TWIN OTTER

Accessories Required For Smokejumping:

Primary Vertical Anchor: MEDC 650- Anchor cable for Twin Otter 100, 200, 300 Series Aircraft
STC Strength: 2,000 pounds
STC #: SA210RM

Secondary Horizontal Anchor: MEDC-753- Twin Otter Tether/Emergency Horizontal
STC Strength: 750 pounds
STC #: SA2751NM

Jump Step & Step Attachment and other accessories: MEDC-759- Stepbasket (universal), Smokejumper Aircraft
MEDC-794- Universal Step Strut
MEDC-784- Smokejumper Equipment for Twin Otter A/C
MEDC-805- Aft track Segment for Twin Otter

Special Use Twin Otter Accessories (not required for SJ Configuration):

MEDC-681- Anchor Cable, Horizontal, Twin Otter
STC Strength: 750 pounds
STC #: SA1615NM
United States of America
Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

Number SA210RM

This certificate, issued to United States Forest Service
MEDC Building #1
Fort Missoula
Missoula, Montana 59801
certifies that the change in the type design for the following product with the limitations and conditions
therefore as specified herein meets the airworthiness requirements of Part 3 of the Civil Air
Regulations.

Original Product — Type Certificate Number: A9EA
Make: DeHavilland
Model: DHC-6-100, DHC-6-200, DHC-6-300.

Description of Type Design Change:
Fabrication and installation of a static line anchor cable per Drawing MEDC-650,
Sheets 1, 2, and 3, dated July 1980, FAA approved January 8, 1981, or later FAA
approved data.

Limitations and Conditions: This approval should not be extended to other aircraft of
this model 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 aircraft.

This modification applies to Models DHC-6-100 and DHC-6-200 having DHC-6-300 seat
rail configuration only.
This certificate and the supporting data which is the basis for approval shall remain in effect until sus-
rendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the
Federal Aviation Administration.

Date of application: March 30, 1980
Date issued: January 8, 1981

Date amended: February 9, 1981
By direction of the Administrator

Gerald E. Goodbloed, Chief
Engineering and Manufacturing Branch
ARM-210

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

This certificate may be transferred in accordance with FAR 21.47.
January 12, 1981

United States Forest Service
Attention: Mr. John Teatz
MEDC Building 1
Fort Missoula
Missoula, Montana 59801

Dear Mr. Teatz:

We have satisfactorily completed our evaluation of your Supplemental Type Certificate (STC) project as evidenced by the enclosed STC No. SA21ORM.

A copy of this certificate must be included with each kit you have issued or each time you make the STC data available to other persons who intend to make the subject alteration on other products.

This STC is an official indication of FAA approval of your installation and may be used to authorize identical installations on other aircraft of the same model, subject to the limitations noted on it. It may be transferred, or otherwise made available to another party by means of a licensee arrangement; however, you are requested to advise this office when you transfer or grant licensee rights to the STC in order that we may take the necessary recording or reissuance action.

As recipient of this approval, except as provided in Federal Aviation Regulations (FAR) Part 21.3(d), you are required to report any failure, malfunction, or defect in any product or part manufactured by you that you have determined has resulted or could result in any of the occurrences listed in FAR Part 21.3(c). The report should be communicated initially by telephone and subsequently in writing to the Chief, Engineering and Manufacturing Branch, ARM-210, at the telephone number and address indicated above. This first contact shall take place within 24 hours after it has been determined that the failure required to be reported has occurred. FAA Form 8330-2 (Malfunction or Defect Report or any other appropriate format) is acceptable in transmitting the required details.
If you plan to manufacture or sell parts for installation on type certificated aircraft, please review FAR Part 21.303 which is applicable to replacement and modification parts. Applications for Parts Manufacturer Approval (PMA) may be made in letter form, listing the following information: (1) part name, (2) part number, (3) STC number, (4) model of type certificated product on which the part will be installed, and (5) a statement certifying that a fabrication inspection system has been established in accordance with FAR Part 21.303(h). This application should be mailed to the address indicated above.

