

# Fuel

## Fuel Types & Fueling Procedures/Spills/Safety Considerations

### Use the Right Type of Fuel

Different pieces of equipment use different types of fuel. Make sure that you use the right fuel for your ZRT mower. To help you distinguish between fuel types, it is recommended that you use different types of approved fuel containers.



### Refueling

Always start the day with a full tank of fuel, then refuel as needed. Try to refuel between accounts to allow the engine to cool, and to refuel on the trailer. However, if you need to refuel in the middle of a job follow this fueling procedure:

- Shut the engine down and wait for the engine to cool.
- Place the mower on level concrete or other hard surface. NEVER FUEL ON ASPHALT, TURF, OR BED AREAS!
- Use a funnel and make frequent visual checks to prevent overfilling; avoid spilling fuel on the concrete. If fuel is spilled, clean it up immediately.
- After fueling, to avoid a fire hazard, move at least ten feet away from the fueling point before starting your engine.

### Spills

Do your best to avoid spills! If you do spill fuel, clean it up immediately! You and your company are responsible for property damage. If damage does occur that you cannot correct immediately, notify your Supervisor, who will schedule repair or clean up.

**Avoid running out of fuel. This could cause the engine to stall and quit and is hard on the equipment!**



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## Warning!

**DO NOT REFUEL with the engine running.**

**DO NOT REFUEL a hot engine.**

**DO NOT SMOKE while fueling or operating a mower.**

**DO NOT SET FUEL CONTAINERS on turf or bed areas.**

**DO NOT REFUEL on turf or bed areas.**

**DO NOT STORE FUEL for extended periods of time. Keep your fuel fresh by replacing it every thirty days.**

# Site Inspection

## Debris/Hazards & Obstacles/Insects & Poisonous Plants

### Inspect Work Area

Being aware of your surroundings while you work increases productivity and safety, and is the mark of a professional. Before operating your ZRT mower, always inspect the work area.

- Look for hidden hazards—rocks and stones and debris such as broken glass, bottles, wires, etc. become flying projectiles when struck by the mower blade and can cause property damage or severe injuries to the operator or bystanders.
- Insects such as bees and ants, and plants such as poison ivy or poison oak can also be serious threats to your safety as well as the safety of your co-workers and bystanders.

### Potential hazards

Potential hazards arise when the operator is not aware of the conditions of the site, the way the equipment operates or when the operator is not paying attention. The ZRT is capable of damaging trees, shrubs, or other landscape features if not operated correctly. This means seeing the obstacle or problem beforehand and making adjustments to the mowing pattern or direction before a problem occurs.

### ALWAYS . . .

- Be alert for people approaching the immediate work area. Throttle down equipment until area is clear.
- Disengage the mower blades when crossing graveled or rough areas.
- Keep the mower attachments and tires from rubbing against buildings.



**Running your ZRT over a patch of poison ivy is not a good way to impress colleagues and make new friends. And while the ZRT is fast, it will not outrun angry bees!**



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**You and your company are responsible for any damage to your customer's property.** Should you accidentally cause property damage that you cannot correct immediately, report it to your Supervisor so that corrective actions can be taken!

**People or pets in your work area means that you delay your start-up until the area is clear.** And if at any time someone approaches you while working, shut down the equipment until the area is clear.

# Starting & Stopping

## Cold start-up/Warm start-up

Starting procedures for ZRT mowers vary from model to model. **Do not operate your ZRT without first reading and understanding your Operator's Manual!**

### Cold Starting Procedures

Always start with a full tank of fuel.

**Important:** You must be seated on the ZRT before you begin starting procedures.

- Engage the brake and put the blade engagement switch in the "DISENGAGED" position.
- Place the throttle midway between the "SLOW" and "FAST" positions and pull the choke to the "ON" position.
- Turn the ignition switch to the "START" position. Release the switch as soon as the engine starts.

After starting a cold engine, and as the engine warms up, gradually return the choke to the "OFF" position.

