

DIXON[®] ZTR[®]

SILVERTIP[™] ZTR[®]

**Safety Instructions
&
Operator's Manual**

IMPORTANT - READ CAREFULLY

The Dixon® ZTR® mower is both easy and fun to operate. However, any power mower must be operated properly to be safe. It is not a toy or a recreational vehicle. Before you start to use the mower, read this Operator's Manual carefully. It contains valuable information that is necessary for the safe operation of the machine. Observe all safety rules and become completely familiar with the controls.

The information contained in this manual applies to all Dixon® SilverTip™ ZTR® mowers.

See your authorized Dixon® dealer for warranty service, parts and repairs or to answer any questions you may have about your new Dixon® ZTR®.

TABLE OF CONTENTS

	<u>Page</u>
SAFETY & WARNING.....	4-15
WARRANTY.....	16
SPECIFICATIONS.....	17
CONTROLS.....	18-21
OPERATION INSTRUCTIONS.....	22-32
CARE & MAINTENANCE.....	33-49
TROUBLESHOOTING.....	50-51
STANDARD SERVICE PARTS LIST.....	52

SAFETY

**⚠ RIDING LAWN MOWERS,
IF IMPROPERLY OPERATED
CAN CAUSE SERIOUS INJURY OR DEATH**

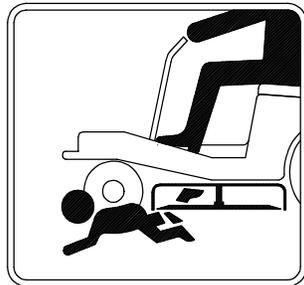
Pictured below are the most common causes of injury to the operator or bystander. Please read and understand this manual to prevent injuries.



Blade Contact



Tip Over



Run Over



Back Over

SAFETY



Safety Alert Symbol

When you see this symbol, BE ALERT to the potential for injury.

Follow the recommended safety precautions and safe operating practices.



DANGER
(highlighted in red)
indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING
(highlighted in orange)
indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION
(highlighted in yellow)
indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury. It may also be used to alert against unsafe practices.

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

GENERAL OPERATION:

Read, understand, and follow all instructions in this manual and on the mower before starting.

Only allow responsible adults, who are familiar with the instructions, to operate the mower.

Clear the area of objects such as rocks, toys, wire, etc., which could be picked up and thrown by the blade.

Be sure the area is clear of other people before mowing. Stop mower if anyone enters the area.

Be aware of the mower discharge direction and do not point it at anyone. Mower blades can throw rocks or other debris.

Do not operate the mower without either the entire grass catcher or the deflector in place. This will decrease the possibility of injury from objects being thrown by the mower blades.

Never carry passengers. They may fall off and become seriously injured or interfere with safe operation of the mower.

Mowing in reverse is not recommended because it is difficult to maintain a clear vision of the mowing path. However, should it become necessary to back up, remember to look down and behind before and while backing.

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

GENERAL OPERATION (continued):

Never leave a running mower unattended. Always turn off blades, set parking brake, stop engine and remove key before dismounting.

Turn off blades when not mowing. Injury could occur from contact with moving parts.

Under no circumstances should you place hands or feet under the mower deck or in the chute while blades or impeller are still running.

To avoid personal injury from accidental clutch engagement, stop engine before removing grass catcher or unclogging chute.

Mow only in daylight or good artificial light.

Do not operate the mower while under the influence of alcohol or drugs.

Slow down before turning to reduce the risk of tip-over.

Watch for traffic when operating near or crossing roadways.

Use extra care when loading or unloading the mower into a trailer or truck. Push, do not ride the mower when loading and unloading.

WARNING

 **Failure to observe the following safety instructions could result in serious injury or death.**

GENERAL OPERATION (continued):

Never dismount mower without applying parking brake or stopping engine.

Protect your eyes. Always wear safety goggles or safety glasses with side shields when operating mower.

Data indicates that operators, age 60 years and above, are involved in a large percentage of riding mower-related injuries. These operators should evaluate their ability to operate the riding mower safely enough to protect themselves and others from serious injury.

To protect against possible tip-over, follow the manufacturer's recommendation for wheel weights and counterweights and ROPS.

Maintain or replace safety & instruction labels as needed.

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

SLOPE OPERATION:

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death.

All slopes require extra caution. If you feel uneasy on a slope, do not mow it!

DO

Mow across the slope with your Dixon® ZTR® -- never up or down. This will decrease the risk of tip-over.

Remove obstacles such as rocks, tree limbs, wires and other foreign objects that can be thrown by mower blades.

Watch for holes, ruts, roots and bumps. Uneven terrain could overturn the mower. Tall grass can hide such obstacles.

Use slow speed. Tires may lose traction on slopes even though the brakes are functioning properly.

Avoid starting or stopping on a slope. If tires lose traction, disengage the blades and proceed slowly down the slope.

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

SLOPE OPERATION (continued):

DO (continued):

Keep all movement on the slopes slow and gradual. Do not make sudden changes in speed or direction.

Use extreme caution when operating the mower with attachments to prevent tip-over or roll-over.

If front wheels lift off the ground, pull levers back to stabilize the mower. Discontinue mowing the slope!

R.O.P.S. should be in the upright, operating position (not folded-down) at all times when operating mower.

Always use seat belt on any mower equipped with a R.O.P.S.

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

SLOPE OPERATION (continued):

DO NOT

Do not turn on slopes unless necessary, and then, turn slowly and gradually downhill, if possible. Rapid uphill turns may cause tip-over.

Do not mow near drop-offs, ditches, or embankments. The mower could suddenly turn over if a wheel is over the edge of a cliff or ditch or if an edge caves in.

Do not mow on wet grass. Reduced traction could cause sliding.

Do not try to stabilize the mower by putting your foot on the ground.

Do not use grass catcher or other attachments on steep slopes (over 15 degrees). The added weight may change the stability of the mower thus creating the potential for tip-over.

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

FIRE HAZARDS:

Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.

Store all fuel in approved containers specifically designed for that purpose.

Allow engine to cool before refueling. Never remove fuel cap or add fuel with engine running.

Do not smoke while refueling or operating the mower.

To reduce fire hazard, keep mower free of grass, leaves and other debris build-up.

If gasoline is spilled, do not attempt to start the engine. Move mower away from the area of the spill. Do not create any source of ignition until gas vapors have dissipated. Wipe up spilled fuel and dispose of waste properly.

If fuel is spilled on clothing, change clothing immediately.

Before storing, allow mower to cool. Clean fuel and oil spillage.

Never store the mower or fuel container inside a building where there is an open flame.

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

FIRE HAZARDS (continued):

To prevent fire or explosion, keep sparks and open flames away from battery.