Sincerely,

[Signature]
Gerald E. Goodblood
Chief, Engineering and Manufacturing Branch

Enclosure
February 10, 1981

Mr. John G. Tietz
United States Forest Service
MEDC Building Number 1
Fort Missoula
Missoula, Montana 59801

Dear Mr. Tietz:

Enclosed is your amended Supplemental Type Certificate SA210RM for the installation of a static line anchor cable in the De Havilland DHC-6-100, DHC-6-200 and DHC-6-300 aircraft. Furthermore, we are sending you your Federal Aviation Administration approved data for the installation. It is obvious that all the engineering changes you have made only strengthen the structure; however, this change does not increase the design strength that was established to be 1800 pounds. As you discussed with Frank Hardy, the only way to increase the design strength will be to resubstantiate the new structure.

Sincerely,

Gerald E. Goodblood
Engineering and Manufacturing Branch

Enclosures
July 3, 1984

Mr. John Tietz
United States Forest Service
Equipment Development Center
Fort Missoula - Building #1
Missoula, Montana  59801

Dear Mr. Tietz:

Project No. SA21ORM

We have received and reviewed your revised data for Supplemental Type Certificate (STC) No. SA21ORM. We have satisfactorily reviewed your data as evidenced by the enclosed approved drawings.

No revision to your STC No. SA21ORM is required because the enclosed data represents "later FAA approved data" as indicated on your STC.

Sincerely,

Woodford R. Boyce
Manager, Denver Aircraft Certification Office

3 Enclosures

MEDC-G50 REV B

Edward Warren  First American Aloft
July 3, 1984

Mr. John Tietz  
United States Forest Service  
Equipment Development Center  
Fort Missoula - Building #1  
Missoula, Montana 59801

Dear Mr. Tietz:

Project No. SA21ORM

We have received and reviewed your revised data for Supplemental Type Certificate (STC) No. SA21ORM. We have satisfactorily reviewed your data as evidenced by the enclosed approved drawings.

No revision to your STC No. SA21ORM is required because the enclosed data represents "later FAA approved data" as indicated on your STC.

Sincerely,

Woodford R. Boyce  
Manager, Denver Aircraft Certification Office

3 Enclosures
ANCHOR CABLE FOR TWIN OPTER 100, 200 & 300 SERIES AIRCRAFT

MATERIALS LIST

<table>
<thead>
<tr>
<th>PART NO.</th>
<th>NAME</th>
<th>MATERIAL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CABLE ASSY</td>
<td>STEEL</td>
<td>WIRE CABLE</td>
</tr>
<tr>
<td>2</td>
<td>BOLT</td>
<td>STEEL</td>
<td>M5 20</td>
</tr>
<tr>
<td>3</td>
<td>WASHER</td>
<td>STEEL</td>
<td>MS 20 6</td>
</tr>
<tr>
<td>4</td>
<td>SPRING</td>
<td>STEEL</td>
<td>CABLE END</td>
</tr>
<tr>
<td>5</td>
<td>CABLE END</td>
<td>STEEL</td>
<td>CABLE END</td>
</tr>
<tr>
<td>6</td>
<td>NUT</td>
<td>STEEL</td>
<td>M5 20 6</td>
</tr>
<tr>
<td>7</td>
<td>RIVET</td>
<td>STEEL</td>
<td>M5 20 6</td>
</tr>
<tr>
<td>8</td>
<td>PLATE</td>
<td>STEEL</td>
<td>M5 20 6</td>
</tr>
</tbody>
</table>

CONSTRUCTION AND DIMENSIONS:

- Wire cable: 2.6 mm
- BOLT: M5 20
- WASHER: MS 20 6
- SPRING: CABLE END
- CABLE END: STEEL CABLE END
- NUT: M5 20 6
- RIVET: M5 20 6
- PLATE: M5 20 6

TOLERANCES:

- DECIMALS

DATE REV: 151014 RD

U.S. DEPT. OF AGRICULTURE
FOREST SERVICE
EQUIPMENT DEVELOPMENT CENTER
MISSOULA, MONTANA

DRAWN: LASSILA
DESIGN: RITTENBERG
APPROVED: SCALE
DATE: APRIL 1983

SHEET: 1 OF 3 MEDC-650
ANCHOR CABLE
FOR TWIN OTTER 100, 200, 300 SERIES AIRCRAFT

MATERIALS LIST

<table>
<thead>
<tr>
<th>NO.</th>
<th>PART NAME</th>
<th>SHORT</th>
<th>MATERIAL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PART NAME</td>
<td>SHORT</td>
<td>MATERIAL DESCRIPTION</td>
</tr>
</tbody>
</table>

