

# DAKOTA™ 310 TURF TENDER OWNER / OPERATOR'S MANUAL



**This manual is to be considered a permanent part of this Turf Tender and must remain with the Turf Tender at all times. Replacement manuals may be ordered through an Authorized Dakota dealer.**

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Dakota Peat and Equipment, Inc.  
p/n 20460

# WARRANTY

**DAKOTA PEAT & EQUIPMENT is hereinafter called DAKOTA™.**

## **(A) Warranty.**

DAKOTA™ warrants all products manufactured by it to be free from defects in material and manufactured at the time of shipment and for twelve (12) months from date of delivery to customer. DAKOTA™ will furnish to the dealer, without charge, f.o.b. East Grand Forks, Minnesota, replacements for such parts as DAKOTA™ finds to have been defective at the time of shipment; or at DAKOTA™'s option, will make or authorize repairs to such parts, provided that, upon request, such parts are returned, transportation prepaid, to the factory at East Grand Forks, Minnesota.

This warranty shall not apply to any product that has been subjected to misuse, misapplication, neglect (including but not limited to improper maintenance), accident, improper installation, modification (including but not limited to use of unauthorized parts or attachments), adjustment, or repair. Engines, motors, and any accessories furnished with DAKOTA™'s products, but which are not manufactured by DAKOTA™, are not warranted by DAKOTA™ but are sold only with the express warranty, if any, of the manufacturers thereof. **THE FOREGOING IS IN LIEU OF ALL OTHER WARRANTIES, WHETHER EXPRESS OR IMPLIED (INCLUDING THOSE OF MERCHANTABILITY AND FITNESS OF ANY PRODUCT FOR A PARTICULAR PURPOSE), AND OF ANY OTHER OBLIGATION OF LIABILITY ON THE PART OF DAKOTA.**

## **(B) Limitation of Liability.**

It is expressly understood that DAKOTA™'s liability for its products, whether due to breach of warranty, negligence, strict liability, or otherwise, is limited to the furnishing of such replacement parts, and DAKOTA™ will not be liable for any other injury, loss, damage, or expense, whether direct or consequential, including but not limited to loss of use, income, profit, or production, or increased cost of operation, or spoilage of or damage to material, arising in connection with the sale, installation, use, or inability to use, or the repair or replacement of, DAKOTA™'s products.

Any operation expressly prohibited in the operating instructions or manuals furnished with the machine, or any adjustment, or assembly procedure not recommended or authorized in the operating or service instructions shall void such warranty.

## **(C) Registration.**

**THIS WARRANTY IS VOID UNLESS YOUR DEALER COMPLETED AND RETURNED A "NEW PRODUCT REGISTRATION AND WARRANTY" CARD TO DAKOTA™ WITHIN 30 DAYS AFTER DELIVERY OF UNIT TO CUSTOMER.**

**PLEASE COMPLETE AND RETURN THE NEW PRODUCT REGISTRATION AND WARRANTY CARD, LOCATED AT THE END OF THIS MANUAL, IF YOU FEEL YOUR DEALER MAY NOT HAVE COMPLETED ONE FOR YOU AT THE TIME OF DELIVERY.**

**No Parts shall be returned under warranty unless a Return Goods Authorization (RGA) is obtained from DAKOTA™.**

**ALWAYS GIVE PART NAME, NUMBER AND MACHINE SERIAL NUMBER WHEN ORDERING PARTS.**

**NOTE: DAKOTA reserves the right to make changes to design or construction without obligation to incorporate such changes in equipment previously sold.**

The tire manufacturer's warranty supplied with your Turf Tender may not apply outside the U.S.

*YOUR DEALER IS RESPONSIBLE FOR COMPLETION OF THE PRODUCT REGISTRATION CARD AND RETURNING IT TO DAKOTA AS SOON AS YOU TAKE DELIVERY OF YOUR TURF TENDER. PLEASE REFER TO THE "WARRANTY" SECTION FOR ADDITIONAL INFORMATION.*

## **D) Parts, Service, and Warranty**

Contact your local dealer for parts, service, and warranty.

**Warranty will be denied if the registration and warranty card is not sent in within 30 days after delivery.**

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# CE DECLARATION OF CONFORMITY

Manufacturer's Name: DAKOTA, Inc.  
Manufacturer's Address: 833 Gateway Drive N.E.  
East Grand Forks, Minnesota 56721

Declares that the machinery described below complies with applicable essential health and safety requirements of Parts 1 and 4 and related clauses of Part 3 of Annex 1 of the Machinery Directive 98/37/EC.

Description: DAKOTA TURF TENDER

Model Number: Type 310

Serial Number: \_\_\_\_\_

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The following standards have either been referred to or been complied with, in part or in full, as relevant:

EN 292 - 2	Machinery Safety -	Basic concepts, general principals for design - Part 2: Technical principals and specifications.
EN 294	Machinery Safety -	Safety distances to prevent danger zones being reached by the upper limbs.
EN 811	Machinery Safety -	Safety distances to prevent danger zones being reached by the lower limbs.
EN 953	Machinery Safety -	General requirements for the design and construction of guards.
EN 954-1	Machinery Safety -	Safety Related Parts of Control Systems - Part 1: General Principals for Design.
EN 60204-1	Machinery Safety -	Electrical Equipment of Machines.
EN60947-3-1	Electrical Safety -	Switches
SAE J1128	Electrical Safety-	Wire
ASAE	Machine Safety-	Tip Over Testing

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Full Name of responsible person.

Kevin Pierce

Position: President, DAKOTA, Inc.

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Full Name of Authorized European Representative.

\_\_\_\_\_ (Typed). Position \_\_\_\_\_ (Typed).

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Original must remain with machine owner. EU representative (Dealer) must fax or send fully completed copy to DAKOTA, Inc. Fax number is 218-773-0701.

**YOUR DEALER IS RESPONSIBLE FOR COMPLETION OF THE NEW PRODUCT REGISTRATION CARD AND RETURNING IT TO DAKOTA™ AS SOON AS YOU TAKE DELIVERY OF YOUR MACHINE. PLEASE REFER TO THE "WARRANTY" SECTION FOR ADDITIONAL INFORMATION.**

**IF YOU FEEL THAT A NEW PRODUCT REGISTRATION AND WARRANTY CARD WAS NOT COMPLETED AND MAILED IN, PLEASE COMPLETE THE WARRANTY CARD LOCATED AT THE BACK OF THIS MANUAL WITHIN 30 DAYS OF ACCEPTING DELIVERY.**

DAKOTA PEAT & EQUIPMENT  
833 Gateway Drive NE  
East Grand Forks, Minnesota 56721  
United States of America

# SPECIFICATIONS

ITEM	Model 310	ITEM	Model 310
Height:	40 in. (1.02 m)	Hopper/Conveyor:	Rear Discharge
Length:	101 in. (2.56 m)*	Metering Gate:	Rear manual sliding
Width:	38 in. (0.96 m)*	Tires:	18x9.5-8
Hopper Capacity (level):	10 cu ft (0.28 m <sup>3</sup> )	Tire Pressure:	8-15 psi (55-103 kPa)
Hopper Capacity (heaped):	12 cu ft (0.34 m <sup>3</sup> )	Hydraulic Fluid:	ISO 46
Spreading Width (approx):	20 ft (6.1 m)	Hydraulic Filter:	p/n19988
Speed (forward):	3.8 mph (7.0 kph)	Weight:	800 lb (362.8 Kg)
Speed (reverse):	1.25 mph (2.3 kph)		

MODEL # \_\_\_\_\_

SERIAL # \_\_\_\_\_

## SAFE OPERATIONAL PRACTICES

### **BEFORE OPERATING**

#### **Read Operator's Manuals**

Prior to operating the Turf Tender, read and understand the contents of this Operator's Manual. Become familiar with all control functions.

#### **REPLACEMENT MANUAL**

A replacement manual (p/n 2046) is available by sending complete Model and Serial Number to

Dakota, Inc.

833 Gateway Drive, North East

East Grand Forks, Minnesota 56721

#### **Unauthorized Operators**

Never allow children to operate the Turf Tender. Do not allow anyone to operate the Turf Tender without proper instruction or training. Only trained and authorized persons should operate the Turf Tender.

The operator is defined as being the person responsible for supervising the operation of the Turf Tender.

#### **Drugs And Alcohol**

Never operate the Turf Tender when under the influence of drugs or alcohol.

#### **Shields And Safety Devices**

Keep all shields, guards, and safety devices in place. If a shield, guard, or safety device is damaged, replace or repair it prior to operating the Turf Tender. If a decal is illegible, order and install a new one.

#### **Loose Fasteners And Fittings**

Although the Turf Tender has been designed so that components will not come loose during normal operation of the Turf Tender, always check the Turf Tender prior to start up and after each use for loose fasteners, fittings, connectors and other components. Tighten, repair, or replace as necessary. This includes electrical and hydraulic system components, also. Only use original DAKOTA replacement parts.

