

7 September 2012

Tru Count Air Clutch and System Components Maintenance

This document provides guidance on the general maintenance of the Tru Count Air Clutch® and other system components.

General maintenance of air clutches

All Tru Count air clutches come from the factory pre-lubricated. The clutches do not need to be lubricated upon installation.

Every 75 Hours or as needed

Every 75 hours of operation (or as needed) lubricate the air clutch with an all-purpose silicone lubricant.

1. Remove the Phillips pan-head screw or plug in the clutch housing.



2. Insert a spray can nozzle.
3. Spray for several seconds.
4. Replace the screw or plug.
5. Rotate the clutches by engaging the seed shaft to ensure complete coverage.

This document is for informational purposes only and is not a legally binding agreement or offer.
Trimble makes no warranties and assumes no obligations or liabilities hereunder.

Trimble Navigation Limited, AGRICULTURE Business Area, 10355 Westmoor Drive, Suite #100, Westminster, CO 80021, USA

© 2012, Trimble Navigation Limited. All rights reserved. Trimble, the Globe & Triangle logo, and Tru Count Air Clutch are trademarks of Trimble Navigation Limited, registered in the United States and in other countries. All other trademarks are the property of their respective owners.



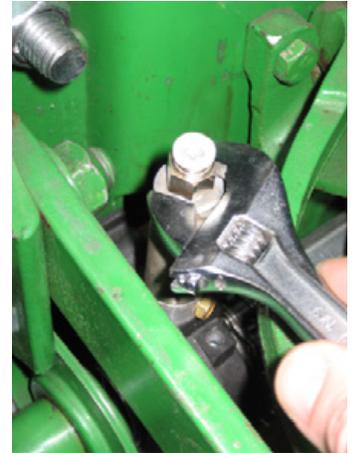
End of season

Caution: Even though the hubs are oil impregnated, failure to complete the following steps will enable chemical/fertilizer spray, dust, dirt, mud, grease, water, and other contaminants to build up. These build ups can impact the performance of the clutch.

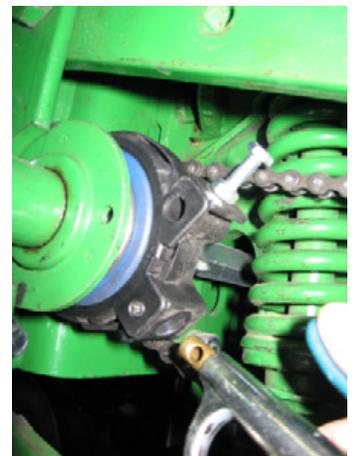
For end-of-season maintenance, remove any foreign matter inside the clutch:

1. Remove the air hose from the air cylinder by pressing down on the white collar and then pulling the air hose.
2. Remove the air cylinder using a 5/8 wrench or adjustable wrench. Remove the oil plug or the Phillips pan-head screw using a #3 Philips screwdriver.
3. Rotate the clutch downward.

Warning: Wear safety glasses to prevent personal injury.



4. Use low pressure air through a nozzle to blow out any dust build up.



5. Use an all-purpose silicone lubricant to clean and protect the clutch component.
6. Spray for several seconds to ensure complete coverage of the lubricant on the clutch hubs.
7. Rotate the shaft to help the lubricant cover the necessary surfaces inside the air clutch.

The goal is to free the internal components of build-up and to protect the components from oxidation.



- Trimble recommends that you disassemble the clutches and thoroughly clean them after 2–3 years of use, depending on the level of use, general maintenance, and field conditions.
- After removing from storage and before planting, spray an all-purpose silicone lubricant through the oil access port to re-lube the clutches. Spray for several seconds in each clutch.

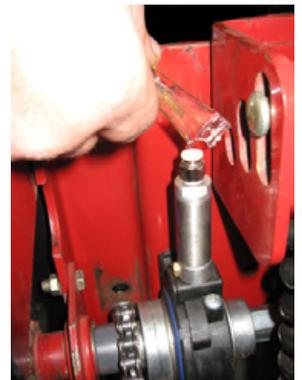
General maintenance of other system components

Air cylinders

Complete the following maintenance annually (or as needed):

1. Oil the air cylinder as needed and at the beginning of every season.
2. Remove the air hose to the air clutch.
3. Place one drop of supplied oil in each air cylinder.
4. Replace the air hoses.
5. Activate the air cylinder to ensure the oil works its way to the cylinder plunger.