Keep electrical connections clean and tight. Inspect them often. Loose connections and corrosion increase fire risk.

Before disconnecting the negative ground cable, make sure all switches are off. This decreases the chance of sparking and fire.

Use care when backing to avoid pushing the grass bags into the frame or “hot” exhaust muffler of the engine. Fire could result.

To prevent fire and explosion caused by static electricity:

Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

When practical, remove fuel powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, refuel such equipment on a trailer with a portable container, rather than from a fuel dispenser nozzle.

If a fuel dispenser nozzle must be used, keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

CHILDREN:

Tragic accidents can occur if the operator is not alert to the presence of children.

Children are attracted to lawn mowers and the mowing activity.

NEVER assume children will stay where they were last seen.

Be alert to avoid accidents.

Keep children out of the mowing area and under the watchful care of another responsible adult.

Be alert and turn mower off if a child enters the area.

Before and during backing look BEHIND and DOWN for small children.

Never carry children. They may fall off and be seriously injured or interfere with safe mower operation.

Never allow children to operate the mower.

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

WARNING

 ***Failure to observe the following safety instructions could result in serious injury or death.***

SERVICE:

Never run a mower inside a closed area or without proper ventilation.

Keep nuts and bolts tight, especially blade attachment bolts, and keep equipment in good condition.

Never tamper with safety devices. Check their proper operation regularly.

Stop and inspect the equipment if you strike an object. Repair, if necessary, before restarting.

Never make adjustments or repairs with the engine running unless otherwise specified.

Grass catcher components are subject to wear, damage and deterioration which could expose moving parts or allow objects to be thrown. Frequently check components. Replace with original equipment parts when necessary. (Grass catchers are not available for all Dixon® ZTR® mowers.)

Mower blades are sharp and can cut. Wrap blades or wear gloves, and use extra caution when servicing them.

Batteries contain sulfuric acid. To prevent burns, avoid contact with skin, eyes and clothing.

DIXON® ZTR® PRO SERIES COMMERCIAL/RESIDENTIAL WARRANTY POLICY
Black Bear™, Kodiak®, Mountain Kodiak®, Kodiak® Diesel, Grizzly™ & SilverTip™ Mowers

DIXON® WARRANTS ITS ZTR® MOWERS AGAINST DEFECTS IN MATERIAL AND WORKMANSHIP FOR THE PERIODS SET FORTH BELOW. THE SOLE REMEDY UNDER THIS WARRANTY IS REPLACEMENT OR REPAIR OF PARTS INCLUDING LABOR COSTS.

THIS WARRANTY IS SUBJECT TO THE FOLLOWING CONDITIONS AND LIMITATIONS:

1. COMMERCIAL WARRANTY (use other than, or in addition to, mowing at owner's primary place of residence):
 - a. First two years - 100% parts and labor subject to the conditions and limitations described herein with the exception of non-covered items specified below.
 - b. Third year - limited to 100% parts cost as shown in the current Dixon® Parts Price List and subject to the conditions and limitations as described herein.
 - c. Attachments marketed through or approved by Dixon Industries, Inc. are warranted for one year parts and labor in commercial use applications.
 - d. Pro Series Models are not subject to hour meter restrictions.
 - e. Warranty applies to new and unused mowers and ***is transferable***.
2. RESIDENTIAL WARRANTY (used only at owner's primary place of residence):
 - a. Three years - 100% parts and labor subject to the conditions and limitations described herein for a period of three years from date of purchase by the original owner.
 - b. Attachments marketed through or approved by Dixon Industries, Inc., are warranted for two years parts and labor in residential use applications.
 - c. Warranty applies to new and unused mowers and ***is transferable***.
3. Lifetime warranty on all frames and leading edge of all fabricated (welded) decks.
4. All Dixon® warranty must be accomplished by authorized Dixon® dealers and in accordance with Dixon® warranty policy and allowances. All warranty claims must be submitted to Dixon Industries for approval.
5. Warranty labor reimbursement to dealers based on published Dixon® flat rate schedule.
6. Warranty does not apply to damage in transit or incidents of misuse, negligence, accidents, or alteration. The use of parts or components other than those supplied by Dixon Industries VOIDS ALL WARRANTY.
7. Battery warranty is limited to one year from date of manufacture.
8. The following items are not covered by this warranty policy:
 - (a) Routine maintenance or adjustments to include any oils, filters or other fluids used.
 - (b) Belts, blades, tires and cosmetic appearance (paint, seat fade, etc.)
 - (c) Pick up and delivery charges for transportation of mower to and from an authorized Dixon® dealer's place of business.
 - (d) Engines. These are covered under a separate warranty by each individual engine manufacturer. Consult engine manual for warranty details.
 - (e) Any costs or expense of providing substitute equipment while repair work is being performed on a warranted mower.
9. THERE IS NO OTHER EXPRESS WARRANTY. TO THE EXTENT PERMITTED BY LAW, ALL IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE EXCLUDED; OTHERWISE, ALL SUCH IMPLIED WARRANTIES ARE LIMITED TO THE SAME DURATION AND REMEDIES AS THE EXPRESS WARRANTY. ALL LIABILITIES FOR CONSEQUENTIAL DAMAGES UNDER ANY EXPRESS OR IMPLIED WARRANTY ARE EXCLUDED.

SPECIFICATIONS

SilverTip™ ZTR® 60" & 72"

CHASSIS:	11 GA - rectangular tube, 7 GA reinforcement
SEAT:	Designed for operator comfort with padded back & arm rests. Seat is adjustable fore & aft. Mounted on operator suspension system.
MOWER DECK:	2 decks are available. Both decks are made of 10 GA fabricated welded construction with 1/4" reinforcement plate. 3 blades combine for either a 60" or 72" cut width. Deep deck with discharge tunnel. Cut height approximately 1.5" to 6" via 10 position lift handle.
BLADE DRIVE:	"V" Belt with Electric clutch
DRIVE SYSTEM:	Each rear wheel is independently driven by a Parker pump and wheel motor.
ENGINE:	27HP Kohler or Kawasaki Twin, Liquid Cooled 4-Cycle, V-Configuration, Overhead Valve, Gasoline, Horizontal Shaft, Aluminum Head and Crankcase with Cast Iron Liners, Full Pressure Lubrication/Full Flow Filter, Fixed Jet Carburetor, Electronic Ignition, In-Line Fuel Filter, Heavy Duty Canister Air Cleaner.
STARTING SYSTEM:	Electric by key switch operation with safety interlocks on parking brake, blade drive clutch and control levers.
TIRES:	Front 13-6.5x6 Rear 24-12x12
RECOMMENDED TIRE PRESSURE:	Front 16-20 lbs. Rear 8-14 lbs.
CAPACITIES:	Fuel - 11 gallons (approx) Hydrostat oil system - 4 quart with in-line 25 micron filter Hydrostat oil recommendation - Dixon Blue™ 15W50 Synthetic Hydrostatic Fluid Engine - 2 quart. SAE 10W30 motor oil
DIMENSIONS:	Width 73.5"(60" Deck), 85.5"(72" Deck) Height 54" Length 87" Weight 1020 lbs.(60" Deck), 1054 lbs.(72" Deck)

Additional information may be provided elsewhere in this manual.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

CONTROLS

CONTROL LEVERS

Note: For access to the seat, move control levers to neutral position and swing them outward.