### Warm Engine Starting Procedures

Follow Cold Engine Starting procedures, but:

- Position the throttle midway between the "SLOW" and "FAST" positions and place the choke in the "OFF" position.
- Turn the ignition switch to the "START" position. Release the switch as soon as the engine starts.

### IMPORTANT!

DO NOT crank the engine continuously for more than five to ten seconds at a time.

If the engine does not start, allow a thirty-second cool-down period between starting attempts. Failure to do this can burn out the starter.

### Engaging the Electric Blade Clutch

The electric blade clutch's push-pull switch engages the cutting blades. Be sure that the area is clear before engaging the cutting blades! You must remain seated before the blades can be engaged.

- Set the throttle to the "MIDWAY" position.
- Pull outward on the switch to the "ON" position.
- Accelerate to "FULL" throttle to begin mowing.

### To Stop the Blade Clutch

- Push in the switch to the "OFF" position and wait for the blades to stop.

### To Stop the Engine

- Bring the ZRT to a full stop and disengage the cutting blades.
- Move the motion control levers out to the "NEUTRAL" position.
- Set the parking brake and move the throttle to the "SLOW" position.
- Turn the ignition switch to the "OFF" position. Remove the key to prevent children or other unauthorized people from starting the engine.
- Close the fuel shut-off valve when the ZRT won't be used for a few days, when transporting, and when it is parked inside a building.

**To prevent fuel leaks, close the fuel shut-off valve before storing or transporting the ZRT.**



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# Property Damage

## Windows & Walls, Cars, Irrigation Systems, Signs, etc.

### Protecting Property from Damage is Top Priority

Avoid hitting or rubbing the mower or its tires on buildings, cars, signs, trees, or other landscape features or property.

Rocks, stumps, or debris, like broken glass, bottles, or wire can be flung in any direction at speeds up to 200 mph! They can cause serious property damage, not to mention serious injury to you or a bystander.

A steep side slope with freshly irrigated turf along a parking lot can spell disaster if the ZRT mower slides down the slope and into a vehicle, tree, shrubbery, or other landscape feature.

Always use extreme care when mowing on hillsides and slopes! **For any riding type of mower, always mow up and down slopes that exceed fifteen degrees.** If your property has large hillsides, suggest planting ground cover. Never mow steep slopes!

Take special care when crossing steel edging or other objects in the landscape . . . including some turf areas . . . to prevent compacting, compression, or bending. Find a different route into your turf areas, if possible.

### To be on the safe side:

- Always direct the side chute away from buildings, windows, cars, or signs—and always away from people!
- Do not run over objects such as cans, stones, or stumps.
- Always turn your ZRT slowly to avoid personal injury as well as property damage.
- Wheel spins and too-quick turns are the

mark of an amateur . . . and the scars and ripped-up turf can turn a good project into a job-killing fiasco!

### The Bottom Line

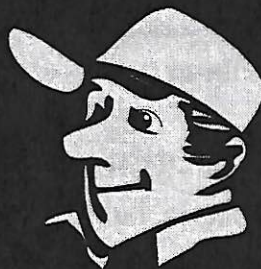
Customers have different ideas as to what constitutes damage. For some, dust and debris left on the project site could be considered “damage.”

Before leaving the job site, inspect the finished project. Make sure that dust and debris generated by the mower

have been cleaned up. The quality of the finished project, and your customer’s opinion of your work, depends on your attention to detail.

**Property damage is not only possible, it’s almost inevitable when you are not paying attention;** are not aware of the conditions of your site; and do not fully understand the way your equipment operates. The ZRT mower can damage a tree or landscape feature in a split second . . . and there is usually no way to fix this kind of damage without expensive replacement.

**ALWAYS keep any part of your mower . . . including tires . . . away from easily damaged objects such as buildings, walls, trees, etc. . . . unless you can afford to replace them out of your own pocket!**



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# The Finished Product

## Professional Look/Problems Resolved or Reported

### Professional Finish— Quality Expectations

Professionals always strive to maintain their projects at the highest standards of quality. Here are some specific examples of the approaches they take to meet these high expectations.

