



SERVICE LETTER

XK-SL-001

Rev NC

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EFFECTIVE DATE: This Service Letter is effective **Oct 26, 2022.**

SUBJECT: *NOSE GEAR INSTALLATION ON CCX-2300*

**MODELS
AFFECTED:** *CCX-2300*

COMPLIANCE TIME: *NO REQUIRED COMPLIANCE TIME*

PURPOSE: *This Service Letter describes the process for converting a CCX-2300 aircraft from a taildragger configuration to a nose landing gear.*

SERVICE: *Conversion to nose landing gear must be performed by a Cub Crafters Authorized Service Center. Please contact Cub Crafters Customer Support for assistance.*



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PARTS LIST:

<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>
97395A481	Dowel Pin, \varnothing 1/4" x 5/8", Stainless	2
AN310-6	Castle Nut	2
AN310-8	Castle Nut	1
AN3-3A	Bolt	2
AN363-428	Nut, Hi-Temp Lock	2
AN363-624	Nut, Hi-Temp Lock	6
AN364-428A	Nut, Nylon Lock	4
AN365-624A	Nut, Nylon Lock	2
AN380-3-3	Cotter Pin	3
AN380-3-4	Cotter Pin	1
AN380-4-8	Cotter Pin	2
AN4-11A	Bolt	2
AN4-6A	Bolt	4
AN507C632R6	Screw, Countersunk Head	60
AN5-24A	Bolt	8
AN526C832R6	Screw, Truss Head	6
AN526C832R7	Truss Head Screw, 8-32 X 1/4 SS	2
AN5H-4A	Bolt	3
AN6-15A	Bolt	2
AN6-17A	Bolt	1
AN6-23A	Bolt	2



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<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>
AN6-31A	Bolt	2
AN6-41A	Bolt	2
AN6-5A	Bolt	1
AN6-6A	Bolt	1
AN816-3D	Nipple, Flared Tube to Pipe Thread	2
AN823-3D	Elbow, Aluminum	4
AN8-47	Bolt	1
AN932-2D	Pipe, Plug, 1/8"	2
AN936-A8	Lock Washer	6
AN960-416	Washer, Flat	10
AN960-416L	Washer	2
AN960-516	Washer, Flat	8
AN960-616	Washer	27
AN960-616L	Washer	8
AN960-716	Washer, Flat	1
AN960-8	Washer, Flat	6
AN970-5	Flat Washer	6
HDW-5745-6	Tab Lock Washer	2
HDW-CCR264CS-3-02	Nutplate Rivet, Flush Head	20
MS15001-4	Grease Fitting	1
MS16562-258	Spring Pin	4
MS20002C6	Washer, Countersunk	4
MS20426A3-4	Rivet, Ø3/32 x 1/4", Countersunk	8



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<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>
MS20995C32 ^b	SS Safety Wire, .032"	AR ^b
MS21042L5	Nut, Self Locking Steel	8
MS21042L6	Nut, Self Locking Steel	5
MS21059L06	Nut Plate, Two Lug	18
MS21059L08K	Nutplate	2
MS21250-06056	Bolt, Tension, External Wrenching	2
MS21250-06060	Bolt, Tension, External Wrenching	2
MS35842-11	Hose Clamp	2
MS35842-13	Hose Clamp, SS, 1-13/16 – 2-3/4	6
MS35489-42	Grommet	2
MS51861-14C	Screw, Tapping Thread	4
NAS1169C6L	Washer, Countersunk	60
NAS1515H4	Nylon Washer	2
NAS334CPA5.5	Bolt, 100° Flush Head	4
NASM17984-C305	Pin, Quick Release	1
NLG Strut Subassy	Nose Gear Strut Assembly	1
RM0006-001	2" Ducting	3'
RM0013-003 ^b	Silicone, Ultra Black Gasket	AR ^b
RM0567-001 ^b	Loctite 567	AR ^b
RM1072-001	UHMW Tape, 1"	48"
RM1072-002	UHMW Tape, 4"	48"
RM1074-001	Silco End Seal Wrap, 1"	18"
RM1075-001	Cable Tie, 4.1" Heat Stabilized	6



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<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>
RM1075-002	Cable Tie, 5.8", Heat Stabilized	6
RM1076-001	Tape, Rock Guard, Transparent	48"
RM7932-002	Pet Sleeving, Fray Resistant	24"
RM8132-001 ^b	Grease (Mil-PRF-81322)	AR ^b
SP20013-001	Tiedown, Eyebolt	1
SP20015-001	7/16-14 Locknut	1
SP22104-001	Stainless Lanyard Rope	1
SP22105-001	Lanyard Compression Sleeve	4
SP45001-001 ^a	Hub Cap	2 ^a
SP72105-001	Magnet, .25" Dia X .25"H	1
SP72106-001	Form C Reed Sensor	1
SP96006-005	Safety Walk Tape	30"
TC4001-001 ^a	Nut, Axle	2 ^a
VP4005-003 ^a	Brake Assembly	2 ^a
VP6004-001	Terminal, Knife Disconnect, 22-16G	2
VP9103-001 ^a	Spring Gear Axle	2 ^a
XC11111-001	Cover Retainer	1
XC11206-001	Inboard Strut Fairing, Aft	1
XC11206-002	Inboard Strut Fairing, Aft	1
XC11207-001	Strut Fairing Link	2
XC11301-001	Fairing, FWD Landing Gear	1
XC11301-002	Fairing, FWD Landing Gear	1



<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>
XC11305-001	Inboard Strut Fairing	1
XC11305-002	Inboard Strut Fairing	1
XC13301-001	Placard, Attach Before Flight	1
XC13301-002	Placard, Attach Before Flight	1
XC20308-001	Landing Gear Saddle Block	2
XC20308-005	Landing Gear Saddle Block	1
XC20308-006	Landing Gear Saddle Block	1
XC41800-005	Config 3 Wheel and Tire Assy, 8.00-6	1
XC41900-009 ^a	Wheel and Tire Assy, 8:50 X 6	2 ^a
XC41900-011 ^a	Wheel and Tire Assy, 26" Tundra	ALT ^a
XC42203-009	Brake Line, Spring Gear to Caliper	2
XC43134-001	Lower Elastomer Spacer	7
XC43203-001	Top Plate, Strut Assembly	1
XC43204-001	Strut Bearing, Upper	1
XC43206-001	Strut Bearing, Lower	1
XC43210-001	Strut Stop Block	1
XC43228-001	Config 3 Truss	1
XC43251-001	Knuckle Axle	1
XC43252-001	Knuckle Bearing	2
XC43254-001	Wheel Axle	1
XC43255-001	Wheel Axle Spacer	2
XC43256-001	Axle Cap	2
XC43257-001	Axle Shaft	1



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<u>PART</u>	<u>DESCRIPTION</u>	<u>QTY</u>
XC43263-001	Wheel Fork	2
XC43268-001	Fork Bushing	2
XC43270-001	Tow Bar Bushing	1
XC43277-001	Config 3 Rotation Stop	1
XC43279-001	Fork Link Pin	1
XC43401-001	Config 3 Step	1
XC43402-001	Step Mount Bushing	2
XC43403-001	Step Mount Washer	2
XC43404-001	Step Spacer Block	1
XC43405-001	Step Mount Washer	2
XC43501-001	Spring Gear, Configuration 3	1
XC47501-001	Tail Skid	1
XC53505-001	Cabin Heat Inlet, IO-390, NLG	1
XC53505-002	Cabin Heat Inlet, IO-390, NLG	1
XC53510-001	Cabin Heat Y	1
XC74301-001	NLG Stop Light and Button Assembly	1
XC93341-001	Cover, Fwd Gear Leg	1
XC97302-001 ^c	IO-390 Fuel Sight Gauge Placard, LH	1 ^c
XC97302-002 ^c	IO-390 Fuel Sight Gauge Placard, RH	1 ^c
XC97304-001 ^c	IO-390 Fuel Sight Gauge Placard, Metric, LH	1 ^c
XC97304-002 ^c	IO-390 Fuel Sight Gauge Placard, Metric, RH	1 ^c
XC97017-001	NLG Rotation Stop Light Placard, PTT	1
<p>^a Wheel and brake components from taildragger spring gear may be re-used in lieu of purchasing new parts.</p> <p>^b Provided by customer/shop</p> <p>^c only for aircraft needing a sight gauge placard replacement. See Step 45.</p>		



REQ'D EQUIPMENT:

<u>DESCRIPTION</u>	<u>P/N OR SPEC</u>	<u>SUPPLIER</u>	<u>PURPOSE</u>
Hoist (min. 3,000 lbs. capacity)	-	Any Supplier	Lifting Aircraft
*Spreader Bar (with chains)	-	Fabricate	Lifting Aircraft
3 Scales (min. 1,000 lbs. capacity)	-	Any Supplier	Weighing Aircraft

**The spreader bar should be made of steel, capable of taking the weight of the airplane, and should span the distance between the two lift rings. There should be means to securely fasten chains to the spreader bar so that the chains pull directly upward on the lift rings when hoisting the aircraft.*



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INSTRUCTIONS:

1. Read all instructions before beginning any work.
2. Unless noted otherwise, reference the CCX-2300 Aircraft Maintenance Manual (document XK10000AMM), Chapter 20-00 for appropriate torque values.
3. Remove the aft avionics access panel per the maintenance manual, Chapter 24-00. Disconnect the battery cables.
4. Remove upper and lower cowl in accordance with the maintenance manual, Chapter 71-10.

5. Preassemble nose gear subassembly and truss in accordance with Figure 1 through Figure 5.

Note: Balance of nose wheel and tire assembly is critical. Pre-assembled wheel and tire assemblies from CubCrafters should already be balanced. If you're not receiving a pre-assembled and balanced nose wheel and tire assembly, reference Appendix C for balancing instructions.

