



PlanetAir® is a registered trademark of PlanetAir Turf Products, LLC

Tri-fecta & Trio Owners Manual

2013 and forward



Safe Practices

1. Select a tow vehicle capable of towing 1300 pounds with 2 way hydraulics. Hydraulics must be able to extend and retract the PlanetAir lift cylinder completely.
2. A. Transport speed should not exceed 12 mph.
B. Fairway aeration speed must be a minimum of 3.5 mph to protect the machine.
C. Green aeration speed—1-6 mph
3. The machine should only be operated outdoors, in daylight, on professionally maintained turf grass surfaces. Turn engine off for transport.
4. Operate in daylight and inspect the area to be aerated. Locate and mark all shallow buried cable, irrigation heads, gas lines, pipes or any buried items that may pose a danger, be damaged or cause damage to the machine.
5. Read and understand the entire manual before operation or service work.
6. Always turn off the engine and allow the engine to cool before any adjustments or service work.
7. Never allow anyone to stand near the machine during operation.
8. Never crawl under the machine.
9. Always raise the machine and set the parking brake on a level surface before starting or stopping the engine.
10. Never approach a moving part on the machine. Stop the engine and wait for all parts of the machine to stop.
11. Check that all guards and decals are in place.
12. Check that all fasteners remain tight.
13. Check chains and belts for wear.
14. Check for bent, damaged, missing or loose tines.
15. Read and understand all the decals on the machine before operation or service work.

PlanetAir Replacement Tines & Selection Guide

1-877-800-8845

560.314

560.315

560.316

Tri-fecta 50 Qty. 94 or 48 when coring
Trio 50 Qty. 48
HD 50 Qty. 48

Greens
Tees
Sand Soils
No Rocks

1/8" Knife
560.317

All Soils
slightly
broader across
slit.

1/4" Knife
560.319

All Soils
Longest Wear
Most Rugged

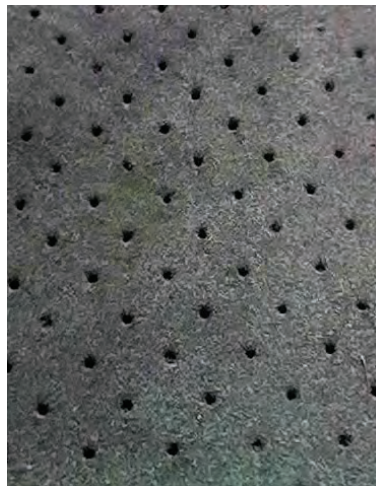
3/8" Knife
560.320



3/8" with Sand on Tee Box

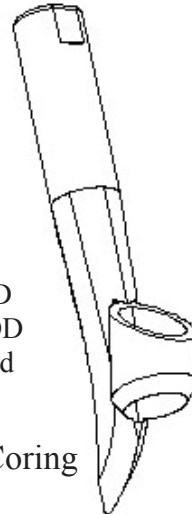
1/2" ID
5/8" OD
Avoid Rocks

1/2" Coring
560.321



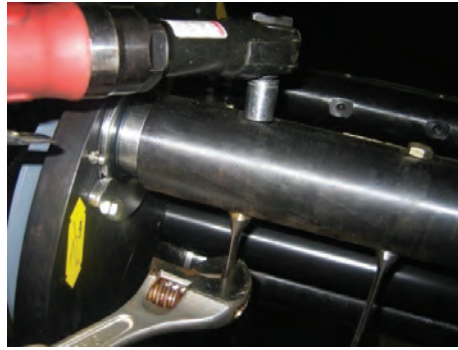
3/4" ID
7/8" OD
Rugged

3/4" Coring



Knife Installation & Maintenance

Removal: Loosen all the 3/8" bolts across a shaft, loosen the set screws and tap the tines out. Leave the bolts in the shafts.



Slide the new tines up and thread the bolts in. Hold the tine with a adjustable wrench and tighten the bolt completely. Do a complete row. Tighten the set screws and jam nuts. Move on to the next shaft.



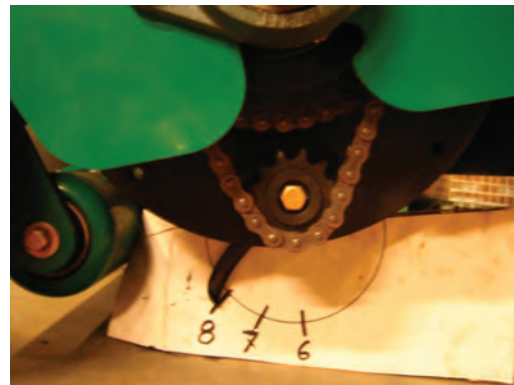
Always set the height after installing a new set of knives. Polish the new knives on a practice area before aeration of greens.

