TOWING - MAINTENANCE PRACTICES

1. General

A. Towing the airplane is accomplished through the nose gear axle, using a yoke-type tow bar (standard equipment in the airplane).

CAUTION: Ensure all external equipment is disconnected from the airplane. Do not push or pull on control surfaces or propeller when maneuvering airplane.

CAUTION: Use the yoke-type towbar (standard equipment in the airplane) to tow the airplane. This is the approved method to tow the airplane. Other tow methods could cause structural damage to the airplane.

B. During the towing operation, the maximum nose gear turning angle should not be exceeded on either side of center. Exceeding the angle will damage the nose gear. During nose wheel towing, all turning is accomplished through the tow bar.

NOTE: The nose gear is equipped with stop blocks and markings which provide an indication that the turning limits have been met.

C. A qualified ground crew member should be stationed in the pilot's seat during all phases of the towing operation to watch for hazardous conditions. This ground crew member can also stop the airplane if the tow bar breaks or becomes uncoupled. In congested areas, wing and/or tail walkers should be used to ensure adequate clearance between airplanes, adjacent equipment and structure.

2. Precautions

A. Observe the following cautions prior to towing the airplane.

CAUTION: Do not exceed 50 degrees turning limitation.

CAUTION: The maximum nose gear towing/turning angle limit is 50 degrees either side of center. Forcing the nose gear beyond towing limits will result in damage to the nose gear, shimmy damper and structure. If turn limits are exceeded, an inspection of the nose gear assembly and nose gear wheel well structure must be performed.

CAUTION: The parking brake, rudder gust locks, wheel chocks, static ground cable and mooring cable should be released or removed before towing. Failure to do so could result in structural damage to the airplane.

3. Nose Gear Towing

A. Towing Instructions for Airplanes with a Lord Shimmy Dampener (Refer to Figure 201).

(1) Attach tow bar to the towing lugs on the nose wheel fork assembly.

CAUTION: Ensure all external equipment is disconnected from the airplane. Do not push or pull on control surfaces or propeller when maneuvering airplane.

(2) Station person in pilot's seat to assist with braking of airplane.

(3) Station persons at wing struts for pushing airplane.

(4) Remove wheel chocks, static ground cables and mooring cables.

(5) Release parking brake.

(6) Release rudder gust lock.

(7) If area is congested, station wing walkers and tail walkers around the airplane to ensure adequate clearance between airplanes and adjacent equipment or structures.

CAUTION: Do not exceed 50 degrees turning limitation.

(8) When towing is complete, center nose wheel, engage parking brake, chock wheels and apply gust locks as required.

(9) Disconnect tow bar.

4. Cold Weather Towing

A. During winter months and cold weather operations, maintenance personnel and ground support personnel must be aware of the following concerns and safety requirements:

(1) Reduced visibility;

(2) Poor traction; and

(3) Increased stopping distance.

CAUTION: Dry snow provides better traction than wet snow. Wet snow thaws and refreezes, creating hazardous driving conditions while towing airplanes. Heavy traffic and exhaust from parked vehicles can warm and thaw ice and snow on ramps, causing the ramp surface to become wet and slippery.

CAUTION: Brakes applied suddenly or too hard may cause the towing vehicle to jackknife. On hard packed snow, apply brakes until wheels begin to slide, then release brake pressure slightly to reduce speed and maintain control of vehicle.

CAUTION: Use proper towing vehicle with chains installed, if required, and proper tow bar. Make gradual starts and turns, steering smoothly. Traction can be reduced with fast starts which may cause towing vehicle wheels to spin.

CAUTION: When on a slick ramp, position airplane so it will not be required to make sharp turns during taxi. Position airplane directly on taxiway to minimize turns and allow lower power settings which reduce blowing snow and foreign object damage.

B. Towing Instructions (Refer to Figure 201).

(1) Insert tow bar into nose wheel axle.

CAUTION: Ensure all external equipment is disconnected from the airplane. Do not push or pull on control surfaces or propeller when maneuvering airplane.

(2) Station person in pilot's seat to assist with braking of airplane.

(3) Station persons at wing struts for pushing airplane.

NOTE: Chocks may be frozen to the ground. If chocks are frozen to the ground, check wheels to ensure they are not frozen to the ground.

