



## **PlanetAir® Tri-Fecta & Trio Owners Manual**

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Products covered by one or more of the following US Patents:

5,469,922; 6,513,603; 6,691,791; 6,983,806; 7,096,968; 7,070,005; 7,055,617;  
7,152,691; 7,204,317; 7,290,619; 7,341,115 B2; 7,451,831 B2; 7,438,136 B2; 7,341,115B2;  
7,575,063B2; 7,575,064B2; 7,640,994B2; 7,669,666B2; 7,717,188B2; 7,743,841B2; 7,779,929B2;  
7,784,557B2

Other US and Foreign patents pending.

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7,784,557B2

Other US and Foreign patents pending.

## Limited Warranty Conditions

PlanetAir Product is delivered to the customer accompanied by a limited warranty against defects in the materials and workmanship.

This warranty applies for a period of 12 months as of the date of purchase. Three months for Contract Industry.

PlanetAir warranty is viewed by the use in: “General Conditions of Maintained Turf”.

All incidental and consequential damages, including pickup and delivery of the unit, communication, mileage charges and or rental of replacement unit during repair, are not covered under this warranty, nor is any loss of income and/or any other loss resulting from the failure of this product due to a warranty defect.

Warranty Registration and Inspection Report must be filled out and returned within 30 days of purchase to:

PlanetAir Turf Products, LLC  
1065 24<sup>th</sup> Ave SW  
PO Box 625  
Owatonna, MN 55060  
Ph: 507-446-8399  
Fax: 507-455-2788  
Email: [info@planetair.biz](mailto:info@planetair.biz)  
Web: [www.planetair.biz](http://www.planetair.biz)

The Following items are not covered under PlanetAir warranty, and are warranted by their respective manufacturer.

- a.) Engine and engine parts.
- b.) Gear boxes and PTO drive lines.
- c.) Batteries
- d.) Wheels and tires.
- e.) Chains, bearings, belts, sprockets, and pulleys.
- f.) Hydraulic Cylinders

A copy of the warranty for the above items is furnished if necessary with the PlanetAir product.

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7,784,557B2

Other US and Foreign patents pending.

## Specifications

|                                  |                          |
|----------------------------------|--------------------------|
| <b>PlanetAir Specifications:</b> |                          |
| Aerating Depth                   | Up to 3 ½ Inches Deep    |
| Aerating Width                   | 48 Inches Wide           |
| Aerating Hole Pattern            | 1" or 2" rows            |
| Aerating Speed                   | 1 to 7 mph               |
| Aerating Rate                    | 2,000,000 holes per Hour |
| Transport Speed                  | NOT to exceed 10 mph     |
| Power Supply                     | 540 PTO, 20 horsepower   |
| <b>Dimension:</b>                |                          |
| Height                           | 30 Inches                |
| Width                            | 64 Inches                |
| Length                           | 32 Inches                |
| Weight                           | 1300 Pounds              |
| Shipping Weight                  | 1400 Pounds              |
| <b>Knife Options:</b>            |                          |
| Shatter Knife                    | 1/8", 1/4" and 3/8"      |
| Coring Knife                     | 1/2" and 3/4"            |

Products covered by one or more of the following US Patents:  
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 7,784,557B2

Other US and Foreign patents pending.

# How to Obtain Parts and Service

To order parts or to arrange repair service contact your authorized PlanetAir dealer. For a list of authorized dealers in your area or for addition information regarding the PlanetAir Aerator check the PlanetAir website at [www.planetair.biz](http://www.planetair.biz) or direct inquires to:

PlanetAir Turf Products, LLC  
1065 24<sup>th</sup> Ave SW  
PO Box 625  
Owatonna, MN 55060  
Ph: 507-446-8399  
Fax: 507-455-2788  
Email: [info@planetair.biz](mailto:info@planetair.biz)  
Web: [www.planetair.biz](http://www.planetair.biz)

To ensure safety and proper operation, always purchase genuine PlanetAir Aerator replacement parts from an authorized PlanetAir dealer. Replacement parts from other sources may damage the aerator and/or create a safety hazard. Always refer repairs to properly trained service personnel. **DO NOT ALTER** the PlanetAir Aerator in any manner. Unauthorized alterations may affect its operation, performance and may result in injury or death to operator or other individuals in the working area.