TO GO FORWARD

- From neutral position, gently push control levers forward.
- To increase speed, move levers further forward.

TO GO BACKWARDS

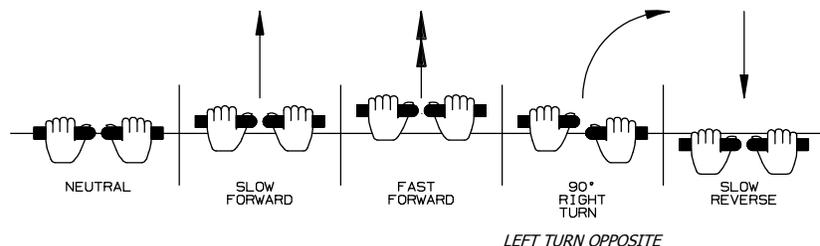
- From neutral position, gently pull control levers toward you.

TURNING

- Turning is controlled by moving one control lever slightly forward or rearward of the other.
- To turn left, move left lever rearward of the right lever.
- To turn right, move right lever rearward of the left lever.
- To turn on mower's own axis (zero turning radius), stop and move one lever to reverse position and the other to forward position.

BRAKING

- To brake mower, move both levers in direction opposite of travel.



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

CONTROLS

PARKING BRAKE:

A parking brake is located to the left of the seat.

The engine will kill if control levers are not in the outboard position when the parking brake is engaged.

To engage brake: pull up and back
To disengage brake: push forward and down

Note: The parking brake is not intended to be used as a service brake.

Note: Always set parking brake before dismounting.
Release the parking brake before moving mower.

Note: Engage parking brake before starting engine.

MOWER DECK CUT HEIGHT LIFT LEVER:

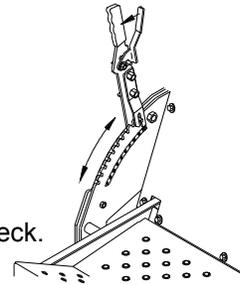
Located to the right and front of the operator.

Controls the cutting height.

Ten positions of adjustment.

Depress trigger and move lever forward to lower deck.

Depress trigger and pull lever back to raise deck.



Select cut height & insert pin into first hole below the lift lever.
Ten holes are provided for a down stop so you can easily return from transport to desired cut height.

SEAT:

Fore & Aft: Move lever, slide seat fore & aft to desired position, release.

CONTROLS

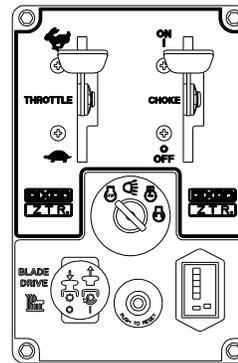
MOWER BLADE SWITCH:

To engage blades: pull up on switch
To disengage blades: push down

IGNITION SWITCH:

- Turn to start position to crank engine.
Release when it starts.
- For headlights - rotate switch one notch counter-clockwise from run.

Note: Remove key when mower is not in use.



CHOKE CONTROL LEVER:

- Located on the control panel to the operator's right.

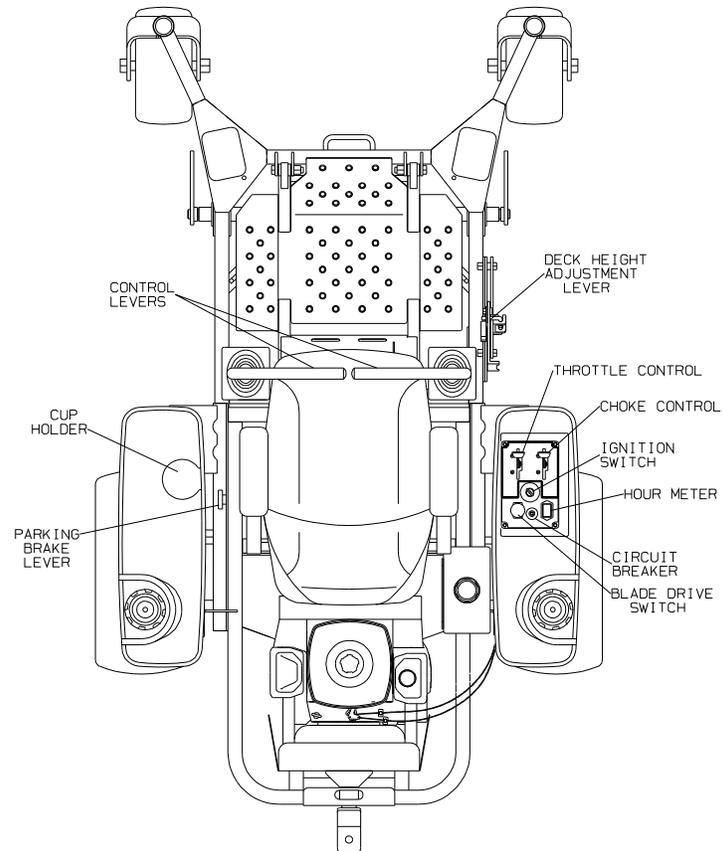
THROTTLE CONTROL LEVER:

- Located on control panel to operator's right.
- Controls engine speed.
- While mowing, throttle control should be set to MAXIMUM or wide open setting to insure adequate cooling of the engine and to maintain mower deck blade speed.

CIRCUIT BREAKER:

- If circuit breaker pops up, it disconnects the power. Wait 2 minutes and push to reset.
- If it pops up again, there is a short circuit. Stop and find fault or contact your dealer.

CONTROLS



OPERATION INSTRUCTIONS

The safe and successful operation of the SilverTip™ will depend upon the operator having the correct knowledge of all controls used on the mower and making good judgements about the terrain to be mowed.

NEVER allow anyone to operate the mower without complete knowledge of all controls and their functions.

NEVER dismount mower without applying parking brake or stopping engine.

During initial operation, “learning to drive”, set throttle at slow speed.

Sound judgement by the operator will prevent accidents.

BEFORE OPERATING MOWER:

1. Read engine manufacturer’s operating and maintenance instructions.
2. Read and observe all safety instructions on your mower and in the manual.
3. Check engine oil.
4. Check fuel cap to be sure it is in place.
5. Be sure parking brake is on.
6. Be sure mower blade drive is off.
7. Know how to stop engine. (Turn key to off position).

