

©DRAWEER 228

DORNIER 228

Accessories Required For Smokejumping:

Primary Vertical Anchor: MTDC-833- Vertical Anchor, Dornier 228
STC Strength: 2,000 pounds
STC #: SA5221NM

Secondary Horizontal Anchor: MTDC-854- Dornier 228 Horizontal Anchor
STC Strength: 750 pounds
STC #: SA5241NM

Step & Step Attachment: MTDC-871- Dornier Step & Handhold Ass'y
MTDC-872- Step Basket Dornier 228
MEDC-794- Universal Step Strut

Handrails: MTDC-873- Dornier 228 Door Guard & Secondary
Forward Handrail

Supplemental Type Certificate

Number SA5221NM

This certificate, issued to **USDA Forest Service**

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 23 of the Federal Aviation Regulations.

Original Product — Type Certificate Number: **A16EU**

Make: **Dornier**

Model: **228/-100/-101/-200/-201/-202**

Description of Type Design Change:

Installation of vertical anchor assembly for smoke jumper operations in accordance with FAA Approved U.S. Department of Agriculture, Forest Service Drawing No. MTDC-833, date 3/90 or later approved revision.

Limitations and Conditions:

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 interrelationship 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.

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: **June 6, 1991**

Date reissued:

Date of issuance: **February 26, 1992**

Date amended:



By direction of the Administrator

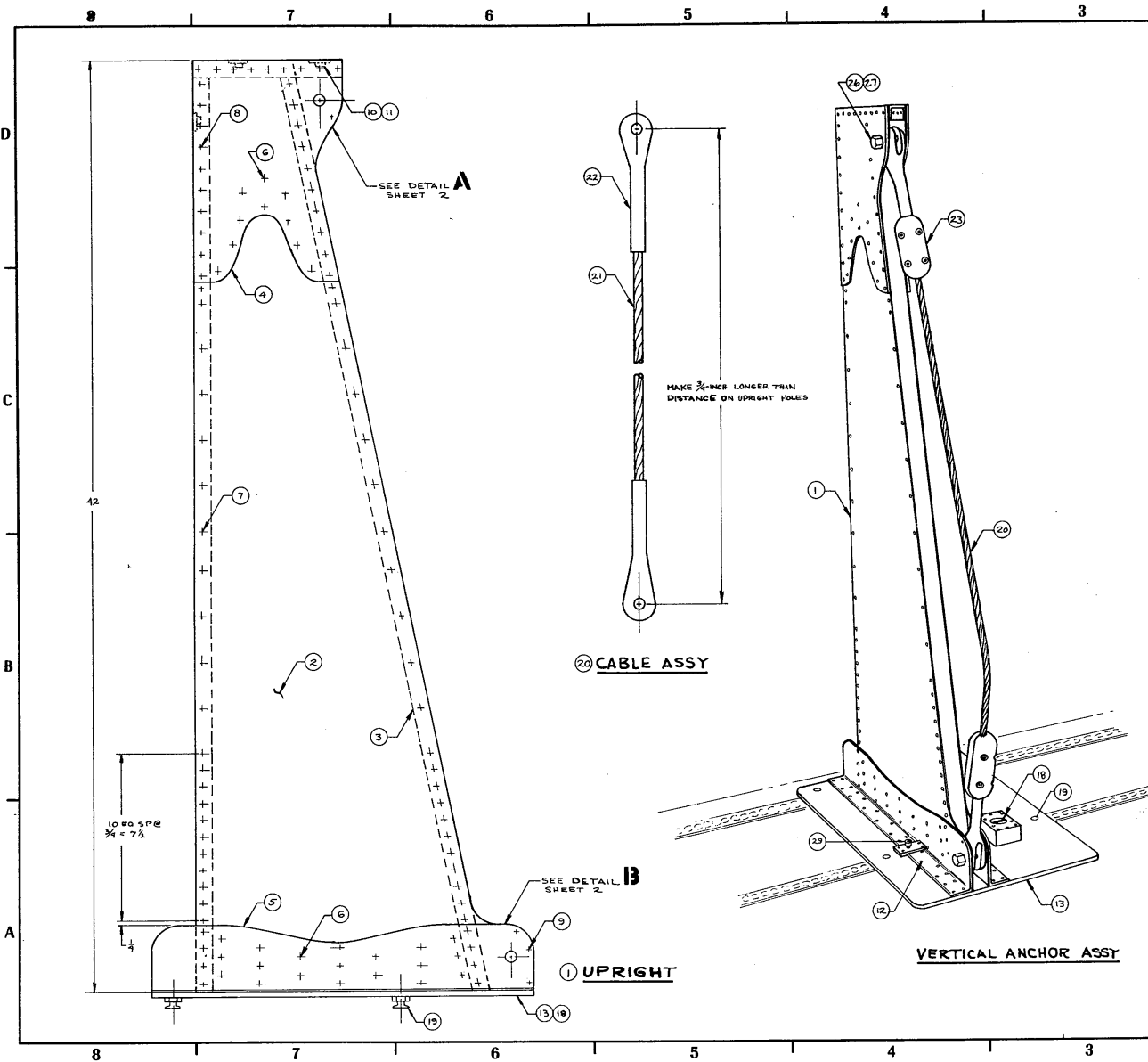
Richard E. Jennings

RICHARD E. JENNINGS (Signature) Supervisor
Denver Aircraft Certification Field Office
Northwest Mountain Region, Denver, Colorado

(Title)

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

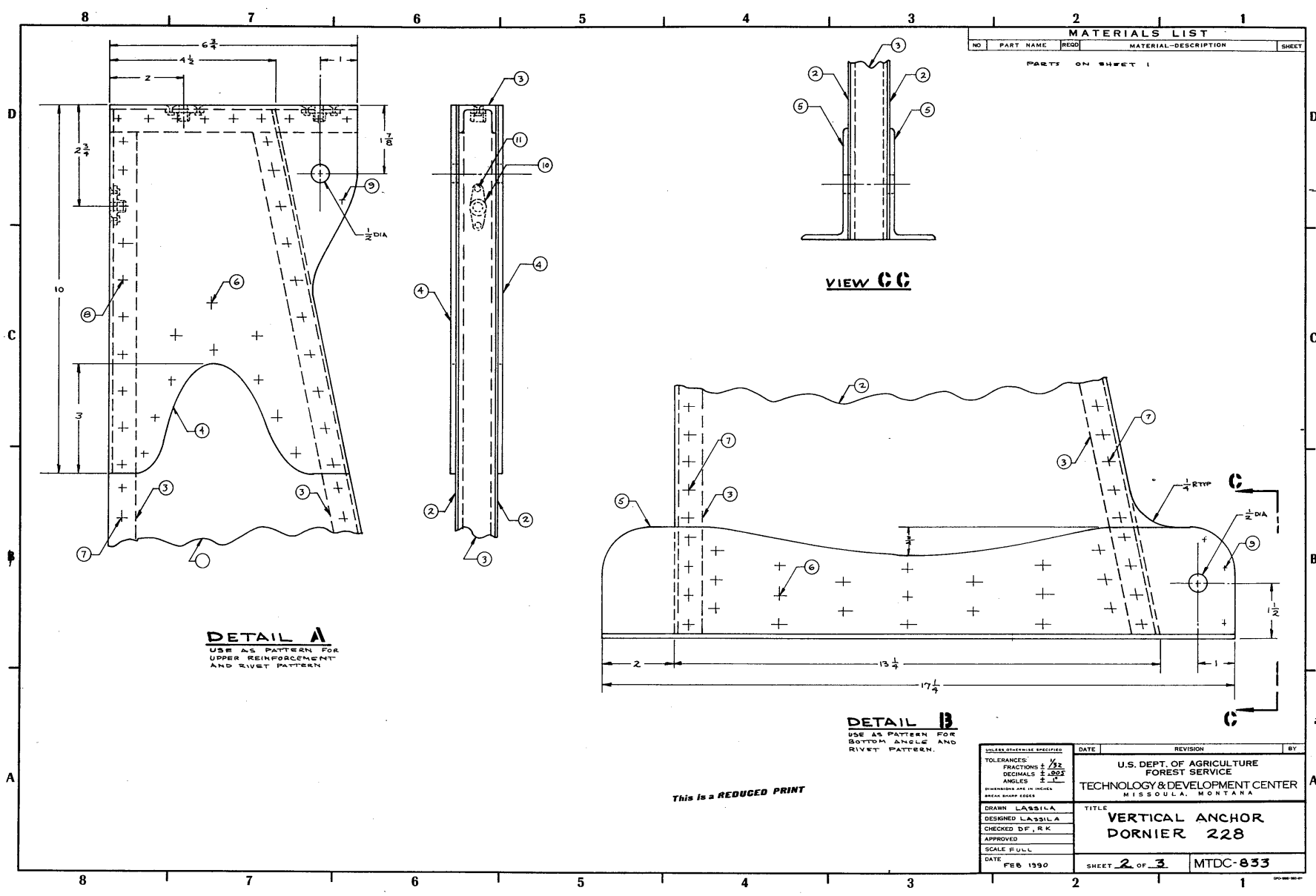
This certificate may be transferred in accordance with FAR 21.47.



