESPONSIBILITIES: As the owner of this power equipment, you are responsible for performance of the required maintenance listed in your owner's manual. Swisher recommends that you retain all receipts covering maintenance on your Power Equipment, but Swisher cannot deny warranty solely for the lack of receipts. As the Power Equipment owner, you should be aware that Swisher, may deny you warranty coverage if your Power Equipment, or a covered part has failed due to abuse, neglect, or improper maintenance, unapproved modifications, or the use of parts not made or approved by the equipment manufacturer. You are responsible for presenting your Power Equipment to an authorized Swisher Service center as soon as the problem exists. Warranty repairs should be completed in a reasonable amount of time, not to exceed 30 days. If you have a question regarding your warranty rights and responsibilities, you should contact the Swisher Service representative at 1-800-222-8183.

WARRANTY COMMENCEMENT DATE: The warranty period begins on the date the Power Equipment is purchased.

LENGTH OF COVERAGE: This warranty shall be for a period of two (2) years from the initial date of purchase.

WHAT IS COVERED: Warranted parts include the Liquid fuel line, fuel line connectors, and fuel line clamps.

REPAIR OR REPLACEMENT OF PARTS: Repair or replacement of any evaporative warranted part will be performed at no charge to the owner at an authorized Swisher Service Center. If you have a question regarding your warranty rights and responsibilities, you should contact your nearest authorized service center or call the Swisher Service representative at 1-800-222-8183.

WARRANTY PERIOD: Any warranted part is not scheduled for replacement as required maintenance, or which is scheduled only for regular inspection to the effect of "repair or replace as necessary" shall be warranted for two (2) years. Any warranted part that is scheduled for replacement as required maintenance shall be warranted for the period of time up to the first scheduled replacement point for that part.

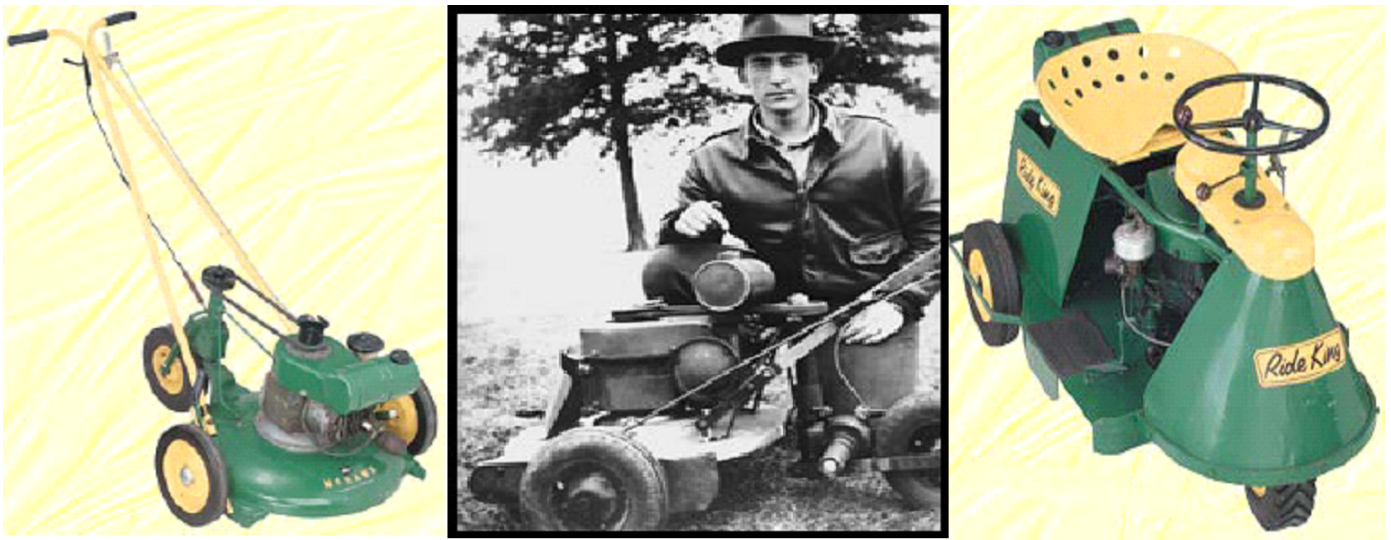
DIAGNOSIS: The owner shall not be charged for diagnostic labor that leads to the determination that a warranted part is defective if the diagnostic work is performed at an authorized Swisher Service Center.

CONSEQUENTIAL DAMAGE: Swisher, may be liable for damages to other engine or equipment components caused by the failure of a warranted part still under warranty.

WHAT IS NOT COVERED: All failures caused by abuse, neglect, or improper maintenance is not covered.

