



**NAME, ABS #**      **Larry Ploucha, 25423**

**YEAR, MODEL.**      **1992 F33A**

**N NUMBER, SERIAL #.** **N484D, CE-1699**

**INSPECTOR**                      **Wayne Whittington 580 789 0874**

\*\*\*\*\*

**ACKNOWLEDGEMENT AND WAIVER**

*The undersigned, a member in good standing of the American Bonanza Society, desiring to participate in the ABS/ASF Service Clinic Program, Acknowledges that the clinic program for the inspection of member's aircraft is sponsored and performed by ABS/Air Safety Foundation at the urging and request of the membership;*

*That neither the Foundation or its inspectors can make a complete inspection of the participating member's aircraft;*

*That said inspection is not a substitute for any Federal Aviation Administration required inspection or directive;*

*That the program and inspection is for the mutual benefit of the undersigned and other ABS members;*

*And in consideration of the mutual request to ABS for such program by participating members, the undersigned for him/her self, his/her heirs, personal representative and assignees, does hereby assume any risk of said program and inspection and releases and waives any and all causes of action which may otherwise accrue against inspectors, the American Bonanza Society, the ABS Air Safety Foundation, its officers, directors, employees, independent contractors, or agents in any way relating to the inspection of the member's aircraft, including but not limited to damages to the inspected aircraft and any consequential damages.*

Aircraft Owner's Signature

**INITIAL VIEW AND BASIC RIGGING (FLAPS UP)**

- Landing gear struts not proper height

- Landing gear doors sagging (Possible low power in landing gear motor)
- Right flap not in alignment with fuselage
- Right flap too tight against wing
- Right flap has excessive play
- Right aileron not in alignment with outboard flap edge
- Elevators not in alignment with horizontal stabilizer
- Left flap not in alignment with fuselage
- Left flap too tight against wing
- Left flap has excessive play
- Left aileron not in alignment with outboard flap edge

#### WING BOLTS

- Check torque
- Bathtub drain hole clogged (use only plastic straw to clear drain, nothing metallic)
- Bathtub needs lubrication (LPS 3 or equivalent) After lube sets up, recheck drain hole is open.
- Covers or cover clips damaged or missing or loose (Do not reinstall until repaired)
- Corrosion (Use LPS 3 or equivalent to prevent corrosion) (Recommended replacement every 20 years)

#### EXTERNAL POWER PLUG

- External power plug placard missing

#### RIGHT WING

- Fuel cap Oring need replacement (Large Oring - MS29513-338, Small Oring - MS29513-010)
- Fuel cap placard incorrect or missing (Should show TYPE of fuel & QUANTITY)
- Fuel cap lanyard broken or missing
- Corrosion or damage (Possible corrosion under wing if TKS equipped)
- Fuel bladder or connections leaking
- Underwing fuel drain leaking

#### RIGHT AILERON

- Forward and/or aft rod end worn
- Attachment screws incorrect (Should be MS27039C1-09 with an AN960-10L washer)
- Balance weights not secure (4 on each aileron)
- Ground strap worn or missing
- Corrosion or damage

#### RIGHT FLAP (FLAPS EXTENDED)

- Flap bumper torn, worn or missing (Bumper part #4988)
- Track rollers installed incorrectly
- Ground strap worn or missing
- Cracked nose rib (viewed through inspection hole near actuator)
- Corrosion or damage

#### MAIN ENTRY DOOR

- Hinges worn & door sags
- Hinge rubber blocks missing or need replacement
- Seal worn
- Inside and/or outside handle out of adjustment
- Exterior handle spring broken
- Corrosion or damage

#### ENTRY STEP

- Damaged or cracked
- Incorrect attachment screws (Should be MS27039C1-09 with an AN960-10L washer)
- Corrosion (dissimilar metals corrosion where step attaches to fuselage) (LPS 3 or equivalent yearly)
- Does not have non slip surface

