ENGINEERING CHANGE NOTICE #7

AUG 1967

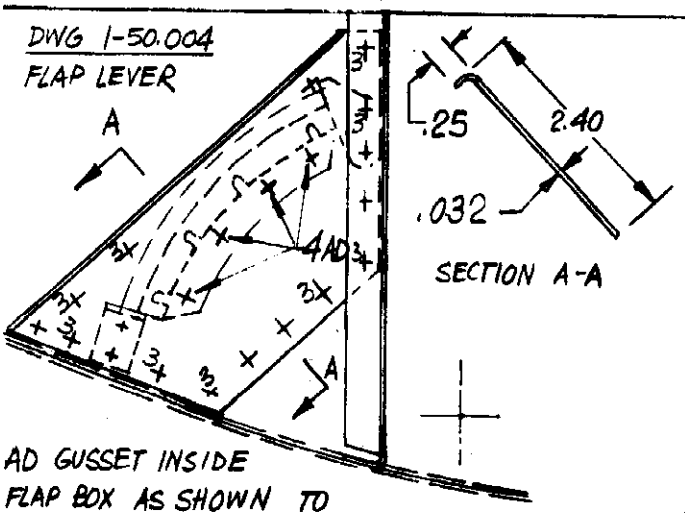
Page 1

AN BOLTS USED ON THE PL-1 - RECENTLY IT WAS FOUND THAT SOME OF THE AN BOLTS WIDELY USED IN LIGHT AIRCRAT DO NOT MEET THE MINIMIMUM STRENGTH REQUIREMENTS SPECIFIED IN THE HANDBOOKS. A HIGHLY RELIABLE LABORATORY MADE STRENGTH TEST OF SEVERAL AN BOLTS PURCHASED FROM DIFFERENT SUPPLIERS. IN MANY CASES THEY FAILED WAY BELOW THE REQUIRED LOADS. IN VIEW OF THIS I RE-CHECKED THE SAFETY MARGINS IN ALL AN BOLTS USED ON THE PL-1 USING MUCH LOWER ALLOWABLES (55,000 psi INSTEAD OF 125,000 psi AS REQD. PER MIL-HDBK-5). FORTUNATELLY I FOUND THAT EVEN WITH THE REDUCED ALLOWABLE LOADS MOST OF THE BOLTS STILL HAVE PLENTY OF SAFETY MARGIN. BUT A FEW BOLTS MOST BE CHANGED TO NAS BOLTS. (WHICH ARE MORE EXPENSIVE BUT HAVE A MUCH BETTER QUALITY CONTROL). SO NEXT IS THE LIST:

PRESENT BOLT	DWG.	APPLICATION	QTY	NEW BOLT
AN 5-20A	1-40.004	ATTACH ENGINE MOUNT TO FIREWALL	4	NAS 1005-22
AN 6-46	1-40.005	ATTACH ENGINE TO LORD MOUNTS	4	NAS 1006-66
AN 6H-31A	1-40.005	ATTACH PROPELLER TO ENGINE FLANGE	6	NAS 1006-40H
AN 5-20	1-50.002	BOLT REWORKED AS STUD FOR AILERON PUSH-PULL	4	NAS 1005-22
AN 5-20	1-50.006	" " " FOR ELEVATOR "	2	NAS 1005-22
AN 5-20	1-50.007	" " " FOR AILERON "	2	NAS 1005-22
AN 4-15	1-50.007	ATTACH ROD END TO AILERON PUSH-PULL TUBE	2	NAS 1104-21
AN 4-5	2-60.001	ATTACH LANDING GEAR TO WING SPAR	16	NAS 1104-4
AN 4-26	2-60.001&60.002	ATTACH SCISSOR TO FITTING	6	NAS1104-38
AN 4-7	2-60.001	ATTACH BRAKE PLATE TO -45	8	NAS 1104-9
AN 3-7	2-60.002	CONNECT STEERING TUBE	2	NAS 1103-10

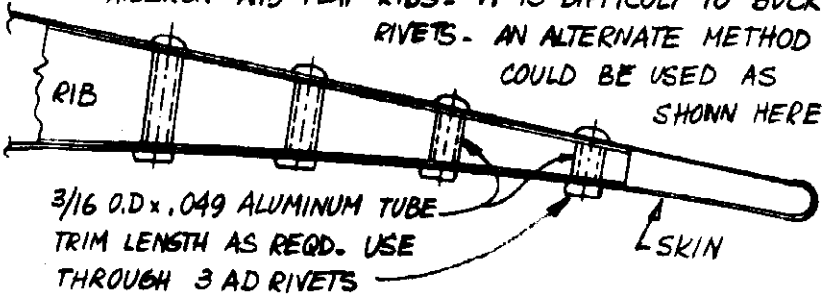
ALTERNATE DESIGNS FOR AILERON PUSH-PULL TUBES SHOWN IN ECN #4 (SEP 1966) ARE STRONGLY RECOMMENDED. BOLTS MARKED * ARE NOT REQUIRED IF ALTERNATE PUSH PULL DESIGN IS USED. THE LARGER TUBE (3/4 x .049) SHOWN IN ECN #4 FOR AILERON PUSH-PULL IS MANDATORY!