#### **Modifications To Turf Tender**

Do not modify the Turf Tender in any way. Modifying the Turf Tender will void the warranty.

### **Safe Attire**

Do not operate the Turf Tender while wearing sandals, tennis shoes, sneakers, or shorts. Always wear long pants and substantial shoes. Do not wear loose fitting clothing which could get caught in control switches or moving parts. The wearing of safety glasses, safety shoes, hearing protection, and a hard hat is recommended and may be required by some ordinances and insurance regulations. When spreading hazardous material, be sure to use the proper personnel protective equipment (PPE) required for the material being spread as stated by the manufacturer of the material.

### **WHILE OPERATING**

#### **Confined Space Operation**

Do not run the Turf Tender's engine in a confined area without sufficient ventilation. Exhaust fumes are hazardous and could possibly be deadly.

#### **Danger Zones**

The following danger zones exist in and around the Turf Tender:

1. A crush hazard exists in any area beneath the Turf Tender.
2. A hydraulic jet puncture hazard and hot oil burn hazard exists in any area within 6 feet (2 m) of a hydraulic hose due to the possibility of a puncture in a hose.
3. A projectile hazard exists in any area within a 50 foot (15 m) radius of the rear and sides of the Turf Tender. Rocks travel farther than sand during normal top dressing operations.
4. Entanglement, pinch, and cut hazards exist in any areas close to rotating and moving components such as conveyors and spinners.
5. A potential entrapment hazard exists within the hopper.
6. A crush hazard exists around the perimeter of the Turf Tender if operated on a slope exceeding the Turf Tender's recommended maximum speed and operational angle (10° side to side and 26° front to back).

For these reasons, the only person that is allowed to be near a loaded or operating Turf Tender is the operator.

You, the operator in control, are responsible for using good, safe judgment in the operation of the Turf Tender and ensuring that no one will be injured by its operation.

## **Passengers**

Never carry passengers on this Turf Tender. The Turf Tender is not designed to carry anybody.

## **Operate Carefully**

Using the Turf Tender demands attention to operation. Failure to operate the Turf Tender safely may result in an accident, tip over, or serious injury or death. To prevent tipping or loss of control:

1. The Turf Tender is designed to be operated in forward with the operator positioned to the side of the machine. Do not walk backwards looking at the machine. Always watch where you are going.
2. Operate only at a travel speed you are comfortable with. Use extreme caution, reduce speed, and maintain a safe distance when operating around sand traps, ditches, creeks, trees, ramps, unfamiliar areas, or other hazards.
3. Be alert for severe ground depressions, holes, or other hidden hazards. If an outside wheel drops into a hole, it may cause the Turf Tender to tip over.
4. Use caution when operating the Turf Tender on slopes. Normally travel straight up or down slopes. Operate at a slow speed when either going up or down a slope.
5. Avoid making turns on slopes.
6. Reduce speed when making turns.
7. Use extra caution and slow travel speed when operating on wet surfaces, at higher speeds, or with a full load.

**NOTE: A worst-case control scenario exists when the Turf Tender is being operated down a wet slope at an angle to the slope and the operator is attempting to turn. Loss of control could result in an accident, tip over and serious injury or death.**

8. Avoid sudden stops and starts. Do not go from forward to reverse or from reverse to forward without coming to a complete stop.
9. Do not attempt sharp turns or abrupt maneuvers or other unsafe operating actions which may cause loss of control.

10. If the engine stalls or the Turf Tender loses headway on a hill, never attempt to turn the vehicle around. Always back straight down the hill slowly in reverse.
11. Make sure the area is clear prior to operating.
12. Always avoid low hanging objects such as tree limbs, doorways, door jambs, power lines, etc. Ensure there is enough clearance for both you and the Turf Tender.
13. Always avoid objects, which may “hook” the wheels such as trees, posts, etc. Be constantly aware of the width and turning radius of the Turf Tender. Failure to do so may result in damage to the Turf Tender.
14. Watch out for traffic when near or crossing roads. Always yield the right of way to pedestrians and other vehicles. This vehicle was not designed for travel on streets or highways. Obey all traffic rules and regulations pertaining to controlled and uncontrolled traffic areas.
15. Limit load size if working on steep or rough terrain.
16. STOP and ask your supervisor if you are ever unsure about safe operation.

## **LOADING**

When loading material, distribute the load evenly to keep it from shifting. Operate the Turf Tender with extra care when the hopper is full of heavy material.

Slowly fill the hopper over a few seconds of time with the loader bucket as low as possible. Avoid “dropping” the load into the hopper from an excessively high loader bucket. This is safer in terms of maintaining a balanced load and will also extend the life of the Turf Tender.

Make sure the material you are loading has uniform properties. Material that has few small rocks in it poses a projectile hazard. Material that has varying composition or moisture may result in widely varying application rates.

Do not exceed the load capacity of the Turf Tender. Refer to the Specifications section to determine the maximum load capacity of the Turf Tender.

Never add sideboards to the hopper to increase its capacity for dense or heavy materials. The additional weight will increase the chance of tipping or rolling over. The hopper capacity of the may be increased for low-density materials such as peat.

# **GENERAL INFORMATION**

Owners and operating personnel must thoroughly read and understand this manual in order to properly operate, lubricate, and maintain the Turf Tender. Failure to do so could result in personal injury or equipment damage. Refer to this manual as frequently as necessary.

## **LABELING AND TERMINOLOGY**

The Turf Tender and this manual use the following terms and symbols to bring attention to the presence of hazards of various risk levels and important information concerning the use and maintenance of the Turf Tender.

**WARNING:** Indicates presence of a hazard which can cause severe personal injury, death, or substantial property damage if ignored.

**CAUTION:** Indicates presence of a hazard which will or can cause minor personal injury or property damage if ignored.

**NOTE:** Indicates supplementary information worthy of particular attention relating to installation, operation, or maintenance of the Turf Tender but is not related to a hazardous condition.

Be sure to follow all instructions and related precautions as they are meant for your safety and protection.

This manual is considered a permanent part of the Turf Tender and must remain with the Turf Tender when sold.

Use only the correct replacement parts and fasteners. Right and left-hand sides are determined by facing in the direction of the steering wheel.

**Record the model and serial numbers in the specifications section so they are readily available when contacting a dealer for parts or service.** Many owners employ the dealer's Service Department for all work other than routine care, cleaning, and adjustments. We strongly urge the use of genuine **DAKOTA** parts to protect the investment in your Turf Tender.

Our warranty is provided to support customers who operate and maintain their equipment as described in this manual. This warranty provides you the assurance that **DAKOTA** will back its products where defects appear within the warranty period. Should the equipment be abused, or modified to change its performance beyond the original factory specifications, the warranty will become void and field improvements will be denied.

## **AUTHORIZED MAINTENANCE**

Perform only the maintenance described in this manual that you are qualified to perform. If major repairs are ever needed or assistance is desired, contact an Authorized **DAKOTA** Dealer for their professional service.

## **UNLOAD HOPPER PRIOR TO DOING MAINTENANCE**

Any material in the hopper must be removed prior to performing maintenance on or beneath the Turf Tender.

## **POWER OFF MAINTENANCE AND ADJUSTMENTS**

All maintenance and adjustments to the Turf Tender must be made with the engine off.

## **TIRES**

Check the tires frequently for cracks, checks, and proper inflation. An under inflated tire poses a significant tipping and braking hazard and may cause an accident, injury and death. Do not attempt to jack or perform tire maintenance with material in the hopper. The recommended tire pressure operating range is 8-15 psi (55-103 kPa). Do not exceed the maximum tire pressure listed. Tire pressure is an indication of the ground pressure the Turf Tender has on turf; however, using a tire pressure which is too low may cause tire problems and also result in nonuniform ground pressure at the tire's face.

## **MAINTAIN SAFE OPERATING CONDITIONS**

Check the conveyor belt for stretch and proper alignment; adjust accordingly. The conveyor belt has a V-belt vulcanized to the back side of the belt to help maintain proper alignment and carry most of the load; however, it is still necessary to check and adjust (if necessary) belt alignment.

Do not allow hydraulic fluid to come in contact with the belt. The PVC belt material is resistant to fertilizers, but hydraulic fluid causes the PVC coating on the belt to decompose.

## **RELIEVE HYDRAULIC PRESSURE**

Before performing any work on the hydraulic system, all pressure in the system must be relieved by releasing the engagement handle and turning the Turf Tender engine OFF.

Residual hydraulic pressure may still be present, so care must be taken.

## **KEEP TURF TENDER CLEAN**

Keep the Turf Tender free of excessive grass, leaves, and accumulations of dirt and sand. Materials such as this can compromise seals and bearings.

