



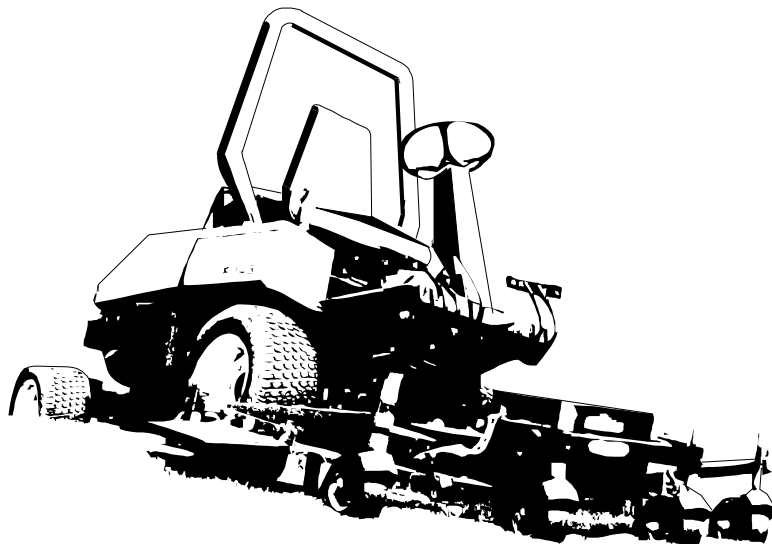
# LasTec Articulator

*Model 325EFD98*

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## Owner's Manual

Manual Part Number: Man-325EFD98



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## SECTION 1 To The Owner

### 1.1 *Read This Manual In Its Entirety BEFORE Operating The Articulator*

The information presented herein will prepare you to operate the Articulator in a safe and knowledgeable manner. Proper operation of the Articulator will provide a safer working environment, and promote higher quality, more efficient results.

Keep this manual at hand at all times for ready reference. The designed and tested safety of the Articulator is dependent upon its operation within the guidelines and limitations as outlined in this manual. Always adhere to all the safety rules presented in this manual.

### 1.2 *Product Registration*

Immediately record the model and serial numbers of your Articulator in the spaces provided below. These numbers can be found on the serial number plate which is permanently affixed to the mower. The serial number plate is located on the outside of the left upright of the center cutting deck.

You should provide this information to your dealer any time you are ordering parts. This will assist them in supplying you the correct and most current parts available for your Articulator.

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**Model Number:**

**Serial Number:**

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You should now fill out the warranty registration form (*located in the back of this section*) and mail or fax it to LasTec. This form must be completed and returned to the factory within thirty (30) days of purchase in order to validate the warranty. Please do not hesitate!

### **1.3 LasTec Product Warranty**

LasTec, A Division of Wood-Mizer Products, Inc. warrants its new products to be free of defects in material or workmanship. This warranty is applicable only for the normal service life expectancy of the machine or components, not to exceed twelve consecutive months from the date of delivery of the new LasTec product to the original purchaser.

LasTec, A Division of Wood-Mizer Products, Inc. warrants any new products supplied to a rental yard, or any other situation involving the rental, lease, or other temporary use of the product by a third party, to be free of defects in material or workmanship, not to exceed 90 days from the date of delivery of the new LasTec product to the original purchaser.

Under no circumstances will it cover any merchandise or components thereof, which, in the opinion of the company has been subjected to negligent handling, misuse, alteration, accident, or repairs made with any parts other than those obtainable through LasTec.

Warranty on all normal wear items such as bearings, belts, and bushings is 90 days from date of delivery. Any claim received after 90 days will not be accepted. All warranty items must be filed with your distributor. The distributor will then file the warranty claim with LasTec.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser, any part that in our judgement shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from date of failure to LasTec, routed through the dealer and distributor from whom the purchase was made, with transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind or nature, direct, consequential, or contingent to person or property. This warranty does not extend to loss of any expense or loss incurred for labor, supplies, substitute machinery, rental or for any other reason.

There are no warranties, either expressed or implied, of merchantability or fitness for particular purpose intended or fitness for any other reason.

This warranty is subject to any existing conditions of supply which may directly affect our ability to obtain materials or manufacture replacement parts.

LasTec reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligations to owners of units previously sold.

No one is authorized to alter, modify or enlarge this warranty nor the exclusion, limitations and reservation.

All LasTec warranty work will be done at a distributors facility. FOB responsibility is the customers.

## 1.4 **Component Manufacturers' Warranties**

Some of the component parts of the Model 325EFD Articulator are warranted by their respective manufacturers. These parts include:

- Curtis Gearbox
- Neapco PTO Shaft

The complete manufacturers' warranty information for these components is located in the back of this manual. Contact your LasTec dealer if you have questions concerning warranties on these component parts.