Maintenance for the Perfect Hole



Once knives are broke in tufting is caused by :

1. Worn chains. (replace)
2. Slipping belts. (change belts, change belt tension springs, add tension)
3. Depth setting too deep.
4. Too high of a ground speed.
5. Check engine speed (set rpm to 3200)
6. Lubricate, throttle cable, control linkages, and pulley arms.



Additional Maintenance

1. Rotate the rotor and inspect the timing on each shaft it should be as pictured.
2. Inspect the chains for wear.
3. Tighten the bolts on the end of the 4 sprockets.
4. Grease the 8 tine shaft bearings.

Tri-fecta & Trio Quick Set Up

Read and understand the complete manual.



Use a self tapping screw through the hitch pole to mount the hoses if needed.



Notice that the Toro rear hitch bracket has been turned 180 degrees to raise the PlanetAir transport height.



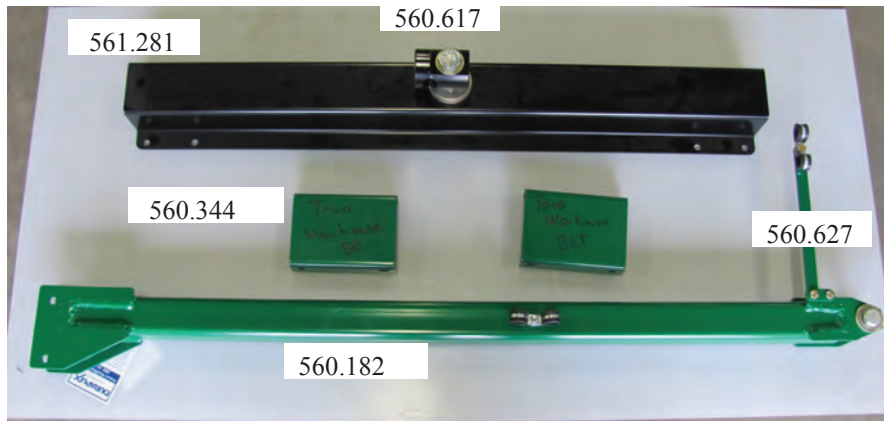
Adjust the clutch. Raise the machine. Press down on the bar. Slide the adjustment back to the cylinder bar. **Rotor may not stop when belts are new!**



Set depth at 2"
Break in new knives on sandy soil before aerating putting greens.



Hitch Parts & Installation



Hitch Plate #560.281 mounts to Workman, Truckster & ProGator

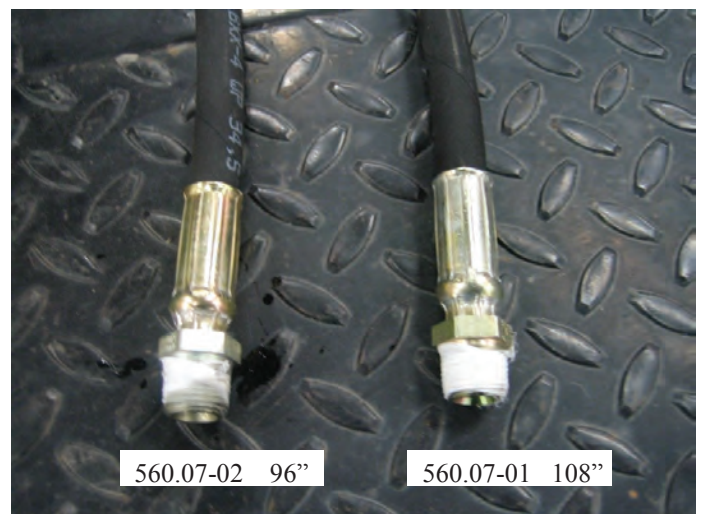
Hitch Plate Risers #560.344 for Toro Workman to rise over the oil filters.



Bolt the Hitch Plate to the frame located a maximum of 38 inches to the corner.

The tow vehicle must have 2-way hydraulic valve. The valve must push and pull.

The hydraulic hoses are supplied with 3/8" pipe threaded ends. You will need to source the couplers to fit your tow vehicle.

