Decker Control Wheel Hub Cover Installation Instructions

1. Remove the old hub cover by unscrewing the 3 screws in the back (facing the panel) side of the cover.

2. For control wheels secured to the shaft by bolts or pins (most Ercoupes), remove the fasteners and remove the control wheel from the shaft. For control wheels secured with taper pins, remove the bolt holding the shaft to the universal joint behind the panel and withdraw the wheel and shaft together from the panel.

3. If you have also purchased the spoke head replacement kit, install that kit before proceeding.

4. Unpack the new hub cover. You should find the front and rear halves, the logo cap, and the hardware kit composed of 3 machine screws and 6 spacers.

5. Remove the plastic protective coating from the logo cap. Gently bend one of the attachment tabs inward just enough to permit the cap to be installed on the front of the hub cover. Be sure the logo is right side up for your installation. Ercoupes and Taylorcrafts typically have the center spoke facing up; Cessnas typically have it facing down. When you are satisfied it is installed correctly, bend both tabs outward to secure the logo cap to the hub cover.

6. Due to tighter tolerances in the new hub cover you may have difficulty aligning the screws with the nut inserts in the front cover. To make the installation easier, chase the 3 holes in the control wheel hub with a 3/16" drill.

7. Note: Do not attempt to re-use your old hardware.

   Insert the three machine screws into the holes in the hub cover rear half. Hold them in place temporarily with masking tape. Place 1 spacer on each of the 3 screws. If the control wheel is still attached to the shaft, slide the shaft through the center hole in the hub cover. Otherwise, slide the hub cover rear half onto the shaft in the aircraft and re-install the control wheel onto the shaft. Insert the three screws into the 3 holes in the control wheel hub. Note that the alignment mark inside the hub cover faces opposite the center spoke and the manufacturer's imprint on the outside aligns with the center spoke.

8. Place the remaining spacers on the screws on the pilot's side of the control wheel hub. Align the index mark inside the front half with the one on the rear half (opposite the center spoke) and screw the two halves together. It is easier to get the screws started if each screw is engaged about one turn before any of the screws are tightened. Do not over tighten the screws. If the shaft was removed with the control wheel, reinstall the wheel and shaft in the aircraft.

9. Check the control wheel and shaft for security of attachment and freedom of movement.

Decker Center Spoke Head Replacement Kit

1. Remove the hub cover by unscrewing the 3 screws in the back (facing the panel) side of the cover.

2. For control wheels secured to the shaft by bolts or pins (most Ercoupes), remove the fasteners and remove the control wheel from the shaft. For control wheels secured with taper pins, remove the bolt holding the shaft to the universal joint behind the panel and withdraw the wheel and shaft together from the panel.

3. If the control wheel is secured by taper pins, you will have to remove one of the taper pins to remove the center spoke. The easiest way is to weld a stub onto the taper pin and pull it with a slide hammer. Alternatively, you can drill the pin and screw a self tapping screw in the hole and pull it that way. If you drill into the pin, be careful not to drill into the hub itself.

4. Remove the 6 screws holding the two hub halves together and remove the yoke and spoke.

5. If the spoke trim is badly damaged you may be able to work the spoke around and remove it from the rim, then cut the j-bolts. Otherwise, unscrew the brass nuts from the top of the j-bolts and remove the center spoke. Be sure to retrieve the steel reinforcing washer and convex washer from each end of the spoke, after removing the old spoke trim.

6. Clean any rust off the base of the spoke where the trim fits.

7. Heat the new spoke trim in near boiling water. Secure the trim and reinforcing washers with a piece of string. Use the other spoke or a suitable dowel to push against. Work the trim piece onto the base of the spoke. It should go on with a slight space between it and the chrome ring at the base of the spoke.

8. Remove the string and insert the new j-bolts through the spoke trim and reinforcing washers. Hook the J-bolts into the holes in the yoke rim. Install the remaining convex washer, reinforcing washer and the two brass nuts. Grip the top of one j-bolt with needle-nose pliers and rotate it until the "j" portion points along the direction of the rim and the maximum length of the bolt protrudes from the spoke. Start the brass nut on the threads. Repeat for the other j-bolt.

9. Tighten the j-bolt nuts until the spoke is firmly attached to the rim. Cut the j-bolts off flush with the top of the nuts. Reinstall the rim and spoke onto one of the hub halves, add the second hub half and secure the two halves together with the 6 screws, nuts and lock washers.

10. Reinstall the wheel on the shaft or replace the taper pin with a new pin. Drive the pin home with a hammer and punch. Reinstall the hub cover and tighten the 3 screws. If the shaft was removed with the control wheel, reinstall the wheel and shaft in the aircraft.

11. Check the control wheel and shaft for security of attachment and freedom of movement.