

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

FOR FAA USE ONLY
OFFICE IDENTIFICATION

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

1. AIRCRAFT	MAKE <i>CESSNA</i>	MODEL <i>A185F</i>
	SERIAL NO. <i>18502213</i>	NATIONALITY AND REGISTRATION MARK <i>N3946Q</i>
2. OWNER	NAME (As shown on registration certificate) <i>PAUL MENNEN</i>	ADDRESS (As shown on registration certificate) <i>1452 OWEN SOUND DR. SUNNYVALE, CA. 94087</i>

3. FOR FAA USE ONLY

4. UNIT IDENTIFICATION				5. TYPE	
UNIT	MAKE	MODEL	SERIAL NO.	REPAIR	ALTERATION
AIRFRAME	***** (As described in item 1 above) *****				X
POWERPLANT	<i>CONTINENTAL</i>	<i>IO-520D</i>	<i>221497-73D</i>		X
PROPELLER					
APPLIANCE	TYPE				
	MANUFACTURER				

6. CONFORMITY STATEMENT

A. AGENCY'S NAME AND ADDRESS <i>VERN MILLER AVIATION 200 FORD RD. SP.#254 SAN JOSE, CA 95138</i>	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. <i>ARP 1938774</i>
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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 <i>11-22-91</i>	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Vern R Miller</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 FLT. STANDARDS INSPECTOR	MANUFACTURER <input checked="" type="checkbox"/>	INSPECTION AUTHORIZATION	OTHER (Specify)
	FAA DESIGNEE	REPAIR STATION	CANADIAN DEPARTMENT OF TRANSPORT INSPECTOR OF AIRCRAFT	
DATE OF APPROVAL OR REJECTION <i>11-22-91</i>	CERTIFICATE OR DESIGNATION NO. <i>1938774</i>	SIGNATURE OF AUTHORIZED INDIVIDUAL <i>Vern R Miller</i>		

NOTICE

Weight and balance or operating limitation changes shall be entered in the appropriate aircraft record. An alteration must be compatible with all previous alterations to assure continued conformity with the applicable airworthiness requirements.

8. DESCRIPTION OF WORK ACCOMPLISHED (If more space is required, attach additional sheets. Identify with aircraft nationality and registration mark and date work completed.)

Installed air/oil separator from Walker Engineering Co. in accordance with STC SA 4263WE and STC SE 94WE. No change to weight and balance. Equipment list revised.

ADDITIONAL SHEETS ARE ATTACHED

INSTALLATION INSTRUCTIONS

KW-3000-2

ETC

SA-3652-WE

FOR MODELS:

CESSNA 182, 182A, 182F
182C, 182D, 182E, 182F
182G, 182H, 182J, 182K
182L, 182M, 182N, 182P
182Q

SA-4425-NM

CESSNA 180, 180A, 180B
180C, 180D, 180E, 180F,
180G, 180H, 180J, 180K

SA 4263-WE

CESSNA 185, 185A, 185B
185C, 185D, 185E

SA-4263-WE

CESSNA A185E, A185F

KW-3000-2

INSTALLATION - AIRSED

12/9/77

WALTER DO

REVISED

NONE

6-10-80

RW 12/9/77

WALTER ENGINEERING COMPANY
LOS ANGELES, CALIF.

SHEET

1 OF 7

D

NUMBER
KW-3000-2

12/9/77

USE EXISTING ON LATE MODEL ONLY
WINGED AIR HOPE TYPE BAFFLE USED

REAR BUMPER

CAUTION - AIR FLOW MUST BE
UNSTANDARD THIS DIRECTION

IF PUMP OUTLET FITTING IS 5/8 INCH,
USE ITEM 22 INSTEAD OF 9.

IF OUTLET FITTING IS A "U", CUT
FITTING TO 90 DEG.