Note: Placing oil in the air cylinder will not lubricate the clutch components. Do not spray penetrating fluid or silicone spray in the air cylinder! This will damage the cylinder valve seal.



- A small packet of oil (Trimble P/N 68358) is supplied with each complete air clutch kit purchase.
- More oil can be purchased or you can use an alternative.
- For Buna N seals, Trimble recommends oils such as medium to heavy inhibited, non-detergent hydraulic and general purpose oil. See the Recommended Lubricants table.
- Oil as needed if the cylinder performance decreases (slows or will not extend/retract). Environmental conditions may demand an increase in lubrication and maintenance.
- Symptoms of this will be slow reaction time of the air clutch, a clutch that will not engage or a clutch that will not release due to the state of the cylinder plunger.
- This can be inspected by unscrewing the air cylinder from the clutch housing.



- Look for signs of corrosion and/or build-up around the plunger at the tip of the cylinder bushing.
- Wipe clean with a rag.

Caution: Do not use penetrating fluid or silicone spray inside the air cylinder as this will damage the seal.

- Place one drop of oil in the air cylinder. Then activate the cylinder several times to allow the oil to work its way into the bushing for lubrication. It may be necessary to replace the air cylinder (68824-01) if the plunger will not activate.

Note: Do not allow dirt and debris to enter the air clutch after the air cylinder is removed. When replacing the cylinder, use caution as cross threading can occur.



End of season

Place one drop of oil or Magna Lube in the air cylinder:

1. Remove the air hose from the cylinder.
2. Place one drop of oil in the cylinder.
3. Replace the air hose.
4. Activate the cylinder several times.

Note: Trimble does not support the use of an automatic oiler for air cylinders. An automatic oiler may not deliver sufficient oil to the air cylinders. It may also harm the valves in the valve module boxes if the oil supply is stopped and the seals dry out. This will void the warranty.

Compressor

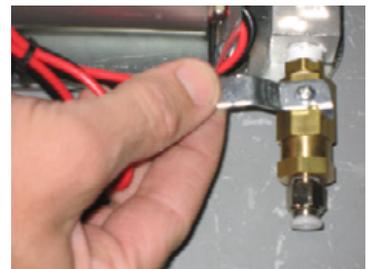
The compressor is permanently lubricated. **Do not** lubricate it.

Daily

- Check the inlet filter. Replace the air filter element periodically, according to the operating frequency and environment. With frequent use in a dusty environment, Trimble recommends that you replace the air filter element at least once a month.
- Periodically check for moisture build up in the air compressor manifold and airlines.
 - a. Close the ball valve on the compressor assembly after the compressor has run for some time.

Warning: To avoid personal injury, stand back as the air line will be under pressure.

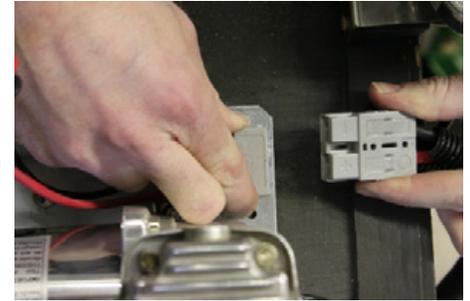
- b. Remove the air hose from the ball valve connector.
- c. Open the ball valve. This will release and purge the assembly of moisture allowing the compressor to run more efficiently and extend the life of the pressure switch. It may also provide a more accurate reading for switch performance.



End of season

At the end of the season:

1. Disconnect the wire harness from the battery and the compressor.
2. Inspect the harness, all electrical connections, and fittings for damage.
3. Clean and tighten as necessary.
4. Replace the air filter element.
5. Clean dust and dirt from cooling fins and housing.
6. Store the compressor in a dry environment.



For more information regarding repairs and maintenance, see the compressor manufacturers' user manual included in the compressor assembly.

