

ELECTRIC ELEVATOR TRIM - MAINTENANCE PRACTICES

1. Electric Elevator Trim System Removal/Installation

A. Remove Elevator Electric Trim System (Refer to Figure 201).

- (1) Remove the screws and the washers and detach the right cover plate from the control pedestal.
- (2) Remove the nut and the washer. Detach the elevator trim wheel from the shaft.
- (3) If installed, remove the chain cover by removing the screws.
- (4) Remove the screws and detach the left cover plate from the control pedestal.
- (5) Loosen the bolts and move the support up to relieve the tension on the chain.
- (6) Remove the connecting link from the chain and detach the chain from the sprockets.
- (7) Disconnect the plug from the connector.
- (8) Remove the bolts and the washers. Detach the electric trim actuator and the actuator mounting bracket from the support.
- (9) Remove the bolts and the washers. Detach the support from the control pedestal.
- (10) Attach the right cover plate to the control pedestal and replace the screws and the washers.
- (11) Attach the left cover plate to the control pedestal and replace the screws.
- (12) Attach the elevator trim wheel to the shaft and replace the washer and the nut.

B. Install Elevator Electric Trim System (Refer to Figure 201).

- (1) Remove the screws and the washers and disconnect the right cover plate from the control pedestal.
- (2) Remove the nut and the washer and disconnect the elevator trim wheel from the shaft.
- (3) Attach the electric trim actuator to the actuator mounting bracket and install the bolts.
 - (a) Tighten the bolts per torque sequence diagram and torque to 15-20 inch- pounds.
- (4) Attach the support to the control pedestal and install the washers. Install the bolts and hand-tighten.
- (5) Attach the plug to the connector.
- (6) Attach the chain to the upper and the lower sprocket and install the connector link on the chain.
- (7) Adjust the support to set the required tension of the chain. Tighten the bolts.
- (8) Attach the left cover plate to the control pedestal and replace the screws.
- (9) If the chain cover was removed, install it with the screws.
- (10) Attach the elevator trim wheel to the shaft and replace the washer and the nut.
- (11) Attach the cover to the control pedestal and replace the screws and the washers.

C. Electric Trim Clutch Torque Check (Refer to Figure 201).

- (1) Remove the screws and the washers and detach the right cover plate from the control pedestal.
- (2) Remove the nut and the washer. Detach the elevator trim wheel from the shaft.
- (3) If installed, remove the chain cover by removing the screws.
- (4) Remove the screws and detach the left cover plate from the control pedestal.
- (5) Loosen the bolts and move the support up to relieve the tension on the chain.
- (6) Remove the connecting link from the chain and detach the chain from the sprockets.
- (7) Disconnect the plug from the connector.
- (8) Remove the bolts and the washers. Detach the electric trim actuator and the actuator mounting bracket from the support, and move the actuator and the bracket from the airplane and put it on a bench.
- (9) Remove the bolts and detach the electric trim actuator from the actuator mounting bracket.
- (10) Remove the front seal retainer and detach the front seal from the sprocket housing.
- (11) Lock the shaft to prevent rotation and install a 1 5/16-inch socket over the sprocket housing. Attach a torque wrench to the socket.
- (12) Turn the sprocket housing slowly clockwise or counterclockwise and examine the torque.
- (13) The torque must be 30 inch-pounds, +5 or -5 inch-pounds.

(14) Adjust the electric trim clutch torque as follows:

- (a) Loosen the locking screw.
- (b) Turn the adjusting nut clockwise to increase the torque or counterclockwise to decrease the torque.

NOTE: When readjusting the clutch torque, turn the adjusting nut clockwise until the torque reaches two to four inch-pounds under the required setting. Then tighten the locking screw to 40-45 inch-pounds. If a closer setting is required, the adjusting nut may be turned without loosening the screw.

