


Katherine

 U.S. Department of Transportation Federal Aviation Administration		MAJOR REPAIR AND ALTERATION (Airframe, Powerplant, Propeller, or Appliance)		Form Approved OMB No. 2120-0020	
				For FAA Use Only	
				Office Identification	
INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix B, and AC 43.9-1 (or subsequent revision thereof) for instructions and disposition of this form. This report is required by law (49 U.S.C. 1421). Failure to report can result in a civil penalty not to exceed \$1,000 for each such violation (Section 901 Federal Aviation Act of 1958).					
1. Aircraft	Make CESSNA		Model UC78B		
	Serial No. 6183		Nationality and Registration Mark NC30F		
2. Owner	Name (As shown on registration certificate) PENNY ROBERT C. III TRUSTEE		Address (As shown on registration certificate) P.O. BOX 27 VERSAILLES, MO. 65084		
3. For FAA Use Only					
4. Unit Identification					
				5. Type	
Unit	Make	Model	Serial No.	Repair	Alteration
AIRFRAME	_____ (As described in item 1 above) _____				X
POWERPLANT					
PROPELLER					
APPLIANCE	Type				
	Manufacturer				
6. Conformity Statement					
A. Agency's Name and Address		B. Kind of Agency		C. Certificate No.	
James Rhea 10998 Hwy 52 Versailles, MO. 65084		<input checked="" type="checkbox"/> U.S. Certificated Mechanic		A&P 498863493	
		<input type="checkbox"/> Foreign Certificated Mechanic			
		<input type="checkbox"/> Certificated Repair Station			
		<input type="checkbox"/> Manufacturer			
D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.					
Date		Signature of Authorized Individual			
7. Approval for Return To Service					
Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is <input type="checkbox"/> APPROVED <input type="checkbox"/> REJECTED					
BY	FAA Flt. Standards Inspector	Manufacturer	Inspection Authorization	Other (Specify)	
	FAA Designee	Repair Station	Person Approved by Transport Canada Airworthiness Group		
Date of Approval or Rejection		Certificate or Designation No.		Signature of Authorized Individual	

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. Description of Work Accomplished

(If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

NC30F

Request field approval to install Cleveland Wheels and Brakes to replace original expander tube braking system.

Cleveland Kit No. 199-88 (used on D-50 Twin Bonanza)

Wheel half assy. outer: p/n 162-0590

Wheel half assy. inner: p/n 161-06300

Brake assy: p/n 030-09900

Brake disc: p/n 161-06306

Brake discs attached to wheel using nine bolts p/n 103-20800 supplied in kit. Brake assembly attached to landing gear leg using Torque plate p/n 075-11800 supplied in kit.

Cleveland brake system installed to improve reliability and maintainability and to improve safety of ground operations. All work done in accordance with AC 43.13-1B chapter 7, sections 3,4,5, and 7 and chapter 9, section 2.

Brake Analysis per FAR 23.735 computed and attached as separate sheet to this form.

INSTRUCTIONS FOR CONTINUED AIRWORTHINESS CHECKLIST

- 1) The original Expander tube wheels and brakes have been removed and Cleveland Wheels and Brakes have been installed.
- 2) This wheel and brake was assembled using Cleveland parts supplied in Cleveland Kit No. 199-88
- 3) Service with MILH 5606. The fluid level in the reservoir should be checked during pre flight inspection.
- 4) All maintenance should be done in accordance with Cleveland Service Instructions.
- 5) Service limitations should be followed as set forth by the Cleveland Service Manual.
- 6) No additional airworthiness limitations.

-----**END**-----

***** **NOTHING FOLLOWS** *****

Additional Sheets Are Attached

Reference

Date: 05/16/06
 Make: Cessna
 Model: UC78B
 S/N: 6183
 Registration #: NC30F

Brake Analysis

Kinetic Energy Capacity of 20-148/30-99
 wheel and brake assembly = 875,000 ft lbs/ wheel.

REF. FAR 23.735 for brake analysis

$$KE = \frac{0.0443 \times W \times V^2}{N}$$

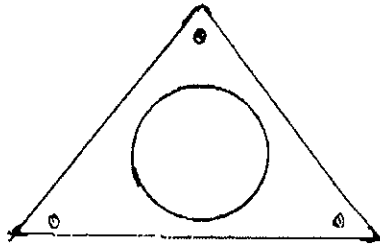
KE= Kinetic Energy per wheel
 W= Designed landing weight= 5700 lbs
 V= Power off stall speed= 66 mph, V²=4356
 N= Number of main wheels= 2

$$\text{Solution: } KE = \frac{0.0443 \times 5700 \times 4356}{2}$$

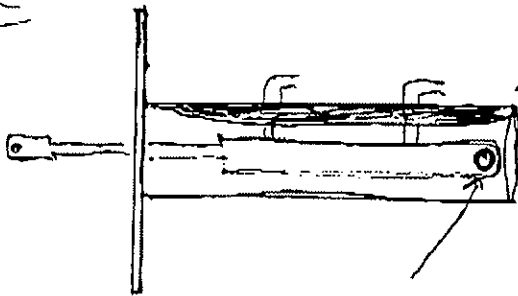
$$KE = 549,966.78 \text{ ft lbs}$$

The braking capacity of the above assembly 875,000 ft lbs is well above the calculated required capacity of 549,966.78 ft lbs. Assembly is more than adequate handle the required load.

Front View



Side View



Top of tube is cut out to place master cylinder inside and run fluid lines.

Hole to pin master cyl into Bracket.