## Product Records

**IMPORTANT:** Record the information from your PlanetAir Aerator. It may become necessary to furnish your model, product and serial number when ordering parts.

Model Name \_\_\_\_\_

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

Date Purchased \_\_\_\_\_

Dealer Name \_\_\_\_\_

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Products covered by one or more of the following US Patents:

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7,784,557B2

Other US and Foreign patents pending.

## General Safety Practices

### Recognizing Safety Warnings used in the Manual:

#### LOOK FOR THE SAFETY HAZARD WARNING SYMBOL



This symbol is used to alert the operator of safety hazards.



### **DANGER**

“DANGER” identifies immediate hazards which will result in serious injury or death.



### **WARNING**

“WARNING” identifies potential hazards which could result in serious injury or death.



### **CAUTION**

“CAUTION” identifies hazardous situations which may result in minor to moderate injury and or could result in damage or destruction of equipment

Products covered by one or more of the following US Patents:  
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7,152,691; 7,204,317; 7,290,619; 7,341,115 B2; 7,451,831 B2; 7,438,136 B2; 7,341,115B2;  
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7,784,557B2

Other US and Foreign patents pending.

## General Safety Practice

Safety on the job should always be a top priority. Training and experience are important factors in the safe operation of equipment. Please consider the following information and realize that safe operation is a matter of using common sense as it relates to the machine, its maintenance, the operator, the training and the operating conditions. These are general safety instructions that apply to most turf maintenance equipment.

### Training:

- Always read the manual before operating a machine for the first time.
- Always read the warning decals before operating a machine for the first time.
- Always check the location and use of each control before operating a machine for the first time
- Practice operating the machine in a safe area with the controls. If you have a question, ask your supervisor to call the factory.

### Clothing:

- Clothes should be snug fit. Loose fitting clothing is hazardous because it may get caught in the mechanism during service operations.
- Remove jewelry before operation. Again, jewelry may get caught in the mechanism.
- Wear shoes that will protect your feet. In most cases, sneakers do not protect and do not provide the protection of leather shoes or boots. Steel toed safety shoes should be considered for many situations.
- Hard Hat – the use of a hard hat should be considered when using equipment on a golf course. The danger of being hit by a golf ball should be a major concern as well as protection while operating under trees.
- Eye Protection – Safety glasses and/or face shields should be considered when operating, as well as working in close proximity to high speed rotary equipment.
- Hearing – if the noise in the equipment is too loud, consider the use of ear protection.
- Do not use stereo headsets during operation. This is a distraction that may lead to an accident. Headsets also make it difficult to hear other people and equipment while operating the aerator.
- Respirators – when operating in dusty, windy conditions wear a respirator. This is also an important consideration if operating equipment while spraying chemicals and fertilizers.
- Gloves – use gloves when handling sharp or hazardous objects.



# General Safety Practice

## The Operator:

- Care should always be taken when mounting and dismounting a riding machine. Prevent injuries and falls by making sure the operator does not slip. Unless it is an emergency, do not jump off a machine. Injury may result when an operator's foot slips trying to jump from a machine.
- Do not operate any equipment at unsafe speeds. Speeds should be reduced when turning or operating on slopes. The operator must use common sense to determine a safe speed based on the equipment, the load, the slope, the surface, and other conditions that may effect safe operation.
- The operator must be aware of the conditions around the area. Be careful to observe other people and machines
- Beware of slipper conditions. Wet turf can be encountered on slopes, when turning or stopping, or at high speeds.
- Keep hands and feet away from cutting devices and drive components. Shut off engine and remove the keys or ignition wire when servicing cutting devices or drive components.
- If required to lift, an operator should ask for help if the object is too heavy. The operator should lift with his or her legs instead of back. Care should be taken to avoid twisting the back while lifting a heavy load.
- Never allow children to operate the machine.

