



***Mike Caban***

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***Safe & Cost Effective  
Beechcraft Operation***

(It's not an oxymoron <vbg>)



# *Today's Program*

- *Introduction*
- *Get Involved*
- *Get Informed*
- *Recommended Reading*
- *Top Tips*
- *Q&A*

# Introduction

– **Mike Caban**

- **Beechcraft Owner Since 1995 (BE24R & BE55)**
- **SEL-Instrument / ATP-MEL**
- **2600 TT/1200 ME/1400 SE**



- **ABS Member & Baron Owner Since 2004**
- **Owner Assisted Annuals Since 1998**
- **Former Director Sales & Marketing Superior Air Parts**
- **Created CSOBeech.com in 2008**

# What is a CSOB?

**“Tongue in Cheek” Acronym: Cheap Son of a Beech!**

- What It Is:
  - An attentive & vigilant, owner involved philosophy toward Beechcraft ownership & maintenance that has safety at it's core, combined with a frugal approach to operating methods and maintenance dollars spent to maintain airworthiness.
  - A Beechcraft in Top Airworthy Condition without massive maintenance dollar spending each year.
  - CSOB's dislike abuse or breakage of expensive machinery
  - Examples: LOP Engine Ops, Owner Assisted Annuals, Price Shopping Fuel, Rotables & Consumables
- What It is NOT:
  - Contravention of the FARs
  - An Un-Airworthy Aircraft
  - Examples: Pencil Whipped Annuals, Tires w/Cord Showing, Scored Brake Discs, Excessive & Unnecessary Hard Braking, Overly Rich Mixtures in Cruise & Operations in “Red Box”

# **Beechcraft Are Expensive to Own & Operate!**

*(what many non-Beech owners/operators think)*

- ***Only if not flown often &/or owner involvement in maintenance decisions is lacking.***
  - ***Systems/Seals/Engine Components Atrophy Without Use***
- ***Start with a well maintained aircraft confirmed via a thorough pre-buy inspection by a Beechcraft knowledgeable A&P/IA***
  - ***Use FREE ABS Pre-Purchase Inspection Guide***
- ***Buy a Beechcraft known to other Beechcraft Owners, Enthusiasts or Forum Participants***
- ***Keep it as good or better than you got it!***





# Get Involved!

- **Develop a Personal Rapport with your IA**
  - **Locate a knowledgeable Beechcraft Mechanic**
- **Take Inventory of Your Mechanical Skills**
- **Discuss the Owner Assisted (not Hindered) Annual w/your IA**
  - **Large Expense of Annual is Open Up & Closing Labor**
    - **>20 Hrs Bonanza / >40 Hrs Baron**
    - **Some Shops Advertise ~\$3,000 - \$5,000 (Inspection Only)**
    - **Most Open & Close Ops Allowed by Part 43, Appendix A**
- **Maintain Year-long Visual Vigilance to Address Squawks & Perform PM**
  - **Oil & Filter Changes (Chafe Patrol & Valve Cover Bolts)**
    - **Grease Landing Gear Zerks**
  - **Hand Wash Airframe (Garden Hose Pressure) & Chamois Dry**
    - **No Power Washer Spray on Wheels & Wheel Bearings**
  - **Hand Clean Landing Gear Legs, Belly & Under Wing Exhaust**
    - **Simple Green Extreme (my personal favorite)**
  - **Chafe Patrol (Engine Bay/Fuel Lines Under Seats/Instrument Panel)**
- **Who's primarily responsible for Airworthiness?**
  - **14 CFR 91.403(a): The owner or operator of an aircraft is primarily responsible for maintaining that aircraft in an airworthy condition, including compliance with part 39 of this chapter [Airworthiness Directives].**