ADD-ON OR MODIFIED PARTS: The use of add-on or modified parts may be grounds for disallowing a warranty claim. Swisher is not liable to cover failures of warranted parts caused by the use of an add-on or modified part.

HOW TO FILE A CLAIM: If you have a question regarding your warranty rights and responsibilities, you should contact your nearest authorized service center or call Swisher Service representative at 1-800-222-8183.



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, 60 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.

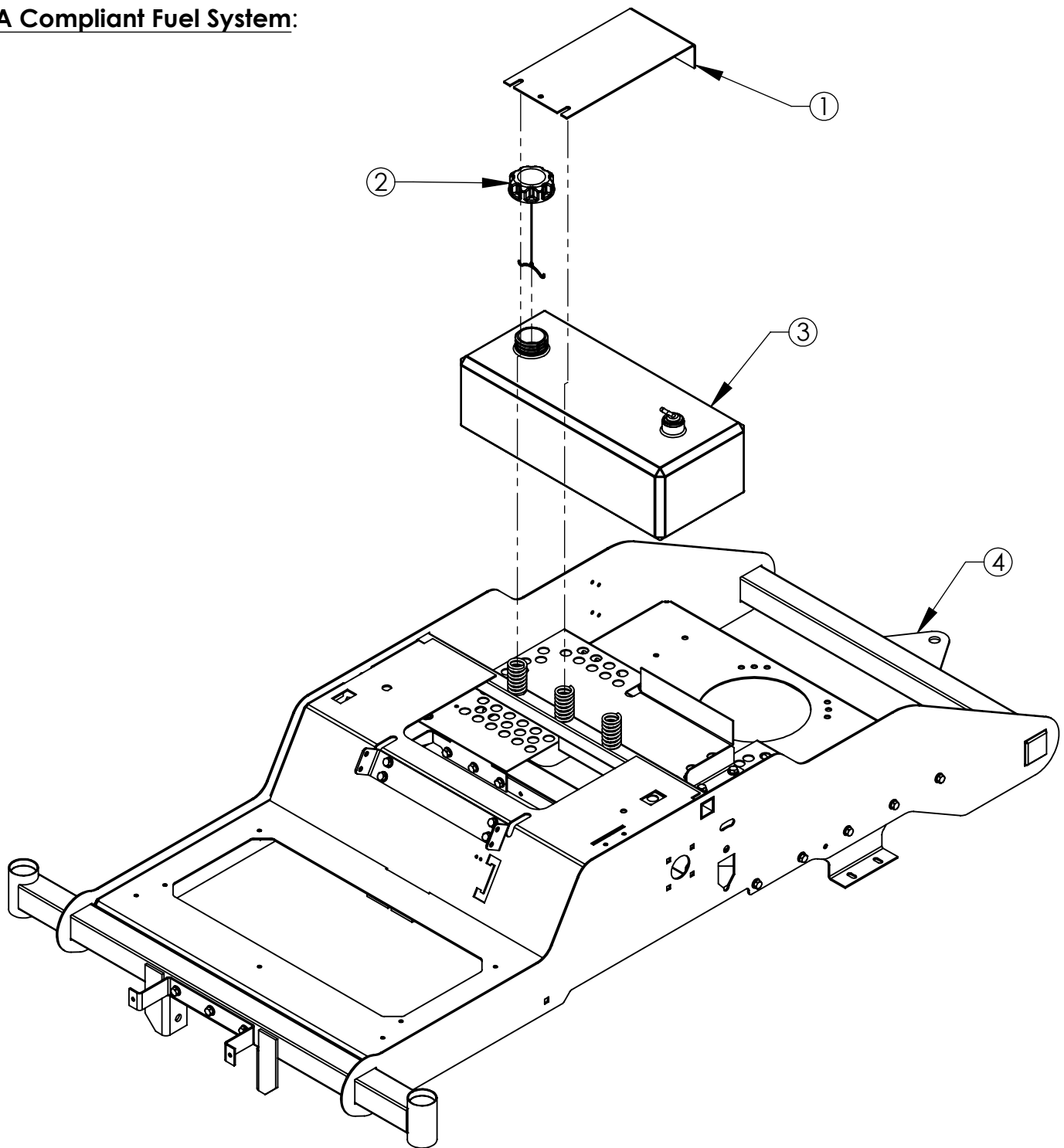
Swisher products have been featured nationally on television programs such as Regis and Kathie Lee and seen in publications like ATV Magazine, Country Journal, Popular Mechanics Magazine and others. In January 2000 Popular Mechanics Magazine named Max's zero turning radius riding mower one of the 20th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

