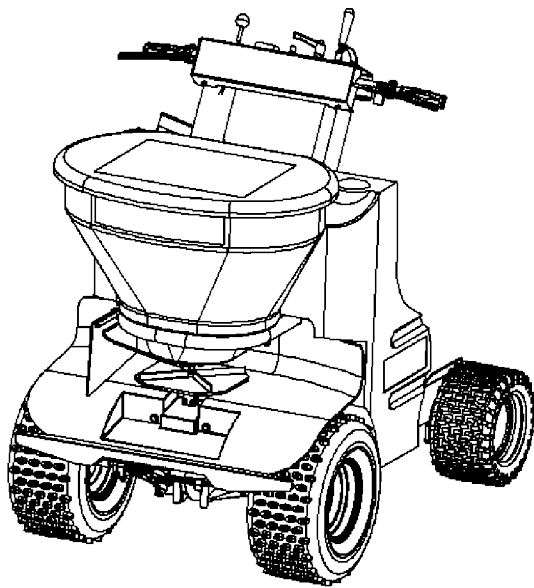


Owner's Manual

THIS MANUAL MUST BE READ BEFORE OPERATING THE EQUIPMENT



TT5000

Serial No. 160201300750TT5000 and higher



CUSTOMER COPY

Madison Heights, Michigan 48071 866-5-TURFEX
www.turfexproducts.com

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Have a question or need assistance?
TurfEx Customer Care 866-5-TURFEX
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Introduction



This manual is intended to help you to get to know your TT5000 Ride-On Spread-N-Spray and how to operate it safely, correctly and economically. If you observe these instructions, you will prevent hazards, reduce repair costs and breakdown times, and increase the reliability and service life of the machine.

The manual must be read and used by every person who will be working with or on the machine, including:

- Operation (including preparation, repair during operation, & clean-up)
- Repairs (maintenance, inspection, overhaul)
- Transport

All regulations for safety and proper working practice must be observed in addition to this manual. Should you lose your Owner's Manual or would like extra copies, they can be obtained from your TurfEx dealer or retrieved from the TurfEx website

– www.turfexproducts.com.

SAFETY ALERT DEFINITIONS



Indicates a hazardous situation that, if not avoided, will result in death or serious injury. This signal word is to be limited to the most extreme situations.



Indicates a hazardous situation that, if not avoided, could result in death or serious injury.



Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.



Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

IMPORTANT EQUIPMENT INFORMATION

Record important machine information here for quick reference. The TT5000 serial number is found on a label located underneath the dashboard on the right-hand side. The engine serial number is located on the side of the engine, by the pull-start coil.

Model _____

Serial #: _____

Engine Serial #: _____

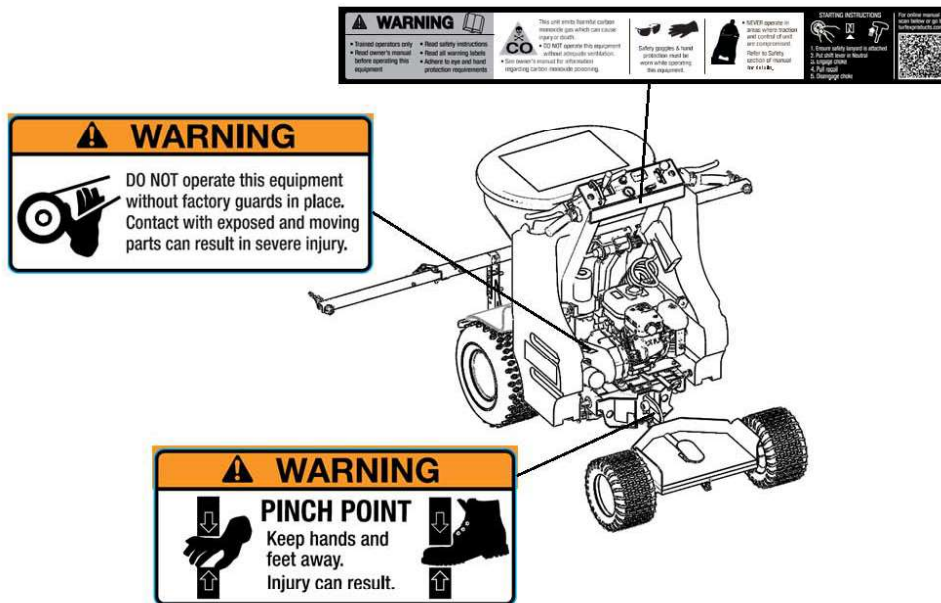
Date Purchased: _____

Dealer where purchased: _____

Example serial number label:



Safety – Labels



Safety – Warnings



#	WARNING/CONTENT
1	<div> WARNING </div> ALWAYS HAVE SAFETY SWITCH LANYARD ATTACHED TO OPERATOR WHEN MACHINE IS RUNNING.
2	<div> WARNING </div> OWNER'S RESPONSIBILITY <p>The owner is responsible for training them self and all other operators and mechanics. Before starting the engine and/or operating the machine, each operator must read and understand the Owner's Manual. Training must include supervised driver's training with adequate time to practice for the operator to become competent in operating the machine in all conditions. It is the owner's responsibility to perform the maintenance as described in the Maintenance Instructions. The owner and operator can prevent, and are responsible for accidents or injuries occurring to themselves, other people, or property.</p>
3	<div> WARNING </div> SUPERVISED DRIVER'S TRAINING IS REQUIRED FOR ALL OPERATORS AND MECHANICS <p><i>An untrained operator or mechanic can cause an accident, resulting in serious injury to himself or bystanders.</i></p> <ul style="list-style-type: none"> • All operators and mechanics must be trained. The owner is responsible for training the users. • Driver's Training should be conducted under the direct supervision of an experienced operator. • The Driver's Training section provides a step by step outline of what shall be covered during training. • The trainer shall supplement the training procedures provided in the Driver's Training and Operation sections with any additional instruction deemed necessary to ensure the safe operation of the TT5000. The trainer should add additional instruction as necessary to provide the trainee with additional useful information. • The trainer should supplement the presentation of material in the Driver's Training and Operation sections with instruction and references to all warning messages that appear in the Safety pages and on the Safety Labels. • Before proceeding to more advanced training, the trainee must demonstrate the ability to satisfactorily control the machine while starting, stopping, turning, getting on and off, or other tasks that have been taught up to that point. • Initial training should take place on a flat open area free of obstructions with the TT5000 in 1st gear. • As the trainee progresses to more advanced phases of training the degree of difficulty may be increased, but at each phase the initial training must begin on terrain that has a low degree of difficulty. This is particularly important to keep in mind when learning how to operate on inclines and slopes. • The trainer shall demonstrate the principles covered in each phase.
4	<div> WARNING </div> MINIMUM OPERATOR QUALIFICATIONS <p>AN OPERATOR OF THIS MACHINERY MUST MEET THE FOLLOWING QUALIFICATIONS:</p> <ul style="list-style-type: none"> • The operator must be an experienced professional lawn care technician with a demonstrated ability to apply fertilizer and pesticide products safely and correctly. • The operator must meet all state Pesticide Applicator Certification requirements. • The operator must be at least 18 years old. • The operator must be physically fit and able to lift 50 pounds with ease. • The operator must weigh between 120 and 300 pounds. • The operator must understand the information contained in this manual. Never let children or untrained persons operate or service the equipment. Local regulations may restrict the age of the operator.

Safety – Warnings



5	<div data-bbox="191 281 375 327"> WARNING</div> <div data-bbox="391 273 1252 331">OPERATOR CLOTHING AND PERSONAL PROTECTIVE EQUIPMENT (PPE)</div> <ul style="list-style-type: none"> • Always read and follow product labels and MSDS sheet requirements for Personal Protection Equipment • Wear substantial waterproof footwear and tightly secure all laces and straps. • Do not wear shorts. Instead, always wear close fitting clothing and jackets to prevent clothing from getting caught on the handle bars or other control levers. • Wear appropriate clothing including a hard hat, safety glasses and hearing protection. Long hair, loose clothing, straps, shoelaces or jewelry may get caught in moving parts.
6	<div data-bbox="191 564 375 611"> WARNING</div> <div data-bbox="391 577 621 604">SAFETY DEVICES</div> <p><i>Do not operate machine unless all safety devices are in place and in good working condition.</i></p> <p>SAFETY DEVICES INCLUDE:</p> <ul style="list-style-type: none"> • Machine Safety Labels. • Operator Presence Control/Throttle/Centrifugal Clutch. Letting go of the throttle lever disengages power to the drive wheels. • Front Brakes with lock. The front brake has a spring to limit the force applied and reduce possibility of lock-up. Locked brakes are parking brakes. • Safety switch lanyard is attached to operator. • Slip resistant footpad. • Belt guard securely fastened. • Neutral switch which prevents the TT5000 from starting in gear. • Fluid filled tires which provide ballast and lower the center of gravity.
7	<div data-bbox="191 1026 375 1073"> WARNING</div> <div data-bbox="391 1031 553 1058">OPERATION</div> <ul style="list-style-type: none"> • Do not change the engine governor setting or overspeed the engine. The top engine speed when the machine is in neutral is 3450 RPM. Use the electronic multifunction display to monitor the top speed and make adjustments as necessary. • Always stop the machine before shifting gears. Never shift gears while the machine is moving as this may cause a rapid slowdown or stop the front wheels causing loss-of-control or a tip over. • Only operate in good visibility conditions. Avoid holes and inspect work area for hidden hazards before starting machine engine. • Be sure the machine is in neutral and all brakes are locked before starting. • Use caution stepping on or off the sulky to avoid tripping. Never use machine without sulky or operate on wet grass. • Use extra care when operating this machinery on inclines or slopes. Be sure to refer to the Operator's Manual for specific instructions regarding operating the machinery on slopes and/or inclines. Turf conditions can affect the machine's stability. Use caution while operating near drop-offs or other hazards. • Never operate with the guards not securely in place. Be sure all interlocks are attached, adjusted properly, and functioning before starting the engine. • Stop on level ground, lock all brakes, shut off engine and shift into neutral before leaving the operators position for any reason. • Keep hands, feet, clothing and loose objects away from moving parts and pinch points. • Never carry passengers. • Keep a safe distance between the machine and all third parties. • Slow down and use caution when making turns and/or crossing roads and sidewalks. • Use care when loading or unloading the machine into a trailer or truck. • Avoid distractions, including but not limited to cell phones and mp3 players while operating this machine. Operators must concentrate and focus on the safe use of this machinery at all times. • Maintain a firm hold on the handlebars. • Do not touch the hot muffler while running or after shutdown. • Wear eye protection and necessary Personal Protection Equipment (refer to chemical label) when using compressed air or water to clean the machine. • Do not operate the machine under the influence of alcohol or drugs.


