RAYTHEON PREMIER I

TOWING Information
This section of this sub-chapter provides information on towing procedures for the Model 390 airplane.

Towing involves ground movement of the airplane without engine operation and is the preferred method of airplane positioning. The airplane may be towed by a powered tug. The airplane is normally towed at the nose wheel, but main gear towing may be necessary if the airplane is off the pavement in rough, muddy or snow-covered ground. Nose wheel steering may be performed by use of the tow bar during main gear towing.

Refer to Chapter 20-52-00, 201 for information on tools and equipment referenced in Table 201.

TABLE 201 TOOLS/EQUIPMENT AND RECOMMENDED MATERIALS
ITEM TOOLS AND EQUIPMENT
015 Tow Bar
016 Tow Bar Portable (optional)
017 Tow Vehicle
018 Towing Adapter Belt Assembly
019 Tow Cables

PROCEDURES
Nose Gear Towing
Refer to Figure 201 for the nose gear towing locations.

CAUTION: When towing the airplane with the seats, cabinetry or avionics removed, compensate for the component weight loss by adding temporary ballast to the airplane to maintain the center of gravity.

(1) Ensure that the nose gear strut and the main gear struts are not flat prior to towing the airplane. Refer to LANDING GEAR SERVICING procedures to service the struts (Ref. 12-10-25_301).

(2) Visually check the nose and main gear tires for proper serviceability and condition. Refer to LANDING GEAR SERVICING procedures to service the tires (Ref. 12-10-25_301).

CAUTION: The torque link must be in the fully collapsed position before towing. Damage to the nose landing gear door and torque link could occur if the link is not fully collapsed.

(3) Remove the safety clip (6) and quick release pin (7) and disconnect the lower end of the torque link (5) from the nose gear fork (8). Rotate the torque link (5) and align it with the tabs on the upper torque link. Reinstall the quick release pin (7) and safety clip (6) securing the torque link (5).

(4) Attach the tow bar (3) (015 or 016. Table 201) to the nose wheel axle (1) and install the lock pin (2).

(5) Assign a ground crew member to operate the airplane brakes as required.
(6) Station an observer at each wing tip and at the tail, if required, when backing the airplane or in congested areas near buildings or other airplanes.

(7) Close the passenger door and secure other open doors or panels.

(8) Remove all wheel chocks and disconnect the static ground wire.

(9) Verify the parking brake is released by depressing the button on the end of the parking brake handle and place the handle in the stowed position.

**CAUTION:** Do not exceed the towing speed of 5 mph.

**CAUTION:** Never push, pull or lift the airplane by the elevators, flaps or other control surfaces.

**CAUTION:** Avoid sudden starts or stops during towing operations.

**CAUTION:** When moving the airplane in and out of a hangar, ensure the airplane is clear of all overhead obstacles.

(10) Tow the airplane by tow vehicle (017, Table 201).

**NOTE.** Always attempt to center the nose wheel before bringing the airplane to a full stop. This will reduce the stress on the nose landing gear the next time the airplane is moved.

**CAUTION:** Do not set the parking brake when the ambient temperature is at or below 32º F, as any moisture within the brake assembly will freeze and prevent brake release.

**CAUTION:** Do not set parking brake if the brakes are hot.

(11) After positioning the airplane, chock all wheels securely.

(12) Ground the airplane at the fuselage and wing grounding points.

(13) Remove the lock pin (2) and remove the tow bar (3) from the nose wheel axle (1).

(14) Remove the safety clip (6) and the quick release pin (7), align the lower end of the torque link (5) in the nose gear fork (8) and install the quick release pin (7) and safety clip (6).

B. Main Gear Towing Refer to Figure 202 for the main gear towing locations.

**CAUTION:** When towing the airplane with the seats, cabinetry or avionics removed, compensate for the component weight loss by adding temporary ballast to the airplane to maintain the center of gravity.

(1) Ensure that the nose gear strut and the main gear struts are not flat prior to towing the airplane (Ref. Figure201). Refer to LANDING GEAR SERVICING procedures to service the struts (Ref. 12-10-25,301).

(2) Visually check the nose and main gear tires for proper serviceability and condition. Refer to LANDING GEAR SERVICING procedures to service the tires (Ref. 12-10-25,301).
CAUTION: The torque link must be in the fully collapsed position before towing. Damage to the nose landing gear door and torque link could occur if the link is not fully collapsed.

(3) Remove the safety clip (6) and quick release pin (7) and disconnect the lower end of the torque link (5) from the nose gear fork (8). Rotate the torque link (5) and align it with the tabs on the upper torque link. Reinstall the quick release pin (7) and safety clip (6) securing the torque link (5) (Ref. Figure 201).

(4) Attach the tow bar (3) (015, or 016; Table 201) to the nose wheel axle (1) and install the lock pin (2).

CAUTION: Do not wrap the tow cables around the main landing gear, as the gear can be damaged if the towing adapter belt assembly is not used.

CAUTION: Each towing adapter belt assembly must be attached to the main gear as shown. Attachment at a location other than that shown can result in damage to the landing gear.

(5) Wrap the towing adapter belt assemblies (2) (018, Table 201) around the main gear strut outer tube with the padded side of the belt against the strut and the buckles (3) outboard. Thread the belt through the buckles 3 so that no more than two inches of the belt extends past the buckles (Ref. Figure 202.).

(6) Connect the tow cables (1) (019, Table 201) to the towing adapter belt assemblies (2) and the tow vehicle (015, or 016; Table 201). Ensure that the tow cables are of sufficient length to clear the airplane.

(7) Assign a ground crew member to operate the airplane brakes as required.

(8) Station an observer at each wing tip and the tail, if required, when backing the airplane or in congested areas near buildings or other airplanes.

(9) Close the passenger door and secure other open doors or panels.

(10) Remove all wheel chocks and disconnect the static ground wire.

(11) Verify the parking brake is released by depressing the button on the end of the parking brake handle and place the handle in the stowed position.

CAUTION: Do not exceed the towing speed of 5 mph.

CAUTION: Never push, pull or lift the airplane by the elevators, flaps or other control surfaces.

CAUTION: Avoid sudden starts or stops during towing operations.

CAUTION: When moving the airplane in and out of a hangar, ensure the airplane is clear of all overhead obstacles.

(12) Tow the airplane. Use the tow bar (3) to steer the airplane (Ref. Figure 201).
NOTE: Always attempt to center the nose wheel before bringing the airplane to a full stop. This will reduce the stress on the nose landing gear the next time the airplane is moved.

**CAUTION:** Do not set the parking brake when the ambient temperature is at or below 32° F, as any moisture within the brake assembly will freeze and prevent brake release.

**CAUTION:** Do not set parking brake if the brakes are hot.

(13) After positioning the airplane, chock all wheels securely.

(14) Ground the airplane at the fuselage and wing grounding points.

(15) Remove the lock pin (2) and remove the tow bar (3) from the nose wheel axle (1) (Ref. Figure 201).

(16) Remove the safety clip (6) and the quick release pin (7), align the lower end of the torque link (5) in the nose gear fork (8) and install the quick release pin (7) and safety clip (6).

(17) Disconnect the tow cables (1) and remove the towing adapter belt assemblies (2) from the main gear strut outer tubes (Ref. Figure 202).
Nose Gear Towing
Figure 201

1. Nose Wheel Axle
2. Lock Pin
3. Tow Bar
4. Main Gear Strut Extension
5. Torque Link
6. Safety Clip
7. Quick Release Pin
8. Nose Gear Fork
9. Nose Gear Strut Extension
Nose Gear Towing
Figure 201