Tip: At the end of each season inspect the electrical fittings, and clean and replace if necessary. Dielectric grease can be applied to the exposed terminals to ensure a trouble-free power connection for the air compressor.

Warning: To avoid personal injury, never touch the air compressor, or the leader hose coming from the compressor, with bare hands while the compressor is in operation or shortly after, as they will both be hot.



Tank and hose

Daily

Periodically check for moisture build up in the air tanks and air lines:

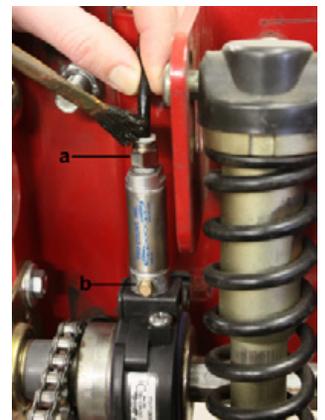
1. Open the drain cocks on the air tanks.
(The tanks should be mounted vertically so that the drains are at the bottom.)
2. Drain more frequently if necessary.

Warning: To avoid personal injury, stand back as the air line will be under pressure.

End of season

At the end of the season, detach all the air hoses from the air clutches and purge any moisture from the air lines. To do this:

1. Drain the air tank(s) and then close the drain.
2. Allow the compressor to pump to normal operating pressure.
3. Detach all air hoses at the air cylinders and secure to the planter with hoses aimed downward.
4. Keep a safe distance away from the hose ends before the next step: a whipping action may occur due to the high pressure.
5. Energize the valves until all moisture is released:
Using a manual control box – turn the master plant mode switch to “all stop”.
Using a GPS section controller – turn all planter sections off.
6. Place one drop of supplied oil or Magna Lube in the cylinder for storage.



7. Clean and inspect hose ends. Make new straight cuts as necessary.
8. Connect the air hoses to the cylinders.
9. Allow the compressor to pump to normal operating pressure again.
10. Energize the valves again by turning all sections off.
11. Check for air leaks from loose or damaged fittings.
 - a. Using a small brush, apply soapy water to the air hose fittings and the air cylinder.
 - b. A constant bubbling at the fitting or muffler may indicate an air leak.
12. Tighten hose and replace fittings or cylinder as necessary.

Notes:

- Only the air cylinder is pressurized, not the clutch.
- An air dryer or water separator may be added to the air system if required.

Valve maintenance

- Do not lubricate the air valves: They are lubricated for life.

Caution: Introducing a lubricant may cause damage to the seals, attract dust to the valve box, and will void the warranty.

- Do not use an automatic oiler for the air cylinders: This will not deliver oil to them.

Caution: Using an automatic oiler for the air cylinders can harm the valves in the valve module boxes, and will void the warranty.

Recommended lubricants

Maintenance item	Recommended lubricants
Air clutch maintenance	<ul style="list-style-type: none"> • Spray-on All Purpose Silicone Lube (S00206) - Trimble P/N 68357 • Liquid Wrench Silicone Spray
Air clutch service	<ul style="list-style-type: none"> • WD40 Aerosol • Liquid Wrench Lubricating Oil • Crown All 4 • PB Blaster
Air cylinder maintenance	<ul style="list-style-type: none"> • Bimba Lube – Trimble P/N 68358 • Light-weight hydraulic oil without additives (10W)
Air cylinder storage (60 days +)	<ul style="list-style-type: none"> • Magna Lube G
Compressor electrical connection maintenance	<ul style="list-style-type: none"> • Permatex Dielectric Tune-Up Grease • Loctite Dielectric Grease

Replacement parts

Part numbers for selected parts are as follows.

Part	Trimble part number
Silicone spray	68357
Cylinder lube	68358
Air clutch lube kit (includes silicon, Bimba Lube and Super Lube)	78366-00
Air cylinder	68824-01
Clutch housing, cover and base (5 pack)	69429-05S
Stop collar (10 pack)	72250-10S
Air Clutch Release Collar 16 Stop 4 PK	81076-04S
Right-hand spring (5 pack)	68858-05S
Left-hand spring (5 pack)	68879-05S
Pressure switch	77621
Remote filter kit	69015
Air gauge	69007-01
External air filter	78870
External air filter replacement filter element	78892