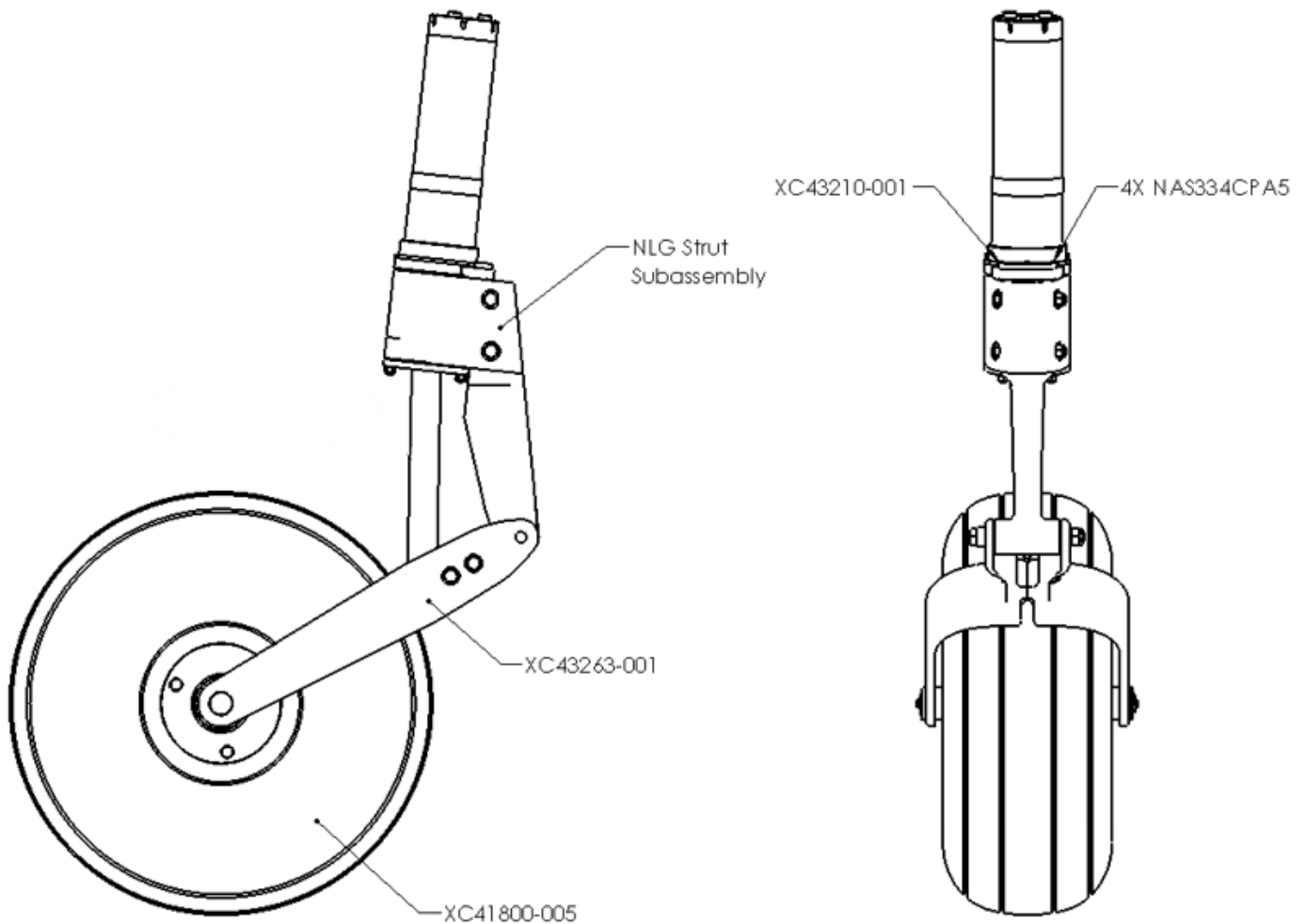


Figure 1 – Nose Gear Subassembly

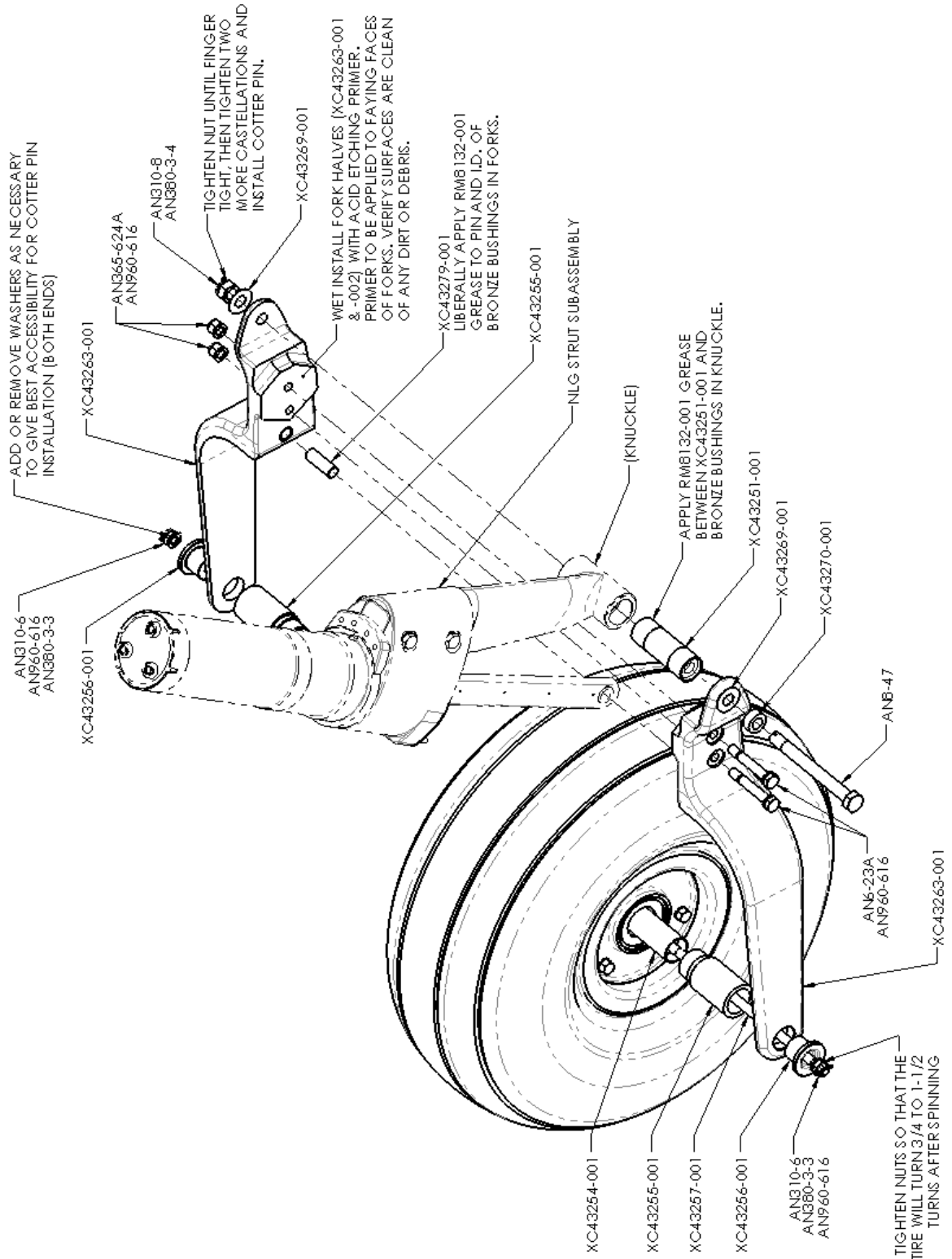


Figure 2 – Fork Subassembly

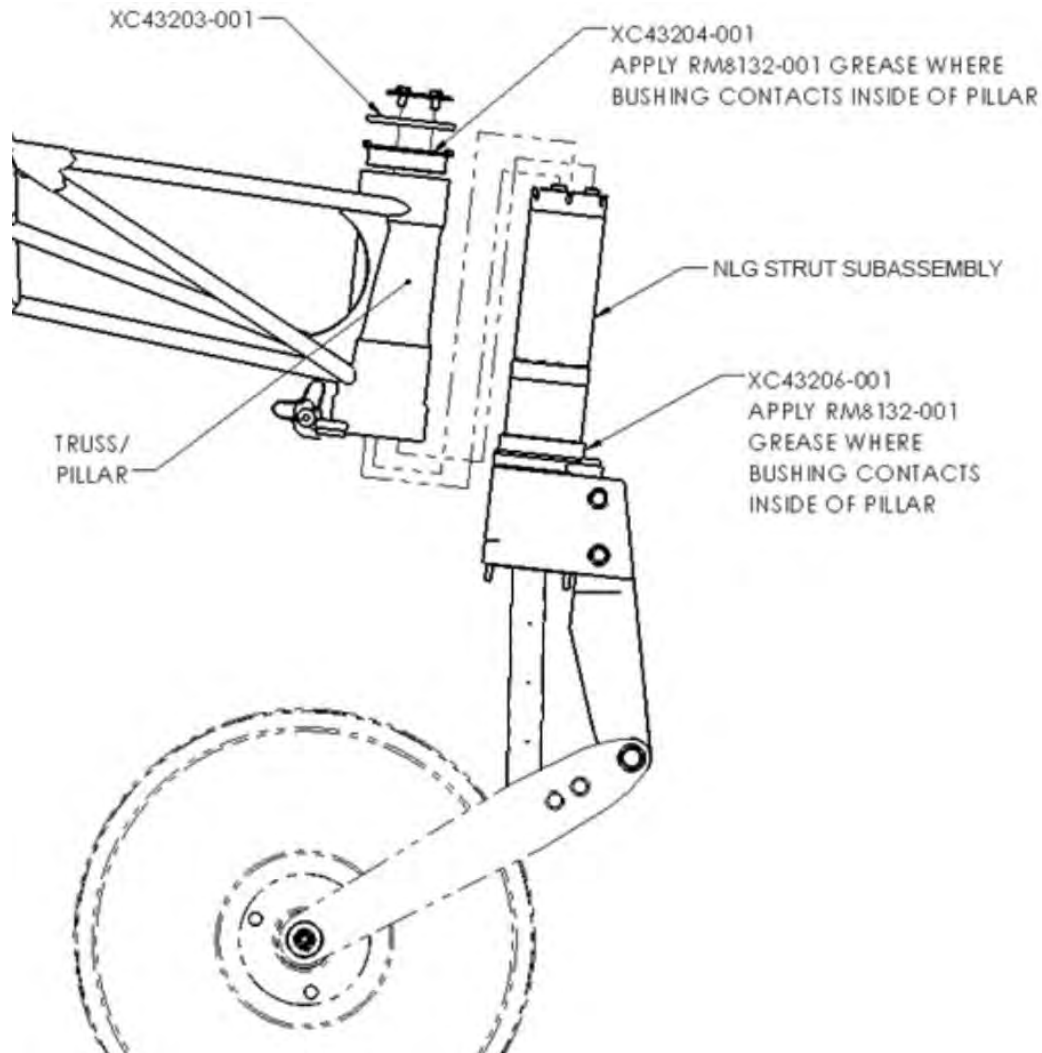


Figure 3 – Strut Installation

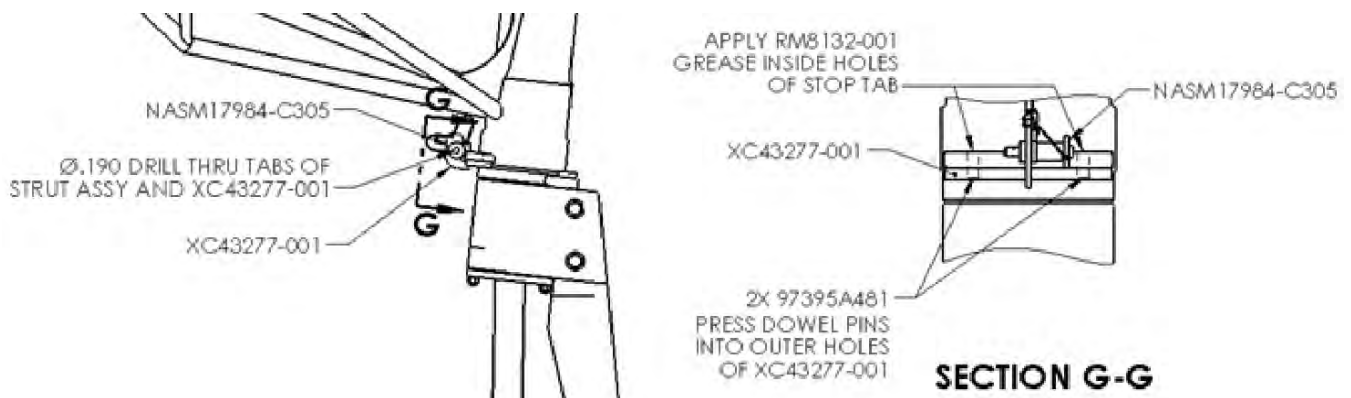


Figure 4 – Rotational Stop

Note: Set a strip of masking tape, or otherwise flag the three screws that have been finger tightened only (Figure 5 – Detail J). This will serve as a reminder that these bolts still need to be tightened.

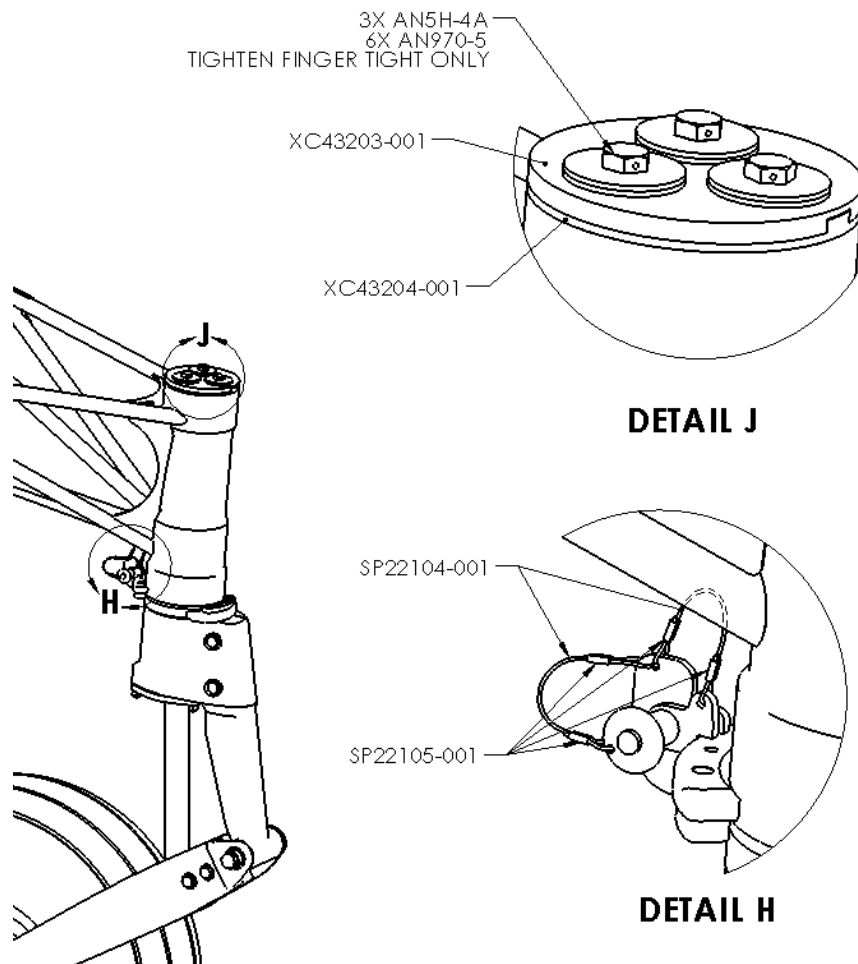


Figure 5 – Strut Tension Bolts and Rotational Stop Pin

6. Set aside assembled nose gear
7. Raise the tail and set on sawhorse.
8. Remove fairings on both sides of the aircraft that fair the existing spring gear to the fuselage. Retain hardware. (see Figure 6)
9. Remove fairings on both sides of the aircraft that fair the wing struts to the fuselage. Retain hardware. (see Figure 6)
10. Remove the rectangular cover on the belly just aft of the gear leg and set aside with hardware. (see Figure 6)

11. Remove the cover on the belly located just aft of the strut attachment fittings on the fuselage and set aside with hardware. (see Figure 6)
12. Remove the cover on the belly that spans between the strut attachment fittings on the fuselage. The hardware for securing this cover can be accessed through the openings made by removing covers in the two previous steps. (see Figure 6)
13. Remove the aft entry step on the right side of the plane. (see Figure 6)

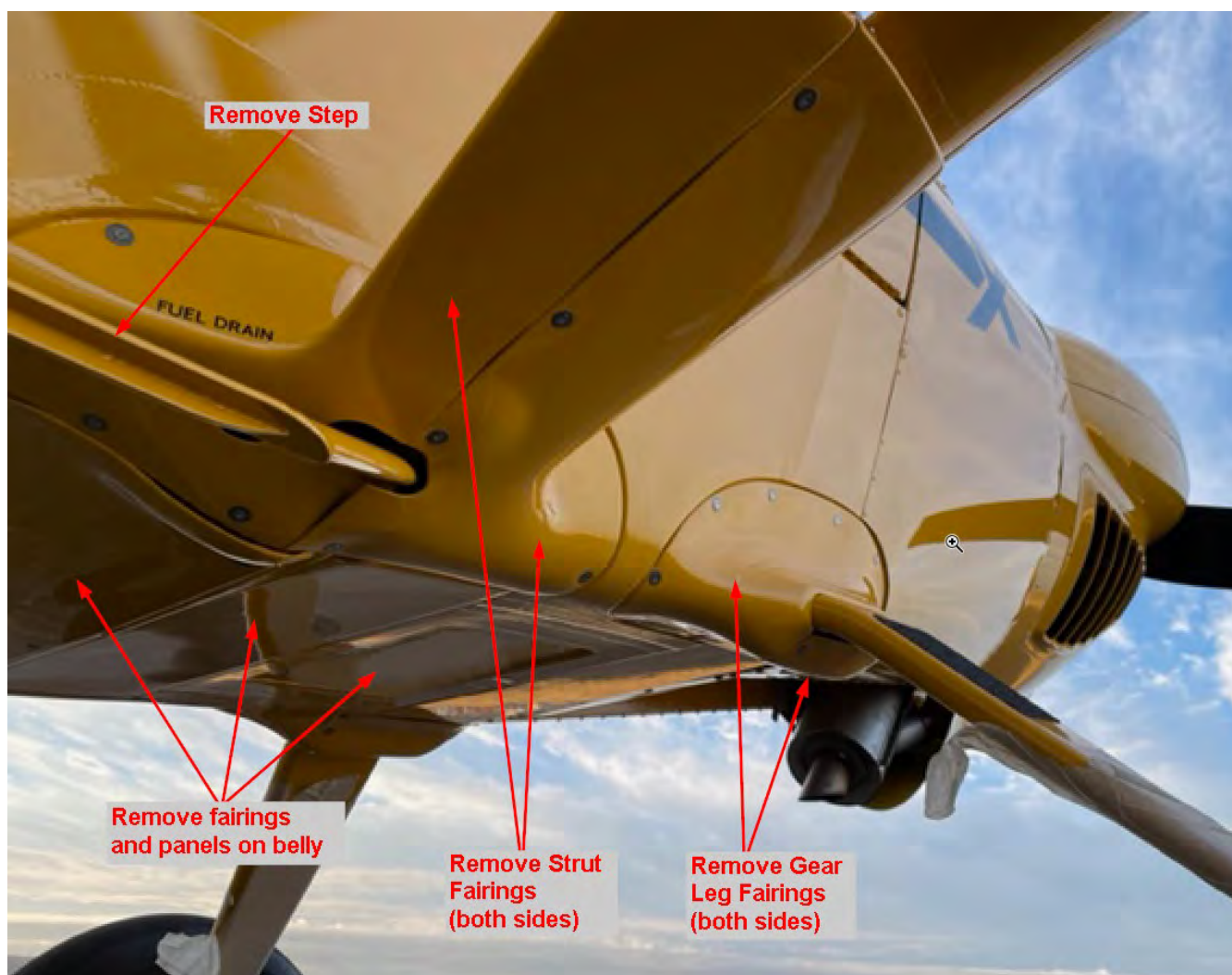


Figure 6 – Remove Fairings

14. The new spring gear leg has ports on the front side for connecting to the brake lines from the master cylinders. Holes must be drilled in the belly pan for these brake lines. In the front side of the channel for that gear leg, drill two ¼” holes, 16” apart and .6” down from the top of the channel. Use the fuselage tubes on either side as reference to ensure the holes are centered. The seam in the belly pan is not on centerline.