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

MANUFACTURING QUALITY LAWN CARE EQUIPMENT SINCE 1945



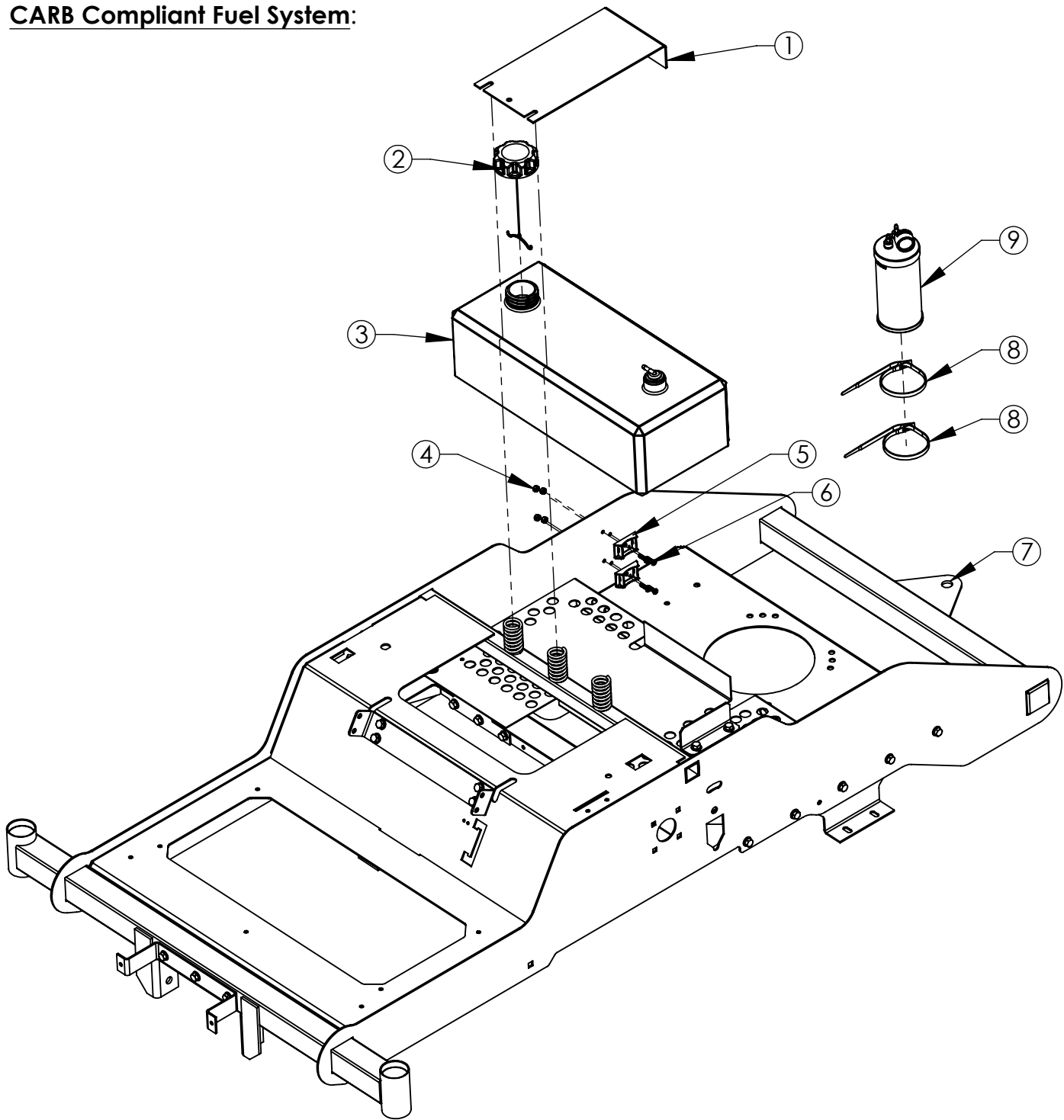
EPA Compliant Fuel System:



EPA Compliant Fuel System: Parts List

ITEM NO.	PART NUMBER	DESCRIPTION
1	17133	Strap - Gas Tank, ZT
2	18221	Cap, Fuel - 2.50 Gallon, Carb Sealed
3	17641	Gas Tank - 4 Gallon, CARB, ZT
4	17464	Sub Assembly - Frame, ZT50/52

CARB Compliant Fuel System:



CARB Compliant Fuel System: Parts List

ITEM NO.	PART NUMBER	DESCRIPTION
1	17133	Strap - Gas Tank, ZT
2	18221	Cap, Fuel - 2.50 Gallon, Carb Sealed
3	17641	Gas Tank - 4 Gallon, CARB, ZT
4	024900	Nut - 10-24 Nylon Lock
5	17127	Bracket - Carbon Canister, ZT
6	024203	Screw - 10-24 X 3/4 Phil Truss Head ZP
7	17464	Sub Assembly - Frame, ZT50/52
8	18219	Cable Tie - Carbon Canister
9	18220	Carbon Canister - 5 Gallon, 3/16 Line