

On some model Bellanca's it is easier if you remove the rudder steering rods to remove the lower cowl. Remove the long horizontal through bolt attached at the steering collar. **NOTE:** The attachment blocks for the rudder turning rods look the same at first glance. There is a slightly raised notch that goes to the inside to align these rods. When re-installing the through bolt place two washers at the bolt head, slide the bolt through the rudder rod end making sure the raised notch is facing the center, or strut, place the bolt through its pipe mount, re-place the rudder steering rod end the same as the other side with the raised notch facing the center or strut, place two washers and nut on the bolt, **HAND TIGHTEN** the nut / bolt, make sure you have free play in the rudder steering rods, re-place the cotter key. On **EVERY** pre-flight check to make sure the nose wheel and rudder are aligned, especially if your plane has been towed say at a re-fueling stop. The service manual recommends you stand ten feet in front of your plane and check alignment. You should have turning radius limit marks on the nose strut and collar. Check for cracks on the steering collar, especially at welds. Make sure the rudder turning rods are loose. I had a mechanic tighten mine thinking they were too loose, found out on pre-flight. Change the over center spring in what looks like a small shock absorber attached to the nose strut about every four years. Make sure you give your year model then check the height and number of coils per new and old spring before installation. The old spring may be slightly compressed. I heard of a guy that replaced his springs with a longer spring and tore the mounting attachments off. If you hear a bleep when going over a crack, on braking or on hard turns it is time to change the over center spring and check all bushings for wear. Have your mechanic check the over center specifications on both of your horizontal drag link struts after installing the over center spring. Look at the top of all three struts, you will see a place card for strut pressure as well as tire pressure. I do not recommend more than thirty-six pounds of air pressure in the nose wheel. The wheel is small, could spin on the rim on impact when landing if over inflated, that has happened to me twice. I found mechanics had inflated the tire to forty-five pounds both times. I placed a white mark on the nose tire at the valve core; if both are in alignment on pre-flight I know the tire stayed in place. Check to see if you have a shiny spot where the nose tires rest when in full re-track position. That tells you the tire is rubbing on the fuselage, could be from an over inflated tire. There was an **AD** to replace or check each fifty hours the bracket on the co-pilot side firewall that holds that drag link. Seems the tire and the drag strut adjustment could put too much pressure on that bracket, it may fail. In the full re-track position you should be able to rotate the nose wheel with a firm pull. Check the air pressure and hydraulic fluid in the nose gear strut. The strut seals (o rings) have a tendency to shrink in cold weather deflating the strut. I recommend an approved hydraulic strut seal conditioner be added to all struts. To fill the nose strut with hydraulic fluid first secure your plane on jacks. Make sure the strut is fully extended; relieve any air pressure from the strut by removing the valve core. Remove the **VALVE STEM** that is screwed into the strut housing, Attach a small plastic tube to a hand held squirt oilcan, fill the squirt oil can with approved hydraulic fluid and conditioner if you chose to use the conditioner. Place the open tubing end into the valve stem hole; fill the strut till fluid runs out. Let the system set for approximately thirty minutes, compress the strut at least three times to bleed the air out. Replace the valve stem, valve core; add nitrogen or air to the recommended values located on the place card high up on the strut housing. Grease all fittings. There is one zert between the hinge (nut cracker) connected to the strut housing at the top of the turning collar. Remove the attachment bolt, move part of the unit and grease the fitting. Replace the attachment bolt. I would recommend a flex hose on a grease gun to reach hard to get fittings.