Figure 7 – Brake Line holes

15. Temporarily move the new spring gear into position to determine if the new ¼” holes in the belly pan channel align with the ports in the gear leg. Note any adjustments that need to be made, then drill or cut ¾” holes in the belly pan channel to align with the gear leg ports. Verify one more time and grind if necessary to ensure clearance for brake fitting.
16. Drain both brake lines at calipers.
17. Disconnect brake lines where they connect to the aluminum fittings on the aft side of the taildragger spring gear leg and temporarily cap the lines. (see Figure 8)
18. Remove the two aluminum fittings threaded into the aft side of the gear leg where the brake lines were connected. (see Figure 8)

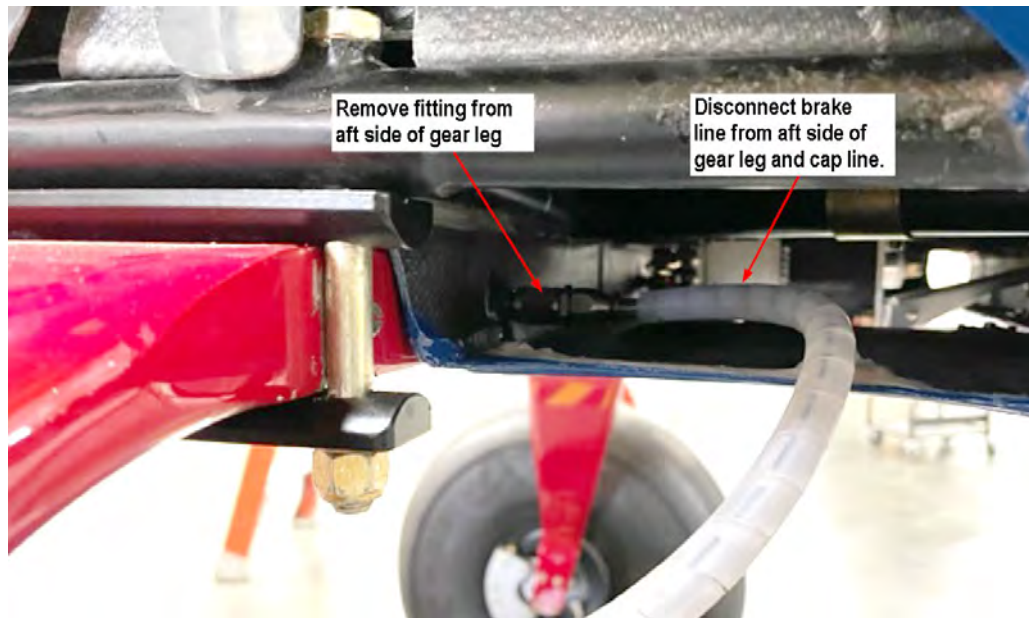


Figure 8 – Existing Brake Lines

19. Hoist the aircraft by the lift rings per the CCX-2300 Aircraft Maintenance Manual (document XK10000AMM), Chapter 07-20. No one should be underneath the aircraft when lifting, but one person should support the tail to ensure that the aircraft does not swing once in a lifted position. Raise the aircraft so the tires are just barely off the floor.

Note: It is recommended to remove the screws from the wing root panels whenever the aircraft is lifted from the lift rings. This will prevent the screws from tearing out if the lift rings shift slightly

20. Remove the spring gear and steel saddle blocks above and below the gear leg by removing the four bolts (2 per side) that attach the spring gear to the fuselage. These bolts are tight.



Figure 9 – Taildragger Gear Attachment

21. Assemble the new spring gear with brakes and wheels as shown in Figure 10. (If desired, some components from the taildragger landing gear, like the hubcaps, axle nuts, axle, and brakes may be re-used) Goodyear 26" tundra and Goodyear 8:50 x 6 tires may also be re-used)

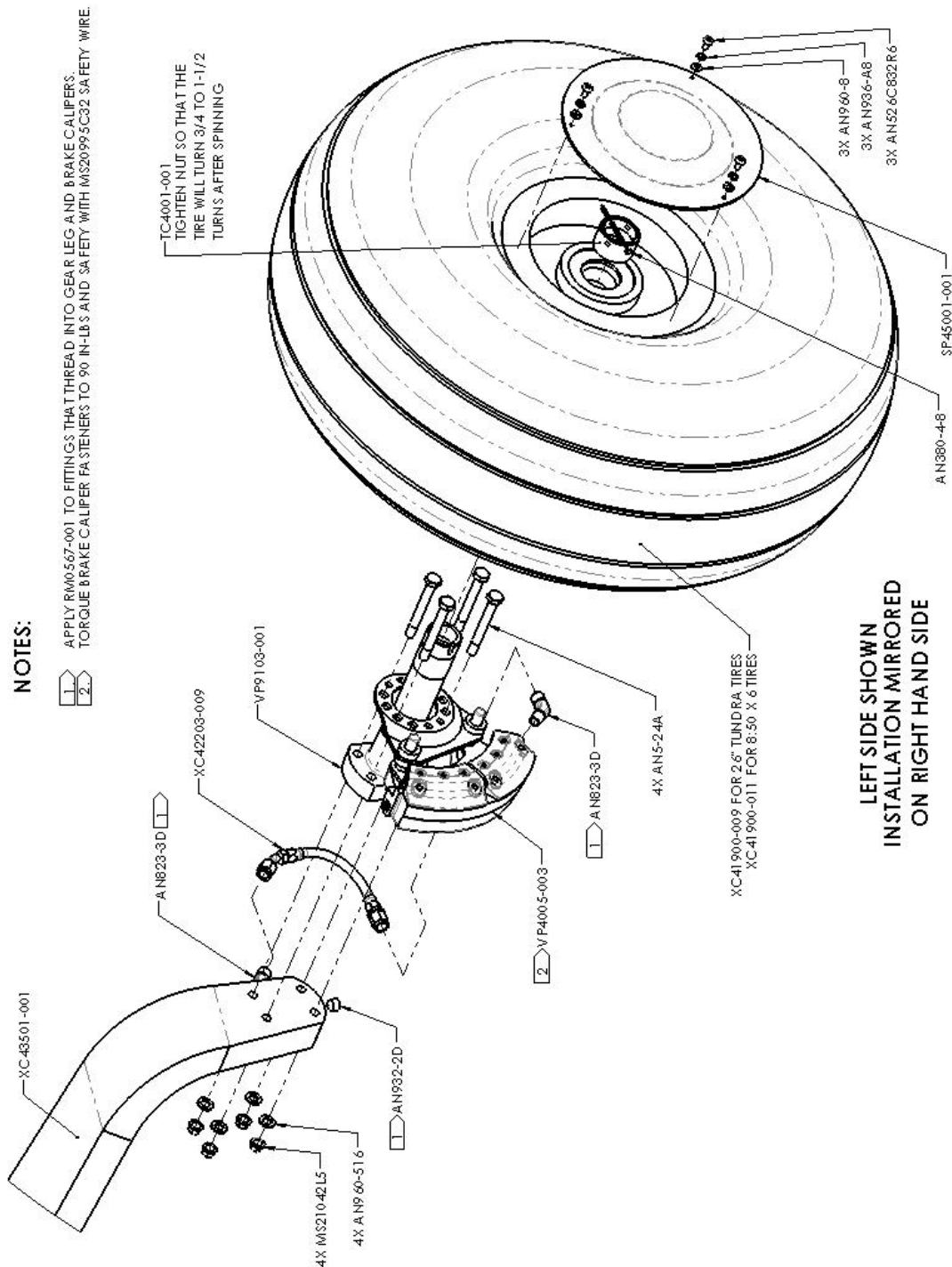


Figure 10 – Spring Gear Assembly

22. Install the four MS16562-258 spring pins in the Ø5/16 holes located on the front and aft sides of the upper flat section of the gear leg. MS16562-258 pins are shown in Figure 11 and Figure 12.

Note: The AN816-3D fittings can be installed in the gear leg before the gear leg is installed on the plane, but the gear leg will need to be tipped with the front side up, so that the fittings do not hit the belly pan.

23. Install the new spring gear and entry step in accordance with Figure 11 and Figure 12. On the right hand side, be sure to pre-assemble the XC43404-001 spacer block onto the step before installing gear leg. Installation of brake fittings, as shown in Figure 11 may be postponed until after the plane is resting on 3 wheels.

NOTES:

- 1. APPLY RM0567-001 TO FITTINGS THAT THREAD INTO GEAR LEG AND BRAKE CALIPERS.
- 2. MIRRORED ON RIGHT SIDE

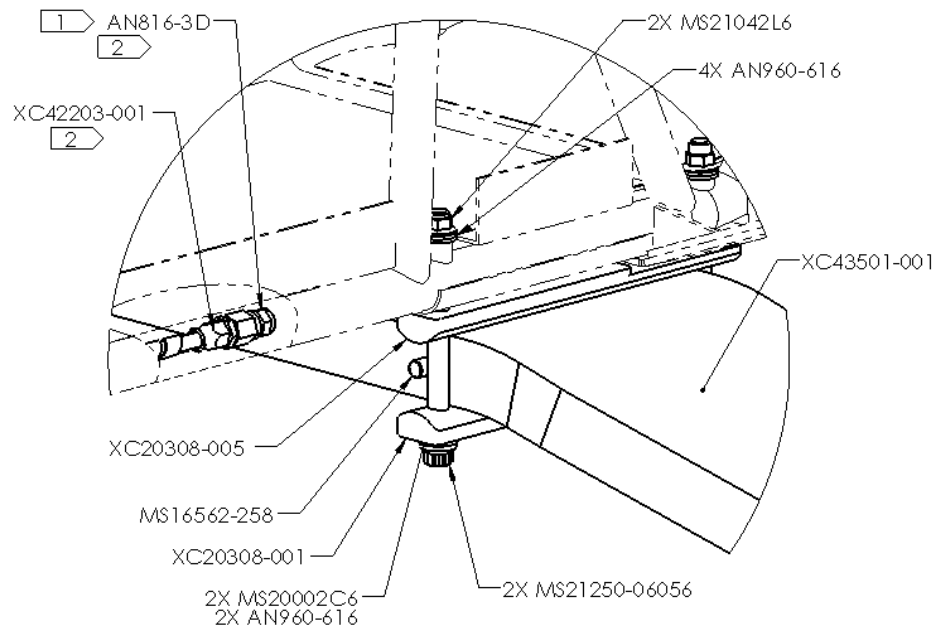


Figure 11 – Spring Gear Installation

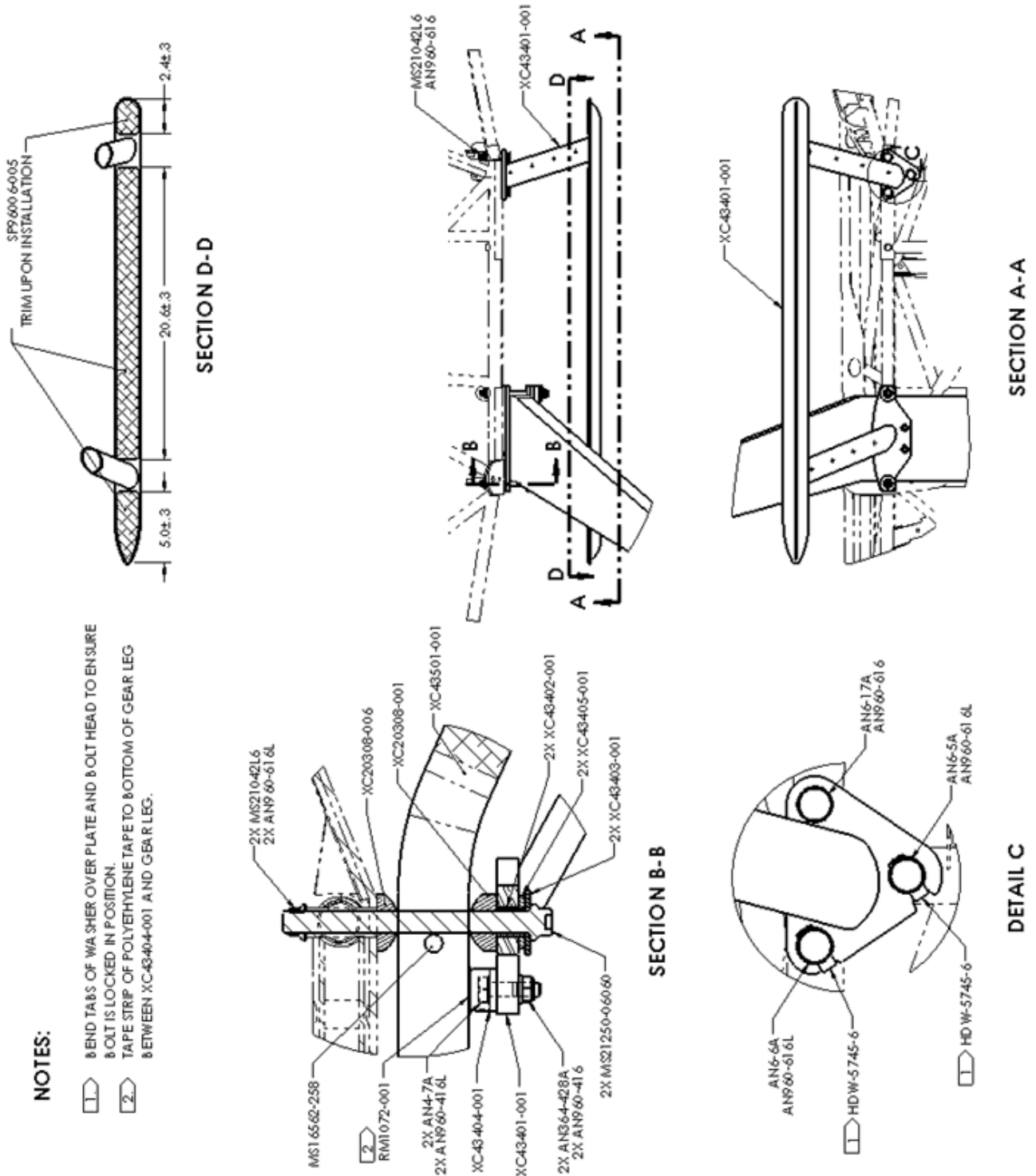


Figure 12 – Spring Gear/ Step Installation

24. Lower hoist until main gear tires are contacting the floor.
25. In preparation for the nose gear installation, disconnect the throttle cable bracket from the engine sump and disconnect the rod end from the throttle arm (Figure 13). Also, with the fuel selector set to “OFF”, remove the section of fuel line between the firewall and gascolator (Figure 14).

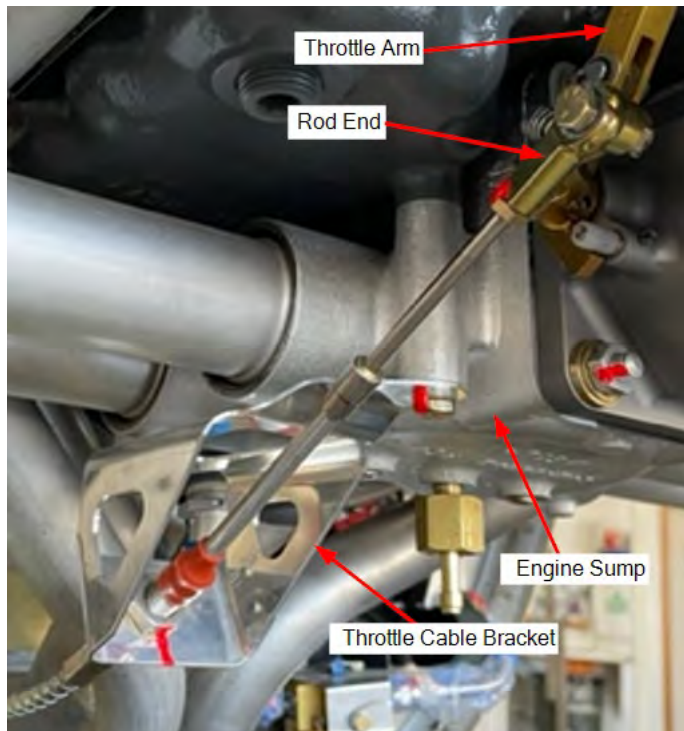


Figure 13 - Disconnect Throttle Cable Bracket



Figure 14 – Fuel Line

26. Install the preassembled nose gear assembly onto the tabs on the engine mount (XC43265-001) in accordance with Figure 15 (rearranging hoses and wiring as necessary). The tabs and clevises should be coated with wet primer during installation. When installing, the nose gear assembly will need to be tipped forward slightly and brought upwards so the lower clevises and tabs are first to engage. Some tapping with a light deadblow or soft face hammer will likely be required to move the clevises into the tabs. Once the lower holes are aligned, pin in place, then tip the nose gear assembly up to align the upper clevises and tabs. Install hardware.