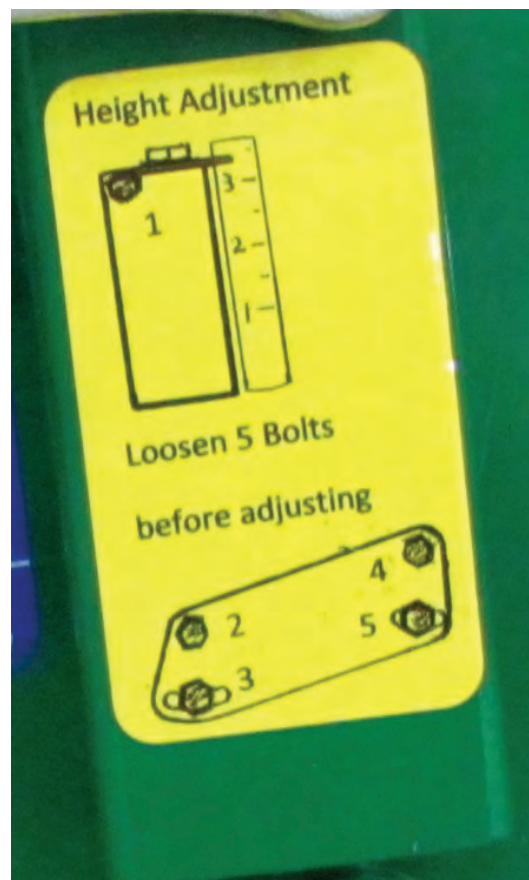


Height Adjustment

Read and follow the height setting decal.



1. With a 3/4" wrench loosen all five fasteners on the left and five on the right side.



2. Turn the adjustment bolt to set the height. Follow recommendations on the height adjustment decal.
3. Retighten the ten bolts.

Hitch Spring Latch Weight Transfer System

Constant force gas springs bridge the weight off the front roller into the flexible rear roller system 80% and on to the hitch 20%.

The latch allows you to release the spring pressure off the hitch.

The springs need to be tested and maintained for the roller system to perform.

Test the latch and the springs by lifting the hitch pole by hand. The front roller should become weightless when you lift the hitch or when you lower the machine during operation.

Replace the springs with part #560.152.



The purpose of the latch is to install and remove the hitch. Raise the machine flip the latch up and lower the machine and the hitch can be removed from the tow vehicle.



Normal Operation + Springs are compressed.

The purpose is to apply weight to the flexible roller system.

The normal operation of raising and lowering the machine will reset the latch bridging the weight into the rear roller system.

PlanetAir Tri-fecta & Trio Rotor Lock For Greens Rolling Without Aeration



Over the years many GCS have mentioned using their PlanetAir HD50 as a greens roller.

With the engine turned off they would strap the rotor into a safe position where the tines would not drag on the putting surface.

This handle locks the rotor into this safe position. The handle is stored in the top of the vertical hitch tube.

1. Thread the handle into the open bearing set screw hole on the left end of you PlanetAir

2. With the handle rotate the rotor until the handle locks into the latch.

3. Look under the rotor to make sure the tines have been retracted.

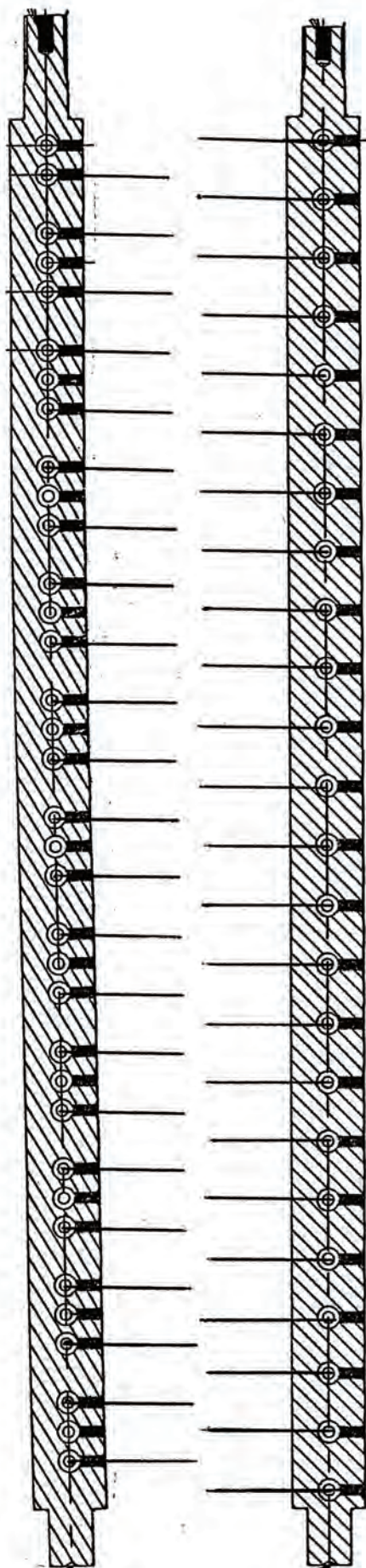
If there is an alignment problem with the lock in this position loosen the large bearing retaining bolt and turn the rotor to a safe position and re-tighten the large bolt.



