AkroTech Aviation, Inc.

Service Bulletin Summary

S.B. #	Model	Part	Date Released
1	G-200	Aileron Bellcranks	
2	G-202	Rear Spar Carrythrough Bulkhead	
3	G-202	Elevator Nose Rib	
4	G-200	Landing Gear Mounting Structure	
5A	G-202	Landing Gear Mounting Structure	
5B	G-202	Landing Gear Mounting Structure	
6	G-200	Rear Wing Spar Carrythrough	
7	G-202	Rear Wing Spar Carrythrough	
8A	G-200	Rear Wing Spar	
8B	G-200	Rear Wing Spar	
9	G-202	Rear Wing Spar	
10	G-200	Fuel Tank	
11	G-200	Rudder Pedal Carriage Plate	
12	G-202	Swing Tube Mount Phenolic	
14	G-202/G-200	Engine Mount Bolt	
15	G-202	Rudder Jig	
16	All	elevator pushrod rivets	
17	All	VERT. STAB SKIN CUTTING	
18			
19	All	SEALING/REINFORCING HOLES & CUTOUTS	11/4/00
20			

AkroTech Aviation, Inc.

Builder Alert Summary

Date	Model	Description
3/20/97	G-202	Rudder Closing Instructions Incorrect
3/25/97	All	Structural Test Warning

MEMORANDUM

TO: CHRIS BAILEY/ ERIC MOLSTEAD

FROM: SEAN DOYLE

SUBJECT: G-202 SERVICE NOTE

DATE: DECEMBER 10, 1997

CC:

Inspection of G-202 S/N 002 revealed an abnormal service condition. Reference drawing number 27-30-2-1-0102. Rivets (Item 18) holding the 1.5" push tube fitting (Item 2) to the aft elevator tube (Item 5) were found worn during inspection. Wear allowed the push tube fitting to move relative to the push tube. This installation had six (6) rivets each end instead of the four (4) called out. Recommend increasing number of rivets in installation to 6 and increasing rivet size to 5/32" (CR3243-5-3).

AkroTech Aviation, Inc.

AkroTech Service Bulletin #1

Models effected: G-200

Serial numbers: 001 - 020

Part numbers: ABP-2 (NEW) / ABP-1 (OLD)

Bulletin: Owners of G-200 kits originally supplied with left and right aileron bellcranks with a part number of ABP-1 have been issued left and right aileron bellcranks with a part number of ABP-2 as a replacement. The positions of these parts in the aircraft are indicated in enclosure 1. The actual sizes and dimensions of the new and old parts are indicated on enclosure 2. The material used in ABP-1 was stainless steel with an improper temper treatment. The material used in ABP-2 is 4130 chromoly steel. Please ensure that ABP-2 bellcranks are used in the construction of G-200 aircraft. Please return or discard all ABP-1 bellcranks.

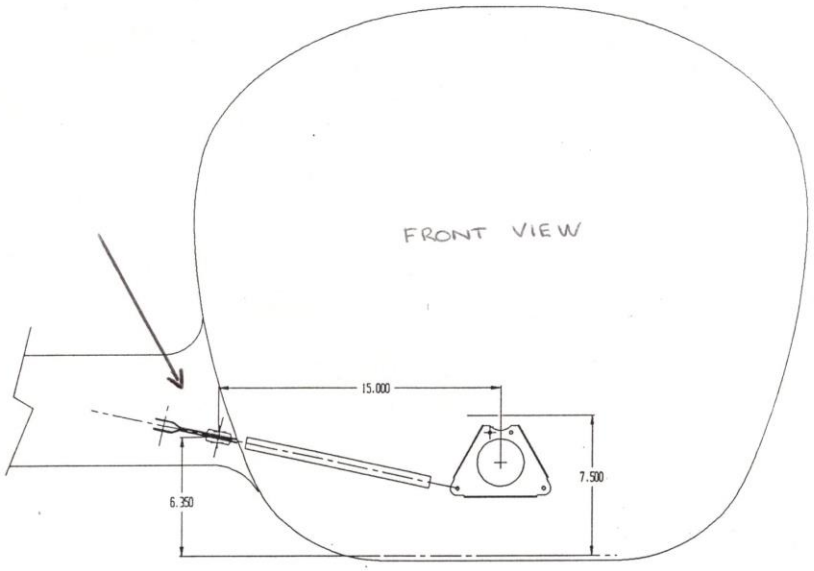
If you have any questions concerning this bulletin, do not hesitate to contact AkroTech Aviation at 503-543-7960.

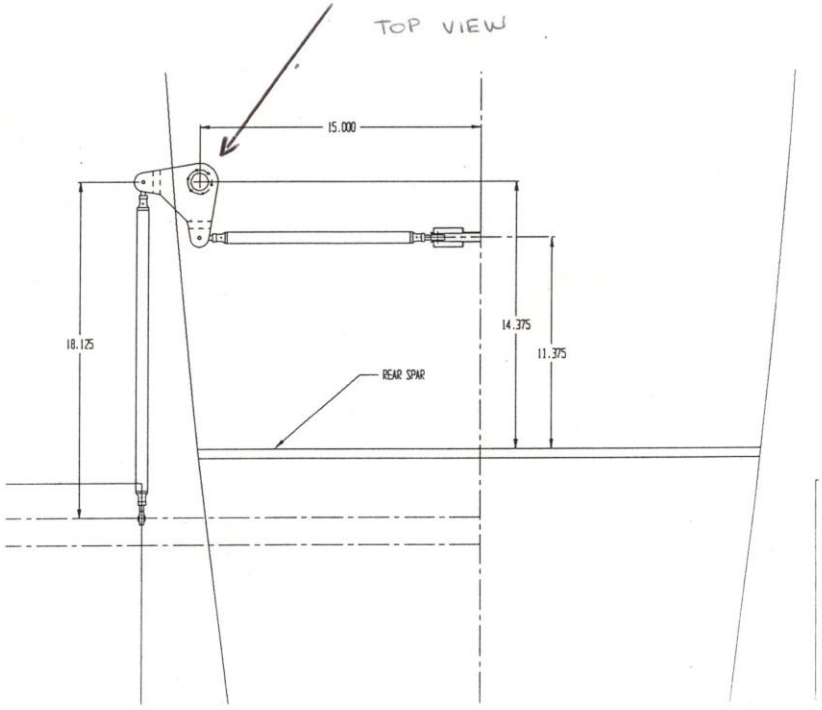
Thank you,

LA Fox

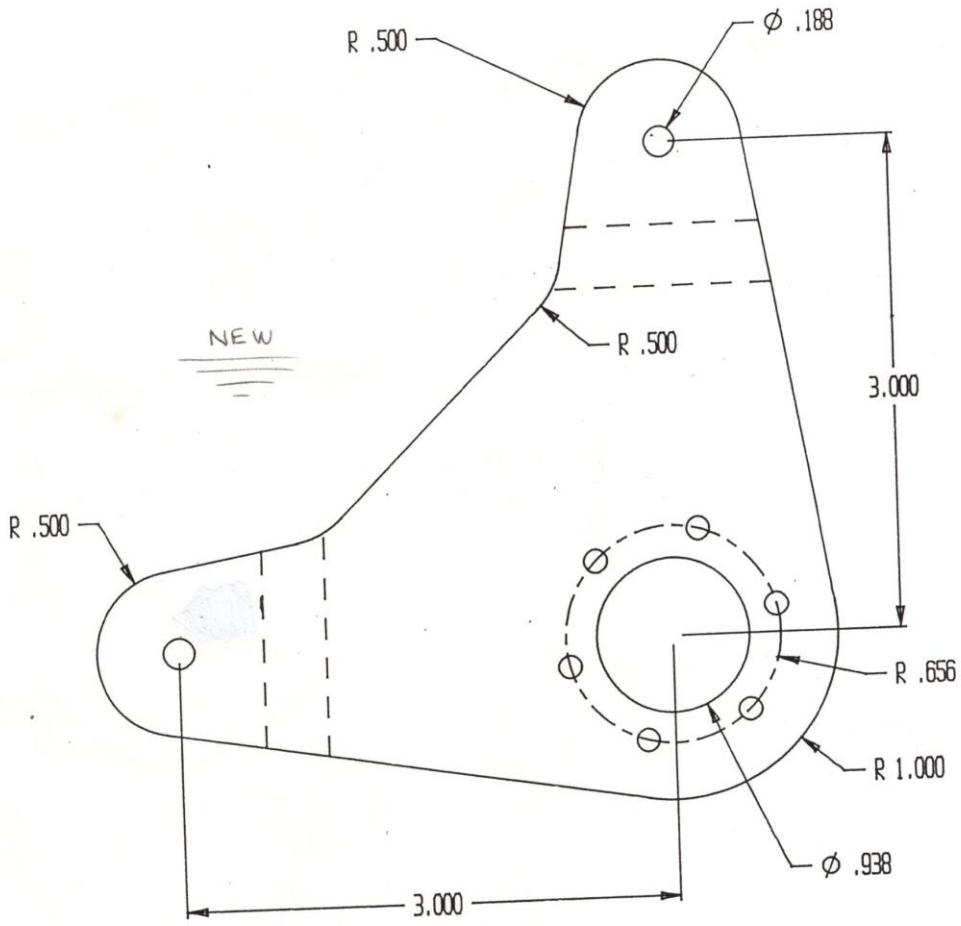
L.A.Fox
Vice President of Operations

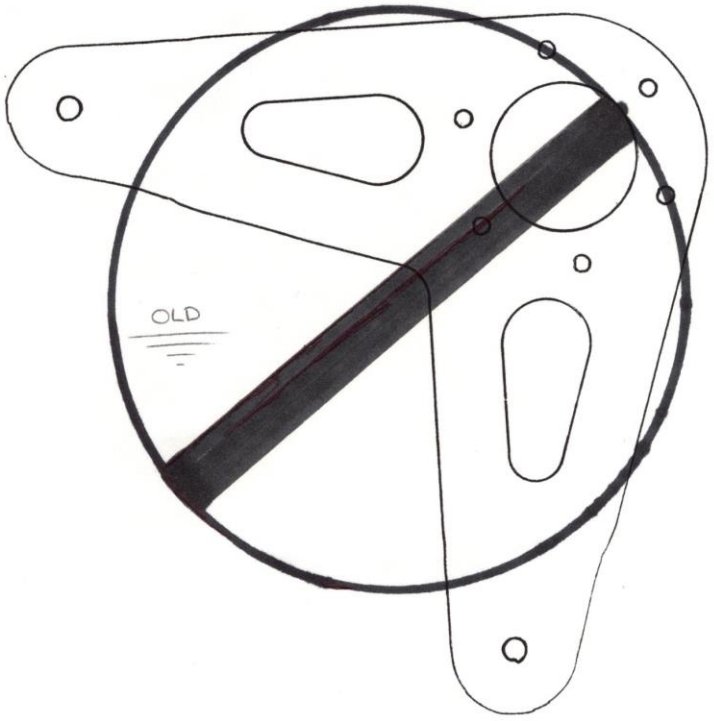
Phone (503) 543-7960 • FAX (503) 543-7964 • 53774 Airport Road • Scappoose, OR 97056


FRONT VIEW
15.000
7.500
6.350


TOP VIEW
15.000
18.125
14.375
11.375
REAR SPAR

ENCLOSURE 1





ENCLOSURE 2

AkroTech Aviation, Inc.

AkroTech Service Bulletin #2

Models effected: G-202

Serial numbers: 003 - 006

Part: Rear Spar Carry-Through Bulkhead

Bulletin: Owners of G-202 kits with serial numbers between 003 and 006 are asked to verify the dimension between the rear face of the spar box to the forward face of the rear spar carry through. The straight line distance between the box and bulkhead should be 26 7/8 inches with an allowable tolerance of plus or minus 1/8 inch. Both of these components are installed in the lower fuselage in the production of E-Z build kits. A review of jigging techniques used in assembly has revealed that installation may not be within tolerances.

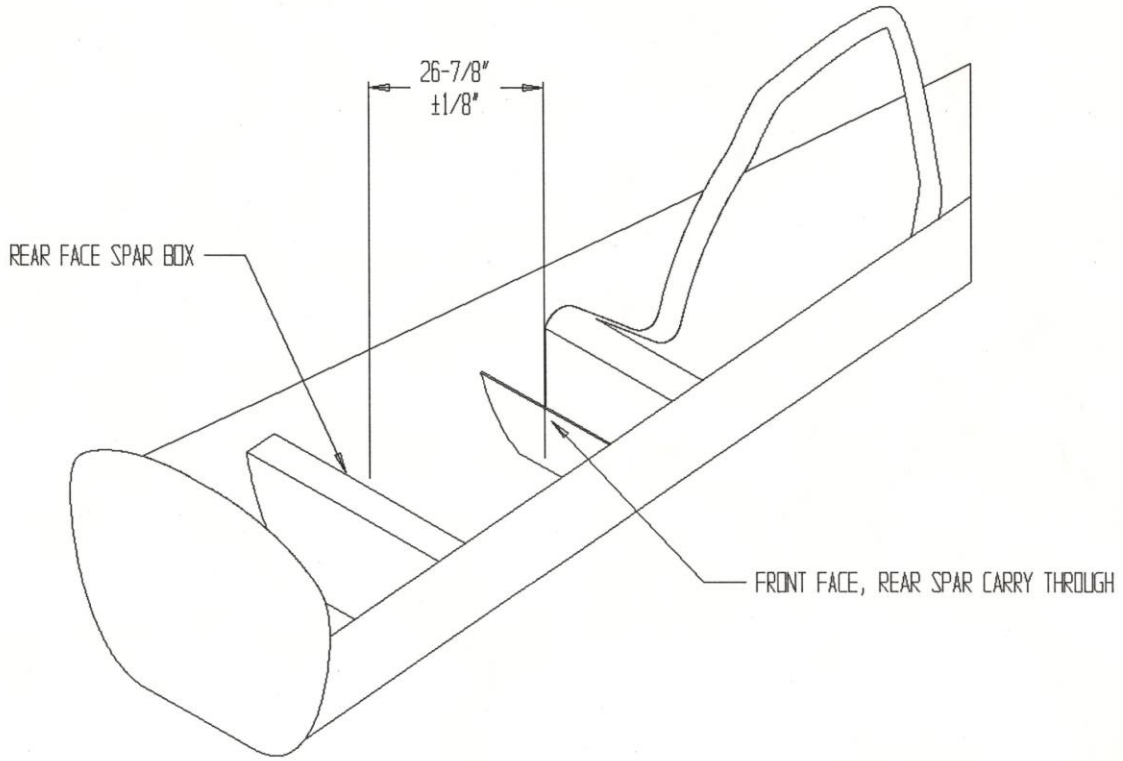
If installation is not within tolerances, please contact AkroTech Aviation. Removal and replacement of the rear spar carry through will be conducted by AkroTech at the owner's site for all cases involving misinstallation.