(4) Remove wheel chocks, static ground cables and mooring cables.

(5) Ensure wheels are not frozen to parking surface.

(6) Release rudder gust lock.

(7) If area is congested, station wing walkers and tail walkers around airplane to ensure adequate clearance between airplanes and adjacent equipment or structures.

CAUTION: Do not exceed 50 degrees turning limitation.

(8) When towing is complete, center nose wheel, chock wheels and apply gust locks, as required.

CAUTION: Using chocks on ice may cause them to slide. Ensure chocks are firmly positioned and tied together.

CAUTION: Do not set parking brake during cold weather, as accumulated moisture may freeze brakes.

(9) Disconnect tow bar.

Figure 201 : Sheet 1 : Turning Radius

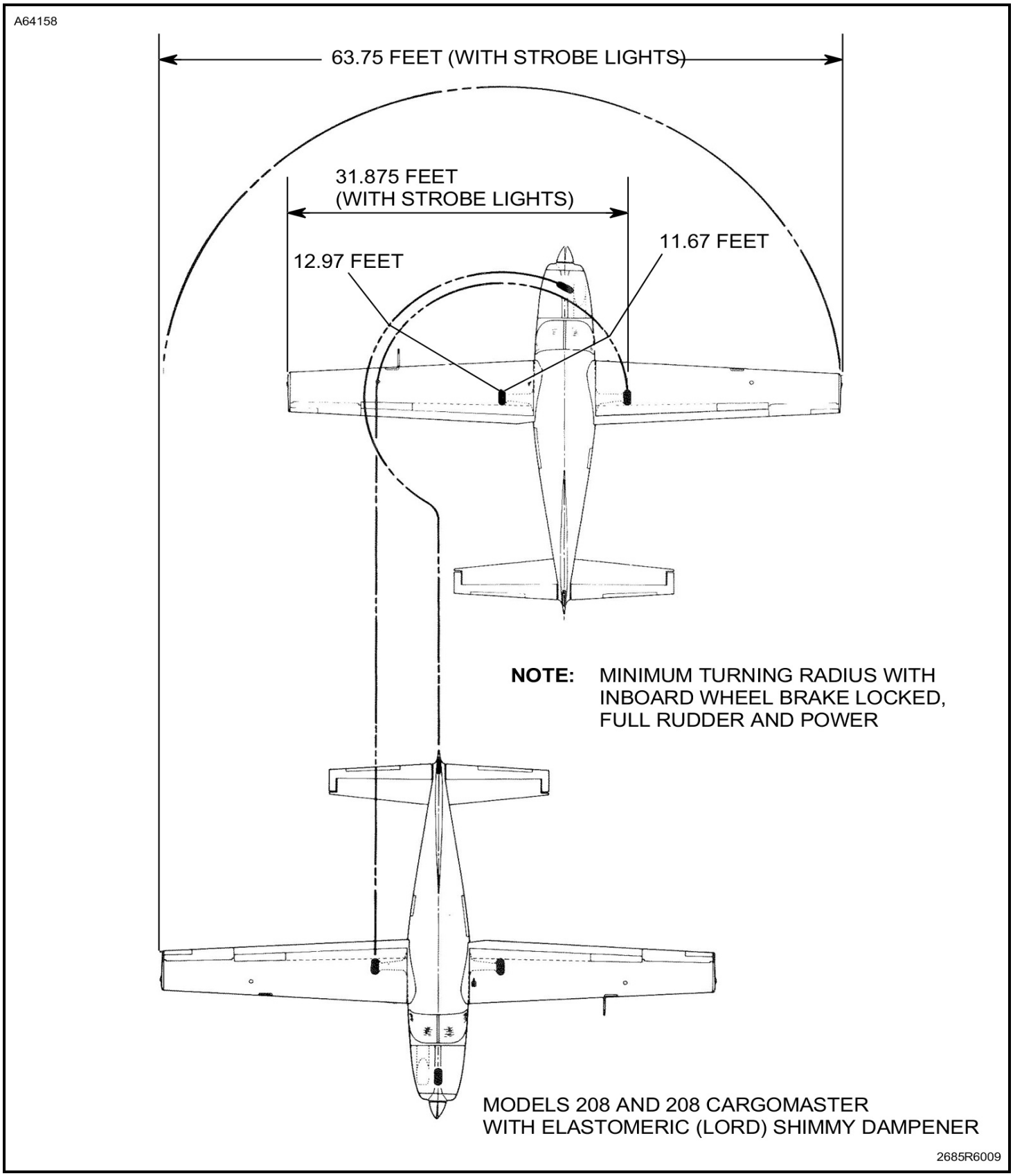

Figure 201 : Sheet 2 : Turning Radius

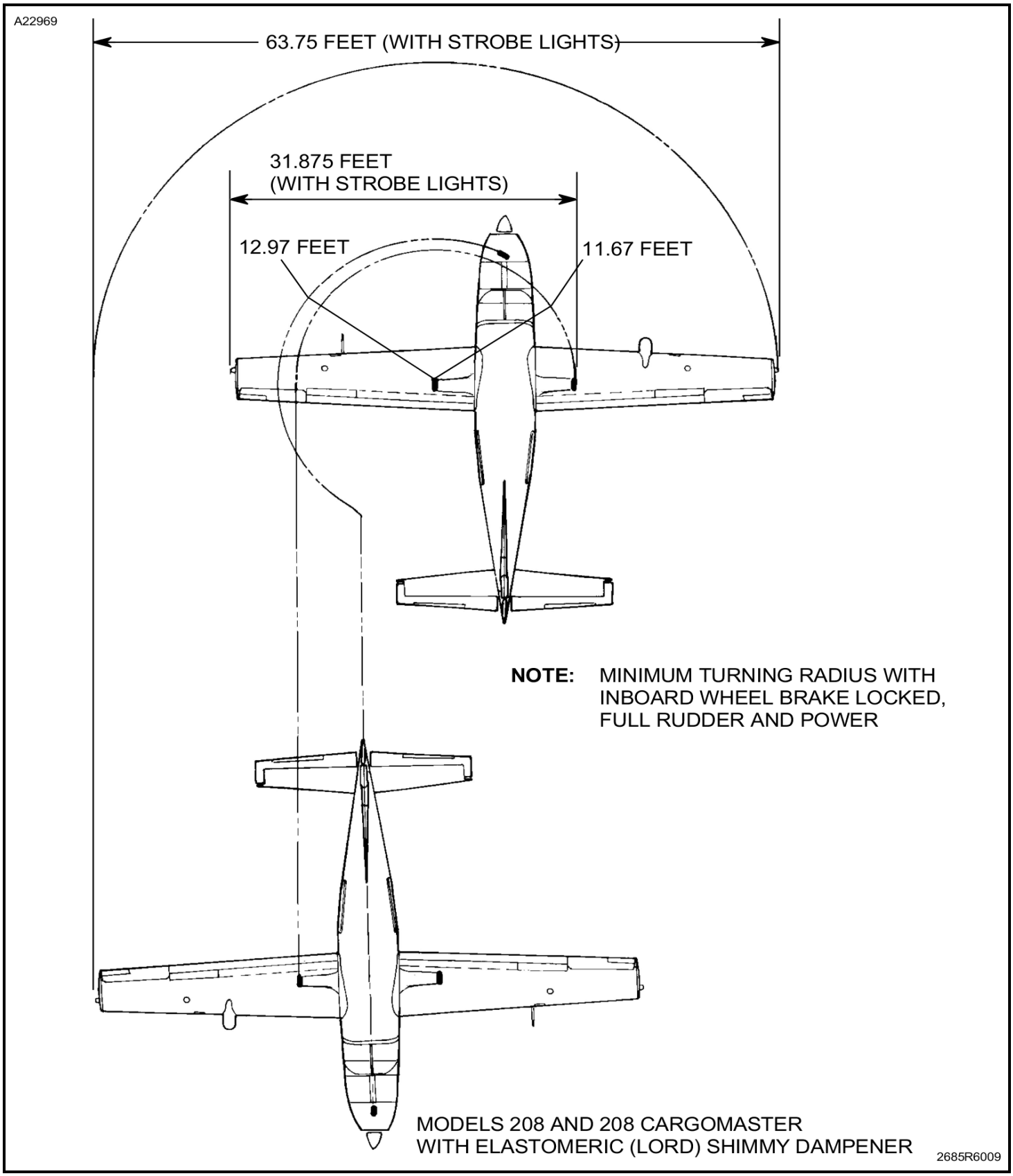

Figure 201 : Sheet 3 : Turning Radius

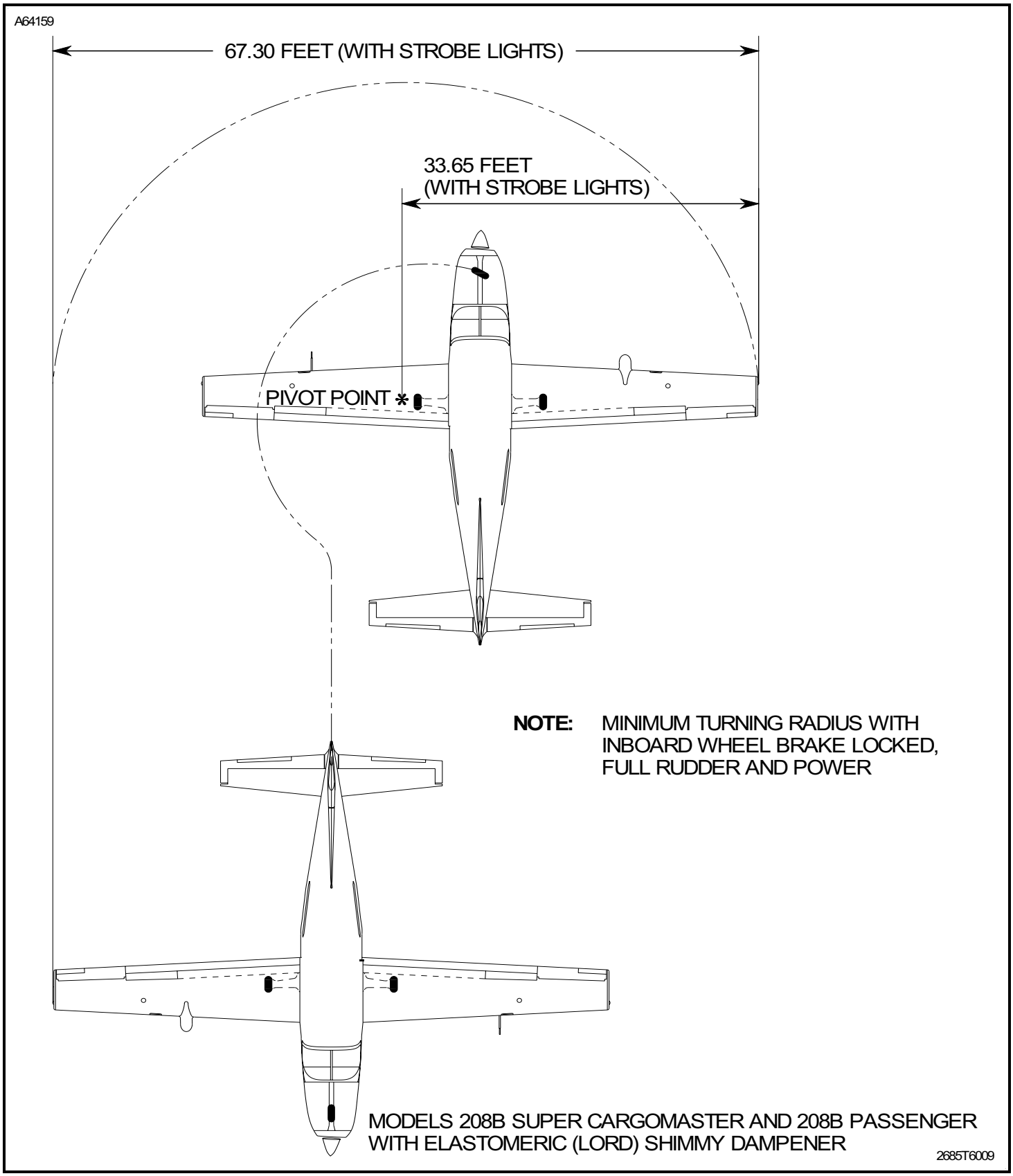

Figure 201 : Sheet 4 : Turning Radius