DETAILED ASSEMBLY

SECTION AA

UPPER ANCHOR PLATE

NOTE: SEE DETAIL C

UPPER ANCHOR ASSY

NOTE: SEE DETAIL C FOR ATTACHING STRINGER TO FRAME

DRILL HOLES

DATE

U.S. DEPT. OF AGRICULTURE
FOREST SERVICE
EQUIPMENT DEVELOPMENT CENTER
MISSOULA, MONTANA

ANCHOR CABLE
FOR TWIN OTTER 100, 200, 300 SERIES AIRCRAFT

DATE

U.S. DEPT. OF AGRICULTURE
FOREST SERVICE
EQUIPMENT DEVELOPMENT CENTER
MISSOULA, MONTANA

ANCHOR CABLE
FOR TWIN OTTER 100, 200, 300 SERIES AIRCRAFT

DATE

U.S. DEPT. OF AGRICULTURE
FOREST SERVICE
EQUIPMENT DEVELOPMENT CENTER
MISSOULA, MONTANA

ANCHOR CABLE
FOR TWIN OTTER 100, 200, 300 SERIES AIRCRAFT

DATE
MATERIALS LIST

<table>
<thead>
<tr>
<th>No.</th>
<th>PART NAME</th>
<th>MATERIAL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>TOP PLATE</td>
<td>MILD STEEL STRIP</td>
<td>0.23 OD STEEL TUBE</td>
</tr>
<tr>
<td>2</td>
<td>TOP GUSSET</td>
<td>MILD STEEL STRIP</td>
<td>0.050 STEEL TUBE</td>
</tr>
<tr>
<td>3</td>
<td>BOTTOM TUBES</td>
<td>MILD STEEL STRIP</td>
<td>0.23 OD STEEL TUBE</td>
</tr>
<tr>
<td>4</td>
<td>BOTTOM GUSSETS</td>
<td>MILD STEEL STRIP</td>
<td>0.050 STEEL TUBE</td>
</tr>
</tbody>
</table>

ANCHOR CABLE FOR TWIN OTTER 100, 200, 400 SERIES AIRCRAFT

U.S. DEPT. OF AGRICULTURE FOREST SERVICE EQUIPMENT DEVELOPMENT CENTER MISSOULA MONTANA

DATE: APRIL 1984

SHEET: 3 OF 3

MEDC-650
United States of America
Department of Transportation — Federal Aviation Administration

Supplemental Type Certificate

Number SA2751NM

This certificate, issued to United States Forest Service
MEDC, Building #1 - Fort Missoula
Missoula, Montana 59801

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 3 of the Civil Air
Regulations.

Original Product — Type Certificate Number: T.C. A9EA
Make: DeHavilland Aircraft of Canada, Ltd.
Model: (Twin Otter) DHC-6, 100, 200, 300

Description of Type Design Change:
Installation of overhead cargo-dropper tether anchor in accordance with
Federal Aviation Administration (FAA) sealed Drawing Number MEDC-753 dated
November 1984, FAA approved May 15, 1986 or subsequent approved revisions.

Limitations and Conditions:
This approval should not be extended to other aircraft of this model on
which other previously approved modifications are incorporated unless it is
determined that the interrelationship between this change and any other
previously approved modification will introduce no adverse effect upon the
airworthiness of the aircraft.

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

Date of application: November 25, 1984 Date issued: May 15, 1986
Date of issuance: May 15, 1986

By direction of the Administrator

Woodford R. Boyce (Signature) Manager
Denver Aircraft Certification Office
Northwest Mountain Region, Aurora, Colorado

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

FAA Form 8110-2 (10-68)
U.S. Forest Service
MEDC, Building #1 - Fort Missoula
Missoula, Montana 59801

Gentlemen:

Project No. A1196NMD-S

We have completed our evaluation of your supplemental type certificate (STC) project and find that you have satisfactorily demonstrated compliance with the applicable certification regulations. Accordingly, we have enclosed STC No. SA2751NM for the installation of overhead cargo-dropper tether anchor in DeHavilland DHC-6 (twin otter), 100, 200, & 300 series.

This STC is official FAA approval of your installation and may be used to authorize identical installations on other aircraft of the same model, subject to the limitations noted on the certificate. It may be transferred or otherwise made available to another party by means of a licensee arrangement in accordance with Federal Aviation Regulations (FAR) 21.47. You are requested to advise your local office within 30 days after the transfer when you transfer or grant licensee rights to the STC in order that we may take the necessary recording or reissuance action.