## **REPLACEMENT PARTS**

To ensure optimum performance and safety, always purchase genuine **DAKOTA** replacement parts and accessories. **NEVER USE "WILL-FIT" REPLACEMENT PARTS AND ACCESSORIES MADE BY OTHER MANUFACTURERS.** Using unapproved replacement parts and accessories voids the warranty of the **DAKOTA** Turf Tender.

## **TOWING THE TURF TENDER**

Never tow the Turf Tender. Towing the Turf Tender results in hydraulic pressure being built up and will cause damage to the hydraulic components which will not be covered under warranty.

## **SAFETY AND INSTRUCTION DECALS**

The following decals are installed on the Turf Tender. If one should become damaged or illegible, replace it. The decal part numbers are listed below. Replacement decals may be ordered from an Authorized **DAKOTA** dealer.

### **Cutting Finger/Hand Hazard**

Location - outer corners of shield over twin spinners  
p/n 11466



### **Hand Crush Hazard**

Location - rear door  
p/n 11468



### **Hand Entanglement Hazard**

Location - top of side conveyor  
p/n 11467



### **Hydraulic Puncture Hazard**

Location - front side of hopper, near top  
p/n 11469



### **Do Not Run Without Guards**

Location - spinner package on shield, front side of hopper  
p/n 11471



### **Stay Clear**

Location - spinner left and right sides  
p/n 11475



### **No Maintenance When In Use**

Location - near drive motor on main conveyor, front of hopper  
p/n 11472





# SETUP

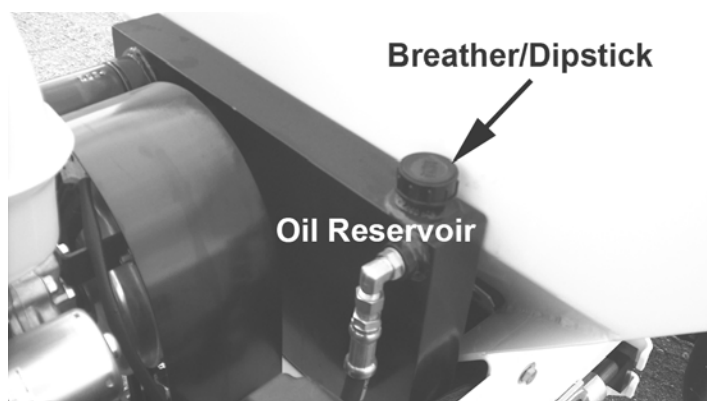
The 310 Turf Tender has its own power supply and hydraulic system. The power supply used is a Honda 11 hp engine. The engine provides power through an electrically powered clutch to the hydraulic pump which draws hydraulic fluid from the reservoir and circulates the fluid to the drive motors on the Turf Tender.

The 310 Turf Tender incorporates two engine control switches on the handle of the machine; an engine speed control switch and an E-Stop switch. The engine speed control switch is a 3-position switch which controls the rpm of the engine. Idle, 28, and 36 are the three preset modes. The **Idle** position is used mainly to warm up the engine and to reduce the engine rpm when the machine is not spreading. The **Idle** position can not be used for spreading as it will stall the engine. The **28** position governs the engine speed at 2800 rpm. It is intended for slower speed operation of the Turf Tender. The **36** position governs the engine speed at 3600 rpm and is used for normal operation. The **E-Stop** switch will immediately turn the engine off when pressed to the down position. The **E-Stop** switch must be in the fully up position in order for the engine to run.

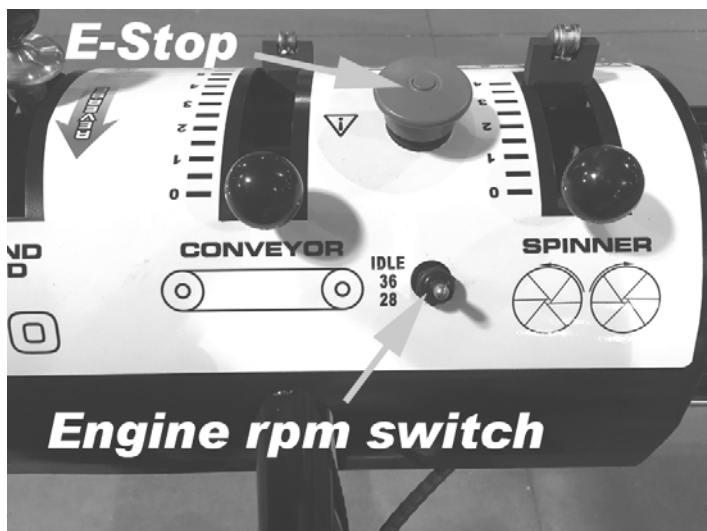


## Before Starting Engine

1. Check the oil level in the hydraulic reservoir.

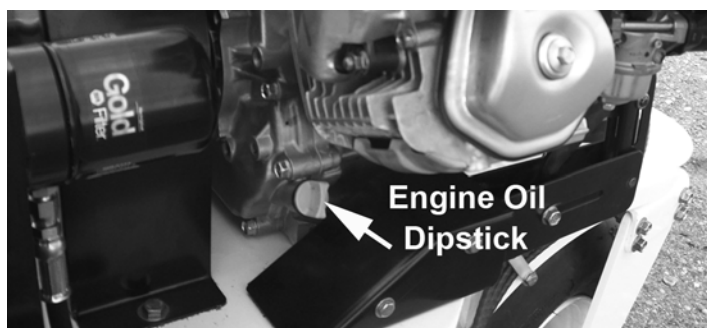


2. Check engine oil and gasoline levels.
3. Check the position of the fuel valve and key switch. See the engine manual for proper use of each.



## Before Operating For The First Time

1. Check the level of the hydraulic fluid. The fluid should be at the upper indicator mark on the dipstick of the breather/filler cap. Fill as required.
2. Check the oil and gasoline levels in the engine. Fill as required.



4. Be sure all persons are clear of conveyor and spinner areas; then (making sure the E-Stop switch is in the UP position) using the key switch on the engine, start the engine. Using the engine speed switch, adjust the engine to the desired RPM.

3. Read and understand all information in the Honda engine Operator's Manual.

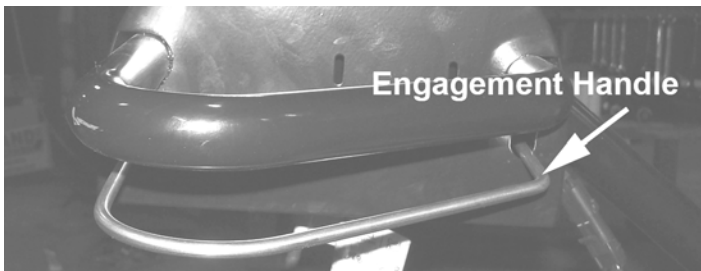
# OPERATION

## **SAFETY INSPECTION**

### Introduction

Every day before operating the Turf Tender, it is important to perform a safety inspection “walk around” of the Turf Tender. The purpose of the safety inspection is to inspect the Turf Tender for any unsafe conditions and maintenance concerns. Finding these conditions before using the Turf Tender can save time, money, and the possibility of injuries. Check for loose nuts or bolts, broken or cracked metal and welds, bent or damaged components, under-inflated tires and leaking hydraulic components and hoses. Any of these conditions may indicate a potentially serious situation.

Start the inspection at the handle. Check the handle for excessive wear or cracks. Check to make sure the steering moves smoothly from side to side and does not bind. Check the operation of the engagement handle by squeezing it and releasing it. Upon release it must return quickly and smoothly to the OFF position.



Check the area around the engine and battery. Check for any leaks. Check for any loose wires. Be sure the battery cables are clean and tight. All wiring should be secured to the Turf Tender and should not be hanging loose.

Check the left side of the Turf Tender for any unsafe conditions. Check for any hydraulic leaks. Visually, make sure the tire is inflated properly. If in doubt, use a tire gauge and check the tire pressure. Check for loose hoses. All hoses should be secured to the Turf Tender and should not be hanging loose.



At the back of the Turf Tender, continue to look for hydraulic leaks and other unsafe conditions. Check the conveyor belt for damage and proper alignment. Make sure the shield over the twin spinners is not bent or interfering with the operation of the spinners. Make sure the rear gate is not bent or damaged and is closed as much as needed for the materials you will be hauling. By hand, rotate each spinner to ensure that it is not bent and clears other parts of the spinner/chute assembly.



On the right side of the Turf Tender, visually, make sure the tire is inflated properly. Check for any signs of hydraulic leaks.



When finished with the safety inspection and any repairs or adjustments that need to be made, the Turf Tender is ready for operation. Make sure the parking brake lever is in the up (disengaged) position.