Tri-fecta Tine Installation for 1 inch Rows

Install 23 tines in the shafts with 35 pockets

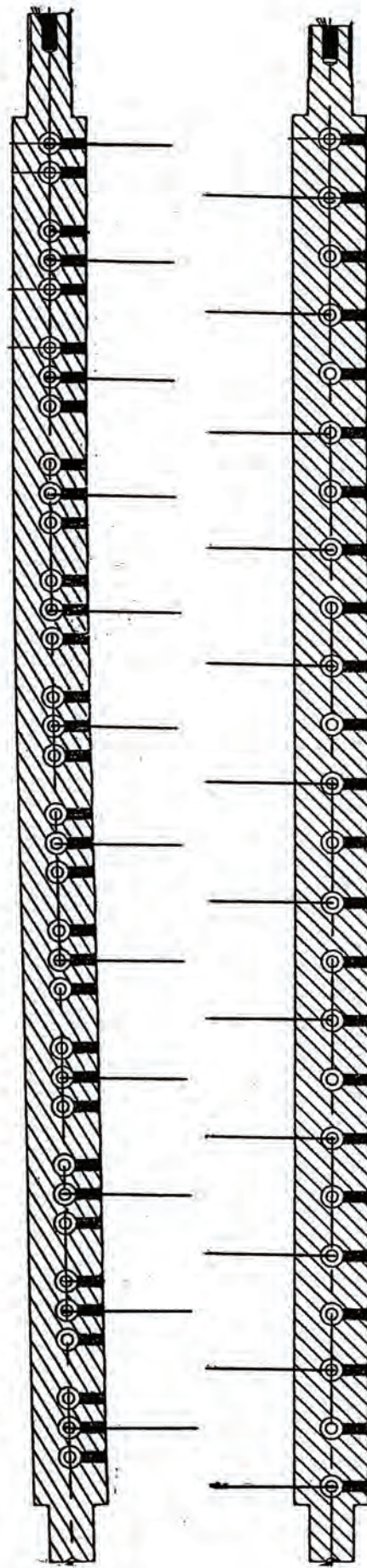
Install 24 tines in the shafts with 24 pockets



Sprocket
End

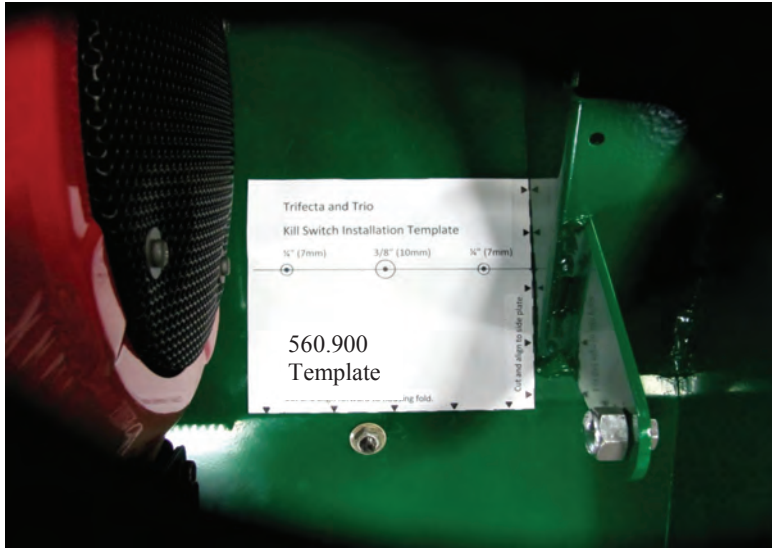
Tri-fecta Tine Installation for 2 inch Rows

Install 12 tines in all 4 shafts as shown. Follow drawings for each type of shaft.