Safety – Warnings





8	<p>⚠ WARNING INSPECTING WORK AREA</p> <p>PRIOR TO OPERATING, CAREFULLY INSPECT THE WORK AREAS FOR HAZARDS OR UNEVEN GROUND THAT MAY BE HIDDEN IN THE GRASS.</p> <ul style="list-style-type: none"> • Clear the work area of moveable objects such as branches, wires, rocks, glass etc. that may interfere with the machine. • Mark the location of all immovable objects or irregular areas. • Avoid hitting obstacles such as holes, abrupt changes in ground contour, branches, stumps, roots, protruding pipes, paving edges, etc. that could unexpectedly turn, stop, or upset the machine possibly throwing you off, into or over the handle bars causing serious injury or death. <i>The faster you are moving, the more potential there is for injury.</i> • Keep away from drop-offs, the edges of ponds, streams, pools, etc., especially at the bottom of slopes. <p>EVALUATE THE TERRAIN.</p> <ul style="list-style-type: none"> • Determine what accessories and attachments are needed to properly and safely perform the job. Only use accessories and attachments approved by the manufacturer. • Study the terrain and plan a safe operating pattern. If no safe operating pattern exists do not attempt to drive the TT5000 in that area. <p>If hills are present, refer to additional Warnings in “Hillside Operation” in this section.</p> <p>EVALUATE THE TURF CONDITIONS.</p> <ul style="list-style-type: none"> • Do not operate if conditions are wet • Do not operate in dim/low light.
9	<p>⚠ WARNING FUEL SAFETY</p> <p><i>Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive.</i></p> <ul style="list-style-type: none"> • Always shut off fuel valve when transporting or storing the machine. • Never remove gas cap or add fuel when engine is running or hot. Allow it to cool first. • Do not smoke and stay clear of any sparks or open flames. • Never refuel or drain the machine indoors. Move machine outdoors instead. • Clean up fuel spills immediately. Do not attempt to start the machine near a fuel spill. If fuel is spilled on clothing, do not attempt to start the machine, stay away from open flames, sparks or other sources of ignition, and change clothing. <p><i>Do not run engine in an enclosed area or indoors. The engine gives off carbon monoxide, a poisonous gas.</i></p> <p>PREVENT FIRES.</p> <ul style="list-style-type: none"> • Keep engine clean and free from debris. • Clean up spilled fuel. • Check and repair leaking fuel lines, fittings and cap. • Do not park near an open flame or other source of ignition, such as a furnace or water heater.
10	<p>⚠ WARNING INSPECT MACHINE BEFORE EACH USE</p> <p>EXAMINE THE MACHINE PRIOR TO EACH USE. DO NOT USE THE MACHINE IF ANY PARTS ARE NOT IN GOOD WORKING CONDITION.</p> <ul style="list-style-type: none"> • Check for worn tires, cracks in parts, loose or missing bolts, cotter pins, etc. and replace or repair before operating. • Make sure all safety devices are present and in good working order, including all the safety labels, shields, brakes, the neutral safety switch, and throttle/clutch. (To test the brakes, neutral safety switch, and throttle/clutch, follow instructions found in the Driver’s Training and Operating Instructions sections of this manual.) • Make any necessary repairs or adjustments before starting the engine and/or operating the machine.
11	<p>⚠ WARNING ENGINE STARTING SAFETY</p> <p>DO NOT ATTEMPT TO START THE MACHINE IF ANY OF THE FOLLOWING APPLY:</p> <ul style="list-style-type: none"> • You are in a confined space. • You or someone else could be trapped between the machine and a solid obstacle should the machine


Safety – Warnings

	<p>unexpectedly move upon startup. Remember to check for low hanging obstacles such as tree branches, clotheslines, etc.</p> <ul style="list-style-type: none"> You are not certain of firm, dry, level footing to prevent loss of balance <p>BEFORE ATTEMPTING TO START ENGINE:</p> <ul style="list-style-type: none"> You must move the machine to a solid, level, dry, open area. Verify the machine is in neutral. The machine rolls forward easily in neutral. Lock front brake and apply the sulky brake. Do not operate the throttle. <p>DO NOT ATTEMPT TO START OR OPERATE THE MACHINE IF:</p> <ul style="list-style-type: none"> The neutral safety switch system or any other safety device is not working. The throttle/clutch does not move freely or automatically and rapidly return to the idle position. The idle engine speed exceeds 1650 RPM upon starting. The machine unexpectedly moves upon starting or when shifting gears.
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12	<p> WARNING AVOIDING SLIPPING OR TRIPPING INJURY</p> <p><i>Use caution when riding on, and getting on and off the TT5000.</i></p> <ul style="list-style-type: none"> Keep a firm grip on the handles with both hands. Stand only on the footpads. . Keep footpads clean. Replace worn or damaged footpads.
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13	<p> WARNING FORWARD OPERATION</p> <p><i>Loss-of-control may cause death or serious injury.</i></p> <ul style="list-style-type: none"> Always keep a firm grip on the handlebars with both hands. Operate the machine in 1st gear until you become familiar with it. Never operate the machine at a greater speed than is reasonable in light of the conditions presented. Only operate in 1st Gear on slopes, inclines, bumpy ground, or high grass. Avoid sudden starts, stops and turns as they may cause you to lose your balance and/or be thrown from the machine.
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14	<p> WARNING REVERSE OPERATION</p> <p><i>Loss-of-control may cause death or serious injury.</i></p> <ul style="list-style-type: none"> Always keep a firm grip on the handlebars with both hands. Do not back up if there is a possibility you or a bystander could become trapped between the machine and an immovable object or barrier. Always look behind and down before backing up to be sure of a clear path. Always look behind and up before backing up to be sure the path is clear of low hanging obstacles such as tree branches, clotheslines, or low door- ways. Use extra caution backing up when in an enclosed area. Backup slowly, until you become familiar with how the machine handles. Never coast backwards. Instead, back up under power and in reverse with the throttle engaged using the brakes as necessary. Use extra caution backing from an awkward location or position. Keep both feet firmly on the footpads whenever possible. Backing up while in the walking position is hazardous and in most cases can and should be avoided. However, when backing up from the walking position is unavoidable (such as when unloading the machine from a trailer), use extreme caution.
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15	<p> WARNING TO AVOID LOSS-OF-CONTROL, TIP-OVER, AND ROLLOVER:</p> <p><i>Loss-of-control, tip-over or rollover may cause death or serious injury. This machine has a high center of gravity and turf conditions affect stability. Slopes are a major factor in loss-of-control, tip-over, and rollover accidents.</i></p> <ul style="list-style-type: none"> Never shift gears while the machine is moving as this may cause a rapid slowdown or stop the front
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Safety – Warnings

wheels, causing loss-of-control or a forward tip over. Instead, bring the machine to a complete stop before shifting gears.

- Study the terrain before beginning work and plan a safe operating pattern. If the area at issue will not accommodate a safe operating pattern, do not attempt to drive the TT5000 in that area.
- Do not operate on slopes or inclines where traction and stability are doubtful.
- Do not ride on slopes exceeding 15 degrees.
- Never operate on wet slopes.
- Look for holes, ruts, rocks, and other hidden hazards in the work area before starting work. Uneven terrain can overturn the machine. Tall grass can hide hazards.
- Do not operate near drop-offs, ditches, or bodies of water.
- Keep a firm grip of the handlebars with both hands at all times.
- Slow down and lean into turns for better balance and to transfer your weight to the inside wheels to prevent loss-of-control, tip over, or rollover.
- Tires with excessively worn tire tread are dangerous on slopes or inclines. Replace tire(s) with less than 1/4" of tread remaining. Only use liquid filled tires supplied by TurfEx. Maintain tire pressure at 12 PSI. Higher pressures will cause the tires to lose traction and under inflated tires will cause instability.
- Do not attempt to climb over curbs or parking blocks while operating the TT5000 at high speed as this may cause a forward tip-over.

TO HELP AVOID LOSS-OF-CONTROL, TIP OVER, AND ROLLOVER, USE EXTREME CAUTION ON INCLINES, AND SLOPES:

- Use 1st gear to provide improved traction and a slower ground speed.
- Travel across the grade. Begin at the bottom of the slope and work your way up.
- Avoid traveling straight down a slope. When descending a slope, zigzag or slalom across the grade gradually downwards using the brakes to slow the machine.
- Lean uphill at all times to provide better balance and to transfer weight to the uphill tires.
- Slow down and avoid sharp turns and sudden starts and stops.
- Reduce the amount of granular and/or liquid products carried.
- Apply rear brakes first and then front brakes.

Operate the TT5000 as a walk-behind unit in situations where loss -of-control, tip-over, or rollover is possible.

When traveling up a slope, be aware that the drive tires have reduced traction and there is greater risk that the machine could tip backwards.

RECOMMENDATIONS FOR DRIVING UP AN INCLINE OR SLOPE:

- Lean forwards to provide better balance and to transfer more weight to the front drive wheels.
- Accelerate gently. Accelerate slowly. Accelerating too quickly may result in a loss of traction.
- Do not make sharp or quick turns. Making sharp or quick turns may cause you to lose your balance and be thrown off the machine or cause a side rollover.
- In areas of poor traction, operate the machine as a walk behind unit.
- If you experience a loss of control while driving the machine on an upward slope, step backwards off the operator's platform and apply the brakes. Once the brakes are applied, take corrective action.
- Backing down a slope is a hazardous maneuver which should be avoided. To avoid backing down a slope; stop the machine, apply the brakes, step off the Driver's platform, steer the front of the machine across the grade, and gradually engage the Throttle/Clutch. If backing down a slope is unavoidable (such as when unloading the machine from a trailer), use extreme caution. Read Warning, "Reverse Operation" for details on backing up.


When pointing downhill, the weight and traction is transferred to the front drive wheels. Avoid driving the machine at this angle as the machine may tip over.

RECOMMENDATIONS FOR DRIVING DOWNHILL:

- Lean backwards as you travel downhill to provide better balance for you and transfer more weight to the rear wheels. If necessary, extend your arms and squat down backwards with arms extended to transfer more weight further to the rear.
- Do not change speed suddenly. Do not accelerate. Decelerate gently by applying the rear brakes first, followed by the front brakes.
- Use extreme caution when turning. Do not make sharp turns as you may lose your balance and/or be thrown from the machine or lose control. When making turns, slow down and make gradual turns.
- Zigzag or slalom slowly and gradually downhill traveling across the grade using both brakes to slow your speed. The steeper the slope the more gradual the slaloms should be between the switchbacks.
- Avoid any obstacles that could suddenly stop the front wheels causing a tip over.
- If you ever lose control while driving down a slope, let go of the handles and jump off to the rear, if necessary.


Safety – Warnings


	<ul style="list-style-type: none"> • Backing uphill is a risky maneuver which should be avoided. To avoid backing uphill; stop the machine, apply the brakes, step off the Driver's platform, steer the front of the machine across the grade, and gradually engage the Throttle. When backing uphill is unavoidable, use caution. <p><i>When pointing across an incline, slope or hill sideways, the weight distribution between the front drive wheels and the rear wheels is similar to level ground. However, more weight is transferred to the lower wheels which may cause the machine to rollover towards the downhill side. This is the preferred angle for driving on gentle slopes.</i></p> <p>RECOMMENDATIONS FOR DRIVING ACROSS A HILLSIDE:</p> <ul style="list-style-type: none"> • Lean uphill to provide better balance for you and transfer more weight to the uphill wheels. • Do not change speed suddenly. • Do not make sharp turns as you may lose your balance and be thrown off the machine or lose control. When making turns, slow down and make gradual turns. The machine also has a tendency to rollover when performing this maneuver. • Avoid making downhill turns as it will be more difficult for to maintain balance and control over the machine. • Avoid any obstacles that could suddenly pitch the front uphill wheel upwards causing a rollover towards the downhill side. • If you ever lose control while driving across a slope let go of the handles and jump off to the uphill side of the machine, if necessary. <p><i>Backing up across the grade is a maneuver which in should be avoided. To avoid backing up; stop the machine, apply the brakes, step off the driver's plat- form, steer the front of the machine in the desired direction, and gradually engage the throttle. When backing up is unavoidable, use caution. Read Warning 14 "Reverse Operation", for details on backing up.</i></p>
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16	<p> WARNING TRANSPORTING</p> <p><i>Driving up and down ramps is hazardous. The risks include tip-over, rollover, loss-of-control, and back-over.</i></p> <p><i>Use extreme caution when driving the TT5000 onto and off of a transport, (such as a vehicle, carrying rack, or trailer).</i></p> <ul style="list-style-type: none"> • When loading and unloading, park the transport on level pavement well away from puddles, obstacles, and curbs that may cause the operator to lose his footing or become entrapped. Allow adequate room for the ramps to be deployed and the machine and operator to come straight on or off the transport platform and ramps. • To prevent a ramp from slipping out from under the machine, make sure the ramp is securely fastened to the transport platform and that the ramp and machine wheels are properly aligned with each other. • Never unload a TT5000 by shifting it into neutral and allowing it to freewheel backwards down a ramp. Rather, the driver must start the TT5000 while on the transport platform, shift the engine into reverse, and inch the machine down the ramp under power using the brakes as necessary. Read Warning "Reverse Operation", for required precautions while operating the TT5000 in reverse. • If there is not adequate standing room for the operator on the transport platform, the machine should be started while the operator is standing on the ground. • If an enclosed transport is used, use extra caution starting and operating the TT5000 inside the enclosure. <p><i>Transporting the machine over the road can be hazardous. The risks include but not limited to traffic accidents, failure of transport system, and ejection of the machine from the transport.</i></p> <p><i>Transporting the TT5000 requires a heavy duty transport capable of safely carrying a fully loaded TT5000 weighing 700 lbs. plus the weight of all materials carried on the transport.</i></p> <ul style="list-style-type: none"> • Follow transport manufacturer's precautions and always use all safety devices provided. • DO NOT overload or unbalance the transport or hitch. • Use only heavy duty ramps with a minimum width of 8.5 inches and an anti-slip surface. The ramps must be capable of supporting 1000 lbs. or the combined weight of the machine and driver, whichever is greater. The ramp angle must be 15 degrees or less. • To prevent the machine from being thrown from the transport, always secure the machine to the transport's platform. Use securing devices provided by the manufacturer. Each securing device must have a minimum load rating of 1,400 lbs. and elastic straps or similar devices may not be used.
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Safety – Warnings