OPERATION INSTRUCTIONS

TOWING TRAILERS AND OTHER ATTACHMENTS:

Towing a trailer or other attachment that is too heavy could damage the drive or cause the mower to become unstable. Limit loads to 500 pounds or less with this mower.

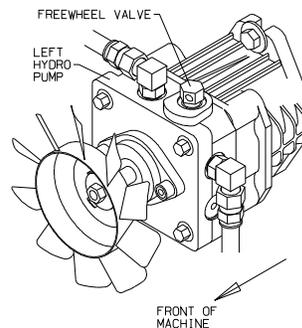
TO FREE WHEEL MACHINE (UNLOCK TRANSMISSION):

Always turn off engine before engaging or disengaging the hydro release (free wheel) valves. Never attempt to move the valves with the engine running.

The hydro release valves are located beneath the seat on the top of the hydro pumps on each side of the machine. To unlock the transmission, lift the seat, rotate the transmission hex valve located on the top of each transmission approximately two full turns counter-clockwise.

To re-engage the transmission, rotate each transmission hex valve clockwise to the end of its travel. Return the seat to the operating position.

Note: Before pushing or towing the tractor, the transmission must be unlocked and the parking brake released. The tractor should never be pulled more than two miles per hour or for any appreciable distance.



OPERATION INSTRUCTIONS

STARTING INSTRUCTIONS:

1. Operator must be seated in normal operating position.
2. Set parking brake.
3. Move control levers to outboard position.
4. Assure blade clutch is off.
5. Push throttle control lever to 1/2 setting.
6. Push choke control lever forward.

*If engine is warm, turn choke off immediately after engine starts.

*If engine is cold, slowly move choke to off as the engine warms up.

7. Insert Ignition key and turn to start position. When engine starts, release ignition key. Key will return to "run" position.
8. Move throttle control lever to the wide open or maximum setting for actual operation of the mower deck. Engine must be operated at wide open or maximum setting to insure adequate lubrication, cooling and cut quality of the mower deck.



CAUTION Do not operate the engine in an enclosed area due to the harmful exhaust gas produced.

OPERATION INSTRUCTIONS

MOWING INSTRUCTIONS:



CAUTION Be sure that deflector is properly installed on the discharge chute.

1. Start engine and set throttle at full speed.
2. Set desired cut height.
3. Release park brake.



CAUTION Check the area to assure there is no one near.

4. Engage mower blades.
5. Move control levers in and operate per the control instructions on Page 18.

STOPPING INSTRUCTIONS:

1. Turn mower blades off.
2. Move control levers to outboard position.
3. Set parking brake.
4. Move throttle control to slow. Allow engine to run a short time to cool down then turn ignition key to "OFF" and remove key.

OPERATION INSTRUCTIONS



TESTING OF SAFETY INTERLOCK SYSTEMS:

Do not operate mower if safety switches are not operating properly.

Your Zero Turning Radius Mower is equipped with control interlocks for your safety.

1. The engine will not start if the mower blades are engaged.
2. The engine will not start unless the steering control levers are neutral "OUT" position.
3. The engine will stop if the mower blade clutch is engaged and the operator leaves the driver's seat.
4. The engine will stop if the park brake is ON and the steering control levers are moved to the "IN" position.

OPERATION INSTRUCTIONS



INTERLOCK SWITCH TEST

Note: *Operator must be seated in normal operating position to perform these tests.*

1. With engine off, turn mower blade on and attempt to start engine.

ENGINE SHOULD NOT START.

2. With engine off, move control levers in and attempt to start engine.

ENGINE SHOULD NOT START.

3. In a SAFE AREA, away from bystanders, start the engine, place throttle setting at maximum or full. Engage the blade drive through the electric clutch switch. Raise slightly off of seat.

ENGINE SHOULD STOP!

4. With engine running, set parking brake and move levers inboard.

ENGINE SHOULD STOP!

If any safety check fails, do not operate the mower until the system has been checked and repaired by an authorized Dixon® ZTR® dealer.

OPERATION INSTRUCTIONS

MOWING WITH A MULCHING ATTACHMENT:

Mulching or recycling the grass clippings requires a totally different mowing approach than would be normal when side discharging or bagging the grass. There may be instances or conditions where it is not possible to hide all the recycled or mulched clippings.

In order to achieve the best results, please read and follow the mulching tips listed below:

1. Read and follow the installation instructions that are included with your mulcher.
2. Set the engine speed control to the wide open or full setting.
3. Place the mower deck cut height selector in either the top or second notch. Never cut more than 3/4" to 1" off the grass at any one time. Attempting to cut more grass will result in the deck plugging and cause the engine to stall.
4. It may be necessary to cut the lawn twice to achieve acceptable mulching performance especially on first cuttings or if the lawn is heavily fertilized.
5. *Do not attempt to cut grass when it is wet.* Mulching performance will be very poor in wet grass conditions.
6. *Maintain sharp blades throughout the cutting season.* This is very important. Optimal mulching performance cannot be obtained with a dull or nicked up blade.

OPERATION INSTRUCTIONS

MOWING WITH A MULCHING ATTACHMENT (continued):

7. *Keep the underside of the mower deck clean.*
Remove all grass and dirt build-up from the underside of the pan, the baffles and deflectors after each use. **Never, under any circumstances, should you place hands or feet under the mower deck or in the chute while blades or impeller are still turning.**
8. Alternate mower direction. This will evenly disperse the mulched grass clippings over the lawn for even fertilization.

If the mulching quality of the mower does not seem to be satisfactory, try one or more of the following tips:

- a. Raise the height-of-cut setting on your mower.
- b. It may be necessary to cut your grass more frequently.
- c. Operate the mower at a slower ground speed.
- d. Overlap cutting swaths instead of cutting a full swath with each pass.
- e. Mow across the marginal areas a second time.
- f. CUT HIGH - MOW OFTEN!

OPERATION INSTRUCTIONS

SIDE DISCHARGE OF THE CLIPPINGS:

In order to achieve optimum performance when side discharging the grass clippings, please read and follow the tips listed below. Additional information can be found in the Troubleshooting guide.



CAUTION To avoid personal injury, be sure that the deflector is properly installed on the discharge chute.

1. Set engine speed control to the wide open or full setting.
2. *Do not attempt to cut grass when it is wet.* Wet grass will clog the underside of the deck and discharge area.
3. If the grass is tall, place the mower deck cut height lever in the top or second notch. “Initially” overlap cutting swaths instead of a full swath with each pass. Some applications may require a second cutting.
4. *Keep the underside of the mower deck clean.* Frequent removal of dried grass and dirt will allow the clippings to discharge correctly. **Never, under any circumstances, should you place hands or feet under the mower deck or in the chute while blades or impeller are still turning.**
5. *Maintain sharp blade(s) throughout the cutting season.*

OPERATION INSTRUCTIONS

GRASS HEIGHT & CUTTING SUGGESTIONS:

Do not attempt to cut grass when it is wet.