- Never mow over debris in order to save time.
- Mow only when the conditions are right. A ZRT mower is heavy enough to leave scars and ruts when the turf is overly saturated.
- Never mow areas that are too small, since repeated mowing in the same manner week after week will only destroy the turf, compact the soil, and leave ruts.
- Always aim the grass discharge chute away from bed areas, parking lots, sidewalks, and people.
- Keep a safe distance from trees and other landscape features.
- Create organized, neat, visually attractive mow patterns. Change cross-mow patterns periodically because it is good for the turf, and provides some change and excitement to the project.

**A ZRT mower with a grass catching attachment** can also do an excellent job of removing clippings on projects that require disposal weekly or projects in which turf grows too rapidly between cuttings.

### Mowing is grooming.

It is imperative to avoid scalping, clumping or clipping, or any practice that leaves an uneven cut. The project should look better when you leave than when you arrived.

**Before leaving the job site, inspect the finished project.** Make sure that the dust and debris generated by the mower have been cleaned up. Any debris not suitable for blowing should be bagged and put on the trailer for disposal.

The quality of the finished project, and your customer's opinion of your work, depends on your attention to detail.



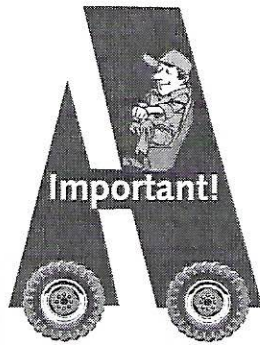
# The Finished Product

## Professional Tips & Techniques

### Professional Techniques

For proper turf health, most ZRT mower operators should incorporate a weekly change in the mowing pattern on the specific turf areas they mow. Not only does this provide for a more aesthetic look to the turf, it also cuts down on the compaction of turf and soil into "wheel ruts." A perimeter cut of 2 to 3 bands easily accommodates the process of "cross mowing." Tree rings and other landscape features should be circled as they occur by at least one band.

- Be alert for any damage you see that was caused earlier and report it to your Supervisor immediately. Should you cause any damage, report it immediately to your Supervisor as well.
- If you missed some debris in your initial inspection, shut down the mower, and pick it up. **DO NOT** mow over debris. The mower will not pick it up—it will only create a mess.
- When bagging is not required, discharge clippings toward previously cut lawn areas.
- NEVER discharge clippings onto cars, sidewalks, or beds.
- And, of course, avoid hitting or rubbing the ZRT or its attachments against cars when mowing near parking areas.



For the best quality cut, follow these procedures—

- Keep your blades sharp.
- Keep the engine running at maximum speed.
- Cut only about 1/3 of the grass blade.
- If long grass has to be cut, use the highest height-of-cut setting for the first mowing, then cut the grass again at a lower setting. If long grass is cut too short, the mower may clog, and this can cause the engine to stall.

### Summary

The ZRT mower is an advanced piece of landscaping equipment. With proper use and care, a ZRT can provide years of efficient, productive service.

# Security

## Safeguarding Equipment and Tools

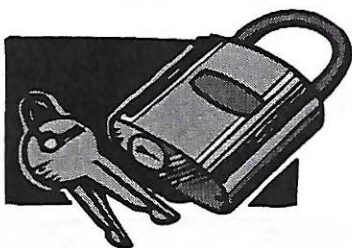
### Security

Because of its size, the ZRT mower is one of the few pieces of maintenance equipment that is not easily stolen from your work site or trailer; however, it can and does happen.

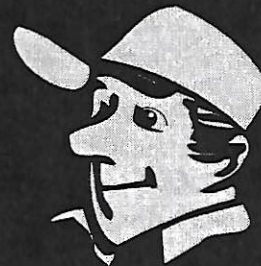
Thieves work quickly, so even if you're going to be away for only a few minutes, and you're going to be out of sight of your machine, you must take positive steps to discourage theft.

Always shut down your ZRT mower and remove the key when leaving the equipment, even if you're just going to be away for a short period of time. If you're going to be gone for a longer period of time, pull the ignition wire from the spark plug. You might also pull the distributor lead if your machine has that kind of ignition. Read your Operator's Manual for details.