#### FUSELAGE UNDERSIDE MID & AFT

- Corrosion or damage

#### BAGGAGE DOORS

- Hinges worn
- Seals worn
- Handle needs adjusting
- Corrosion or damage

#### RIGHT SIDE OF FUSELAGE

- Corrosion or damage

#### RIGHT HORIZONTAL STABILIZER/ELEVATOR/RUDDERVATOR

- Damage or corrosion
- Elevator/Ruddervator attach bushings have up and down play
- Elevator/Ruddervator has side play
- Elevator forward or aft rod ends worn
- Trim tab has excessive play (Some play can be removed with a close tolerance bolt (AN173-5))
- Trim tab rod end worn
- Elevator trim color coding Airworthiness Directive not complied with (AD 91-17-01) (Beech MSB 2399)
- Trim tab rod end attach bolt too tight (Bonanza only)
- Ground strap worn or missing

#### RUDDER

- Rudder spar Airworthiness Directive not complied with (AD 93-24-03)  
CD1-CD1304, CE1-CE1425, CJ1-CJ179, E1-E2518, EA1-EA500
- Ground strap worn or missing

#### LEFT HORIZONTAL STABILIZER/ELEVATOR/RUDDERVATOR

- Damage or corrosion
- Elevator/Ruddervator attach bushings have up and down play
- Elevator/Ruddervator has side play
- Elevator forward or aft rod ends worn
- Trim tab has excessive play (Some play can be removed with a close tolerance bolt (AN173-5))
- Trim tab rod end worn
- Elevator trim color coding Airworthiness Directive not complied with (AD 91-17-01) Beech MSB 2399)
- Trim tab rod end attach bolt too tight (Bonanza only)
- Ground strap worn or missing

#### LEFT SIDE OF FUSELAGE

- Corrosion or damage

#### LEFT FLAP (FLAPS EXTENDED)

- Flap bumper torn, worn or missing (Bumper part #4988)
- Track rollers installed incorrectly
- Ground strap worn or missing
- Corrosion or damage
- Limit switches bent or rollers frozen or dragging (Use LPS 1 or equivalent)

#### LEFT AILERON

- Forward and/or aft rod end worn
- Attachment screws incorrect (Should be MS27039C1-09 with a AN960-10L washer)
- Balance weights not secure (4 on each aileron)
- Ground strap worn or missing
- Corrosion or damage
- Aileron trim tab has excessive play

#### LEFT WING

- Fuel cap Oring need replacement (Large Oring - MS29513-338, Small Oring - MS29513-010)
- Fuel cap placard incorrect or missing (Should show TYPE of fuel & QUANTITY)
- Fuel cap lanyard broken or missing
- Corrosion or damage (Possible corrosion under wing if TKS equipped)
- Fuel bladder or connections leaking
- Underwing fuel drain leaking

#### UNDER FUSELAGE FUEL ITEMS

- Fuel selector drain door damaged or drain tube damaged or missing
- Fuel selector drain door inside placard missing
- Fuel selector leaking (Drain tube wet or dripping)
- Boost pump leaking (Drain tube wet or dripping)
- Boost pump drain tube broken
- Fuel vent tubes broken/or misadjusted (Should be 1 3/4" long, forward facing 10 degrees with scarf cut)
- Corrosion or damage around forward fuselage underside

### SINGLE ENGINE

- Muffler cones burned through or missing (Cones quiet the exhaust & direct hot gases to the heater case).
- Tail pipe V brackets attached incorrectly
- Muffler oil shield mispositioned and or upside down (flange should be at bottom)
- Lower engine compartment behind gill panels dirty and not able to drain
- Alternate air door spring weak (as applicable)
- Intake main rubber coupling bottom drain nipple broken (Engine sucking unfiltered air)
- Improper or no washers on throttle, prop, mixture Heim bearings
- One or more engine mount heat shields missing or positioned incorrectly or rubbing on mount.
- Exhaust gas temperature probes not fully seated in exhaust manifold (Possible incorrect EGT readings)
- Cooling baffling worn & needs replacing
- One or more rocker box covers leaking
- Battery cooling hose duct worn or missing
- Ignition harness below fuel injection lines (Possible air restriction to cylinders)
- Alternator seal leaking (Evidence of oil residue at bottom rear alternator large vent tube) (IO-520/550 only)
- Zip ties around fuel lines, intake tubes or other metal tubing (Can eventually cut through metal over time)
- Check tailpipe to turbocharger V Band clamp (AD 2018-06-11) (TC/TN Bonanza only)
- Slope baffle cracked