	<ul style="list-style-type: none"> • Check transport, ramps, hitch, and securing devices each time they are used. • Check carefully for cracked welds or parts, loose or missing hardware, excessive wear or damage, or missing/nonworking safety and securing devices. • If a carrying rack is used, check for damage caused by the rear edge dragging or bottoming out on the pavement. This can result in structural failure of the rack, hitch and vehicle frame or hardware. • Do not use the transport if it is not in good working condition. Make necessary repairs or replacements before using.
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17	<p> WARNING CHECK WHEEL FASTENERS</p> <p><i>If wheel fasteners are not tight, a serious accident may occur.</i></p> <ul style="list-style-type: none"> • Check wheel fastener tightness frequently during the first 10 hours of operation. • After loosening any wheel fasteners, frequently check their tightness for the next 10 hours of operation.
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18	<p> WARNING PARKING</p> <p>ANY TIME YOU LEAVE THE OPERATOR POSITION, YOU MUST:</p> <ul style="list-style-type: none"> • Stop on level ground • Turn off the engine. • Lock brake lever. • Shift into neutral <p><i>Never leave the machine unattended on an incline where someone could disengage the brakes and the machine could roll.</i></p> <ul style="list-style-type: none"> • When leaving the machine unattended, close fuel shut off valve.
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19	<p> WARNING TIRE SAFETY</p> <p><i>Tires are filled with pressurized windshield washer solution to provide ballast for a lower center of gravity. Explosive separation of rim and tires may cause serious injury.</i></p> <ul style="list-style-type: none"> • DO NOT remove fluid from tires. • All replacement tires must be fluid filled. • Wear a face shield when checking, filling, and repairing fluid filled tires. • Do not attempt to check, repair or replace fluid fill tires without the proper equipment. • Use a clip-on chuck and extension hose. Stand to the side of the tire when filling. • Always maintain tire pressure at 12 PSI. Do not under or over inflate tires. • Rear tires have split rims. Release tire pressure prior to loosening any nuts or bolts. • Never weld or heat the tire/rims as this could cause a tire explosion or structural damage to the rim. • Check tires often for cuts, wear, bubbles and missing or loose lug nuts. Check pressure often. • Fix or replace worn or damaged tires, rims, and hardware. • Always replace tires with genuine TurfEx liquid-filled tires and rims.
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20	<p> WARNING MAINTENANCE AND SERVICE</p> <p><i>Improper maintenance can cause serious injury.</i></p> <ul style="list-style-type: none"> • Lock brakes, stop engine and disconnect spark plug wire. Wait for all movement to stop before adjusting, cleaning or repairing. • Clean grass and debris from drives, mufflers, and engine to help prevent fires. Clean up oil or fuel spillage. • Let engine cool before storing and do not store near flame. • Shut off fuel while storing or transporting. Do not store fuel near flames or drain indoors. • Park machine on level ground. Never allow untrained personnel to service machine. • Use jack stands to support components when required. • Carefully release pressure from tires and spray system. • Remove spark plug wire before making any repairs. • Keep hands and feet away from moving parts. If possible, do not make adjustments with the engine running. • Keep all parts in good working condition and all hardware tightened.
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Safety – Warnings

	<ul style="list-style-type: none"> • Replace all worn or damaged machine safety labels. • Replace worn or damaged footpads. • Perform all scheduled maintenance as directed in the service manual
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21	<p> WARNING PESTICIDE SAFETY</p> <p><i>The improper use, handling, application, and disposal of pesticide products applied by this machine may cause death or serious injury.</i></p> <ul style="list-style-type: none"> • Read and follow product label and Material Safety Data Sheet (MSDS) precautions for handling, mixing, applying, and disposing of pesticides. Some materials may present health hazards that will require the use of Personal Protective Equipment (PPE). Always wear required PPE. • Keep required PPE available for use by the operator or mechanic at all times. • Keep pesticide labels and MSDS available for the operator or mechanic at all times.
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22	<p> WARNING HANDLING AND DISPOSAL OF HAZARDOUS WASTE PRODUCTS</p> <p><i>Dispose of all hazardous waste products properly.</i></p> <ul style="list-style-type: none"> • Clean up spills immediately. • Refer to the pesticide label for proper handling and disposal instructions. • Refer to MSDS for proper handling and disposal instructions. • Wear the Personal Protective Equipment specified on MSDS and pesticide labels. • Before disposing of hazardous waste check with your local regulatory agency
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Operator Instructions - Driver Training

ADDING GASOLINE

Read Warning 9: "Fuel Safety"

- Move the machine outdoors.
- Emphasize fuel handling safety.
- Add gasoline/fill tank.

INSPECT MACHINE BEFORE EACH USE

Read Warning 10: "Inspect Machine Before Each Use"

EXAMINE THE MACHINE PRIOR TO EACH USE. DO NOT USE THE MACHINE IF ANY PARTS ARE NOT IN GOOD WORKING CONDITION.

- Check for worn tires, cracks in parts, loose or missing bolts, cotter pins, etc. and replace or repair before operating.
- Make sure all safety devices are present and in good working order, including all the safety labels, shields, brakes, the neutral safety switch, and throttle/clutch. (To test the brakes, neutral safety switch, and throttle/clutch, follow instructions found in the Driver's Training and Operating Instructions sections of this manual.)
- Make any necessary repairs or adjustments before starting the engine and/or operating the machine.
- Check the spray nozzle alignment and pattern; adjust as necessary.
- Check the spreader control settings; adjust as necessary.

Read Warnings: "Inspect Machine Before Each Use", "Check Wheel Fasteners", and "Tire Safety" before starting or operating the machine.

STARTING, STOPPING, AND PARKING THE MACHINE.

Read Warning 11: "Engine Starting Safety"

Read Warning 18: "Parking"

TO START ENGINE:

- Locate machine on a flat, level area free from obstacles and bystanders.
- Shift into neutral.
- Lock brake lever.
- Make sure safety switch lanyard is attached.
- Choke engine if necessary.
- DO NOT pull throttle lever while starting.
- Turn the key.

TO STOP ENGINE:

- Lock front brake lever
- Shift into neutral
- Push kill switch.

TO PARK MACHINE:

- Stop on level ground.
- Lock brake lever
- Shift into neutral
- Push kill switch.
- When leaving the machine unattended, close fuel valve.

PROPER SHIFTING TECHNIQUES.

IMPORTANT: Excessive force applied to the shift lever can cause internal transaxle damage and other damage which is not covered by Warranty. **WARNING:** Never shift gears while the machine is moving as this may cause a tip-over or loss-of control.

TO CHANGE GEARS:

- Release throttle.
- Bring the machine to a complete stop.
- Shift into the desired gear. If the machine does not shift easily, move the front of the machine angling it right or left until the transaxle gears shift easily.

IMPORTANT: Emphasize the necessity of not forcing the shift lever.

SAFELY STEPPING ON AND OFF THE SULKY.

Read Warning 12: "Avoiding Slipping or Tripping Injury"

Operator Instructions - Driver Training



DEMONSTRATE AND INSTRUCT THE TRAINEE IN THE FOLLOWING PHASES.

⚠ Read Warning 5: “Operator Clothing and Personal Protective Equipment”

⚠ Read Warning 7: “Operation”

⚠ Read Warning 8: “Inspecting Work Area”

⚠ Read Warning 13: “Forward Operation”

PHASE I: DRIVING THE MACHINE IN 1ST GEAR

Initial training should take place outdoors in a flat open area free of obstructions with the machine in 1st gear and the hopper and tank empty. Initial training should include the following:

TO DRIVE FORWARD:

- Safely start the machine.
- Safely step onto the operator platform.
- Shift into 1st gear.
- Unlock brake
- Pull the throttle.

TO STOP:

- Release the throttle.
- Step on sulky brake pedal then pull the front brake lever.

TO TURN RIGHT:

- Pull back on the right handle while simultaneously pushing forward on the left handle.
- Always lean into the turns by shifting your body weight to the inside of the turn.

TO TURN LEFT:

- Pull back on the left handle while simultaneously pushing forward on the right handle.
- Always lean into the turns by shifting your body weight to the inside of the turn.

PHASE II: DRIVING THE MACHINE IN 2ND GEAR.

Repeat Phase I training using 2nd gear.

PHASE III: DRIVING WITH A LOAD.

- Repeat 1st and 2nd gear training outlined in Phase I and Phase II with a partially filled hopper and tank.
- Gradually increase the weight as the trainee demonstrates his or her ability to control the machine with the increased weight.

PHASE IV: OPERATING THE MACHINE AS A WALK-BEHIND UNIT.

⚠ Read Warning 12: “Avoiding Slipping or Tripping Injury”

Stop, shift into 1st gear or reverse, and keeping a firm grip on both handles and while operating the machine as a walk behind unit, perform the training procedures outlined in Phases I through IV.

Note that walk-behind use is not recommended unless absolutely necessary.

PHASE V: DRIVING THE MACHINE ON HILLSIDES.

⚠ Read Warning 15: “To Avoid Loss-of-Control, Tip-Over, and Rollover”

Initial hillside training should take place on a slightly hilly open area free from obstructions with the machine in 1st gear and the hopper and tank empty.

- The trainee must be familiar with the Driving Techniques before operating on slopes.
- The trainee must pass the Phases I, II and IV and be totally familiar with all the WARNINGS and the hillside driving techniques and principles set forth in the Driver's Training and Operating Manual before operating the machine on a slope or incline. Trainee must never ride the TT5000 on any slopes or inclines greater than 15 degrees.
- As the trainee is able to demonstrate his ability to control the machine on hills as well as his understanding of hillside driving principles and proper techniques; gradually increase the slope.
- As the Trainee progresses, gradually add weight to the hopper and tank.

PHASE VI: DRIVING OVER CURBS.

Never attempt to drive over a curb at high speed as this may cause a forward tip-over.

- Approach the curb or parking block straight on;
- Stop the machine 12 inches away from the curb;
- Shift into 1st gear
- Gradually accelerate up and over curb.

Operator Instructions - Driver Training

If machine is unable to climb over a curb:

- Look for a lower section of curb;
- If one is not available, approach the curb on an angle and attempt to climb over one wheel at a time;
- Use ramps to get over the curb where required. **IMPORTANT:** Avoid high curbs and bottoming out as this can cause machine damage that will not be covered by the Warranty.

PHASE VII: BACKING UP.

Read Warning 14: "Reverse Operation"

TO BACK UP:

- Stop, shift into reverse, look behind to make sure the path is clear, and keeping both feet on the operator's platform and a firm 2 handed grip on the handles gradually pull the throttle.

TO TURN RIGHT:

- Pull back on the right handle while simultaneously pushing forward on the left handle.

TO TURN LEFT:

- Pull back on the left handle while simultaneously pushing forward on the right handle.

TO STOP BACKING UP:

- Release throttle and apply one or both brake levers to stop.

PHASE VIII: COMPLETING DAILY SERVICE CHECKLIST.

Read Warning 20: "Maintenance and Service"

Adjust and repair any irregularities discovered and report them to your supervisor.

- Clean machine in a designated area. **IMPORTANT:** DO NOT power wash machine. High pressure water will force corrosive fertilizer residue into bearings, linkages, and other parts. Corrosion damage is not covered by the Warranty. Instead use low pressure air regulated to 30 PSI once a week or as necessary use low pressure water regulated to 30 PSI to wash machine. Start and run machine after wash and blow dry to remove any water.
- Empty hopper. **NOTE:** Use a dedicated pail or wet/dry vacuum to remove fertilizer so that it can be recycled.

CLEAN:

- Spinner plate.
- Footpads.
- Nozzles and nozzle strainers, if necessary.
- Spreader gate, auxiliary gate slide plate and linkage.
- Engine cooling fins, blower housing inlet, starter, carburetor, governor linkage, throttle lever, and cable.

LUBRICATE AND PROTECT THE FOLLOWING, USING LIGHT OIL OR EQUIVALENT:

- Operating controls and cables.
- Spreader gate and auxiliary gate plate.
- Carburetor and all linkages and springs. **CHECK AND RECORD:**
- Engine idle speed (Must not exceed 1650 RPM).
- Engine top speed (Must not exceed 3,450 RPM).