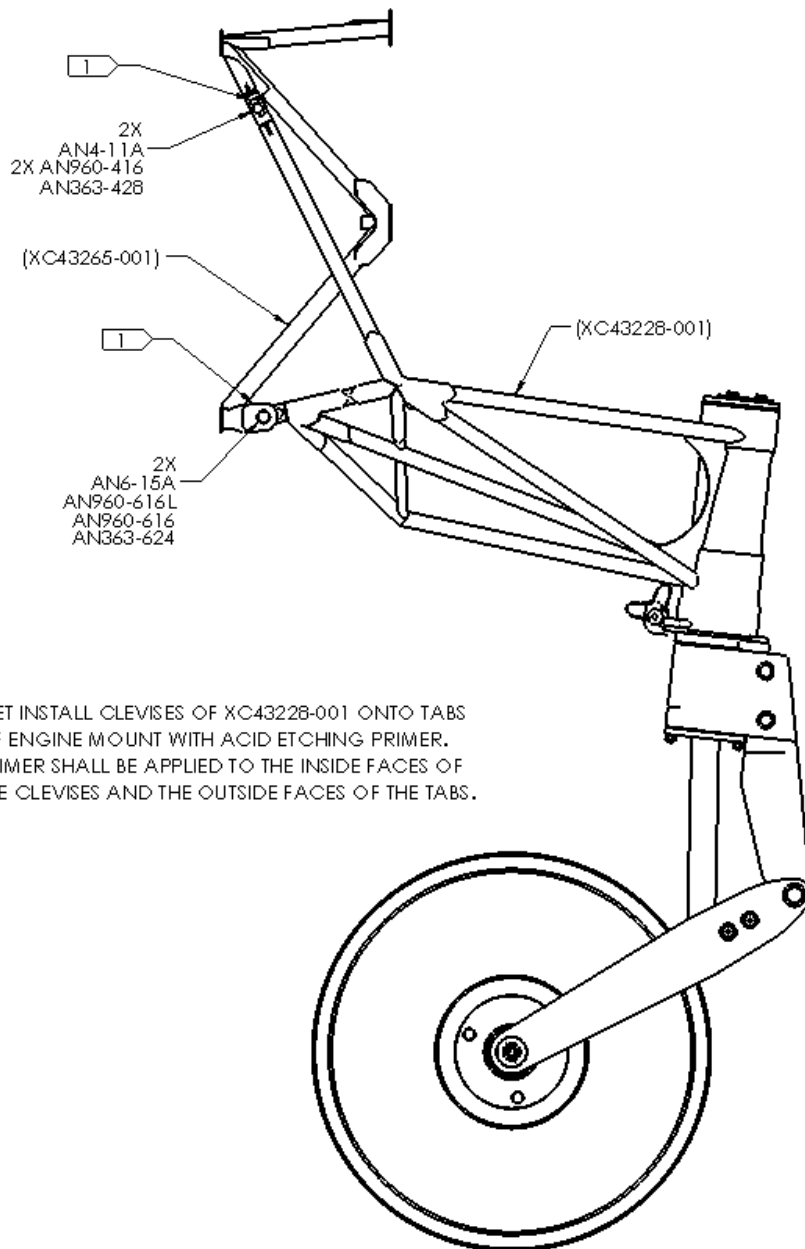


Figure 15 – Nose Gear Installation

27. Tighten and safety the three bolts at the top of the pillar in accordance with the instructions at the end of Chapter 32-80 of XK10000AMM (Aircraft Maintenance Manual).
28. Use hoist to lower aircraft onto all three wheels.
29. Reinstall the throttle cable bracket onto the engine sump and connect the rod end to the throttle arm (see Figure 16). Also, reinstall the section of fuel line between the firewall and gascolator (see Figure 17).