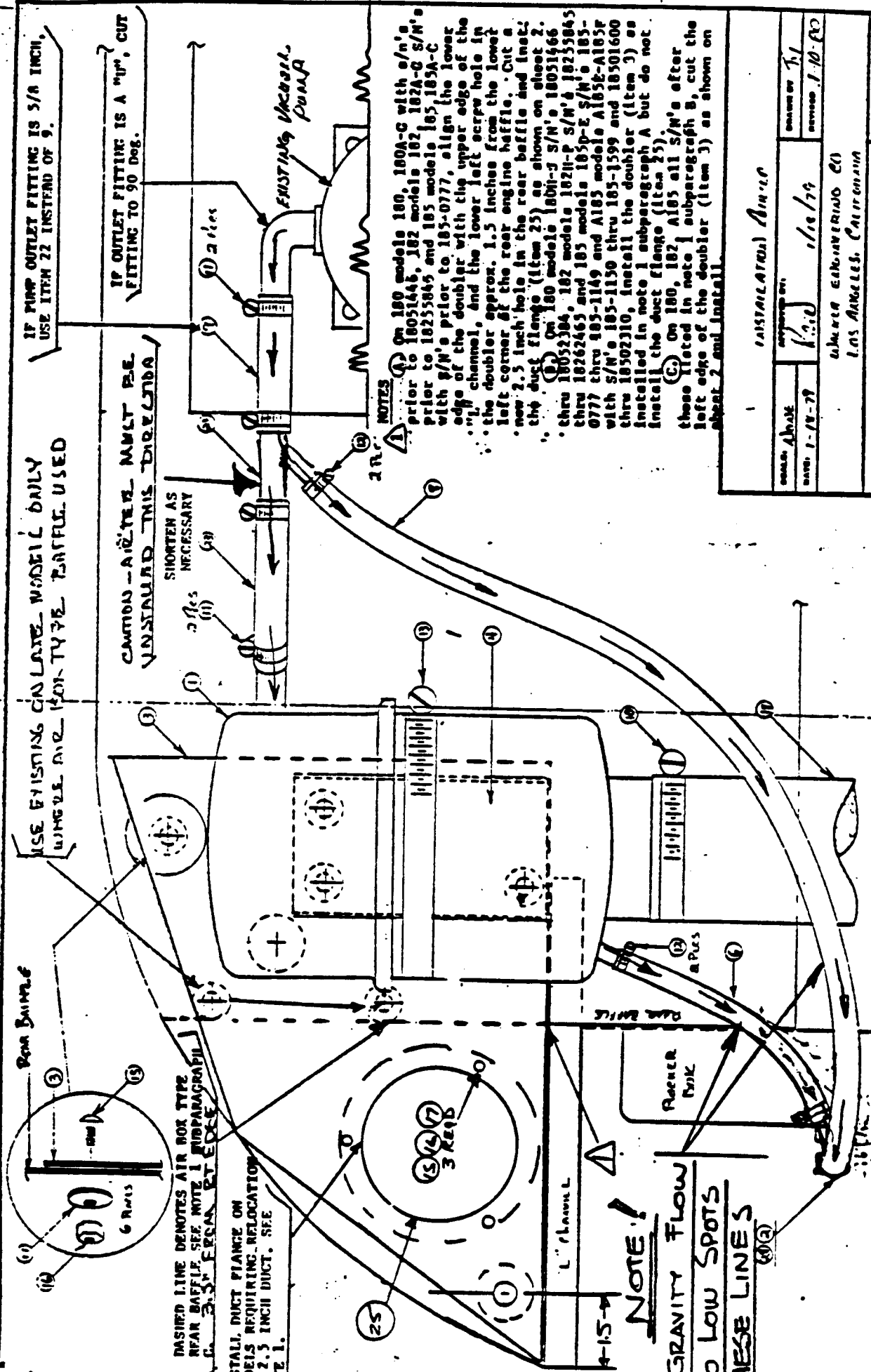
DASHED LINE DENOTES AIR BOX TYPE
REAR BAFFLE. SEE NOTE 1 SUBPARAGRAPH
C. 2.5" FROM RT EDGE

INSTALL DUCT FLANGE ON
HOLES REQUIRING RELOCATION
OF 2.5 INCH DICT. SEE
NOTE 1.

3 KEYS

1" CHANNEL

NOTE!
GRAVITY FLOW
NO LOW SPOTS
THESE LINES



NOTES

(A) On 180 models 180, 180A-C with S/N's prior to 18031445, 182 models 182, 182A-C S/N's prior to 18252845 and 185 models 185, 185A-C with S/N's prior to 185-0777, align the lower edge of the doubler with the upper edge of the "L" channel, and the lower left screw hole in the doubler approx. 1.5 inches from the lower left corner of the rear engine baffle. Cut a new 2.5 inch hole in the rear baffle and inset the duct flange (item 25) as shown on sheet 2.

(B) On 180 models 180H-J S/N's 18031466 thru 18052304, 182 models 182H-P S/N's 18252845 thru 18262465 and 185 models 185P-E S/N's 185-0777 thru 185-1149 and 185 models 185E-A185F with S/N's 185-1150 thru 185-1599 and 18501600 thru 18502310, install the doubler (item 3) as installed in note 1 subparagraph A but do not install the duct flange (item 25).

(C) On 180, 182, 185 all S/N's after those listed in note 1 subparagraph B, cut the left edge of the doubler (item 3) as shown on sheet 2 and install.

INSTALLATION SHEET

DATE: 1-18-79	APPROVED BY: [Signature]	DESIGNED BY: [Signature]
SUBJECT: EXHAUST/ENGINE COI		
LOS ANGELES, CALIFORNIA		
SHEET 2 OF 7 REV D		QUALIFIED PERSONNEL: [Signature]