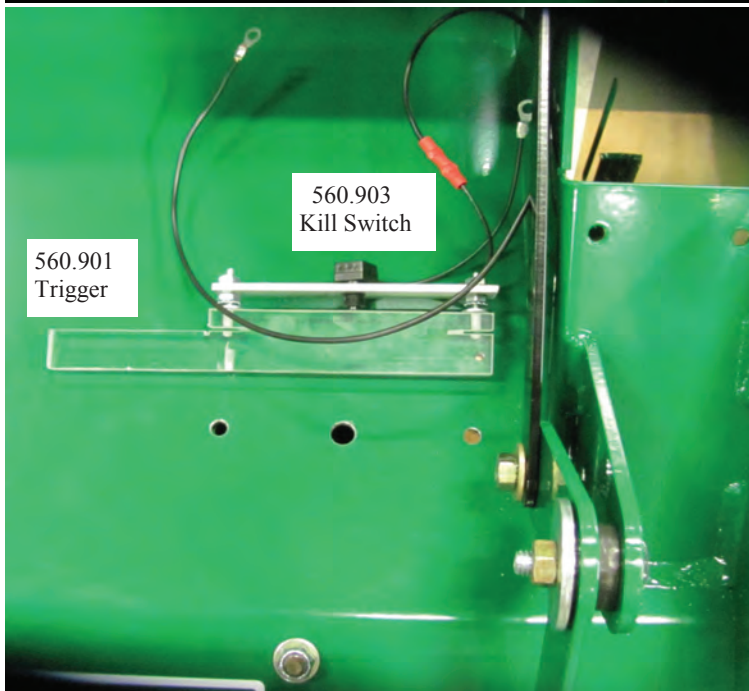
Tri-fecta and Trio Kill Switch Installation

The kill switch stops the engine if the chain breaks, protecting the housing.



Align the template as pictured and center punch for three holes.

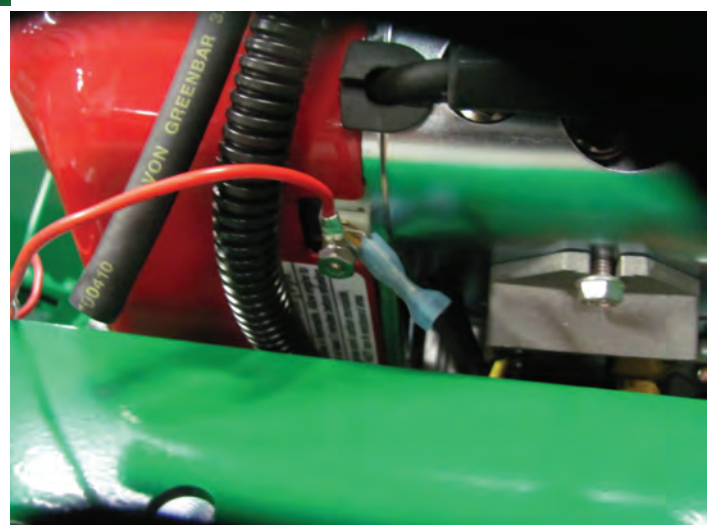
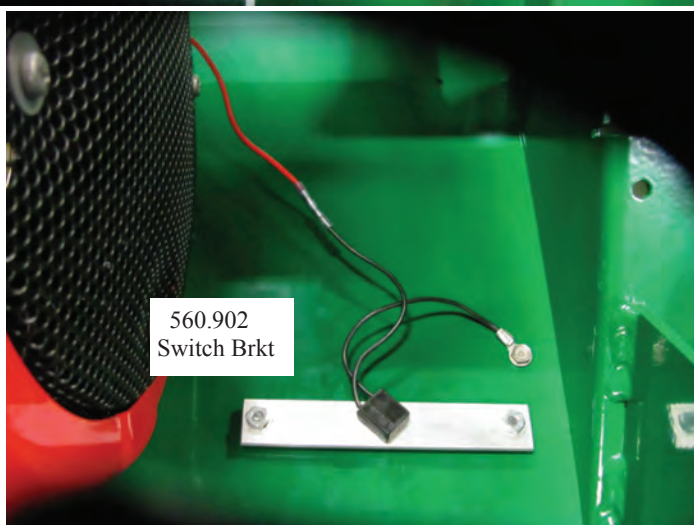
Drill a 3/8" hole in the center and 1/4" holes to the outside.