## The Machine:

- Do not modify the machine in any manner. Always check the machine to make sure it is in good working order.
- Do not place hands or feet near moving or rotating parts. Inspect to insure that all guards are in place. Do not operate machine without guards in place.
- Check to assure that all controls are in good operating condition. Make sure the breaks are operating properly.
- Check the tire pressure
- Do not overload the machinery. The components are designed for certain weights and capacities. Overloading the machine will cause unsafe conditions.
- Utility vehicles must have adequate hitches and brakes to control any towed machine. Check the weight and capacity of the machine that will be towed by that utility vehicle.
- Check the condition of the hydraulic hoses. Leaks and worn hoses should be fixed or replaced before the machine is put into service. Do not use your fingers or hands to check for hydraulic leaks. High pressure can puncture the skin and force oil into the body. This can cause severe injury or death.

Products covered by one or more of the following US Patents:  
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7,784,557B2

Other US and Foreign patents pending.

## **General Safety Practice**

- Shut off the engine before servicing the machine. Check machines on a level area. Machines on a slope may roll when the engine is off.
- Refer unfamiliar repairs and adjustments to mechanics that have been trained to do them properly.
- Replace decals that have become damaged or illegible.

## **NOTE:**

**This list includes many, but not all, general safety instructions as they relate to turf equipment.**

**Common sense must always be used to determine the safest way to operate a machine under specific conditions.**

## Pre-Operation

### Pre-Operation Check List

Wear the appropriate safety gear. Safety glasses and safety shoes are recommended when operating the PlanetAir.

- Grease – All lubrication fittings daily. See lubrication instructions
- Check – All guards and covers are in place
- Check – Engine filters and lubricants.
- Check – All fasteners. Retighten any loose nuts and screws to ensure safe operation.
- Check – Tires for any possible wear, damage and proper inflation. Tires should be inflated to 22 psi on the PlanetAir.
- Chains and belts for wear and proper tension
- The work site for above and below ground obstructions and or dangerous areas
- Shatter or Coring Knife – make sure they are in good working condition, in the proper position and securely fastened.
- 

### Work Site Preparation

Under certain conditions, the PlanetAir knife can reach a depth of 4 ½ inches. Damage will occur to any buried object that knife may come in contact with. Plan your path and know the location of any below ground as well as above ground objects that could be damaged by the aerating process.

- Locate and mark all shallow buried electric service, cable TV, telephone, outdoor lighting and any other buried cable that may be damaged by the aerating process.
- Locate and mark all irrigation heads, above and below ground irrigation control boxes and any shallow buried irrigation lines that may be damaged by the aerating process.
- Locate and mark all shallow buried natural gas, propane gas, or other gas or fuel lines that may be damaged by the aerating process
- Locate and mark all shallow buried root drain pipes, drain pipes, drain tiling, drain catch basins or any other buried drainage items that maybe be damaged by the aerating process



**WARNING**

### Before Operating this Machine,

Products covered by one or more of the following US Patents:  
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7,784,557B2

Other US and Foreign patents pending.

## **Read and Understand this Entire Manual**

### **The Utility Vehicle and PlanetAir Aerator**

Be trained in the operation of the utility vehicle and knowledgeable in its safe operation. Be aware of the extra weight placed on the utility vehicle when combined with the PlanetAir aerator. The extra weight will affect the handling, balance and breaking performance of the utility vehicle. Operate the utility vehicle in a safe manner. Know the operating limits of the utility vehicle in relation to the weight, performance, and operating characteristics of the PlanetAir.

**NO EXTRA WEIGHT TO BE ADDED  
TO THE PLANETAIR AERATOR**

The forward speed of the utility vehicle regulates the spacing between rows of aerating holes.

**Required Power to the PlanetAir is a 540 rpm PTO, minimum 16 horsepower.**

**Low range gears can be used at a minimum of 2 mph. Maximum forward ground speed is 7 mph.**

## Choosing a Utility Vehicle

Mount the hitch plate to a measurement of 38 inches to the corner of Utility Vehicle.