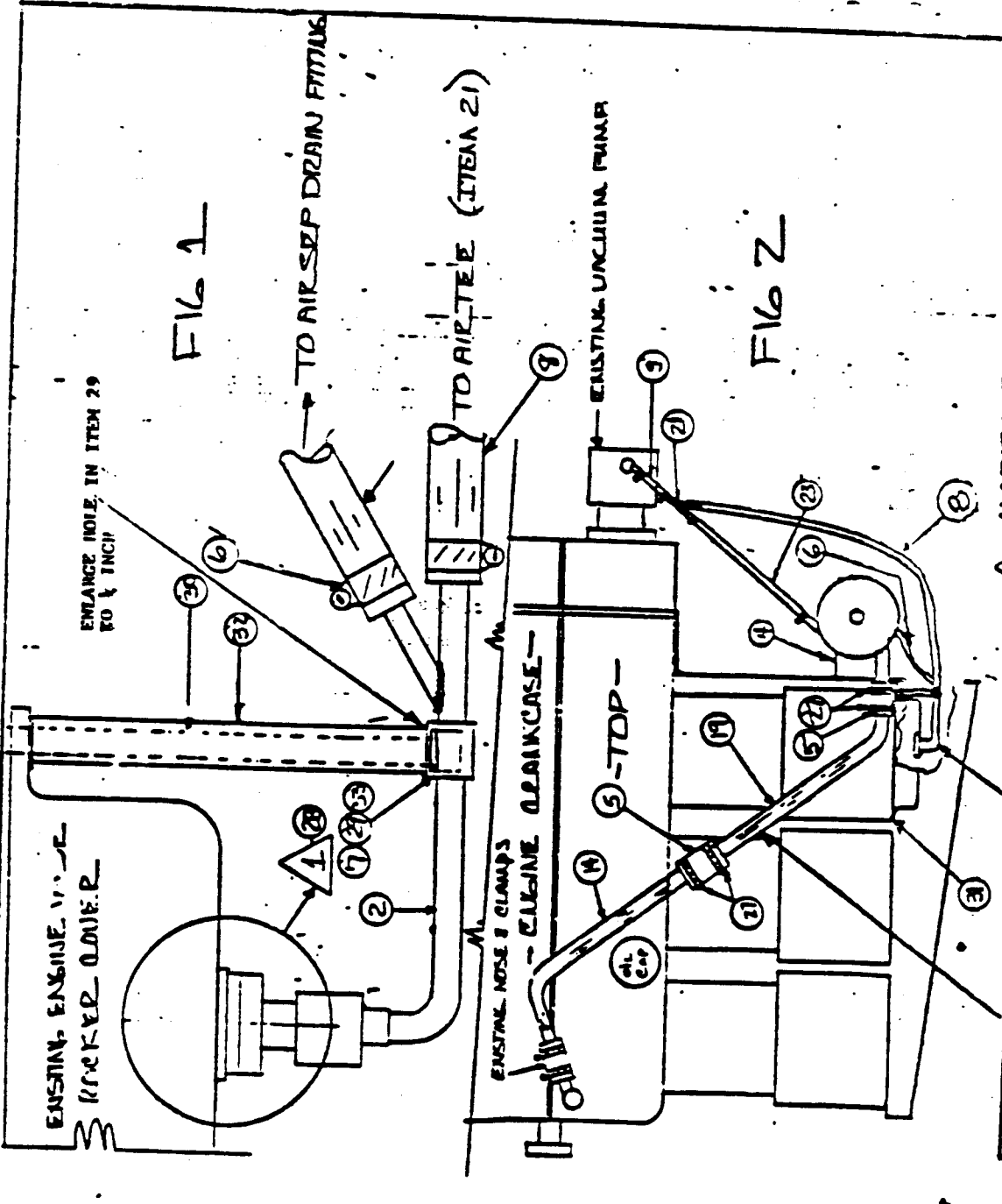


FIG 1

FIG 2

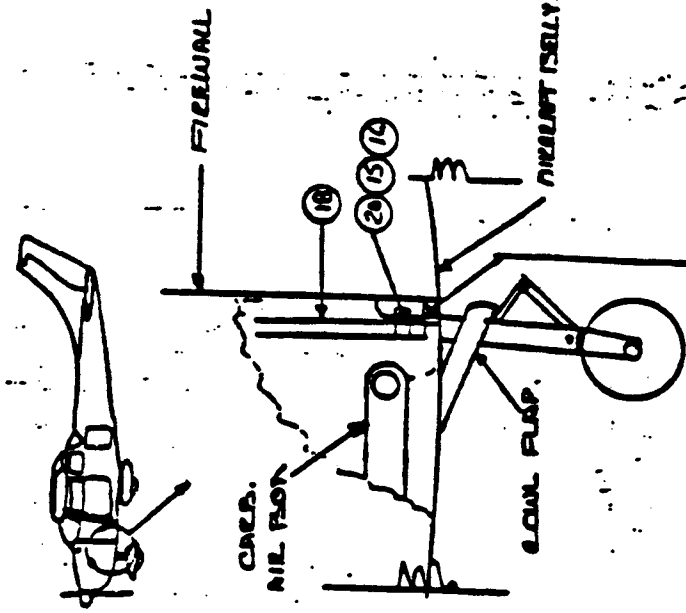


FIG 3

OPTIONAL ATTACHMENT OF
 OVERBOARD DUCT IS TO
 BE MADE IN LOWER DOWEL
 FLAP AREA WITH THE LOWER

INSTALLATION - AIRSEEP	
DATE 12-1-77	DESIGNED BY PP
NOV 1-10-80	RAW 147
WALKER ENGINEERING CO.	
LOS ANGELES, CALIF.	
3 OF 7	REV. 3000-2