# Part 43 Appendix A, Section c

- (c) *Preventive maintenance*. Preventive maintenance is limited to the following work, provided it does not involve complex assembly operations:
  - **(1) Removal, installation, and repair of landing gear tires**
  - (2) Replacing elastic shock absorber cords on landing gear.
  - (3) Servicing landing gear shock struts by adding oil, air, or both.
  - **(4) Servicing landing gear wheel bearings, such as cleaning and greasing.**
  - **(5) Replacing defective safety wiring or cotter keys.**
  - **(6) Lubrication not requiring disassembly other than removal of nonstructural items such as cover plates, cowlings, and fairings.**
  - (7) Making simple fabric patches not requiring rib stitching or the removal of structural parts or control surfaces. In the case of balloons, the making of small fabric repairs to envelopes (as defined in, and in accordance with, the balloon manufacturers' instructions) not requiring load tape repair or replacement.
  - (8) Replenishing hydraulic fluid in the hydraulic reservoir.
  - (9) Refinishing decorative coating of fuselage, balloon baskets, wings tail group surfaces (excluding balanced control surfaces), fairings, cowlings, landing gear, cabin, or cockpit interior when removal or disassembly of any primary structure or operating system is not required.
  - **(10) Applying preservative or protective material to components where no disassembly of any primary structure or operating system is involved and where such coating is not prohibited or is not contrary to good practices.**
  - (11) Repairing upholstery and decorative furnishings of the cabin, cockpit, or balloon basket interior when the repairing does not require disassembly of any primary structure or operating system or interfere with an operating system or affect the primary structure of the aircraft.
  - (12) Making small simple repairs to fairings, nonstructural cover plates, cowlings, and small patches and reinforcements not changing the contour so as to interfere with proper air flow.
  - (13) Replacing side windows where that work does not interfere with the structure or any operating system such as controls, electrical equipment, etc.
  - (14) Replacing safety belts.
  - (15) Replacing seats or seat parts with replacement parts approved for the aircraft, not involving disassembly of any primary structure or operating system.
  - (16) Trouble shooting and repairing broken circuits in landing light wiring circuits.
  - **(17) Replacing bulbs, reflectors, and lenses of position and landing lights.**
  - (18) Replacing wheels and skis where no weight and balance computation is involved.
  - **(19) Replacing any cowling not requiring removal of the propeller or disconnection of flight controls.**
  - **(20) Replacing or cleaning spark plugs and setting of spark plug gap clearance.**
  - (21) Replacing any hose connection except hydraulic connections.
  - (22) Replacing prefabricated fuel lines.
  - **(23) Cleaning or replacing fuel and oil strainers or filter elements.**
  - **(24) Replacing and servicing batteries.**

## Part 43 Appendix A, Section C (cont'd)

(25) Cleaning of balloon burner pilot and main nozzles in accordance with the balloon manufacturer's instructions.

**(26) Replacement or adjustment of nonstructural standard fasteners incidental to operations.**

(27) The interchange of balloon baskets and burners on envelopes when the basket or burner is designated as interchangeable in the balloon type certificate data and the baskets and burners are specifically designed for quick removal and installation.

(28) The installations of anti-mis-fueling devices to reduce the diameter of fuel tank filler openings provided the specific device has been made a part of the aircraft type certificate data by the aircraft manufacturer, the aircraft manufacturer has provided FAA-approved instructions for installation of the specific device, and installation does not involve the disassembly of the existing tank filler opening.

(29) Removing, checking, and replacing magnetic chip detectors.

(30) The inspection and maintenance tasks prescribed and specifically identified as preventive maintenance in a primary category aircraft type certificate or supplemental type certificate holder's approved special inspection and preventive maintenance program when accomplished on a primary category aircraft provided:

(i) They are performed by the holder of at least a private pilot certificate issued under part 61 who is the registered owner (including co-owners) of the affected aircraft and who holds a certificate of competency for the affected aircraft (1) issued by a school approved under Sec. 147.21(e) of this chapter; (2) issued by the holder of the production certificate for that primary category aircraft that has a special training program approved under Sec. 21.24 of this subchapter; or (3) issued by another entity that has a course approved by the Administrator; and

(ii) The inspections and maintenance tasks are performed in accordance with instructions contained by the special inspection and preventive maintenance program approved as part of the aircraft's type design or supplemental type design.