GAUGE, RECORD, AND ADJUST HOPPER CONTROL SETTINGS AS NECESSARY, INCLUDING:

- Auxiliary gate adjustment plate.
- Spreader gate opening.
- Rate adjustment knob

OTHER CHECKS AND ADJUSTMENTS:

- Check and adjust the spray nozzle alignment as necessary.
- Check and top off engine oil.
- Check and top off clutch oil.
- Check for loose or missing fasteners or parts, cracks in metal or welds.

PHASE IX: LOADING AND UNLOADING THE MACHINE ON A TRANSPORT.

Read Warning 16: "Transporting"

Trainee must be instructed how to safely load and unload the TT5000 from a transporting vehicle.


PHASE X: ADDITIONAL SERVICE TRAINING

Trainee should be instructed on any additional service he will be required to perform on the TT5000 such as, changing engine and clutch oil, greasing, etc. Refer to service manual for scheduled service requirements and details.

Operator Instructions - Driver Training

PHASE XI: TESTING SAFETY DEVICES.

 **Read Warning 20: "Maintenance and Service"**

 **Read Warning 6: "Safety Devices"**

If any safety device fails a test, adjust, repair or replace the component before operating the machine.

1. THROTTLE CONTROL

Components: throttle lever, throttle cable, multifunction display (tachometer), drive belt, idler pulley, idler tension spring, transaxle, engine and components: carburetor and linkage, governor spring, throttle spring, throttle return spring, and clutch. All components must be in place and functioning normally.

- Park on level ground free from obstructions and bystanders. Lock front brake lever.
- Pull and release throttle lever several times. Ensure that the lever moves smoothly and easily and snaps back when released.
- Start engine and verify that the engine speed increases and decreases rapidly.
- Engine idle. Ensure the engine idles smoothly without dying and the idle speed on the multifunction display does not exceed 1650 RPM.
- Engine top end speed. Pull and hold throttle lever. Confirm that the top end speed does not exceed 3450 RPM.
- Clutch engagement. Shift into 1st gear and gradually accelerate engine. Confirm that the machine does not move when shifted, or creep at idle speed. The clutch shall engage smoothly as the engine is accelerated and propel the machine forward at 3.5 MPH at full acceleration. No unusual noise should be detected.

2. NEUTRAL SAFETY SWITCH SYSTEM (NSSS)

Components: NSSS module, kill switch, neutral switch, kill wire, ground wire, wire harness and terminals.

- Park on level ground free from obstructions and bystanders.
- Lock front brake lever, shift into neutral and start engine.
- Turn engine off with kill switch. Confirm that the engine starts and kill switch works.
- Shift into 1st gear and repeat the previous test. Confirm that the engine does not start in gear.

3. BRAKE SYSTEMS

Front Brake System:

Components: brake lever with lock, front brake cable, brake drum, band tension spring, sheath brake pin, rod brake pin.

- Park a fully loaded machine on level ground free from obstructions and bystanders. Start engine.
- While in NEUTRAL, push the machine forward. No unusual drag should be felt.
- Pull and release the front brake lever several times. Ensure that the lever operates smoothly and snaps back completely when released. The operating force on the lever must not exceed pounds.
- Shift into 2nd gear, accelerate to full speed and pull the front brake lever. Confirm that the machine stops smoothly in less than 8 feet and the brake does not lock up.

Rear Brake System:

- Push and release the sulky brake pedal several times. Confirm that the pedal operates smoothly and snaps back completely when released. The operating force on the lever must not exceed 25 pounds.
- While in NEUTRAL, push the machine forward. No unusual drag should be felt. Shift into 2nd Gear, accelerate to full speed, and push Sulky Brake Pedal. Confirm that the machine stops smoothly in less than 8 feet. Confirm that both brakes create equal drag without causing a change of course, to the left or right. Brake band must not over heat or cause unusual drag.

Both Front and Sulky Brake Systems


- Shift into 2nd gear, accelerate to full ground speed and apply both brakes. Confirm that the machine stops in less than the length of the machine.

Parking Brake System.

Components: Front Brake System.

- Drive the fully loaded machine up a 17 degree slope, stop and lock Front Brake Lever. Confirm that brakes hold the machine in place.
- Drive the fully loaded machine down a 17 degree slope, stop and lock front brake lever. Confirm that the brakes hold the machine in place.

4. FLUID-FILLED TIRES.

 **Read Warning 19: "Tire Safety"**

Components: front tires (2) and rear tires (2).

- Examine all tires for wear and damage. Confirm that tires are free from visible damage and tread depth exceeds 1/4 inch.
- Rotate each tire so the valve stem is in the 12 o'clock position and check pressure. Confirm that tire pressure is 12 PSI and fluid is visible

Operator Instructions - Driver Training

5. MACHINE SAFETY LABEL VISUAL TEST.

- Confirm that all labels are in place and legible.

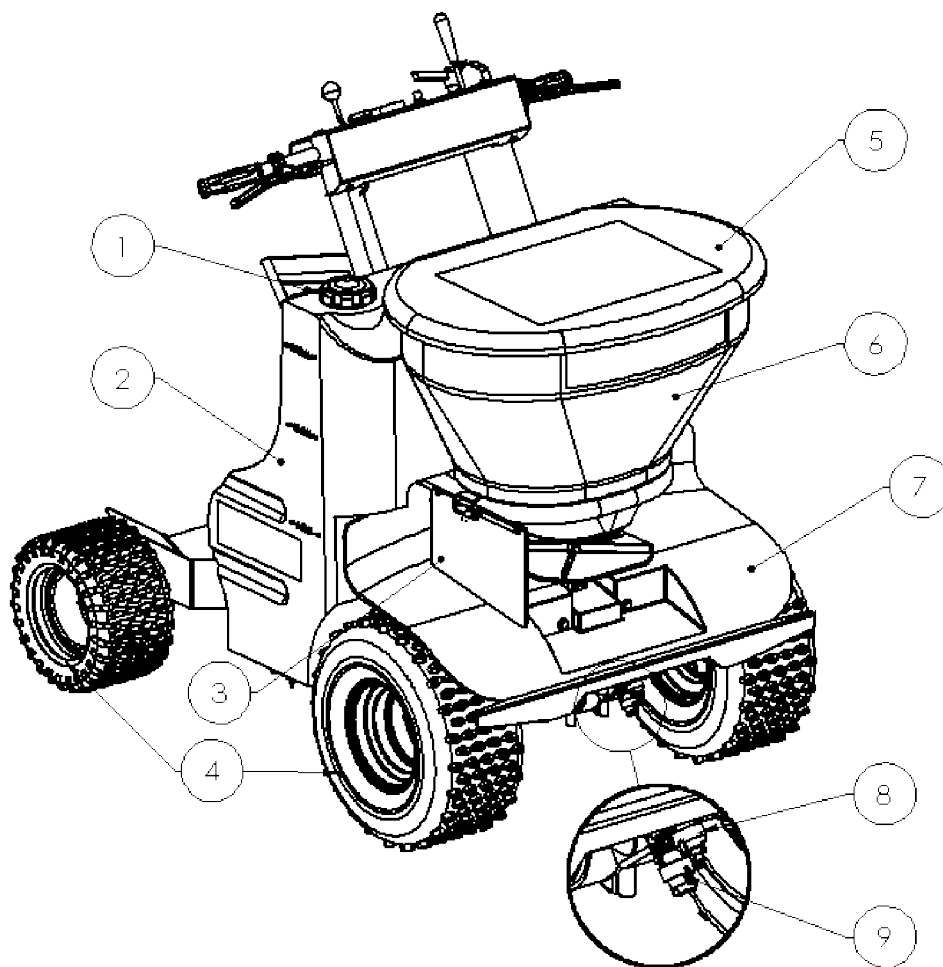
6. MACHINE GUARD VISUAL TEST.

- Confirm that transmission shroud and belt guard are securely fastened in place.

7. SLIP RESISTANT FOOTPAD VISUAL TEST.

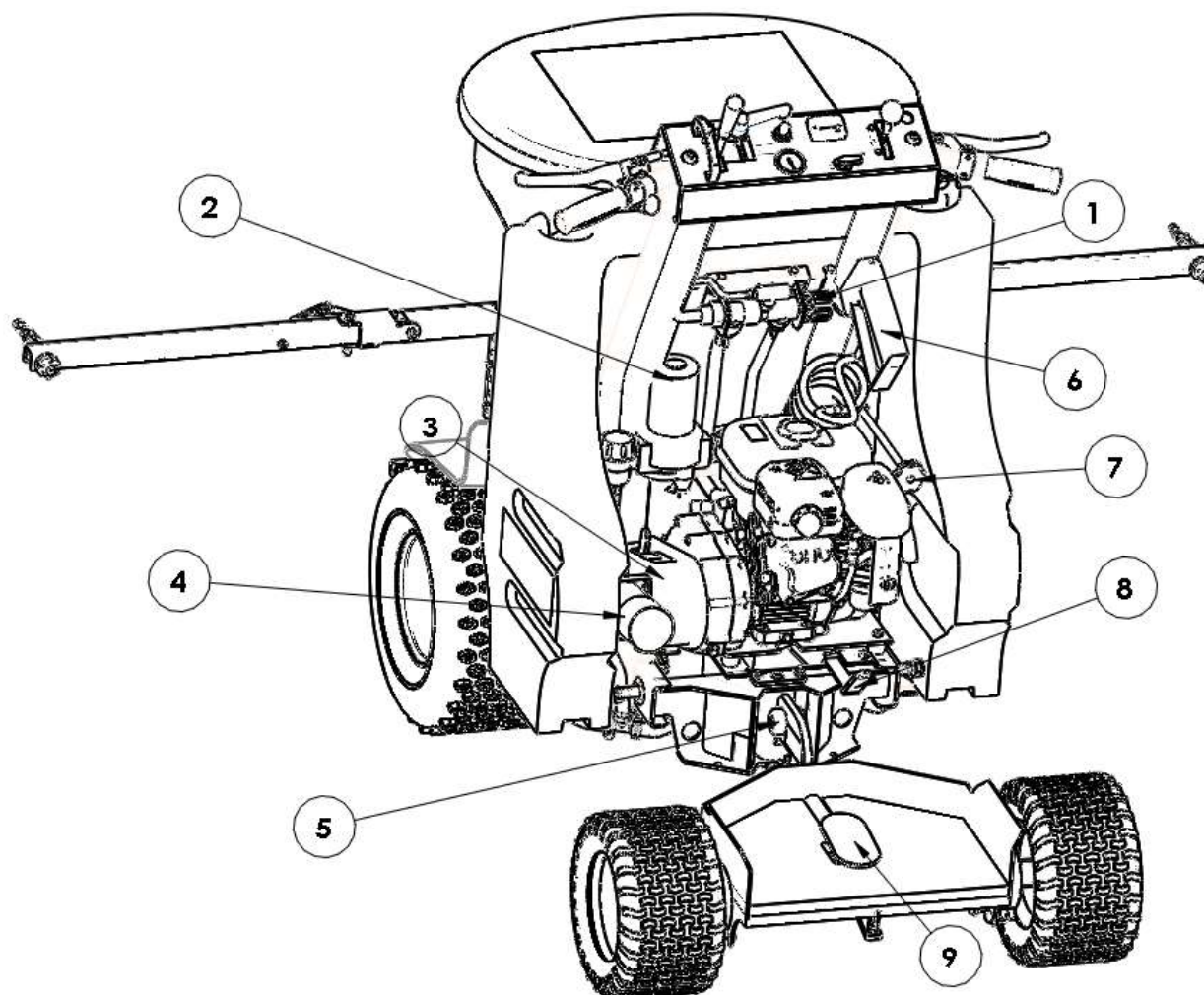
- Confirm that the footpad is not worn or damaged.