As recipient of this approval, except as provided in FAR 21.3(d), you are required to report any failure, malfunction, or defect in any product or part manufactured by you that you have determined has resulted or could result in any of the occurrences listed in FAR Part 21.3(c). The report should be communicated initially by telephone to the Manager, Denver Aircraft Certification Office, telephone number (303) 340-5575, within 24 hours after it has been determined that the failure has occurred. In addition, written notification to the Manager, ANM-100D, at the above address is required. FAA Form 8330-2 (Malfunction or Defect Report) or any other appropriate format is acceptable in transmitting the required details.

Edward Warren: First American Aloft
If you plan to manufacture replacement or modification parts for sale in conformance with approved data listed on the Certificate, you are required to comply with FAR Part 21.303. A Parts Manufacturer Approval (PMA) may be issued under the provisions of FAR 21.303(d) when you submit a statement certifying that you have established a fabrication inspection system as required by FAR 21.303(h). The identification requirements for parts produced under a PMA are in FAR 45.15. Your statement may be in letter form, with a reference to the STC number, and should be mailed to the address indicated above.

Sincerely,

Woodford R. Boyce
Manager, Denver Aircraft Certification Office

Enclosure
All welds and riveting shall comply with FAA FR-11010 A-1G 43.13. The weld symbols and riveting notations shall be in accordance with the latest revision of Chapter 43 A-1G. All finished plates and doublers shall be coated with zinc chromate primer.

Contact Twissola Equipment Development Center, Building 10, Missoula, Montana, for further information or assistance.

**CONTINUED AIRWORTHINESS INSTRUCTIONS**

1. Inspect through guide for wear and replace if more than 1/2% is worn.
2. Inspect and clean inner tube and inner tube if necessary.
3. Adjust Belleville spring washers to 75-100 in.
4. Adjust toggles as necessary to prevent excessive wear.
5. Clean and lubricate springs and toggle.

This is a reduced print.
NOTES

1. REMOVE RIVET IN HEADLINER RACK TO INSTALL D0DJER AND PLATE RERIOET ON r-o OF PATC AFTER TWO CEILING STRUCTURE IS INStALLED COT DOT FOR TUE SMOCK ADSORBER IN HEADLINER SAVE PIECE TO COIJEIN CUT OOT OWNER 01160 sCoUR FIcw 1450 LINER- UIII Cu QUT

2. REMOVE FACTORY INST LLED ANGLES REMOVE RIVETS SCREWS NO TERFIEJAL POSTS AS REQUIReD TO INSTAOL DDU31tRS tINE AS MANY TO SOMC VOLES As POSSbIbLE. TIlE REMAIN INS 001.05 511 ALL 50 LarD 05tH

3. RELOCATE WIRES AS REQUIREDS TO ELIMINATE COflIOUA AND SPLICING RivET INC INTO TIlE I3IJLO ANSLC 5TEINE01 SIIV.1LL 9R LOCATED IN THE MIQ50CTION OF -rIlE ANC LE LOCATE DOUR-LEES iN AIRCRAST CoSTING AND FITTING ARoUND OPENINGS 010 FoR WIRES 516010 DoT EWE PArTERN 3I51ILAC SO TRIG RoOTS ORAIIIIHGS USC 1MW

4. TIGHTEN DOODLER 31 DOODLER 5cRew WASOEG NUT

5. USE M520470 AD SOLID RIVETS WNEBE OVERt PESSISLE WHESE 305101014 OF gIVETI IS USE ccszs4 DO00ET MA.- ICIOETS.THELBHETU OR IRIORTS SHALL SE DETEWOIAISEIS Ar ASSY MAINTAIN ANN ROCE RIVVAIIIPE DO Vs NEI SEMIS RADIUS roB 2.ot-T3 SNALL 36 AS SPECIMED IN ERAC 45-IS IA LA COAPTEE F000IME PORTS AND BIIIETINC SMALL St AR SPECIFIED ER- -AO 45.15 IA$ aa

LOCATION OF SHOCK ABSORBER NOT AREA CHECK OUT FOR SHOCK ABSORBER ONLY

FWD CEILING STRUCTURE
The FWD structure is a new construction placed into the ceiling above the rear upper mount burners an existing structure.
MATERIALS LIST

