

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

APR 29 1991
RECEIVED
Panel Lights
Form Approved
Budget Bureau No. 04-R060.1
KPR FAA USE ONLY
OFFICE IDENTIFICATION
NM-FSDO-01

MAJOR REPAIR AND ALTERATION
(Airframe, Powerplant, Propeller, or Appliance)

INSTRUCTIONS: Print or type all entries. See FAR 43.9, FAR 43 Appendix and AC 43.9-1 for subsequent revision thereof for instructions and disposition of this form.

1. AIRCRAFT	MAKE PIPER PACER	MODEL PA-20-125
	SERIAL NO. PA-20-605	NATIONALITY AND REGISTRATION MARK N7771K
2. OWNER	NAME (As shown on registration certificate) Luse, David G. Luse, Sally L.	ADDRESS (As shown on registration certificate) 813 NE 267th Avenue Camas Washington, 98607

3. FOR FAA USE ONLY

THE DATA IDENTIFIED HEREIN COMPLIES WITH APPLICABLE AIRWORTHINESS REQUIREMENTS AND IS APPROVED ONLY FOR THE ABOVE DESCRIBED AIRCRAFT SUBJECT TO CONFORMITY INSPECTION BY A PERSON AUTHORIZED BY FAR 43.7

4-19-91
DATE
FAA INSPECTOR, NM-FSDO-01

UNIT	MAKE	MODEL	SERIAL NO.	5. TYPE	
				REPAIR	ALTERATION
AIRFRAME	***** (As described in item 1 above) *****				X
POWERPLANT					
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS Robert Williams 715 NE 152 Avenue Vancouver Washington, 98664	B. KIND OF AGENCY <input checked="" type="checkbox"/> U.S. CERTIFICATED MECHANIC <input type="checkbox"/> FOREIGN CERTIFICATED MECHANIC <input type="checkbox"/> CERTIFICATED REPAIR STATION <input type="checkbox"/> MANUFACTURER	C. CERTIFICATE NO. A8P540463578
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D. I certify that the repair and/or alteration made to the unit(s) identified in item 4 above and described on the reverse or attachments hereto have been made in accordance with the requirements of Part 43 of the U.S. Federal Aviation Regulations and that the information furnished herein is true and correct to the best of my knowledge.

DATE April 19 1991	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Robert Williams</i>
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7. APPROVAL FOR RETURN TO SERVICE

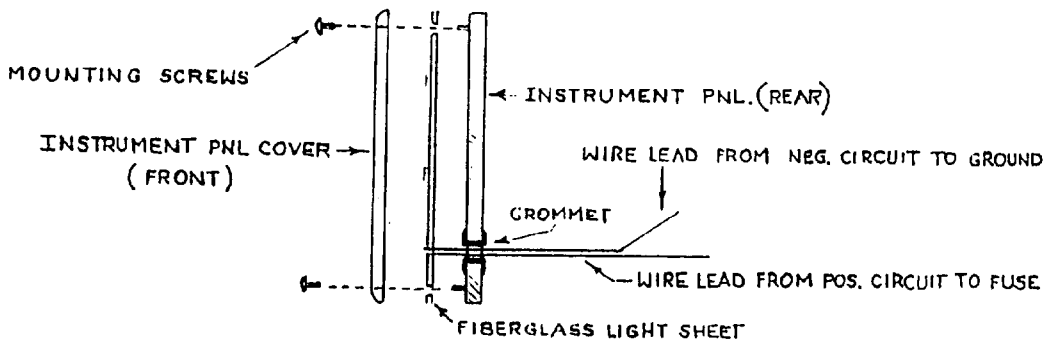
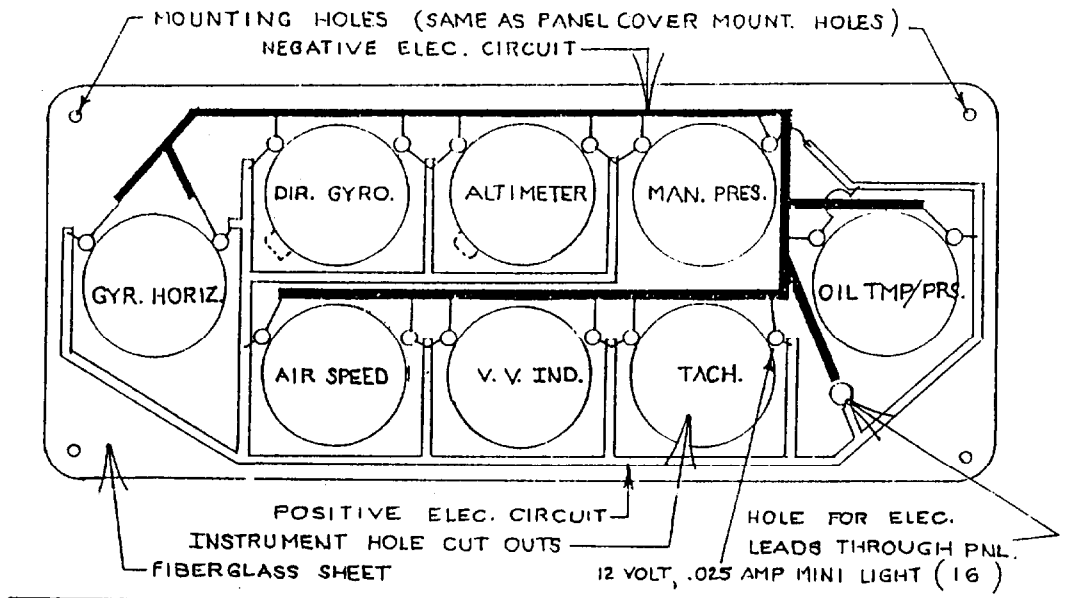
Pursuant to the authority given persons specified below, the unit identified in item 4 was inspected in the manner prescribed by the Administrator of the Federal Aviation Administration and is APPROVED REJECTED