## **SPREADING OPERATION**

The 310 Turf Tender is meant to be operated in forward while spreading. The correct operating position for the operator is to be to the side of the handlebars (either left or right dependent upon individual preference and ground terrain) looking in the direction of travel. Once the engine has been started, compressing the engagement handle will activate the clutch on the engine and hydraulic power is available to the three functions (spinners, conveyor, and travel). The speed of each of these three functions is dependent upon the position of the appropriate lever and the engine RPM. Remember that engine rpm is determined by the position of the **engine speed control switch**. Releasing the engagement handle disengages the clutch and all functions stop.

Always use a travel speed that is safe. Do not travel at a speed faster than you can safely operate.

### **WARNING**

**Only operate the Turf Tender at a speed you can safely control.**

**NOTE: In order to move the travel lever from the neutral position, press the knob downward.**

Be sure to bring the Turf Tender to a complete stop before making any adjustments that are not controlled by the levers.

### **WARNING**

**Do not walk backwards while operating. Always watch where you are walking.**

If an immediate shut down of the Turf Tender is desired or necessary, press the **E-Stop** switch down to immediately turn the engine off. When start-up is desired, pull the **E-Stop** upward and go through normal start-up procedures.

# HOPPER CONVEYOR BELT SYSTEM

## Overview

The conveyor running along the bottom of the hopper on the Turf Tender is used to unload the hopper. It is run backwards to unload material from the back of the hopper.

Instructions for tightening of the belt and belt replacement follows later in the Maintenance section.

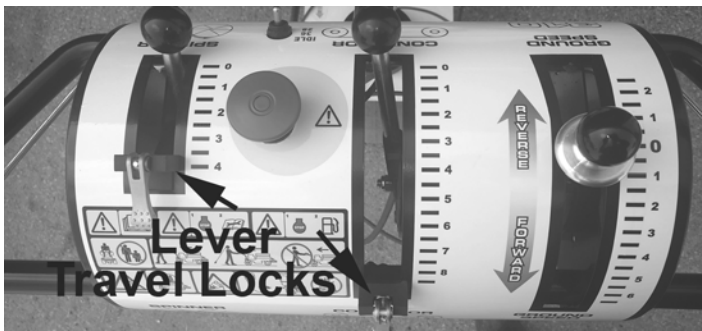
The 310 Turf Tender models are equipped with a manual control lever to adjust the speed of the conveyor belt. Increasing the speed of the conveyor increases the amount of material being unloading.

To unload the hopper, be sure the gate is open the appropriate amount before running the conveyor. The gate may be left open a limited amount if the material being hauled does not leak out when the conveyor is not running.

**NOTE: Before activating the conveyor belt, make sure the spinner control lever is in an operating position. Failure to do so will result in material piling up on the spinners.**

The speed of the spinners may be adjusted to control the spread width of the Turf Tender using the spinner control lever.

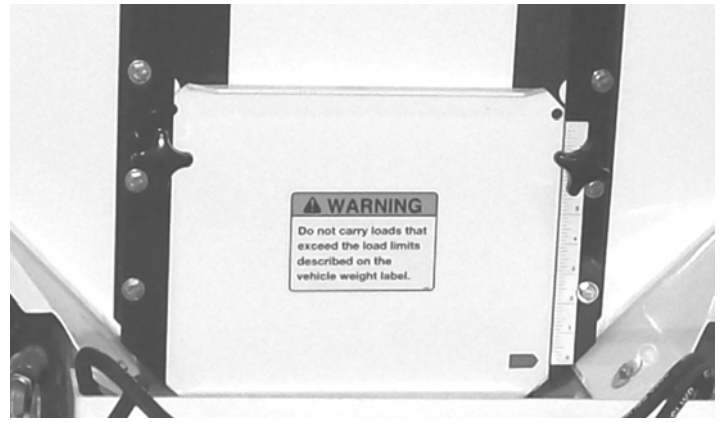
Hydraulic flow is controlled by the controls on the handlebar. As soon as the hydraulic system is activated (by pulling up on the engagement handle), all functions with the levers in an operating position will function. Conveyor speed, spinner speed, and motion speed and direction adjustments are made by the levers on the handle. The scales on the levers is not calibrated to represent any particular units, however the scale is fairly linear. Upon completing adjustments on the conveyor and spinner speeds, locate the adjustments using the lever travel locks.



The normal operating procedure is to preset the conveyor and spinner speeds; then as you pass onto the area you want to spread material, stop the travel on the Turf Tender and move both levers to their presets; then turn on the spinners and engage the conveyor as you start to move. As you travel off the area, stop the conveyor while traveling. If additional spreading is desired, the spinners may be left on. If no additional spreading is desired, turn the spinners off, stop the Turf Tender and move the levers to the OFF position.

Generally it is recommended to run the conveyor at a fairly high speed and adjust the rear metering gate to control the application rate. Conveyor speed affects the placement of material on the spinners. Slow conveyor speeds result in the “holding” of material on the spinners longer resulting in more wrap around. With some materials, having too fast of a conveyor speed may result in a very narrow spread pattern (where all the material is discharged directly behind the Turf Tender).

# REAR METERING GATE



The rear metering gate is designed to regulate the flow of material out of the hopper.

The rear metering gate may be left open a limited amount if the material you are hauling across your facility does not flow (leak) out when the conveyor is not running. Dry sand and fertilizers are especially bad for leaking out and we recommend the metering gate be fully closed when transporting these materials.

There is a scale beside the gate to show you how far the gate is open (general reference only). The gate opening height for each operation will need to be determined. For example, a light topdressing may require the gate to be open 1/8 in. (3 mm); whereas, for a heavy topdressing and core filling, the gate may have to be open 4-5 inches (10-12 cm). The operating speed also affects the amount of material you are dispensing.

If accurate calibration of material delivery rates is required, the actual gate opening should be determined using the following steps:

1. Make sure the conveyor belt is properly tensioned. Refer to belt adjustment in the Maintenance section.
2. Press down firmly on the gate so it depresses the belt as far as it will go; then lock in place with the hand screws. It requires about 40 to 50 pounds of force to set the metering gate in the fully closed position. This must be done since the belt drops slightly below the gate opening when material is in the hopper. Make sure the gate appears level.
3. Using a ball point pen, draw a line on the back wall of the hopper across the top of the metering gate. This is your “zero” gate opening reference line.
4. On both the right and left ends of the reference line, draw a scale (fractional inches or millimeters) going up from the line for an exact gate opening reference.

**NOTE: When the metering gate is set to its “zero” position, material will still flow out the Turf Tender conveyor when the conveyor is in operation. The belt cups will actually allow about an 1/8 inch layer of material to come out the metering gate.**

As you test the metering gate for material flow, you should also check for material leakage under the side wipers of the hopper.

The metering gate is secured by the two turn-screws, one on each side. To adjust gate height, loosen the two turn-screws, adjust to the proper height, and tighten the turn-screws to secure the adjustment.

Depending upon the material being applied, the gate may be left open 1-3 inches (2.5-7.5 cm) even when transporting materials. Sand and other large aggregate type materials will not flow out at these openings under normal conditions. Finer materials such as grass seed may tend to flow out even when the gate is open a small amount.

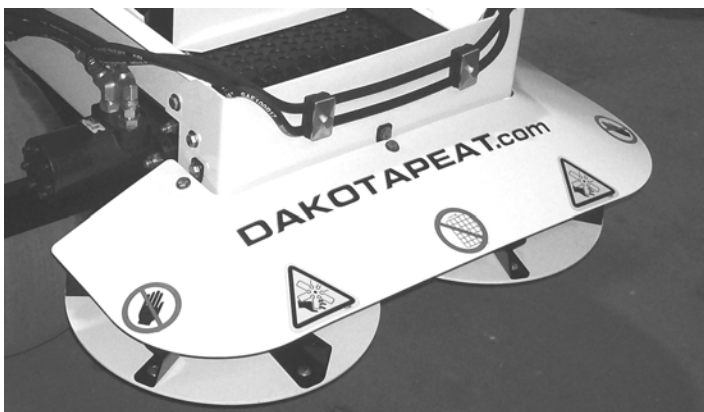
## DUAL SPINNER SYSTEM

The dual spinner function of all Turf Tenders is the same. A variety of materials from sand and larger aggregates down to grass seed and fertilizer may be spread. Coverage widths may be as wide as 20 feet (6 m). It should be noted that “fine tuning” the system for the specific material being spread is essential.



### Operation

The dual spinner system is very easy to operate. The spinner lever on the handlebar controls the spinners. Many operators leave the spinners on at all times while spreading a load and only turn the spinners off when the hopper is empty. The conveyor should be turned ON as you start a pass and OFF as you complete the pass and turn around.