- (15) Attach the front seal to the sprocket housing and replace the front seal retainer.
- (16) Attach the electric trim actuator to the actuator mounting bracket and replace the bolts. Follow the torque sequence diagram and torque the bolts to 15-20 inch-pounds.
- (17) Attach the electric trim actuator and the actuator mounting bracket to the support. Replace the washers and the bolts.
- (18) Connect the plug to the connector.
- (19) Attach the chain to the sprockets and replace the connector link.
- (20) Adjust the support to set the necessary chain tension and tighten the bolts.
- (21) Attach the left cover plate to the control pedestal and replace the screws.
- (22) If the chain cover was removed, install it with the screws.
- (23) Attach the elevator trim wheel to the shaft and replace the washer and the nut.
- (24) Attach the right cover plate to the control pedestal and replace the screws and the washers.

2. Electric Elevator Trim System Operational Check

A. Check Individual Segments of Electric Trim.

- (1) Push forward to DN position momentarily, release to center position. Pull aft to UP position momentarily, release to center position. OBSERVE NO MOVEMENT of elevator trim wheel as individual trim switch segments are cycled.

B. Check Both Segments of Electric Trim.

- (1) Push forward and HOLD. During nose down cycle, DEPRESS and RELEASE A/P Trim Disconnect pushbutton. OBSERVE movement of elevator trim wheel in proper direction before A/P Trim Disconnect pushbutton is depressed and released. OBSERVE NO MOVEMENT after A/P Trim pushbutton is depressed and released.

- (2) Repeat step (2), except pull aft and HOLD.

NOTE: To reactivate system, release both segments to CENTER OFF position.

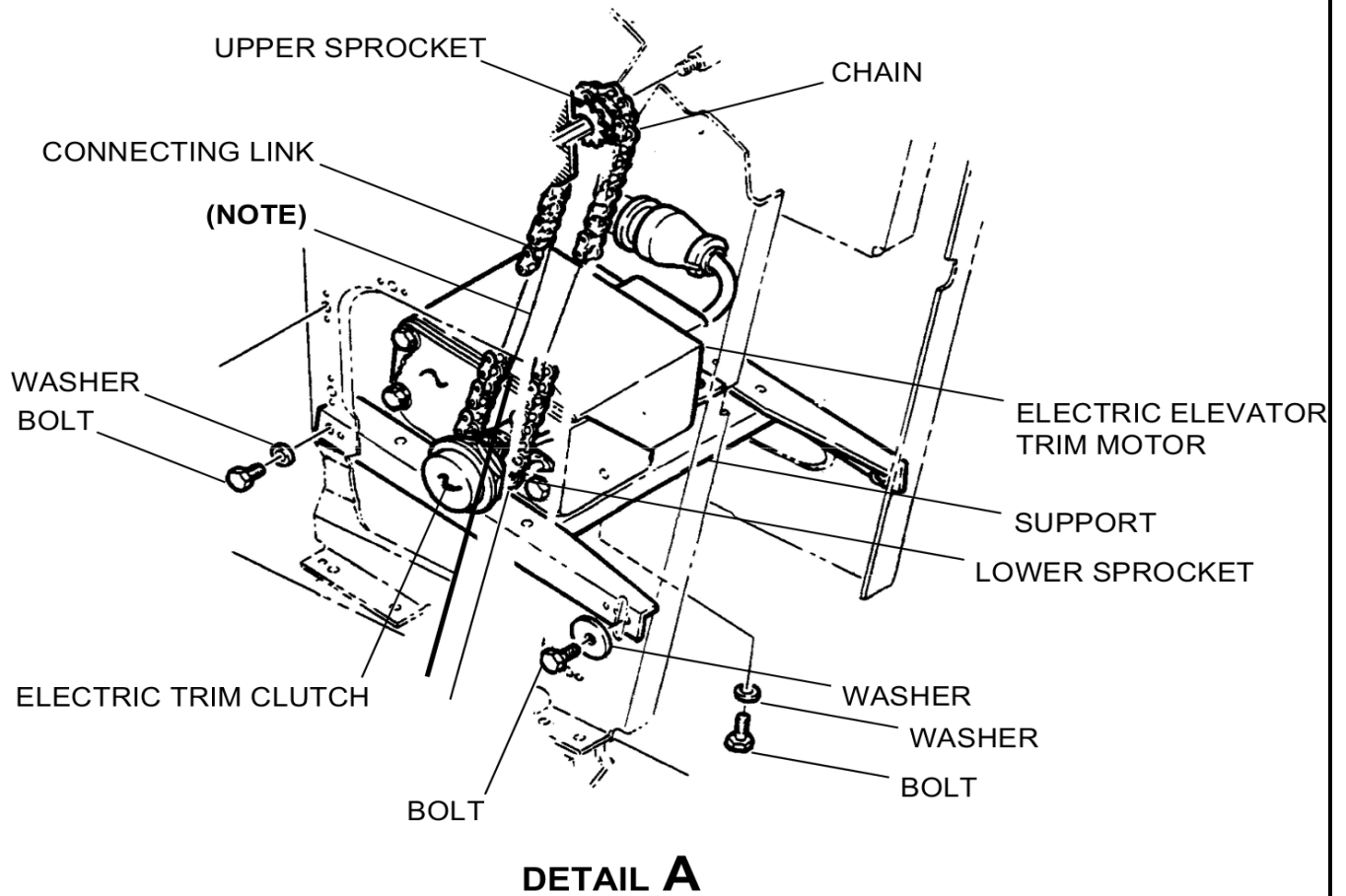
- (3) Operate system through full range of travel and check for binding, jerky movements and sluggish operation.