- Propeller clocked incorrectly (With #1 piston at TDC, "V" should be at bottom, #1 blade pointing up)
- Propeller seal leaking (Tell tale signs of oil mist on blades & windshield)
- Propeller spinner or bulkhead cracked
- One or more propeller blades need dressing
- Evidence of exhaust leak (Light ash coloring on intake tubes)

## TWIN ENGINE BARON/TRAVEL AIR LEFT ENGINE & FIREWALL FORWARD

- Tail pipe attach brackets loose or broken
- Alternate air door spring weak
- Improper or no washers on throttle, prop, mixture heim bearings
- Exhaust gas temperature probes not fully seated in exhaust manifold (Possible incorrect EGT readings)
- Evidence of exhaust leak (Light ash coloring on intake tubes)
- Cooling baffling worn & needs replacing
- One or more rocker box covers leaking
- Ignition harness below fuel injection lines (Restricts air to cylinders)
- Alternator seal leaking (Evidence of oil residue at bottom rear alternator large vent tube) (IO-520/550)
- Zip ties around fuel lines, intake tubes or other metal tubing (Can eventually cut through metal over time)
- Propeller clocked incorrectly (With #1 piston at TDC, "V" should be at bottom, #1 blade pointing up)
- Propeller seal leaking (Tell tale signs of oil mist on blades)
- One or more propeller blades need dressing
- Propeller spinner or bulkhead cracked

## TWIN ENGINE BARON/TRAVEL AIR RIGHT ENGINE & FIREWALL FORWARD

- Tail pipe attach brackets loose or broken
- Alternate air door spring weak
- Improper or no washers on throttle, prop, mixture heim bearings (AN970 washer)
- Exhaust gas temperature probes not fully seated in exhaust manifold (Possible incorrect EGT readings)
- Evidence of exhaust leak (Light ash coloring on intake tubes)
- Cooling baffling worn & needs replacing
- One or more rocker box covers leaking
- Ignition harness below fuel injection lines (Should be placed above the lines)
- Alternator seal leaking (Evidence of oil residue at bottom rear alternator large vent tube) (IO-520/550)
- Zip ties around fuel lines or intake pipes
- Propeller clocked incorrectly (With #1 piston at TDC, "V" should be at bottom, #1 blade pointing up)
- Propeller Airworthiness Directive not complied with (Check applicability)
- Propeller seal leaking (Tell tale signs of oil mist on blades)
- Propeller spinner or bulkhead cracked
- One or more propeller blades need dressing

## LANDING GEAR (ON JACKS & FULLY EXTENDED)

- DYNAMIC BRAKE measurement (fraction of a turn) in full DOWN position
- 0-1/8 There should be 1/8 to 1/4 turn COUNTERCLOCKWISE remaining to the stop when you crank the emergency hand crank
- 1/8-1/4 down, except for certain serial numbers that should have 5/8 to 3/4 turn remaining (White gear box)
- 1/4-3/8 See ABS Landing Gear Inspection Checklist and Repair Guide for applicable serial numbers.
- 3/8-1/2 NOTE: Right inboard gear door is the last to close. If not flush, suspect dynamic brake.
- 1/2-5/8
- 5/8-3/4
- 3/4-7/8

- Gear safety (squat) switch (Single or dual switches) inop
- Landing gear horn inop (Landing gear warning horn should be set to come on about 15 " mp.)