W

Parts List

ITEM QTY PART NO DESCRIPTION MFG

1.	1	W-3000	Airsep	Walker
2.	1	W-2031	Airayphon Pump	Walker
3.	1	W-2023	Doubler	Walker
4.	1	W-2011	Universal Bracket	Walker
5.	2	W-2020-3/4-3.25	Nose	Walker
6.	1	W-2020-1/4-11	Nose	Walker
7.	1	AN 960-416	Washer	Walker
8.	1	W-2020-3/8-2 1/2	Nose	Walker
9.	1	W-2020-1/2-3	Nose	Walker
10.	1	H-24	Nose	Walker
11.	4	H-6	Clamp	Murray
12.	4	CS-4	Clamp	Murray
13.	1	H-72	Clamp	Murray
14.	1	W-2025-1	Clamp	Murray
15.	9	AN 526-10R1Q	Tube	Walker
16.	9	AN 365-1032	Screw	Walker
17.	7	AN 970-3	Nut	Walker
18.	30	CAT 7	Washer	Walker
19.	1	W-2025-2	Duct	Aeroduct
20.	1	MS21919DC30	Tube	Walker
21.	1	W-2018	Clamp	Adel
22.	1	W-2020-5/8-3	Air Tee	Walker
23.	1	W-2020-1/2-12	HOSE	Walker
24.	1	deleted	Nose	Walker
25.	1	W-2024	FLANGE	WALKER
26.	deleted			
27.	4	H-8/16	Clamp	Murray
28.	1	KW-2031	KIT	Walker
29.	1	MS21919CS	Clamp	Adel
30.	1	MS-80125-06-AG	BOLT	
31.	1	534857	Gasket	
32.	1	W-2006	Brushing	
33.	1	MS33333-40	Washer	

Continental

INSTALLATION, AIRSEP

SCALE: NONE	APPROVED BY: <i>Red</i>	DATE: 1/18/79	DATE: 3/18/79
DRAWN BY: JH		REVISED: 1/16/80	
Walker Engineering Company Los Angeles, California			
KW-3000-2			

INSTALLATION INSTRUCTIONS

1. Remove the existing engine breather and vacuum pump discharge components from the crankcase breather and vacuum pump down to the cowl flap.
- 1B. On vacuum pump discharge fittings that are approx. 180 degrees, cut the fitting so that it is 90 deg.
2. Install the doubler (Item 3) on the rear engine baffle as per instructions on sheet 2 (note 1 sub-paragraph A, B and C. Install the duct flange (if required) as shown on sheet 2.
3. Install the universal bracket (Item 4) to the doubler and the rear engine baffle using 3 each of the items 15, 16, and 17. The notches in the flanged edges should be upward. Slide the clamp (Item 13) under the universal bracket and secure all hardware.
4. Install the remaining items of 15, 16 and 17.
5. Install the airseep (Item 1) on the universal bracket with the 3/4 inch tube protruding forward through the rear baffle and doubler. Do not overtighten the clamp. NOTE
6. Remove the # two cylinder rocker cover and install the kit (KW-2011 per enclosed instructions.
7. Install the airsyphon pump (Item 2) to the notched rocker cover and brace it with one each of the items 7, 29, 30, 32, 33.
8. Install the tube (Item 14) to the existing hose and clamp assy. at the engine breather as shown on page 3. On aircraft equipped with cold weather shielding, reinstall shielding on the tubes.
9. Install the hose (Item 5) between the tubes (Items 14 and 19). Secure with 2 each of the Item 27.
10. Install the hose (Item 5) between the tube (Item 19) and the 3/4 inch inlet of the airseep. Secure it with 2 each of the Item 27.
11. Install the hose (Item 9) or (Item 22) (see sheet 2), between the 1/2 inch end of the air tee and the vacuum pump exhaust port. Secure with 2 each of the Item 11 or Item 27. NOTE: Cutting or rotation of the vacuum pump fitting may be necessary.
12. Install the hose (Item 23) between the 1/2 inch inlet of the airseep and the remaining 1/2 inch port of the air tee (Item 21). Shortening of the 1/2 inch hose may be necessary in some installations. Clamp the hose using 2 each of the Item 11. NOTE: Observe proper direction of the air-tee.
13. Install the hose (Item 8) between the diagonal leg of the air tee and the larger of the two inlets of the air syphon pump (Item 2). Clamp with 2 each of the Item 12.
14. Install the hose (Item 6) between the 1/4 inch drain of the airseep and the diagonal leg of the airsyphon pump (Item 2). Clamp both ends with 2 each of the Item 11.
15. Install the duct (Item 18) to the outlet of the airseep and secure with Item 10.
16. Route the lower end of the duct down to the center vertical cowl attach bracket and secure with items 15, 16 and 20. optional tie the duct to the lower engine mt. tube. NOTE: the duct should not extend closer than 3 inches to the lower cowl skin.
17. Secure all lines and hoses using good shop practices.
18. Weight and cg change negl.

INSTALLATION, AIRSEEP

SCALE NONE	APPROVE: BDW	DATE 1-18-79	1-18-79	DMN. BY DP
				REV. 1-10-80
WALKER ENGINEERING COMPANY LOS ANGELES, CALIF.				
SHEET 5 of 7		REV. KW-3000-21		