- (4) Check operating time for full range of motion.

- (a) Airplanes equipped with King KFC-150 or -250 autopilot shall demonstrate full range of motion within 26 to 38 seconds.
- (b) Airplanes equipped with King KFC-225 autopilot shall demonstrate full range of motion within 16 to 24 seconds.

Figure 201 : Sheet 2 : Electric Elevator Trim System Installation

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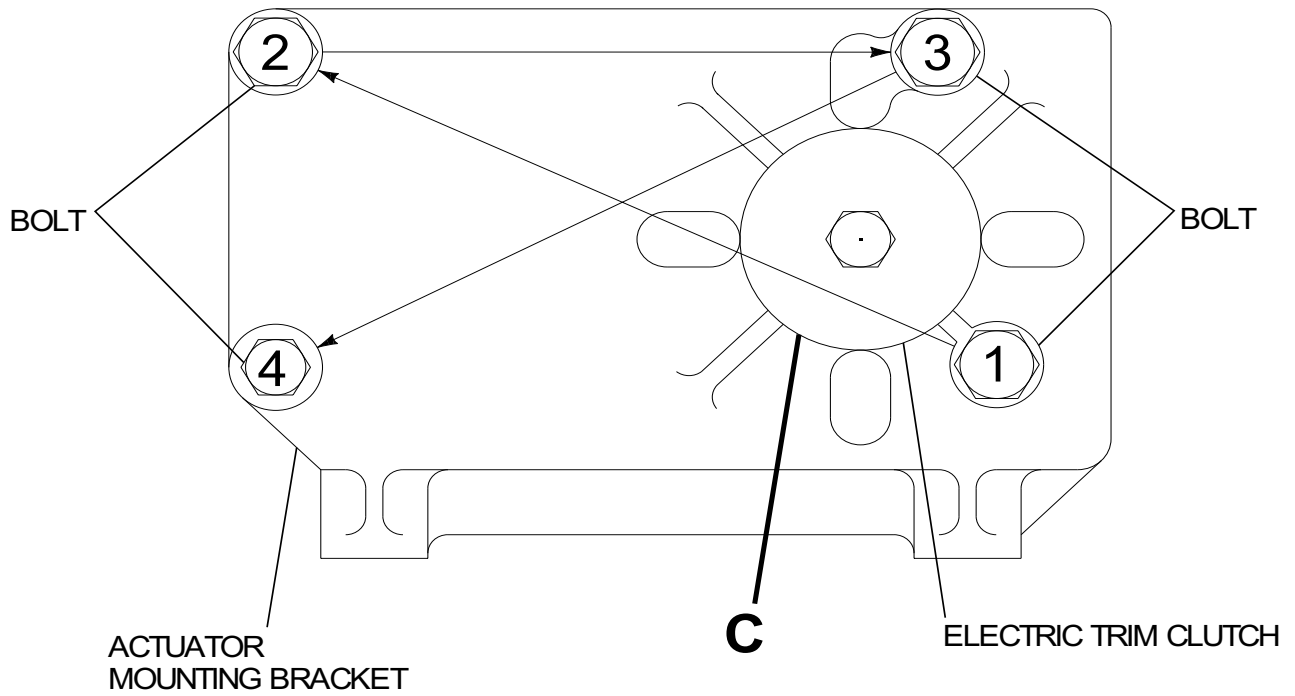


NOTE: ATTACH SCALE AT THIS POINT. MEASURE 0.40 INCH DEFLECTION.