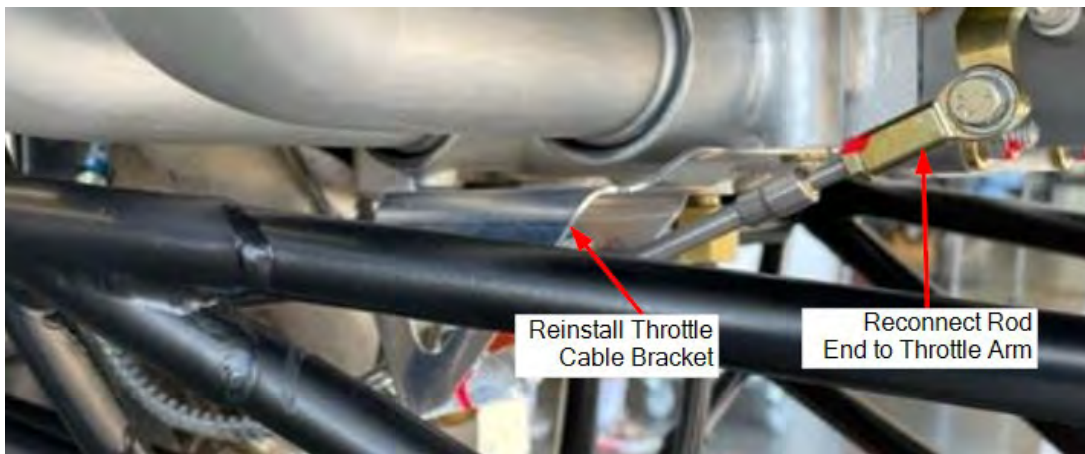


Figure 16 – Reinstall Throttle Cable Bracket

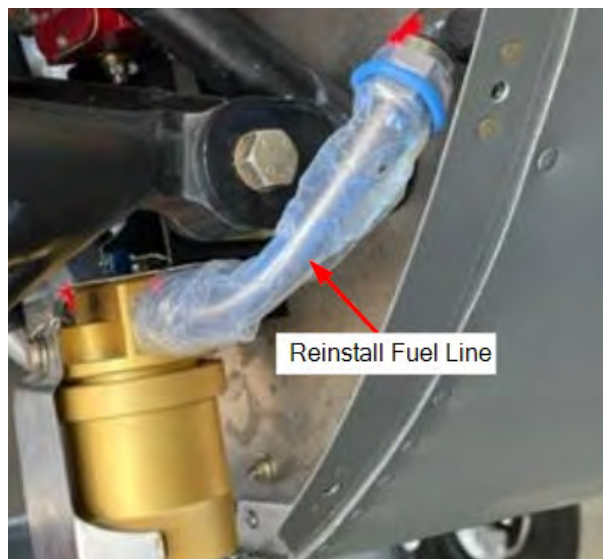


Figure 17 – Reinstall Fuel Line

30. Install nose gear stop sensor and light in accordance with Figure 18, Figure 19, and Figure 20.

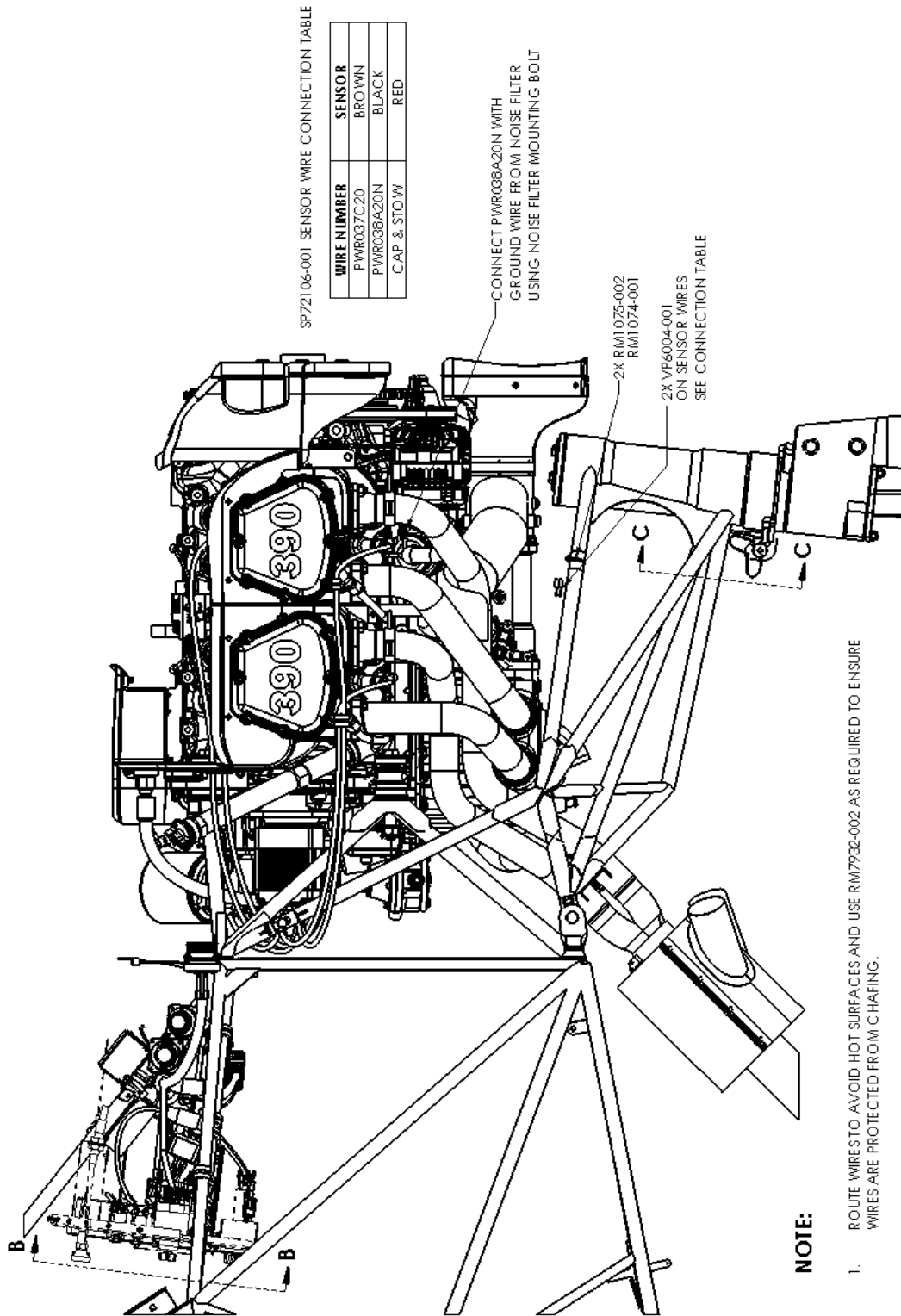


Figure 18 – Stop Sensor Installation

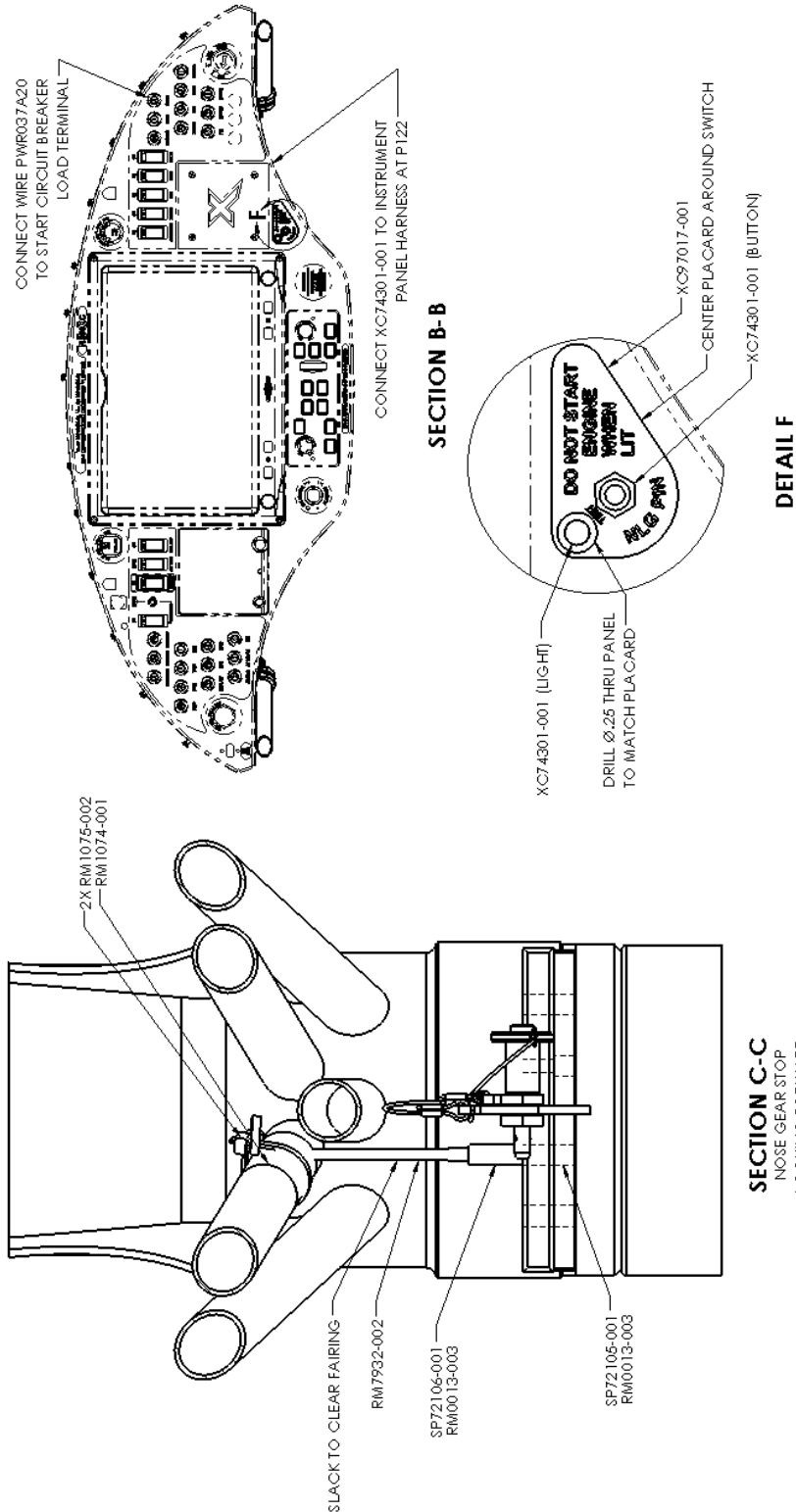


Figure 19 – Stop Sensor Installation

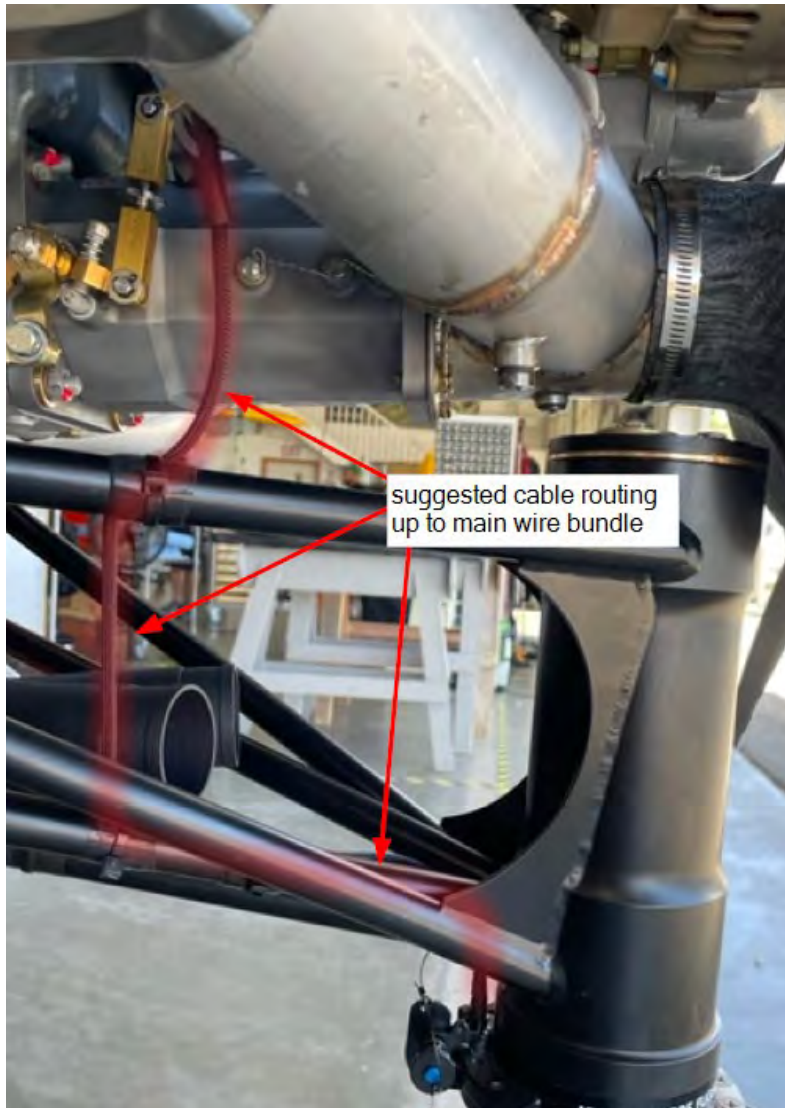


Figure 20 – Cable Routing

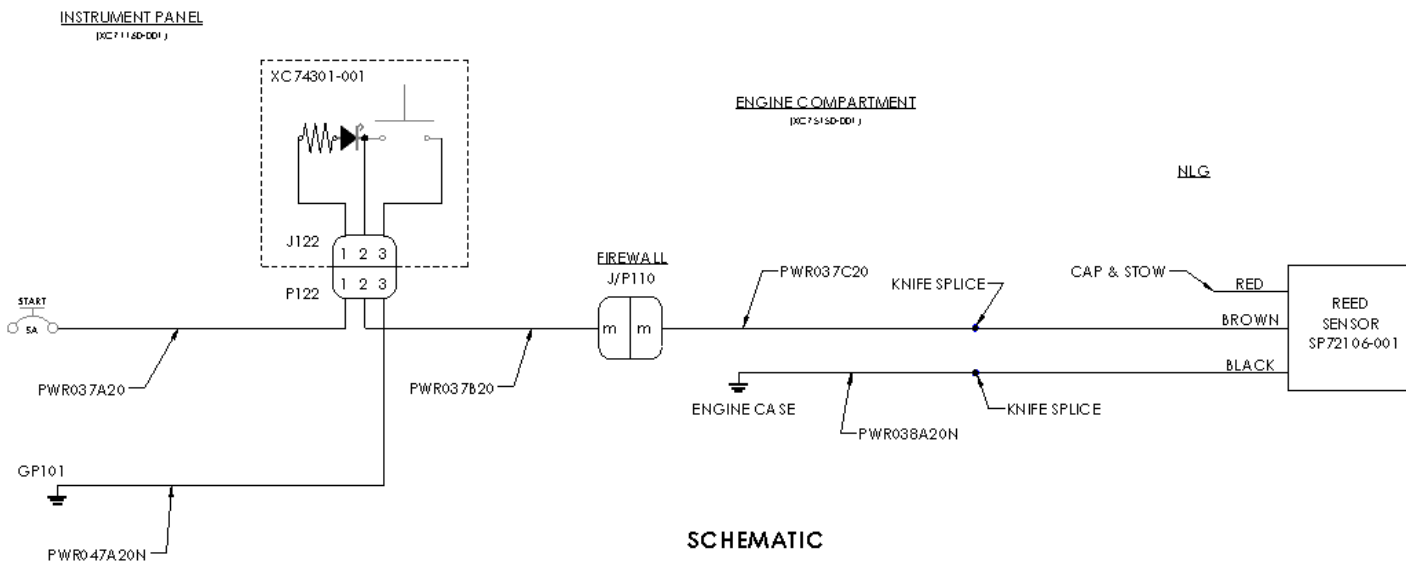


Figure 21 – Stop Sensor Schematic

31. Check function of warning light:

- a. *Make sure the stop is in place*
- b. *Reconnect battery cables to battery and turn on master switch.*
- c. *Verify light is off*
- d. *Press test button on instrument panel and verify that light comes on while button is pressed.*
- e. *Remove stop and verify that light is on.*

32. Put stop back in place and turn off master switch.

33. Disconnect battery cables.

34. Install XC13301-001/-002 placards on nose gear in accordance with Figure 22.

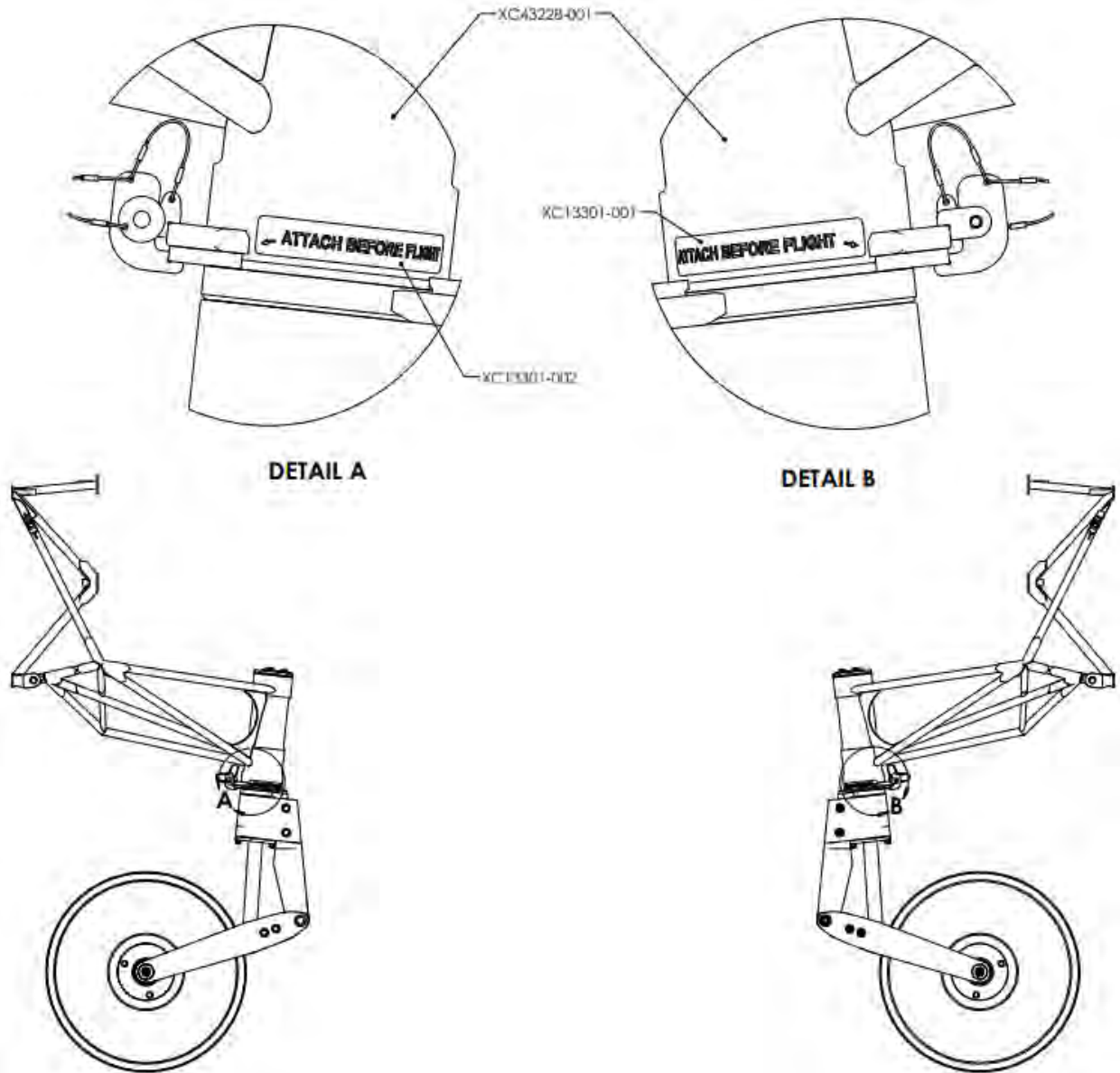


Figure 22 – “Attach Before Flight” Placard

35. If not done already, install the two AN316-3D fittings at front of gear leg and attach to existing brake lines (XC42203-001). See Figure 23.

NOTES:

- 1. APPLY RM0567-001 TO FITTINGS THAT THREAD INTO GEAR LEG AND BRAKE CALIPERS.
- 2. MIRRORED ON RIGHT SIDE

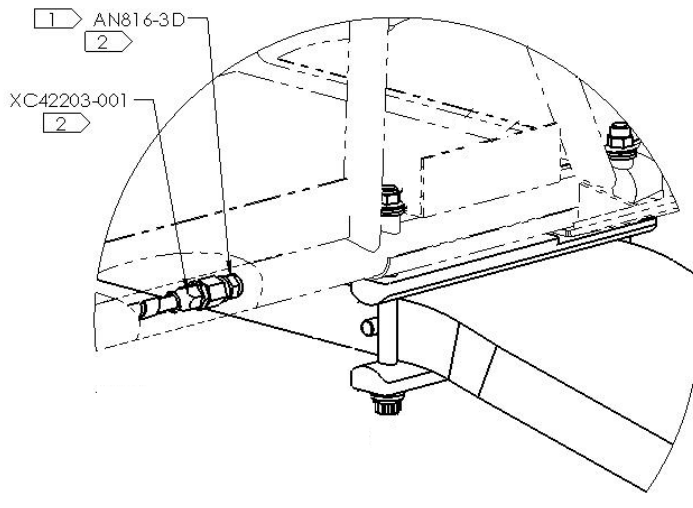


Figure 23 – Brake Fittings

36. Replenish brake fluid in accordance with XK10000AMM (Aircraft Maintenance Manual), Chapter 12-10. Actuate brakes and check connections for leaks.

37. Install AN3-3A screws with NAS1515H4 nylon washers into holes that were used for mounting the aft entry step.



Figure 24 – Step Holes

38. Install lower fairings in accordance with Figure 25 thru Figure 28 and Appendix A.

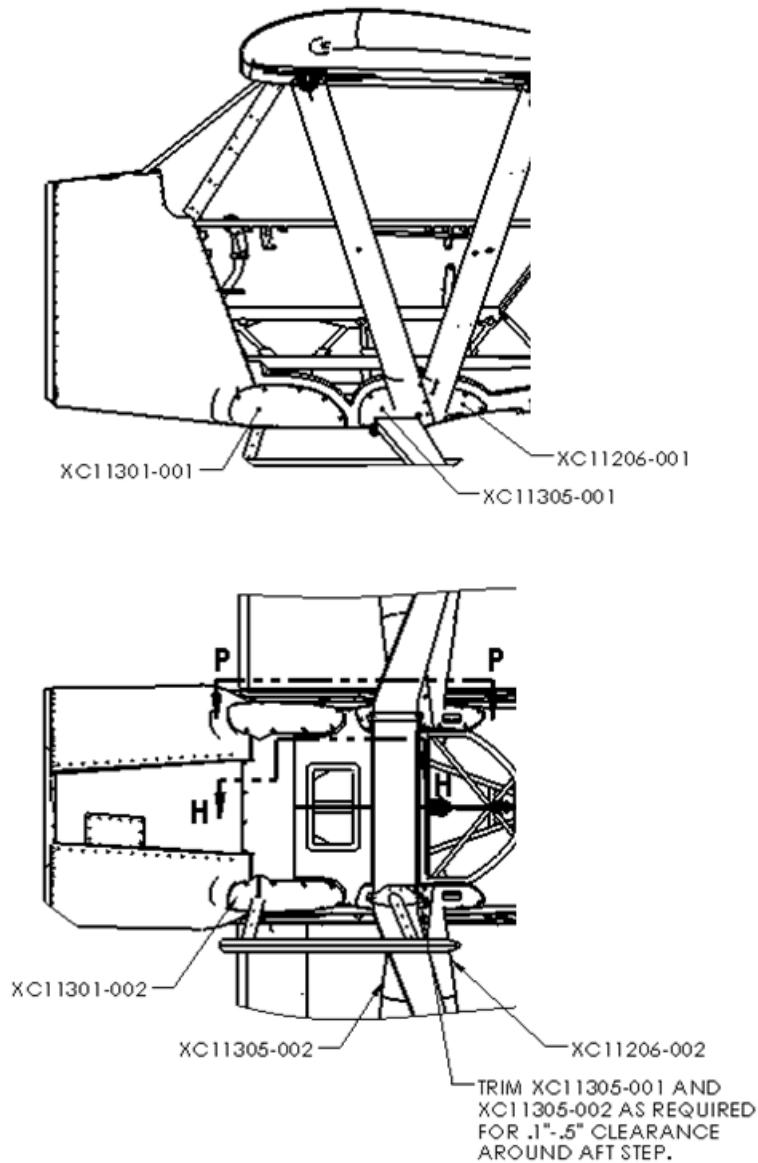
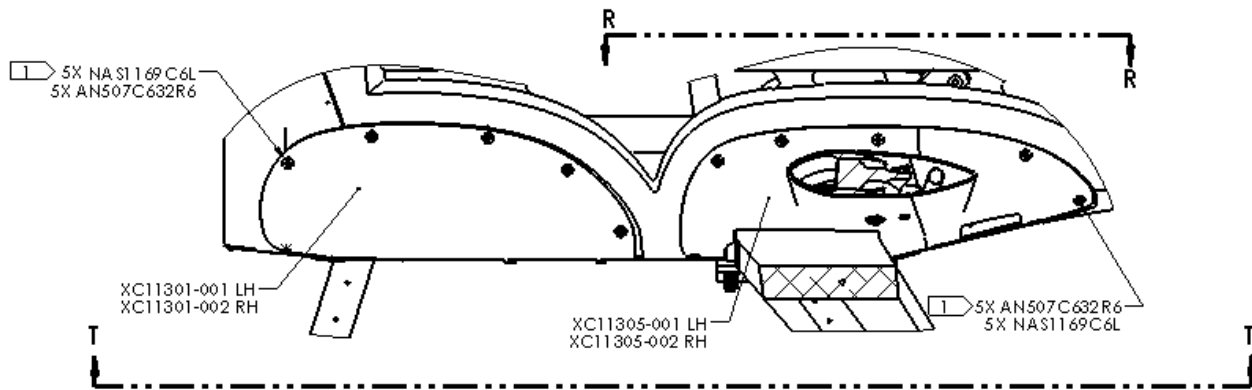