It is best to have a designated place on your trailer to secure the mower, as well as other pieces of equipment. This not only helps you prevent theft during the day, it also helps you avoid damage during transport to and from job sites.



**After your project is finished, load your ZRT on the trailer or put it in the shop as soon as possible. It's a good idea to have a designated place on your trailer for the ZRT.**



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# Preventive Maintenance

## Secret to Superior Results

Check with your Supervisor and Operator's Manual to determine appropriate preventive maintenance tasks for your company and model.

Before performing any preventive maintenance procedure, move the ZRT mower to a level concrete surface.

- Always disconnect the spark plug wire prior to servicing.
- Check the oil level. Recheck every 4 hours of operation, and maintain oil at the proper level.
- Lubricate all grease fittings with appropriate grease (see Operator's Manual).
- Check to make sure that all safety guards and devices are in place and in proper working order.
- Check to make sure that all parts, bolts, etc. are in place and properly attached.
- Wearing gloves, check to make sure that the blades are sharp and blade bolts are tight. If you see any dents, cracks, or excess wear, replace the blade.
- Check the fuel level. Fill the fuel tank with the proper fuel. Make sure you start each project with a full tank.
- Check the air filter. Often overlooked, this simple component can make a big difference in a machine's performance, economy, and engine life!
- Check the hydraulic oil, and maintain the proper level.
- Check tire air pressure.

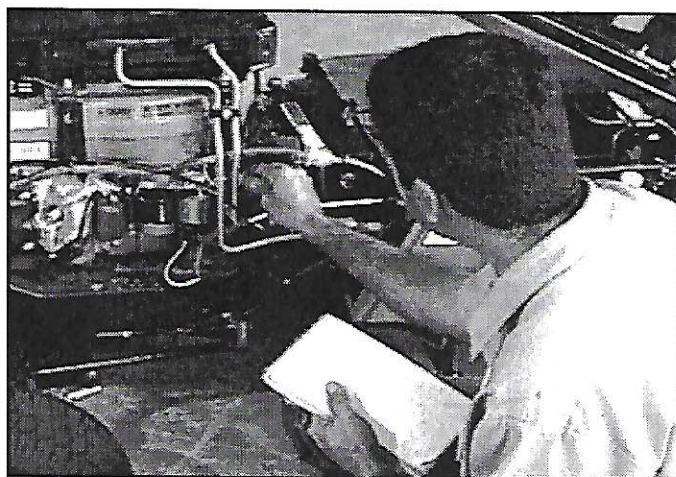
## Clean Up

The ZRT mower has a variety of components that should be cleaned after each work session. All decks should be cleaned daily. Begin by removing any loose debris on or in the mower. The underside of the deck may be power washed and the blades removed for sharpening. Do not use compressed air or a high-pressure washer on the rest of the mower without first checking with your Supervisor or Operator's Manual. These operations could blow or force debris into critically sensitive areas, causing expensive damage.

## Reporting

The key to the operation of any piece of equipment is proper reporting of problems when they arise. Daily reporting can mean the difference between having or not having a mower the next few days. Daily reporting of even minor problems means that they can be corrected immediately, saving time and money.

You should never attempt to operate equipment that is damaged. If there is a problem that you do not understand, talk to your Supervisor. Any equipment that is damaged or inoperative requires the attention of a Mechanic.



# ZRT Mower

## Quick Quiz

This test is designed to help you evaluate your understanding of the safe, efficient, and productive use of the ZRT mower. It consists of 25 statements followed by two or more responses to the statement. Use the accompanying Answer Sheet and circle the response you believe to be correct. Please do not make any marks on the Quiz Sheets. Use the Answer Sheet.

In some cases there may be more than one correct response. For example, the statement may read—

- The following Personal Protective Equipment is required at all times.

and the choices may be—

- A. Ear plugs
- B. Boots with traction soles
- C. Heavy gloves
- D. Protective glasses
- E. Long pants

In this case, you would circle all five responses on your Answer Sheet.

Take your time, and good luck!

**1. If a safety guard or other device comes loose while mowing, replace or fix it**

- A. immediately after you've finished mowing.
- B. the instant you notice that it needs attention.
- C. when your supervisor tells you to fix it.