<table>
<thead>
<tr>
<th>NO</th>
<th>PART NAME</th>
<th>REQD.</th>
<th>MATERIAL-DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FWD PLATE</td>
<td>8</td>
<td>.042 324 AFT PLATE</td>
</tr>
<tr>
<td>2</td>
<td>AFT PLATE</td>
<td>8</td>
<td>.042 22 AFT PLATE</td>
</tr>
<tr>
<td>3</td>
<td>PLATE</td>
<td>8</td>
<td>.042 70 15-74 ALUM ALLOY PLATE</td>
</tr>
<tr>
<td>4</td>
<td>NUT</td>
<td>8</td>
<td>.042 -5 14 AFT PLATE</td>
</tr>
<tr>
<td>5</td>
<td>Rohl</td>
<td>8</td>
<td>.042 52 MSZDCZGAD4</td>
</tr>
</tbody>
</table>

INDICATES THE MIN. NUMBER OF RIVETS REQUIRED TO ATTACH PLATE TO EACH HOLE. SLOTS TO BE FABRICATED AT ASSEMBLY.

DATE: NOV 1984 SHEET: 5 OF 10 MEDC-753
MATERIALS LIST

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>DESCRIPTION</th>
<th>SHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOUBLER 8</td>
<td>1.032 IN. TALL ALUMINUM SHEET</td>
<td>1</td>
</tr>
<tr>
<td>DOUBLER 6</td>
<td>0.75 IN. TALL ALUMINUM SHEET</td>
<td>1</td>
</tr>
<tr>
<td>DOUBLER 11</td>
<td>0.5 IN. TALL ALUMINUM SHEET</td>
<td>1</td>
</tr>
</tbody>
</table>

NOTE: USE DRAWING AS BASE PATTERN FOR IMPREGNATED WOOD DOUBLERS.

A INDICATES THE NUMBER OF AN IMPREGNATED VARIATION OF SHAPE AND DIMENSIONS.

REDUCED TOLERANCES
FRACTIONS AS DECIMALS

DATE: Nov 15, 1964
SHEET 7 OF 10 MEDC-753

U.S. DEPT. OF AGRICULTURE
FOREST SERVICE
EQUIPMENT DEVELOPMENT CENTER
WILLISTON, MONTANA

TWIN OTTER TETHER/EMERGENCY HORIZONTAL OVERHEAD ANCHOR

DRAWN: LASILA
DESIGN: T. R. I. II
CHECKED: R. I. II
APPROVED: PIERCE
SCALE: FULL
DATE: NOV 15, 1964
SHEET 7 OF 10 MEDC-753

THIS IS A REDUCED PRINT.
TOLERANCES
FRACTIONS
DECIMALS

DATE
ARCHITECT
ENGINEER
DRAWN
CHECKED
APPROVED
SCALE
NOV 1954

TITLE
TWIN OTTER TETHER/EMERGENCY
HORIZONTAL OVERHEAD ANCHOR

U.S. DEPT OF AGRICULTURE
FOREST SERVICE
EQUIPMENT DEVELOPMENT CENTER
MISSOULA, MONTANA

MEDC-755

THIS IS A REDUCED PRINT.
**USC DRAWING AS PATTERN FOR**

**PIERKOLAIU 514005 OP 000SLERS**

Indicates the number of approximate location of rivet holes.

**Materials List**

<table>
<thead>
<tr>
<th>No.</th>
<th>Part Name</th>
<th>Sheet</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doubler 49</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Doubler 50</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Doubler 51</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Doubler 52</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Doubler 53</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Doubler 54</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Doubler 55</td>
<td></td>
</tr>
</tbody>
</table>

**Date**

Nov 6, 1944

**Sheet of**

MEDC-755

---

**This is a reduced print.**

---

**U.S. DEPT. OF AGRICULTURE**

**FOREST SERVICE**

**EQUIPMENT DEVELOPMENT CENTER**

**MISDOLE, MONTANA**

---

**TWIN OTTER TETHER/EMERGENCY**

**HORIZONTAL OVERHEAD ANCHOR**

---

**DATE**

Nov 6, 1944

**SHEET**

MEDC-755
TO PREVENT INADVERTENT CARGO DOOR OPENINGS
SAFETY PINS MUST BE INSTALLED THRU THE EXISTING
SLIDING BOLT LOCKS.