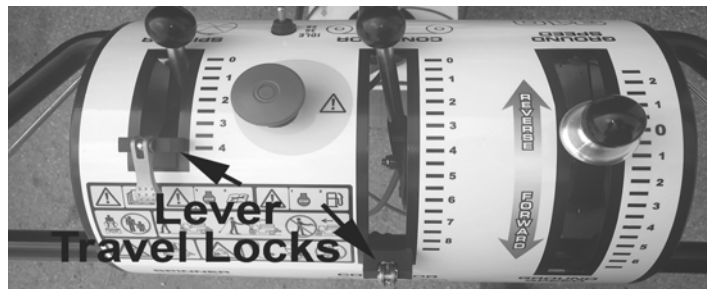


### **CAUTION**

**Always turn the spinners on before starting the conveyor. Failure to do so will result in material piling up on the spinners.**

Material discharged from the spinners can be very dangerous; therefore no other people should be near the Turf Tender when spreading and the operator should remain at the front of the Turf Tender. The velocity of discharged material can exceed 60 miles per hour.

Spinner speed adjustments are made by the lever on the handlebar. The speed of the spinners is not to be adjusted while the Turf Tender is running. The scale on the lever is not calibrated to represent any particular units, however, the scale is fairly linear. Upon completing an adjustment, secure the adjustment lever travel lock.



## SPINNER ASSEMBLY

### Adjustments

#### OVERVIEW

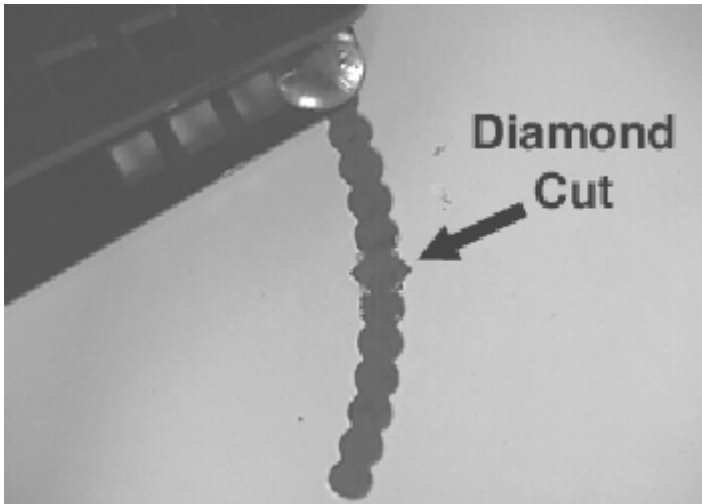
A variety of materials from sand and larger aggregates down to grass seed and fertilizer can be spread with Turf Tenders. The 310 Turf Tender model uses smaller hydraulic motors and is designed for light and heavy topdressing, seeding, and fertilizer applications. Coverage can be as wide as 20 feet (6 m). It should be noted that “fine tuning” the system for the specific material being spread is essential. The information presented here represents thousands of hours of design and testing, as well as feedback from people like you, the users of our products. Please read this information thoroughly to ensure that you have an understanding of it’s content.

#### BLADE ADJUSTMENTS

The following figure shows a white right-side spinner disk with black blades as assembled at the factory. Different application rates and types of material may warrant changing the blades from their “neutral” position. Also, gate opening, spinner speed, and conveyor speed will affect the pattern. In general for best application of material, **avoid running the conveyor too slowly and avoid running the spinners too fast.** The factory “neutral” setting was designed to yield the best spread pattern under the following conditions:

**NOTE: Do not be too concerned about achieving the maximum spread width; instead, focus on getting a good distribution of your spread pattern.**

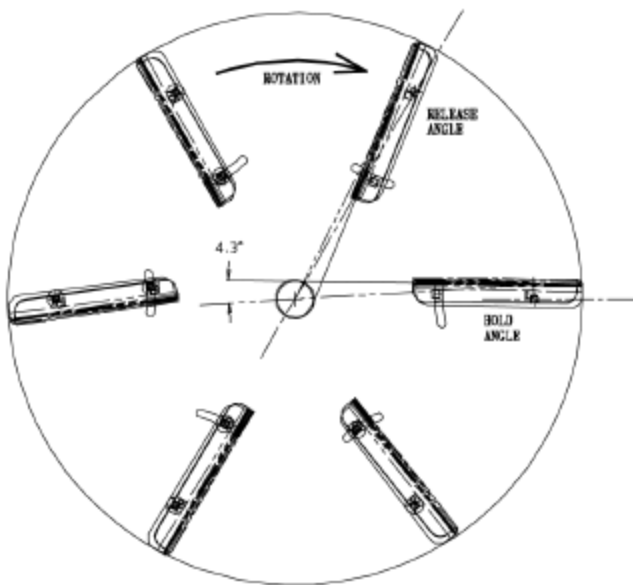
The “neutral” blade setting, points the blades at the center of the spinner shaft. There is a diamond cut in the spinner disk indicating the “neutral” position bolt hole for each blade.



### WARNING

**All spinner blade fasteners must be tightened after each adjustment. Failure to do so could result in injury or even death.**

The following illustration represents how three blades may be set to hold the material a little longer and three other blades are set to release material a little sooner. An overview on pattern distributions and blade settings follows.



## SPREAD PATTERNS AND ADJUSTMENTS

### Overview

Spread pattern is defined as the uniformity of material distribution. Calibration refers to controlling the amount of material deposited over a set area.

Prior to setting up the Turf Tender for calibration, the following items must be correct:

- A. The conveyor belt rear roller must be positioned 5 1/4 in. (13.3 cm) from back wall of vertical chute.

**NOTE: This is measured from the flat portion of the belt.**

- B. The conveyor belt must be properly aligned and tensioned. If adjustment is necessary, make the necessary adjustments at the front end of Turf Tender.
- C. All tires must be properly inflated. Remember, the inflation pressure of the tire indicates how much compaction you are imparting on your soil. Running the tire pressure too low may however cause damage to the tire.
- D. The spinner shafts must be vertical.
- E. The hopper wipers must be adjusted tightly down onto the conveyor belt. Failure to properly adjust the hopper wipers results in an adverse spread pattern and application rate. Adjust the hopper wipers by pushing the belt fully downward; then adjust the wipers tightly down to the belt and secure the adjustment.
- F. Set the metering gate opening to the approximate material flow rate. Do not open the gate too far. Instead travel slower over the area to get a higher application rate. Opening the gate too high affects the controllability of the pattern. For most materials, 3-4 inches (7.6-10 cm) seems to be the point at which pattern controllability problems arise.
- G. Calibrate spinner speed to 325-350 RPM. Extensive testing has shown that excessive spinner speed results in uncontrollable patterns, material hitting the spinner shield and heavy material deposits in the center. Furthermore, increasing the spinner speed only increases your spread pattern width slightly and results in segregation of particulates such that fine ones only go a few feet and the larger ones travel to the outer region of the pattern. This causes detrimental results with precision topdressing and fertilizer application.



- H. Calibrate conveyor speed to approximately 70 RPM (which is full speed). This will result in material just “skimming” the back wall of the vertical spinner chute. The placement location of material on the spinners has proven to be a critical variable in the adjustment and control of the spread pattern.
- I. Take note of the material type, condition, and supplier. Material, which has varying moisture and/or clay content from one week to the next, may behave differently each time you spread it. Wet sand spreads better than wet sand with high clay content. Wet sand with high clay content is among the hardest materials to spread. For these reasons, try to maintain uniform material conditions. Sometimes it’s as simple as talking with your supplier to arrange for uniform material to be supplied and covering the material pile with a tarp so it is not exposed to the elements. In direct contrast, dry graded silica sand (hour glass sand) is probably the easiest material to spread.

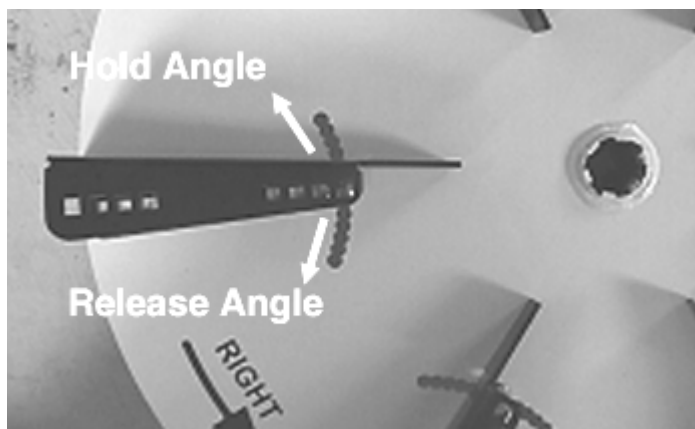
The establishment of these preliminary setup steps was developed through extensive testing and experience. For example, the conveyor belt's rear roller distance of 5 1/4 in. (13.3 cm) from the back wall of the vertical spinner chute was found to give the best control of spread pattern distribution with all of the various spinner blades.

