

Arapaho Wing Tips

APPLICABLE MODELS

PIPER PA-24, PA-24-250, PA-24-260, PA-24-400
PA-30, PA-39

KNOTS 2U, LTD.
709 AIRPORT ROAD
BURLINGTON, WI 53105
262 763-5100

ISSUE DATE

08/04/99

REV #	DATE	EFFECT

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This manual describes the installation of the Knots 2U Arapaho Wing Tips for all Comanche Aircraft. If necessary, the appropriate Piper Service Manual should be used in conjunction with this manual. The best time to paint the Wing Tips is after the holes are drilled and before final installation. Fiberglass surfaces should be scuffed slightly with a Scotch-Brite or fine sand paper, cleaned thoroughly, and painted. Most approved nav or strobe light assemblies fit into the leading edge of the Wing Tip. Wing Tips allow room for up to two nav lights and a strobe light.

Section 1.0 Removal of old Wing Tips and lights.

Remove existing Wing Tips. Retain existing Tinnerman U-type nut plates for re-installation of new tips. Disconnect any wires leading to the existing nav/strobe lights. Save existing nav/strobe assemblies for installation in new Wing Tips if desired.

Section 1.1 Locating and drilling holes on left Wing Tip.

Using a straight edge, mark all hole locations from center of hole 2" inboard onto wing. Referencing Detail #1 place left Wing Tip P/N 2500-3 in its proper location. With Wing Tip held firmly in place, transfer marks back onto Wing Tip and mark hole locations. For optimum fit, a hole finder should **not** be used for this procedure. Drill holes in Wing Tip to a #40 hole size and confirm proper location of all holes. Enlarge holes to a #15 hole size and countersink to fit the countersunk washer P/N DW06SS.

Section 1.2 Mounting Navigation and/or Strobe lights.

Referencing Detail #1, locate and mount nav/strobe assemblies. Installation may consist of; a) Navigation Light, b) combination Navigation and Strobe light, or c) two Navigation lights and a Strobe light. Confirm at least 1/16" clearance between light(s) and lens. Make sure all wiring conforms to AC43.13-1A Chapter 11 and light manufacturers installation instructions. Re-attach wires and check light(s) for proper operation.

Section 1.3 Final installation of Wing Tip.

Install Wing Tip using existing U-type Tinnerman nut plates, (19) P/N DW06SS washers, and (19) 6R X 1/2 FAS screws. Check clearance from aileron travel and operation of light(s).

Section 1.4 Right side installation.

Repeat steps 1.0 thru 1.3 on right side of aircraft.

Section 1.5 Paperwork.

Perform paperwork (337 and logbook entry). Place KNOTS 2U Maintenance Manual and Supplemental Type Certificate with logbooks.

Weight and Balance change = Negligible*

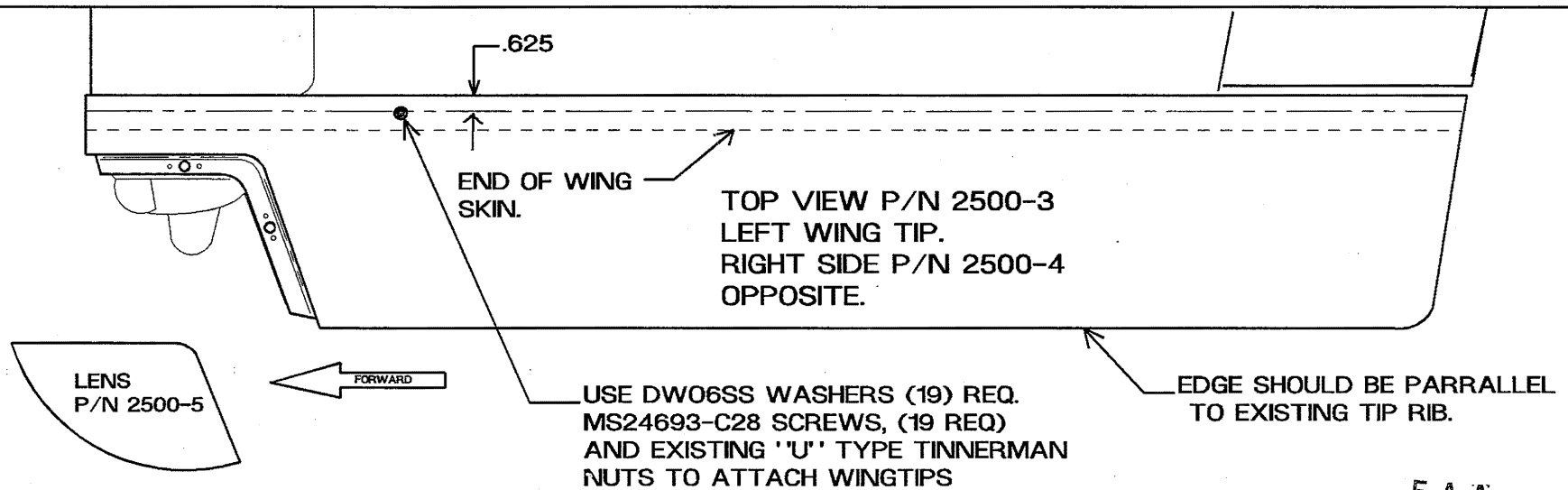
*Weight and balance must be calculated if any changes are made to the lighting system.

Section 1.6 Parts List.