MATERIALS LIST			
NO	PART NAME	REQD	MATERIAL-DESCRIPTION
1	UPRIGHT	1	PARTS 2-12
2	SIDE	2	.063 THICK 2024-T3 ALUM ALLOY SHEET
3	CHANNEL	3	AND 1017-1007 6034-T181 ALUM ALLOY
4	UPPER REINF.	2	.115 THICK 2024-T3 ALUM ALLOY SHEET
5	BOTTOM ANGLE	2	3/16 X 3/8 2024-T301 ALUM ALLOY ANGLE
			TYENHAY METALS SEC. NO. 60-8069 OR EQ.
6	RIVET	58	MS 20470 AD4-C
7	RIVET	88	CHEERY MAX CR 2243-4-3
8	RIVET	74	CHEERY MAX CR 5243-4-3
9	RIVET	8	MS 20426 AD4-C
10	T-NUT	3	MS-21078-4 OR MS 1023N4
11	RIVET	6	MS 20426AD3-S
12	RIVET	46	MS 20470 AD4-S
13	BASE	1	PARTS 14-17
18	STOP LOCK	1	PART 18
19	FOOT	10	PART 19
20	CABLE ASSY	1	PARTS 21-22
21	CABLE	1	3/8 DIA 7X19 GALV AIRCRAFT CABLE
22	FORK END	2	MS 20667-12
23	STOP	2	PARTS 24-25
24	BOLT	2	AN 8-22A
27	NUT	2	MS 20348-8-20
28	SCREW	2	3/16 X 1 1/4 SOCKET HD CAP SCREW

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UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
TOLERANCES: FRACTIONS ± 1/32 DECIMALS ± .005 ANGLES ± .5°			
DIMENSIONS ARE IN INCHES SHARP SHARP EDGES			
DRAWN LASSILA	U.S. DEPT. OF AGRICULTURE FOREST SERVICE		
DESIGNED LASSILA	TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA		
CHECKED D.F. R. C.	TITLE		
APPROVED	VERTICAL ANCHOR DORNIER 228		
SCALE N.A.P.	DATE		
DATE FEB 1950	SHEET 1 OF 3		MTDC-833