If you have any questions concerning this bulletin, do not hesitate to contact AkroTech Aviation at 503-543-7960.

Thank you,

L.A.Fox
Vice President of Operations

Phone (503) 543-7960 • FAX (503) 543-7964 • 53774 Airport Road • Scappoose, OR 97056



SERVICE BULLETIN NO.	TASK NO.	STEP NO.	AkroTech
SB002			
MODEL	SECTION		PAGE
G - 202	SERVICE BULLETIN		

AkroTech Aviation, Inc.

AkroTech Service Bulletin #3

Models effected: G-202

Serial numbers: 002 - 007

Part: Elevator Nose Rib

Bulletin: Owners of G-202 kits with serial numbers between 002 and 007 are in receipt of elevators assembled using nose ribs with a radius oversized by 1/8 inch. This can cause difficulty in joining the top elevator skin to the bottom skin at the leading edge. The oversized ribs should be removed and replaced with nose ribs of the proper radius.

AkroTech Aviation will remove the oversized nose ribs and install the proper radius nose ribs at our facility in Scappoose, Oregon. Owners are asked to ship the elevator skin that has the spar and ribs attached to AkroTech. Arrangements for covering the cost of shipping can be made by contacting Alisha Hamel at AkroTech.

For ease of shipping, owners are asked to cut the elevator at the midpoint. The attached drawings depict the rudder as received by the owner, the diagram for cutting the elevator, the severed elevator to be returned to AkroTech and the shape the elevator will take before final assembly by the builder.

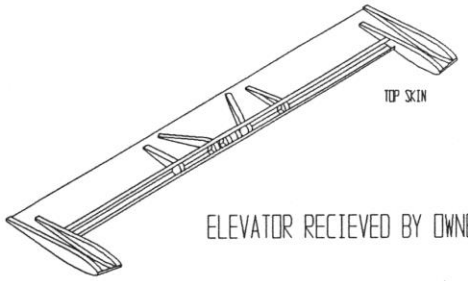
If you have any questions concerning this bulletin, do not hesitate to contact AkroTech Aviation at 503-543-7960.

Thank you,

LaFox

L.A.Fox
Vice President of Operations

Phone (503) 543-7960 • FAX (503) 543-7964 • 53774 Airport Road • Scappoose, OR 97056



ELEVATOR RECIEVED BY OWNER

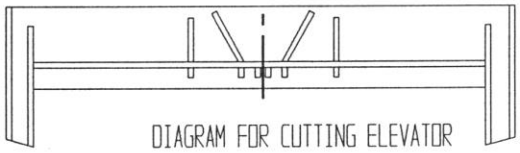
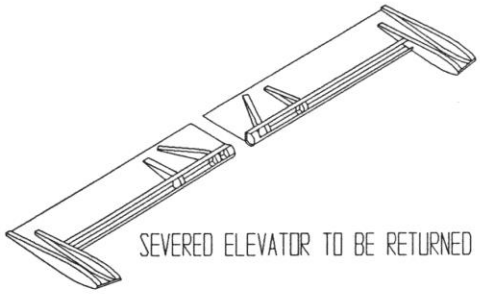
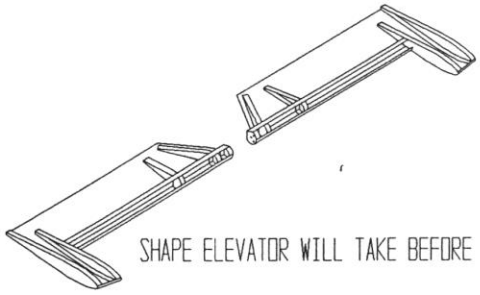


DIAGRAM FOR CUTTING ELEVATOR



SEVERED ELEVATOR TO BE RETURNED TO AKROTECH



SHAPE ELEVATOR WILL TAKE BEFORE FINAL ASSEMBLY BY THE BUILDER

ELEVATOR NOSE RIBS

SERVICE BULLETIN NO. SB003	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLETIN		PAGE

AkroTech Aviation, Inc.

Service Bulletin #4

Models Affected: G-200

Part: Main Landing Gear Mounting Structure

Serial Numbers: 002 - 028

All parts required for this service bulletin will be provided by AkroTech Aviation, Inc. as follows:

2 ea.	AN5C27A Bolt
4 ea	AN4C13A Bolt
2 ea.	AN5C25A Bolt
4 ea	AN 970-4 Washer
4 ea	AN 960-4 Washer
4 ea	AN365-428A Nut
2 ea.	32-10-1-3-0096 Rubber Pad
3 yds.	7725 Bidirectional Fiberglass
2 ea	53-10-1-2-0115 Landing Gear Brace
2 ea	53-10-1-2-0134 Phenolic Reinforcement
2 ea.	32-10-1-3-0102 Landing Gear Reinforcement

Bulletin

G-200 aircraft with the serial numbers listed above need to have the main landing gear mounting structure modified as specified in this service bulletin.

Procedure

Revision to Task F-34 Step C of the G-200 Builders Manual Version 1.6 and earlier.

> Place the landing gear attach blocks over the gear and adjust the gear fore or aft until the attach blocks are as far aft as possible in the gear step.

If Task F-34 has already been completed no change in position of the landing gear or attach blocks will be required.

With the landing gear installed, locate the two landing gear braces (P/N 53-10-1-2-0115) ¼" inboard of the landing gear backing plates (P/N 32-10-1-1-0101). Mark these locations. Locate the phenolic blocks (P/N 53-10-1-2-0134) on the firewall directly ahead of the backing plates. Position the landing gear reinforcement angles (P/N 32-10-1-3-0102) as shown. Determine the location of the hole through the bottom of the gear reinforcement angle. The hole must be sufficiently far from the corner of the reinforcement angle to allow the head of the bolt to rest entirely on the flat surface of the angle as on Section A-A. If necessary, reduce the thickness of the phenolic reinforcement by sanding to a minimum of 3/16" for bolt head clearance.

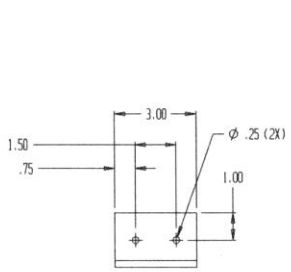
Hold the phenolic reinforcement and gear reinforcement angle firmly in place. Using the attach block, existing hole, and backing plate for alignment, drill a 5/16" hole up through the gear reinforcement angle. Mark the location of the phenolic reinforcements on the firewall. Remove the bulkheads, backing plates, gear reinforcements, and phenolic reinforcements.

Prepare the fuselage, firewall, landing gear braces, and phenolic reinforcements for bonding by sanding thoroughly with 80 grit sandpaper then cleaning thoroughly with acetone. Bond the braces and phenolic reinforcements in place using Hysol. Allow the Hysol to cure.

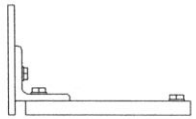
Add a four layer wet layup fiberglass flange at the indicated areas. This flange should extend 1.5" onto the braces and 1.5" onto the fuselage and should completely cover the landing gear backing plate area. Allow to cure completely.

Drill the upper mounting holes in the landing gear reinforcement angles as shown. Reinstall the landing gear, gear attach blocks, backing plates, and gear reinforcement angles, including the 32-10-1-1-096 rubber pads. Drill two ¼" holes through the firewall at each gear reinforcement angle using the previously drilled holes as drill guides. Install the bolts through the firewall as shown.

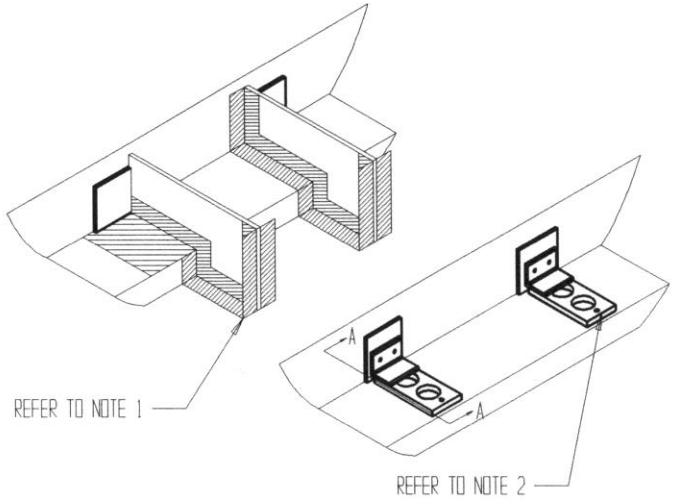
Any questions regarding this service bulletin should be directed to Eric Molstead at AkroTech Aviation, Inc at (503) 543 7960.

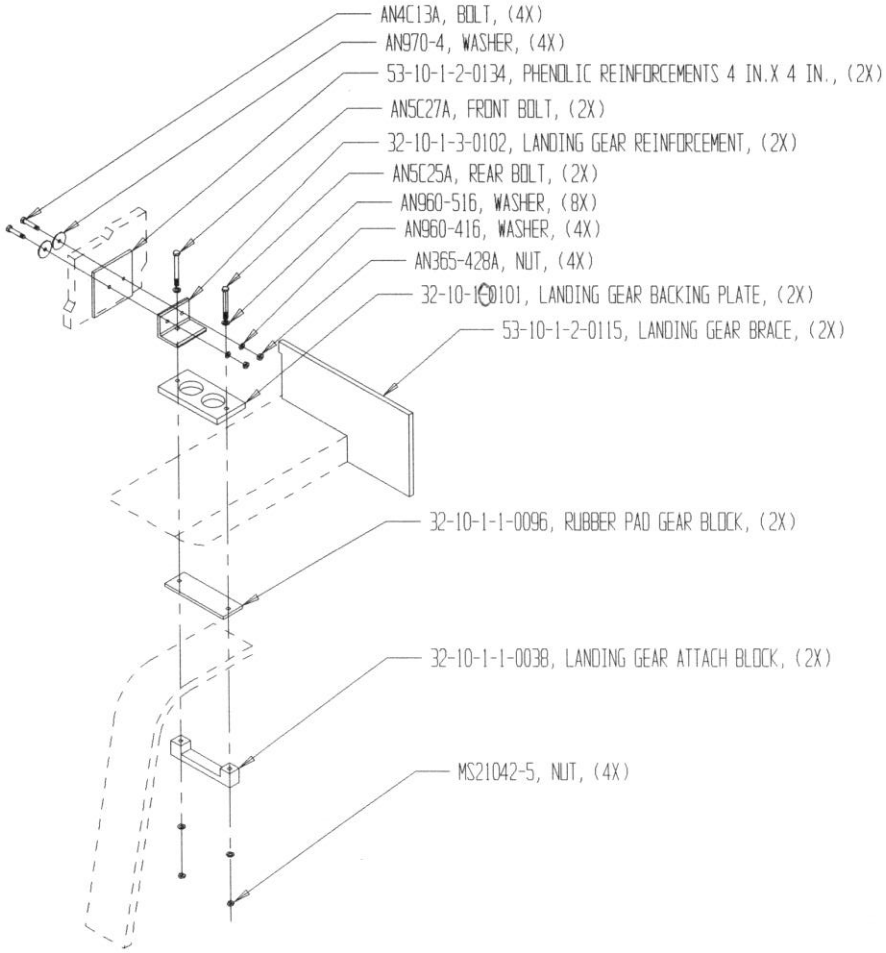


32-10-1-3-0102



SECTION A-A





NOTES:
1 - 4 PLY FIBERGLASS (7725) WET LAY-UP ±45° EXTENDING 1 1/2" ONTO BOTH LANDING GEAR BRACE AND AIRCRAFT STRUCTURE (FIREWALL, LANDING GEAR STEP AND SPAR BOX). BOTH SIDES
2 - LANDING GEAR BRACE OMITTED FOR CLARITY

MAIN LANDING GEAR MOUNTING STRUCTURE

DRAWING NO. SB004	TASK NO.	STEP NO.	AkroTech
MODEL G - 200	SECTION SERVICE BULLETIN #4		PAGE 3/3

AkroTech Aviation, Inc.
Service Bulletin #5A

Models Affected: G-202

Part: Main Landing Gear Mounting Structure

Serial Numbers: 001 - 024

All parts required for this service bulletin will be provided by AkroTech Aviation, Inc. as follows:

4 ea.	AN5C30A Bolt
2 ea.	32-10-1-1-0119 Rubber Pad
3 yds.	7725 Bidirectional Fiberglass

Bulletin

G-202 aircraft with the serial numbers listed above need to have the main landing gear mounting structure modified as specified in this service bulletin.