Operator Instructions – Machine Diagrams



KEY	PART	DESCRIPTION
1	Tank Lid	Vented lid with fill-gauge
2	Tank	Capacity: 17 gallons
3	Deflector	For use when spreading along the edge of the grass
4	Liquid-Filled Tires	Tires are filled with windshield washer solution to provide ballast. Maximum inflation 12 PSI.
5	Hopper Cover	Use to protect material in the hopper from rain
6	Hopper	Capacity: 3 cubic feet
7	Transmission Shroud	Protects the drive components from spreading material
8	Broadcast Nozzle	Broadcast nozzle connects here
9	Trim Nozzle	Trim nozzle connects here

Operator Instructions – Machine Diagrams

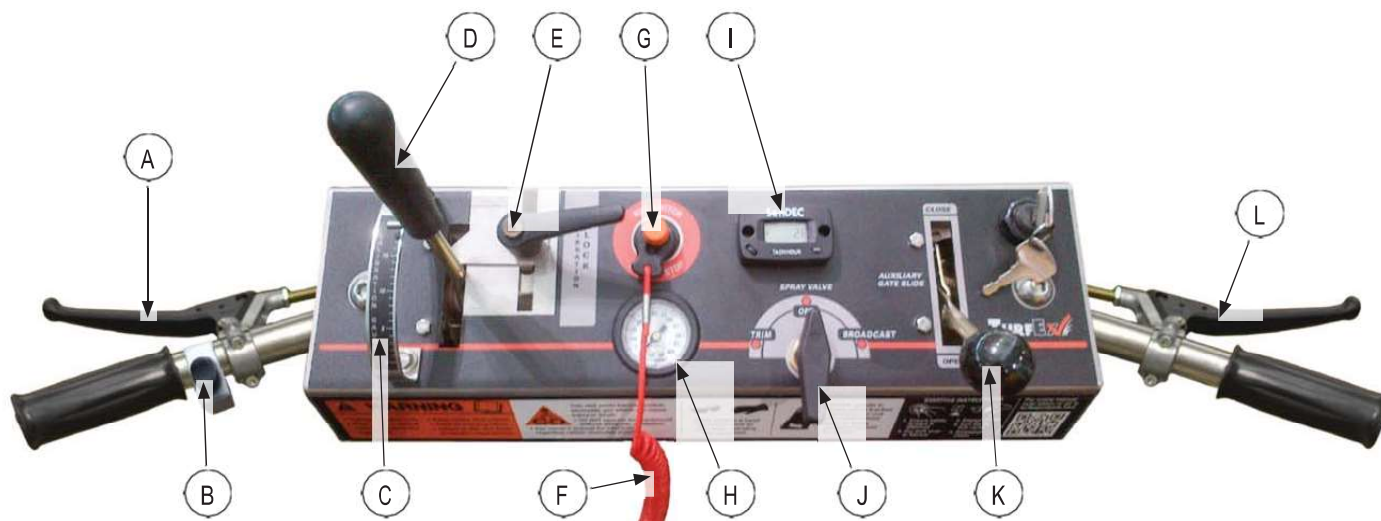


KE	PART	DESCRIPTION
1	Spray Valve	Controls the spray pressure.
2	Pump	Self-priming electric pump services the spray system with 5.0 GPM @ 10-40 PSI.
3	Drive Belt Shroud	Protects the operator from accidental contact with the drive belt.
4	Manual Storage	Store owner's manual here for quick and easy reference.
5	Steering Stops	Limits the range-of-motion of the sulky for safe cornering.
6	Spot Spray Wand	Use for spot treating or hard to reach areas.
7	Deflector Rod	Actuate the deflector by pushing forward and turning.
8	Shift Lever	Shifts the transmission.
9	Sulky Brake	Supplements the front brake, for use on inclined surfaces for enhanced control.

Operator Instructions – Dashboard Controls



Do Not attempt to start or operate this machine until you have read and are thoroughly familiar with this Owner's Manual. All operators and mechanics must be trained before operating this machine.



A	Brake Lever
B	Pump Switch
C	Calibration Gauge
D	Main Gate Control
E	Main Gate Lock
F	Safety Switch Lanyard
G	Safety Switch/Kill Switch
H	Pressure Gauge
I	Multifunction Display
J	Spray Control Knob
K	Auxiliary Gate Control
L	Throttle Lever

Operator Instructions – Machine Usage



Operation of powered equipment and handling of chemicals are inherently dangerous. Read and fully understand the Safety and Driver's Training sections of this manual before operating.

Refer to the Machine Diagrams and Operator Controls pages for component names and locations.

SPEED

The throttle controls the engine speed, which is shown by the multifunction display. The shift lever selects the transaxle gear, choosing from reverse, neutral, first, and second. With the throttle lever pulled fully, the speed in first gear is 3.5 MPH and 5 MPH in second gear.

PUMP SWITCH

The pump switch turns the pump on and off. When it is on, a blue light will illuminate. Operate this switch with your thumb while driving to turn the spray on or off as needed. To prevent the battery from discharging, turn the pump off when parked.

PRESSURE

The Spray Valve adjusts pressure in the spray system. Tightening the knob increases pressure. Lock the setting with the nut. Refer to the pressure gauge when setting the valve to obtain the desired setting. Tighten the nut against the knob to prevent loosening from machine vibration, ensuring calibration is maintained. Set pressure only while parked on pavement and in the spray mode you will be using.

SPRAY SETTINGS

Spray modes are chosen using the Spray Control Knob, with the options Trim, Broadcast, and Spray Wand. To change spray modes: Switch the pump off, come to a complete stop, turn the Spray Control to the desired setting, begin moving, and turn the spray back on. (This way you will avoid moving with only one hand on the handlebars.)

When using chemicals that require agitation, turn the Spray Control Knob to Spray Wand, then turn the pump on: this is because the liquid will be bypassed through the Throttling Valve and into the Tank. Lower pressure increases agitation.

The Spray Wand is used for cutting-in, parking lot weeds, and spot treating. Replace the wand to the holder when not in use. Come to a complete stop before using the wand.

Trim Spray is adjustable up to 3 feet in width. Trim is used for spot-treating lawns when the Spray Wand is impractical, and for cutting-in around landscape beds and trees.

Broadcast sprays from 6 to 12 feet. Broadcast is used when blanket spraying, or when spreading and spraying simultaneously.

SPRAY WIDTH

The spray width is adjusted by pivoting the Nozzle Bracket up or down to get the desired results. Tighten the wing nut to lock the spray width. Changing spray width is a part of the calibration procedure; see Calibration Instructions.

Broadcast spray width is adjustable from 6 to 12 feet. Set the spray width for the application rate required. The Working Spray Width, which is equal to the distance between the centerline of parallel wheel tracks, is used for calculation when calibrating. Set the total spray width greater than the working width so even coverage is achieved.

Trim spray width is adjustable up to three feet. It is intended for spot spraying and cutting in.

GATE CONTROLS

The Main Gate Lever opens and closes the hopper gate, controlling the material flow to the spinner. Only open the gate once operating speed has been reached. Use the Gate Stop to maintain consistent application.

The Auxiliary Gate opens and closes the third hole in the main gate. It is operated by the Auxiliary Gate Lever; it should remain open, except when using the Deflector.

DEFLECTOR

The Deflector is useful when cutting in or in situations where one full swath is not needed. When the Deflector is in the down position, close the Auxiliary Gate to prevent over-application.

To operate the deflector: push the Deflector Rod forward, then rotate and release.

SPREADING AND SPRAYING: RECOMMENDED PRACTICES

Read and understand the Safety section of this manual before operating in order to avoid unsafe terrain, conditions, and weather.

Spread and spray at full throttle and in the gear used in calibration calculations to apply according to calibration. Shut off the spray and close the gate once you have reached the already fertilized area at the end of the pass before turning to avoid over-application.

Turn the spray on and open the gate again as you head into the next pass.

Operator Instructions – Machine Usage

Spreading with 7 foot turns requires cutting-in: with the deflector-side toward the edge, the deflector down, and the auxiliary gate closed make a pass that covers up to the edge of the spread area. Cutting-in along all the edges of the property may be necessary so you will have room to turn at the end of each pass.

When spreading with 7-foot turns, the edge of the spread pattern should be coincident with the centerline of the previous wheel tracks.

Operator Instructions – Spray Boom



INSTALLATION

- To install the spray boom, first remove the front bumper by removing the bumper fixing bolts.
- Insert the spray boom supports into the front bumper mounts and bolt in place using the bumper hardware. Use care not to overtighten.
- Remove the broadcast nozzle and attach the hose barb and spray boom input hose.
- Bumper installation is the reverse of removal; use care not to overtighten.

SPRAY SETTINGS

The Spray Boom connects in place of the Broadcast Nozzle. Turn the Spray Control Knob to 'Broadcast' to spray using the boom. Adjust the pressure while spraying on pavement. Set the spray pressure according to the calibration to maintain application rates.

SPRAY WIDTH

- The spray width is intended to be approximately 10'; some adjustment is possible by changing the height of the boom, altering the nozzle orientation, and adjusting the spray pressure. See the Calibration section for more information.

TRANSPORT

- Fold the wings up when transporting and loading; secure them to prevent movement and unfolding while driving.
- Fold the wings before traveling through gates.

RECOMMENDED PRACTICES

- Spray with 10-foot turns (measured from center to center of wheel tracks) for even coverage.
- Use trim spray to cut-in. This will require the boom wings be folded up. Match the application rate of the trim nozzle to that of the boom.

Calibration - Instructions



Read and fully understand the Safety and Driver's Training sections of this manual before operating.

Refer to the Machine Diagrams and Operator Controls pages for component names and locations.

Information provided in this manual regarding calibration is provided as a reference. The Operator is solely responsible for the calibration of the spreader. This section is intended only to assist the operator in obtaining the information needed to calibrate and set up the TT5000 to fulfill the required application constraints. All materials, regardless of visual and dimensional similarities, flow and spread differently, affecting spread pattern and output. Liquids also have variances which affect spray patterns. *Charts given in this section are provided as a reference only.*

Calibration should take place on a level surface, away from vegetation, animals, streams and drains.

Spending a few extra minutes to properly calibrate will not only save on wasted materials and time but also protect turf and other vegetation.

⚠ Read Warning 5: "Operator Clothing and Personal Protective Equipment"

⚠ Read Warning 21: "Pesticide Safety"

⚠ Read Warning 22: "Handling and Disposal of Hazardous Waste Products"

MATERIALS NEEDED

To calibrate your spreader, you will need: a notepad, a stopwatch, a tape measure, a scale, a plastic tub, a graduated container, and an area for measuring spread width.

COLLECTING DATA

Here is the equation used: $\text{Desired Application Rate (lbs. /ft}^2\text{)} = \text{Output (lbs. /min or oz. /min)} \div (\text{Speed (ft. /min)} \times \text{Width (ft.)})$

When calculating, the desired application rate needs to be converted to pounds-per-square-foot.

To Convert...

Pounds-per-Acre, multiply by 43,600

Pounds-per-Thousand-Square-Feet, multiply by 1000.

Output is measured in pounds per minute or ounces per minute.

Pounds per minute is found by putting a known amount of material into the hopper (after setting the gate with the gate stop) and measuring how long it takes for the material to flow out of the hopper. To convert this time into pounds per minute, divide the pounds by the time (minutes). Seconds should be converted to minutes (the result is a decimal fraction).

Ounces per minute is found by collecting the liquid that comes out of the nozzle in one minute and measuring it.

The speed is required in feet-per-minute. 1 mile per hour is equal to 88 feet per minute. To maintain a consistent application rate, you will need to work at a speed that you can maintain across the whole spreading area.

Width can be found by spreading or spraying on pavement and measuring the resulting width.

Calibration - Instructions



If the Spinner needs removed to measure output rates, follow the steps below:

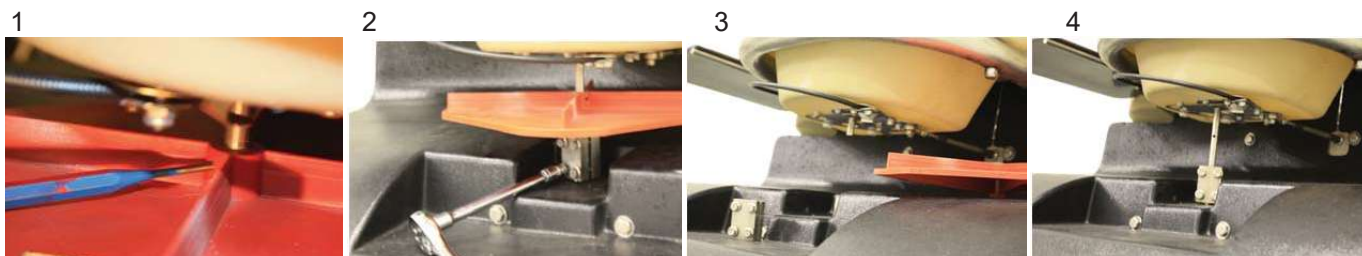
Step 1: Knock roll pin out of Spinner

Step 2: Loosen Shaft Coupler

Step 3: Remove Spinner

Step 4: Reattach Shaft Coupler

To reattach spinner perform steps 1 – 4 in reverse.