BY	FAA PT. STANDARDS INSPECTOR	MANUFACTURER	X	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION		CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	

DATE OF APPROVAL OR REJECTION 4-23-91	CERTIFICATE OR DESIGNATION NO. IA540463578	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Robert Williams</i>
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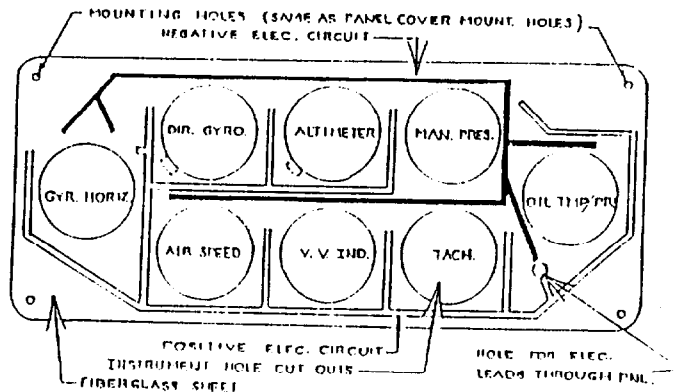
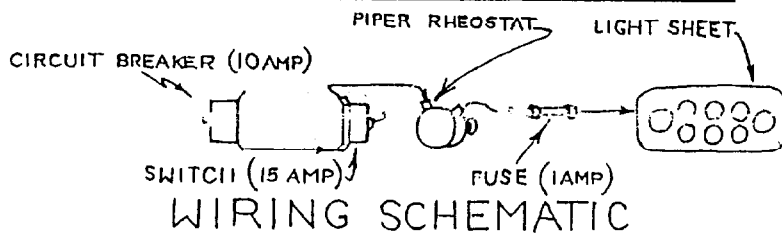
1. Using butcher paper, make an exact pattern of your instrument panel layout. Test fit the pattern and trim as necessary for a precise fit.
2. On a flat surface, impregnate a piece of fiberglass cloth with mixed resin. Lay the paper pattern onto the cloth and coat it with resin. Let dry.
3. Cut the instrument panel pattern out with sizzors. Test fit and trim as necessary.
4. You can construct your electrical circuitry either by cutting it from tin, or by using Copper Tape. I used a flattened paint thinner can, and cut my circuit from that. Copper Tape is available at crafts stores that handle stained glass supplies, and I recommend that if you can get it. You must solder to the circuit later, so DON'T USE ALUMINUM.
5. Attach the electrical circuit to the fiberglass sheet. Spot gluing with super glue works fine for the tin circuit. If you use copper tape, simply tape the circuit in place, folding it to make the corners. Test the circuit for continuity. After checking for continuity, apply a thick coat of mixed fiber glass:resin over the entire light sheet. Lay fiberglass cloth over the electrical circuit, leaving about 1/4 to 1/8 inch exposed at the ends to solder to.
6. When the fiberglass has dried, attach the bulbs to the sheet (spot gluing with super glue). I used .025 AMP "ARCHER" brand mini lights from Radio Shack.
7. Trim the wire leads from the bulbs to the shortest possible length, and solder them to the electrical circuit. Attach 18 inch wire leads to the end of the circuit and route through a hole in the sheet where you intend to penetrate the instrument panel for the electrical connection. Test the entire circuit under a 12 volt load. After testing the circuit, apply a thick coat of fiber glass resin over the entire sheet, bulbs and leads included. (The fiberglass resin will melt away if you need to replace a bulb later).
8. Drill a 1/2 inch hole (or smaller if you wish) in the instrument panel to match the hole in the lightsheet through which the electrical leads will penetrate the instrument panel. Install a rubber grommet in the hole.
9. The light sheet should be installed in the aircraft using an in line fuse. I originally used a 1 AMP, but later changed it to a 1/2 amp fuse.
10. When the lightsheet is complete, submit your drawings and filled out form 337 to the FAA FSDO for approval. You may copy any of my drawings if you wish. Submitting VERY NEAT and professional looking paperwork will help a great deal in the approval process. If possible, meet with the appropriate FAA inspector with all the paper work and drawings prior to building. Getting the inspectors aboard early on helps.