(31) Removing and replacing self-contained, front instrument panel-mounted navigation and communication devices that employ tray-mounted connectors that connect the unit when the unit is installed into the instrument panel, (excluding automatic flight control systems, transponders, and microwave frequency distance measuring equipment (DME)). The approved unit must be designed to be readily and repeatedly removed and replaced, and pertinent instructions must be provided. Prior to the unit's intended use, and operational check must be performed in accordance with the applicable sections of part 91 of this chapter.

(32) Updating self-contained, front instrument panel-mounted Air Traffic Control (ATC) navigational software data bases (excluding those of automatic flight control systems, transponders, and microwave frequency distance measuring equipment (DME)) provided no disassembly of the unit is required and pertinent instructions are provided. Prior to the unit's intended use, an operational check must be performed in accordance with applicable sections of part 91 of this chapter.



# **Get Informed!**

## **– Participate/Network/Learn**

- ***ABS Hangar Flying – Bonanza.org***
- ***Beech Talk – BeechTalk.com***
- ***Beech Lister – Email Forum***
- ***Pelican's Perch – Expert Operating Articles***
- ***CSOBeech.com – Operating Tips/Low Cost Maintenance Options/DIY Solutions/Watchouts***

## **– Secure Written Maintenance Estimates**

- ***Ping Forum Participants for 2<sup>nd</sup>/3<sup>rd</sup> Opinions***
- ***Get Referrals for Specialized Work (Cylinder Replacement, Gear Rigging, etc.)***

## **– Savvy Mx – Mike Busch**



- ***Maintenance Seminars***
- ***Maintenance Advocate Program SavvyMX.com***



## **Recommended Reading**

- Colvin's Clinic (ABS, Amazon, etc.)***
- ABS Landing Gear Repair Guide***
- Parts Catalog & Service Manual***
- CSOBeech.com***

# Top CSOB Tips

- Owner Assisted Annual
  - Improve Your Airplane Systems Knowledge
- Fly High & LOP
  - Don't let anyone tell you: "fuel is the most inexpensive thing for your Beechcraft"
- Shoulder Harness Installation
- BG341 Military Surplus Spark Plug
  - STC'd for many IO470/520 Engines @ ~\$9/each
- Garmin Marine GPS w/XM Wx
  - ~\$500 Hardware Cost vs. >\$1,200
- Desser Retread
  - New NDT Inspection Equipment in Place/Confirm Clearance w/Gear Swing
  - ~\$89 vs ~\$200
- Consider Deleting In-Flight Hull Insurance Coverage
  - GUMP Vigilance & Airman Discipline/Excellent Gear System Maintenance
- Oil & Filter Changes/Greasing Landing Gear/Corrosion Protection Spray of Airframe/Spark Plug Changes
- Sony Reader or iPad for Plates/Charts
- Sam's Club Aeroshell Case Oil Purchases
- NOS EBay Purchases – Oil Filters/Brake Pads/Tires
- Salvage & NOS Part Sources – Serviceable/Airworthy
  - ASOD / Dodsons / Kevin O'Halloran Aviation / Arrell / AvParts
- Low-Cost/High Quality Rotables Repair & Overhaul
  - Alternators/Starters/Ldg Gear Motors/Cowl & Flap Motors



# Q&A

**It won't be enjoyable if it's unaffordable!**





# APPENDIX

# HID Light Kits

(Own the Night for 35Watts & ~\$275/kit)

337 & Field Approval not included



Duckworks Aviation

[www.duckworksav.com](http://www.duckworksav.com)



# Valve Cover Bolts



# Fuel Line Chafe Patrol





# Chafe Patrol (cont'd)



# Chafe Patrol (cont'd)



# CSOB Oxygen Fill System





# Fuel Cap O-Rings

(A Great Way to Get Water in Your Fuel)