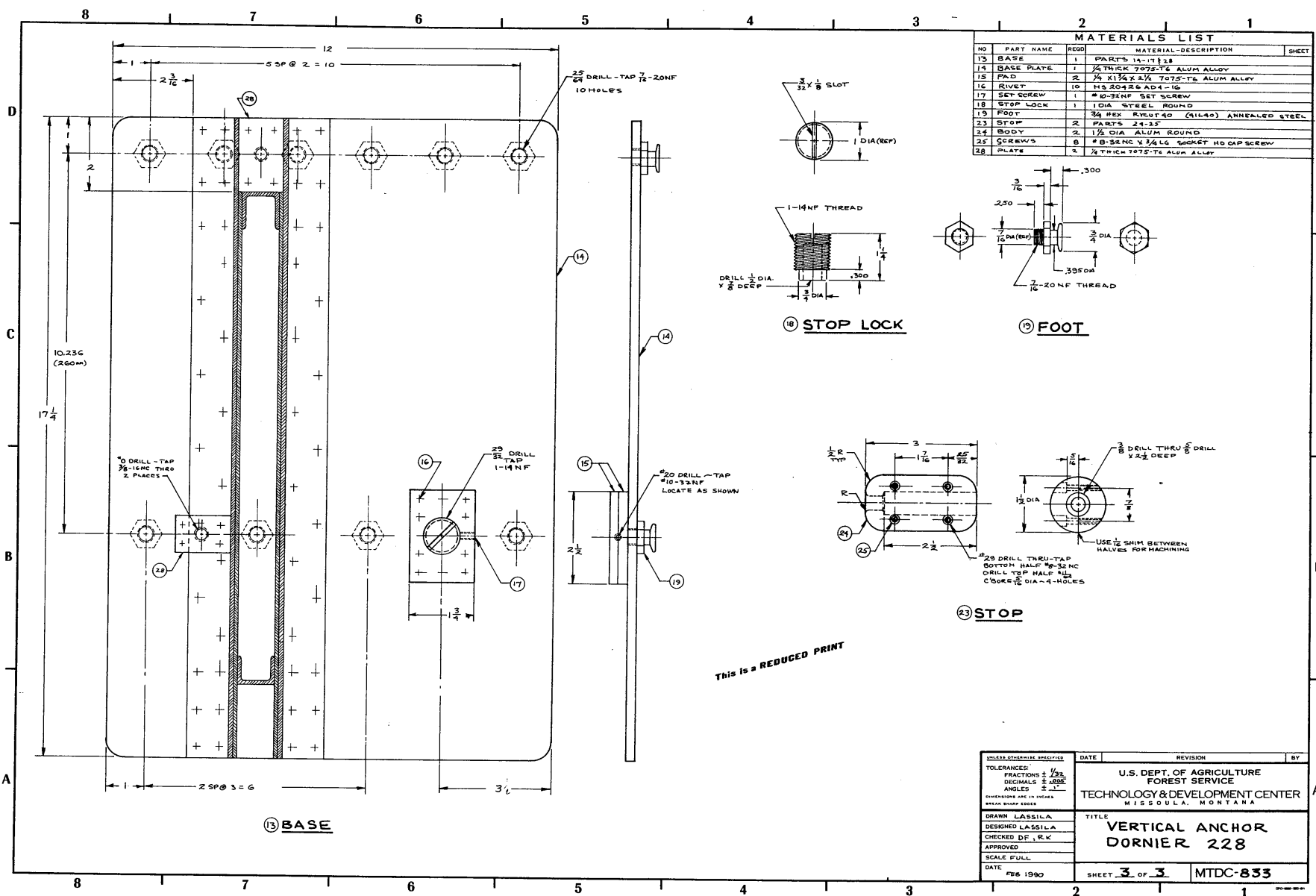
MATERIALS LIST			
NO.	PART NAME	REQD.	MATERIAL-DESCRIPTION
PARTS ON SHEET 1			

DETAIL A
USE AS PATTERN FOR
UPPER REINFORCEMENT
AND RIVET PATTERN

DETAIL B
USE AS PATTERN FOR
BOTTOM ANGLE AND
RIVET PATTERN.

This is a REDUCED PRINT

UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
TOLERANCES: FRACTIONS $\pm \frac{1}{32}$ DECIMALS $\pm .001$ ANGLES $\pm 1'$			
DIMENSIONS ARE IN INCHES BREAK SHARP EDGES			
DRAWN LASSILA			
DESIGNED LASSILA			
CHECKED D.F., R.K.			
APPROVED			
SCALE FULL			
DATE FEB 1990			
U.S. DEPT. OF AGRICULTURE FOREST SERVICE TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA		TITLE VERTICAL ANCHOR DORNIER 228	
		SHEET 2 OF 3	MTDC-833



MATERIALS LIST

NO	PART NAME	QTY	MATERIAL-DESCRIPTION	SHEET
13	BASE	1	PARTS 1A-11 F38	
14	BASE PLATE	1	1/2 THICK 7075-T6 ALUM ALLOY	
15	PAD	2	1/4 X 1 1/2 X 3/4 7075-T6 ALUM ALLOY	
16	RIVET	10	M5 20426 AD4-16	
17	SET SCREW	1	#10-32NF SET SCREW	
18	STOP LOCK	1	10A STEEL ROUND	
19	FOOT	2	3/4 HEX RIVET 40 (A1140) ANNEALED STEEL	
23	STOP	2	PARTS 24-25	
24	BODY	2	1 1/2 DIA ALUM ROUND	
25	SCREWS	8	#8-32NC X 3/8 LG WASHDR HD CAP SCREW	
28	PLATE	2	1/2 THICK 7075-T6 ALUM ALLOY	

UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
TOLERANCES: FRACTIONS ± 1/32 DECIMALS ± .005 ANGLES ± .1°			
DIMENSIONS ARE IN INCHES BREAK SHARP EDGES			
DRAWN LASSILA DESIGNED LASSILA CHECKED DF, R.W. APPROVED SCALE FULL	U.S. DEPT. OF AGRICULTURE FOREST SERVICE TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA		
DATE FEB 1980	TITLE VERTICAL ANCHOR DORNIER 228		
	SHEET 3 OF 3	MTDC-833	

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

Number SA5241NM

This certificate, issued to USDA Forest Service

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 23 of the Federal Aviation Regulations.