### **Basic Spinner Adjustments**

If the spread pattern is heavy in the middle, adjust all of the blades on each spinner disk two notches in the hold direction; then test the spread pattern. If necessary, move the blades two more notches in the hold position.

If the spread pattern is heavy on the outside, adjust all of the blades on each spinner disk two notches in the release direction; then test the spread pattern. If necessary, move the blades two more notches in the release position.

The following photo illustrates the hold and release angles for a right spinner disk which rotates counterclockwise.



### **Collection Methods**

#### **STANDARD PAN COLLECTION METHOD**

The typical method of testing the spread pattern is to place collection pans in a row going across the direction of travel. Make one or more passes across the pans and measure the amount of material in each. This doesn't work with large broadcast spreaders.

The amount of material collected in each pan can be graphed to reveal the type of spread pattern you are producing. A perfect rectangular pattern is very hard to achieve and, in some cases such as fertilizer application, not desirable because you would have to operate impossibly precise to avoid skips or double application. The inherent limitation of this testing method is that particles coming out of a broadcast spreader have a very low trajectory angle with high velocity and usually skip across the surface. Most test runs will have sand sliding across the pan and launching out the opposite side. We have even tried using square "egg crate" inserts of varying sizes to provide better capture of material but we still had material skipping across the top. Therefore, the industry-standard pan collection method does not accurately reflect the true distribution of material.

### **STATIONARY TESTING METHOD**

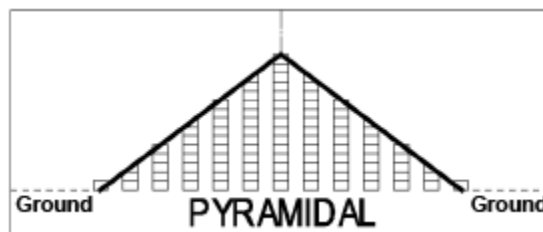
Although there are no references to doing this in industry, we have found that it is best to run several stationary tests of the system to quickly find the operational settings of the spinner blades. By spreading material in an empty parking lot or another area having a paved surface, you will be able to quickly clean up the discharged material for reuse as well as be able to observe the uniformity of the spread pattern. Record the general qualitative characteristics for pattern uniformity and wraparound (spreading ahead and/or to the sides of the Turf Tender's wheels).

We found that, initially, we needed to spread material from the stationary position and, when done spreading, push the material into a narrow row (long pile), running across the spread area. Looking at the amount of material in the strip-pile is a pretty good indicator of the distribution pattern. After a short period of time you will be able to look at the distribution (where it dropped) to determine how uniform the pattern is and eliminate the need to pile up the material in a row.

As an example of the differences between the two test methods' results, we found that when we had an obvious W spread pattern (heavy center and outside edges) using the stationary testing method, the pan method was indicating that we had a nearly perfect distribution. The problem is that the pan method did not accurately reflect where the material was actually deposited after it had hit the ground, bounced, rolled, and stopped.

### **Pattern Adjustments**

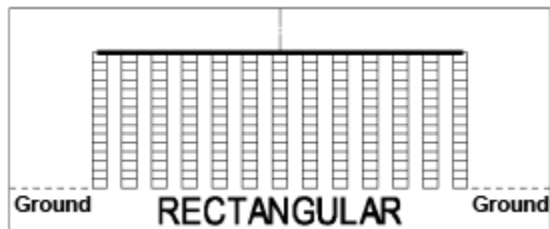
The pattern below shows the optimum distribution of material behind the spreader from one pass. On the next pass, the operator should steer at the edge of the pattern, which overlaps material to the center of the previous pass. This results in a uniform distribution of material across the ground. Most importantly, errors in steering cause minimal streaking from double spreading or gaps. The problem is that it is very hard to attain this pattern with broadcast spreaders.



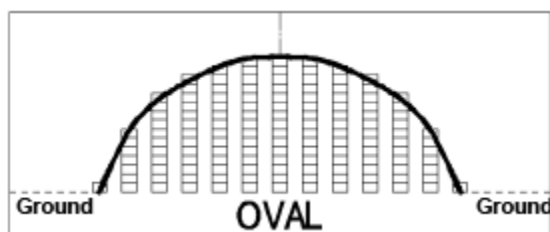
Some spreader manufacturers or users prefer to have a pattern like the following figure. This can give good results but requires more precise steering to achieve the exact interval needed. The pattern must be tested with pans to determine the point half way from the edge to the corner. Then the steering interval must be maintained or gaps and overspreading result.



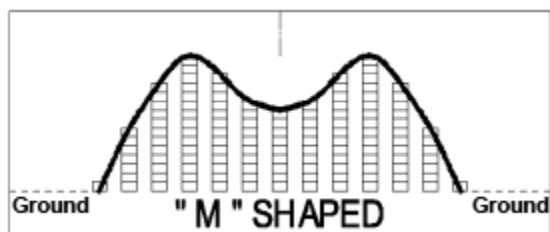
The rectangular pattern is best for sand but requires perfect steering to avoid gaps and overspreading.



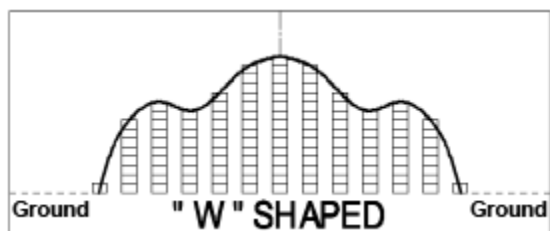
The oval or rounded pattern is common to many spreaders and can yield good results similar to the trapezoidal pattern. The same discussion applies. To get it close to a pyramidal pattern, increase the amount of release angle on the blades. This should cause more material to fall directly behind the spreader. Also, reducing the amount of hold angle should yield the same result.



The following pattern results from excessive hold angle. Too much material is staying on the blades too long. Reduce the hold angle and change half the blades to a release angle.



This pattern may also be caused by too much hold on half the blades. The heavy center may indicate excessively high spinner speeds. From a safe distance, watch how material is exiting the center of the spinners. If a lot of material is coming off each spinner in the center after hitting the shield and crossing over the center, the spinner speed is too fast. This is due to material bouncing off the blades of the spinners rather than siding along the blade. On the other hand, if the material streams crossing from each side are colliding and dropping straight down, the blades need to hold material a little longer. If there is little crossing of material at the center, reduce the hold angle to bring the edge humps toward the center.



## APPLICATION RATES

### Overview

Application rate refers to the amount of material spread over a given area. Often it's referred to pounds per acre or 1000 square feet.



### To Achieve a Higher Application Rate:

1. Slow down the ground speed. This is the best option since your spread pattern will not be affected.
2. Increase the rear gate opening. Doing this may affect your spread pattern.
3. Decrease spinner speed (spread pattern width); then decrease the operating interval (overlap). This may also change the uniformity of spread.

### To Achieve a Lower Application Rate:

1. Increase ground speed. This is the best option since your spread pattern will not be affected.
2. Decrease the rear gate opening.
3. Increase the spinner speed; then decrease the operating interval (overlap).

Again, numbers 2 and 3 may affect the spread pattern.

### Spread Calculator

To download our "Spread Calculator" containing information regarding application rates, please go to:

<http://www.dakotapeat.com>

# MAINTENANCE

## WARNING

After all repairs and/or adjustments, always test the Turf Tender before operating. Failure to do may result in injury or even death.

## Wheels

There is very little chance of a problem with your wheels unless you are driving on a flat tire or if the wheel bolts have loosened. If a problem should develop with a wheel, remove it; then repair or replace as needed.

## Tires

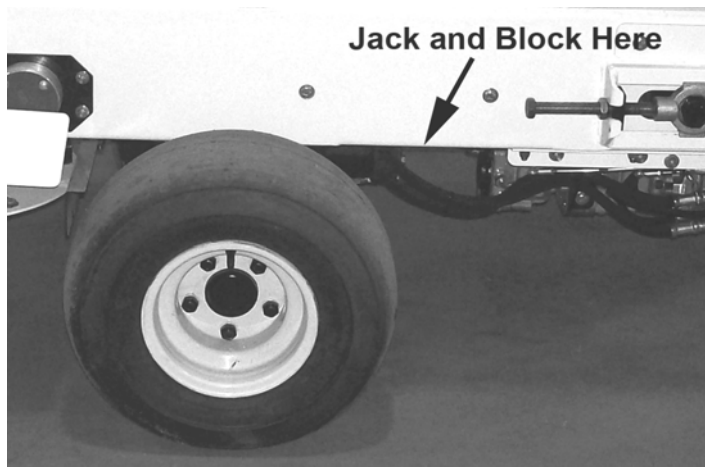
The tires on the Turf Tender are designed to provide good flotation (less compaction) under normal circumstances. It is important to check tire pressure on all tires periodically to ensure they are properly inflated. Proper inflation will extend wear and provide good flotation. The recommended tire pressure operating range is 8-15 psi (55-103 kPa). Do not exceed the maximum tire pressure listed.