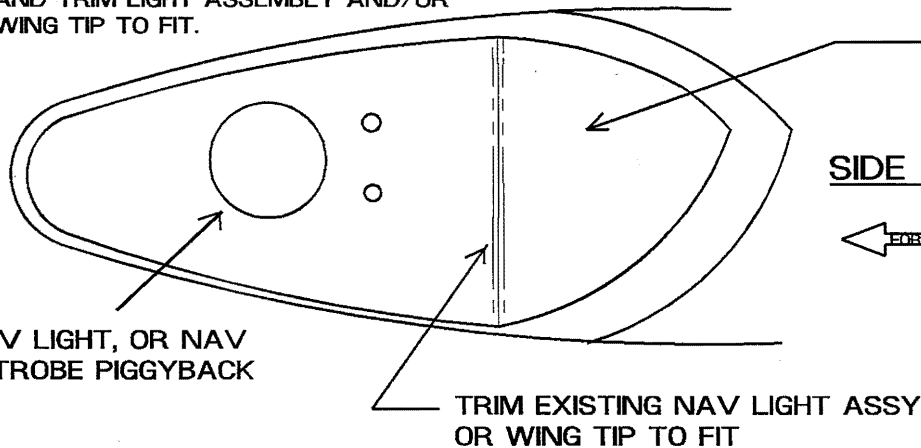
<u>Part Number</u>	<u>Qty.</u>	<u>Description</u>
2500-3	1	Left Wing Tip
2500-4	1	Right Wing Tip
2500-5	1	Left Wing Tip Lens
2500-6	1	Right Wing Tip Lens
6R X 1/2 FAS	38	#6 SS Sheet Metal Screw C/S 100 Degrees
DW06SS	46	#6 SS Tinnerman Washer C/S 100 Degrees
MS24693-C28	8	#6 SS Machine Screw C/S 100 Degrees

PA-24/30/39 WINGTIP INSTALLATION

DETAIL #1



NOTE: IF NAV/STROBE PIGGYBACK LIGHT IS USED, MOUNT IN NAV LIGHT POSITION AND TRIM LIGHT ASSEMBLY AND/OR WING TIP TO FIT.



IF STROBE LIGHT OPTION IS CHOSEN, INSTALL PER MFR. INSTRUCTIONS.

FAA
APPROVED

SEP 07 1999
JMB ACR-116c
CHICAGO AIRCRAFT
CERTIFICATION OFFICE
CENTRAL REGION

KNOTS 2U

DETAIL #1 PAGE 2

DRAWING # 30WTINS		WING TIP INSTALLATION	
PA-24 / 30 / 39		08/04/99	
KNOTS 2U, LTD.		DRAWN BY: JMB	
DETAIL #1		NOT TO SCALE	
DATE	REVISION		

Section 1.8 Maintenance Manual.

**KNOTS 2U, LTD.
703 Airport Road
Burlington, WI 53105
414 763-5100**

Piper PA-24 / 30 / 39 Arapaho Wing Tips.

1. Before each flight, inspect the Wing Tips for loose screws and proper fit.
2. Upon each annual or 100 hour inspection, inspect the Wing Tips for proper fit, loose screws, cracks, or separated plies of fiberglass. Check condition of lens for transparency.
3. If any of the above discrepancies are found; repair using proper techniques and procedures as outlined in AC 43.13-1A & 2. If lens is discolored or has lost its transparency it must be replaced. Lens may be cleaned with any cleaner approved for Acrylic.

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

Number SA1153SW

This certificate issued to Knots 2U, Ltd.
3106 Bieneman Road
Burlington, WI 53105

*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 * of the * Regulations.*

Original Product - Type Certificate Number : * (see attached FAA Approved Model

Make : * List AML No. SA1153SW for list of

Model : * Approved airplane models and applicable airworthiness regulations)

Description of Type Design Change: Installation of Arapaho Wing Tips in accordance with the Knots 2U, Ltd. Installation Instructions as listed on AML No. SA1153SW, or later FAA approved revision.

Limitations and Conditions: Compatibility of this design change with previously approved modifications must be determined by the installer. A copy of this Certificate and FAA approved Model List (AML) No. SA1153SW amended September 7, 1999, or later FAA approved revision, must be maintained as part of the permanent records for the modified aircraft. If the holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

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 01, 1970

Date reissued : August 17, 1970; March 14, 1983;
March 8, 1996; May 07, 1997

Date of issuance : June 07, 1970

Date amended : September 07, 1999



By direction of the Administrator

(Signature)

Gregory J. Michalik, Senior Aerospace Engineer
Airframe & Administrative Branch
Chicago Aircraft Certification Office

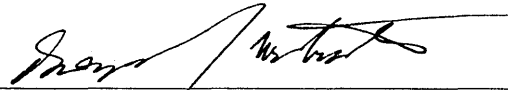
(Title)

FAA APPROVED MODEL LIST (AML) NO. SA1153SW
 Knots 2U, Ltd.
 FOR
 INSTALLING ARAPAHO WING TIPS

ISSUE DATE: June 7, 1970

ITEM	AIRCRAFT MAKE	AIRCRAFT MODEL	ORIGINAL TYPE CERTIFICATE NUMBER	CERTIFICATION BASIS FOR ALTERATION	INSTALLATION INSTRUCTIONS		AFM SUPPLEMENT NUMBER/DATE	AML AMENDMENT DATE
					NUMBER	REVISION NO. & DATE		
1	Piper Aircraft Corporation	PA-30, PA-39	A1EA	CAR 3	Arapaho Wing Tips Installation Manual	No Revision, dated 8/4/99	N/A	9/7/99
2	Piper Aircraft Corporation	PA-24, PA-24-250, PA-24-260, PA-24-400	1A15	CAR 3	Arapaho Wing Tips Installation Manual	No Revision, dated 8/4/99	N/A	9/7/99

FAA APPROVED: _____


 Gregory J. Michalik, Senior Aerospace Engineer
 Airframe & Administrative Branch
 Chicago Aircraft Certification Office

Amended: September 7, 1999