## Hydraulic Requirements - 2-way hydraulics



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7,784,557B2

Other US and Foreign patents pending.

## Choosing a Utility Vehicle or Tractor (continued)

### Hydraulic Requirements - 2-way hydraulics

1. Hydraulic hoses come equipped with 3/8" male pipe thread.



2. **Hydraulic quick couplers are not provided.** They need to mate with your Utility Vehicle.



**Inspect Utility Vehicle manual for proper operation and hookup of two-way hydraulics**

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7,784,557B2

Other US and Foreign patents pending.

## Hitching PlanetAir to your Utility Vehicle



1. With PlanetAir rollers resting on a level surface the Hitch Pole **MUST BE INSTALLED TO RUN DOWNHILL 2"-3"** to the PlanetAir Aerator
2. For lowest setting mount pole with bracket up.
3. Raise ball mounting position on tow vehicle.
4. Do not move position of control chain.
5. Hitch pole should be cut off for rear hitch towing.
6. This setup will give more clearance on the rear roller in transport.
7. This setup is needed to prevent lift cylinder damage due to the hitch binding.
8. Note that the hitch ball neck is reduced to provide more hitch angle to increase lift cylinder protection.

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7,784,557B2

Other US and Foreign patents pending.

## Attaching PlanetAir to Tractor Lift Arms



**Lift Arm Towing Hitch**



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7,152,691; 7,204,317; 7,290,619; 7,341,115 B2; 7,451,831 B2; 7,438,136 B2; 7,341,115B2;  
7,575,063B2; 7,575,064B2; 7,640,994B2; 7,669,666B2; 7,717,188B2; 7,743,841B2; 7,779,929B2;  
7,784,557B2

Other US and Foreign patents pending.



## Sizing PTO Shaft to the Utility Vehicle or Tractor

To accommodate the differences in locations of the Utility Vehicle or Tractor PTO output shafts and to accommodate the different types and sizes of 3 point hitches, the PlanetAir is supplied with a long PTO shaft. The length of the PTO drive shaft may require shortening to properly fit the tractor used.

Before shortening the PTO shaft, check the following:

- Measure the length required **with the PlanetAir fully raised.**
- Measure the length required **with the PlanetAir straight out from the tractor PTO takeoff.**
- Measure the length required **with the PlanetAir lowered to the lowest possible point.**
  - Allow length for PTO take-off connection.
  - Allow length for PlanetAir spline connection
  - Recheck all measurements before cutting.
- The PTO shaft must not bind while raising or lowering the PlanetAir with the 3 point connection. The PTO shaft must stay properly attached to the power take-off and the PlanetAir spline connection. Ensure that the guard still fits the shaft. The Guard must be fully functional and cover the entire PTO shaft.

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7,784,557B2

Other US and Foreign patents pending.

## Hydraulic Hookup and Testing

The best choice is to unplug dump box lift cylinder and use those same ports and control handle. Note the hydraulic couplers you disconnect and source the same coupler ends for installation on PlanetAir hoses. Consult Utility Vehicle or Tractor manual for proper two-way cylinder hookup.

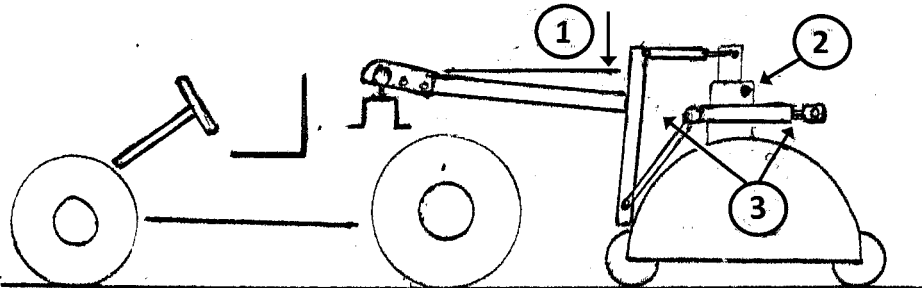
1. Plug in hoses
2. Pull hydraulic handle to raise the Aerator. If the Aerator doesn't rise reverse the hose hookups.
3. Push hydraulic handle down and hold until cylinder retracts completely.