## WARNING

Operation of the Turf Tender with improperly inflated tires could result in serious injury or even death due to the potential rollover under certain conditions such as operating on a hillside.

## CHANGING A REAR TIRE

1. Empty all material from the hopper; then chock the wheel on the opposite side of the Turf Tender.
2. Jack up the frame directly in front of the axle mount.



3. Using jack stands, support the frame so it is safe to work beneath. Under no conditions should cement blocks (cinder blocks) or unstable piles of wood blocks be used.

## WARNING

Do not perform maintenance of any kind below the Turf Tender unless it is properly secured and stabilized.

4. Remove the wheel bolts; then remove the wheel.
5. Bring the wheel to a tire repair center to fix or replace the tire.

**NOTE:** Due to the specialized equipment necessary, tire removal, repair, and mounting should be only performed by a tire repair service shop.

6. Place the wheel back into position; then install the wheel bolts. Tighten until snug.

**NOTE:** Do not lubricate threads.

7. Using a crisscross pattern, tightening wheel bolts to 90 ft-lb (12.4 kg-m).

## CAUTION

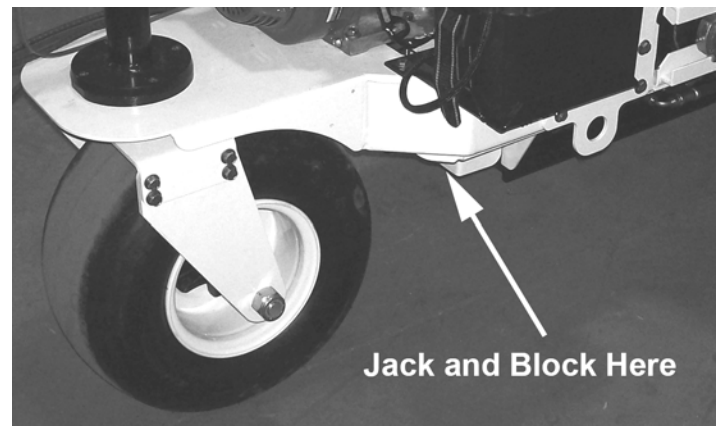
Do not under or over torque the wheel bolts. Inappropriate wheel bolt torque will result in wheels loosening and possibly falling off.

8. Remove the jack stands from beneath the Turf Tender; then lower the jack.

**NOTE:** Wheel bolt torque must be checked every 10 hours after mounting a wheel until the bolts maintain the proper torque.

## CHANGING THE FRONT TIRE

1. Empty all material from the hopper; then chock both rear wheels.
2. Jack up the frame directly beneath the engine mounting.



3. Using jack stands, support the frame so it is safe to work beneath. Under no conditions should cement blocks (cinder blocks) or unstable piles of wood blocks be used.

## WARNING

Do not perform maintenance of any kind below the Turf Tender unless it is properly secured and stabilized.

4. Remove the axle bolt; then remove the wheel assembly.
5. Remove the wheel bolts; then remove the wheel from the hub.
6. Bring the wheel to a tire repair center to fix or replace the tire.

**NOTE:** Due to the specialized equipment necessary, tire removal, repair, and mounting should be only performed by a tire repair service shop.

7. Place the wheel back into position on the hub; then install the wheel bolts. Tighten until snug.

**NOTE:** Do not lubricate threads.



- Using a crisscross pattern, tightening wheel bolts to 90 ft-lb (12.4 kg-m).

### CAUTION

**Do not under or over torque the wheel bolts. Inappropriate wheel bolt torque will result in wheels loosening and possibly falling off.**

- Place the wheel assembly back under the Turf Tender and install the axle bolt. Tighten to 75 ft-lb (10.3 kg-m).
- Remove the jack stands from beneath the Turf Tender; then lower the jack.

**NOTE: Wheel bolt torque must be checked every 10 hours after mounting a wheel until the bolts maintain the proper torque.**

## HOPPER CONVEYOR BELT

### Belt Adjustment

Due to stretching of the belting material with use, it will be necessary to periodically tighten the conveyor belt. Pressure on the belt and warm temperatures will increase the frequency of belt tightening. The belt should be loosened if the Turf Tender will not be used for an extended period of time or will be moving to a colder operating temperature due to seasonal or geographic changes.

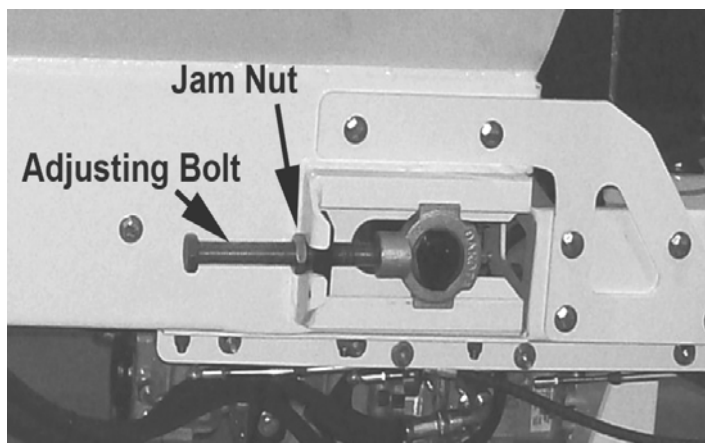
**NOTE: If the belt was loosened for storage or any other reason, the belt will need to be tightened before using the Turf Tender.**

### CAUTION

**Always tighten the belt at the front roller. Adjusting the rear roller will affect the material placement on the twin spinners and may affect belt tracking.**

To tighten the conveyor belt, use the following procedure:

- Loosen the jam nut on each of the tensioning bolts.
- Using a  $\frac{3}{4}$  inch wrench, turn each tensioning bolt clockwise 1-2 complete turns. Be sure to make equal adjustments on both sides.



**NOTE: Failure to adjust the belt equally on both sides could result in improper belt alignment and damage to the belt. If the belt doesn't stay on track, the belt may not be tightened equally on both sides.**

- Test the belt to see if it is properly tensioned.

- When the belt is properly tensioned, secure the adjustment by tightening the two jam nuts against the frame.
- Run the conveyor to make sure belt doesn't slip and remains running on track.

### WARNING

**Do not attempt to tighten the conveyor belt when the Turf Tender is operating.**

### Belt Replacement

If it becomes necessary to replace the conveyor belt, use the following procedure:

**NOTE: DAKOTA sells replacement kits composed of a spliced belt and wire splice pin. The splice pin connects the two halves of the splice.**

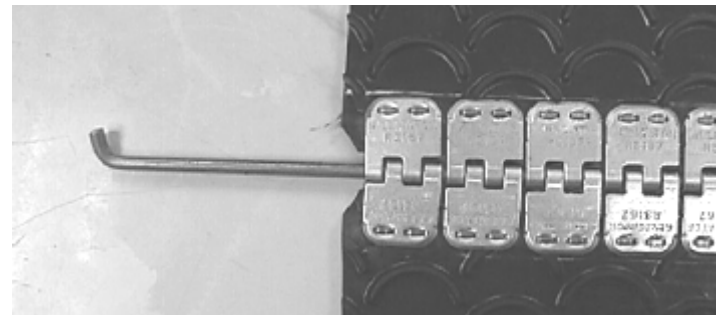
- Run the conveyor until the belt splice is close to the front of the Turf Tender; then shut the engine off.

### WARNING

**Make sure the engine is not running before starting the belt replacement procedure.**

- Loosen the jam nut securing each of the two belt tensioning bolts; then loosen the belt tensioning bolts. Make sure you loosen each tensioning bolt the same number of turns.
- Rotate the loose belt until the splice is at the front of the Turf Tender.
- Uncrimp or cut off the end of the belt splice securing the hinge pin.
- Using a steel rod, drive or push the hinge pin out of the splice. The steel rod must be long enough to reach across the entire belt.

**NOTE: Once the hinge pin has started to exit the splice, it may be easier to remove by pulling on it with a pair of locking pliers.**

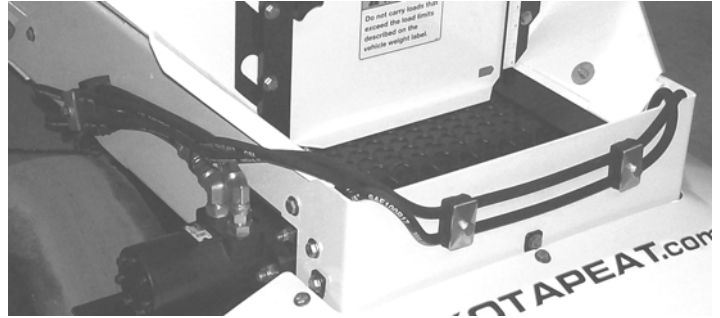


- Remove the old belt; then place the new belt into position making sure the cups on the topside of the new belt have the open part of the "C" facing to the rear of the Turf Tender.
- Align the splices of the new belt; then run the steel rod (used to remove the hinge pin) through the splice.