REVISION RECORD

REV LTR. SHEET CHANGE

BY DATE

REV LTR.	SHEET	CHANGE	BY	DATE
C cont	4	Item 6 to 1/4 ID hose, items 10, 11, 12, 13, 27 now mfg by Murray with different sizing code, item 17. AN 960-10 deleted Item 24 becomes item 17 items 15, 16 17 reduced in number, item 25 deleted.	GM	1-18-79
D	8.	Changed to page 6 (page 8 deleted)	JM	1-18-79
	6	Instructions re-written	JM	1-18-79
	7.	Added to include additional revisions	JM	1-18-79
	1	Additional models	DP	1-10-80
	2.	Add notes coverings 180 and 182 and 185 installations.	DP	1-10-80
	3.	Identify drawings as fig. 1, 2, 3. Add note fig 3 optional clamping of breather tube. Add note fig 2 to reinstall weather sleeving. Fig 1 add note item 29.		
	4.	ITEM 8 was 5/15-21 now 3/8-24, Item 6 was 5/16-11 now 1/4-11. Item 22 was deleted now W-2020-5/8-3, Item 23 was 1/2-6 now 1/2-12, change bolt designation item 20. Item 27 was qty 4 now qty 6. Item 15 was qty 7 now 9. Item 16 was qty 7 now 9 Item 16 was qty 6 now 7. Item 25 was deleted now W-2024 flange.	DP	1-10-80
	5.	Item 5, 6, 8, 9, 22, 23 MFG. was Aeroquip now Walker	DP	1-10-80
	6.	Instructions revised and rewritten	DP	1-10-80
	7	Rev. Change only add revisions	DP	1-10-80

INSTALLATION - AIRSERP.

sent None approved
DATE 1-18-79

RAW 1-18-79

DESIGNED BY DP.
REVISED 1-10-80

DRAWING LIST

<u>DWG. NO.</u>	<u>CHANGE</u>	<u>TITLE</u>
W-2000	A	Can, Top
W-2001	A	Can, Bottom
W-2002	B	Cone, Inner
W-2003	C	Gasket
W-2005	D	Chart, Inlet Tubes
W-2006	E	Chart, Outlet tubes
W-2007	F	Decal (Name)
W-2004	G	Bushing
W-2009	H	Assy, Air Outlet tube
W-2010	I	Fillament, Stainless Steel
W-2011	J	Bracket, Universal
W-2013	K	Decal (Cleaning)
W-2014	L	Stud
W-2015	M	Brace
W-2016	N	Decal (Tech. Info)
W-2017	O	Grid
W-2018	P	Air tee.
W-2020	Q	Hose Chart.
W-2023	R	Doubler
W-2024	S	FLANGE
W-2025-1	T	Tube
W-2025-2	U	Tube
W-2031	V	AIR SYEON PUMP
W-2050	W	Can Assy., Top
W-2051	X	Can Assy., Bottom
W-3000	Y	Assy, AIRSEP
KW-3000-2	Z	Instructions, Installation
KW-2031	AA	Instructions, Installation

SUMMARY DRAWING - AIRSEP		
DATE 12/19/77	DESIGNED BY DIF	REVISIONS
DR. NAME	3-10-77	Rev. 02/19/77
WHEELER ENGINEERING CO LOS ANGELES, CALIF		
SHEET 1023	REV. D	DWG 3000-2

LOG OF REVISIONS

<u>REV. LTR.</u>	<u>DATE.</u>	<u>DESCRIPTION OF CHANGES</u>
A	1-30-78	Rev A of KW-3000-2 Rev C of W-2018 and W-2051 Rev D of W-2008 Rev F of W-2020
B	5-11-78	Rev A of W-2014, Rev B of KW-3000-2, W-2002, W-2006, W-2010, W-2015, Rev C of W-2009, W-2050, Rev D of W-2018, W-2051 Delete W-2019, Add W-2031, KW-2031-Rev
C	1-16-79	Rev A of W-2023, Rev C of KW-3000-2, Delete W-2024
D	1-10-80	REV A of W-2031, REV B of W-2007, W-2023 REV C of W-2006, W-2011, W-2015, W-2016, REV D of W-2009, W-2020, KW-3000-2 REV E of W-2018, W-2051, REV V of W-2020. REV D of W-2005, Add W-2024 Rev a.