## 1.5 **Servicing The Articulator**



***ALWAYS use only genuine LasTec parts when servicing the Articulator! Utilization of substitute parts will void the warranty and may cause unsafe operation or unsatisfactory performance of the Articulator!***

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The Articulator is carefully engineered and manufactured to provide safe, dependable, and satisfactory service. As with all other mechanical equipment, the Articulator requires routine inspection, cleaning and maintenance.

When servicing the Articulator, be sure to use only genuine LasTec parts. Utilization of substitute parts will not only void the warranty, but may also cause unsafe or unsatisfactory operation of the Articulator due to their substandard quality or incorrect application.

In order to handle all of your service needs, your authorized LasTec dealer stocks genuine LasTec parts, and has trained mechanics on hand.

Be sure to complete the following LasTec Warranty Registration Form and return to LasTec within 30 days of the purchase of your Articulator. This will aid you, LasTec, and your LasTec dealer in the warranting and servicing of your Articulator.





# Lastec Warranty Registration Form

**IMPORTANT!** To validate the warranty, this registration form must be completed in full and returned to Lastec within fifteen (15) days of purchase!

Detach Here

<b>Company Name</b>	
<b>Company Contact</b>	
<b>Mailing Address</b>	
<b>Shipping Address</b>	
<b>Phone</b>	
<b>Fax</b>	
<b>Authorized Company Representative Signature:</b>	<i>I have read and understand the warranty policy and maintenance sections of the operators manual for the machine described below.</i>

Detach Here

<b>Articulator Model:</b>	
<b>Serial Number:</b>	
<b>Distributor/Dealer Purchased From:</b>	
<b>Date Purchased:</b>	
<b>Purchase Price:</b>	

## Customer Profile Information

Please check the box that most accurately describes your business:

- |                                      |                                     |                                  |  |  |
|--------------------------------------|-------------------------------------|----------------------------------|--|--|
| <input type="checkbox"/> Golf Course | <input type="checkbox"/> Sod Farm   | <input type="checkbox"/> Schools | <input type="checkbox"/> Sports Complex      | <input type="checkbox"/> Light Agriculture |
| <input type="checkbox"/> Municipal   | <input type="checkbox"/> Government | <input type="checkbox"/> College | <input type="checkbox"/> Landscaping Company | <input type="checkbox"/> Other             |

Total Acreage Cut: \_\_\_\_\_  Weekly  Monthly  Annually  
Average Operating Hours: \_\_\_\_\_  Weekly  Monthly  Annually

Detach Here

### How Did You Hear About Us?

Please help us to better serve you by completing the following survey information:

### The Articulator

Please list the features and/or benefits which helped you to choose the articulator:

Do you own an Articulator, and if so what model?	
How did you hear about Lastec?	
Who referred you to the Articulator?	
Who was the salesman that assisted you?	

Please check the box to your left if you would not allow Lastec to use your company's name for marketing purposes.



## SECTION 2 Safety Information

### 2.1 Warning Symbols

Following is a legend describing the warning symbols utilized throughout this manual, and the potential types of hazards which they indicate:



**Caution!**

**This symbol indicates a potential equipment hazard.**  
*Failing to properly adhere to the instructions, rules, or procedures may result in equipment malfunction, damage, or destruction.*



**Warning!**

**This symbol indicates a potential personal injury hazard.** *Failing to properly adhere to the instructions, rules, or procedures may result in personal injury.*



**Danger!**

**This symbol indicates a potential serious injury or fatal injury hazard.**  
*Failing to properly adhere to the instructions, rules, or procedures may result in serious injury or even fatal injury.*

The above illustrated symbols are displayed throughout this manual in order to indicate important safety information. When coming upon one of these symbols in this manual, be aware of a potential hazard being discussed in the accompanying paragraphs. Hazards such as damage to equipment, serious personal injury, or even fatal injury are possible, perhaps even likely, if the accompanying instructions or procedures are not heeded.

### 2.2 About This Manual



***Safety instructions are important! Read all safety rules in this manual as well as all safety rules in any related equipment manuals!***

The purpose of this manual is to assist you in properly and safely operating and maintaining the Articulator. Read and understand this entire manual before attempting to set-up, operate, adjust, perform any maintenance on, or store the Articulator. This manual provides essential information and instructions which will help you enjoy years of dependable performance from the Articulator.

The designed and tested safety of the Articulator is dependent upon its operation within the parameters and limitations explained in this manual. Be familiar with and follow all safety rules in this manual as well all safety rules for any related equipment.

Although these instructions have been compiled through extensive field experience and engineering data, some information presented herein may be general in nature due to unknown and/or varying operating conditions. However, these instructions, combined with your increasing experience with the Articulator, will enable you to develop procedures suitable to your particular cutting application.