Trouble Shooting: Cylinder does not retract completely.

- Control handle operated in float position instead of down position
- Hose not connected completely in coupler
- Wrong port chosen



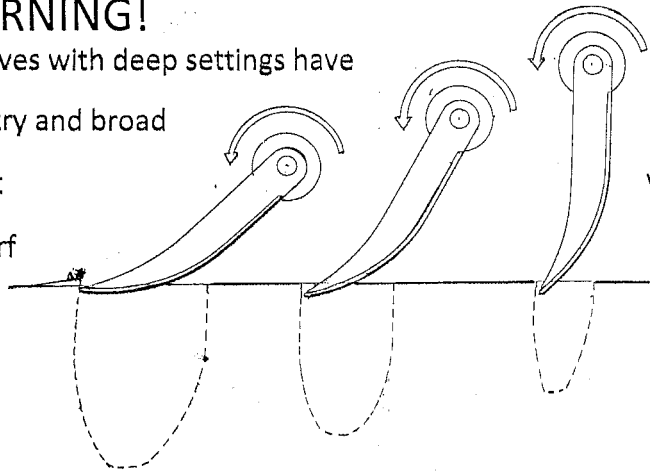
## Quick Setup



- ① The hitch should run down hill 3" to the aerator.
- ② Install the spring stop pin before operation.
- ③ The lift cylinder must retract 100%. Test for 2-way hydraulics.

### ⚠ WARNING!

New knives with deep settings have a flat entry and broad slice that cause turf damage.



Used knives and shallow settings have a clean vertical entry into the turf.

Topdress  
Brush, groom, or  
verticut at 45° angle  
to clean and hide  
marking.

- ⚠ Water immediately after treatments to prevent drying of slits.

Products covered by one or more of the following US Patents:  
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7,152,691; 7,204,317; 7,290,619; 7,341,115 B2; 7,451,831 B2; 7,438,136 B2; 7,341,115B2;  
7,575,063B2; 7,575,064B2; 7,640,994B2; 7,669,666B2; 7,717,188B2; 7,743,841B2; 7,779,929B2;  
7,784,557B2

Other US and Foreign patents pending.

## Height Adjustment



1.  $\frac{3}{4}$ " wrench, loosen retaining bolt on the jack housing and loosen the 2 bolts on the lower control arm. Do this for both sides.



2. Turn the adjustment bolt to set height. Follow Height Adjustment Decal recommendations. Retighten Retaining Bolts.

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7,152,691; 7,204,317; 7,290,619; 7,341,115 B2; 7,451,831 B2; 7,438,136 B2; 7,341,115B2;  
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7,784,557B2

Other US and Foreign patents pending.

## Hitch Springs



PlanetAir utilizes constant force springs over the hitch to bridge the weight 15% to the tow unit drive wheels and 80% to the rear roller system leaving only 5% on the front roller. The Tri-fecta becomes a tri-pod with the rear roller across two legs creating constant roller contact to the green surface.

Follow instructions on decals.

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7,575,063B2; 7,575,064B2; 7,640,994B2; 7,669,666B2; 7,717,188B2; 7,743,841B2; 7,779,929B2;  
7,784,557B2

Other US and Foreign patents pending.

## Trio with Rear Wheel Spring Relief System



The PlanetAir Trio allows you to put the wheel in 3 positions.

1. Relief Springs Locked with bolt stop below the axle. Tire will not mark greens
2. Move the bolt stop to the lower hole. Wheel springs will now provide relief to the aerator for fairways and rocky conditions.
3. The Upper Stop can be moved to position the rear roller off the turf for coring.