If the grass is tall, place the mower deck cut height lever in the top or second notch. "Initially" overlap cutting swaths instead of a full swath with each pass. Some applications may require a second cutting.

Keep the underside of the mower deck clean.

Maintain sharp blades throughout the cutting season.

As a rule of thumb, never cut off more than 1/3 of the total grass blade length. Correct mowing height can reduce weeds and disease by 50% to 80%.

The following grass cut heights are based on adequate moisture conditions and normal thatch build-up in a healthy lawn. Some locations and applications may require slightly different cut heights. If in doubt, consult your local lawn professional for assistance.

<u>Grass Types</u>	<u>Best Cut Heights</u>
Bermudagrass	1 - 2"
Bluegrass	2 - 3"
Buffalograss	1 ^{1/2} - 3"
Ryegrass	2 - 3"
Tall Fescue	3-3 ^{1/2} "
Zoysiagrass	1 - 3"

OPERATION INSTRUCTIONS

TO LIFT SEAT:

To lift the seat, move the control levers to the neutral "OUT" position. Release the seat latch and rotate the counterbalanced seat support frame upward and forward.

To return the seat to the operating position, push the counterbalance seat frame support rearward and down until it rests firmly on the tractor frame.

SPRINGS:

Three seat springs are provided. The center spring may be removed for a softer ride.

TIRES:

Correct tire pressure is essential for efficient operation of the mower. Check tire pressure periodically. Inflate tires to the pressure listed below.

Front tires	13 x 6.50 - 6	16-21 lbs.
Rear tires	24 x 12.0 - 12	8-14 lbs.

Lug nuts or lug bolts should be checked regularly for tightness.

CARE AND MAINTENANCE

WARNING

Failure to observe the following instructions may result in personal injury.

*Before performing any maintenance, turn off engine,
allow to cool & remove key.
Use extreme care when working on machinery.
Do not wear watch or jewelry.
Do not wear loose fitting clothes, and observe all
common safety practices with tools.*

MAINTENANCE SCHEDULE

- Check deck drive belt tension adjustment.....after 5 hours break-in
(adjust spring tension to 7 to 7-1/2 inside to inside spring hook dimension.
Check belt tension periodically. Make adjustments as necessary)
- Check deck serpentine belt.....after 20 hours break-in
(adjust bumper to approximately 1/2" thick)
- Check crankcase oil level.....before each use
- Clean grass from hydrostat fans and radiator screen.....before each use
- Clean grass & debris from muffler & manifold area.....before each use
- Check air intake screen.....after each use
- Clean grass under deck.....after each use
- Check tire pressure.....every 10 hours
- Inspect mower blades for sharpness.....every 10 hours
- Clean air filter element.....every 25 hours
- Check hydrostatic transmission fluid.....every 25 hours
- Grease all zerks.....every 50 hours
- Check drive and fan belt.....every 50 hours
- Replace air filter element.....annually or every 100 hours
- Check spark plugs.....annually or every 100 hours
- Change engine oil filter.....every 100 hours
- Change engine crankcase oil.....(5 hours break-in) every 100 hours
- Change hydrostat oil & oil filter.....(100 hours break-in) every 500 hours

CARE AND MAINTENANCE



CAUTION

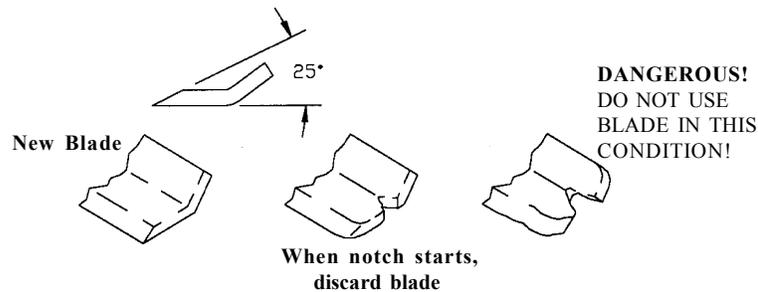
Stop engine and remove ignition key for safety. Wear heavy, thick gloves when holding onto cutter blade, avoid the sharp edge of the blade.

MOWER BLADES:

Check sharpness of mower blades after every 10 hours of operation. To sharpen blades, proceed as follows.

1. Remove bolt and flat washer mounting blade on shaft. Remove blade.
2. Blades should be discarded when worn excessively.
3. Sharpen blade with a hand file, electric grinder or blade sharpener. Wear gloves and eye protection when sharpening. Grind blade at original 25 degree bevel.
4. Check balance of blade by positioning the blade on a nail or blade balance pedestal. Grind the blade on the end that is heavier until both sides balance.
5. Install blade, flat washer & bolt. Make sure to tighten bolt to 60 ft. lbs.

Blades should be discarded when worn excessively.



CARE AND MAINTENANCE

ENGINE:

For complete maintenance and operating information of the engine, please refer to the maintenance instructions furnished by the engine manufacturer and included in your Zero Turn Radius mower information packet.

Note: Air intake screen must be kept clean. If plugged, engine may be seriously damaged by overheating.

BATTERY:

This is a maintenance-free battery and the fluid level cannot be checked.

OFF SEASON BATTERY STORAGE:

DO NOT remove battery from mower.

Clean top of battery and terminals with baking soda and water.

Identify each cable so they can be reconnected to the correct terminal.

Disconnect cables from terminals. ALWAYS disconnect ground cable first and reconnect last.

Charge battery.

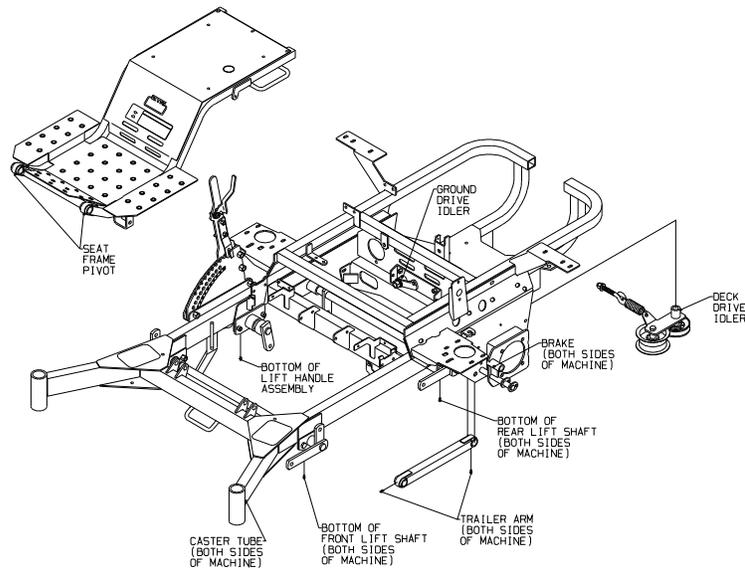
CARE AND MAINTENANCE

LUBRICATION:

ENGINE: Follow engine manufacturer's recommendation.