PROCEDURE:
1. Close door and engage both top and bottom lock securely.
2. Drill hole with 3/8 drill front to rear one 1/8" from base
   on both top and bottom boxes. Hole must pass thru center
   of lock support assembly plus bolt.
3. Attach a short length of welded wire chain to mounting
   screw on strap bracket nearest to door lock base.
4. Thread screw thru hole in strap bracket plus door pin and insert
   pin thru drilled hole in front door assembly.
5. Time both top and bottom door assemblies to ensure that
   no projections exist which might obstruct smoke jumpers'
   or passengers' exit from the forward door.

MATERIALS LIST

<table>
<thead>
<tr>
<th>NO</th>
<th>PART NAME</th>
<th>MATERIAL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PIN</td>
<td>STEEL</td>
</tr>
<tr>
<td>2</td>
<td>CHAIN AR</td>
<td>STEEL</td>
</tr>
<tr>
<td>3</td>
<td>ANCHOR CLIP</td>
<td>STEEL</td>
</tr>
<tr>
<td>4</td>
<td>BULKHEAD PLATE</td>
<td>STEEL</td>
</tr>
</tbody>
</table>

SCALE 1:1
United States of America
Department of Transportation—Federal Aviation Administration

Supplemental Type Certificate

Number SA1615NM

This certificate, issued to U.S. Forest Service, certifies that the change in the type design for the following product with the limitations and conditions therefore as specified herein meets the airworthiness requirements of Part 3 of the Civil Air Regulations:

Original Product—Type Certificate Number: A9EA
Make: deHavilland
Model: DHC-6 Series

Description of Type Design Change: Installation of a parachute static line anchor cable in accordance with U.S. Department of Agriculture Forest Service Drawing No. MEDC-681, Sheets 1 through 3.

Limitations and Conditions: Approval of this change in type design applies to the above model aircraft only. This approval should not be extended to aircraft of this model on which other previously approved modifications are incorporated unless it is determined that the relationship between this change and any of those other previously approved modifications, including changes in type design, will introduce no adverse effect upon the airworthiness of that aircraft. A copy of this Certificate shall be maintained as part of the permanent records for the modified aircraft.

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: April 14, 1982
Date issued: April 23, 1982

Any alteration of this certificate is punishable by a fine of not exceeding $1,000, or imprisonment not exceeding 3 years, or both. This certificate may be transferred in accordance with FAR 21.47.
APR 23 1982

U.S. Forest Service
MEDC Building 1
Ft. Missoula
Missoula, Montana 59801

Gentlemen:

We have enclosed Supplemental Type Certificate No. SA1615NM, which approves the installation of a parachute static line anchor cable in accordance with U.S. Department of Agriculture Forest Service Drawing No. MEDC-681, Sheets 1 through 3 on deHavilland, Model DHC-6 Series.

The Certificate may be transferred or made available to others by means such as licensing arrangement in accordance with FAR 21.47.

If you plan to manufacture replacement or modification parts for sale in conformance with approved data listed on the Certificate, you are required to comply with Section 21.303 of the Federal Aviation Regulations. A Parts Manufacturer Approval (PMA) may be issued under the provisions of FAR 21.303(d) when you submit a statement certifying that you have established a fabrication inspection system as required by FAR 21.303(h). The identification requirements for parts produced under a PMA are in FAR Part 45, Section 45.15. Your statement may be in letter form, with a reference to the STC number, and should be addressed to: Federal Aviation Administration, FAA Building, Boeing Field, Seattle, Washington 98108, Attention: Chief, Manufacturing Inspection Branch, ANM-180S.

Sincerely,

Don C. Jacobsen
Chief, Seattle Area Aircraft Certification Office, ANM-100S

Enclosure
Subject: ED&T 1440 - Pull Test on Horizontal Cable of DH Twin Otter

This letter will report the pull test performed on the horizontal anchor cable for the DH Twin Otter that was performed at Aerodyne in Renton, Washington on April 14.

The cable was made according to MEDC's drawings and installed by Aerodyne mechanics on April 12 and 13. Chub Riggleman and I performed the test on April 14, while representatives from the Seattle office of the FAA, Frank LeBrash and Mike DelPiano observed. We used four (4) T-10 static lines to pull on the static-line anchor cable. We used a large come-a-long to apply the pull. Two Chatillon crane scales were used to measure the load. The gauges were calibrated in Missoula before the test on an Instron Machine and calibrated immediately after the test against a Cox and Stevens Electric Weighing unit, Model ES-4-.