Procedure

Revision to TASK F-21 Step E, Install the Landing Gear Step Reinforcements, of the G-202 Builders Manual, Version 1.6 and earlier.

The correct layup schedule for the fiberglass pads is 20 plies of fiberglass with ±45° fiber orientation. Additionally, the layup template was not included in the manual. Correct size for this layup is specified in the attached drawing.

If TASK F-21 has not been accomplished replace Steps D and E with the following:

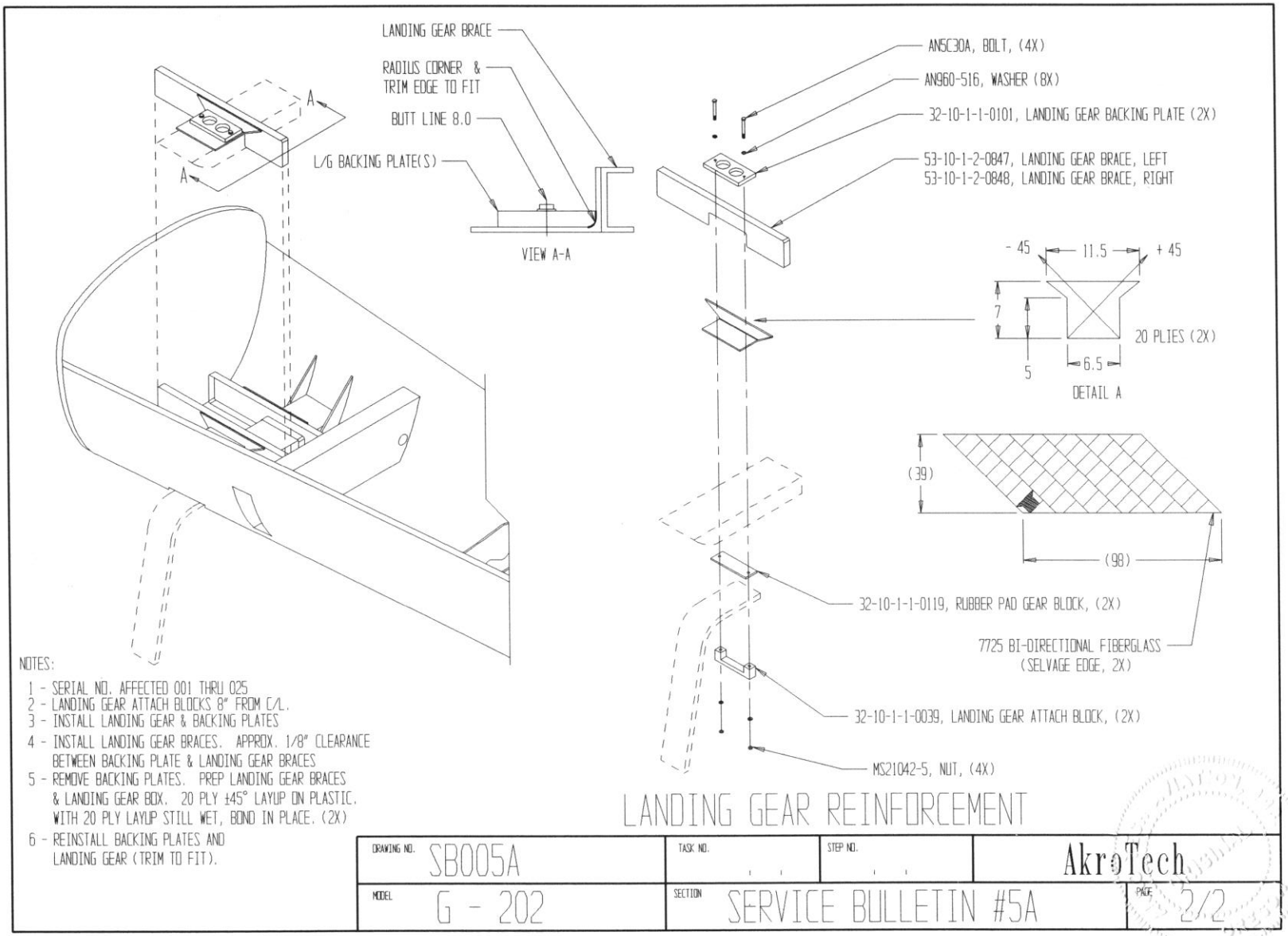
Step D Prepare bond areas by sanding thoroughly with 80 grit sandpaper then cleaning with acetone.

Step E Layup 2 fiberglass reinforcements as shown in Detail *A* on plastic. Paint the prepared areas with resin. Place each reinforcement on its designated area, remove the plastic and carefully work out all air from under the layup. Allow to cure completely.

If the landing gear braces, P/N 53-10-1-2-0847/0848, and fiberglass pad have been installed as per Task F-21 an additional 10 layers will need to be added at this time. Remove the main landing gear if installed. Prepare the indicated areas for bonding by sanding thoroughly with 80 grit sandpaper then cleaning with acetone. Layup 2 fiberglass reinforcements 10 plies thick, with the same dimensions as shown in Detail *A* on plastic. Paint the prepared area with resin. Place each reinforcement on its designated area, remove the plastic and carefully work out all air from under the layup. Allow to cure completely.

Trim the landing gear backing plates as shown, minimum as required. Two rubber pads, P/N 32-10-1-1-0119, will be installed between the landing gear and gear step as shown on the attached drawing. Longer landing gear mounting bolts have been provided to accommodate the thickness of these pads. Reinstall the main landing gear.

Any questions regarding this service bulletin should be directed to Eric Molstead at AkroTech Aviation, Inc at (503) 543 7960.

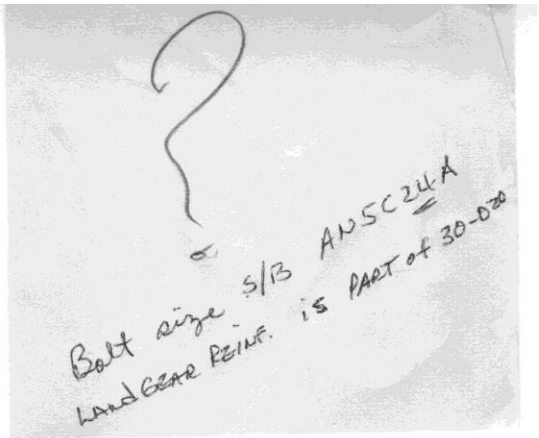


NOTES:

1 - SERIAL NO. AFFECTED 001 THRU 025
2 - LANDING GEAR ATTACH BLOCKS 8" FROM C/L.
3 - INSTALL LANDING GEAR & BACKING PLATES
4 - INSTALL LANDING GEAR BRACES. APPROX. 1/8" CLEARANCE BETWEEN BACKING PLATE & LANDING GEAR BRACES
5 - REMOVE BACKING PLATES. PREP LANDING GEAR BRACES & LANDING GEAR BOX. 20 PLY ±45° LAYUP ON PLASTIC. WITH 20 PLY LAYUP STILL WET, BOND IN PLACE. (2X)
6 - REINSTALL BACKING PLATES AND LANDING GEAR (TRIM TO FIT).

LANDING GEAR REINFORCEMENT

DRAWING NO. SB005A	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLETIN #5A		PAGE 2/2



AkroTech Aviation, Inc.
Service Bulletin #5B

Models Affected: G-202

Part: Main Landing Gear Mounting Structure

Serial Numbers: 025 - and higher

All parts required for this service bulletin are provided by AkroTech Aviation, Inc. as follows:

4 ea.	AN5C30A Bolt
2 ea.	32-10-1-1-0119 Rubber Gear Block
2 ea	32-10-1-3-0101 Landing Gear Reinforcement
8 ea	AN4C11A Bolt
16 ea	AN960-416 Washer
8 ea	AN365-428A Nut

Bulletin

G-202 aircraft with the serial numbers listed above need to have the main landing gear mounting structure modified as specified in this service bulletin.

Procedure

Revision to TASK F-21 Install the Landing Gear Step Reinforcements and TASK F-37 Install the Main Landing Gear, of the G-202 Builders Manual.

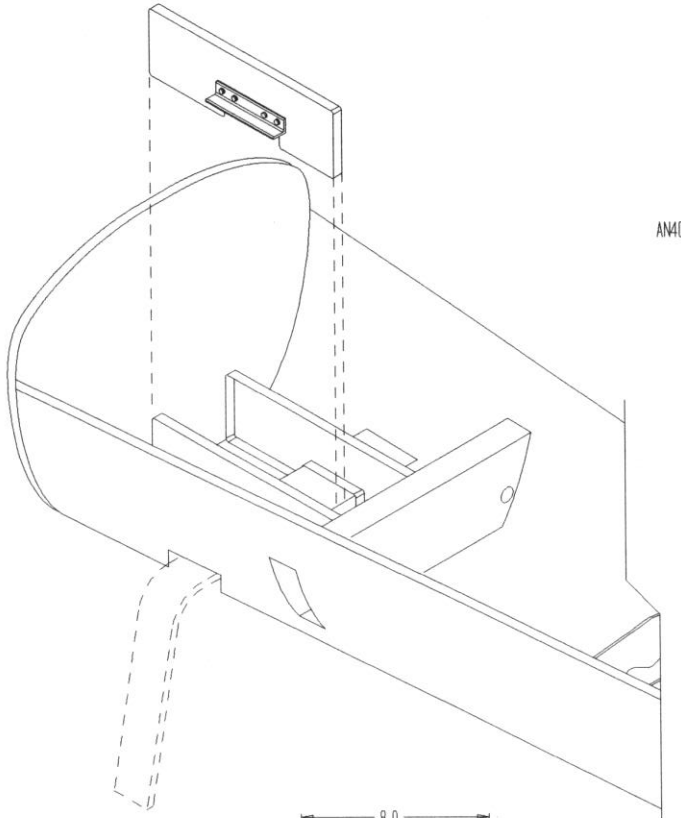
Complete TASK F-37 with the following changes before completing TASK F-21.

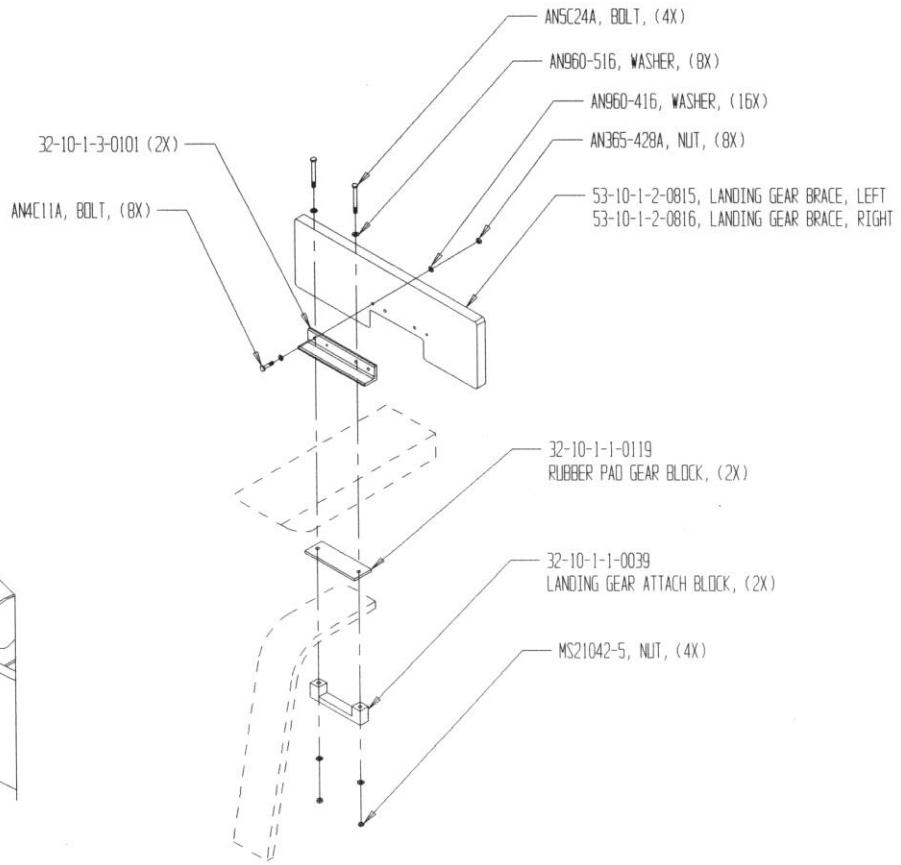
TASK F-37; Step E; Install the Bolts and Backing Plates

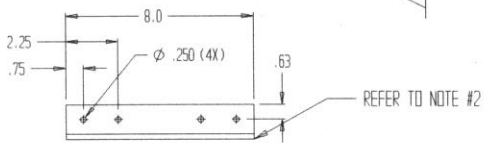
Fabricate two P/N 32-10-1-3-0101 as shown in Note #2. Use the landing gear attach blocks, P/N 32-10-1-1-0039, as a drill guide to drill the two landing gear mounting bolt holes through each landing gear reinforcement. Install the landing gear attach blocks, landing gear, rubber pads, and landing gear reinforcements as shown. Omit Step F. Complete Step G.

