WHEELS AND BRAKES - INSPECTION/CHECK

1. General

A. This section has the inspections and checks necessary to keep the wheels and brakes in a serviceable condition.

TASK 32-40-00-220

2. Brakes Detailed Inspection

A. General

(1) This task gives the procedures to do a detailed inspection of the brakes.

B. Special Tools

(1) None.

C. Access

(1) None.

D. Do the Brakes Detailed Inspection (Refer to Figure 601).

(1) Remove the brake from the airplane. Refer to Brake Assembly Removal/Installation.

(2) Disassemble the brake. Refer to Brake Assembly Disassembly/Reassembly.

(3) Examine the brake linings for deterioration and maximum permissible wear. Replace the lining when worn to 0.100 inch (2.5 mm).

(4) Examine the brake cylinder bores for evidence of scoring and deterioration. Replace scored cylinders.

(5) Examine the anchor bolts and brake piston housing at the anchor bolt mounting surface for evidence of wear, cracks or corrosion. Replace all unserviceable or worn parts as required.

(a) The anchor bolt must fight tightly into the brake piston housing. Replace parts as necessary to maintain a tight fit between the anchor bolts and the brake piston housing. Refer to the Parker Component Maintenance Manual for External Design Wheels & Brakes, Section 300 - Off Aircraft Maintenance for additional information on fits and clearances.

(6) Reassemble the brake. Refer to Brake Assembly Disassembly/Reassembly.

(7) Before you install the brake, examine the disc for warpage, wear, grooves, deep scratches, and excessive general pitting or coning (refer to dimension A-A of Figure 601).

(a) Coning beyond 0.015 inch (0.38 mm) in either direction is cause for replacement.

(b) Single or isolated grooves up to 0.030 inch (0.76 mm) deep are not cause for replacement, although general grooving of the disc faces will reduce lining life.

NOTE: Heat checks may develop on the wearing surface of the disc. Heat checks are considered to be superficial surface cracks and are not detrimental to braking performance, although brake disc replacement is necessary if any one crack has a length greater than 0.500 inch (12.7 mm), or a depth greater than 0.250 inch. (6.3 mm).

(8) Replace the brake disc if more than three cracks are found in a disc, or if more than one crack per 90 degree quadrant is found in a disc.

(9) Install the brake. Refer to Brake Assembly Removal/Installation.

E. Restore Access

(1) None.

END OF TASK

TASK 32-40-00-222

3. Main Landing Gear Wheels and Tires Detailed Inspection

A. General

(1) This task gives the procedures to do a detailed inspection of the main landing gear wheels and tires.

B. Special Tools

(1) Aircraft Jacks

C. Access

(1) None

D. Do the Main Landing Gear Wheels and Tires Detailed Inspection.

(1) If necessary, lift the main landing gear wheel and tire assemblies from the ground to turn the wheel assembly for this inspection. Refer to Chapter 7, Jacking - Maintenance Practices.

(2) Use mild soap and water to remove oil, grease, and mud from the tires.

(3) Examine the tires for wear, cuts, abrasion, flat spots, and correct pressure. Refer to Chapter 12, Tires-Servicing.

(a) If the tire pressure is less than 85% of the recommended pressure, remove the tire from service for further inspection.

(b) If the tires show signs of wear on the inside or outside edge, interchange the tires as necessary to the opposite axles to help get uniform tire wear.

1 If there is more than normal tire wear, examine the alignment. Refer to Main Landing Gear - Adjustment/Test.

(4) Examine the wheel assemblies for condition, cracks (especially at the bolt holes), and corrosion.

(a) If there is grease on the outside of the wheel, replace the grease seal on the applicable wheel half.

(5) If airplane was jacked for the inspection, lower the airplane and remove the jacks. Refer to Chapter 7, Jacking - Maintenance Practices.

E. Restore Access

(1) None

END OF TASK

TASK 32-40-00-224

4. Nose Landing Gear Wheel and Tire Detailed Inspection

A. General

(1) This task gives the procedures to do a detailed inspection of the nose landing gear wheel and tire

B. Special Tools

(1) Aircraft Jacks

C. Access

(1) None

D. Do the Nose Landing Gear Wheel and Tire Detailed Inspection.

(1) If necessary, lift the nose landing gear wheel and tire assembly from the ground to turn the wheel assembly for this inspection. Refer to Chapter 7, Jacking - Maintenance Practices.

(2) Use mild soap and water to remove oil, grease, and mud from the tire.

(3) Examine the tire for wear, cuts, abrasion, flat spots, and correct pressure.