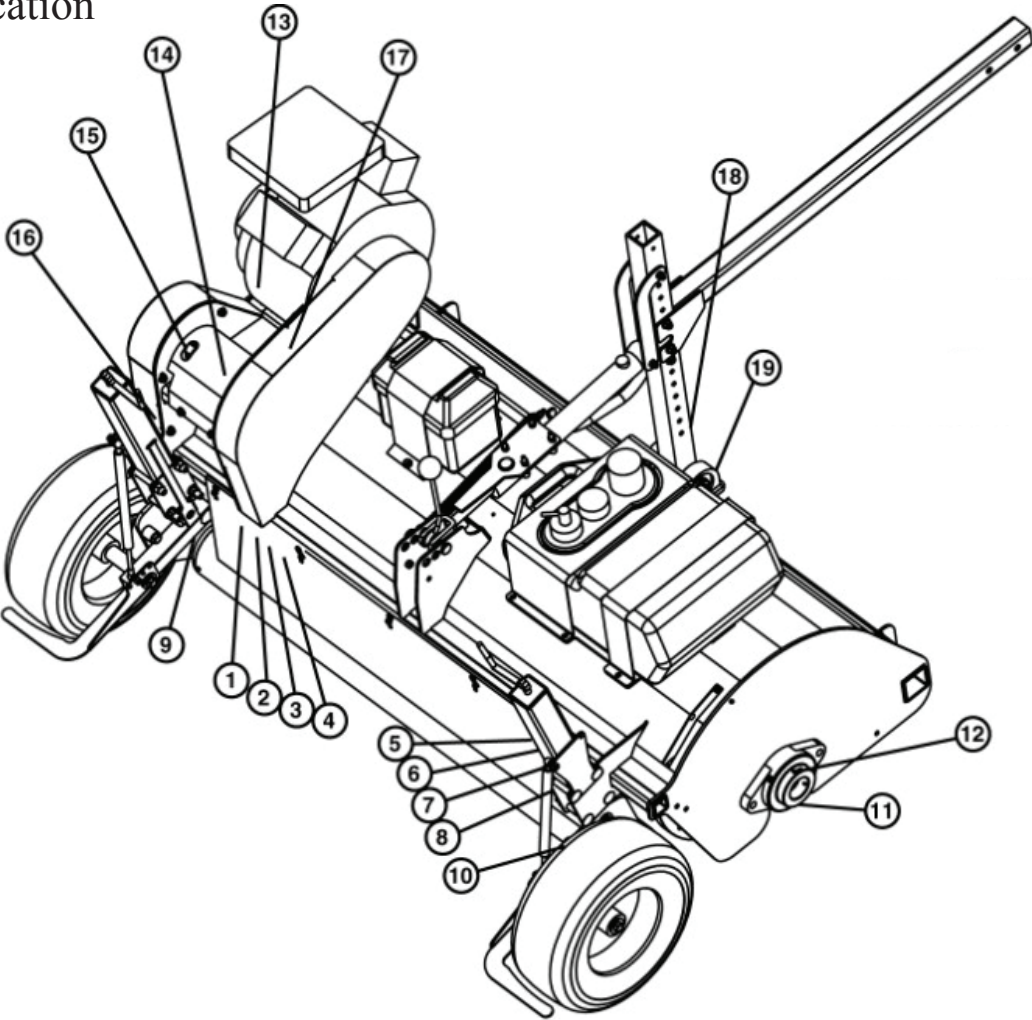
Install the clear acrylic from the underside of the housing thru the 1/4" holes with two 8-32 nuts on the top side.

Install the switch against the acrylic from the top side with two 8-32 nuts.

Install the wires as pictured to ground the magneto if the acrylic is struck by a tine.



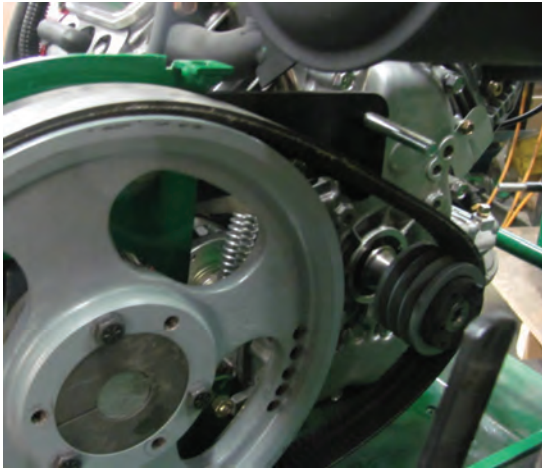
Lubrication



Location	Description	Frequency	Amount
1-8	Tine Shaft Bearing Part # 560.03-04	Every 25 hours	½ Pump
9-10	Wheel, Arm, Pivot Part # 560.238	Daily	
11	Rotor, Double Sprocket Part # 560.36	Every 25 hours	2 Pumps
12-13	Rotor, Mounting Bearing Part # 560.03-02	Every 25 hours	½ Pump
14-15	Engine, Jack Shaft Bearing Part # 560.03-05	Every 25 hours	½ Pump
16-17	Belt, Tensioner Pivot Part # 560.237	Daily	
18-19	Hitch, Pivot Bearings Part # 560.03-10	Every 25 hours	½ Pump

Belt Replacement

Worn belts and springs will produce tufting at the front of the slits. Replace to restore performance.