Complete TASK F-21 through Step C using the installed reinforcements to locate the landing gear braces. Do not bond these braces to the reinforcemts. After the bulkhead is bonded in place match drill the four holes through the bulkheads and install the specified hardware

Any questions regarding this bulletin should be directed to Eric Molstead at AkroTech Aviation, Inc. at 503- 543 7960.







32-10-1-3-0101
LANDING GEAR REINFORCEMENT

NOTES:

1 - SERIAL NO. 025 THRU XXX
2 - 1-1/2 X 1-1/2 X 1/4 6061T6, USE L/G ATTACH BLOCKS AS GUIDE FOR DRILLING 5/16 DIA. HOLES APPROX. 8" FROM C/L

LANDING GEAR REINFORCEMENT

DRAWING NO. SB005B	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLETIN #5B		PAGE 2/2

AkroTech Aviation, Inc.

Service Bulletin #6

Models Affected: G-200

Part: Rear Wing Spar Carrythrough

Serial Numbers: 002, 004-028

All parts required for this service bulletin are provided by AkroTech Aviation, Inc. as follows:

1 ea.	53-20-1-2-0830 Rear Spar Bracket, Right Front
1 ea.	53-20-1-2-0831 Rear Spar Bracket, Left Front
1 ea.	53-20-1-2-0832 Rear Spar Bracket, Right Rear
1 ea.	53-20-1-2-0833 Rear Spar Bracket, Left Rear

Bulletin

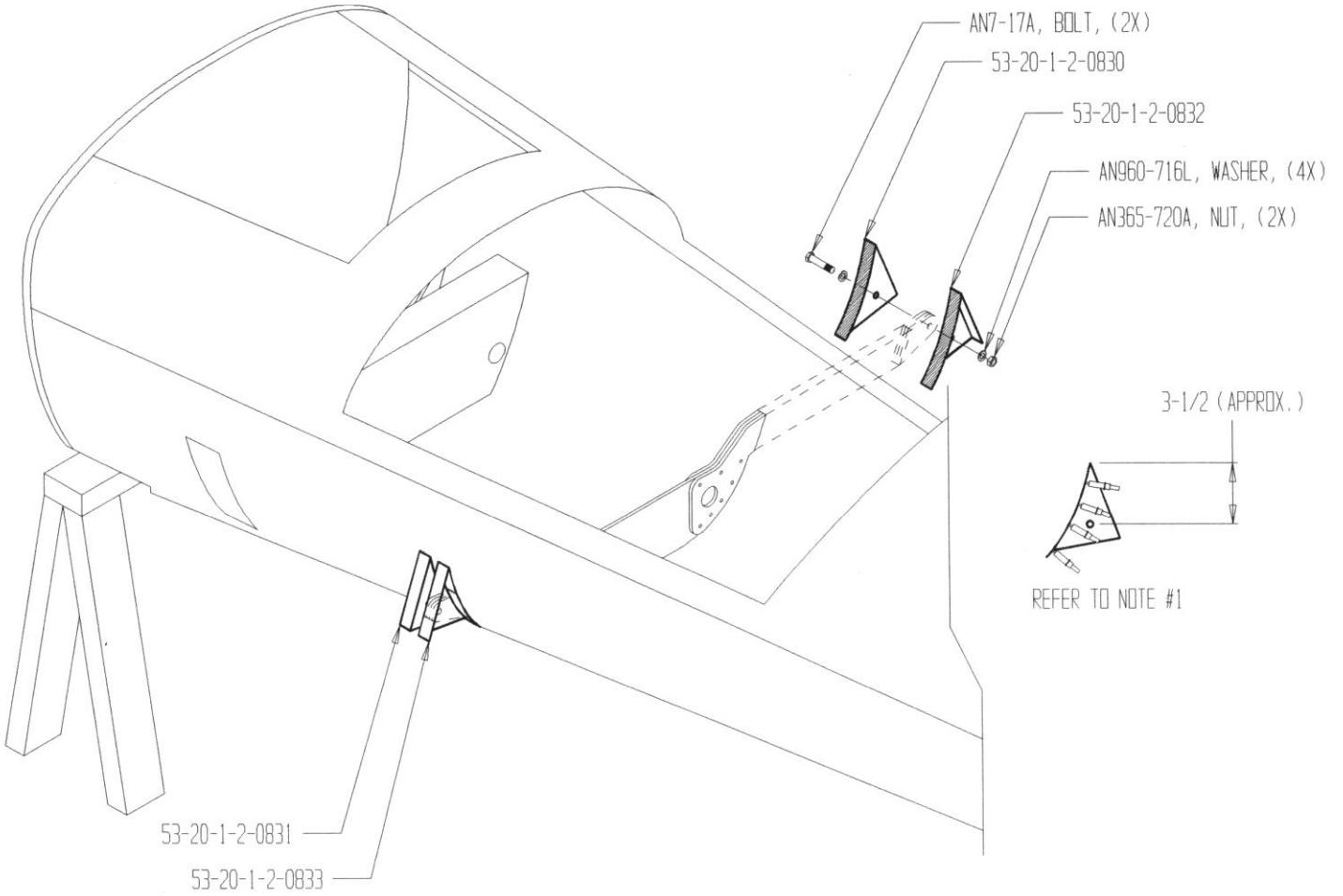
G-200 aircraft with the serial numbers listed above need to have the rear wing spar carrythrough structure modified as specified in this service bulletin. Compliance with this service bulletin should be accomplished before further flight.

Procedure

The aircraft will need to have the rear spar attach plates already attached, as per assembly manual task F-17. Remove the wings from the aircraft, if installed. Test fit the brackets as shown in the attached drawing. Each of the four brackets is different - make sure they are fit in the correct position. Mark each bracket's location on the fuselage. While holding the brackets in position drill several cleco holes through the fuselage and brackets. Cleco in place. Use a transfer punch to locate the center of the rear spar bolt hole in each bracket, one at a time. Remove the bracket and drill a 1/8" pilot hole at this position. Use a step drill or drill bits in 1/8" increments to carefully size the hole up to 7/16". Repeat for each of the four brackets.

Prepare the areas marked on the fuselage and four brackets for bonding by sanding thoroughly with 80 grit sandpaper then cleaning with acetone. Bond the brackets to the fuselage using Hysol. Hold in position during cure by inserting the rear spar attach bolt through the brackets and the rear spar plates. Finger tighten a nut onto the bolt to clamp the brackets against the backing plates. DO NOT BOND THE BRACKETS TO THE ALUMINUM REAR SPAR PLATES ONLY TO THE FUSELAGE! Allow to cure then remove clecoes and bolt.

Any questions regarding this bulletin should be directed to Eric Molstead at AkroTech Aviation, Inc. at 503- 543 7960.



NOTES:

1 - PREP SURFACES, APPLY HYSOL, ALIGN W/REAR SPAR BOLTS, HOLD IN POSITION W/CLECO'S

REAR SPAR CARRY-THROUGH BRACKETS

DRAWING NO. SB006	TASK NO.	STEP NO.	AkroTech
MODEL G - 200	SECTION SERVICE BULLETIN #6		PAGE 2/2

AkroTech Aviation, Inc.

Service Bulletin #7

Models Affected: G-202

Part: Rear Wing Spar Carrythrough

Serial Numbers: 001-035

All parts required for this service bulletin are provided by AkroTech Aviation, Inc. as follows:

1 ea.	53-20-1-2-0830 Rear Spar Bracket, Right Front
1 ea.	53-20-1-2-0831 Rear Spar Bracket, Left Front
1 ea.	53-20-1-2-0832 Rear Spar Bracket, Right Rear
1 ea.	53-20-1-2-0833 Rear Spar Bracket, Left Rear

Bulletin

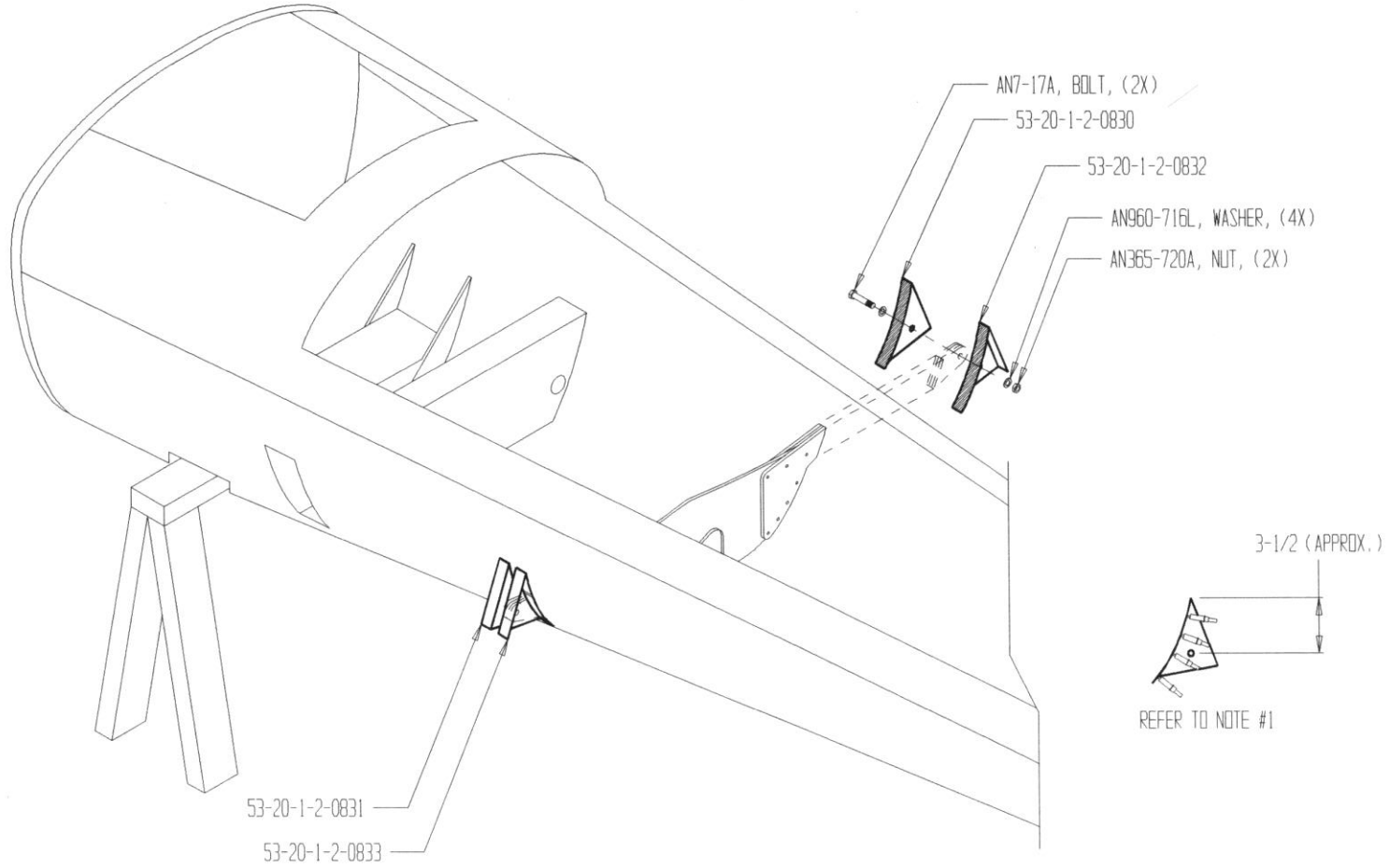
G-202 aircraft with the serial numbers listed above need to have the rear wing spar carrythrough structure modified as specified in this service bulletin. Compliance with this service bulletin should be accomplished before further flight.

Procedure

The aircraft will need to have the rear spar attach plates already attached, as per assembly manual task F-19. Remove the wings from the aircraft, if installed. Test fit the brackets as shown in the attached drawing. Each of the brackets is different - make sure they are fit in the correct position. Mark each bracket's location on the fuselage. While holding the brackets in position drill several cleco holes through the fuselage and brackets. Cleco in place. Use a transfer punch to locate the center of the rear spar bolt hole in each bracket, one at a time. Remove the bracket and drill a 1/8" pilot hole at this position. Use a step drill or drill bits in 1/8" increments to carefully size the hole up to 7/16". Repeat for each of the four brackets.

Prepare the areas marked on the fuselage and four brackets for bonding by sanding thoroughly with 80 grit sandpaper then cleaning with acetone. Bond the brackets to the fuselage using Hysol. Hold in position during cure by inserting the rear spar attach bolt through the brackets and the rear spar plates. Finger tighten a nut onto the bolt to clamp the brackets against the backing plates. DO NOT BOND THE BRACKETS TO THE ALUMINUM REAR SPAR PLATES ONLY TO THE FUSELAGE! Allow to cure then remove clecoes and bolt.

Any questions regarding this bulletin should be directed to Eric Molstead at AkroTech Aviation, Inc. at 503- 543 7960.