(a) If the tire pressure is less than 85% of the recommended pressure, remove the tire from service for further inspection.

(4) Examine the wheel assembly for condition, cracks (especially at bolt holes), and corrosion.

(a) If there is grease on the outside of the wheel, replace the grease seal on the applicable wheel half.

(5) If airplane was jacked for the inspection, lower the airplane and remove the jacks. Refer to Chapter 7, Jacking - Maintenance Practices.

E. Restore Access

(1) None

END OF TASK

TASK 32-40-00-710

5. Brakes Operational Check

A. General

(1) This task gives the procedures to do an operational check of the brakes.

B. Special Tools

(1) None

C. Access

(1) None

D. Do an Operational Check of the Brakes.

(1) Move the airplane to the parking ramp.

(2) Set the parking brake. The parking brake must lock without more than necessary tension on the control and hold and release freely.

NOTE: Brake checks must include both pilot and copilot positions.

(3) Start the engine and obey all operating limitations. Refer to Pilot's Operating Handbook and Approved Flight Manual.

(4) Advance the throttle as follows:

(a) (PT6A-114 and PT6A-114A Powered Airplanes) Smoothly advance the throttle to the lesser of 1500 foot-pounds or Maximum Allowable Takeoff Torque (Dynamic Redline not to exceed 805°C ITT).

(b) (PT6A-140 Powered Airplanes) Smoothly advance the throttle to the lesser of 2000 foot-pounds or Maximum Allowable Takeoff Torque (Dynamic Redline not to exceed 850°C ITT).

(5) Make sure that the brakes prevent the tires/wheels from rolling.

(6) Return the throttle to the idle position.

(7) Release the parking brake.

(8) Taxi the airplane.

(9) Apply pressure to the pilot's brakes.

(a) Make sure that the brakes do not drag, fade, or bypass fluid.

(b) Make sure that the pedals do not oscillate from a warped or incorrectly aligned disc.

(10) Apply pressure to the copilot's brakes.

(a) Make sure that the brakes do not drag, fade, or bypass fluid.

(b) Make sure that the pedals do not oscillate from a warped or incorrectly aligned disc.

(11) Shut down the engine. Refer to Pilot's Operating Handbook and Approved Flight Manual.

(12) If the parking brake did not prevent the tires/wheels from rolling or other brake problems were encountered. Refer to Wheels and Brakes - Troubleshooting.

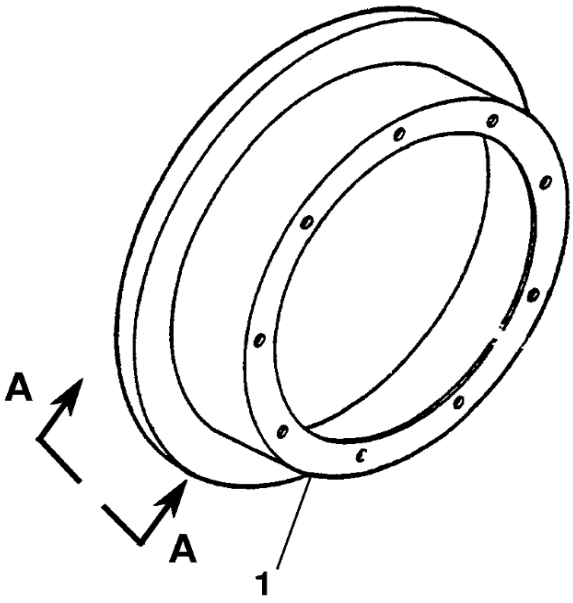
E. Restore Access

(1) None

END OF TASK

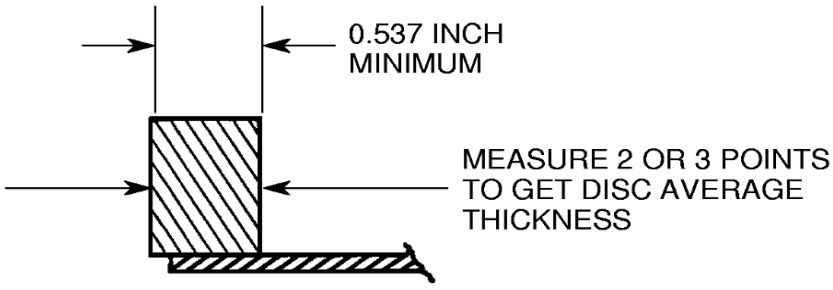
Figure 601 : Sheet 1 : Brake Assembly

A22384



DETAIL A

1. BRAKE DISC (PART NUMBER 164-22201)



VIEW A-A

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AA2641X1008