The illustrations and data used in this manual were current at the time of printing, but the Articulator may vary slightly due to ongoing engineering changes. LasTec reserves the right to implement engineering and design changes to the Articulator as may be necessary without prior notification.

Throughout this manual, we make references to right and left directions. We determine right and left while sitting in the operator seat and facing in the direction of forward travel. Blade rotation is clockwise as viewed from the top of the Articulator.

### 2.3 Safety Guards And Covers



***NEVER operate the Articulator with any safety covers removed!!  
Work safely! Follow all safety rules! A careful operator is the best  
insurance against accidents!***

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Some illustrations in this manual show the Articulator with safety covers removed in order to provide improved viewing of the particular components being discussed. ***This is for informational purposes only -- never operate the Articulator without all covers, shields, safety devices, and grass chute or mulching plate installed and secure!***

Safety is a primary concern in the design and manufacture of all LasTec products. Unfortunately, our extensive efforts to provide safe equipment can be negated by a single careless act of an operator. In addition to the design and configuration of the Articulator, hazard control and accident prevention are also dependent upon the awareness, concern, prudence and proper training of all personnel involved in the operation, transportation, maintenance, and storage of the Articulator. ***The Best Safety Device is an informed, careful Operator!*** We ask you to be that kind of operator.

## 2.4 Preparational Safety Rules



**Know your controls and how to stop the Articulator quickly in an emergency! Read this entire manual before attempting to operate the Articulator!**

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**NEVER allow anyone to operate the Articulator without proper instruction! Any and all operators must be instructed in and capable of the safe operation of the Articulator, its attachments, and controls!**

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**NEVER allow children to operate the Articulator!  
NEVER allow children on or near the Articulator!  
ALWAYS clear area of all personnel before operating the Articulator!**

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- Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy rough-soled work shoes, as well as protective equipment for the eyes, hands, hearing and head. Never operate the Articulator or related equipment in bare feet, sandals, or sneakers.
- Clear the cut area of any stones, branches or other debris that may be thrown and cause injury or damage.
- Verify that all safety decals are properly installed, visible, and intelligible.
- Always remove accumulated debris, fuel, or excess grease and oil from the tractor engine area to avoid a fire hazard.
- Verify that the Articulator is properly mounted, set up, adjusted, and in good operating condition.
- Always perform the pre-operation equipment inspection (*Section 3*) and the appropriate maintenance schedule (*Section 5*) before operating the Articulator.
- Do not change the engine governor settings or over-speed the engine.

## 2.5 Operational Safety Rules



**ALWAYS work safely! Follow all safety rules!**  
**A careful operator is the best insurance against accidents!**  
**ALWAYS clear area of all personnel before operating the Articulator!**



**NEVER operate the Articulator without all safety covers properly installed and in good condition!**  
**ALWAYS stay well clear of all moving parts!**  
**ALWAYS stay clear of blades during operation!**

- Be sure that the parking brake is set before attempting to start the engine.
- Operate only in daylight or good artificial light.
- Be sure that all auxiliary equipment switches (blades, lights, etc.) are in the OFF position before attempting to start the engine.
- Be sure your tractor is equipped with a ROPS (*Roll Over Protection System*), and be sure to wear your seat belt.
- Never operate the Articulator without the grass chute or mulching plate installed and secure.
- Never operate the Articulator without all covers, shields, and safety devices installed and secure.
- Never permit any person other than the operator to ride or board the tractor or Articulator at any time. **Never allow riders!**
- Never allow anyone near the tractor or Articulator while operating. **Be sure that the area behind you is clear before operating in reverse!**
- Never allow anyone into the path of discharge.
- Never discharge in the direction of bystanders, vehicles, or buildings.
- Do not stop or start suddenly when going up or down a hill. Avoid operating on steep slopes.
- Do not mow in reverse unless absolutely necessary - and then only after careful observation of entire area behind the tractor and Articulator.
- Use extreme care and maintain minimum ground speed when transporting on a hillside or over rough ground, and when operating close to ditches, fences, or water.
- Reduce speed on slopes and in sharp turns to minimize potential tipping or loss of control. Use caution when changing directions on slopes.
- Be alert for holes in the terrain as well as any other hidden hazard. Always drive slowly over rough ground.