DECK SPINDLES: Lubricate with 3 "shots" only, every 100 hours.

MOWER CHASSIS: Lubricate with 3 "shots" only, every 50 hours (see zerk locations below).



CARE AND MAINTENANCE

BELTS:

Check belts every 50 hours. Replace any belts found to be in poor condition.

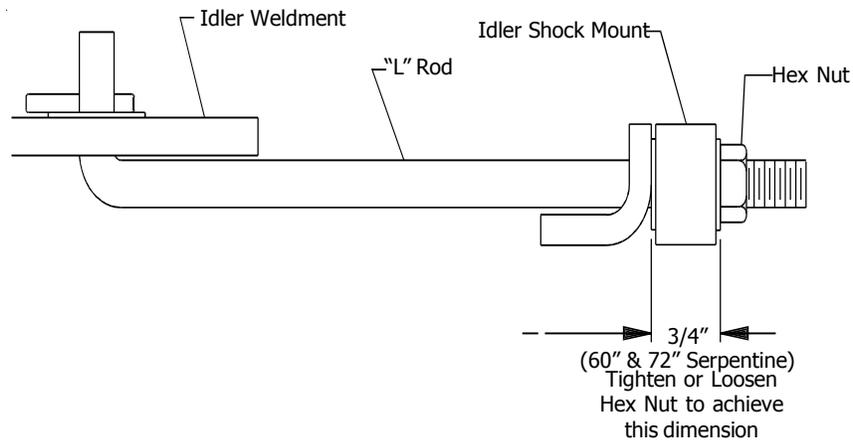
BELT TENSION:

Mower Deck Serpentine Belt

P/N 9758 (60") 12033 (72")

Manual adjustment.

Refer to illustration for adjustment procedure.



Engine to Mower Deck Belt

12807 (60" & 72")

The engine to mower deck drive belts are automatically held in proper tension by springs which push the deck assembly forward and do not require any additional adjustment to be made.

Note: Belt deflection or movement should be approximately 1/4" when measured at mid-point between pulleys. Periodically inspect both belt and idler systems.

CARE AND MAINTENANCE

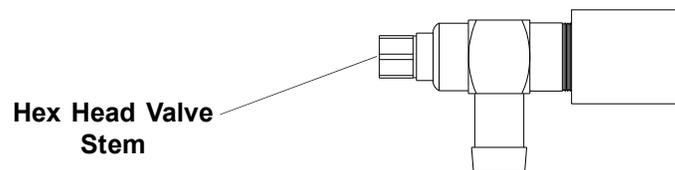


CAUTION HOT oil may cause burns. Allow engine to cool before draining oil.

CHANGING THE ENGINE OIL:

1. The “Dapco” oil drain valve is located on either side of the engine crankcase (depending on the type of engine installed on your ZTR®).
2. Place a suitable container under the drain valve hose.
3. To drain, turn hex head valve stem counter-clockwise with a 10mm wrench or socket. Open to full open (approximately 7 turns).
4. After engine is drained, tighten hex stem.
5. Change oil filter.
6. Fill with oil (see steps on next page).

NOTE: Refer to engine manufacturer’s recommendations for frequency of oil changes.



CARE AND MAINTENANCE



CAUTION

HOT oil may cause burns. Allow engine to cool before draining oil.

OIL FILL:

1. Clean any spilled oil from engine and chassis.
2. Refill engine with type, and quantity of oil recommended by the engine manufacturer in engine literature.

NOTE: Engine oil changes on the SilverTip™ will require replacement of the oil filter. These filters may be available from your local Dixon® Dealer.

OIL FILTERS:

1. Replace filter each time the oil is changed.
2. Oil Filters can be obtained from your authorized engine dealer.
3. The use of any other oil filter may cause damage to the engine.

*PLEASE DISPOSE OF USED OILS AT PROPER COLLECTION CENTERS.
PROTECT YOUR ENVIRONMENT.*

CARE AND MAINTENANCE

HYDROSTATIC TRANSMISSION FLUID & FILTER SERVICE:

Dirt or water in fluid can ruin the hydrostatic transmissions.

SERVICE INTERVALS:

1. Initial filter service - 100 hours
2. Every 500 hours or once a year thereafter.

RECOMMENDED FLUID:

All temperatures -

Dixon Blue™ 15W-50 Synthetic Hydrostatic Fluid

~or if not available~

Normal Operating Temperatures - 20W50 **ENGINE OIL**

Cold climate usage - 10W40 **ENGINE OIL**

Use engine oil with an API classification of SG/CD.

Dixon Blue™ 15W-50 Synthetic Hydrostatic Fluid is specifically formulated to provide excellent all-climate performance and extended time between oil changes.

FLUID FILTER: P/N 18045 - IMPORTANT

The fluid filter is a special design for use on
“vacuum or suction” oil flow systems.

DO NOT: Use automotive engine oil filters. These filters require a “pressure” to allow oil flow. Usage will result in an “air-lock” condition with possible damage.

CARE AND MAINTENANCE

HYDROSTAT FLUID MAINTENANCE PROCEDURE:

Check the fluid level in hydrostatic transmission fluid reservoir after every 25 hours of usage. Clean the fluid reservoir cap and the area around it prior to removal. Check the fluid level. Fluid should be approximately 1/4" below top of fluid tank baffle. Replenish as needed with **Dixon Blue™ 15W-50 Synthetic Hydrostatic Fluid**. DO NOT OVERFILL. When checking the fluid level, be very careful to keep the reservoir clean.

Change the fluid in the reservoir and hydrostatic transmission fluid filter after the first 100 hours of use, then every 500 hours after that. Remove the filter and be sure all fluid has drained from the reservoir. Replace with a new OEM filter (P/N 18045) and **Dixon Blue™ 15W-50 Synthetic Hydrostatic Fluid**.

 CAUTION: **Dixon Blue™** is only compatible with standard 20W-50 motor oil or similar synthetic motor oils.

DO NOT USE OR ADD STANDARD (RED) HYDRAULIC/ TRANSMISSION OIL IN YOUR DIXON HYDROSTATIC DRIVE. DAMAGE TO THE DRIVE COMPONENTS MAY OCCUR. USE ONLY APPROVED **DIXON BLUE™ 15W-50 SYNTHETIC HYDROSTATIC FLUID** OR 20W-50 TYPE ENGINE OIL.

