

NOSE GEAR STEERING - MAINTENANCE PRACTICES

1. General

- A. This section provides description, operation, removal/installation and rigging procedures related to the nose gear steering system.

2. Description and Operation

- A. Nose gear steering is accomplished by the pilot's rudder pedals. The steering system utilizes an adjustable steering tube/bungee assembly to connect torque arms on the rudder pedal shafts to a steering bellcrank mounted at the top of of the nose gear trunnion. A nylon boot seals off the cabin from the engine compartment where the steering tube passes through the firewall. The nose gear can be steered approximately 15 degrees each side of neutral using the steering system.

3. Nose Gear System Removal/Installation

- A. Remove Nose Gear System (Refer to Figure 201).

- (1) Open upper cowling and remove scuff plate and floorboard cover plates around pilot's rudder pedals to gain access to steering linkage.
- (2) With nose wheel set straight ahead and rudder pedals in neutral, note number of exposed threads on shank of rod end (12); loosen jam-nut (13).

NOTE: Rudder pedal assembly can be pinned in neutral by utilizing alignment arms in rudder pedal torque tubes.

- (3) Remove bolt (11) and cut aft sta-tie (17).
- (4) Back rod end (12) out of steering tube (7) and remove.
- (5) Disconnect steering linkage at rod end (2) by removing bolt (4). Retain bushing (1) and washers.
- (6) Withdraw linkage from cabin through bushing (15) into engine compartment.

NOTE: It may be necessary to remove bungee (5) from tube (7) to clear firewall.

- (7) Remove steering linkage from airplane.
- (8) To remove remaining rudder system linkage, refer to Chapter 27, Rudder - Maintenance Practices .

- B. Install Nose Gear System (Refer to Figure 201).

- (1) Set nose wheel straight ahead and block rudder pedals in neutral.
NOTE: Rudder pedal assembly can be pinned in neutral by utilizing alignment arms in rudder pedal torque tubes.
- (2) Ensure barrel nut (8) is threaded onto shaft (9A) with equal number of threads showing on each side.
- (3) From engine compartment side of firewall, insert steering tube (7) through bushing (15) into cabin.
- (4) Install bungee (5) if removed.
- (5) Connect rod end (2) to steering bellcrank (3) with bolt (4) and spacer (1).
- (6) From cabin side of firewall, thread jam-nut (13) onto bearing (12), and install as unit into steering tube (7) the same number of threads as noted during removal.
- (7) Rig steering linkage.
- (8) Install bolt (11) to connect bearing (12) to link (10).
- (9) Secure boot (18) to retainer (16) using new aft sta-tie (17).
- (10) Install floorboard covers and scuff plate removed to gain access.

- C. Rig Nose Gear Steering (Refer to Figure 201).

- (1) Block nose wheel straight ahead and rudder pedals in neutral.
NOTE: Rudder pedal assembly can be pinned in neutral by utilizing alignment arms in rudder pedal torque tubes. Verify that rudder gust lock is disengaged before rigging nose gear steering system.
- (2) Adjust rudder trim pointer so pointer is on the centerline of airplane mark.
- (3) Gain access to rudder pedal torque arm (9) by removing scuff plate and floorboard covers as required.
- (4) Remove bolt (11) and (23), if installed.

- (5) Rotate forward end of shaft (9A) up and thread on link (10) until 0.50 inch of thread is showing on shaft (9A).
- (6) Connect rod end (12) to link (10) with bolt (11). Install bolt (23), washers (22) and bearing and bushing (21) into guide (20).
- (7) Ensure rod end (12) is sufficiently threaded into steering tube (7) by inserting safety wire into inspection hole in steering tube (7).
- (8) Ensure rod end (2) has sufficient thread engagement with bungee shaft by inserting safety wire into inspection hole in rod end (2).