- Disengage the blades, stop the engine, set the parking brake, and remove the key before dismounting the tractor or making any adjustments to the Articulator.
- Stop the tractor immediately upon striking any obstruction. Disengage the blades, turn off the engine, set the parking brake, remove the key, and inspect the tractor and Articulator for any damage. Always repair any damage before resuming operation of the Articulator.
- Never adjust the cutting deck height or lift the deck into transport position while the blades are engaged.
- Never engage the blades with the cutting decks raised into transport position.
- Never place your hands or feet under the Articulator while the engine is running.
- Stay well clear of any and all moving parts.
- Keep hands and feet away from the blades at all times during operation.
- Take all possible precautions when leaving the tractor and Articulator unattended: disengage the blades, turn off the engine, set the parking brake, and remove the key anytime you leave the tractor and Articulator unattended.
- If your tractor is equipped with headlights and hazard lights, always activate them whenever crossing or accessing any roadways, driveways, or parking lots. Watch for oncoming traffic.
- Handle fuel with caution - it is explosive! Always use approved fuel containers; never handle fuel near an open flame; never use fuel as a solvent; never fuel the tractor while the engine is running or hot; never fuel the Articulator indoors; always clean up any spilled fuel; never smoke around fuel.
- Do not allow extended running of tractor engine indoors - exhaust fumes are deadly.

## 2.6 **Maintenance Safety Rules**



***ALWAYS disengage the blades, turn off the engine, set the parking brake, and remove the key before performing any service to, maintenance on, or adjustments to the tractor or Articulator!***

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- Always perform the appropriate maintenance schedule(s) in a timely fashion.
- Never allow anyone near any operator controls while performing adjustments, service or maintenance to the tractor or Articulator.
- Always use personal protection equipment such as eye, hand, head, and ear protection when performing any service or maintenance to the tractor or Articulator.
- Keep the tractor engine area free of accumulated debris, fuel, or excess grease and oil to reduce fire hazard.

- Keep the Articulator in good operating condition with all safety devices in place.
- Check the blades frequently. Verify that they are sharp, free of nicks and cracks, and securely fastened.
- Periodically tighten all bolts, nuts and screws and check that all fasteners are properly installed to ensure the tractor and Articulator are in safe operating condition.
- Upon completing any maintenance or service function, verify that all safety guards and devices are properly installed before operating the tractor or Articulator.
- Verify that all warning labels and decals are properly installed, visible, and legible.
- Always remove debris from the top and bottom of the Articulator after each use.

## **2.7 Storage Safety Rules**



***NEVER allow the extended running of tractor engine indoors! Exhaust gasses contain carbon monoxide, an odorless and deadly poison!***

- Never allow extended running of any engine indoors. Exhaust fumes are deadly.
- Never store tractor with fuel in the tank inside a building where fumes could reach an open flame or spark.
- Allow the tractor engine to cool before storing in an enclosed area.
- Remove all accumulated debris from the tractor, and both the top and bottom of the Articulator before storing.
- Sand chipped or scratched areas and re-paint them to prevent rust during storage.
- Lubricate all moving parts of the tractor and Articulator to prevent rust during storage.



## SECTION 3 Initial Set-Up

### 3.1 *Mounting The Articulator To The Tractor*



***Before attempting to mount the Articulator to the tractor, be sure the PTO is disengaged, the engine is off, the parking brake is set, and the transmission is in neutral!***

*The Model 325EFD Articulator is designed to be mounted to the John Deere F1145 traction unit ONLY. Do NOT attempt to mount the Model 325EFD Articulator to any other traction unit make or model. Damage to the equipment and/or personal injury may result from installation and/or operation of the Articulator with an improper traction unit.*

Follow the procedures listed below to properly mount the Articulator to the tractor:

1. Park the tractor on level ground. Be sure deck lift arms are in lowered position.
2. Turn off the tractor, disengage the PTO, shift the transmission into neutral, and set the parking brake.
3. Approximate the position of the Articulator in front of the tractor.
4. Mount the Articulator push arms onto the tractor. Secure with clevis pins.
5. Mount the push arms onto the Articulator. Secure with bolts and nuts.
6. Mount the PTO shaft to the Articulator gearbox. Secure with roll pin.
7. Mount the PTO shaft to the tractor. Secure with quick-disconnect collar.
8. Complete the entire Initial Set-Up section of this manual before attempting to operate the tractor and Articulator.

### 3.2 ***Gearbox***

Check the oil level and condition in the gearbox. The gearbox should be approximately half full (16 ounces). Add oil if low. If the oil appears excessively contaminated, change the oil. Use Amoco Permagear EP 220 or equivalent gear oil.

Inspect the entire area around and under the gearbox for any oil leakage. If a leak is discovered, repair it and refill the gearbox before operating the Articulator.

### 3.3 Deck Drive Belts



***NEVER inspect, adjust, or change the deck drive belt while the engine is running!***

***ALWAYS clean the entire deck(including under the belt cover) of all grease, oil, fuel, grass, or debris to prevent fire & projectile hazards!***

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The deck drive belts are located between the gearbox and the center cutting deck, under the center deck belt cover. To access the belts, remove the wing bolt and lift the cover from the deck.

The spring-loaded idler system automatically tensions the belts to the proper level.

Check the belts for visible wear or damage. If either belt appears excessively worn, damaged, cracked, weathered, or otherwise appears to pose an unsuitable or unsafe operating condition, replace the belt.