Before the test, and after each pull, measurements were made as shown in Figure 1, to determine if any permanent deformation was occurring. The nominal value of the first pull was 500 pounds. The plan was to increase the pull in increments until 3500 pounds, or failure, whichever came first. As it turned out, failure occurred within a few seconds after reaching 3500 pounds. The pre- and post-test calibrations are listed in Figure 2. The factors at 3000 to 3500 pounds ranged from .9901 to 1.026. We decided to assume that the correct factor is 1.000. If it is really .9901, we will overestimate the load by less than one percent. If it is really 1.026, we will underestimate the load by almost three percent. Inspection of Figure 2 indicates that we are more likely to underestimate the load if we use 1.0 then we are to overestimate the load.

The results of the tests are summarized in Figure 3. As can be seen, we reached our target of 3500 pounds before breakage and there was no permanent deformation at all, so the cable can probably be certified for 2333 pounds.

The only change I plan to make in this anchor cable is to specify that there be 6 inches of slack in the cable when it is installed, rather than 4 inches. The anchor cable will be stronger when so adjusted. I recommend that this cable be installed in all Twin Otter aircraft used by the U.S. Forest Service.

JOHN G. TIETZ
Project Leader
### MATERIALS LIST

<table>
<thead>
<tr>
<th>NO</th>
<th>PART NAME</th>
<th>PARTS</th>
<th>MATERIAL-DESCRIPTION</th>
<th>SHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>FWD ANCHOR</td>
<td>P/N 4</td>
<td>PA. RDS 24</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ANGLE</td>
<td></td>
<td>RIV. 1/2 X .045 ALUM ANGLE</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ANCHOR</td>
<td></td>
<td>MUS.21078</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>ANCHOR 4</td>
<td></td>
<td>ALU. 5/8 X .070 ALUM ANGLE</td>
<td></td>
</tr>
</tbody>
</table>

**DATE:**

NA.Y 1591

---

**DRILL**

**4 DRILL HOLES**

**1/2 DRILL = 3 HOLE**

---

**FWD ANCHOR**

ANGLE NOT SHOWN TO SCALE

---

**REAR ANCHOR**

ANGLE NOT SHOWN TO SCALE

---

This is a reduced print, full size prints available upon request.

---

**U.S. DEPT OF AGRICULTURE**

**FOREST SERVICE**

**EQUIPMENT DEVELOPMENT CENTER**

**MISSOULA, MONTANA**

---

**ANCHOR CABLE, HORIZONTAL, TWIN OTTER**

---

**DATE:**

MAY 1990

**SHEET:**

3

**MEDC-G81**
### MATERIALS LIST

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>NUMBER</th>
<th>MATERIAL DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRILL TO PRESS</td>
<td>.5</td>
<td>ANCHOR BRACKET PARTS 0-7</td>
</tr>
<tr>
<td>.5 AC-NI4-R</td>
<td>V0 TNICIA 413D CR STEEL SNERT</td>
<td></td>
</tr>
<tr>
<td>210</td>
<td>STRIP 34 IY1 LS</td>
<td>CA STEEL ETIREF</td>
</tr>
<tr>
<td>Lf t4D</td>
<td>STOP IYq CIa 134</td>
<td>LO God-TO ALUM R0000</td>
</tr>
<tr>
<td>rap 34YI/a3Lc</td>
<td>COOl-TO ALUM FLO.T</td>
<td></td>
</tr>
<tr>
<td>CA5 A.SSV</td>
<td>PACTS IS -25 IOlI</td>
<td></td>
</tr>
<tr>
<td>13 EVE END T0B MS Z1234RLL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4j</td>
<td>END STOP 4j</td>
<td></td>
</tr>
<tr>
<td>140L55</td>
<td>A-IC1 DRIL.L THRIJ</td>
<td></td>
</tr>
<tr>
<td>TAP th-24NC BO9-BR MALE0-</td>
<td>DRILLTDP HALF FIGSCORE FOR ITRAD</td>
<td></td>
</tr>
<tr>
<td>r.04 SPACER USA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDR MACHIN IN5 ANt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DR ILL III</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-DRILL END STOP</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**END STOP**

**ANCHOR BRACKET**

**CABLE ASSY**

---

This is a redrawn print - this does print scaled from original request.