Original Product — Type Certificate Number: A16EU

Make: Dornier

Model: 228/-100/-101/-200/-201/-202

Description of Type Design Change:

Installation of horizontal anchor track and tether system for cargo spotter in accordance with FAA Approved U.S. Department of Agriculture, Forest Service Drawing No MTDC-854, dated 12/90 or later approved revision.

Limitations and Conditions:

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 interrelationship 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.

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: June 6, 1991

Date issued:

Date of issuance: February 26, 1992

Date amended:



By direction of the Administrator

Richard E. Jennings
RICHARD E. JENNINGS (Signature) Supervisor
Denver Aircraft Certification Field Office
Northwest Mountain Region, Denver, Colorado

(Title)

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.



U.S. Department
of Transportation
Federal Aviation
Administration

TRANSPORT AIRPLANE DIRECTORATE
Aircraft Certification Field Office
2390 Syracuse Street
Denver, Colorado 80207
Telephone: (303) 398-0839

February 26, 1992

USDA Forest Service
Missoula Technology & Development Center
Building No. 1, Fort Missoula
Missoula, Montana 59801

Project No's. ANM-100D-0350, -0351

Gentlemen:

We have completed our evaluation of your Supplemental Type Certificate (STC) projects and find that you have satisfactorily demonstrated compliance with the applicable certification regulations. Accordingly, we have enclosed your STC No's. SA5221NM and SA5241NM dated February 26, 1992, which indicates our approval of a vertical anchor assembly and horizontal anchor track and tether system on Dornier Model 228, -100, -101, -200, -201, -202 aircraft.

This STC is official Federal Aviation Administration (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 by 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 21.3(c). The report should be communicated initially by telephone to the Supervisor, Denver Aircraft Certification Field Office, telephone number (303) 398-0839, within 24 hours after it has been determined that the failure has occurred. In addition, written notification to the Supervisor at the above address is required. FAA Form 8010-4, Malfunction or Defect Report, or any other appropriate format is acceptable in transmitting the required details.

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 below.