Check the belts for proper tension. If the idler arm pivots to its maximum stroke without adequately tightening the belts, you need to replace the belts. If the belts you are checking are new, and the idler tensioner goes to its maximum stroke without adequately tightening the belts, it is likely you have installed the wrong size belts. Contact your LasTec dealer for the proper belt lengths for your Articulator.

If you are unable to install new belts with the idler arm at its minimum stroke, it is likely you are installing the wrong size belts. Contact your LasTec dealer for proper belt lengths for your Articulator.

Be sure that the idler tensioning spring is properly installed and in good condition. If for some reason this spring becomes loose, detached, or fatigued, the idler will not properly tension the belts.

Clean entire deck area (under the belt cover) of all excess grease, oil, fuel, grass, or debris before operating the Articulator. This will help prevent damage to the equipment, fire hazard, and projectile hazards.

Be sure to replace the belt cover and hardware.

### 3.4 Deck Belts



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***NEVER inspect, adjust, or change the deck belts while the engine is running!***  
***ALWAYS clean each entire deck (including under the belt covers) of all grease, oil, fuel, grass, or debris to prevent fire & projectile hazards!***

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The deck belts are located under the belt covers on each deck. To access each belt, remove the wing bolts, wing nuts and washers, and lift the belt cover from the cutting deck.

The double-pulley idler belt tensioning system automatically tensions the belts on the cutting decks, thus eliminating the need for manual belt tension adjustment.

Check the belts for visible wear or damage. If any belt appears excessively worn, damaged, cracked, weathered, or otherwise appears to pose an unsuitable or unsafe operating condition, replace the belt.

Check the belts for proper tension. If an idler arm pivots to its maximum stroke without adequately tightening the belt, you need to replace the belt. If the belt you are checking is new, and the idler arm pivots to its maximum stroke without adequately tightening the belt, it is likely you have installed the wrong size belt. Contact your LasTec dealer for the proper belt lengths for your Articulator.

If you are unable to install a new belt with the idler arm at its minimum stroke, it is likely you are installing the wrong size belt. Contact your LasTec dealer for proper belt lengths for your Articulator.

Be sure that each idler pulley tensioning spring is properly installed and in good condition. If for some reason this spring becomes loose, detached, or fatigued, the idler will not properly tension the belt.

Clean each entire deck area (under the belt covers) of all excess grease, oil, fuel, grass, or debris before operating the Articulator. This will help prevent damage to the equipment, fire hazard, and projectile hazards.

Be sure to replace all belt covers and hardware.

### 3.5 Blades



***Never inspect, adjust, change, or perform any other maintenance to the blades while the engine is running!***

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***Always turn off the blades, turn off the engine, remove the key, and set the parking brake before attempting to inspect, adjust, change, or perform any other maintenance to the blades!***

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***Keep all personnel clear of all controls while inspecting, adjusting, changing, or performing maintenance to the blades!***

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The Model 325EFD Articulator utilizes three individual 25" high-lift blades, located under each articulated cutting deck.

**NEVER** go near, or expose yourself or others in any way to the blades while the engine is running!

**ALWAYS** disengage the blades, turn off the tractor, remove the key, and set the parking brake before attempting to inspect, adjust, change or perform any other maintenance to the blades!

Keep all personnel clear of all controls while inspecting, adjusting, changing, or performing maintenance to the blades!

Inspect all blades for proper installation, orientation, tightness, sharpness, and overall condition. Be sure the lift fins are oriented to the top of the blades. Verify that the mount bolts are secure, the blades are sharp, and free of any nicks, cracks, or bends. Always replace any damaged, dull, or missing blades before operating the Articulator.

LasTec also offers optional low-lift blades and mulching blades for certain cutting applications. Contact your LasTec dealer for further information about optional blades available.

### 3.6 Deck Cutting Height



**NEVER attempt to change the cutting deck height while the engine is running!**

The Model 325EFD Articulator has a standard cutting range of 1" to 5", in 1/4" increments. If you wish to change the deck cutting height, do so before attempting to operate the Articulator.

The deck height adjustment lever has (1) permanently fixed spacer, and (16) adjustable spacers, each equal to 1/4" deck height adjustment. The deck is at its minimum height (a cutting height of 1") when only the fixed spacer is in front of the lever lock bracket. Each adjustable spacer placed in front of the lock bracket raises the cutting height by 1/4", up to 5". The spacers which mark the 2", 3", 4" and 5" cutting height positions are knurled for quick identification. To adjust the cutting deck height:

1. Disengage the PTO.
2. Tighten both deck limit chains, and secure the snap links.
3. Lift the cutting deck to transport position.
4. Secure the deck service safety latch.
5. Turn the spacer locking knob on the height adjustment lever counter-clockwise until the spacers and lever are loose. Raise the lever from the locking bracket and adjust the spacers to the desired height setting. Each spacer placed in front of the lock plate will indicate an additional 1/4" of cutting height. When the desired cutting height setting is reached, place the lever back into the locking bracket and turn the spacer locking knob clockwise until the spacers are tight. Avoid trapping fingers between the spacers and the lock plate during adjustment. Repeat process on all three deck height adjusting rods.
6. Disengage the deck service safety latch.
7. Lower the cutting deck to the ground.
8. Loosen both deck limit chains, and secure the snap links.