OK

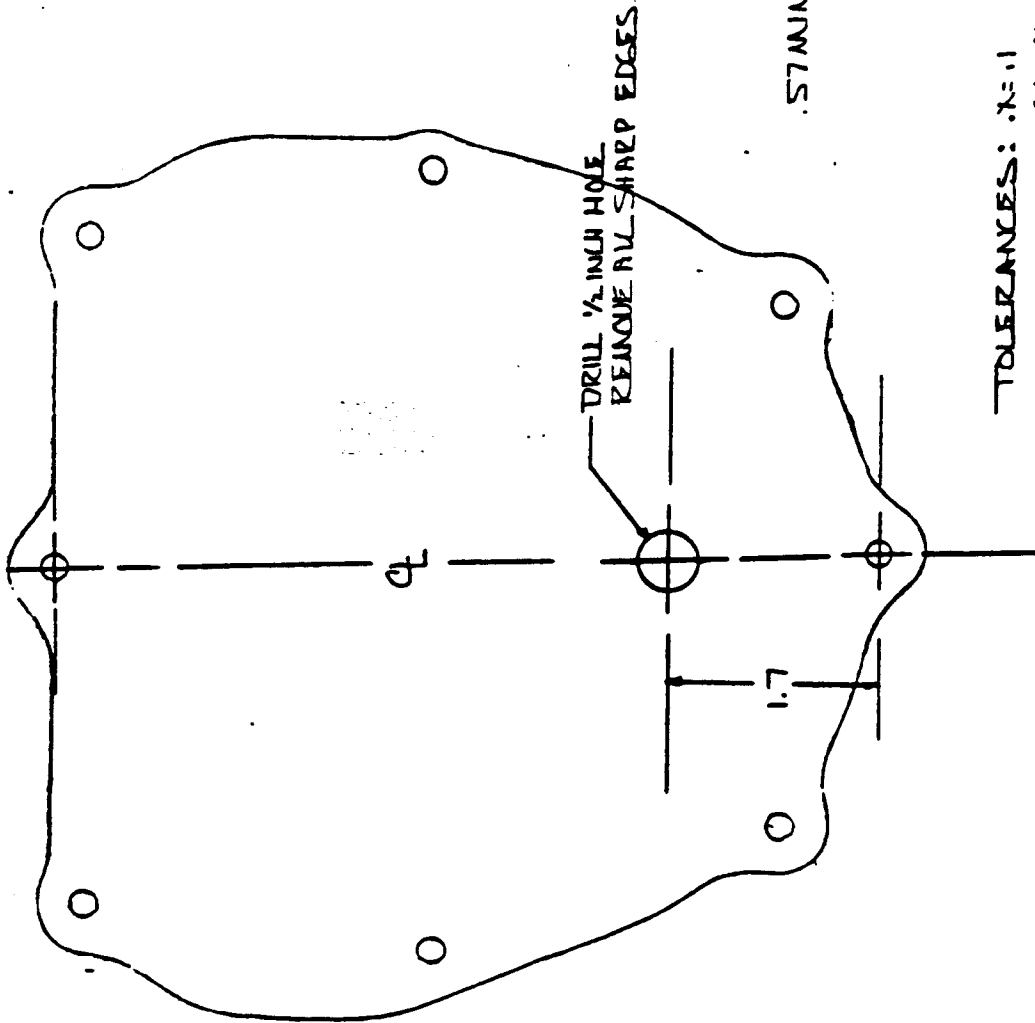
<u>SUMMARY DRAWING - AIRSEP</u>		
DATE 12/17	DRAWN BY DC	APPROVED
SCALE NONE	NO. OF SHEETS 1	REVISED 1/17
WALTERS ENGINEERING COMPANY LOS ANGELES, CALIF.		
NO. 3023	REV 0	REV. 3000-2

MODIFICATION, ROCKER BOX COVER

FOR CONTINENTAL MOTORS
 0-470-B, G, H, K, L, M, N, P, R, S
 T, U.
 0-470-B-CI, G-CI, K-CI,
 L-CI, M-CI.
 IO-470-A, C, D, E, F, G, H, L,
 LO, M, N, P, R, S, T, U, V, VO,
 LIO-470-A
 TSIO-470-B, C, D
 IO-520-A, B, BA, C, D, E, F, J,
 K, L, M.
 TSIO-520-A, B, C, D, E, F, G, H,
 J, K, L, M, N, P, R

MODIFICATION, ROCKER BOX COVER

SCALE: NONE	APPROVED BY:	5-5-78	DRAWN BY DP
DATE: 5-5-78			REVISED 5-8-78
WALKER ENGINEERING COMPANY LOS ANGELES, CALIFORNIA			
SHEET	1 of 4	REV	DRAWING NUMBER KH-2031



TOLERANCES: $\pm .01$
 $\pm .00$

CHAMFER SINK 30°
 DIA. AFTER CS .57 MIN.
 .60 MAX

MODIFICATION - ROCKER BOX COVER

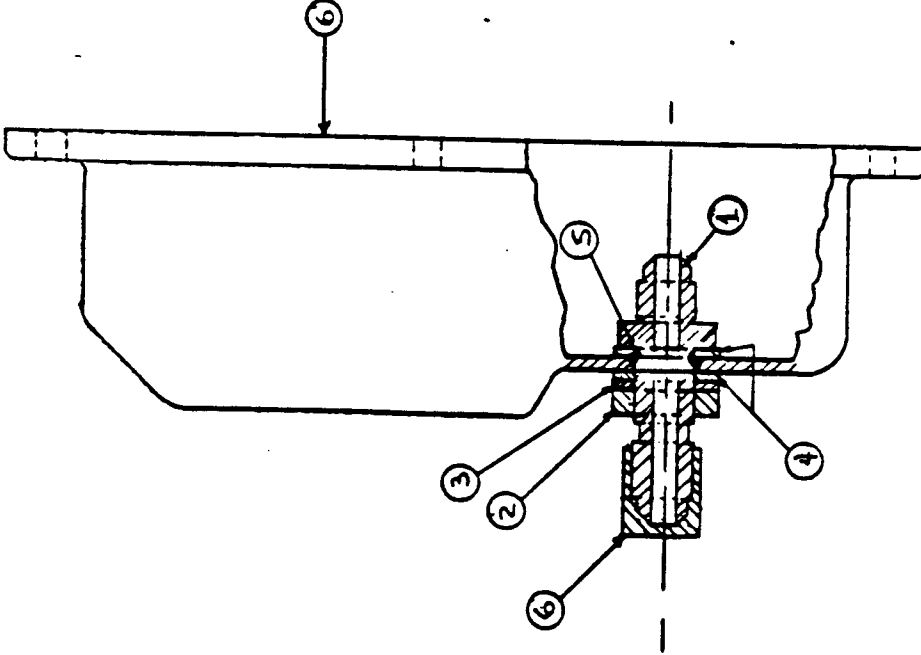
SCALE: NONE	APPROVED BY: RAW 5/5/78	DESIGNED BY: DD
DATE: 5-5-78		REVISED: 5-8-78
WALKER ENGINEERING COMPANY LOS ANGELES, CALIF.		
SHEET 2 OF 4	REV A	DRAWING NUMBER KWJ-7031