CARE AND MAINTENANCE

HYDROSTATIC PUMPS:

Before each use, check to be sure that the cooling fins of the hydrostatic pumps are clean. Excessive accumulation of oil, dirt, or trash may cause the pumps to overheat. NEVER WASH ACROSS TOP OF RESERVOIR WITH WATER OR STEAM. Fill reservoir as required per the maintenance schedule listed in this book.

HYDROSTAT DRIVE BELT REPLACEMENT PROCEDURE:

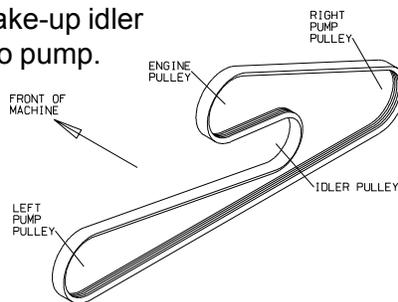
To remove hydrostat pump drive belt:

(The hydrostat pump drive is equipped with a spring loaded belt take-up).

1. Raise seat.
2. Remove hold down bolts from belt cover. Remove belt cover.
3. Rotate the spring loaded take-up idler towards the left hand hydro pump to provide belt slack for removal.
4. Remove belt.

To install hydrostat pump drive belt:

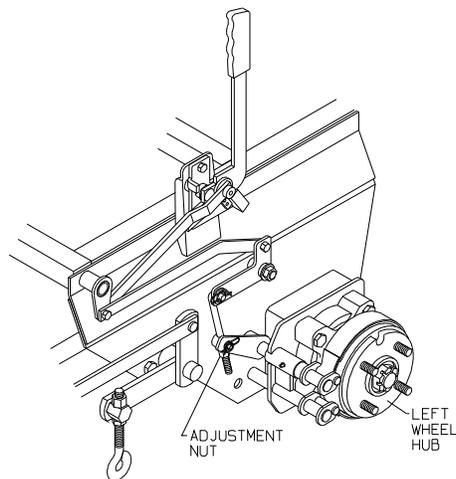
1. Rotate the spring loaded take-up idler towards the left hand hydro pump.
2. Install belt per diagram.
3. Re-attach belt cover.
4. Return the seat to the operating position.



CARE AND MAINTENANCE

PARKING BRAKE ADJUSTMENT

1. Raise rear of machine.
2. Remove tire and wheel assembly.
3. Adjust the 3/8" adjustment nut clockwise to increase and counter-clockwise to decrease brake holding power. As the brake holding power is increased, the force required on the handle to engage the brake increases.
4. Set the brake for the holding power required for the intended use and the desired force required to activate it.
5. Install wheel & tire assembly.
6. Repeat steps 2-5 for opposite side.



CARE AND MAINTENANCE

HEADLIGHT ADJUSTMENT

1. Loosen the 1/2" retaining nut underneath the headlight and slide the headlight forward out of the recessed area of the fuel tank.
2. Loosen the 1/2" nut on the "U" shaped holding bracket and swivel the headlight vertically to adjust the height of the beam. Tighten the bracket nut.
3. Replace headlight into recessed area of the fuel tank.
4. Swivel the headlight horizontally to illuminate the desired area and tighten the headlight retaining nut.

CARE AND MAINTENANCE

STEERING CONTROL ADJUSTMENTS:

To adjust neutral:

1. Lift seat.
2. Block up the unit so that the drive wheels are off the ground.
3. Loosen ball joint jam nuts on control rod.
Note: The front jam nuts are left hand threads.
4. With steering control arms in the "out" neutral position, start the engine and run at fast idle.
5. Adjust the neutral position by turning the control rod until the wheels do not rotate.
6. Re-tighten the jam nuts on the control rod and check to see that the drive wheels are not turning.
7. Repeat steps 3-6 for the other side.
8. Shut off engine before removing the blocks.
9. Return the seat to the operating position.

To adjust neutral springs:

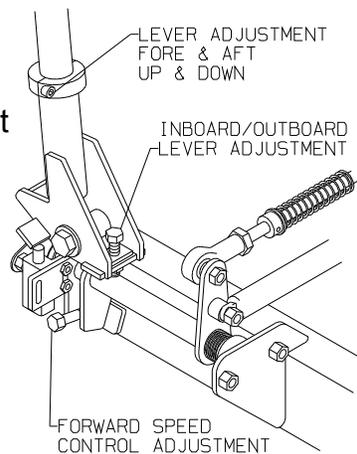
1. Loosen set screws of front and rear spring stop collars located on the control rods. (Requires a 1/8" Allen wrench).
2. Move control handle full forward.
3. Move front spring stop collar rearward until it compresses spring approximately 1/16" and tighten collar set screw.
4. Move control handle full rearward.
5. Move rear spring stop collar forward until it compresses spring approximately 1/16" and tighten collar set screw.
6. Repeat steps 1-5 for opposite side.

CARE AND MAINTENANCE

STEERING CONTROL ADJUSTMENTS (continued):

To adjust steering control levers:

1. Loosen the front and rear bolts retaining the bellows hold down plate and slide the bellows and plate up the steering lever to expose the steering control mechanism.
2. Move the levers inboard to the operating position.
3. Loosen the set screw of the clamp collars which lock the upper arms to the lower arms.
4. Raise or lower the arms for desired height. There is approximately 3" of height adjustment available. Upper shaft should have a minimum of 1-1/2" engagement in lower shaft.
5. Rotate arms until they have the desired orientation front to back.
6. Tighten the clamp collar set screws.



CARE AND MAINTENANCE

STEERING CONTROL ADJUSTMENTS (*continued*):

To adjust “In” position of the steering controls

1. Move the levers inboard to the operating position.
2. Adjust the steering lever stops until the steering levers have the desired clearance.

To adjust for straight forward tracking.

1. Drive tractor with both control levers in the full forward position.
2. Stop the machine and shut off the engine.
3. Adjust the forward stop of the control levers on the side which appears to be faster to limit the forward travel of the control levers until the mower tracks in a straight line.

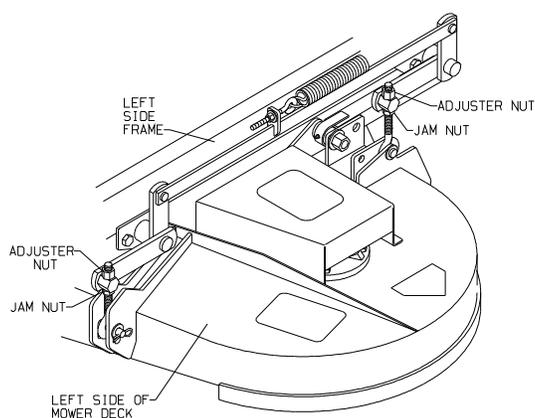
Note: Variations in the turf and tire pressure can cause variations in speed and tracking.