**LANDING GEAR (ON JACKS & FULLY EXTENDED)**

- Lift leg down spring tension (lbs) **RANGE IS 45 - 65 LBS**
- 30-35
- 36-40
- 41-44
- 45-50
- 51-55
- 56-60
- 61-65
- 66 +
- Brake caliper leaking
- Strut leaking or low
- Brake lines need replacing due to age or condition (Recommended 10 year replacement)
- Tire excessively worn
- Bearing noise when tire is rotated by hand
- Uplock large spring corroded & needs replacing
- Uplock small spring stretched or missing
- Uplock cover worn & needs replacing
- Uplock cable starting to fray (Do not retract gear until replaced)
- Uplock cable Tygon tubing needs to be repositioned (3/8" of cable should be showing) (AD2007-08-08)
- Uplock roller needs lubrication (AD 07-08-08)
- Inner gear door not snug against wing

**RIGHT MAIN LANDING GEAR (ON JACKS & FULLY EXTENDED)**

- Lift leg down spring tension (lbs) **RANGE IS 45 - 65 LBS**
- 30-35
- 36-40
- 41-44
- 45-50
- 51-55
- 56-60
- 61-65
- 66 +
- Brake caliper leaking
- Strut leaking or low
- Brake lines need replacing due to age or condition (Recommended 10 year replacement)
- Tire excessively worn
- Bearing noise when tire is rotated by hand
- Uplock large spring corroded & needs replacing
- Uplock small spring stretched or missing
- Uplock cover worn & needs replacing
- Uplock cable starting to fray (Do not retract gear until replaced)
- Uplock cable Tygon tubing needs to be repositioned (3/8" of cable should be showing) (AD2007-08-08)
- Uplock roller needs lubrication (AD 07-08-08)
- Inner gear door not snug against wing

#### NOSE LANDING GEAR (ON JACKS FULLY EXTENDED)

- Lift leg down spring tension (lbs) **55 MINIMUM**
- 30-35
- 36-40
- 41-44
- 45-50
- 51-55
- 56-60
- 61-65
- 66-70
- 71-75
- 76 +
- Steering idler arm bushings worn or has excessive play
- Steering assembly yoke grease fitting incorrectly installed
- Steering assembly yoke bushing worn
- Steering left turning stop cone frozen (Should roll on convex head stop bolt)
- Steering centering bearing at rear of strut frozen
- Doors actuator cross tab pin on "A" brace lift leg bent or deformed
- Lift leg cross brace upstop rubber missing
- Strut has excessive vertical play (needs shims)
- Door hinges worn
- Shimmy damper needs servicing (2 1/16" - 3 3/16" between reservoir full to dry)
- Tire excessively worn
- Bearing noise when tire is rotated by hand

#### LEFT MAIN LANDING GEAR (PARTIALLY RETRACTED WITH HAND CRANK 15 TURNS)

- Retract rod slip joints do not easily compress (lack of lubrication)
- Retract rod will not rotate when twisted (Should rotate in both directions when twisted by hand)
- Downlock spring appears stacked (Excessive washers) (No more than 4)
- Inner gear door has excessive play (should be 1/8 - 1/4" maximum play) (3 attach points to check)
- Inner gear door bushings worn
- Retract rod bolt direction placard missing or unreadable (on bulkhead)
- Chamois covers on retract rod worn, torn or missing
- Fabric covers on inner gear door needs replacing or missing
- Retract brace grip upper (overcenter) bushing worn
- Main gear truss assembly pivot bolts/nuts loose (Bolts should not rotate)
- Flap actuator cable fabric cover worn or missing
- Inner gear door has corrosion
- Gear leg or door rub marks indicating contact

#### RIGHT MAIN LANDING GEAR (PARTIALLY RETRACTED WITH HAND CRANK 15 TURNS)

- Retract rod slip joints do not easily compress (lack of lubrication)
- Retract rod end will not move when twisted with fingers (Could be binding)
- Downlock spring appears stacked (Excessive washers) (No more than 4)
- Inner gear door has excessive play (should be 1/8 - 1/4" maximum play) (3 attach points to check)
- Inner gear door bushings worn
- Retract rod bolt direction placard missing or unreadable (on bulkhead)
- Chamois covers on retract rod worn, torn or missing
- Fabric covers on inner gear door needs replacing or missing
- Retract brace grip upper (overcenter) bushing worn

- Main gear truss assembly pivot bolts/nuts loose (Bolts should not rotate)
- Flap actuator cable fabric cover worn or missing
- Inner gear door has corrosion
- Gear leg or door rub marks indicating contact