NOTES:

1 - PREP SURFACES, APPLY HYSOL, ALIGN W/REAR SPAR BOLTS, HOLD IN POSITION W/CLECO'S

REAR SPAR CARRY-THROUGH BRACKETS

DRAWING NO. SB007	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLETIN #7		PAGE 2/2

AkroTech Aviation, Inc.
Service Bulletin #8A

Models Affected: G-200

Part: Rear Wing Spar

Serial Numbers: 002 - 012

All parts required for this service bulletin are provided by AkroTech Aviation, Inc. as follows:

1.5 yards	7725 bi-directional fiberglass
	2024 T3 .020" shim stock

Bulletin

G-200 aircraft with the serial numbers listed above need to have the rear wing spars reinforced as specified in this service bulletin. Compliance with this service bulletin should be accomplished before further flight. Compliance with this service bulletin can be accomplished before or after the wings have been closed.

Procedure

Remove aileron hinges from the wings. Prepare the rear spars for bonding at the areas indicated in the attached drawing by cleaning with acetone, sanding thoroughly with 80 grit sandpaper, and recleaning with acetone. Carefully fill the aileron hinge mounting holes with a bright color of modeling clay.

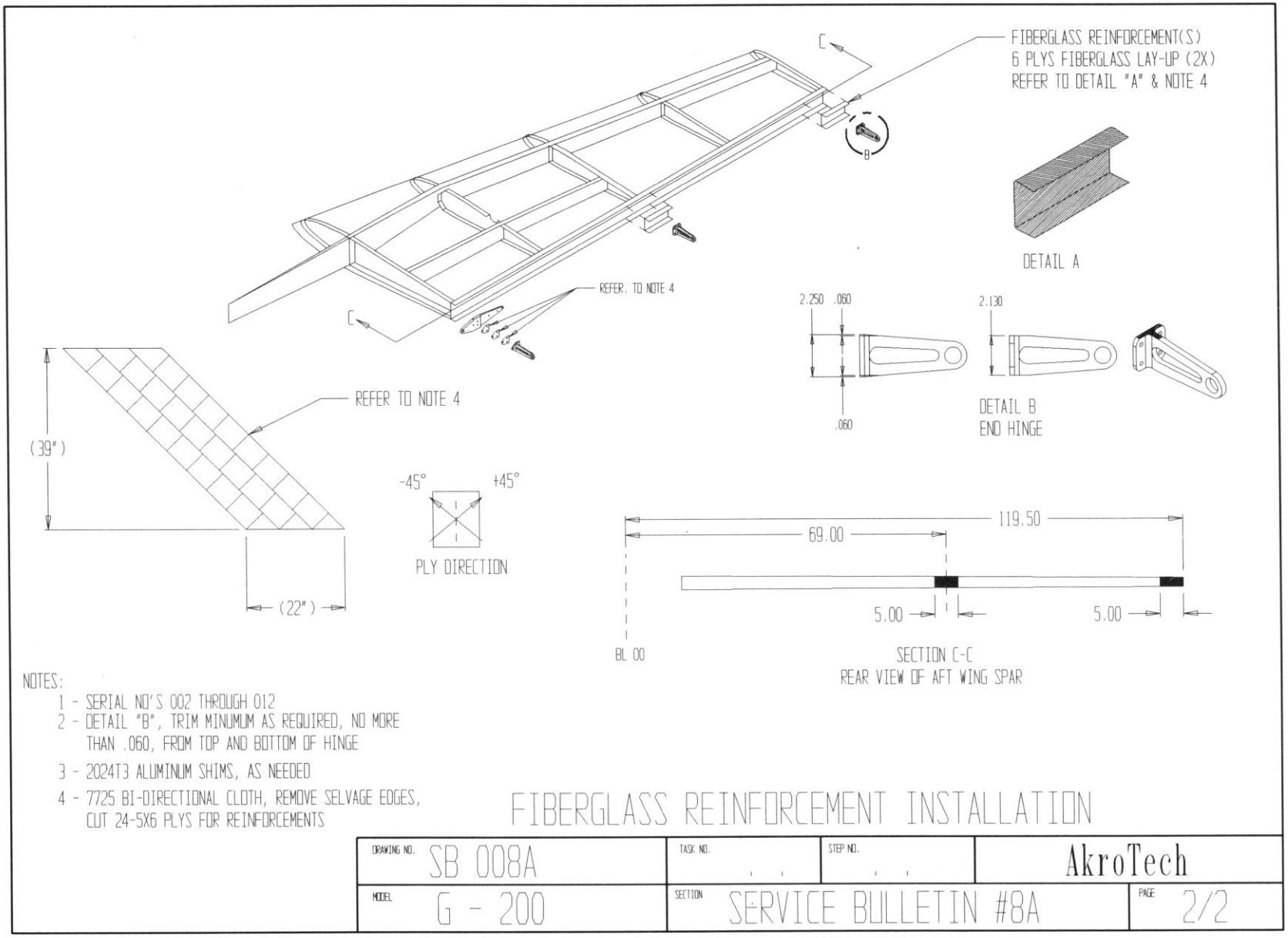
Layup six plies of fiberglass with a ±45 degree fiber orientation on plastic. This layup should be large enough to make four reinforcements, totaling approximately 15" x 15". Cut out the four reinforcements, approximately 5" x 6"each, from this piece. Paint the prepared areas on the rear spar with laminating resin.

Place a reinforcement on the rear spar in its designated area, carefully working out all air from under the layup and maintaining the fiber orientation at ±45 degrees to the spar. Use a fine point pick to push the fibers aside around each aileron hinge mounting hole. Again remove any air from under the layup. Clear tape several paint sticks and use spring clamps to hold the layups against the top and bottom rear spar flanges. This will help hold the lay-ups tight against the rear spar face. Repeat the process for each of the indicated areas. Inspect the reinforcements to assure that they are wrinkle free and there is no air under the layup.

After the layups have cured, trim them flush with the trailing edge of the wing. Clear any remaining fibers from the aileron hinge mounting holes using a 1/4 inch drill bit. *Use caution that the drill bit does not go so far into the hole as to damage the nutplate!!*

Measure the thickness of the reinforcements at the trailing edge of the wing. Fabricate shims to go under the inboard hinge equal to the reinforcement thickness. Measure the distance between the rear spar flanges at the outboard hinge location. Use a belt sander to trim the outboard hinge as necessary as per the attached drawing. Reinstall the aileron hinges and recheck alignment as per assembly manual task W-12.

Any questions regarding this bulletin should be directed to Eric Molstead at AkroTech Aviation, Inc. at (503) 543 7960.



NOTES:

1 - SERIAL NO'S 002 THROUGH 012
2 - DETAIL "B", TRIM MINUMUM AS REQUIRED, NO MORE THAN .060, FROM TOP AND BOTTOM OF HINGE
3 - 2024T3 ALUMINUM SHIMS, AS NEEDED
4 - 7725 BI-DIRECTIONAL CLOTH, REMOVE SELVAGE EDGES, CUT 24-5X6 PLYS FOR REINFORCEMENTS

FIBERGLASS REINFORCEMENT INSTALLATION

DRAWING NO. SB 008A	TASK NO.	STEP NO.	AkroTech
MODEL G - 200	SECTION SERVICE BULLETIN #8A		PAGE 2/2

AkroTech Aviation, Inc.
Service Bulletin #8B

Models Affected: G-200

Part: Rear Wing Spar

Serial Numbers: 014 - 028

All parts required for this service bulletin are provided by AkroTech Aviation, Inc. as follows:

2 yards	7725 bi-directional fiberglass

Bulletin

G-200 aircraft with the serial numbers listed above need to have the rear wing spars modified as specified in this service bulletin. Compliance with this service bulletin should be accomplished before further flight. . Compliance with this service bulletin can be accomplished before or after the wings have been closed.

Procedure

Remove aileron hinges from the wings. Prepare the rear spars for bonding at the areas indicated in the attached drawing by cleaning with acetone, sanding thoroughly with 80 grit sandpaper, and recleaning with acetone. Carefully fill the aileron hinge mounting holes with a bright color of modeling clay.

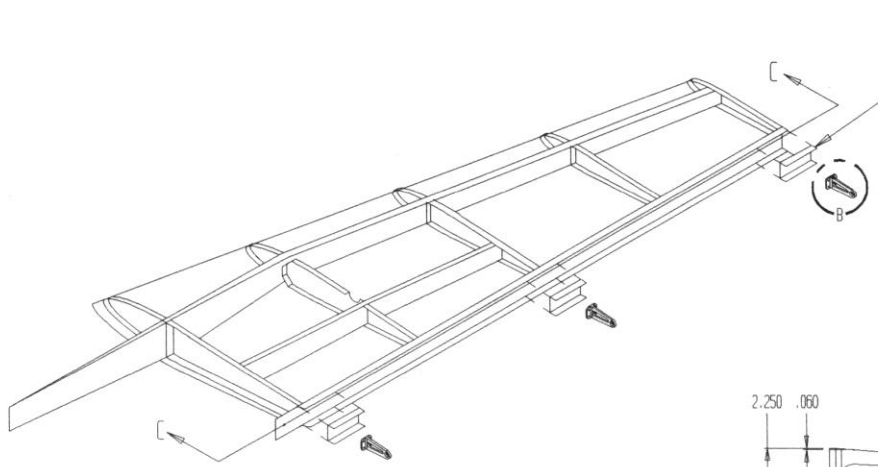
Layup six plies of fiberglass with a ±45 degree fiber orientation on plastic. This layup should be large enough to make six reinforcements, totaling approximately 24" x 24". Cut out the six reinforcements, approximately 5" x 6"each, from this piece. Paint the prepared areas on the rear spar with laminating resin.

Place a reinforcement on the rear spar at its designated areas, carefully working out all air from under the layup and maintaining the fiber orientation at ±45 degrees to the spar. Use a fine point pick to push the fibers aside around each aileron hinge mounting hole. Again remove any air from under the layup. Clear tape several paint sticks and use spring clamps to hold the layups against the top and bottom rear spar flanges. This will help hold the lay-ups tight against the rear spar face. Repeat the process for each of the indicated areas. Inspect the reinforcements to assure that they are wrinkle free and there is no air under the layup.

After the layups have cured, trim them flush with the trailing edge of the wing. Clear any remaining fibers from the aileron hinge mounting holes using a 1/4 inch drill bit. *Use caution that the drill bit does not go so far into the hole as to damage the nutplate!!*

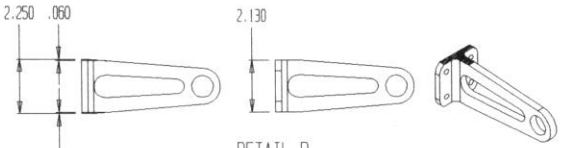
Measure the distance between the rear spar flanges at the outboard hinge location. Use a belt sander to trim the outboard hinge as necessary as per the attached drawing. Reinstall the aileron hinges and recheck alignment as per assembly manual task W-12.

Any questions regarding this bulletin should be directed to Eric Molstead at AkroTech Aviation at (503) 543 7960.

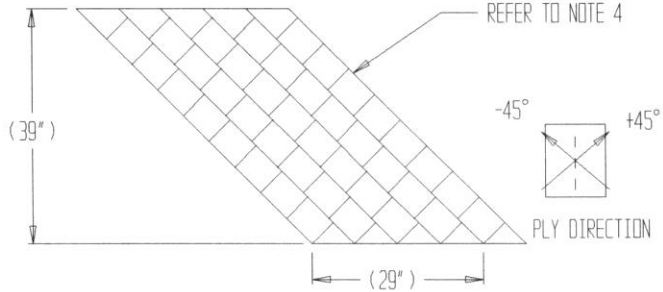


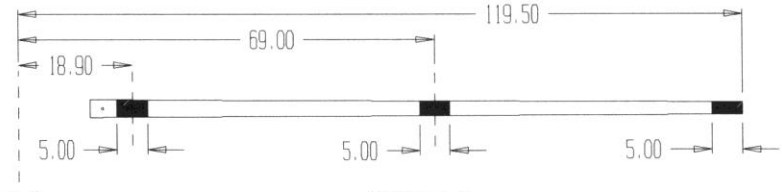
FIBERGLASS REINFORCEMENT(S)
6 PLYS FIBERGLASS LAY-UP (3X)
REFER TO DETAIL "A" & NOTE 4

DETAIL A



DETAIL B
END HINGE





SECTION C-C
REAR VIEW OF AFT WING SPAR

NOTES:

1 - SERIAL NO'S 002 THROUGH 012
2 - DETAIL "B", TRIM MINUMUM AS REQUIRED, NO MORE THAN .060, FROM TOP AND BOTTOM OF HINGE
3 - 2024T3 ALUMINUM SHIMS, AS NEEDED
4 - 7725 BI-DIRECTIONAL CLOTH, REMOVE SELVAGE EDGES, CUT 36-5X6 PLYS FOR REINFORCEMENTS

FIBERGLASS REINFORCEMENT INSTALLATION

DRAWING NO. SB 008B	TASK NO.	STEP NO.	AkroTech
MODEL G - 200	SECTION SERVICE BULLETIN #8B		PAGE 2/2

AkroTech Aviation, Inc.
Service Bulletin #9

Models Affected: G-202

Part: Rear Wing Spar

Serial Numbers: 001 - 024

Bulletin

G-202 aircraft with the serial numbers listed above need to have the rear wing spars reinforced as specified in this service bulletin. Compliance with this service bulletin should be accomplished before further flight.

Procedure

WINGS OPEN.