## Knife Selection Guide – Aerator Setup

The PlanetAir Knife is specifically designed to interact with our patented planetary motion. They are different from any other knife. PlanetAir provides for two category of knife.

- Shatter Knife technology provides 3 Knife thicknesses – 1/8", 1/4" and 3/8"
- Coring Knife technology provides 2 plug sizes – 1/2" and 3/4" ID. The coring knife is primarily for detaching with minimal cleanup.



**All Knives are manufactured from high grade, heat treated tool steel.**

**HINT:** The key to using PlanetAir technology in fairways is to set a depth, head pressure and ground speed that allow the Aerator to operate effortlessly. Multiple passes and frequency will get the job done.

| Knife                                   | Benefits   |  |
|---|--|--|
| Part# 560.317<br><br>1/8" Shatter Knife | Designed for putting green surfaces. No cleanup and minimum disruption to ball roll. Preserves fast, smooth, firm surface. Generally increases ball roll by 1 foot. Used on greens as often as weekly.<br><b>NEGATIVE:</b> This Knife will not survive contact with rocks. |  |

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 7,152,691; 7,204,317; 7,290,619; 7,341,115 B2; 7,451,831 B2; 7,438,136 B2; 7,341,115B2;  
 7,575,063B2; 7,575,064B2; 7,640,994B2; 7,669,666B2; 7,717,188B2; 7,743,841B2; 7,779,929B2;  
 7,784,557B2

Other US and Foreign patents pending.

## Knife Selection Guide – Aerator Setup

| Knife                                      | Benefits   |  |
|--|--|--|
| Part# 560.319<br><br>1/4" Shatter<br>Knife | Similar to 1/8" knife.<br>Broader slit. More disruption to<br>ball roll. Slightly softer surface<br>conditions.<br>More resistant than 1/8" to rock<br>hits. Longer wear capability. |  |
| Part# 560.320<br><br>3/8" Shatter<br>Knife | Our toughest Shatter Knife. Best<br>survivor in harsh conditions   |  |
| Part# 560.321<br><br>1/2" Coring<br>Knife  | 1/2" ID<br>Used for greens and tee mix areas.<br><br>NEGATIVE: 1/2" coring will not<br>survive rock hits or hard soil<br>conditions.   |  |
| Part# 560.322<br><br>3/4" Coring<br>Knife  | 3/4" ID<br>Our toughest Coring Knife. Used<br>for all areas<br><br>Our Coring Technology is<br>primarily for detaching with<br>minimal cleanup.                                      |  |



## Knife Installation



1. Back off the square head set screw two complete turns. Set an adjustable wrench to the width of the tine. With the adjustable wrench hold the tine in the tine shaft in alignment and tighten the top bolt completely. An impact wrench is preferred. Note: This is the primary fastening mechanism for PlanetAir tines.



2. Next, with a 3/8" hand wrench tighten the square head set screw into the back of the tine. Note: Impact wrench will damage set screws and may damage threads in shaft.



3. Last, with a 9/16" hand-wrench tighten the jam nut on the set screw.

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7,152,691; 7,204,317; 7,290,619; 7,341,115 B2; 7,451,831 B2; 7,438,136 B2; 7,341,115B2;  
7,575,063B2; 7,575,064B2; 7,640,994B2; 7,669,666B2; 7,717,188B2; 7,743,841B2; 7,779,929B2;  
7,784,557B2

Other US and Foreign patents pending.

## Timing Arm, Timing Spring, Timing Rubber Bumper Replacement



1. Remove Right wheel
2. Remove Timing Spring Block (Part# 560.206) and Timing Spring (Part #560.177-02) Inspect and replace if necessary.
3. Timing Arm (Part# 560.555) will swing down for bolt removal and Timing Arm replacement
4. Timing Arm will swing down for Timing Rubber Bumper (Part# 560.236) inspection and replacement

Hint: Timing Arm can be accessed and replaced with Rotor in the Aerator. There are 2 Timing Bumpers. One Bumper is fastened to the Timing Arm; the other Bumper is in the Housing. They should be replaced as a pair.