DWG 1-50.004
FLAP LEVER



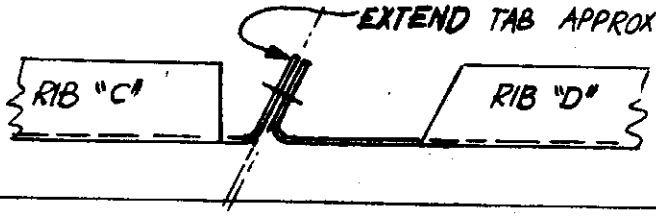
AD GUSSET INSIDE FLAP BOX AS SHOWN TO REINFORCE FLAP PLATE.

DWG 1-10.004 - BASIC RIB - AT THE TRAILING EDGE OF AILERON AND FLAP RIBS. IT IS DIFFICULT TO BUCK RIVETS. AN ALTERNATE METHOD COULD BE USED AS SHOWN HERE

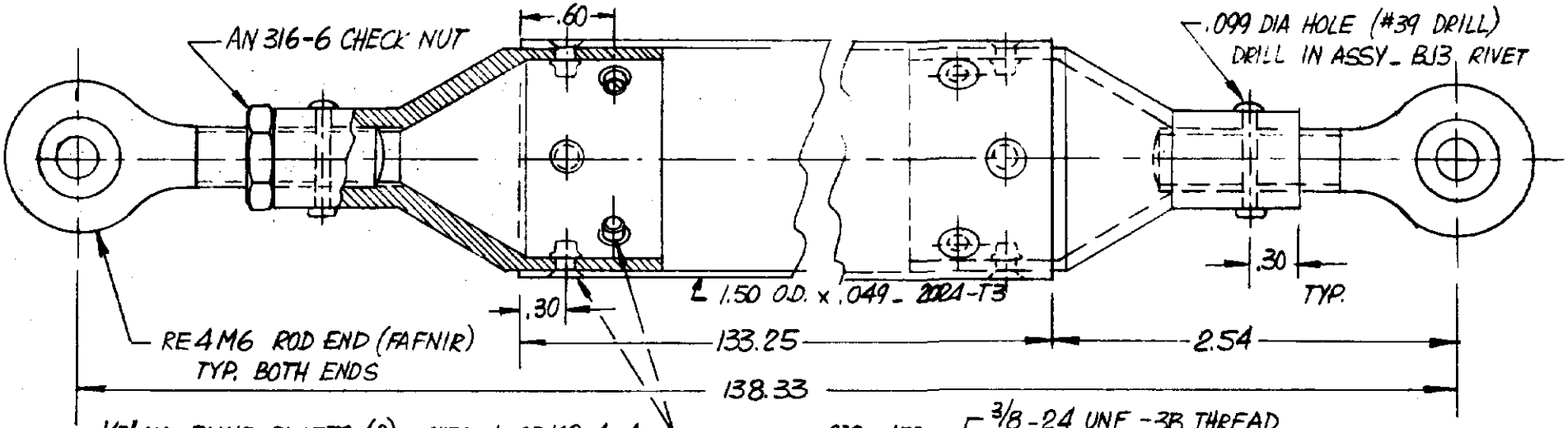


DWG 1-10.002 - MAIN SPAR. CALL OUT FOR 5/32 BLIND CHERRY RIVETS TO ATTACH PLATES TO COVER ACCES HOLES SHOULD BE CR 163-5-4 INSTEAD OF CR163-4-4