NOTE: An additional 1/4" of cutting height can be attained, for a maximum height of 5 1/4", by removing the 1/4" spacers from ABOVE all the wheel yoke collars and placing them BELOW the collars. This will raise all of the cutting height settings obtained with the deck height adjusting lever by 1/4" respectively.

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### **3.7 Gauge Wheels**

Verify proper function of all cutting deck gauge wheels. The wheels should turn freely without excessive side-to-side motion, and be free of debris. Clean, adjust, or replace as necessary.

Check that each wheel swivels freely in the shaft pivot collar, and the bushings are in good condition. If any wheel does not swivel freely, clean and grease the shaft collar assembly. Replace the bushings if necessary.

Refill or replace any low or flat tires. Check the Specifications Chart for proper tire pressure.

### **3.8 General**

Verify that all warning decals are in place, visible and legible.

Verify that all covers and safety devices are properly installed and secure.

Check that the discharge chute is clear of debris, properly mounted, and in good condition.

Inspect entire Articulator for loose or entangled parts, debris, obstructions, neglected tools, or any other possible safety hazards, equipment hazards or projectile hazards.

### **3.9 Pre-Operation Equipment Inspection Checklist**

Perform the following equipment inspection prior to each operation of the Articulator.

- With the tractor and Articulator parked on level ground, verify that the Articulator is properly mounted to the tractor and secure.
- Verify that the PTO shaft is properly mounted and secure.
- Check the oil level in the gearbox.
- Inspect area around and under the gearbox for any oil leakage.
- Check the deck drive belt and idler tension spring for proper installation, tension and condition.
- Clean the entire center deck area (including under the belt cover) of all grease, oil, fuel, grass, or debris.
- Check all deck belts and idler tension springs for proper installation, tension and condition.
- Clean each entire deck area (including under the belt covers) of all grease, oil, fuel, grass, or debris.
- Inspect all blades for proper installation, orientation, tightness, sharpness, and overall condition.
- Set the cutting deck height to the desired level.
- Verify proper function and air pressure of all gauge wheels.
- Verify that all warning decals are in place, visible and legible.
- Verify that all covers and safety devices are properly installed and secure.
- Check that the discharge chute is clear of debris, properly mounted, and in good condition.
- Inspect entire Articulator for loose or entangled parts, debris, obstructions, or neglected tools.
- Perform all safety, set-up, and pre-operation procedures listed in your tractor manual.
- Complete the appropriate maintenance checklist (section 5).





## SECTION 4 Operating Procedures

### 4.1 Transporting The Articulator



***NEVER engage the PTO when the Articulator is in transport position!  
NEVER raise the Articulator into transport position while the PTO is engaged!***

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The Model 325EFD Articulator can easily be lifted and transported by the tractor. Once the deck lift locking chains are locked into position, simply lift the arms to their maximum height. This will allow for easy transport and transport over curbs and other obstructions, as well as extending the overall life of the Articulator.

- Complete the Initial Set-Up section of this manual BEFORE attempting to operate the Articulator.
- Review the tractor manual for proper lift arm operation.
- Lock deck lift locking chains into place by sliding them through retaining ring until tight, then locking the chain link into the slot below the ring. Secure the snap link.
- Lift the Articulator into transport position before traveling.
- Secure the service safety latch.
- Do not make quick stops or starts when transporting the Articulator. Always wear your seat belt when transporting or operating the Articulator.
- Never engage the blades while the Articulator is in transport position. Never lift the cutting deck while the blades are engaged.

### 4.2 Preparation For Cutting



***NEVER attempt to operate the Articulator until you have read and understand this manual in its entirety, as well as the manual supplied with your tractor!***

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***ALWAYS perform the pre-operation equipment inspection before attempting to operate the Articulator!  
ALWAYS perform the appropriate maintenance schedule(s) before attempting to operate the Articulator!***

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***NEVER operate the Articulator without all covers, shields, safety devices, and grass chute or mulching plate installed and secure!***

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***ALWAYS follow all safety rules stated in this manual, as well as the manual supplied with your tractor!***  
***A well-informed, safety-conscience operator is the best safeguard against accident or injury!***

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***NEVER allow extended running of any engine indoors! Exhaust gasses contain carbon monoxide, an odorless and deadly poison!***

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The Articulator is intended to be used specifically for finish mowing applications. One of the unique benefits of the Articulator's cutting system is its ability to float over contours that are impossible for other wide-area mowers to cut accurately. The Articulator also offers a high level of maneuverability, including the ability to cut in reverse.

