

11. Finishing the Job

- Write a log book entry in the airframe log for the maintenance you have completed. Similar to the following:

Aug 7 2010 -- tach time XXXX.XX -- Removed main tire for repair. Replaced with Goodyear Flight Custom III 6.00x6 tire. Serviced wheel bearings and seals and reinstalled wheel in accordance with Aircraft Service Manual.

(signature), (pilot certificate number) (pilot certificate type)

Time to Fly!



Preventative Maintenance:



Tire Changes Done Right

Step by Step directions from the professionals



www.wptmaint.com
www.flycorona.com
951-272-3942

Before you begin

The FAA guidance on these topics is in:

FAR 43 FAR 43.9 AC 43-12A
FAR 43.3 FAR 43.12
FAR 43.5 FAR 43.13
FAR 43.7 FAR 43.17

Manufacturer's approved data is at:

Essco Aircraft Manuals
www.esscoaircraft.com
877-318-1555

Cleveland Wheel
www.parker.com
AWBTSG0001-3/USA

Please keep in mind that incorrect maintenance can result in serious injury or death to yourself and others. These procedures were devised to assist you with your preventative maintenance, and do not constitute approved data. Please consult your aircraft or engine maintenance manual for additional details.

If you are not comfortable, or are in doubt, please consult a licensed Aircraft Mechanic. In some cases, it is best to have the mechanic perform the routine maintenance work for you.

- Slide on brake pad



- Push in caliper

Torque the brake assembly per the maintenance manual. Spin the wheel, listen for any grinding or rubbing. There should be none!



- Safety Wire



Starting on the top bolt, safety wire with positive tension, then wrap around the bottom bolt.

10. Install wheel assembly

- Jack-up airplane and remove blocks or jack stand



- Slide wheel assembly onto axle



Some of the grease will come out of the bearings, just wipe it off with a rag.

- Screw on castle nut

Screw on snug. Then align one of the holes with the cotter pin hole on the post.



- Install new cotter pin



Bend the pin slightly. This will make it slide in easier.

Tools you will need

- Jack
- Sockets & Ratchet
- Wrenches
- Pliers
- Safety Wire (.032)
- Safety Wire Pliers

- Air Compressor
- Blow Gun
- Inflation Chuck
- PSI Gauge
- Valve Stem Remover
- New Cotter Pin
- Pick or Flat Screwdriver



- New Tire
- New Tube (if needed)
- Talc Powder
- Solvent (Simple Green Aviation)
- AeroShell Grease (6 or 7)
- Misc. Parts Tray



Most important...

LOTS of Shop Towels & Latex Gloves

Steps of a Tire Change

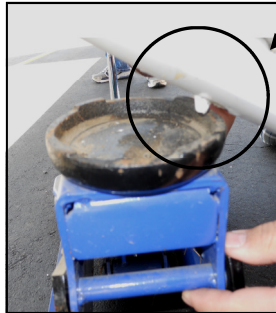
1. Collect Tools and Supplies

Collecting it all in the beginning cuts down on overall time.



2. Jack up the Airplane

Be very careful to align the jacking point (different per plane) under the strut to the edge of the jack, for the best leverage.



Only jack up the plane far enough to remove the wheel, typically the tire will be about 2" off the ground.

3. Remove the Air from the Tire

- **Unscrew and remove the entire valve**

Tire will be deflated even though the size will not change. Deflate first to avoid any hazards.



- **Inflate tube a little to secure in place**



This will prevent any wrinkles or folds during reassembly.

9. Install wheel halves

- **Align halves into tire**



Valve goes to the outside of the tire, brake disc to the inside

- **Thread bolts into tire**



Don't forget the washers too!

- **Torque bolts to manufacturer's specifications**



- **Inflate and listen for any air leaks**



If none, your wheel is complete!

8. Replace with a new tire

- Remove the tube from old tire



It may be stubborn due to heat from the tire, no need to be too gentle.

- Inspect tube

Look at tube for any rips or metal. Metal may mean that there is a larger internal problem.



- Coat new tire and tube with talc powder



Sprinkle into tire and roll to coat all of the inside

- Insert new tube into tire



Align the valve stem with the red dot on the tire

4. Remove the Brake Pad

- Snip the safety wire holding the brake pad on.



Snip at both the top and bottom bolt on the straight portion of the wire, not the twisted part.

- Unscrew the (2) bolts holding the brake pad in place



- Slide brake pad out from behind the brake caliper

When there is no longer a groove in the middle of the brake pad due to wear, it's time for a new pad.



5. Remove Wheel Assembly

- Using pliers, remove the cotter pin from the outboard side



Do **NOT** reuse the cotter pin!

- Unscrew the castle nut. This can be done without tools



- Wheel should slide off of the axle easily

Set wheel so brake disc is facing up, to avoid damage



- Place blocks or jack stand under post and lower jack. This is a good safety habit, to support the airplane.

- Re-pack bearings with clean grease



We recommend AeroShell 6 or 7 grease

Make sure you have gloves for this step!

You will need a palm sized amount of grease for each set of bearings.



Push the grease into one section and continue until the grease pushes through to the other side. Rotate the bearings until full of grease.

- Re-assemble bearings and seals into wheel



Excess grease is alright, just wipe away with a rag.

7. Packing the wheel bearings

- **Remove the seals and bearings**

Using a pick, walk the snap ring out from the center of the rim. You will be removing the snap ring, grease seal and bearings



- **Lay out all pieces from each half separately.**



This allows you to avoid mixing pieces up between the halves.

- **Clean all pieces with aircraft solvent**

Only clean the metal pieces, the felt ring can remain as is.



- **Thoroughly dry all parts of excess solvent**

Hold the bearings securely, do not let the ring spin, this can cause serious damage



YES



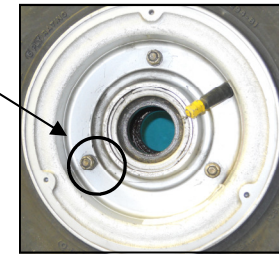
NO

6. Dismantle Wheel

Line your workstation with paper towels. This job will get messy, so it helps to start with a fresh surface.

- **Remove wheel-half bolts**

Some planes may have up to 6 wheel-half bolts



For the best leverage, hold backside of bolt with wrench while using ratchet on nut.

- **Keep all pieces in a safe spot**

There are many bolts and misc. pieces, be careful not to lose them.



- **Separate tire from rim halves**



If you do not have a tire breaker, you can just step on the tire to separate the rim.