ASSEMBLY INSTRUCTIONS:

1. DRILL ROCKER BOX COVER PER SHEET 2
2. INSTALL ITEM 4 ON ITEM 1
3. INSTALL ITEM 5 ON ITEM 1 AGAINST ITEM 4
4. INSTALL ITEM 1 INTO DRILLED HOLE IN ROCKER COVER FROM INSIDE OUTWARD.
5. INSTALL ITEM 4, 3 AND 2 RESPECTUVELY ON ITEM 1 AND TIGHTEN.
6. INSTALL ITEM 7 IF NO AIR-OIL SEPARATOR IS TO BE INSTALLED AT THIS TIME.

NOTE:

THIS RETURN FITTING IS APPROVED ONLY FOR RETURNING OIL FROM THE FAR APPROVED WALKER ENGINEERING COMPANY "AIRSEP" AIR-OIL SEPARATOR.



QTY	ITEM	PART NO.	DESCRIPTION	AM. EG.	CONTINENTAL
1	⑦	AN 820-SD	CAP		
1	⑥	625615	COVER		
1	⑤	AN 6227-	"D" RING		
2	④	AN 930-PD&W	WASHER		
1	③	AN 936-AB&L	WASHER, LOCK		
1	②	AN 924-SD	NUT		
1	①	AN 832-SD	FITTING		
			DESCRIPTION		
					AM. EG.

MODIFICATION - ROCKER BOX COVER

DATE: 5-5-78	APPROVED BY: [Signature]	DESIGNED BY: DP
WALKER ENGINEERING COMPANY		REVISED 5-8-78
LOS ANGELES, CALIFORNIA		
SHEET 3 OF 4	REV. A	ISSUING NUMBER: KW-2031

REVISION RECORD.

REV LTR	SHEET	CHANGE	BY	DATE
A	1	REV CHANGE ONLY	DP	5-8-78
	2	REV CHANGE ONLY	DP	5-8-78
	3	ADD STEP 6, ADD NOTE ON FITTING USAGE, ADD P/N AN820-5D	DP	5-8-78

MODIFICATION, ROCKER BOX COVER

SCALE: NONE	APPROVED BY: 5-5-78	DRAWN BY DP
DATE: 5-5-78		REVISED 5-8-78

WALKER ENGINEERING COMPANY
LOS ANGELES, CALIFORNIA

SHEET 4 of 4 REV A DRAWING NUMBER KW-2031

DRAWING LIST

DWG. NO. KW-2031 CHANGE A TITLE MODIFICATION, ROCKER BOX COVER

REVISION RECORD.

REV LTR. A DATE 5-8-78 CHANGE REV A OF KW-2036

SUMMARY DRAWING

SCALE: NONE APPROVED BY: 5-5-78 DRAWN BY: DP
DATE: 5-5-78 REVISED: 5-8-71

WALKER ENGINEERING COMPANY
LOS ANGELES, CALIFORNIA

SHEET 1 OF 1 REV A DRAWING NUMBER DLW-2031

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SA4425NM

This certificate, issued to Walker Engineering Company

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air*

Regulations. *Certification basis is set forth on Type Certificate Data Sheet 5A6 Revision 58.

Original Product — Type Certificate Number: 5A6

Make: Cessna

Model: 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K

Description of Type Design Change:

Installation of an air/oil separator in accordance with FAA sealed Walker Engineering Company Master Drawing List No. DLW 3000-2-2 Revision "D" dated 1/10/80 or later FAA approved revisions.

Limitations and Conditions: The approval of this change in type design applies basically to the above listed models only. This approval should not be extended to other specific airplanes of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of the above listed airplanes.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: 1/10/80

Date issued:

Date of issuance: May 7, 1982

Date amended:



By direction of the Administrator

(Signature)
Chief, Western Aircraft
Certification District Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SE94WE

This certificate, issued to Walker Engineering Company

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part 13 of the Civil Air*

Regulations. *Certification basis is set forth on the Type Certificate Data Sheet 5ECE, Revision 19.

Original Product — Type Certificate Number: 5ECE
Make: Teledyne - Continental Motors
Model: IO-520-A, B, BA, C, D, E, F, J, K, L, and M

Description of Type Design Change:
Installation of oil fitting (AN-823-5D) in rocker box cover in accordance with Walker Engineering Drawing DLW-2031, Rev. A, dated May 8, 1978, or later FAA sealed revision.

Limitations and Conditions: This approval should not be extended to other specific engines of these models on which other previously approved modifications are incorporated, unless it is determined that interrelationship between this change and any other of those other approved modifications will introduce no adverse effect upon the airworthiness of that engine.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: May 5, 1978
Date of issuance: June 14, 1978

Date received:
Date amended:
By Direction of the Administrator
Robert C. Fallender
(Signature)



Chief, Propulsion Branch
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SE93WE

This certificate, issued to Walker Engineering Company

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 13 of the Civil Air Regulations.* *Certification basis is set forth on Type Certificate Data Sheet 3E3, Revision 5.