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Figure 201 : Sheet 3 : Electric Elevator Trim System Installation

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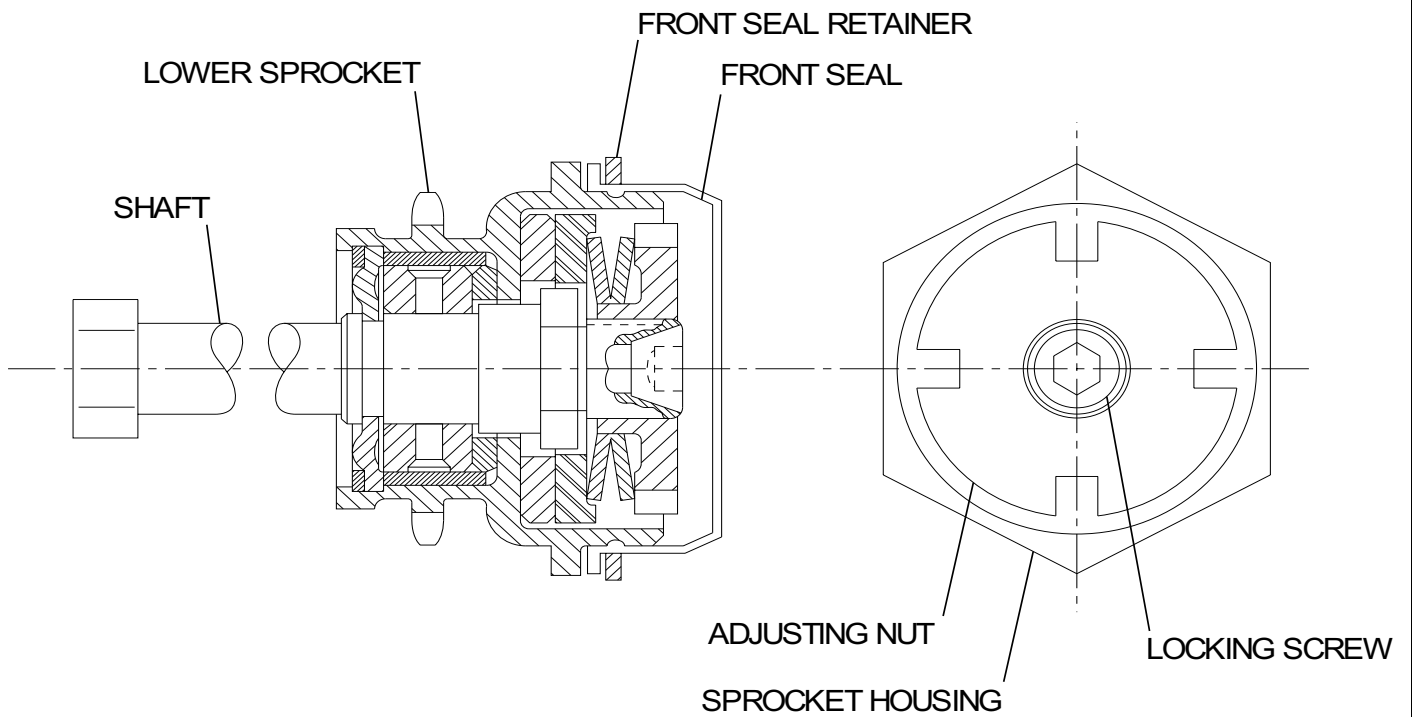


DETAIL B
TORQUE SEQUENCE DIAGRAM

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Figure 201 : Sheet 4 : Electric Elevator Trim System Installation

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DETAIL C
ELECTRIC TRIM ACTUATOR CLUTCH

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