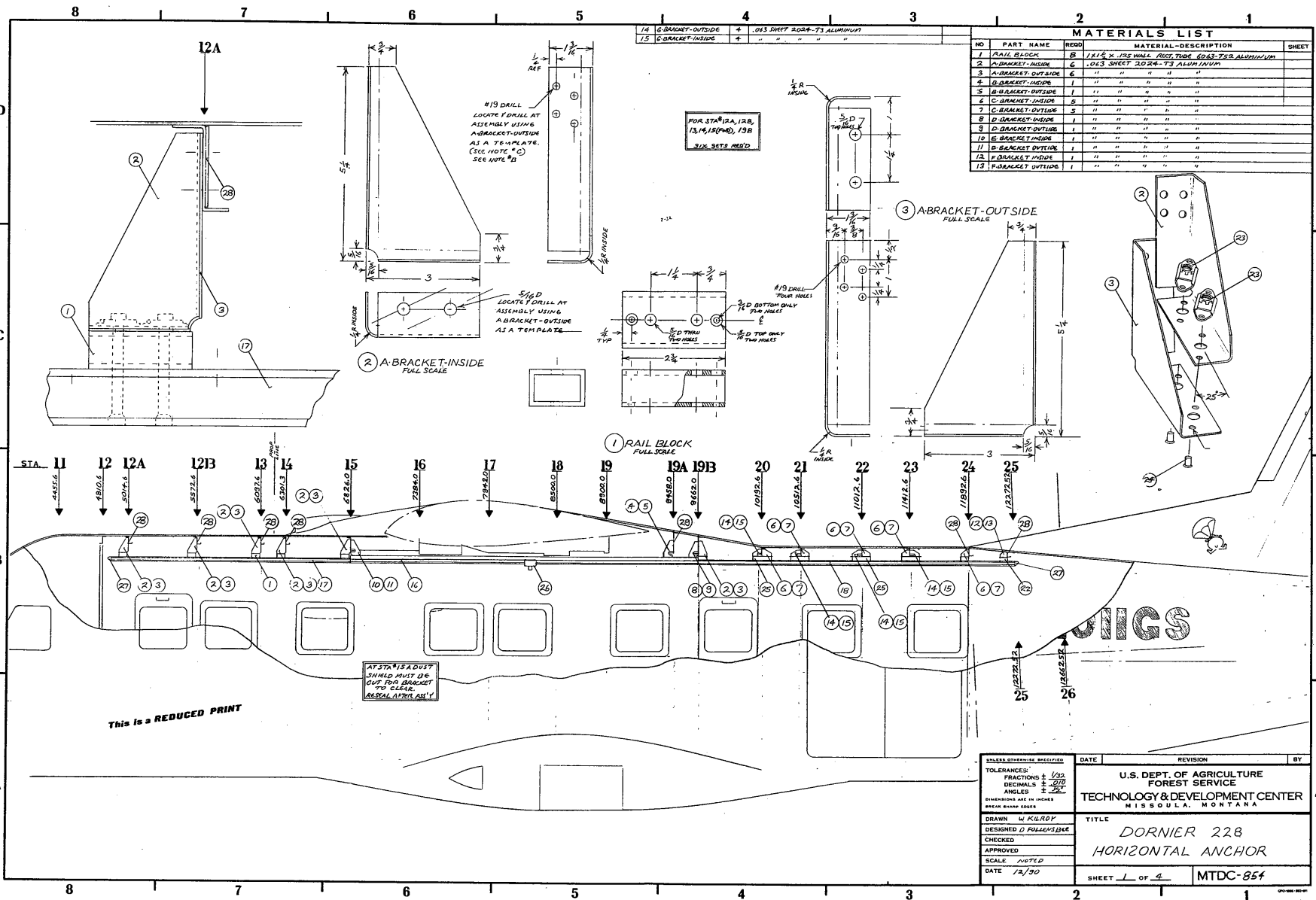
Federal Aviation Administration
Seattle Manufacturing District Office, ANM-108S
1601 Lind Ave., S.W.
Renton, Washington 98055-4056

Sincerely,



Richard E. Jennings
Supervisor, Denver Aircraft Certification Field Office

Enclosure



14	A-BRACKET-OUTSIDE	4	.063 SHEET 2024-T3 ALUMINUM
15	B-BRACKET-INSIDE	4	" " " " " "

MATERIALS LIST				SHEET
NO	PART NAME	QTY	MATERIAL-DESCRIPTION	
1	RAIL BLOCK	8	1/2 X 1/2 X 1/2 WALL PACT TUBE 6063-T52 ALUMINUM	
2	A-BRACKET-INSIDE	6	.063 SHEET 2024-T3 ALUMINUM	
3	A-BRACKET-OUTSIDE	6	" " " " " "	
4	B-BRACKET-INSIDE	1	" " " " " "	
5	B-BRACKET-OUTSIDE	1	" " " " " "	
6	C-BRACKET-INSIDE	5	" " " " " "	
7	C-BRACKET-OUTSIDE	5	" " " " " "	
8	D-BRACKET-INSIDE	1	" " " " " "	
9	D-BRACKET-OUTSIDE	1	" " " " " "	
10	E-BRACKET-INSIDE	1	" " " " " "	
11	E-BRACKET-OUTSIDE	1	" " " " " "	
12	SHACKLE-INSIDE	1	" " " " " "	
13	F-BRACKET-OUTSIDE	1	" " " " " "	