Original Product — Type Certificate Number: 3E3

Make: Teledyne - Continental Motors

Model: TS10-470-B, C, and D

Description of Type Design Change:

Installation of oil fitting (AN-823-5D) in rocker box cover in accordance with Walker Engineering Drawing DLW-2031, Rev. A, dated May 8, 1978, or later FAA sealed revision.

Limitations and Conditions: This approval should not be extended to other specific engines of these models on which other previously approved modifications are incorporated, unless it is determined that interrelationship between this change and any other of those other approved modifications will introduce no adverse effect upon the airworthiness of that engine.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: May 5, 1978

Date issued:

Date of issuance: June 14, 1978

Date generated:



By direction of the Administrator
Robert C. Faller
(Signature)

Chief, Propulsion Branch

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SE92WE

This certificate, issued to Walker Engineering Company

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified herein meets the airworthiness requirements of Part 13 of the Civil Air*

Regulations. *Certification basis is set forth on Type Certificate Data Sheet 3E1, Revision 25.

Original Product — Type Certificate Number: 3E1

Make: Teledyne Continental Motors

Model: IO-470-D, E, F, G, H, L, LO, N, P, R, S, T, U, V, VO, LIO-470-A

Description of Type Design Change:

Installation of oil fitting (AN-823-5D) in rocker box cover in accordance with Walker Engineering Drawing DLW-2031, Rev. A, dated May 8, 1978, or later FAA sealed revisions.

Limitations and Conditions: This approval should not be extended to other specific engines of these models on which other previously approved modifications are incorporated, unless it is determined that the interrelationship between this change and any of those other approved modifications will introduce no adverse effect upon the airworthiness of that engine.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: May 5, 1978

Date issued:

Date of issuance: June 14, 1978

Date approved:

By direction of the Administrator

Robert C. Hollenbeck
(Signature)



Chief, Propulsion Branch

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SE95WE

This certificate, issued to Walker Engineering Company

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 13 of the Civil Air Regulations.* *Certification basis is set forth on Type Certificate Data Sheet E-273, Revision 29.

Original Product — Type Certificate Number: E 273

Make: Teledyne - Continental Motors

Model: O-470-B, G, H, K, L, M, N, P, R, S, T, U; O-470-B-CI, G-CI, K-CI, L-CI; M-CI; IO-470-A, C

Description of Type Design Change: Installation of oil fitting (AN-823-5D) in rocker box cover in accordance with Walker Engineering Drawing DLW-2031, REV. A, dated MAY 8, 1978, or later FAA sealed revision.

Limitations and Conditions: This approval should not be extended to other specific engines of these models on which other previously approved modifications are incorporated, unless it is determined that interrelationship between this change and any other of those other approved modifications will introduce no adverse effect upon the airworthiness of that engine.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: May 5, 1978

Date issued:

Date of issuance: June 14, 1978

Date amended: December 13, 1984



By direction of the Administrator
Charles J. Blomer
(Signature)
Manager, Western Aircraft
Certification Office

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SA4263WE

This certificate, issued to Walker Engineering Company

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air*

Regulations. *Certification basis is set forth on Type Certificate Data Sheet 3A24 Revision 27.

Original Product — Type Certificate Number 3A24

Make Cessna

Model 185, 185A, 185B, 185C, 185D, 185E, A185E, A185F

Description of Type Design Change.

Installation of an air/oil separator in accordance with FAA-sealed Walker Engineering Company Master Drawing List No. DLW-3000-2-3 Revision "D" dated 1/10/80 or later FAA-approved revisions.

Limitations and Conditions. The approval of this change in type design applies basically to the above listed models only. This approval should not be extended to other specific airplanes of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of the above listed airplanes.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: January 10, 1980

Date issued:

Date of issuance: March 26, 1981

Date amended:



By direction of the Administrator,
J. H. Krenowski
(Signature)

Chief, Engineering & Manufacturing Branch

(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SA3652WE

This certificate, issued to Walker Engineering Company

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 3 of the Civil Air*

Regulations. *Certification basis is set forth on type certificate data sheet 3A13, Revision 33.

Original Product — Type Certificate Number: 3A13

Make: Cessna

Model: 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q

Description of Type Design Change: Installation of an air/oil separator in accordance with FAA-sealed Walker Engineering Company Master Drawing List No. DLW-3000-2, Revision "B", or later FAA-approved revisions.

Limitations and Conditions: The approval of this change in type design applies basically to the above listed models only. This approval should not be extended to other specific airplanes of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of the above listed airplanes.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application: December 9, 1977

Date issued:

Date of issuance: June 15, 1978

Date amended: March 13, 1979



By direction of the Administrator
J. Kaprowski
(Signature)
Acting Chief Aircraft Engineering Division
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

SPECIAL NOTE !!

- 1. DO NOT OVERTIGHTEN CLAMP THAT HOLDS (AIR-SEP.) TO CHANNEL BRKT. IF OVERTIGHTEND, IT WILL DEFORM THE ROUND CAN & DESTROY SEALING SURFACE
- 2. ALL DRAIN LINE FROM BOTTOM OF THE (AIR-SEP.) & VAC PUMP.
 - MUST
 - HAVE GRAVITY FLOW WITH NO LOW SPOTS IN 1/4 OR 5/16 HOSE

(8/8) 413-7822154

WALKER ENG. -