When all alignment adjustments are satisfactory, slide the hold down plate and bellows down the control levers and secure with screws.

CARE AND MAINTENANCE

LEVELING THE DECK:

1. Set the tire pressure on all four tires.
2. Front casters must be rotated in the direction of forward travel.
3. Move the tractor to a hard level surface.
4. Put the mower deck in the number 3 deck height position.
5. Rotate the 2 outer spindles so the blades point outboard.
6. Adjust front hangers to level deck side to side.
7. Rotate all 3 spindles until the blades are fore and aft.
8. Adjust rear hangers until deck is level to 1/4" higher in the rear.



CARE AND MAINTENANCE

ELECTRICAL SYSTEMS:

Keep all connections clean and tight.

CLEANING THE MOWER:

Wash mower periodically. Clean above and below deck.

High pressure washing and alkaline based soaps can cause damage to bearings and other parts of the mower. After washing your mower, start the engine and engage the mower deck for a few minutes to disperse any water that may have accumulated in bearings, pulleys or fans.

Note: Allow mower to cool before washing. If bearings are hot, they will draw moisture inside as they dry and cause corrosion.

SERIAL NUMBERS:

The serial number is located on the rear left of the frame at rear of engine.

WARRANTY:

Refer to warranty information (page 16).

PARTS/SERVICE:

See your Dixon® dealer for replacement parts, warranty or service.

TROUBLESHOOTING

1. ENGINE WON'T TURN OVER

Mower blades engaged-----disengage blades
Drive not in neutral----- move control levers to neutral "OUT"
Circuit breaker trips-----reset breaker
Dead battery-----charge or replace
Solenoid-----consult dealer
Ignition switch-----consult dealer
Starter-----consult dealer
Parking brake not on-----engage parking brake

2. ENGINE WILL TURN OVER BUT WON'T START

No fuel-----refuel and/or clean or replace fuel filters/open fuel valve
Over or under choked-----adjust choke
Spark plug not firing-----check spark plug/condition or reset gap*
Carburetor maladjusted-----consult dealer
Ignition Switch-----consult dealer

3. HARD TO START ENGINE

Fuel line clogged-----clean fuel line/check fuel filter/open fuel valve
Faulty fuel pump-----consult dealer
Spark plug wire loose or grounded-----check spark plug wires
Spark plugs faulty or improperly gapped--check spark plug/condition or reset gap*
Electronic ignition defective-----consult dealer
Dirty or maladjusted carburetor-----consult dealer

4. ENGINE STARTS BUT CUTS OUT

Water in fuel-----drain old fuel-replace with new fuel
Clogged fuel line-----check fuel filter/clean fuel line
Fuel tank vent plugged-----check vent
Faulty fuel pump-----consult dealer
Maladjusted carburetor-----consult dealer
Engine dies when control levers moved "IN"-----release parking brake

5. ENGINE KNOCKS

Low oil level-----check and add oil
Ignition timing off-----consult dealer
Fuel octane too low----- drain & replace with higher octane fuel
Over heated engine-----shut off engine/allow to cool

*See engine manual for engine adjustments

TROUBLESHOOTING

6. ENGINE OVERHEATED

Radiator coolant level-----add coolant mixture
Air intake screen or fins clogged-----clean intake screen and fins
Fuel mixture too lean-----consult dealer
Improper ignition timing-----consult dealer
Oil level too low or too high-----adjust oil level
Running engine too slow-----run engine faster

(NOTE: Always mow at full throttle setting)

7. ENGINE SOMETIMES SKIPS AT HIGHER SPEEDS

Incorrect ignition timing-----consult dealer
Carburetor maladjusted-----consult dealer
Faulty spark plug-----check spark plug or condition and reset gap*

8. ENGINE RUNS BUT MOWER WON'T MOVE FORWARD

Drive belt broken or slipping-----replace drive belt
Pump arm loose or disconnected-----tighten or reconnect
Hydraulic oil system low-----add oil
By-pass valves in free wheel position-----tighten by-pass valves
Hydrostat oil filter plugged-----replace filter
Faulty pump or wheel motor-----consult dealer

9. ENGINE STALLS WHEN BLADES ARE ENGAGED

Operator not on seat-----sit on seat
Faulty interlock system-----consult dealer
Blade spindle bearing failed-----consult dealer
Deck drive belt improperly routed-----reroute
Blades blocked by foreign material-----clean under deck

10. ENGINE BACKFIRES

Carburetor maladjustment-----consult dealer

11. ENGINE IDLES POORLY

Carburetor maladjustment-----consult dealer
Improper spark plug gap-----check and re-gap plug*

STANDARD SERVICE PARTS LIST

SilverTip™ ZTR®

Blades (60")	Hi-Lift Fusion	P/N 13922
	Super Hi-Lift Fusion	P/N 13870
	Standard Lift Fusion	P/N 13958
	Gator Mag Fusion	P/N 13960
	Standard Lift	P/N 13957
	Hi-Lift	P/N 13956
Blades (72")	Hi-Lift Fusion	P/N 13923
	Super Hi-Lift Fusion	P/N 13871
	Standard Lift Fusion	P/N 13963
	Gator Fusion	P/N 13998
	Standard Lift	P/N 13962
	Hi-Lift	P/N 13961
Engine to Mower Deck Belt		P/N 12807
Serpentine Belt (60")		P/N 9758
Serpentine Belt (72")		P/N 12033
Engine to Hydro Belt		P/N 12012
Hydrostatic Transmission Filter		P/N 18045

Air and Oil Filter

Refer to engine manufacturer's manual for recommendations regarding frequency of service required for engine oil changes and air filter maintenance.

Protect your engine investment, use only original equipment filters. Ask your Dixon® Dealer for assistance.

IMPORTANT:

Some applications, extreme dirt conditions, or the use of a grass catcher may require that the engine used on the SilverTip™ ZTR® be fitted with an optional fresh air filter system. Check with your engine service center for availability.

NOTES

NOTES



OWNER'S INFORMATION

Date of Purchase _____

Mower Model Number _____

Mower Serial Number _____

Purchased From _____

Name

Address

DATE OIL CHANGED

DATE ENGINE TUNED

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DIXON® ZTR®

Dixon® and ZTR® are registered trademarks of
Dixon Industries, Inc.



WARNING:

The engine exhaust from this product contains
chemicals known to the State of California to cause
cancer, birth defects or other reproductive harm.

DIXON INDUSTRIES, INC.
P.O. Box 1569
Coffeyville, Ks 67337-0945
620-251-2000

SilverTip™
Part No. 12881-106