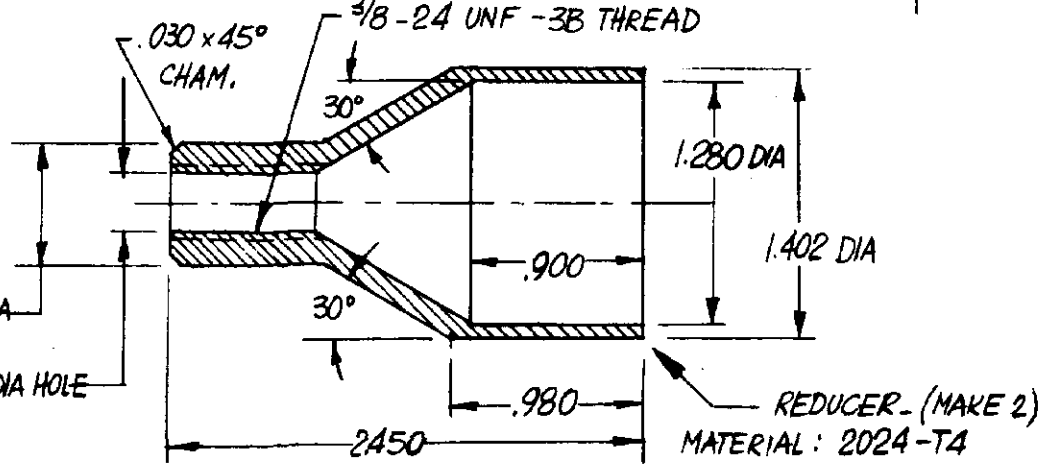
DWG 1-20.001 - VERTICAL FIN



DEAR PL-1 BUILDERS: - I JUST CAME BACK FROM THE ROCKFORD FLY-IN WHERE I MET BOB MILLER AN HIS LYCOMING POWERED PL-1. BOB FROM CALGARY. ALBERTA - CANADA, FINISHED HIS AIRPLANE IN 26 MONTHS WITH THE HELP OF HIS WIFE. I FLEW WITH BOB AND I CANT TELL WHO WAS MORE HAPPY AND PROUD!. BOB HAD A PL-1 FORUM RUNNING ALL DAY IN FRONT OF HIS BIRD. I THINK HE IS A BETTER SALESMAN THAT I AM. BUT HE HAD A REAL GOOD ARGUMENT. I CERTAINLY HOPE TO SEE MANY MORE NEXT YEAR. Pop.

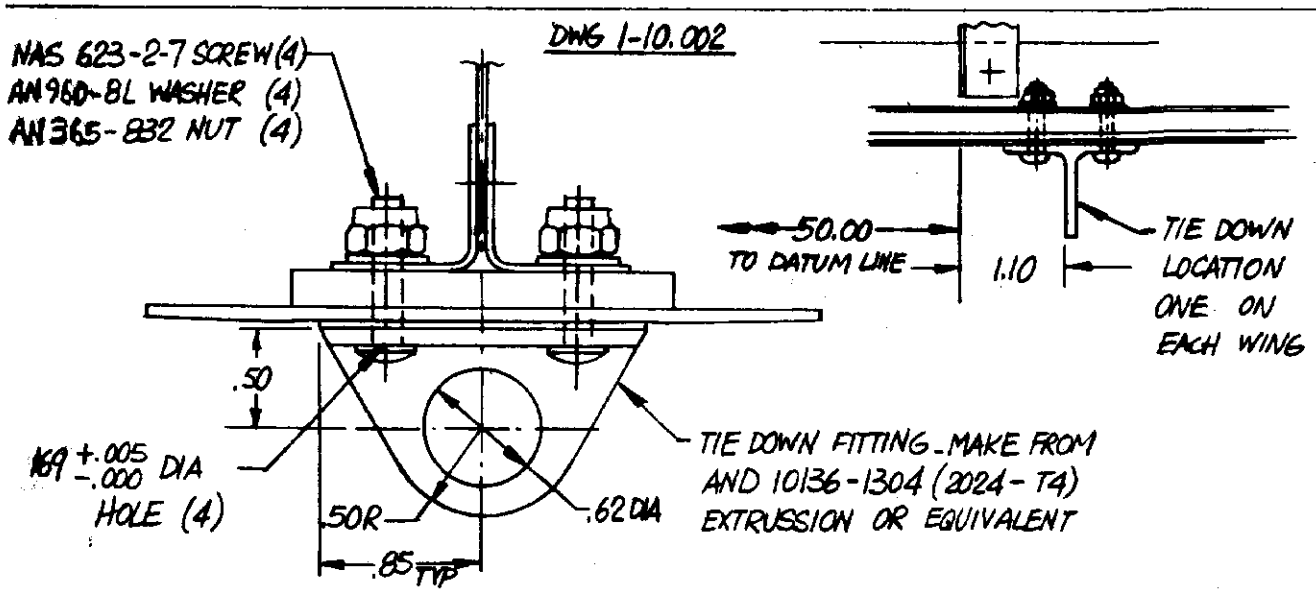


1/8' DIA BLIND RIVETS (8) CHERRY CR 162-4-4
INSTALL 4 RIVETS IN EACH ROW - WITH 90° SEPARATION - ALTERNATE RIVETS BETWEEN ROWS 45°. (TYP. BOTH ENDS)



DWG 1-50.006 - ALTERNATE DESIGN FOR ELEVATOR PUSH PULL - IF YOU DID NOT MADE IT ACCORDING TO THE OLD DESIGN, USE THIS! IT IS AN IMPROVED METHOD. WHICH DO NOT USE THE REWORKED BOLTS.
IF YOU HA'E IT ALLREADY - CHANGE THE AN BOLTS TO NAS AS SHOWN IN TABLE PAGE 1 OF THIS ECN.

DWG 1-10.002



THE PL-1 MUTUAL AID NEWS LETTER IS PUBLISHED BY MR J.D. WALLEN 605 HOWARD DR. - BRUNSWICK GEORGIA - 31520 -
RECENTLY, I RECEIVED ISSUE #9 WRITE DIRECTLY TO MR WALLER PLEASE ON ECN # 6 I PUBLISHED A LIST OF OPTIONAL PL-2 DRAWINGS, FUEL SYSTEM, BREAK INSTALLATION, EXHAUST SYSTEM, ELECTRICAL SYSTEM, COWL FOR LYCOMING ETC. THEY ARE VERY COMPLETE - IF YOU WISH A DETAILED LIST WITH PRICES SEND ME A POST CARD.

L. Pazmany