GROUND SPEED

At full throttle, first gear is 3.5 MPH and second is 5 MPH. Choose the speed at which you can safely operate given the conditions, terrain, and obstacles; adjust your settings accordingly.

CONFIGURATION

Choose the nozzle and pressure that will meet your output needs; reference the calibration charts. Three nozzle pairs are supplied with the machine; additional nozzles are available in BNK-020 Broadcast Nozzle Kit and TNK-020 Trim Nozzle Kit.

The Gate Stop position dictates the flow rate of the spreader. Adjust the gate stop by loosening the knob; moving the gate lever to the required position; and setting the stop at this position by tightening the knob.

SPREADING

The spread width is fixed at 14 feet. You will need to apply with a turn diameter of 14 feet. Set the Gate to the setting required by your application rate for your ground speed.

SPRAYING

The broadcast spray width is adjustable up to 12 feet; the boom spray width is approximately 10' but will vary with boom height and pressure setting. Set the spray width for the application rate required. The Working Spray Width, which is equal to the distance between the centerline of parallel wheel tracks, is used for calculation when calibrating.

Note that the included spray nozzles require about 30% overlap for even coverage:

- Turn radius or spray width must be adjusted to have 30% overlap between passes
- Boom nozzles must be adjusted to have 30% overlap between adjacent nozzles.
- The total spray width must be adjusted greater than the working width so that even spray coverage is achieved.
- More information can be found on the TeeJet website: www.TeeJet.com

SPREADING AND SPRAYING

Spreading and spraying can be performed together effectively only when in broadcast mode **and the spray boom is not attached**. It will require:

- 7-foot-diameter turns.
- Setting of the spread-rate to HALF of the target application rate (With 7' turn diameter and a 14' pattern every square foot of turf will get twice the spread application rate).
- Setting of the spray width to 9' 1" (This will provide for the 30% overlap required for even spray coverage).

It should be understood that some experimentation will be required to achieve the desired results; there are many factors which can impact the distribution of liquid and/or granular material.

Calibration – Reference Chart - Spread



Gate Setting	lbs./min.	lbs./1000 sq. ft.	
		3.5 MPH	5 MPH
1	1.8	0.42	0.29
2	2.4	0.56	0.39
3	3	0.7	0.48
4	3.8	0.88	0.61
5	4.2	0.98	0.68
6	6.4	1.5	1
7	8.6	2	1.4
8	10.8	2.5	1.7
9	13	3	2.1
10	15.2	3.5	2.5
11	19.3	4.5	3.1
12	23.3	5.4	3.8
13	27.5	6.4	4.4
14	31.6	7.3	5.1
15	35.7	8.3	5.8
Open	37.8	8.8	6.1

ALL CHARTS PROVIDED FOR REFERENCE ONLY.

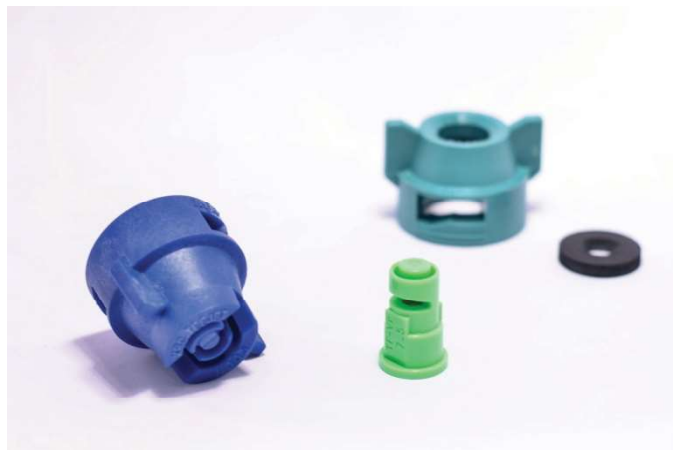
It should be understood that some experimenting will be required to achieve the desired results; there are many factors which can impact the distribution of liquid and/or granular material.

Calibration – Suggested Nozzle Pairs

F50499 PURPLE TRIM
F50135 BLUE BROADCAST



F50500 DARK BLUE TRIM
F50136 GREEN BROADCAST



F50501 RED TRIM
F50507 BLACK BROADCAST



Calibration – Reference Charts, Broadcast



F50135 BLUE @ 10 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	64	64	64	64	64	64	64	64	64	64	64	64
GPM	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	17.32	12.12	18.89	13.22	20.78	14.55	23.09	16.16	25.97	18.18	29.68	20.78
gal./1000	0.135	0.095	0.148	0.103	0.162	0.114	0.180	0.126	0.203	0.142	0.232	0.162
gal./acre	5.90	4.13	6.43	4.5	7.08	4.95	7.86	5.51	8.85	6.19	10.11	7.08

F50135 BLUE @ 20 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	91	91	91	91	91	91	91	91	91	91	91	91
GPM	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71	0.71
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	24.62	17.23	26.86	18.8	29.55	20.68	32.83	22.98	36.93	25.85	42.21	29.55
gal./1000	0.192	0.135	0.21	0.147	0.231	0.162	0.256	0.18	0.289	0.202	0.33	0.231
gal./acre	8.39	5.87	9.15	6.4	10.06	7.04	11.18	7.83	12.58	8.81	14.38	10.06

Calibration – Reference Charts, Broadcast



F50135 BLUE @ 30 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	111	111	111	111	111	111	111	111	111	111	111	111
GPM	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	30.03	21.02	32.76	22.93	36.04	25.23	40.04	28.03	45.05	31.53	51.48	36.04
gal./1000	0.235	0.164	0.256	0.179	0.282	0.197	0.313	0.219	0.352	0.246	0.402	0.282
gal./acre	10.23	7.16	11.16	7.81	12.28	8.59	13.64	9.55	15.34	10.74	17.54	12.28

F50135 BLUE @ 40 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	128	128	128	128	128	128	128	128	128	128	128	128
GPM	1	1	1	1	1	1	1	1	1	1	1	1
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	34.63	24.24	37.78	26.45	41.56	29.09	46.18	32.32	51.95	36.36	59.37	41.56
gal./1000	0.271	0.189	0.295	0.207	0.325	0.227	0.361	0.253	0.406	0.284	0.464	0.325
gal./acre	11.8	8.26	12.87	9.01	14.16	9.91	15.73	11.01	17.69	12.39	20.22	14.16

Calibration – Reference Charts, Broadcast



F50136 GREEN @ 30 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	96	96	96	96	96	96	96	96	96	96	96	96
GPM	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	25.97	18.18	28.34	19.83	31.17	21.82	34.63	24.24	38.96	27.27	44.53	31.17
gal./1000	0.203	0.142	0.221	0.155	0.244	0.17	0.271	0.189	0.304	0.213	0.348	0.244
gal./acre	8.85	18.18	28.34	19.83	31.17	21.82	34.63	24.24	38.96	27.27	44.53	31.17

F50136 GREEN @ 20 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	136	136	136	136	136	136	136	136	136	136	136	136
GPM	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	36.8	25.76	40.14	28.1	44.16	30.91	49.06	34.34	55.19	38.64	63.08	44.16
gal./1000	0.287	0.201	0.314	0.22	0.345	0.241	0.383	0.268	0.431	0.302	0.493	0.345
gal./acre	12.53	8.77	13.67	9.57	15.04	10.53	16.71	11.7	18.8	13.16	21.49	15.04

Calibration – Reference Charts, Broadcast



F50136 GREEN @ 10 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	166	166	166	166	166	166	166	166	166	166	166	166
GPM	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	44.91	31.44	49	34.3	53.9	37.73	59.88	41.92	67.37	47.16	76.99	53.9
gal./1000	0.351	0.246	0.383	0.268	0.421	0.295	0.468	0.327	0.526	0.368	0.602	0.421
gal./acre	15.3	10.71	16.69	11.68	18.36	12.85	20.4	14.28	22.95	16.06	26.23	18.36

F50136 GREEN @ 40 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	192	192	192	192	192	192	192	192	192	192	192	192
GPM	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	51.95	36.36	56.67	39.67	62.34	43.64	69.26	48.48	77.92	54.55	89.05	62.34
gal./1000	0.406	0.284	0.443	0.31	0.487	0.341	0.541	0.379	0.609	0.426	0.696	0.487
gal./acre	17.69	12.39	19.3	13.51	21.23	14.86	23.59	16.52	26.54	18.58	30.33	21.23

Calibration – Reference Charts, Broadcast



F50507 BLACK @ 10 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	128	128	128	128	128	128	128	128	128	128	128	128
GPM	1	1	1	1	1	1	1	1	1	1	1	1
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	34.63	24.24	37.78	26.45	41.56	29.09	46.18	32.32	51.95	36.36	59.37	41.56
gal./1000	0.271	0.189	0.295	0.207	0.325	0.227	0.361	0.253	0.406	0.284	0.464	0.325
gal./acre	11.8	8.26	12.87	9.01	14.16	9.91	15.73	11.01	17.69	12.39	20.22	14.16

F50507 BLACK @ 20 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	180	180	180	180	180	180	180	180	180	180	180	180
GPM	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	48.7	34.09	53.13	37.19	58.44	40.91	64.94	45.45	73.05	51.14	83.49	58.44
gal./1000	0.38	0.266	0.415	0.291	0.457	0.32	0.507	0.355	0.571	0.4	0.652	0.457
gal./acre	16.59	11.61	18.1	12.67	19.91	13.93	22.12	15.48	24.88	17.42	28.44	19.91

Calibration – Reference Charts, Broadcast



F50507 BLACK @ 30 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	221	221	221	221	221	221	221	221	221	221	221	221
GPM	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7	1.7
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	59.79	41.86	65.23	45.66	71.75	50.23	79.73	55.81	89.69	62.78	102.5	71.75
gal./1000	0.467	0.327	0.51	0.357	0.561	0.392	0.623	0.436	0.701	0.491	0.801	0.561
gal./acre	20.37	14.26	22.22	15.55	24.44	17.11	27.16	19.01	30.55	21.39	34.92	24.44

F50507 BLACK @ 40 PSI



Working Width	12	12	11	11	10	10	9	9	8	8	7	7
Speed	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5	3.5	5
oz./min.	256	256	256	256	256	256	256	256	256	256	256	256
GPM	2	2	2	2	2	2	2	2	2	2	2	2
ft./min.	308	440	308	440	308	440	308	440	308	440	308	440
sq. ft./min.	3696	5280	3388	4840	3080	4400	2772	3960	2464	3520	2156	3080
oz./1000	69.26	48.48	75.56	52.89	83.12	58.18	92.35	64.65	103.9	72.73	118.74	83.12
gal./1000	0.541	0.379	0.59	0.413	0.649	0.455	0.722	0.505	0.812	0.568	0.928	0.649
gal./acre	23.59	16.52	25.74	18.02	28.31	19.82	31.46	22.02	35.39	24.77	40.45	28.31

Calibration – Reference Charts, Trim

F50499 PURPLE @ 10 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	17	17	17	17
GPM	0.13	0.13	0.13	0.13
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	18.08	12.66	27.12	18.99
gal./1000	0.141	0.099	0.212	0.148
gal./acre	6.16	4.31	9.24	6.47

F50499 PURPLE @ 20 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	23	23	23	23
GPM	0.18	0.18	0.18	0.18
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	24.89	17.42	37.34	26.14
gal./1000	0.194	0.136	0.292	0.204
gal./acre	8.48	5.94	12.72	8.9

Calibration – Reference Charts, Trim

F50499 PURPLE @ 30 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	28	28	28	28
GPM	0.22	0.22	0.22	0.22
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	30.3	21.21	45.45	31.82
gal./1000	0.237	0.166	0.355	0.249
gal./acre	10.32	7.23	15.48	10.84

F50499 PURPLE @ 40 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	32	32	32	32
GPM	0.25	0.25	0.25	0.25
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	34.63	24.24	51.95	36.36
gal./1000	0.271	0.189	0.406	0.284
gal./acre	11.8	8.26	17.69	12.39

Calibration – Reference Charts, Trim



F50500 DARK BLUE @ 30 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	20	20	20	20
GPM	0.15	0.15	0.15	0.15
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	21.19	14.84	31.79	22.25
gal./1000	0.166	0.116	0.248	0.174
gal./acre	7.22	5.05	10.83	7.58