All parts required for this service bulletin are provided by AkroTech Aviation, Inc. as follows:

2ea.	20-236 Middle Hinge Reinforcement
2ea.	20-237 Tip Hinge Reinforcement
1ea.	20-234 Left Center Hinge Brace Rib
1 ea.	20-235 Right Center Hinge Brace Rib

Remove the aileron hinges from the wings. Remove the aileron hinge backing plates by carefully heating the adhesive with a heat gun, then prying loose with a putty knife. If the backing plate does not come off easily, continue heating until the putty knife slides easily between the backing plate and rear wing spar.

Mark the location of the reinforcing rib and spar reinforcements on the inside of the wing as shown in the attached drawing. Trim the outboard end of the middle hinge reinforcement at approximately a 45 degree angle so the brace rib will fit properly. This rib is positioned from the rear fuel tank closeout to just outboard of the center hinge. Prepare all of the marked areas for bonding by sanding with 80 grit sandpaper then cleaning with acetone. Bond the inboard and outboard hinge reinforcements and the brace rib in place using Hysol. After cure re-drill the aileron hinge mounting holes and mount the backing plates as per assembly manual task W-13.

Continue with wing assembly tasks as specified in the assembly manual.

WINGS CLOSED.

All parts required for this service bulletin are provided by AkroTech Aviation, Inc. as follows:

Wings Closed:

3 yards	7725 bi-directional fiberglass
4ea	20-238 Wing Skin Reinforcement
2ea	10-100 Center Aileron Hinge
2ea	10-101 Outboard Aileron Hinge

Remove aileron hinges from the wings. Prepare the rear spars for bonding at the areas indicated in the attached drawing by cleaning with acetone, sanding thoroughly with 80 grit sandpaper, and recleaning with acetone. Carefully fill the aileron hinge mounting holes with a bright color of modeling clay.

Layup 8 plies of fiberglass with a ±45 degree fiber orientation on plastic. This layup should be large enough to make 6 reinforcements, totaling approximately 24" x 24". Cut out the six reinforcements, approximately 5" x 6"each, from this piece. Paint the prepared areas on the rear spar with laminating resin.

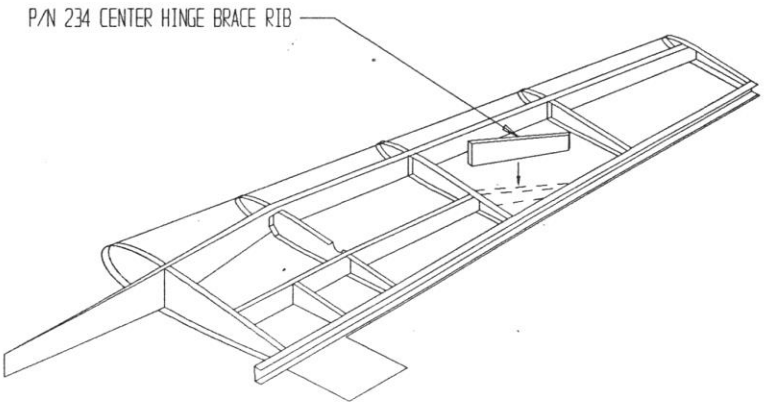
Place a reinforcement on the rear spar at its designated areas, carefully working out all air from under the layup and maintaining the fiber orientation at ±45 degrees to the spar. Use a fine point pick to push the fibers aside around each aileron hinge mounting hole. Again remove any air from under the layup. Clear tape several paint sticks and use spring clamps to hold the layups against the top and bottom rear spar flanges. This will help hold the lay-ups tight against the rear spar face. Repeat the process for each of the indicated areas. Inspect the reinforcements to assure that they are wrinkle-free and there is no air under the layup.

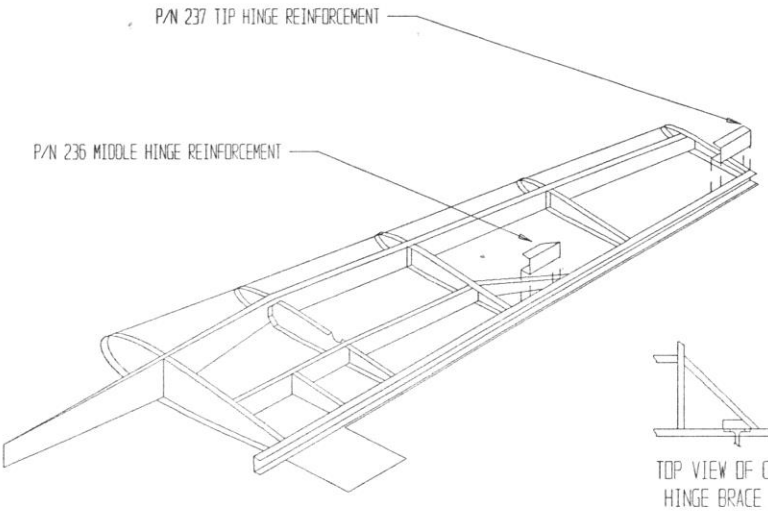
After the layups have cured, trim them flush with the trailing edge of the wing. Clear any remaining fibers from the aileron hinge mounting holes using a 1/4 inch drill bit. *Use caution that the drill bit does not go so far into the hole as to damage the nutplate!!*

Replace center and outboard hinges P/N's 10-001, 10-002 with new hinges P/N's 10-100, 10-101 respectively. Reinstall the aileron hinges and recheck alignment as per assembly manual task W-12.

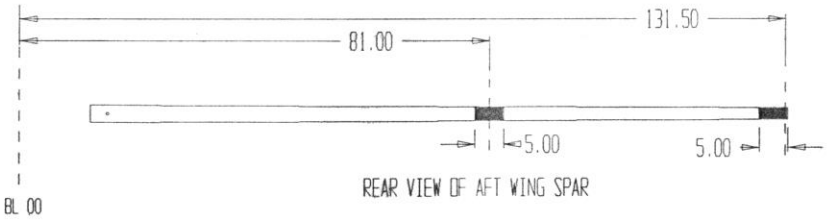
Mark the upper and lower wing skin surfaces at the center hinge location for skin reinforcements. Prepare the marked areas for bonding by sanding with 80 grit sandpaper and cleaning with acetone. Prepare skin reinforcements P/N 20-238 in a similar manner. Bond upper and lower skin reinforcements in place with Hysol.

Any questions regarding this bulletin should be directed to Eric Molstead at AkroTech Aviation at (503) 543 7960.





TOP VIEW OF CENTER HINGE BRACE RIB



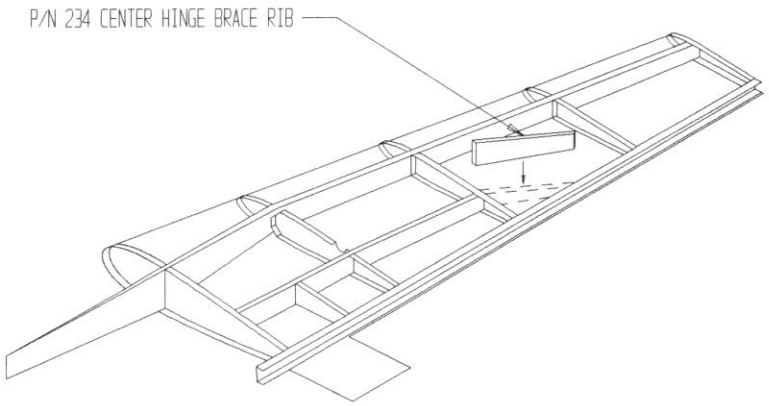
REAR VIEW OF AFT WING SPAR

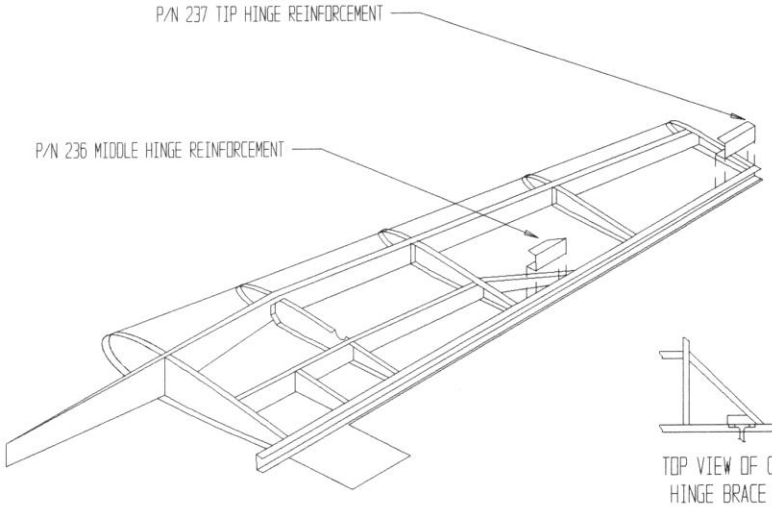
NOTES:

1 - SERIAL NO'S 001 THROUGH 024 WING OPEN

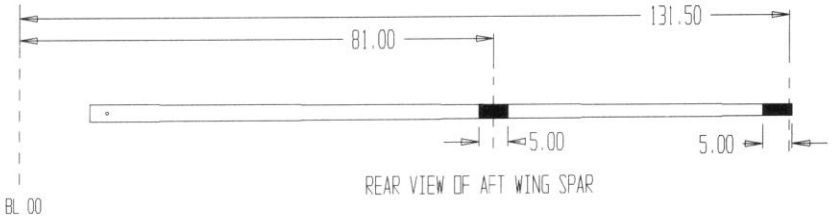
FIBERGLASS REINFORCEMENT INSTALLATION WINGS OPEN

DRAWING NO. SB009	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLETIN #9		PAGE 3/4





TOP VIEW OF CENTER
HINGE BRACE RIB



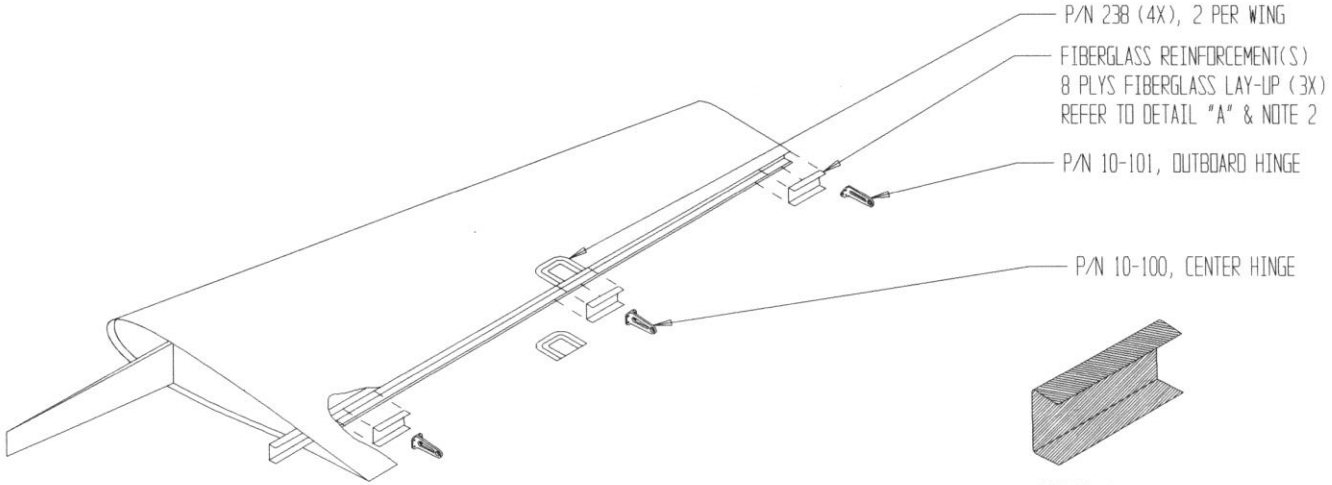
REAR VIEW OF AFT WING SPAR

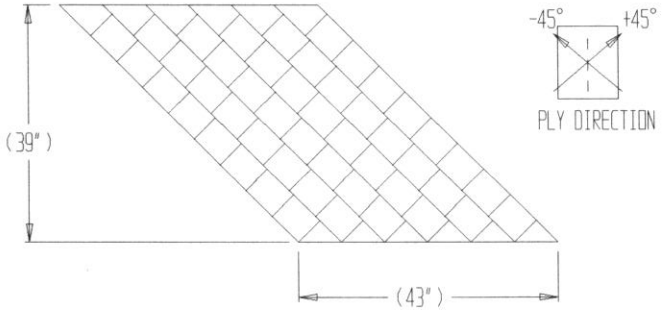
NOTES:

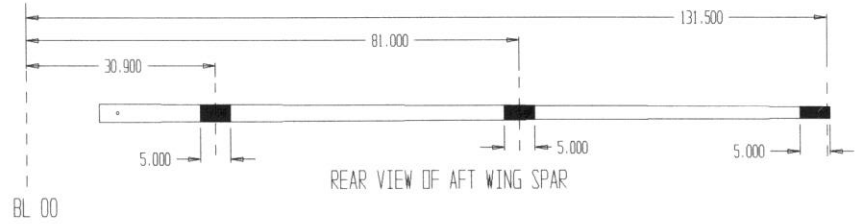
1 - SERIAL NO'S 001 THROUGH 024 WING OPEN

FIBERGLASS REINFORCEMENT INSTALLATION WINGS OPEN

DRAWING NO. SB009	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLETIN #9		PAGE 3/4







NOTES:
1 - SERIAL NO'S 001 THROUGH 024 WING CLOSED
2 - 7725 BI-DIRECTIONAL CLOTH,
REMOVE SELVAGE EDGE,
CUT 48-5X6 PLYS FOR REINFORCEMENTS

FIBERGLASS REINFORCEMENT INSTALLATION WINGS CLOSED

DRAWING NO. SB009	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLITEN #9		PAGE 4/4

AkroTech Aviation, Inc.
Service Bulletin #14

Models Affected: G-200, G-202

Part: Engine Mount Attach Bolts

Serial Numbers: 002 - 028 {G-200}; 001 - 030 {G-202}

All parts required for this service bulletin are provided by AkroTech Aviation, Inc. as follows:
4 ea. NAS1006-15A Bolts

Bulletin

G-200 and G-202 aircraft with the serial numbers listed above need to have engine mount attach bolts replaced as specified in this service bulletin. Compliance with this service bulletin should be accomplished before further flight.