## DUAL SPINNER SPREADING SYSTEM

### Regular Maintenance

Periodically check the hydraulic hoses for worn areas and other unsafe conditions (cracks or leaks). This should be part of the safety walk around each time before using the Turf Tender. Pinhole leaks under pressure can pierce skin and inject hydraulic oil under your skin. Never handle hoses while the hydraulic system is pressurized.



Whenever changing spinner blades, thoroughly clean the spinner shafts before installing a different set of spinners. This prevents a buildup of dirt, grease, and other materials. After cleaning, apply Anti-Seize to the shafts.

### ELECTRICAL SYSTEM

**NOTE: Electrical schematics are available upon request. If electrical problems are experienced, contact either your dealer or Dakota Peat.**

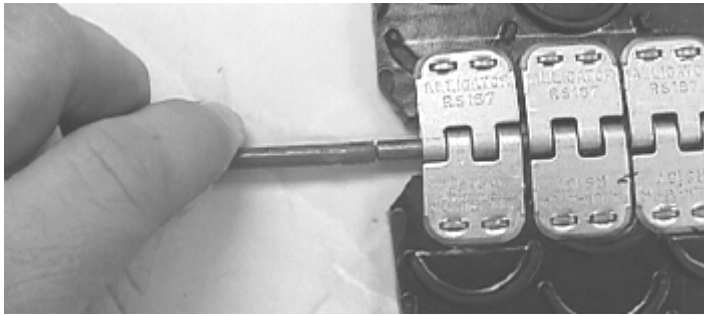
#### Overview

The Turf Tender electrical system obtains its power from the engine battery. The engagement handle uses micro switches to control the engagement of the electric clutch on the engine. If the Turf Tender loses all functions, troubleshoot the battery, battery cables, the microswitches, or the electric clutch.

#### Wiring

All wiring conforms to SAE J1128 standards low tension, PVC insulated, stranded copper wire. The PVC insulation has a 176°F (80°C) temperature rating. It is important that wires not be routed through areas having high temperatures.

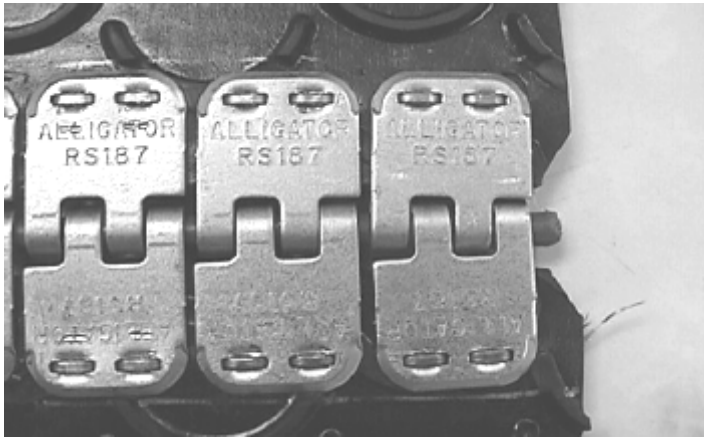
Exposed wires are also encased in black, abrasion-resistant looming wherever possible. The working temperature range of the loom is -34° to 200°F (-34° to 93°C). Again, since this is a low temperature plastic, it is important that the wires are not routed near areas with high temperatures.



8. Fully insert the new hinge pin into the splice. Use the hinge pin to push the steel rod out of the splice.

**NOTE: The steel rod provides splice alignment.**

9. Making sure the hinge pin does not stick out beyond either edge of the belt, crimp both ends of the splice so the hinge pin cannot work its way out of the splice.



10. Tension the belt at the front rollers by equally tightening the front tensioning bolts. Using a torque wrench, tighten each of the front tensioning bolts to approximately 35 ft-lb (4.8 kg-m). This is a “ballpark” value since the belt will expand and contract with temperature changes. Ultimately, the best method of tensioning is to have it just tight enough to not slip while unloading material.
11. Test the belt for proper alignment by running the conveyor. Make small adjustments to the tensioning bolts for this belt alignment fine tuning.
15. When the alignment and tensioning are complete, secure the adjustment by tightening the jam nuts.

### Regular Maintenance

Regular maintenance of the conveyor system consists of:

1. Regularly clean and wash the hopper and conveyor especially if hauling potentially corrosive materials such as fertilizer.
2. Keep belt tight when in use.
3. Loosen belt at the front rollers when Turf Tender is not going to be used for an extended period of time. The belt contracts a significant amount as its temperature drops so loosening the belt for winter storage is important.
4. Periodically check belt for tears and wear.
5. Never allow hydraulic fluid to come in contact with the belt. It is made of PVC which provides resistance to fertilizers and other agricultural chemicals but has little resistance to hydraulic fluid.

## HYDRAULIC SYSTEM

The hydraulic system should be filled with premium grade ISO 46 (universal) fluid. The oil should be good for at least two years unless one of the following problems occur:

1. If the reservoir is **contaminated with excessive water or dirt**. Hydraulic fluid can hold more than 20% water in solution. Usually at these high levels, the fluid will appear milky. A quick test for water at lower concentrations may be performed outside with a hot (>300°F) sheet of steel. With the sheet heated, drop a small amount of hydraulic fluid in the center of the sheet. If it sputters there is a significant amount of water in the fluid and the fluid should be replaced.
2. If the oil has been **overheated** [above 190° F (87°C)]. The oil will have a foul odor. Do not use oil that has been overheated. The lubricating properties have been destroyed and acids and varnish have been created by oxidation.
3. If a **pump or motor has had a catastrophic failure** resulting in metal fragments and particles entering the fluid. These particles may cause the replacement components to fail before the filter cleans up the system. The filter in a hydraulic system does not filter out 100% of all particles as the fluid passes through it.

After any of the above have occurred, the entire system should be drained, cleaned, and filled with new fluid. A new filter should always be installed after any maintenance to the hydraulic system.

## FITTINGS AND HOSES

All hoses and fittings are rated for 3000 psi or greater. All replacement fittings and hoses must meet or exceed this specification.

All components use either an O-ring boss or 37° flare hydraulic fittings. Do not use pipe-threaded hoses or fittings for replacements. Do not use Teflon tape or pipe thread compound. These are not helpful and may cause damage to the system.

## Operation

Hydraulic flow is required to operate the Turf Tender functions. When the engagement handle is compressed to the handle, the oil is directed to whatever motor (conveyor, spinners, or movement) is set in the activation mode.

## Hydraulic Schematics

**NOTE: Hydraulic schematics are available upon request.**

## **STORAGE**

Before storing the Turf Tender for an extended period of time, such as over the winter, it is important to make sure the Turf Tender is in good condition and all maintenance is complete.



Wash the Turf Tender thoroughly to make sure you have removed all corrosive or potentially corrosive materials. Let the Turf Tender dry completely, especially if you will be covering the Turf Tender.

Either drain the gasoline from the engine or add stabilizer to the tank. While running the engine, turn the fuel shut-off valve to the OFF position and let the engine run out of gas. Press the E-Stop switch to the down (OFF) position. Service the engine as directed in the engine operator's manual.

Relax the tension on the conveyor belt.

Check the air pressure on all tires and fill if needed to maintain recommended pressure. It is usually a good idea to make any needed repairs before storing the Turf Tender. If all repairs and maintenance is completed before storing the Turf Tender, it will be ready for use immediately when you need it.

If you have taken the time to complete these season storage operations, removing the Turf Tender from storage will be easy. Do a safety inspection.

If you did not have time to store your Turf Tender properly you may have to do repair work on the Turf Tender before you can use it. Clean the battery cables and make sure the battery is fully charged. Check the tire pressure and fill the tires. Do a complete safety inspection of the Turf Tender to spot any potential problem areas. Fix any problems that you find. Tighten the conveyor to the proper tension. Hose off the layer of dust that has collected on the Turf Tender. The Turf Tender should be ready to use.

## **LUBRICATION SCHEDULE**

<b>ITEM</b>	<b>INTERVAL</b>
<b>HYDRAULIC FILTER</b>	<b>ANNUALLY</b>
<b>HYDRAULIC OIL</b>	<b>EVERY 2 YEARS</b>
<b>ENGINE OIL</b>	<b>ANNUALLY</b>