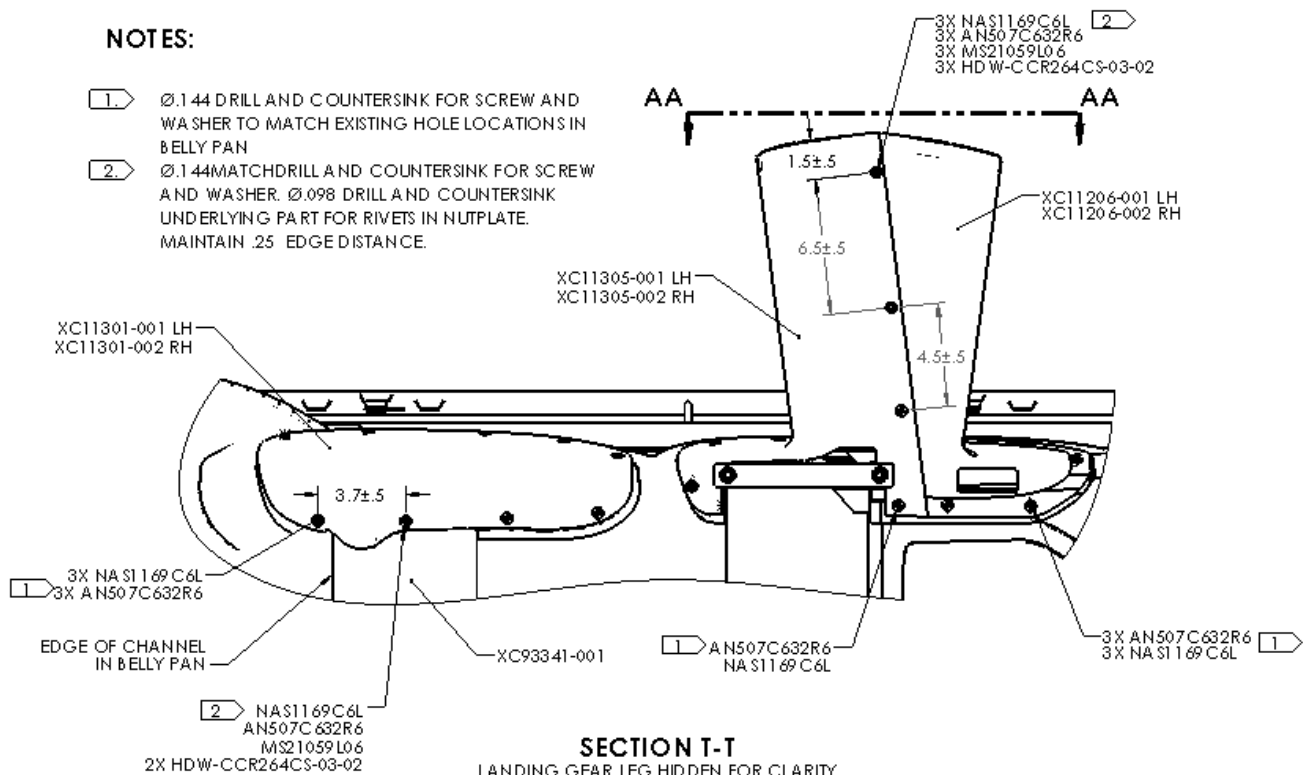
Figure 25 – Fairing Installation



SECTION P-P
LEFT HAND SHOW, RIGHT HAND OPPOSITE

NOTES:

- 1. Ø.144 DRILL AND COUNTERSINK FOR SCREW AND WASHER TO MATCH EXISTING HOLE LOCATIONS IN BELLY PAN
- 2. Ø.144 MATCHDRILL AND COUNTERSINK FOR SCREW AND WASHER. Ø.098 DRILL AND COUNTERSINK UNDERLYING PART FOR RIVETS IN NUTPLATE. MAINTAIN .25 EDGE DISTANCE.

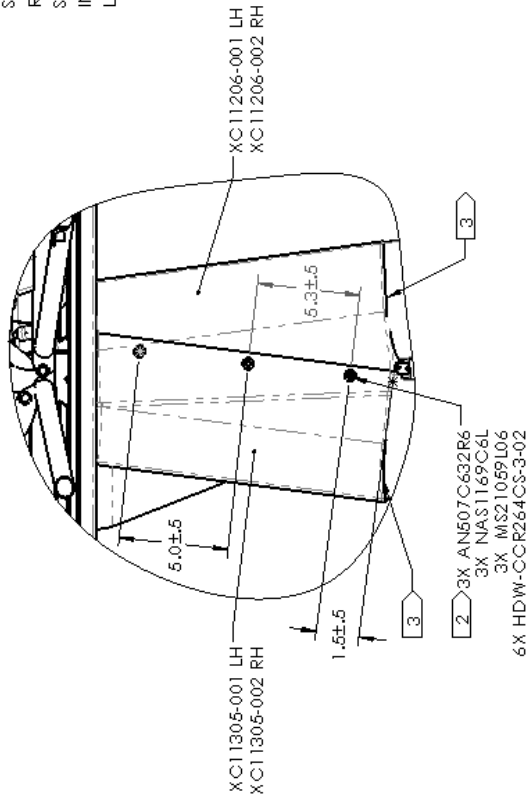


SECTION T-T
LANDING GEAR LEG HIDDEN FOR CLARITY

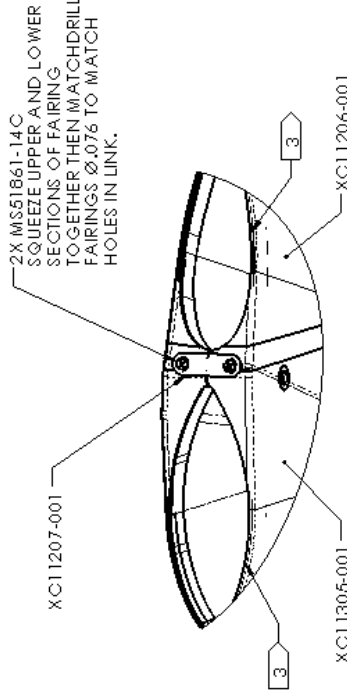
Figure 26 – Fairing Installation

NOTES:

- 2. Ø.144 MATCHDRILL AND COUNTERSINK FOR SCREW AND WASHER. Ø.098 DRILL AND COUNTERSINK UNDERLYING PART FOR RIVETS IN NUTPLATE. MAINTAIN .25 EDGE DISTANCE.
- 3. CLEAN SURFACES AND APPLY RM1072-001 /-002 TAPE TO FAIRINGS ON ALL SURFACES WHERE FAIRING MAY CONTACT METAL STRUCTURE. TRIM TAPE AS REQUIRED. TRIM FAIRINGS AS REQUIRED TO ENSURE FITMENT OF FAIRINGS TO STRUCTURE DOES NOT PRODUCE POINTS, OR CONCENTRATED AREAS WITH INTERFERENCES. APPLY RM1076-001 TAPE TO STRUTS AND LANDING GEAR LEGS WHERE THEY PASS THRU FAIRINGS.



SECTION R-R



SECTION AA-AA

INSTALLATION MIRRORED ON RH SIDE

Figure 27 – Fairing Installation

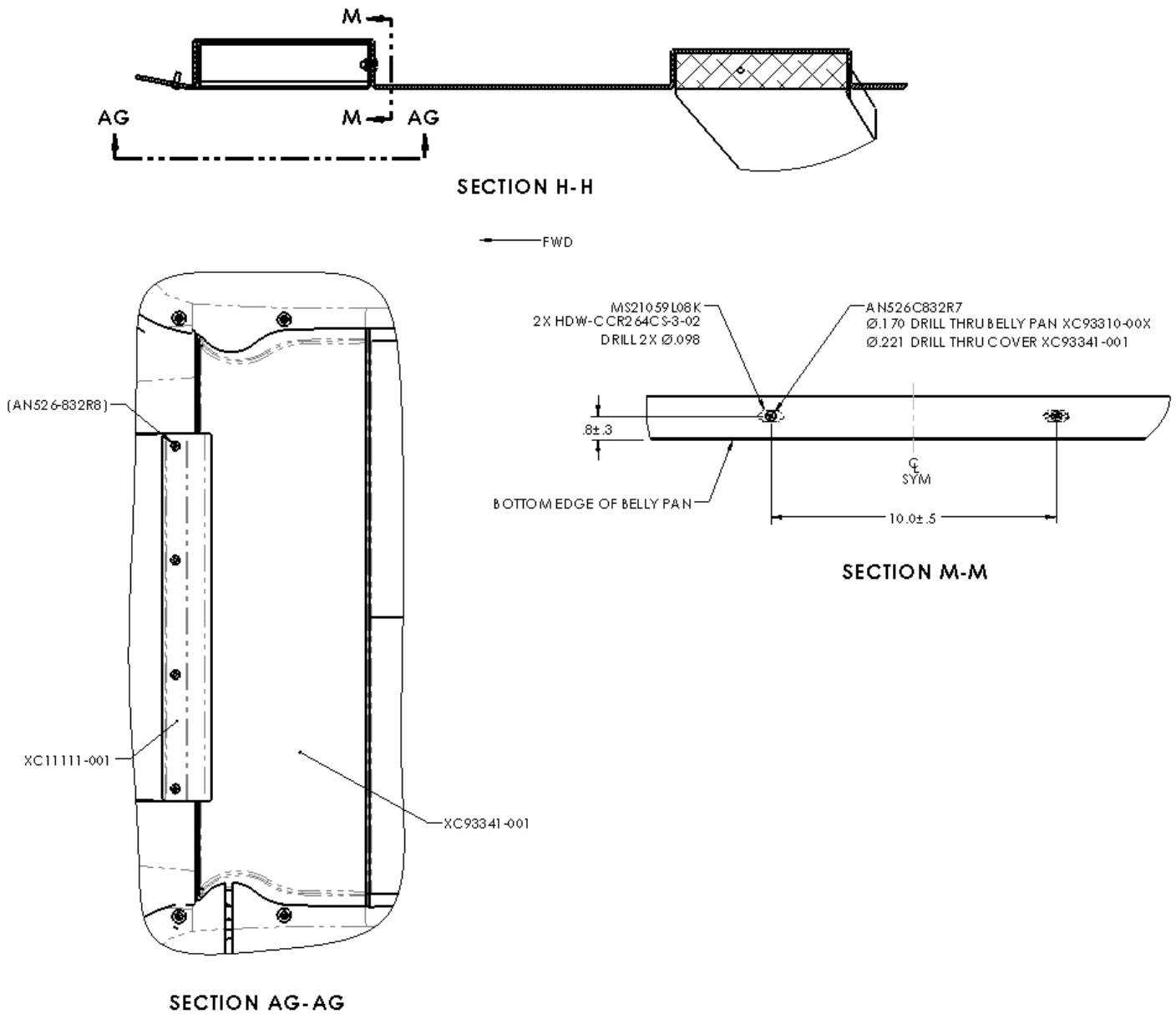


Figure 28 – Fairing Installation

39. Remove tailwheel assembly, including leaf springs and hardware attaching tailwheel to fuselage. Install tail skid in accordance with Figure 29.

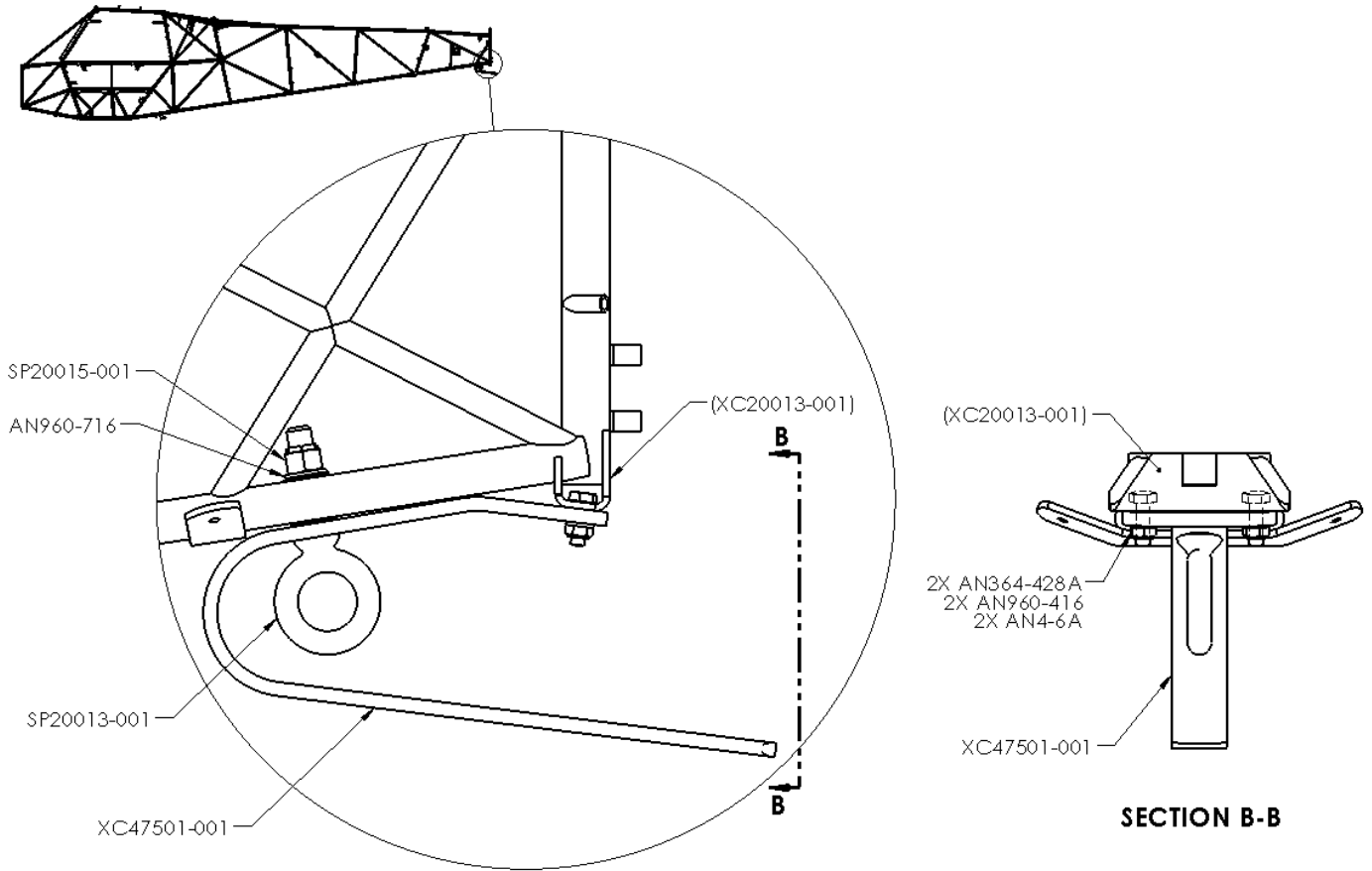


Figure 29 – Tail Skid & Rudder Springs

40. Remove XC53506-001 and XC53509-001 from lower cowl (see Figure 30).

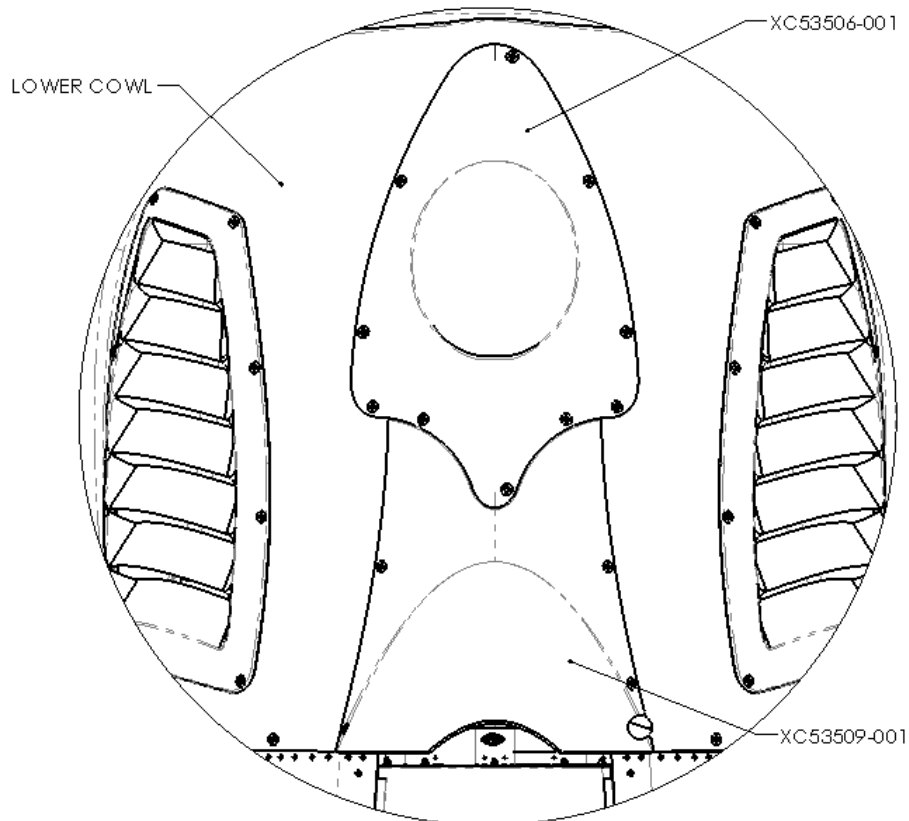


Figure 30 – Existing Lower Cowl Subassembly

- 41. Install upper and lower cowl in accordance with maintenance manual chapter 71-10.
- 42. Reinstall XC53509-001 (shown in Figure 30) onto lower cowl.
- 43. Install new front lower cowl fairings (XC53505-001/-002). Lower cowl and lower cowl access panel (XC53509-001) already include several nutplates for mounting the new fairings. Drill holes in XC53505-001 & -002 as required to match nutplate locations. Use hardware from removed fairing XC53506-001 for attaching new fairings to the lower cowl. Install additional hardware for securing XC53505-001 & -002 to each other in accordance with Figure 31.