**2. Pre-start inspections should be performed every time the mower is used.**

- A. True
- B. False

**3. Cross mowing is made easy if you start with**

- A. a full tank of gas.
- B. a perimeter cut of 2 to 3 bands.
- C. a zig-zag pattern.

**4. Mower blades spin at speeds up to**

- A. 50 miles per hour.
- B. 200 miles per hour.
- C. 650 miles per hour.

**5. You should shut off the mower whenever**

- A. you change the blade.
- B. you adjust blade height.
- C. you unclog the grass chute.
- D. a bystander comes over to ask you a question.

**6. ZRT mowers should not be used on slopes greater than 15 degrees.**

- A. True
- B. False

**7. When mowing the face of slopes, always mow up at a 30 degree angle, down at a 45 degree angle.**

- A. True
- B. False

# ZRT Mower

## Quick Quiz (page two)

8. Refuel the engine only when it is cool.

- A. True
- B. False

9. The following protective equipment should be worn at all times:

- A. Eye and ear protection.
- B. Boots with traction soles.
- C. Heavy gloves (when changing blades, etc.).
- D. Dust mask or respirator.
- E. Long pants.

10. You can safely mow over stones if they are no larger than two inches in diameter.

- A. True
- B. False

11. To engage the PTO, run the engine at full throttle.

- A. True
- B. False

12. The following are considered job site hazards:

- A. Copper jewelry.
- B. Bees.
- C. Poison ivy.

13. Your perimeter pass should be

- A. two to three bands.
- B. left to right around trees.

14. For the best quality cut, always

- A. use sharp blades and mow with the engine running at medium speed.
- B. use sharp blades and mow with the engine running at maximum speed.

15. Clippings should be discharged toward

- A. previously cut areas.
- B. uncut areas.

16. Your mowing pattern should be changed

- A. daily.
- B. weekly.
- C. periodically.

17. The deflection chute area can become clogged

- A. when grass is wet.
- B. when grass is cut too short.
- C. if you run over stones.

18. Preventive maintenance must be done on a

- A. weekly basis.
- B. daily basis.
- C. every other time you operate the equipment.

## **ZRT Mower**

### **Quick Quiz (page three)**

19. The hydraulic system is sealed at the factory and never needs to be checked.

- A. True
- B. False

20. Unlike most mowers, when you start the ZRT you must

- A. Stand behind it.
- B. Place one foot on the mower deck.
- C. be seated on the ZRT.

21. When mowing, adjust mowing height to cut about

- A. 3/4 of the grass blade.
- B. 1/2 of the grass blade.
- C. 1/3 of the grass blade.

22. When mowing wet grass, watch out for

- A. a clogged deflection chute.
- B. wheel spins.
- C. mildew under the deck.

23. Preventive maintenance includes checking the

- A. hydraulic system's oil level.
- B. cooling system.
- C. air filter.
- D. seat height.

24. Security procedures include

- A. removing the key when leaving equipment unattended.
- B. loading equipment on a trailer every time you shut it down.
- C. chaining equipment to a nearby tree.

25. Customer Satisfaction is the responsibility of

- A. your Supervisor.
- B. your company.
- C. you.
- D. the equipment manufacturer.

# ZRT Mower Quick Quiz

## Answer Key

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1. A ☒ B C
2. ☒ A B
3. A ☒ B C
4. A ☒ B C
5. ☒ A ☒ B ☒ C ☒ D
6. A ☒ B
7. A ☒ B
8. ☒ A B
9. ☒ A ☒ B ☒ C D ☒ E
10. A ☒ B
11. A ☒ B
12. A ☒ B ☒ C
13. ☒ A B
14. A ☒ B
15. ☒ A B
16. A B ☒ C
17. ☒ A ☒ B C
18. A ☒ B C
19. A ☒ B
20. A B ☒ C
21. A B ☒ C
22. ☒ A B C
23. ☒ A B ☒ C D
24. ☒ A B C
25. ☒ A ☒ B ☒ C D