Hint: All fasteners require Loctite.

## Timing Chain Replacement

PlanetAir uses two X-Ring Timing Chains (Maintenance-free).

- The Timing Chains hold the Tine Shaft in a specific relationship to the ground.
- Rotor must be fixed with a 5 ½" pin through Rotor Disc and Timing Arm
- Opposing Tine Shaft must be fixed with Belt Retainer/ Timing Fixture

Hint: When a chain breaks related parts must be inspected.

- Tine Shaft Bearings (Part#560.03-04)
- Rotor Double Sprocket Bearings
- Timing Arm (Part#560.555)
- Timing Arm Spring (Part# 560.177-02)
- Timing Arm Rubber Bumpers (Pair) (Part#560.236)
- Reduction Belt (Part# 560.06-15) and Drive Belt (Part#560.06-16).

## Timing Chain Fixtures Required

- 5 ½" long ½" diameter bolt or pin
- Belt Guide/Timing Tool (Part#560.254)



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7,152,691; 7,204,317; 7,290,619; 7,341,115 B2; 7,451,831 B2; 7,438,136 B2; 7,341,115B2;  
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7,784,557B2

Other US and Foreign patents pending.

## Timing Chain Fixtures Installation



Rotate the Rotor so one of the shafts is positioned as pictured.

1. Slide the Timing Pin through the hole in the Rotor Disc and through the Timing Arm. This will lock the Rotor to the Timing Arm.
2. Timing Tool (Part# 560.254) will hold opposing Tine Shafts with Knife pointing upwards.
3. The Timing Chain (Part# 560.137-01) can now be installed on the opposing Tine Shaft.
4. Remove Timing Pin and Timing Tool
5. If necessary refixture the Rotor for second Timing Chain replacement
6. After replacement Rotor should be rotated by hand a couple of complete revolutions. Free, quiet, smooth movement should exist.



Picture taken with Rotor out of the Aerator for clarity



Rotate the rotor to make sure each shaft aligns to 8 o'clock position at the bottom of rotation

## Tine Shaft Bearing Replacement

Hint: Knife or Tine Shaft does NOT have to be removed for Tine Shaft Bearing replacement.

Hint: Timing Chain should be replaced after bearing failure. (Part#560.137-01) The Rotor may have to be rotated a number of times to access the connector link. OEM chain does not have a connector link.

### Right Bearing Replacement

1. Remove the Sprocket
2. Remove the Bearing Retainer
3. Replace Right Tine Shaft Bearing (Part# 560.03-04)
4. Reassemble following Timing Chain Replacement procedure.

### Left Bearing Replacement

1. Remove right side Tine Shaft Bearing Retainer
2. Slide Tine Shaft 2" to the right  
Hint: One Knife may need to be removed on the right side.
3. Remove left Tine Shaft Bearing Retainer
4. Replace left Bearing (Part# 560.03-04)
5. Reassemble following Timing Chain Replacement procedure

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7,784,557B2

Other US and Foreign patents pending.