Reduction Belt Banded Part # 560.06-16

Reduction Belt Spring Part# 560.143

For easy reduction belt replacement brace the pulley arm and remove the pulley leave the arm and spring on. Don't over extend the belt tensioning spring.



Drive Belt Set Part# 560.06-15

Drive Belt Spring Part# 560.15



Drive belt replacement.

1. Back off the bolts on the left side flange bearing. Do not remove them.

2. Place a block under the rotor disc and remove the right side flange bearing.

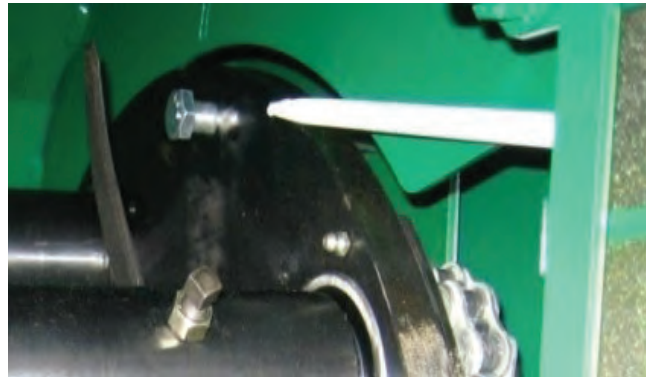
3. Now with the left bearing loose pry the housing over for more space and install the belt.

4. Inspect and lubricate all linkages and pivots.



Timing Chain Replacement Instructions

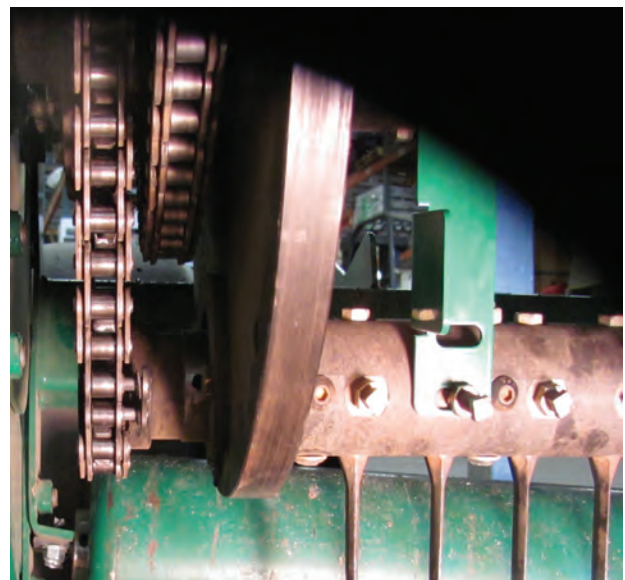
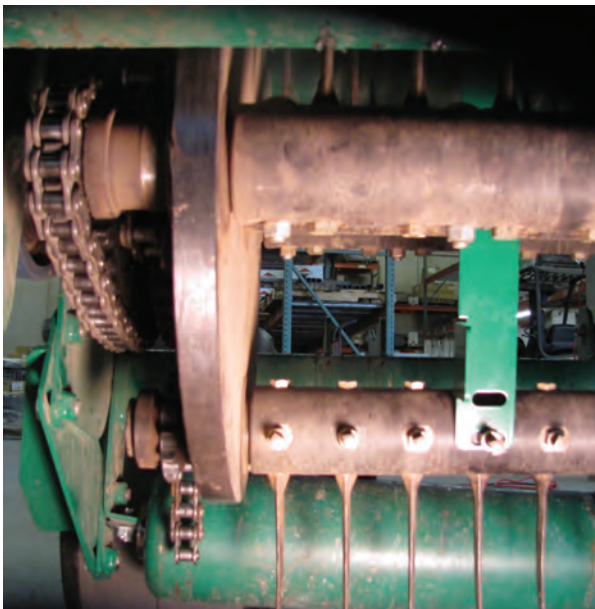
PlanetAir has 2 x-ring timing chains that hold the tine shafts in a specific relationship to the ground. Find the disc timing hole and arm hole at the right rear of the machine.



Select the chain you wish to replace and position the shafts up and down. Bolt the shafts together using the belt guide from the left end of the machine. Slide a rod thru the disc and on thru the timing arm.