Procedure

Remove existing AN 6C-15A engine mount attach bolts. Replace with supplied NAS1006 bolts. Reuse existing AN960-616 washers and AN 365-624 nuts if serviceable.

Any questions regarding this bulletin should be directed to Eric Molstead at AkroTech Aviation, Inc. at 503- 543 7960.

NOT ISSUED

CONTINUE USING
AN6C15A BOLTS

AkroTech Aviation Inc.
Service Bulletin 15

Models Affected: G-202

Part: Rudder

Serial Numbers: 001 - 035

All parts required for this service bulletin will be provided by AkroTech Aviation, Inc. as follows:

1 ea	55-40-5-1-05011	Rudder Jig Templates

Bulletin

G-202 aircraft with the serial numbers listed above need to have the builders manual revised with new rudder closure instructions.

Procedure

Revision to Task F-11 of the G-202 Builders Manual Version 1.6 and earlier.

Perform these steps between Task F-10 and Task F-11

Step A *Cut Out Rudder Jig Formers*

Glue the rudder jig templates to 3/4" particle board. Cut out templates staying on the waste side of the line. Trim to final shape using a belt sander.

Step B *Bed the Formers*

Locate the lower rudder rib, top surface. This is waterline 0. Apply clear tape on the outer surface of the rudder at waterline 0 and waterline 32. Apply a narrow bead of bondo on the clear tape and hold each former in place until the bondo cures. The bondo buildup shouldn't exceed ¼" in any location.

Step B *Position the Jig Formers*

Temporarily set up the formers parallel to each other 32 inches apart as shown in the top view of the rudder jig. Note: neither piece of 1" square tubing will not be perpendicular to the formers. Place the rudder in the formers to set the geometry of the jig.

Step D *Level the Formers*

Using the level reference waterlines on each former, level the formers fore and aft, then level the formers with each other. Double check that the formers are level fore and aft and level with each other. Screw the angle brackets into the formers. Check one more time that the formers are level.

Step E *Cut and Fit the Spar and Trailing Edge Supports*

Cut two 1 inch square tubes to support the spar and trailing edge of the rudder during closing. The support tubes should be long enough to support the entire length of the rudder. Shim the tubes to be level with the support surface of the formers and bondo in place.

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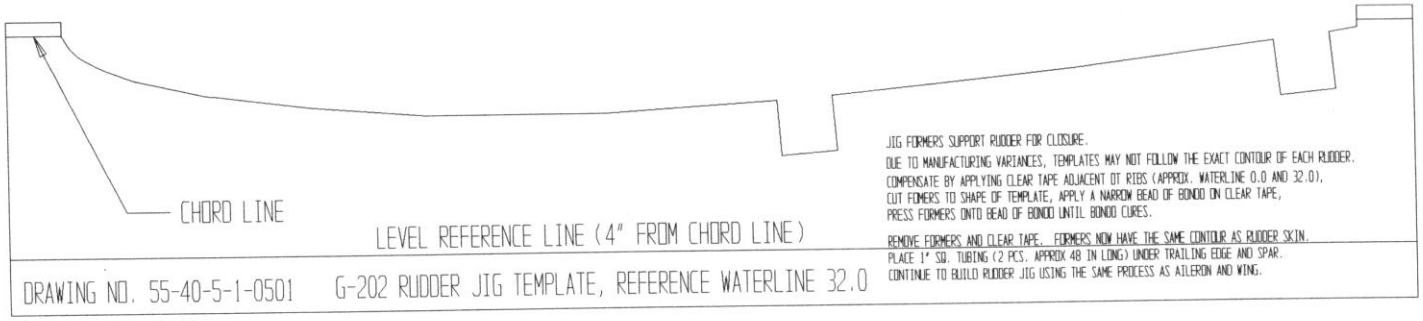
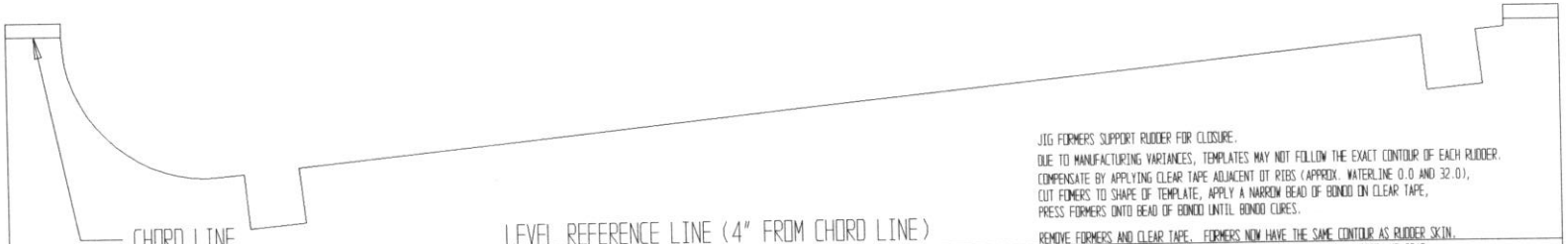


JIG FORMERS SUPPORT RUDDER FOR CLOSURE.
DUE TO MANUFACTURING VARIANCES, TEMPLATES MAY NOT FOLLOW THE EXACT CONTOUR OF EACH RUDDER.
COMPENSATE BY APPLYING CLEAR TAPE ADJACENT OT RIBS (APPROX. WATERLINE 0.0 AND 32.0),
CUT FOMERS TO SHAPE OF TEMPLATE, APPLY A NARROW BEAD OF BONDO ON CLEAR TAPE,
PRESS FORMERS ONTO BEAD OF BONDO UNTIL BONDO CURES.

REMOVE FORMERS AND CLEAR TAPE. FORMERS NOW HAVE THE SAME CONTOUR AS RUDDER SKIN.
PLACE 1" SQ. TUBING (2 PCS. APPROX 48 IN LONG) UNDER TRAILING EDGE AND SPAR.
CONTINUE TO BUILD RUDDER JIG USING THE SAME PROCESS AS AILERON AND WING.

DRAWING NO. 55-40-5-1-0501 G-202 RUDDER JIG TEMPLATE, REFERENCE WATERLINE 32.0



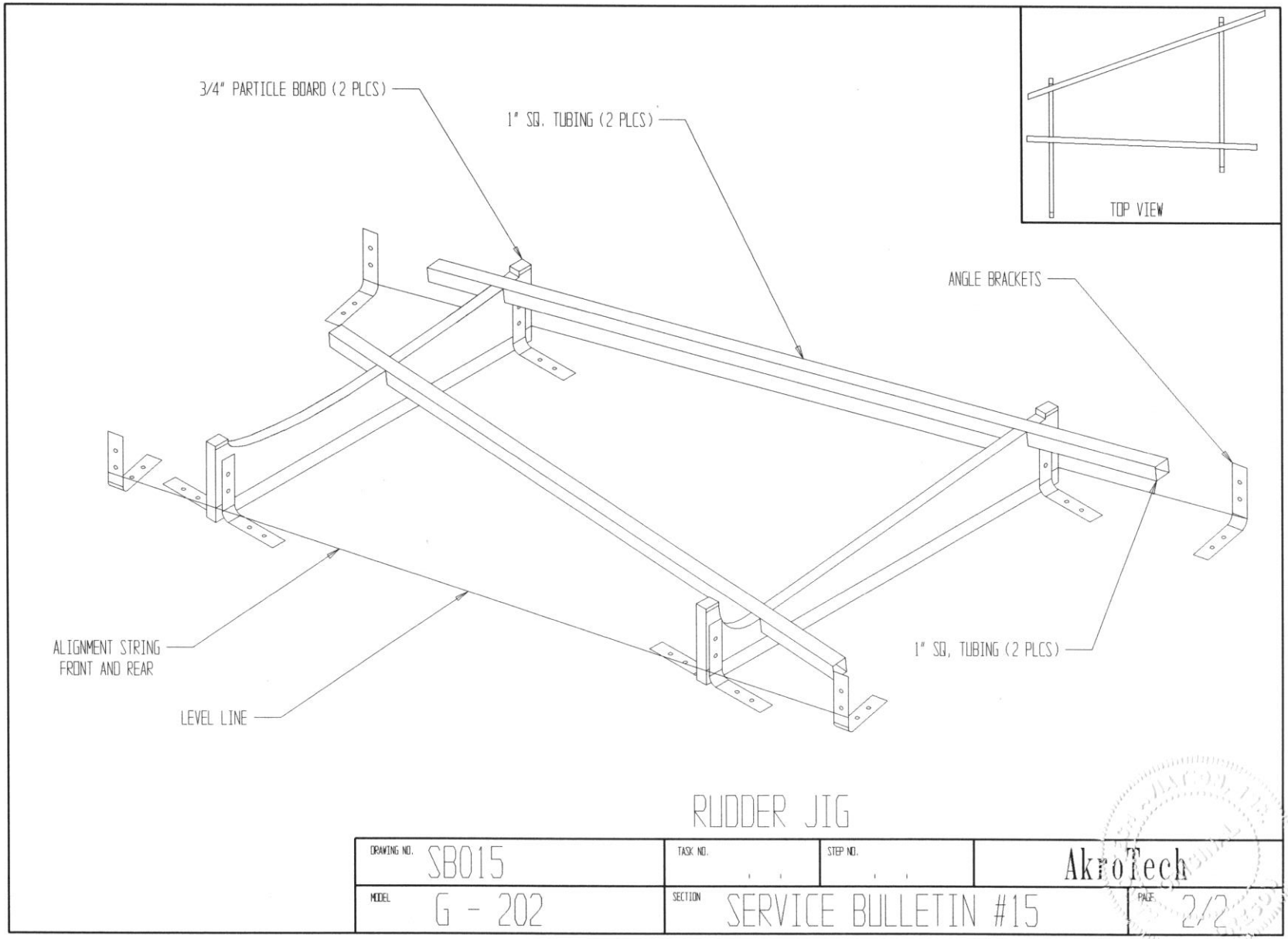
JIG FORMERS SUPPORT RUDDER FOR CLOSURE.
DUE TO MANUFACTURING VARIANCES, TEMPLATES MAY NOT FOLLOW THE EXACT CONTOUR OF EACH RUDDER.
COMPENSATE BY APPLYING CLEAR TAPE ADJACENT OT RIBS (APPROX. WATERLINE 0.0 AND 32.0),
CUT FOMERS TO SHAPE OF TEMPLATE, APPLY A NARROW BEAD OF BONDO ON CLEAR TAPE,
PRESS FORMERS ONTO BEAD OF BONDO UNTIL BONDO CURES.

REMOVE FORMERS AND CLEAR TAPE. FORMERS NOW HAVE THE SAME CONTOUR AS RUDDER SKIN.
PLACE 1" SQ. TUBING (2 PCS. APPROX 48 IN LONG) UNDER TRAILING EDGE AND SPAR.
CONTINUE TO BUILD RUDDER JIG USING THE SAME PROCESS AS AILERON AND WING.