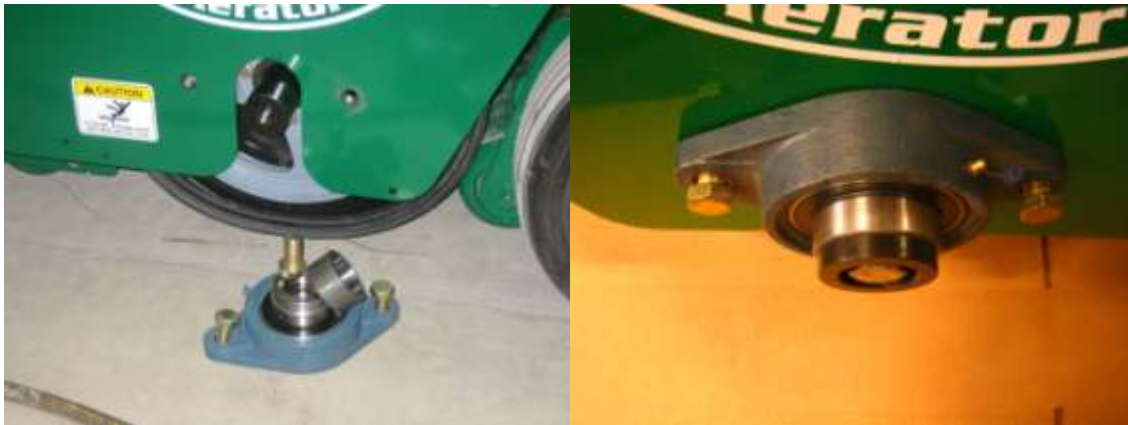
## Belt Replacement

PlanetAir utilizes two belts – Reduction Belt coming off the engine and a Drive Belt off the left side of the rotor.

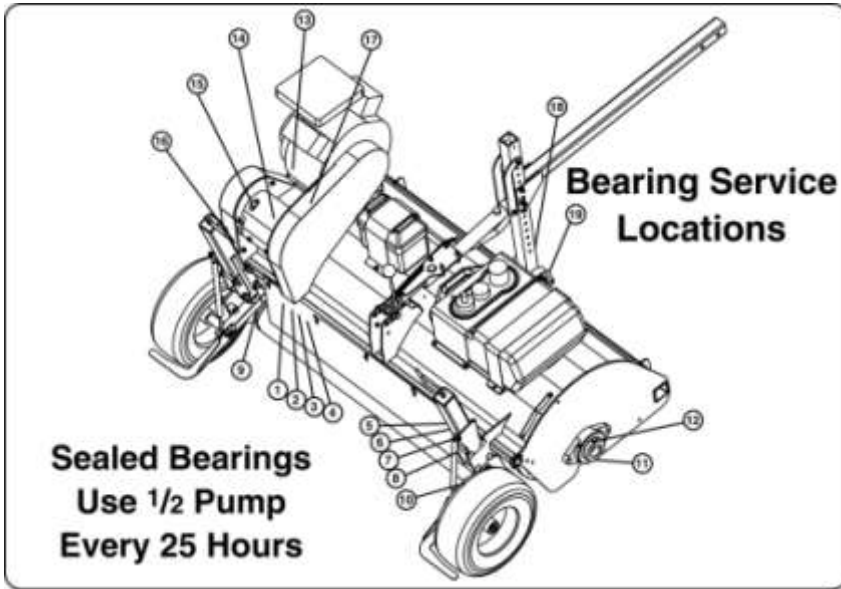
**Reduction Belt** (Part#560.06-16) is replaced by removing large belt guard on the inside of the Aerator. Change belt and reinstall guard.

**Drive Belt Replacement – Quick method** (Part#560-06-15)

1. Remove Left Rotor Mounting Bearing
2. Back off the bolts on the Right Rotor Mounting Bearing
3. Slide the Rotor to the right side of the machine by prying between Left End Plate and the Pulley.
4. Slide the Belt up between the End Plate and Pulley.



# Lubrication



| Location | Description                                    | Frequency      | Amount   |
|----------|--|----------------|----------|
| 1-8      | Tine Shaft Bearing<br>Part # 560.03-04         | Every 25 hours | 1/2 Pump |
| 9-10     | Wheel, Arm, Pivot<br>Part # 560.238            | Daily          |          |
| 11       | Rotor, Double Sprocket<br>Part # 560.36        | Every 25 hours | 2 Pumps  |
| 12-13    | Rotor, Mounting Bearing<br>Part # 560.03-02    | Every 25 hours | 1/2 Pump |
| 14-15    | Engine, Jack Shaft Bearing<br>Part # 560.03-05 | Every 25 hours | 1/2 Pump |
| 16-17    | Belt, Tensioner Pivot<br>Part # 560.237        | Daily          |          |
| 18-19    | Hitch, Pivot Bearings<br>Part # 560.03-10      | Every 25 hours | 1/2 Pump |

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Other US and Foreign patents pending.