

## TUBELESS MAIN WHEEL AND TIRE INSTALLATION INSTRUCTIONS

1. Ensure that the wheel is clean and dry. It is recommended that you clean the bead seat area of both the wheel and tire with isopropyl alcohol to ensure that it is clean, dry and free of grease or other contamination.
2. Examine the tire to ensure that it is of the proper size and that it is in serviceable condition — free of damage or contamination, especially in the bead area.
3. Place the outer wheel half (the half with the valve stem hole) on a flat working surface with the inner side of the wheel facing up.
4. Ensure that the O-ring is in serviceable condition or replace with a new one. Clean the O-ring and then lightly coat with wheel bearing grease.
5. Carefully install the O-ring in the wheel half that has the O-ring retaining lip, being careful to not twist it. If the O-ring tends not to stay in its seat, hand-stretching the O-ring may solve this problem.
6. Place the tire onto the outer wheel half, being careful not to disturb the O-ring. The red dot on the tire indicates the tire's lightest point. It should be aligned with the valve stem on the wheel half.
7. Place the inner wheel half into the tire so that it mates with the outer wheel half, with the tie bolt holes aligned, using care not to dislodge or damage the O-ring.

### SPECIAL INSTRUCTIONS FOR 100-1007 and 100-1008 SERIES WHEELS

A special installation procedure is required for Grove 100-1007 and 100-1008 series ten-inch wheel assemblies. The wheel halves are held together with six tie bolts, but the size and installation order of these is important. When assembling the wheel halves,

FIRST, after following steps 1 through 7 above, install, tighten, and torque the three longer (AN5-37A) tie bolts through the holes most distant from the center of the wheel. Use AN960-516 (regular) washers under both the bolt heads and the nuts.

THEN attach the brake disc into the inner wheel half using the shorter (AN5-36A) tie bolts through the holes closest to the center of the wheel, using AN960-516L (thin) washers under the bolt heads and AN960-516 (regular) washers under the nuts.

8. Place the brake disc in the inner wheel half, aligning the bolt holes with the wheel half.
9. Insert the tie bolts through the brake disc and wheel halves.

10. Rotate the wheel from the working surface in order to be able to attach the nuts to the tie bolts. Hand tighten a nut with washer on each of the tie bolts. Care should be taken to ensure that the wheel halves are in contact with each other and that the O-ring has not been dislodged or damaged.
11. Torque the tie bolt nuts to the value indicated on the wheel label. Observe the amount of torque required to turn the nut due to the locking friction of the nut and add this to torque requirements to get the proper torque wrench reading.
12. Inflate the tire until the tire beads firmly seat on the wheel halves. If you are having problems with the tire beads seating on the wheel halves, you may try the following procedure.
  - a. Remove the valve core from the valve stem to allow air to enter the tire at a greater rate.
  - b. Tighten a ratchet strap around the circumference of the tire. This often forces the tire bead seats to contact the wheel.
13. After the tire beads are seated, re-install the valve core, if it has been removed, and inflate the tire to the aircraft manufacturer's recommendation.
14. Grove wheels are shipped with only a light coating of wheel bearing grease. You must re-pack the bearings using MIL-G-81322 grease such as Aeroshell 22, Mobil SHC 100 or equivalent.
15. With the wheel on a flat working surface, lightly coat the bearing race with bearing grease, then place the re-packed wheel bearing into the bearing race.
16. Install the washers, felt grease seal and retention snap ring. A light coat of light weight oil on the felt grease seal is recommended.
17. Turn the wheel over and repeat steps 14 and 15.
18. Place the wheel in a protective enclosure and inflate with enough pressure to seat the tire bead on the wheel. CAUTION: Do not exceed either the tire or wheel rated maximum pressure during this process. Deflate the tire by depressing the valve stem plunger and re-inflate to the pressure recommended by the aircraft manufacturer.

NOTE: Because proper inflation of aircraft tires affects the tire life and performance, it should be checked on a regular basis and as follows.

After 12 hours after initial inflation, re-check the inflation pressure. Newly mounted aircraft tires expand slightly after inflation, and as the volume of the tire increases, the effective pressure will decrease.

After 24 hours, recheck the tire pressure. It is normal for aircraft tires to lose pressure over time, but if the pressure has decreased more than five percent during this time, you should check for a possible leak and take corrective action.