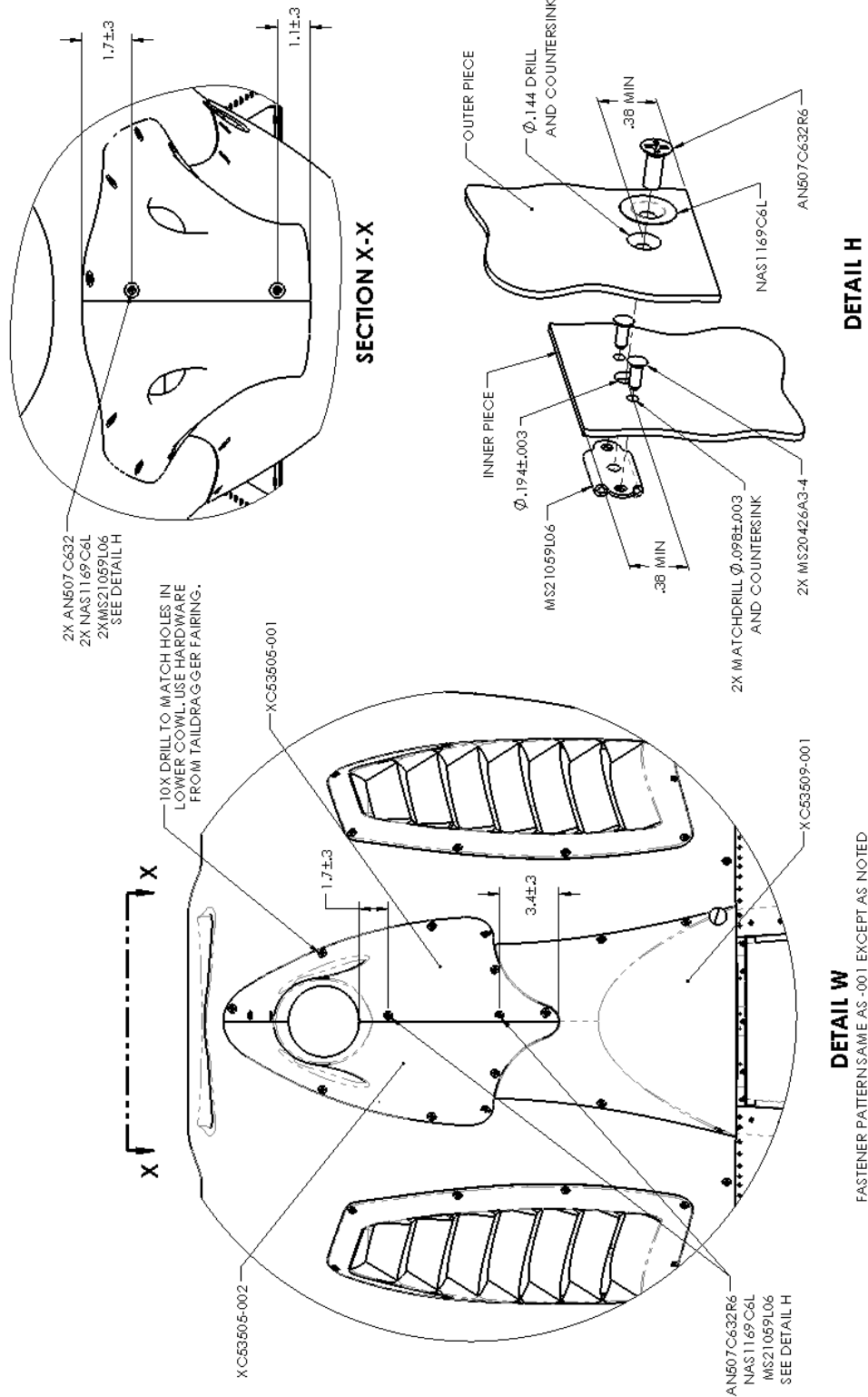


Figure 31 – New Lower Cowl Subassembly

44. Install ducting from cowl inlets to heat exchanger in accordance with Figure 32.

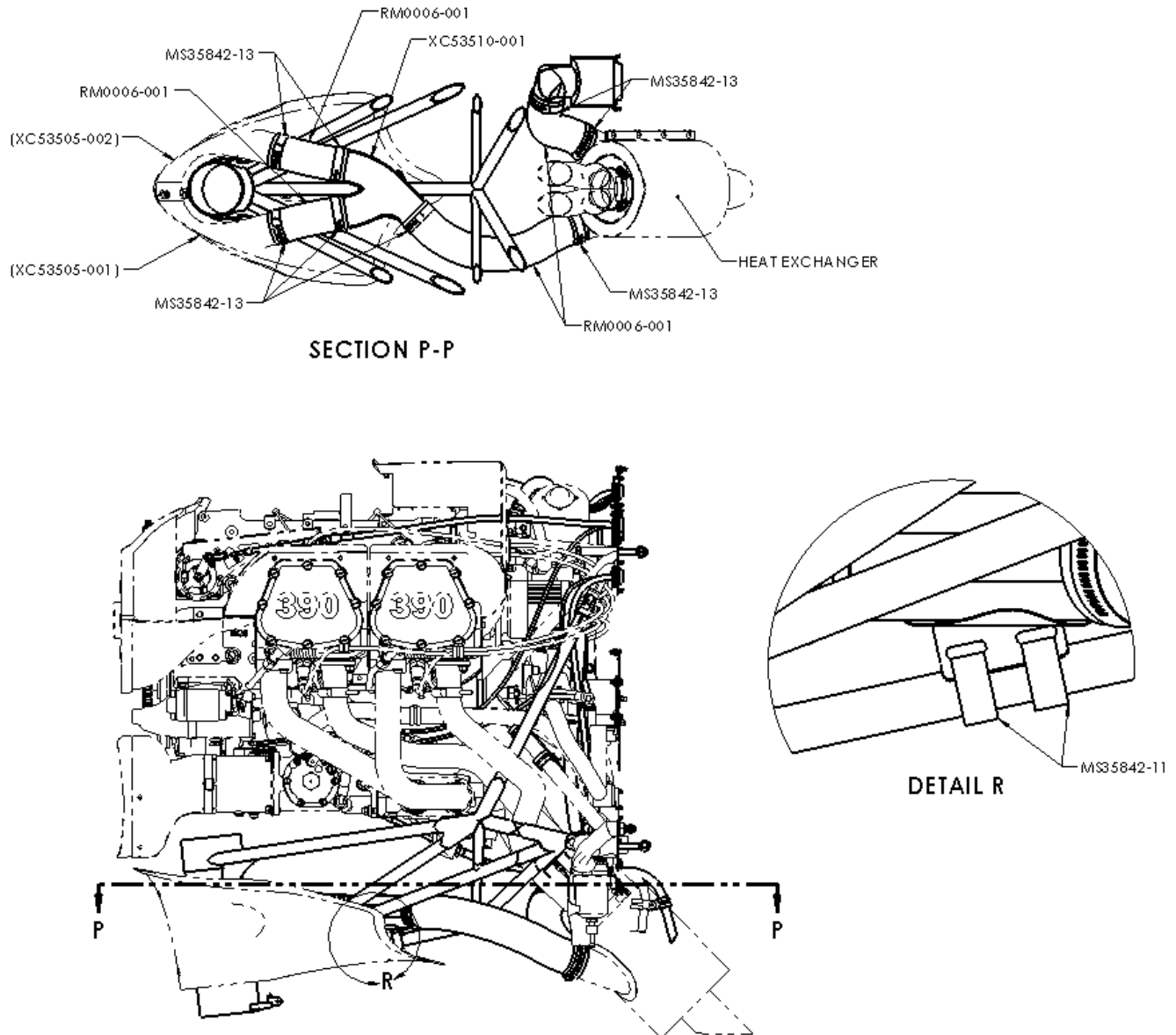


Figure 32 – Cabin Heat Ducting

45. Check your fuel sight gauge placards on the header panels. If the aft side of the scale reads, "...THREE POINT..." (see Figure 33), then your placards need to be replaced with ones that say, "...TAILWHEEL GND..." (see Figure 34). If your aircraft already includes the correct fuel sight gauge placards, proceed to step 49.



Figure 33 – Incorrect Placard (replace)

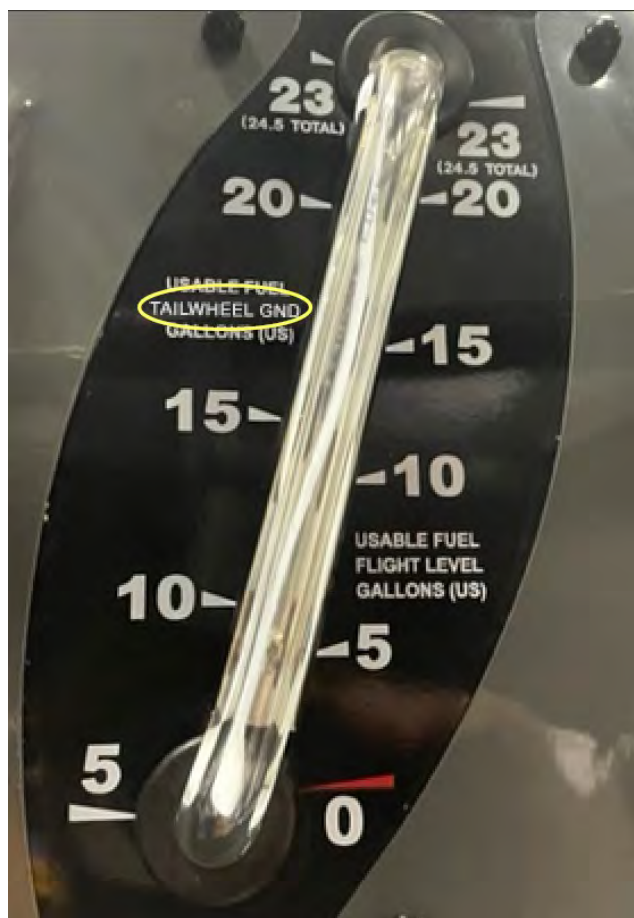


Figure 34 – Correct Placard

46. To remove the existing placards, carefully pull out the grommets at the top and bottom of the gauge tube. These grommets should be slid to some part of the tube where they can be out of the way.
47. Peel off the existing placards and replace with the correct placards. For standard units, install XC97302-001 on the left header panel, and XC97302-002 on the right. For metric units, install XC97304-001 on the left header panel, and XC97304-002 on the right. Locate the placards by aligning the circular cuts in the placard with the upper and lower holes in the panel.
48. Massage any bubbles out of the placard and replace the grommets into the panel.
49. Reconnect the battery cables and reinstall avionics bay panel.
50. Turn on the master switch. Verify that all components on the panel are working correctly.
51. With the new ground attitude, the taxi light in the right wing must be adjusted. Remove the cover over the light by taking out the 6 mounting screws and peeling off any silicone around the perimeter.

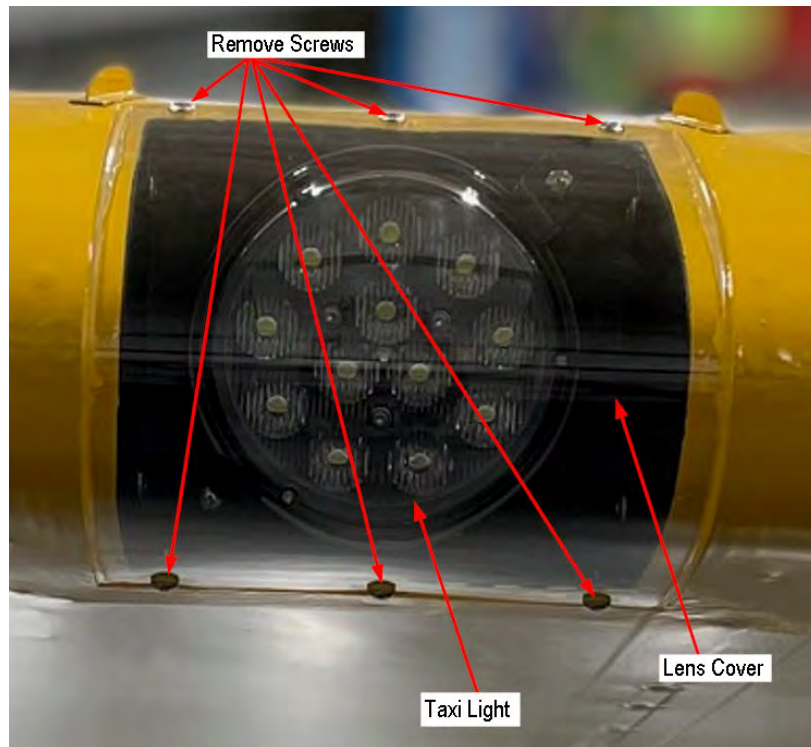


Figure 35 – Taxi Light

- 52.** Adjust taxi light in accordance with instructions in Appendix B.
- 53.** Reinstall the cover with the 6 screws and apply a new bead of VP13003-01 silicone sealant around the perimeter.

The following steps are to ensure everything is in working order.

- 54.** Re-read all instructions while inspecting the aircraft. Verify that instructions have been followed and ensure all hardware is appropriately installed and components fit as intended.
- 55.** Verify smooth operation and full range of motion of the control stick and elevators and ailerons.
- 56.** Verify smooth operation and full range of motion of rudder pedals and rudder.
- 57.** Verify smooth operation of trim motor and correct limits of horizontal stabilizer.
- 58.** Verify tire pressures.
- 59.** Verify that brakes engage when actuating brake pedals.
- 60.** On the nose gear, pull the pin and remove the nose wheel stop.