FOR STA 19A, 19B, 19A, 19B, 19C, 19D, 19E, 19F, 19G, 19H, 19I, 19J, 19K, 19L, 19M, 19N, 19O, 19P, 19Q, 19R, 19S, 19T, 19U, 19V, 19W, 19X, 19Y, 19Z, 20A, 20B, 20C, 20D, 20E, 20F, 20G, 20H, 20I, 20J, 20K, 20L, 20M, 20N, 20O, 20P, 20Q, 20R, 20S, 20T, 20U, 20V, 20W, 20X, 20Y, 20Z, 21A, 21B, 21C, 21D, 21E, 21F, 21G, 21H, 21I, 21J, 21K, 21L, 21M, 21N, 21O, 21P, 21Q, 21R, 21S, 21T, 21U, 21V, 21W, 21X, 21Y, 21Z, 22A, 22B, 22C, 22D, 22E, 22F, 22G, 22H, 22I, 22J, 22K, 22L, 22M, 22N, 22O, 22P, 22Q, 22R, 22S, 22T, 22U, 22V, 22W, 22X, 22Y, 22Z, 23A, 23B, 23C, 23D, 23E, 23F, 23G, 23H, 23I, 23J, 23K, 23L, 23M, 23N, 23O, 23P, 23Q, 23R, 23S, 23T, 23U, 23V, 23W, 23X, 23Y, 23Z, 24A, 24B, 24C, 24D, 24E, 24F, 24G, 24H, 24I, 24J, 24K, 24L, 24M, 24N, 24O, 24P, 24Q, 24R, 24S, 24T, 24U, 24V, 24W, 24X, 24Y, 24Z, 25A, 25B, 25C, 25D, 25E, 25F, 25G, 25H, 25I, 25J, 25K, 25L, 25M, 25N, 25O, 25P, 25Q, 25R, 25S, 25T, 25U, 25V, 25W, 25X, 25Y, 25Z, 26A, 26B, 26C, 26D, 26E, 26F, 26G, 26H, 26I, 26J, 26K, 26L, 26M, 26N, 26O, 26P, 26Q, 26R, 26S, 26T, 26U, 26V, 26W, 26X, 26Y, 26Z

2 A-BRACKET-INSIDE FULL SCALE

3 A-BRACKET-OUTSIDE FULL SCALE

1 RAIL BLOCK FULL SCALE

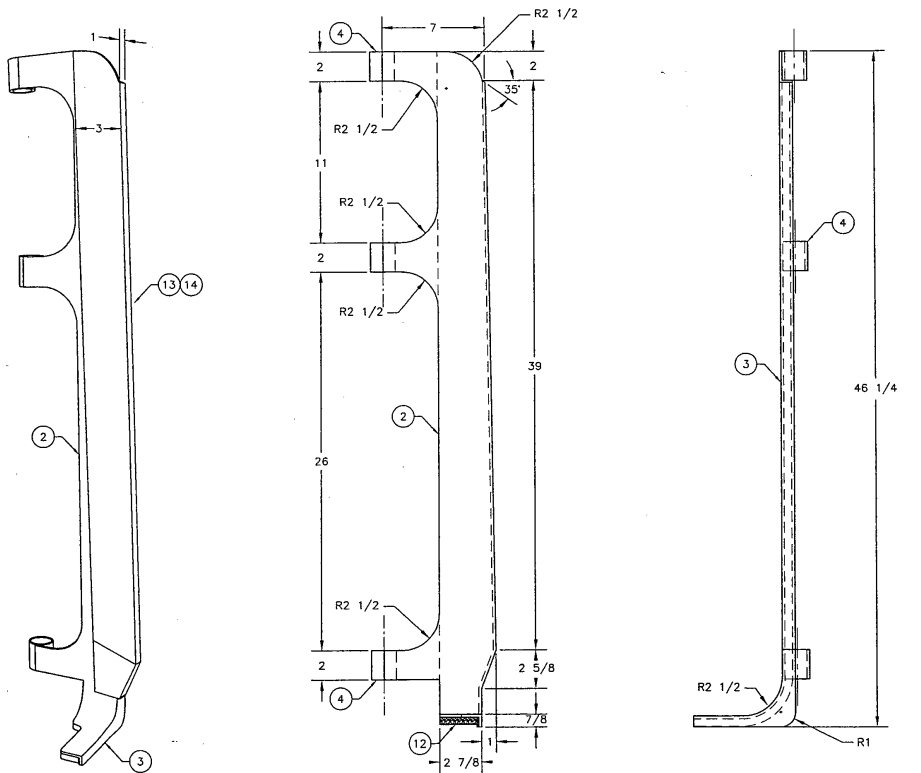
This is a REDUCED PRINT

AT STA 19A DUST SHIELD MUST BE DUST PRO BRACKET TO CLEAR. RESEAL AT PRO ASST

UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
TOLERANCES: FRACTIONS $\pm \frac{1}{32}$ DECIMALS $\pm .010$ ANGLES $\pm \frac{1}{2}^\circ$			
DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE	U.S. DEPT. OF AGRICULTURE FOREST SERVICE		
DRAWN BY KILROY	TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA		
DESIGNED BY FOLKENSBERG	TITLE DORNIER 228 HORIZONTAL ANCHOR		
CHECKED	SCALE NOTED		
APPROVED	DATE 12/30		
	SHEET 1 OF 4	MTDC-854	