Although the Articulator is an industrial quality mower, do not attempt to use it to cut extremely long grass or areas heavy with brush or debris.

Upon completion of reading and understanding this manual in its entirety, reading and understanding your tractor manual in its entirety, completing the pre-operation inspection checklist, and performing the appropriate maintenance schedule(s), you are ready to begin operating the Articulator.

- Complete the Initial Set-Up section of this manual BEFORE attempting to operate the Articulator.
- After transport to the cut site, release the service safety latch, lower the Articulator into cutting position, and loosen both deck limit chains. Secure the snap links.
- Be sure the Articulator is not positioned over any debris or loose objects.
- Be sure there are no people near the Articulator, especially in the path of discharge.
- Shift the tractor into neutral, and keep the tractor on a low RPM setting. **DO NOT ENGAGE THE PTO WITH THE TRACTOR AT HIGH IDLE.**
- Engage the PTO.
- If there is any belt squeal, excessive vibration, or any indication of obstructions or debris in the blades, disengage the PTO at once. Check and eliminate problem before continuing.
- If the Articulator appears to be operating correctly, slowly increase the tractor idle until the PTO shaft is operating at the tractor manufacturer's recommended operating RPM. **DO NOT EXCEED THIS RPM DURING OPERATION OF THE ARTICULATOR.**
- Never operate the Articulator without all covers, shields, safety devices, and grass chute or mulching plate installed and secure.

### 4.3 Ground Speed



**Excessive ground speed over rough terrain can cause structural stress and damage to the Articulator!**  
**ALWAYS drive cautiously and reduce ground speed when transversing rough or severe terrain!**

Always adhere to the tractor manufacturer's recommended ground speed range when operating the Articulator. Your speed may vary within this range as your cutting conditions vary.

Excessive ground speed while traveling over rough terrain can cause the Articulator to bounce excessively, which in turn increases the stress on its structure and the likelihood of damage to the machine. Thus, while a higher ground speed is acceptable for wide, open, flat areas, a slower ground speed is required for rough or contoured areas.

Do not make quick starts or stops when transporting or operating the Articulator. Always wear your seatbelt.

### 4.4 Cutting In Reverse



**ALWAYS check to be sure that the area behind you is clear of people or obstacles before backing the tractor and Articulator!**

Be sure entire area around the tractor and Articulator are clear of people or obstructions before traveling in reverse.

If you are not familiar with backing techniques, we recommend practice in an open area to develop the required skills before operating the Articulator.

### 4.5 Cutting Severe Contours



**NEVER attempt to operate the Articulator until you have read and understand this manual in its entirety!**  
**NEVER allow anyone to operate the Articulator without proper training and without first reading and understanding this manual in its entirety!**

The Articulator cuts contours areas well, producing a quality of cut which rivals that of a single push mower.

The basic rule of thumb to use when judging the ability of the Articulator to handle a contoured area is to cut the area with a 25" push mower set at the same height as the Articulator.

lator. If the mower cuts without scalping, the Articulator should be able to handle the area.

However, there are important guidelines to follow when cutting severe contours or side hills:

- Never exceed the tractor manufacturer's maximum side slope ratings.
- Always use tractors with a ROPS.
- Always wear your seatbelt.
- Do not operate the Articulator in areas which are so severely contoured as to cause PTO shaft chatter.

## **4.6 Cutting Wet Grass**

Operation of the Articulator is not adversely affected by wet cutting conditions. However, a slower ground speed is recommended for improved grass discharge and reduced turf tear.

## SECTION 5 Maintenance



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***Proper maintenance of the Articulator is important!  
ALWAYS perform the appropriate Maintenance checklist at the proper time interval!  
Failure to complete the appropriate Maintenance checklists at the proper time intervals will cause damage to the Articulator, unsafe operating conditions, and substandard performance!  
Warranty issues are dependent upon proper maintenance!***

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Along with completing the **Pre-Operation Equipment Inspection Checklist** each time you operate the Articulator, complete the following Maintenance Checklists at the indicated time intervals.

### 5.1 Every 8 Operating Hours

- Complete the Pre-Operation Equipment Inspection Checklist.
- Grease all grease zerks.
- Grease the PTO shaft collar and both cross bearings.
- Inspect the spindle bearing grease seals (under each deck) for grease leakage or improper seating.
- Lubricate all joints and moving parts which are not equipped with grease fittings. *Motorcycle oil or WD-40 is recommended for these areas.*
- Verify proper installation, operation, and flow of grass chute.
- Inspect entire Articulator for loose or entangled parts, debris, obstructions, neglected tools, or any other possible safety hazards, equipment hazards or projectile hazards.
- Perform the appropriate maintenance procedures listed in your tractor manual.