FRONT VIEW

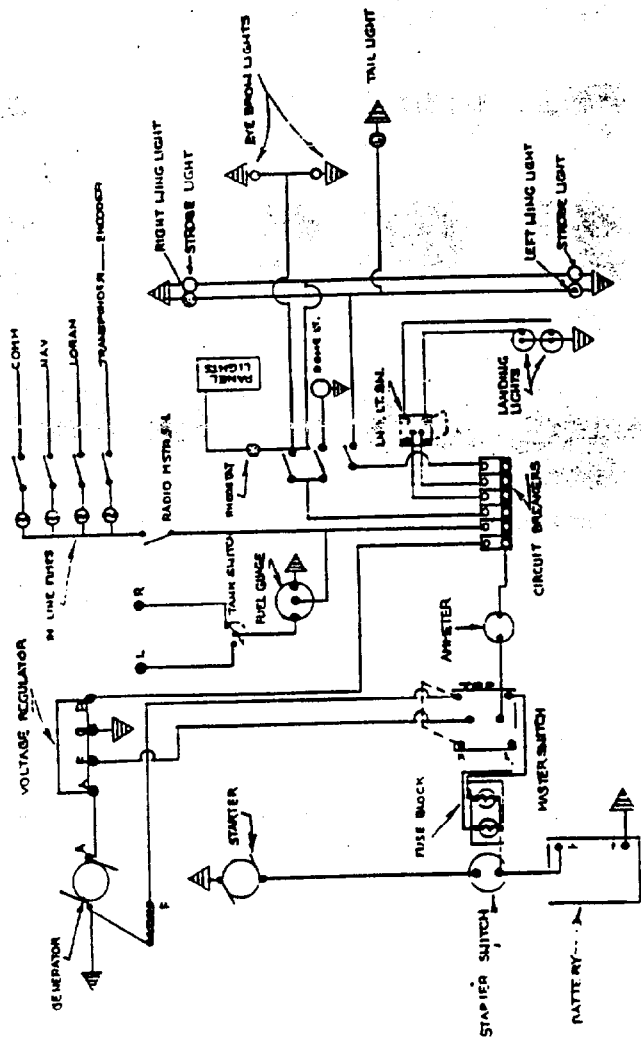


SIDE VIEW

DESIGNED BY: D.G. LUSE
DATE: 10-89



ELECTRICAL SYSTEM SCHEMATIC PACER N7771K

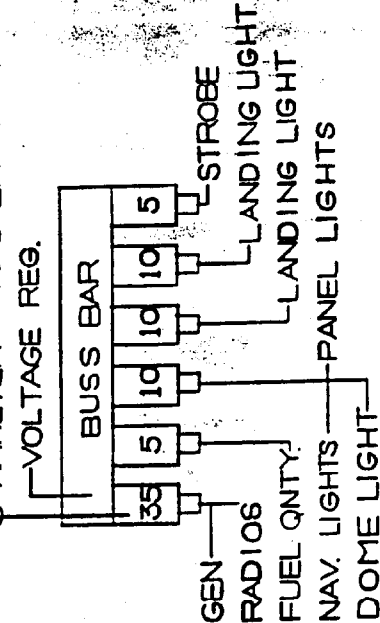


ELECTRICAL LOADING

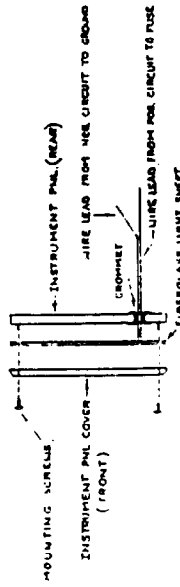
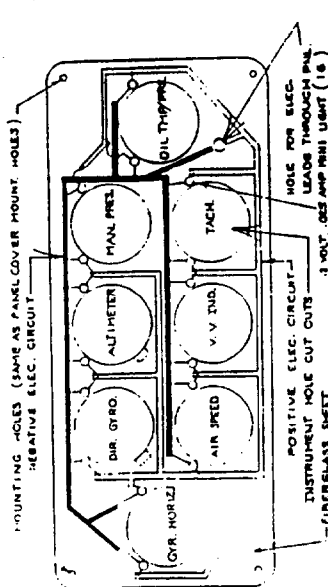
TRANSPONDER	2.0A
ENCODER	1.4A
VHF COMM RADIO	0.5A
VHF NAV RADIO	0.5A
LORAN	0.7A
NAV LIGHTS	4.0A
INSTRUMENTS	0.4A
FUEL INDICATOR	0.5A
STROBE LIGHTS	4.0A
EYEBROW LIGHTS	2.0A

TOTAL CONTINUOUS ELECTRICAL LOAD=16AMPS
20 AMP GEN. = 80% = 16AMP MAX CONT. LOAD

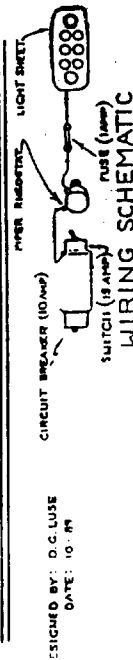
DETAIL OF CIRCUIT BREAKERS



DETAIL OF INST. LIGHT SYSTEM



SIDE VIEW



DESIGNED BY: D.C. LUSSE
DATE: 10/74