F50500 DARK BLUE @ 20 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	27	27	27	27
GPM	0.21	0.21	0.21	0.21
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	29.22	20.45	43.83	30.68
gal./1000	0.228	0.16	0.342	0.24
gal./acre	9.95	6.97	14.93	10.45

Calibration – Reference Charts, Trim

F50500 DARK BLUE @ 10 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	33	33	33	33
GPM	0.26	0.26	0.26	0.26
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	35.71	25	53.57	37.5
gal./1000	0.279	0.195	0.419	0.293
gal./acre	12.17	8.52	18.25	12.77

F50500 DARK BLUE @ 40 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	38	38	38	38
GPM	0.3	0.3	0.3	0.3
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	41.13	28.79	61.69	43.18
gal./1000	0.321	0.225	0.482	0.337
gal./acre	14.01	9.81	21.01	14.71

Calibration – Reference Charts, Trim

F50501 RED @ 30 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	26	26	26	26
GPM	0.21	0.21	0.21	0.21
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	28.64	20.05	42.97	30.08
gal./1000	0.224	0.157	0.336	0.235
gal./acre	9.76	6.83	14.64	10.24

F50501 RED @ 20 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	36	36	36	36
GPM	0.28	0.28	0.28	0.28
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	38.96	27.27	58.44	40.91
gal./1000	0.304	0.213	0.457	0.32
gal./acre	13.27	9.29	19.91	13.93

Calibration – Reference Charts, Trim **Reference Charts – Trim Spray**

F50501 RED @ 10 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	45	45	45	45
GPM	0.35	0.35	0.35	0.35
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	48.7	34.09	73.05	51.14
gal./1000	0.38	0.266	0.571	0.4
gal./acre	16.59	11.61	24.88	17.42

F50501 RED @ 40 PSI



Working Width	3	3	2	2
Speed	3.5	5	3.5	5
oz./min.	51	51	51	51
GPM	0.4	0.4	0.4	0.4
ft./min.	308	440	308	440
sq. ft./min.	924	1320	616	880
oz./1000	55.19	38.64	82.79	57.95
gal./1000	0.431	0.302	0.647	0.453
gal./acre	18.8	13.16	28.2	19.74

Calibration – Reference Charts, Boom Nozzles **TURFEX**

F50505 RED @ 10 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	78	78
GPM	0.6	0.6
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	25.32	17.73
gal./1000	0.198	0.138
gal./acre	8.63	6.04

F50505 RED @ 20 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	108	108
GPM	0.8	0.8
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	35.06	24.55
gal./1000	0.274	0.192
gal./acre	11.94	8.36

F50505 RED @ 30 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	135	135
GPM	1.1	1.1
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	43.83	30.68
gal./1000	0.342	0.24
gal./acre	14.93	10.45

F50505 RED @ 40 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	153	153
GPM	1.2	1.2
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	49.68	34.77
gal./1000	0.388	0.272
gal./acre	16.92	11.84

Calibration – Reference Charts, Boom Nozzles



F50462 GRAY @ 10 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	114	114
GPM	0.9	0.9
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	37.01	25.91
gal./1000	0.289	0.202
gal./acre	12.61	8.83

F50462 GRAY @ 20 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	162	162
GPM	1.3	1.3
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	52.6	36.82
gal./1000	0.411	0.288
gal./acre	17.92	12.54

F50462 GRAY @ 30 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	201	201
GPM	1.6	1.6
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	65.26	45.68
gal./1000	0.51	0.357
gal./acre	22.23	15.56

F50462 GRAY @ 40 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	231	231
GPM	1.8	1.8
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	75	52.5
gal./1000	0.586	0.41
gal./acre	25.55	17.88

Calibration – Reference Charts, Boom Nozzles



F50135 BLUE @ 10 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	192	192
GPM	1.5	1.5
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	62.34	43.64
gal./1000	0.487	0.341
gal./acre	21.23	14.86

F50135 BLUE @ 20 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	273	273
GPM	2.1	2.1
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	88.64	62.05
gal./1000	0.692	0.485
gal./acre	30.19	21.13

F50135 BLUE @ 30 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	333	333
GPM	2.6	2.6
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	108.12	75.68
gal./1000	0.845	0.591
gal./acre	36.83	25.78

F50135 BLUE @ 40 PSI



Working Width	10	10
Speed	3.5	5
oz./min.	384	384
GPM	3	3
ft./min.	308	440
sq.ft./min.	3080	4400
oz./1000	124.68	87.27
gal./1000	0.974	0.682
gal./acre	42.47	29.73

Maintenance

⚠ Read Warning 20: “Maintenance and Service”

⚠ Read Warning 17: “Checking Wheel Fasteners”

IMPORTANT:

Keeping the TT5000 Ride-On Spread-N-Spray operating reliably requires attention to maintenance. Proper maintenance prevents damage to your machine and preventable malfunctions. Proper maintenance is required for the safe operation of the machine. Use the following checklist to perform routine maintenance at the specified intervals.

ENGINE SERVICE INTERVALS:

Refer to the Engine Manual included with this machine for engine service intervals and engine specific maintenance requirements.

IMPORTANT:

Change engine and clutch oil every 100 hours.

DAILY SERVICE CHECKLIST.

IMPORTANT:

Adjust, repair, replace, and report any irregularities discovered during these checklist inspections to your supervisor.

- Clean machine in a designated area. **IMPORTANT: DO NOT** power wash machine. High pressure water will force corrosive fertilizer residue into bearings, linkages, and other parts. Corrosion damage is not covered by the Warranty. Instead use low pressure air regulated to 30 PSI or less. Once a week, or as necessary, use low pressure water regulated to 30 PSI or less to wash machine. Start and run machine and blow dry to remove any water.
- Empty Hopper. **NOTE:** Use a dedicated pail or wet /dry vacuum to remove fertilizer so that it can be recycled
- Clean the following areas:
 - Spinner Platter.
 - Footpads.
 - Nozzles and nozzle strainers, if necessary.
 - Hopper opening plate, auxiliary gate slide plate and linkage.
 - Engine cooling fins, blower housing inlet (starter), carburetor, governor linkage, throttle lever, throttle lever and cable.
- Lubricate and protect the following, using light oil or equivalent:
 - Operating controls and cables.
 - Hopper opening plate and auxiliary gate plate.
 - Carburetor and all linkages and springs.
 - Exposed aluminum.
- Check and record Engine Idle Speed (Must not exceed 1650 RPM).
- Check and record Engine Top Speed (Must be 3,450 RPM).
- Gage, record, and adjust Hopper control settings as necessary, including:
 - Auxiliary Gate Adjustment Plate.
 - Hopper opening.
 - Rate Adjustment Knob
- Check and adjust the Spray Nozzle alignment as necessary.
- Check and top off engine oil.
- Check and top off clutch oil.
- Grease all fittings
- Check for loose or missing fasteners or parts, cracks in metal or welds.

BREAK-IN SERVICE (FIRST 10 HOURS) CHECKLIST

- Change engine oil
- Change clutch oil
- Check tire pressure
- Check wheel lug nut tightness
- Check tightness of pivot bolts and nuts
- Test safety devices
- Check drive belt tension
- Check spinner belt tension

Maintenance

EVERY 50 HOURS (OR EVERY 2 WEEKS) CHECKLIST

Read Warning 19: "Tire Safety"

Perform more frequently if operating in wet or dusty conditions

- Clean air filter
- Check tire pressure
- Check wheel lug nut tightness
- Check tightness of pivot bolts and nuts
- Test safety devices
- Check drive belt and spinner/clutch belts

EVERY 100 HOURS (OR MONTHLY) CHECKLIST

Perform more frequently if operating in wet or dusty conditions

- Change engine oil
- Change clutch oil
- Clean or replace air filter
- Check engine manual for additional service required
- Check drive and spinner belts, replace if necessary
- Flush and clean spray tanks
- Calibrate spray system
- Calibrate spreader system

YEAREND CHECKLIST

Read Warning 5: "Operator Clothing and Personal Protective Equipment"

Read Warning 21: "Pesticide Safety"

Read Warning 22: "Handling and Disposal of Hazardous Waste Products"

Read Warning 19: "Tire Safety"

These items should be performed at the end of the season prior to putting the unit into storage:

- Change engine oil
- Change clutch oil
- Clean or replace air filter
- Check engine manual for additional service required
- Grease all fittings
- Check tire pressure
- Check wheel lug nut tightness
- Check tightness of pivot bolts and nuts
- Test Safety Devices
- Check drive belt and spinner/clutch belts, replace if necessary
- Flush and clean spray tanks
- Run RV anti-freeze or windshield washer solution through spray system
- Calibrate spray system
- Calibrate spreader system

CHECK ENGINE AND CLUTCH OIL

Refer to your Engine Manual that is provided with your TT5000 for any Engine maintenance.

IMPORTANT: Low oil level can cause serious engine or clutch damage. Check oil level regularly. Check before operating. Keep oil level between "full" and "add" marks. Do not operate engine if oil levels in engine or clutch are below the add marks or above the full marks.


- Use SAE 30 weight oil in the Gear-Reducing Clutch.
- See engine manual for engine oil recommendations.

Maintenance

REPLACING THROTTLE LEVER

- Remove handgrip
- Loosen lever tensioning screw
- Remove cable
- Remove lever
- Replace throttle lever in reverse order

REPLACING THROTTLE CABLE

 **Read Warning 6: “Safety Devices”**

THROTTLE CABLE REPLACEMENT:


- Remove handgrip
- Loosen lever tensioning screw
- Remove cable
- Replace throttle lever in reverse order


Engine speed is part of the throttle/clutch safety device. Keep the top speed at 3450 RPM. Do not over-speed engine.

SPINNER SHAFT COUPLER

- Loosen and Remove bolts.
- Remove Coupler.
- Assemble new coupler over shafts with bolts.
- Tighten evenly

ADJUSTING PRESSURE IN FLUID-FILLED TIRES

 **Read Warning 6: “Safety Devices”**

 **Read Warning 19: “Tire Safety”**

On a level open area free from obstructions and bystanders: lock front brake, and shift into neutral.

Tires are filled with pressurized liquid to provide traction and lower the center of gravity. Explosive separation of rim and tires may cause serious injury.


- Do not remove fluid from tires.
- Replacement tires must be fluid filled.
- Wear a face shield when checking, filling, and repairing fluid-filled tires.
- Do not attempt to check, repair or replace fluid fill tires without the proper equipment.
- Use a clip-on chuck and extension hose. Stand to the side of the tire when filling.
- Always maintain tire pressure at 12 PSI. Do not under or over inflate tires.
- Rear tires have split rims. Release tire pressure prior to loosening any nuts or bolts.
- Never weld or heat the tire rims as this could cause a tire explosion or structural damage to the rim.
- Check tires often for cuts, wear, bubbles, and missing or loose lug nuts.
- Check pressure often.
- Fix or replace worn or damaged tires, rims, and hardware.


Fluid-filled tires are safety devices. Keep pressure at 12 PSI. Do not operate machine without liquid-filled tires. Replace any lost fluid.

DRAINING, FLUSHING, AND WINTERIZING

Perform this procedure away from plants, animals, streams, and drains while wearing appropriate

 **Read Warning 5: “Operator Clothing and Personal Protective Equipment”**

 **Read Warning 21: “Pesticide Safety”**

 **Read Warning 22: “Handling and Disposal of Hazardous Waste Products”**

 **Read Warning 20: “Maintenance and Service”**

Drain and flush the tank at the end of the season, or when the machine will not be used for 2 weeks. If storing where there is any possible risk of freezing, store with antifreeze solution in the tank.

Maintenance



DRAINING

- If the product in the tank is safe to let run off, open the valve on the bottom of the tank until the tank is empty.

FLUSHING

- Fill the tanks with approximately 5 gallons of water. Turn the pump on and run each of the spray system components for at least 15 seconds: Trim, Broadcast/Boom, Agitation, and Spray Wand.

WINTERIZING

- Once you are finished flushing, add RV Antifreeze to the tank and, if needed, more water. Avoid over-dilution. Run the pump and each of the spray system options (Trim, Broadcast/Boom, Agitation, and Spray Wand) long enough to fill up all of the hoses with the antifreeze solution [only a few seconds, depending on the pressure].
- Before returning to use, the antifreeze will need to be drained and the system flushed.