#### NOSE LANDING GEAR (PARTIALLY RETRACTED WITH HAND CRANK 15 TURNS)

- Retract bracket mounting bolt(s) loose
- Lift leg attach bolt/Nose gear pivot (right side) loose
- Downlock spring binding & inner retract rod not telescoping (lack of lubrication)
- Worm gear in transmission has play (Main gear moves when nose gear is moved aft)

#### LEFT MAIN LANDING GEAR (ON JACKS FULLY RETRACTED)

##### DYNAMIC BRAKE measurement (fraction of a turn) in full UP position

- 0-1/8                    There should be 1/8 to 1/4 turn CLOCKWISE remaining to the stop when you crank the emergency hand crank down,
- 1/8-1/4                    except for certain serial numbers that should have 5/8 to 3/4 remaining. See ABS Landing Gear Inspection Checklist
- 1/4-3/8                    and Repair Guide for applicable serial numbers.
- 3/8-1/2
- 1/2-5/8
- 5/8-3/4
- 3/4-7/8

- Inner gear door sagging
- Inner gear door too tight
- Uplock clearance excessive (.010-.020 leaning more towards .020 clearance)
- Uplock clearance insufficient (.010-.020 leaning more towards .020 clearance)
- Retract brace knee joint to underwing clearance insufficient (1/16" minimum clearance)
- Uplock cable tension feels insufficient (Should be 52 +10-0 pounds)
- Up travel stop bolt head not making contact main gear housing
- Outer gear door binding or rubbing when folding up to meet inner gear door

#### RIGHT MAIN LANDING GEAR (ON JACKS FULLY RETRACTED)

- Inner gear door sagging
- Inner gear door too tight
- Uplock clearance excessive (.010-.020 leaning more towards .020 clearance)
- Uplock clearance insufficient ((.010-.020 leaning more towards .020 clearance)
- Retract brace knee joint to underwing clearance insufficient (1/16" minimum clearance)
- Uplock cable tension feels insufficient (Should be 52 pounds, +10-0)
- Up travel stop bolt head not making contact with gear housing
- Outer gear door binding or rubbing when folding up to meet inner gear door

#### NOSE LANDING GEAR (ON JACKS FULLY RETRACTED)

- Doors not retracted flush with fuselage
- Aft retract rod bolt loose at transmission
- Aft retract rod aft end rubbing on transmission arm
- Gearbox leaking

#### LIGHTING, PITOT HEAT & PROP HEAT

- One or more landing lights inop
- One or more position lights inop
- One or more strobe lights inop

- Beacon inop
- Pitot heat inop
- Stall warning inop

\*\*\*\*\*

ABS Air Safety Foundation recommends monthly lubrication with LPS 1,2 &3 or equivalent.

LPS 1 Flap limit switch rollers only

LPS 2 Anything else that rolls, turns, rotates, etc.

LPS 3 Wing bolts and entry step attach plate (yearly)

**USEFUL INFORMATION**

Aileron turnbuckle (AD 2019-23-10)

Uplock rollers (AD 07-08-08)

Forward spar carry thru (AD 95-04-03)

Oil filter Adapter (IO-470) (96-12-22)

Bendix ignition switch (AD 76-07-12)

Trim tab actuator color code (AD 91-17-01) & (Beech MSB 2399)

Magnetos on 500 hour cycle

Alternator on 500 hour cycle

Turbocharger exhaust V band clamp 500 hour replacement - Factory turbocharged (AD 2018-06-11)

Retract rod ends (3 for nose gear, 1 for each main) - Recommend replacement after 2000 hours in service

Fuel cap O-rings can be upgraded to the Fluorosilicone O-rings

Continental Service Bulletin 97-3E talks about setting up the fuel injection system

**FINAL NOTES:**

Lubricate, Lubricate, Lubricate !!!

Outer gear doors bolts reconnect sequence: Both bolt heads FACE the strut.

Forward connection is: Bolt thru bracket, two washers, link rod end, one washer, and the nut

Aft connection is: Bolt thru bracket, one washer, link rod end, one washer, and the nut

\_\_\_\_\_  
ABS Member Signature

\_\_\_\_\_  
Inspector - ABS/Air Safety Foundation

