Figure 36 – Nose Gear Stop Removed

- 61. Make sure the prop blades are out of the way of the nose gear, and push the plane around, forwards and backwards, making sure the nose gear can swivel 360°.
- 62. Return nose gear stop and pin.
- 63. Start the aircraft and slowly perform several figure 8's to make sure the nose gear is turning properly.
- 64. In a straightaway, pick up speed, then apply brakes to a full stop. Do this several times.
- 65. Once taxiing is complete, check the tension of the nose gear strut inside the truss pillar as described in Chapter 32-80 of CK10000AMM. If necessary, tighten the 3 bolts on top of the pillar as required and re-install safety wire.

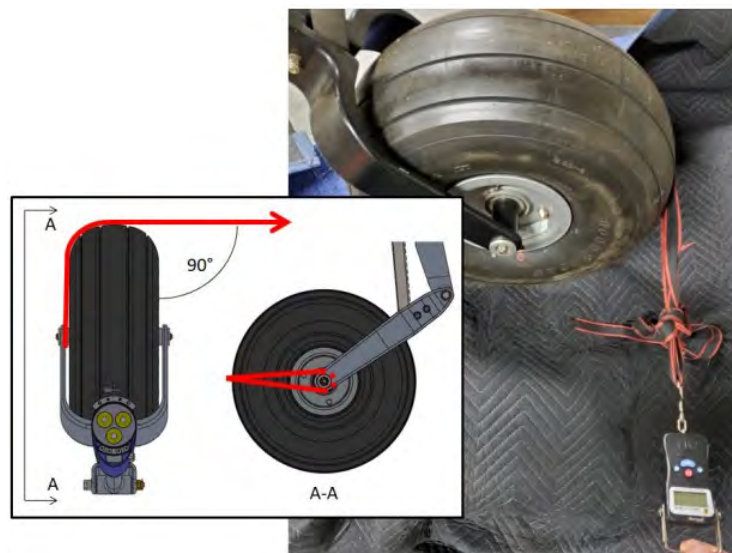


Figure 37 – Nose Gear Tension



SERVICE LETTER

XK-SL-001

Rev NC

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DOCUMENTATION:D

Make a logbook entry that XK-SL-001 Rev NC was complied with. Weigh the aircraft per the Aircraft Maintenance Manual (document XK10000AMM, Rev. NC or later), Chapter 08-20. Record the new weight and CG in the POH/AFM (XK100##AFM), Section 6. Update the equipment list to include the removal of taildragger spring gear and tailwheel and the installation of new spring gear & tires and nose wheel. Weight and Arm data does not need to be specified for each component listed in the equipment list, as the weight and balance are established by re-weighing the aircraft. Attach Nose Landing Gear Supplement (Section 9.3) to POH/AFM.

If you are no longer in possession of this aircraft, please forward this information to the present owner/operator and notify Cub Crafters, Inc. Contact the customer service department at:

Cub Crafters, Inc.
1918 S. 16th Avenue
Yakima, WA 98903.
1-509-248-9491 or 1-877-484-7865
support@cubcrafters.com

Please include the aircraft registration number, serial number, current name, and address of the owner and/or operator.

Appendix A – Method for locating fairing holes

The following method may be used to determine drill locations in new fairings.

1. Remove the existing fairing.
2. Install a short strip of masking tape above each fairing mount hole.



Figure 38

3. Mark a straight line projected away from the center of each hole.



Figure 39

4. On the new line, make a perpendicular tick mark 1.0” from the center of the hole.



Figure 40



Figure 41

5. Install fairing with masking tape. Make sure the fairing is secure and won't move.
6. Use the lines from the short pieces of masking tape to project a point 1.0” from the tick mark onto the fairing. Mark each hole location.

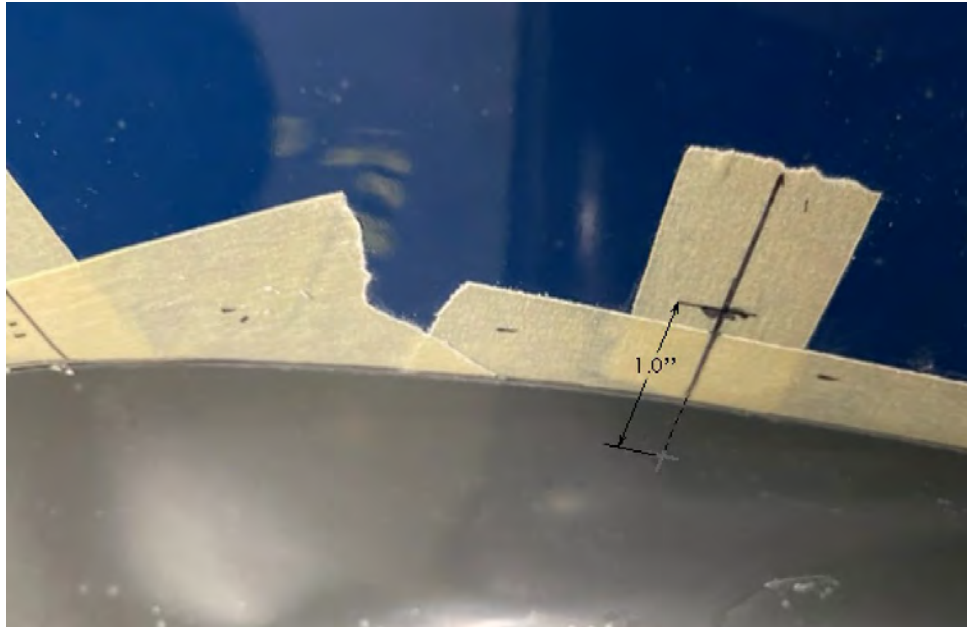


Figure 42

7. Remove the fairing and drill a $\text{Ø}0.098$ hole at each location.
8. Reinstall the fairing with Clecos to check fitment. The $\text{Ø}0.098$ holes drilled in the fairing are undersized, so if there's any misalignment, it should be noted and compensated for when opening to final size.

Appendix B – Taxi Light Adjustment

The taxi light is mounted to an aluminum receptacle, which in turn is attached to a composite receptacle mount. The receptacle, with light installed, is allowed to pivot inside the mount. Use the instructions below to pivot the receptacle into position for the correct taxi light angle.

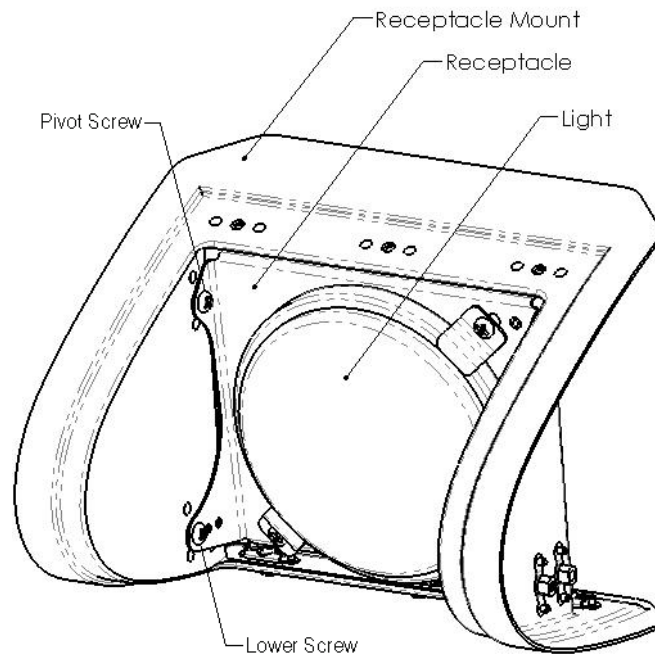


Figure 43 – Taxi Light Assembly

- 1) With the aircraft in its grounded attitude, measure the height of the light from the floor.
- 2) On a vertical surface that's 8' in front of the leading edge of the wing, mark a spot $.94 \times \text{light height}$, up from the floor.
Ex. if light is 81" up from the floor, mark on vertical surface will be $81" \times .94 = \underline{76.1}"$ up from floor.
- 3) Loosen the two pivot screws at the top of the receptacle. Do not remove.
- 4) Remove the lower screws from the receptacle. The receptacle should now hang freely on the pivot screws.
- 5) Turn on the lights
- 6) Swing the receptacle into the desired position, where the focal point of the light aligns with the mark. Find closest combination of aligning adjustment holes in the receptacle and receptacle mount and re-install lower screws.
- 7) Verify desired position is correct and tighten all screws.

Appendix C

- 1) Set the frame of a Desser AS-01 Balancer on a flat level surface.

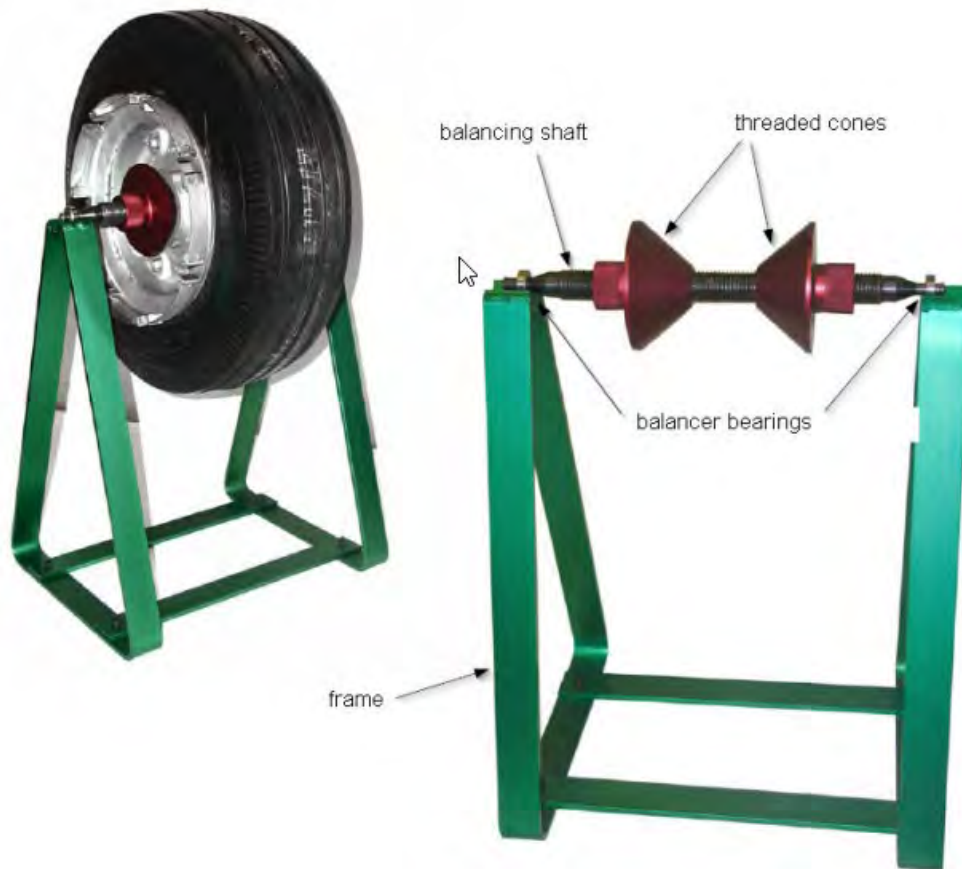


Figure 44 - Balancer

- 2) Remove one threaded cone from balancing shaft.
- 3) Install fully inflated tire/wheel assembly (with valve stem cap) on shaft and firmly tighten threaded cones against wheel bearings. The tire/wheel assembly should be approximately centered on the shaft.
- 4) Place the balancer bearings into the bearing slots in the frame. Spin the tire a few times to warm up bearings and ensure the assembly rotates freely.
- 5) Slowly spin the assembly and let it naturally come to a stop. The assembly should rock back and forth several times before settling.
- 6) Indicate the light spot of the assembly by marking the wheel with a grease pencil corresponding to the top (12 o'clock position) of the tire.
- 7) Tape 3oz of weights to the inside of the wheel shoulder at the light spot.

- 8) Rotate the tire 90° and allow tire to re-settle. If less than 3 oz. is required (weighted side goes down), remove weight and proceed to step 16. If more than 3 oz. is required, perform the following as needed, repeating steps 8-15 until less than 3 oz of balance weight is needed.
 - a) Rotate tire 90° or 180° on the wheel.
 - b) balance the wheel only. If out of balance, rotate the wheel halves relative to each other, one bolt hole at a time, to find the orientation with the least imbalance.
 - c) If the wheel/tire assembly cannot be balanced with less than 3 oz of balance weight, the tire must be replaced.
- 9) Using tape, add weights of varying sizes to wheel, rotate assembly 90°, and release. Add or subtract weights to light spot until the assembly has little or no movement at the 90° position. (For wheels without a brake disc, weights may be installed on both sides. For wheel assemblies with a brake disc, weights shall be added to side of wheel without brake disc.)
- 10) With appropriate weight determined, remove the taped on weights and clean the area where weights are to be attached.
- 11) Form weights as much as possible to match contour of wheel, peel off backing, and adhere to wheel in location corresponding to light spot. Weights may be stacked on top of each other (as shown in Figure 2). 3M adhesive promoter (RM0012-101) should be used for best adhesion. Figure 45.

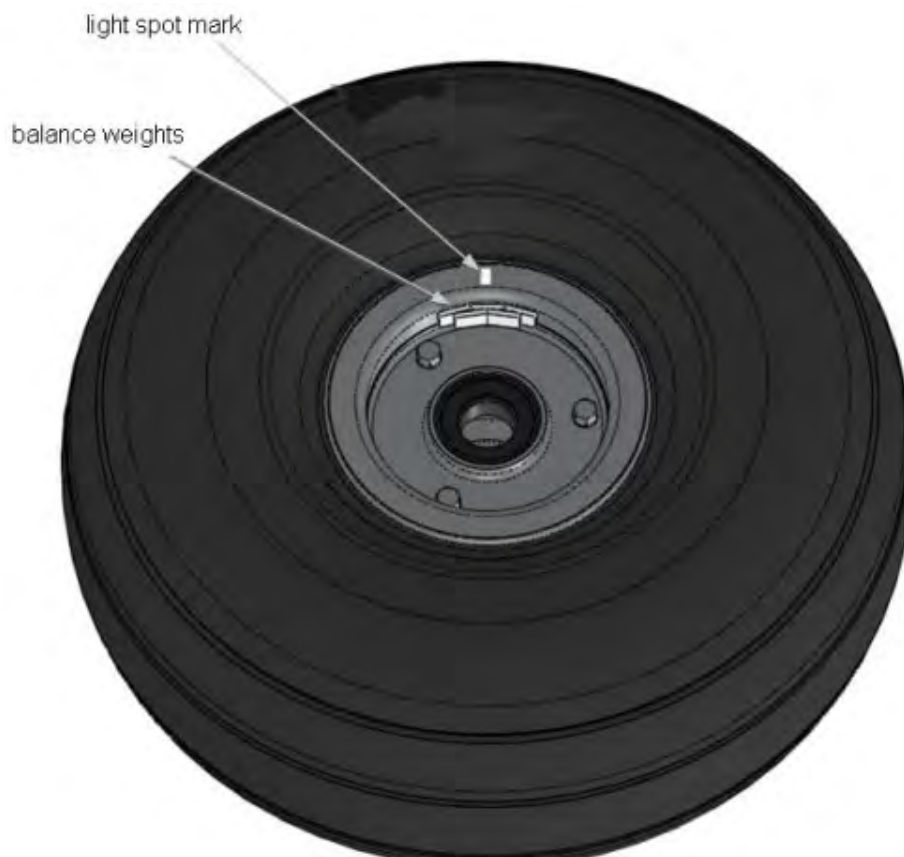


Figure 45 – Balanced Wheel/Tire Assembly



- 12) Verify balance by rotating and letting go of the assembly at various positions. The assembly should rotate very little, or not at all, when released. If the assembly gravitates to a certain clocking, more balancing is required