### 5.2 Every 25 Operating Hours

- Complete the 8 Hour Maintenance Checklist.
- Grease all wheel hubs.
- Lubricate the PTO quick-disconnect pin or twist sleeve.

### **5.3 Every 50 Operating Hours**

- Complete the 8 & 25 Hour Maintenance Checklists.
- Grease all blade spindle housings.
- Inspect all bronze bushings for wear.
- Inspect all wheel bearings for wear, damage, debris, and proper installation.

### **5.4 Every 500 Operating Hours**

- Change the gearbox oil - 16 ounces Amoco Permagear EP 220 or equivalent.
- Inspect all blade spindle bearings for wear or damage. Replace if needed.
- Re-Pack all wheel bearings. Replace if needed.
- Inspect all component parts and wear points. Repair or replace any worn, damaged, or missing parts.
- Complete the 8, 25, & 50 Hour Maintenance Checklists.

### **5.5 Annual**

- As an annual maintenance program, LasTec recommends the installation of a complete K612 Model 325EFD Articulator Rebuild Kit. Contact your LasTec dealer for more information about the K612 Kit.
- After installation of the complete K612 Model 325EFD Articulator Rebuild Kit, complete the 8, 25, 50, & 500 Hour Maintenance Checklists.

## 5.6 Model 325EFD Articulator Specifications

<b>Cutting Deck</b>	Cutting Width	(3) Articulating 25" Cutting Decks, 72" Total
	Blades	(3) 25"L x 2 1/2"W x 1/4"T High-Lift
	Blade Tip Speed	Max 17,000 FPM
	Cutting Height Range	1" to 5"
	Gross Weight	450 Lb
	Operating Environment	Outdoor Use Only
	Gauge Wheels	(8) 9" x 3" Pneumatic Tires - 50 PSI
	Deck EFD1 Belt	Goodyear Insta-Power 85890
	Deck EFD2 Belt (Deck Drive)	Goodyear Insta-Power BL35.5F
	Deck EFD3 Belt	Goodyear Insta-Power 85870
	Gearbox	Curtis Model 215A, Rat 1:1, Type B
	Gearbox Oil	16 Ounces Amoco Permagear EP 220 or Equivalent
	PTO Shaft	26" - Neapco UTS06-DW26MV
		35" - Neapco UTS60-DW35MV 35"

**5.7 Model 325EFD Articulator Maintenance Chart**

	Every 8 Hours	Every 25 Hours	Every 50 Hours	Every 500 Hours	Annual
Complete the Pre-Operation Equipment Inspection Checklist	●	●	●	●	●
Grease All Grease Zerks	●	●	●	●	●
Grease the PTO Shaft Collar & Both Cross Bearings	●	●	●	●	●
Inspect All Blade Spindle Bearing Grease Seals for Grease Leakage or Improper Seating	●	●	●	●	●
Lubricate All Joints & Moving Parts Not Equipped with Grease Zerks	●	●	●	●	●
Verify Proper Installation, Operation, & Flow of Grass Chute	●	●	●	●	●
Inspect Entire Articulator for Loose or Entangle Parts, Debris, Obstructions, Neglected Tools, & Other Hazards	●	●	●	●	●
Verify That All Hardware is Securely Fastened & Good Condition	●	●	●	●	●
Perform the Appropriate Maintenance Procedures Listed in Your Tractor Manual	●	●	●	●	●
Retighten all gauge wheels to reset the bearing loads.	●	●	●	●	●
Complete the 8-Hour Maintenance Schedule Checklist		●	●	●	●
Grease All Wheel Hubs		●	●	●	●
Lubricate the PTO Quick-Disconnect Pin or Twist Sleeve		●	●	●	●
Complete the 8-Hour & 25-Hour Maintenance Checklists			●	●	●
Grease All Blade Spindle Bearing Housings			●	●	●
Inspect All Bronze Bushings			●	●	●
Inspect All Wheel Bearings for Wear, Damage, Debris, & Proper Installation			●	●	●
Clean the gauge wheels			●	●	●
Change the Gearbox Oil				●	●
Inspect All Blade Spindle Bearings for Wear, Damage, Debris, & Proper Installation				●	●
Re-pack All Wheel Bearings				●	●
Inspect All Component Parts & Wear Points				●	●
Complete the 8-Hour, 25-Hour, & 50-Hour Maintenance Checklists				●	●
Install the K612 Model 325EFD Articulator Rebuild Kit					●
Complete the 8-Hour, 25-Hour, 50-Hour, & 500-Hour Maintenance Checklists					●