DRAWING NO. 55-40-5-1-0501 G-202 RUDDER JIG TEMPLATE, REFERENCE WATERLINE 0.0

G-202 RUDDER JIG TEMPLATES

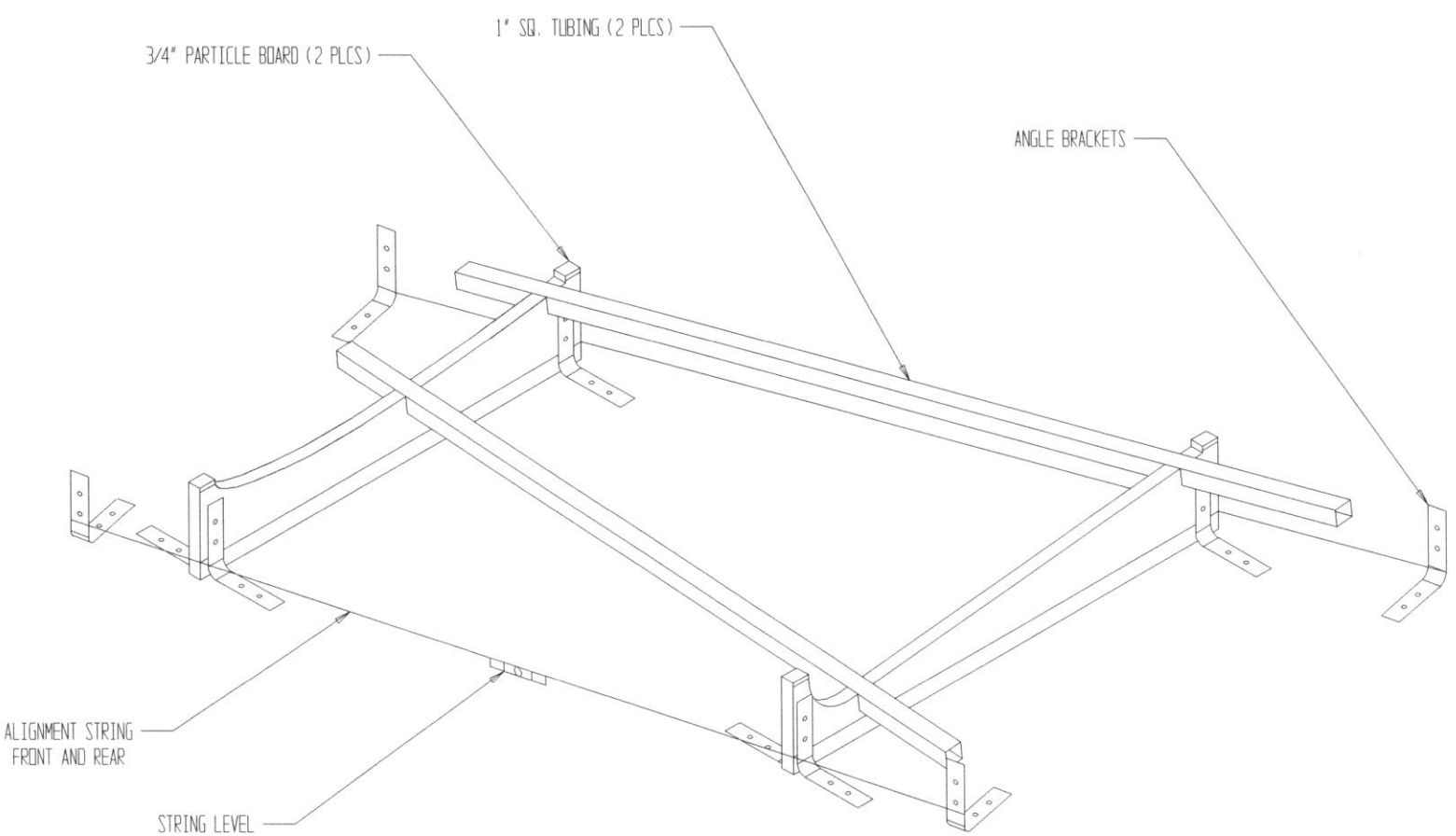
DRAWING NO. 55-40-5-1-0501	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION FUSELAGE	REVISION B	PAGE



RUDDER JIG

DRAWING NO. SB015	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLETIN #15		PAGE 2/2

COPY



RUDDER JIG

DRAWING NO. SB015	TASK NO.	STEP NO.	AkroTech
MODEL G - 202	SECTION SERVICE BULLETIN #15		PAGE

AkroTech Aviation, Inc.

Service Bulletin #16

Models affected: all

Parts Required: 8ea CR3243-4-3 rivet (supplied by AkroTech)

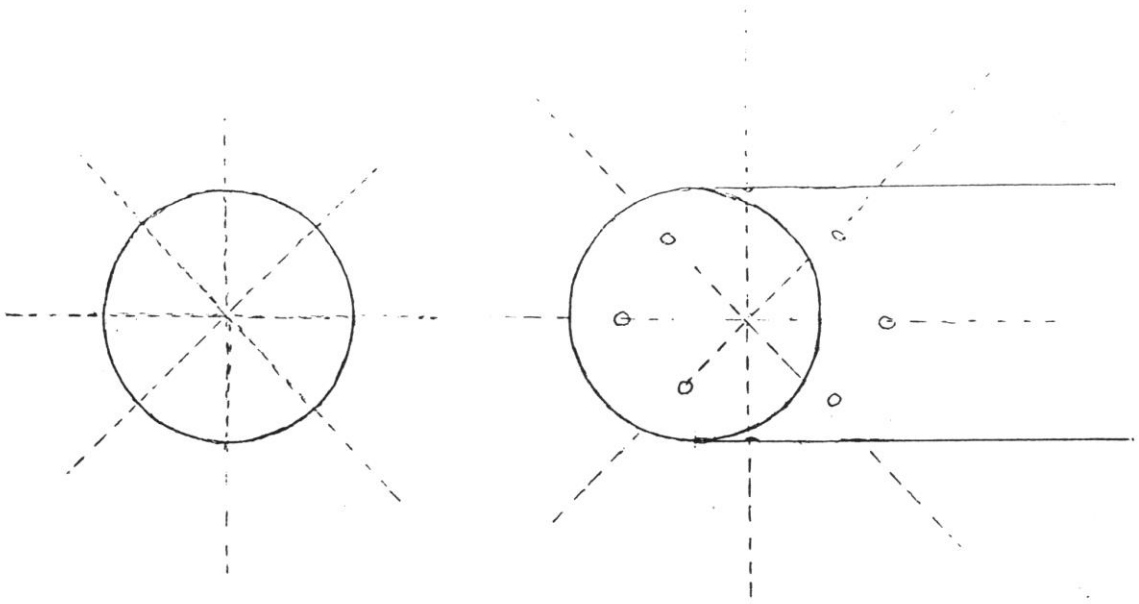
Bulletin

During inspection of G-202 S/N 002, the rear elevator pushtube was found to be worn in the area of the rivets that secure the fittings to the tubing. This allowed the fittings to move relative to the tubing. All Giles aircraft using a 1.5 inch diameter elevator pushtube that has the pushtube end fittings secured with 4 or 6 rivets per fitting need to have the amount of rivets securing the end fittings increased to 8 per fitting.

Procedure

Make sure there are at least 8 structural rivets securing each pushtube fitting to the pushtube, instead of 4 as originally specified. If the fittings have not been installed, use Hysol to bond the fittings into the tubing (in addition to installing the rivets). See drawing below.

Any questions regarding this bulletin should be directed to Eric Molstead at AkroTech Aviation, Inc. at 503 543-7960.



USE 8 CR3242-4-3 RIVETS PER END

AkroTech Aviation, Inc.

Service Bulletin #17

Model Affected: G-202

Bulletin:

Tasks F-8 and F-34, Step A, contain instructions for cutting the vertical stabilizer skin by referencing a molded-in scribe line. Newer skins have the core material removed in the shape of the vertical stabilizer cross section. On some of these skins with the molded-in joggle the scribe line was omitted.

Procedure:

The initial cut should be 2 inches in from the edge of the joggle, or indentation. DO NOT CUT AT THE EDGE OF THE JOGGLE. After the initial cut you may proceed with Task Step B. The subsequent trial fittings and trimming require exacting attention to detail and should be approached with a great deal of patience.

AkroTech Aviation, Inc.

Service Bulletin #19

Models Affected:

All G-200 and G-202 aircraft kits. This bulletin emphasizes reinforcement of the cutout in the rear vertical spar. However, owners of kits with the molded-in hole should comply with this bulletin as it relates to any other holes and cutouts through composite core material.

Purpose:

This bulletin alerts builders and pilots to the possibility of a **structural failure** resulting from improper assembly of your aircraft. This could be due to failure to comply with AkroTech Aviation, Inc. construction procedures, use of improper materials, or departure from fundamentals in the preparation, care, handling and assembly of composite parts.

Background:

All G-200 kits and early G-202 kits required the builder to cut a hole in the rear vertical spar for the elevator control tube. This cutout must be reinforced with fiberglass to preserve the integrity of the spar. Fundamental to construction of composite structures, any and every time core material is exposed through cutting or drilling it must be sealed and/or reinforced. At least one G-202 has experienced structural cracking due primarily to improper finishing of the hole cut through the rear vertical spar. Also a contributing factor was an insufficient number of plies of the appropriate cloth and proper surface preparation for the stabilizer seam fillets. The initial indication of this situation was cracking in the horizontal stabilizer fillet. Rudder removal revealed a crack in the vertical spar adjacent to the hole cut for the elevator control tube. In load bearing surfaces, cutting through the core material eliminates the load path in the area of the hole and significantly weakens the structure. Properly sealing the core material and reinforcing the edges of the hole is necessary to ensure the integrity of the structure and its ability to carry its design loads.

Definitions:

Sealing: This is the non-structural procedure of filling exposed core material with an epoxy mixture to prevent contamination by fuel, lubricants, moisture, etc.

Reinforcing: This is an important structural procedure where the edges of a cutout are first sealed and then built up with a three ply wrap of fiberglass.

Compliance:

IMMEDIATELY. Inspection must be accomplished before your next flight. Holes found to be improperly finished must be sealed and/or reinforced in compliance with this service bulletin before the next flight. The proper reinforcing plies must be found where necessary.
Do not wait to be grounded by weather. Do not wait until the next annual inspection. Do not fly your aircraft before complying with this bulletin.

Instructions:

1. Inventory of Materials:
   a) 80 grit sandpaper
   b) fiberglass cloth
   c) epoxy laminating resin and hardener
   d) acetone
   e) microballoons
   f) 404 filler
   g) Hysol structural adhesive

2. Overview

   Early kits that did not have the hole in the vertical spar molded in are particularly vulnerable to failure if the cutout was not reinforced. **All** other holes cut or drilled through honeycomb or foam core material, including those for fuel and electrical lines, bolts, etc., must be sealed and/or reinforced as well. Holes in load bearing structures such as the rear spar carrythrough must be reinforced.

3. Inspection

   Inspect the horizontal stabilizer fillet areas, both upper and lower surfaces. Any visible cracking, even if it appears only in the clearcoat, may indicate a problem. Remove the rudder and inspect the vertical spar for cracking or any evidence of stress. On models that did not have the cutout for the elevator push-pull tube molded in, cutouts should have evidence of closeout plies extending at least one inch back from the edges of the opening. Visual inspection should be extended to the entire airframe. Small holes will be more difficult to inspect, but unless you built your own airplane, you must assure yourself that all holes were properly sealed by the builder. **As part of your inspection of the empennage, you must also assure yourself that the required four plies of 7725 fiberglass were applied at the juncture of the vertical and horizontal stabilizers.**

4. Procedure.

   Exposed core material that results from the drilling or cutting of a hole must be sealed according to the procedure in the General Information section of the builder's manual. For small holes, such as for a bolt or where a piece of tubing passes through a structural member, place a piece of clear 3M tape over one side of the hole, press it firmly into place, and from the opposite side, fill the exposed core recess with a mixture of structural adhesive and 404 filler. For larger holes and cutouts, cut three times the number of 2 ½ inch wide

strips of fiberglass to length needed to span every edge or the circumference of the hole, on the bias (fibers running at a 45 degree angle to the length of the strip). Remove approximately ¼" of core material away from the edge of the cutout. Clean the surfaces surrounding the hole with acetone. Then thoroughly roughen the surfaces with 80 grit sandpaper and clean once again with acetone. Prepare a wet lay-up three layers thick according to the procedure for wet lay-ups outlined in the manual. Prepare a mixture of laminating resin and micro balloons to achieve a thick "peanut butter" consistency. Use this mixture to fill the exposed core material surrounding the hole. Round the edges of the hole with the filler material so that the fiberglass can wrap smoothly around the edge. Remove the plastic from one side of the fiberglass strips. Place the strips along each side of the hole so they wrap around from the inside of the hole to the outside of the hole, overlapping both surfaces by about one inch. The strips should also overlap one another at their edges. Use a brush to smooth out the lay-up and remove any air bubbles. Allow a cure time of at least 24 hours at 70 deg.

Record your inspection and any repairs in the Aircraft Logbook.

For additional information, refer to the Builder's Manual General Information Section under Bonding Procedures, Wet Layups, and Preparing Carbon Fiber Pieces for the Attachment of Fittings.

AkroTech Aviation Inc.
53774 Airport Rd.
Scappoose, OR 97056

facsimile transmittal

From: Eric @ AkroTech Aviation **Date:** March 20, 1997

Re: G-202 Builders Alert **Pages:** 1

X Urgent ☐ For Review ☐ Please Comment ☐ Please Reply ☐ Please Recycle

AkroTech Aviation, Inc.
Builders Alert

Models Affected: G-202

Part: Rudder

Bulletin:

Builders with G-202 Assembly Manual Version 1.6 and earlier **should not** close their rudder as specified in Task F-11. Closure of the rudder in accordance with these instructions will result in a twisted control surface.

Corrected rudder jigs and closing instructions will be forthcoming in AkroTech Service Bulletin #15.

If Task F-11 has been completed or if any questions exist regarding this alert please contact Eric Molstead at AkroTech Aviation Inc at (503) 543-7960.

AkroTech Aviation, Inc.
Builders Alert

Date: March 25, 1997

Models Affected: All AkroTech Aviation Products

Subject: Structural Testing

Bulletin:

Numerous builders of G-200 and G-202 aircraft have completed or are nearing completion of their airplanes. Several builders have inquired about performing static tests to verify the structural integrity of their aircraft, particularly the wings.

It is possible to cause severe, possibly unseen, structural damage by improperly applying loads to the airplane or improperly supporting the airplane during testing. For this reason AkroTech Aviation, Inc. does not support builders doing structural testing and AkroTech will not provide loads or other static test information.

We cannot state strongly enough that builders should not perform static tests on their airplanes and may in fact make their aircraft unairworthy by performing this testing.

Questions concerning this alert should be directed to Eric Molstead at AkroTech Aviation, Inc. at (503) 543-7960.