CLEANING

Refer to the Daily Service Checklist.

Maintenance

Important

Grease the following points daily:
Figure 1: Transaxle Grease Points
Figure 2: Pivot Grease Points
Figure 3: Sully Grease Points

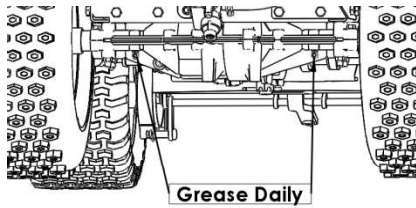


Figure 1

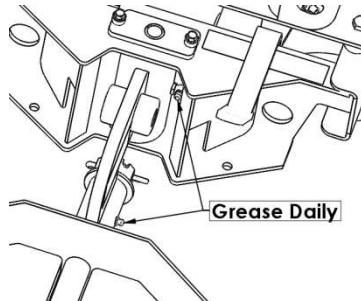


Figure 2

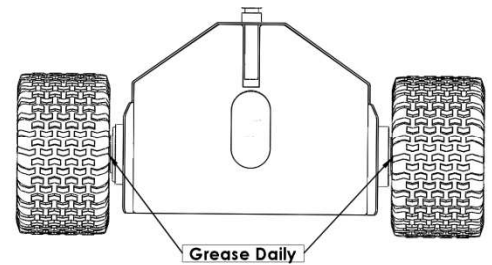


Figure 3

Troubleshooting



WARNING

IT IS CRITICAL TO ENSURE ALL APPROPRIATE WARNINGS ARE UNDERSTOOD AND PRECAUTIONS TAKEN. CAREFULLY RE-READ THE 'SAFETY – WARNINGS' SECTION BEFORE ATTEMPTING ANY SERVICE OR MAINTENANCE TASKS.

FAULT	POSSIBLE CAUSE	SOLUTION
ENGINE		
Engine does not start.	Transaxle in gear.	Shift to Neutral
	Kill switch engaged.	Attach Lanyard to Switch
	Gas tank empty.	Fill with unleaded gasoline.
	Fuel shut off valve closed.	Switch valve to open.
	Spark Plug wire disconnected.	Attach sparkplug wire.
	Throttle Spring broken.	Replace.
	Bad fuel.	Drain tank; fill with fresh fuel.
	Water in gas tank.	Drain tank; fill with fresh fuel.
	Air Filter plugged.	Clean or replace Air Filter.
	Spark Plug damaged.	Replace.
	Idle adjustment.	Adjust idle screw.
	NSSS Starting Module failed.	Replace.
	NSSS wire short.	Look for bare wire, repair or replace.
	NSSS Transaxle switch failed.	Take to authorized Peerless mechanic.
Poor Engine performance.	Fuel shut off valve closed.	Switch valve to open.
	Choke on.	Turn choke off.
	Bad fuel.	Drain tank; fill with fresh fuel.
	Water in fuel.	Drain tank; fill with fresh fuel.
	Dirty carburetor fuel bowl.	Drain fuel bowl; Clean.
	Fuel line plugged.	Unclog.
	Air Filter plugged.	Clean or replace Air Filter.
	Spark Plug damaged.	Replace.
	Carburetor linkage stuck.	Lubricate. Take to authorized Subaru mechanic.
	Governor spring broken.	Replace.
	Governor out of adjustment.	Take to authorized Subaru mechanic.
Engine stalls or lacks power	Choke on.	Turn choke off.
	Gas tank empty.	Fill with unleaded gasoline.
	Fuel shut off valve closed.	Switch valve to open.
	Air Filter plugged.	Clean or replace Air Filter.
	Throttle Spring broken.	Replace.
	Spark Plug damaged.	Replace.
	Bad fuel.	Drain tank; fill with fresh fuel.
	Oil low.	Fill with oil to correct level.
Engine knocks.	Oil low.	Fill with oil to correct level.
Engine runs too fast.	Governor out of adjustment.	Take to authorized Subaru mechanic.
	Throttle Lever/Cable misadjusted.	Adjust to the correct tension.
	Throttle Lever/Cable damaged.	Replace.
	Throttle Lever/Cable sticking	Lubricate or Replace.
Engine starts in gear.	NSSS Starting Module failed.	Replace.
	Ground Wire not connected.	Connect Ground Wire.

Troubleshooting



Engine will not idle.	Idle adjustment.	Adjust idle screw.
	Throttle Spring broken.	Replace.
	Bad fuel.	Drain tank; fill with fresh fuel.
	Air Filter plugged.	Clean or replace Air Filter.
	Spark Plug damaged.	Replace.
Engine will not return to idle.	Throttle Lever/Cable damaged.	Replace Throttle Lever/Cable
	Throttle Lever/Cable sticking.	Lubricate or Replace.
	Throttle Spring broken.	Replace.
	Carburetor linkage stuck.	Lubricate/Take to authorized Subaru mechanic.
	Governor spring broken.	Replace.
	Governor out of adjustment.	Take to authorized Subaru mechanic.
DRIVE SYSTEM		
Machine will not move with engine running.	Front Brake locked.	Pull Brake Lever to unlock.
	Drive Belt worn/damaged.	Replace.
	Idler tensioning spring broken/missing.	Replace.
	Clutch out of oil.	Fill clutch with oil.
	Shift arm bolt loose/missing.	Tighten/Replace.
	Idler Pulley loose.	Tighten.
	Drive Pulley loose.	Align and Tighten.
	Transaxle Pulley loose.	Align and Tighten.
	Front axle shaft key missing.	Replace.
	Transaxle - Low oil.	Fill transaxle with oil.
	Transaxle - bent Axle.	Replace. Take to authorized Peerless mechanic.
	Transaxle - Shift Linkage bent/broken.	Replace.
	Transaxle - other internal damage.	Take to TurfEx dealer for diagnostics.
Transaxle locked.	Front Brake locked.	Pull Brake Lever to unlock.
	Axle Bearing - low grease.	Grease.
	Internal Damage.	Take to TurfEx dealer for diagnostics.
Machine creeps/continues moving with engine running.	Idle speed too high.	Adjust idle screw.
	Throttle Lever/Cable damaged.	Replace.
	Throttle Lever/Cable sticking.	Lubricate/Replace.
	Throttle Spring broken.	Replace.
	Carburetor linkage stuck.	Lubricate/Take to authorized Subaru mechanic.
Excessive vibration.	Drive belt slipping/tensioned improperly.	Check Idler Pulley and Spring.
	Loose engine bolts.	Tighten.
	Motor Plate cracked.	Replace.
	Fasteners loose/missing.	Tighten/Replace.
	Cracked Welds/Frame.	Replace affected components.
Ground Speed incorrect.	Engine RPMs too high.	Adjust Throttle Lever/Cable or Governor
	Engine RPMs too low.	Adjust Throttle Lever/Cable or Idle Screw.
	Belt slipping worn or damaged.	Replace.

Troubleshooting



	Transaxle in Low Gear.	Shift to High Gear.
	Refer to "Machine will not move with engine running".	
BRAKES		
Stops too fast.	Front Brake cable too tight.	Adjust.
	Brake Dirty.	Clean/Dry off.
	Object caught in Sulky Brake.	Remove object.
	Rear Wheel Hub low on grease.	Grease.
Stops too slowly.	Front Brake cable too loose.	Adjust.
	Brakes wet/contaminated.	Clean/Dry off.
	Brake Cable broken.	Replace.
	Brake worn/damaged.	Replace.
Pulls to one side when braking.	Rear Wheel Hub low on grease.	Grease.
	One Sulky Brake Band or Drum worn/damaged.	Replace affected components.
Squeal.	Front Brake cable too tight.	Adjust.
	Brakes dirty, worn, or damaged.	Clean/Replace affected components.
	Object caught in Sulky Brake.	Remove object.
Brakes chatter.	Front Brake cable too loose.	Adjust.
	Brakes dirty, worn, or damaged.	Clean/Replace affected components.
	Object caught in Sulky Brake.	Remove object.
Hot brakes.	Front Brake cable too tight.	Adjust.
	Brakes dirty, worn, or damaged.	Clean/Replace affected components.
Steering is difficult.	Sulky Brakes locked up.	Check spring/replace.
	Sulky Joint damaged/corroded.	Grease/Replace.
	Rear Wheel Hub low on grease.	Grease.
	Low tire pressure.	Set Pressure to 12 PSI.
SPREAD SYSTEM		
Spinner does not turn.	Roll pin missing.	Replace.
	Coupling loose.	Tighten.
	Coupling screws broken/missing.	Replace.
	Spinner/Pump Belt worn/damaged.	Replace.
	Spinner Trans Pulley loose.	Tighten.
	Pump Pulley loose.	Tighten.
	Transaxle Pulley loose.	Tighten.
Hopper Gate does not move.	Gate jammed/dirty.	Clean/Lubricate.
	Hardware too tight.	Loosen hardware until gate will move.
	Gate damaged.	Replace.
	Cable Loose/Damaged.	Adjust/Replace.
Material does not flow from hopper.	Material blocking one or more holes.	Remove obstructions.
	Agitator worn/damaged.	Replace.
	Hopper Gate does not move.	See "Hopper Gate does not move".
Auxiliary Gate does not move.	Cable/Lever damaged.	Fix/Replace.
	Jammed with material.	Remove obstructions.
	Stuck.	Clean/Lubricate.

Troubleshooting



		See "Hopper Gate does not move".
Spread Pattern uneven.	Spinner Plate dirty/damaged.	Clean/Replace.
	Engine RPM incorrect.	Adjust RPMs. See Specifications page.
SPRAY SYSTEM		
No spray output.	Tank Empty.	Fill Tank.
	Suction Valve closed.	Open Valve.
	Nozzle Strainer clogged.	Remove Obstruction.
	Tank Strainer clogged.	Remove Obstruction.
	Nozzle Tip clogged.	Remove Obstruction.
	Pump clogged.	Remove Obstruction.
	Hose clogged.	Remove Obstruction.
	Pump worn, damaged, or dirty.	Clean/Repair/Replace.
	Spray Mix too thick or viscous.	Dilute mix/use a lower gear.
Sprayer output low.	Nozzle Strainer clogged.	Remove Obstruction.
	Tank Strainer clogged.	Remove Obstruction.
	Nozzle Tip clogged.	Remove Obstruction.
	Pump clogged.	Remove Obstruction.
	Hose clogged.	Remove Obstruction.
	Pump worn, damaged, or dirty.	Clean/Repair/Replace.
	Spray Mix too thick or viscous.	Dilute mix/go slower.
Narrow Spray Pattern.	Nozzles improperly aligned.	Adjust nozzle pivot.

Specifications

ENGINE

- Engine Model: Subaru EX210E5022
- RPM: Full speed: 3450 rpm (no load); Idle: 1400 rpm
- Centrifugal wet clutch with 2:1 reduction.
- Speed: 3.5 mph (1st) 5.0 mph (2nd)
- Fuel tank: Engine-mounted, 3.6L
- Type of fuel: Regular unleaded gasoline.
- Fuel shutoff valve: Located below tank.

TRANSMISSION

- Transmission Model: Peerless 855-001C. (Reverse, Neutral, and 2 Forward Gears)

TIRES AND WHEELS

- Front tires: 18 x 950 – 8, Liquid added for ballast and traction.
- Rear tires: 13 x 650 – 6, Liquid added for ballast and traction.

SPREADER

- Capacity: 150 lb.

SPRAYING SYSTEM

- Spray Pump: 5.3 GPM @ 60PSI
- Tank: 17.0 gallon (64.4 L) capacity.
- Spray Patterns: 6' to 12' wide pattern for general spraying, 2-3' narrow pattern for trim spraying.
- Spray Pressure: Adjustable, 10-40 PSI.
- Spray Rate: Adjustable from 0.095 to 0.928 gallons per thousand square feet. Spray boom and optional nozzle kits provide additional application options, up to 1 gallon per thousand square feet.

DIMENSIONS

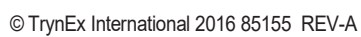
- Overall length: 59"; 66"w/ boom
- Overall width: 35.5"
- Overall height: 55.0"
- Weight: 500 lb. dry, ~875 lb. full, 1075 lb. full with 200 lb. rider

ELECTRICAL SYSTEM

- Safety interlock system: This machine is equipped with a neutral safety start module. To start the engine, the transmission must be in the neutral (N) position and the safety lanyard attached to the switch.

Notes

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