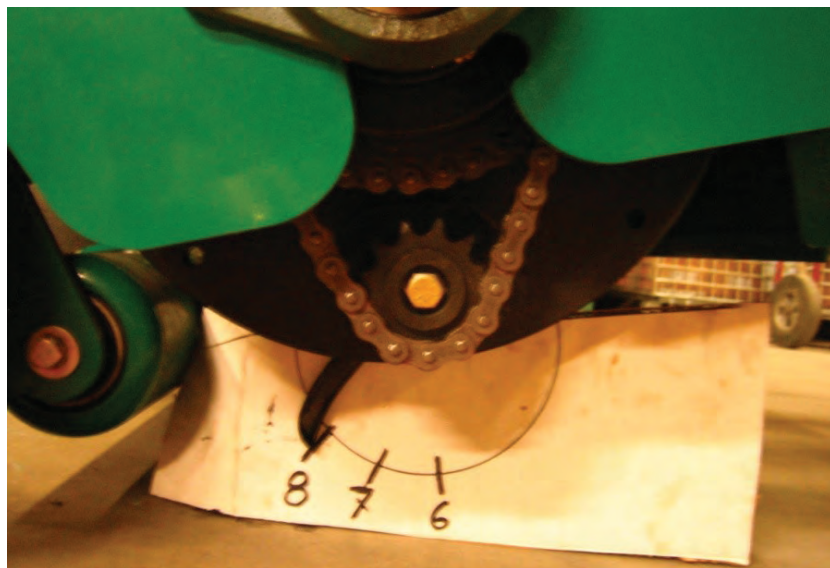
Work from the front of the machine.

With the 2 shafts and rotor locked in place grind and remove a link and remove the chain. Install the new chain. Repeat for the 2nd chain. Install the connector links as shown for each chain.



Tine Shaft Timing—Final Check

Rotate the rotor and check that each shaft aligns to the 8 o'clock position as pictured.



To restore tine shaft timing .

Replace worn or damaged chains #560.137-01 and sprockets #560.24.

Check for damage:

Timing Arm #560.456

Timing Arm Spring #560.177-02

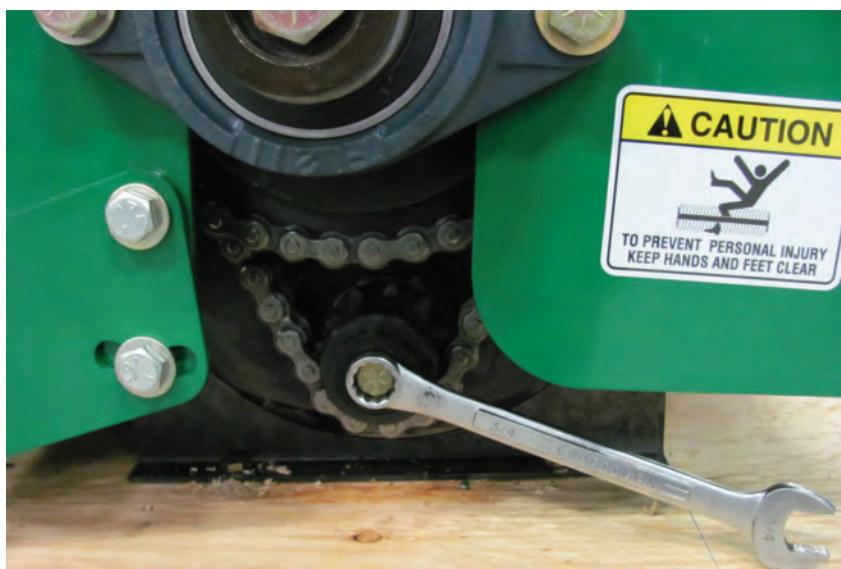
Timing Spring Block #560.206

Timing Arm Rubber Bumpers #560.236



Important!!

To prevent damage to the tine shaft and sprocket splines check that the sprocket bolts are secure.



Hitch Lift Cylinder Rear Seal Repair



1. Check for a bent or scored cylinder rod. Replace the cylinder part # 560.180 if the rod is damaged or the inside wall of the tube is scored.

2. Remove the cylinder rod and remove the rear seal with a probe.

3. Oil the new seal and insert one end into the seal groove.

4. Push the seal into the groove with a 3/4 inch bushing part# 560.253 taken from the cylinder cross tube.

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 24th Ave SW
PO Box 625
Owatonna, MN 55060
Ph: 507-446-8399
Fax: 507-455-2788
Email: info@planetair.biz
Web: 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.