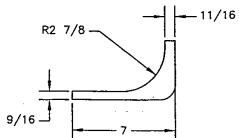
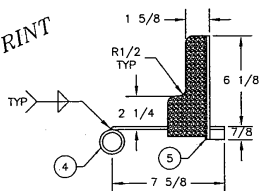
1 DOOR GUARD ASS'Y
1/4 SCALE-WELDED CONST

SPECIFIC WELDS NOTED



NO SCALE

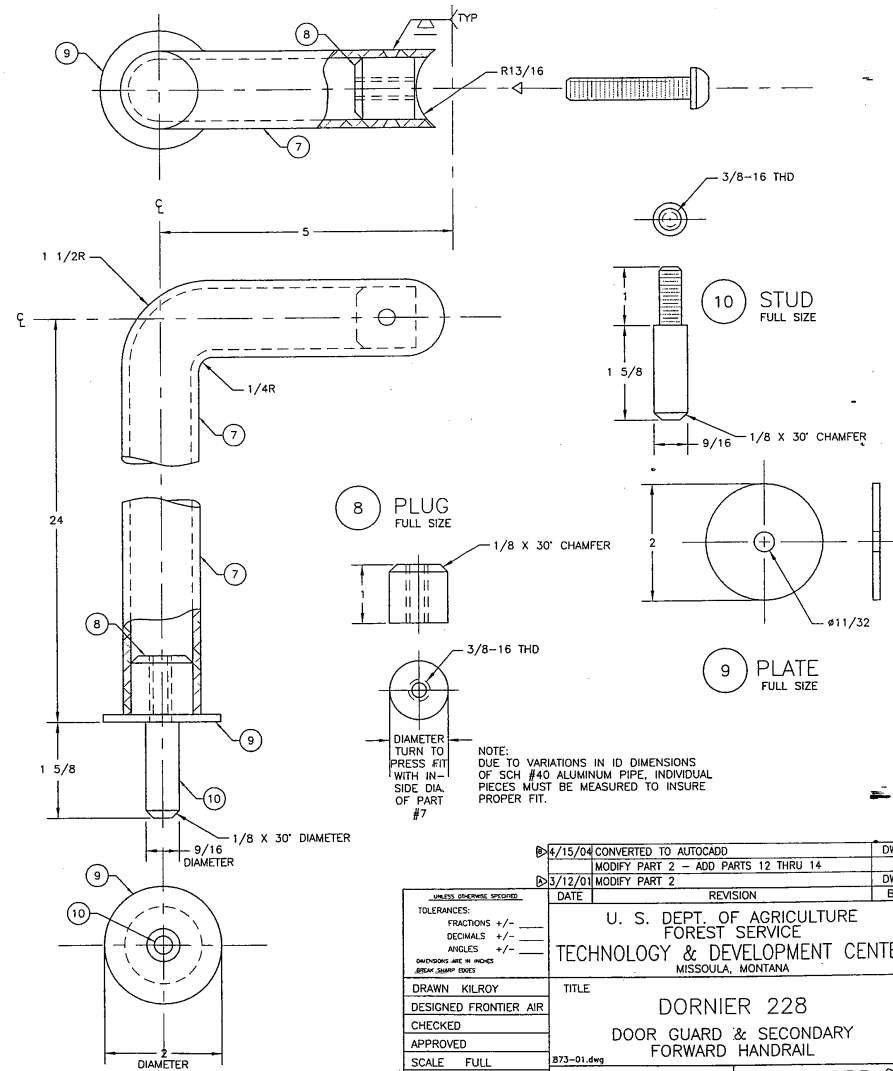
THIS IS A REDUCED PRINT



5 EDGE PAD

MATERIAL LIST

NO	PART NAME	REQD	MATERIAL-DESCRIPTION	8	PLUG	2	1-ROUND 6061-T6 ALUMINUM
1	DOOR GUARD	1	PARTS 2 THRU 5	9	PLATE	1	1/8" STEEL HOT ROLLED ROUND
2	FRAME	1	190 ALUMINUM 6061-T6 SHEET	10	STUD	1	9/16" STEEL HOT ROLLED ROUND
3	EDGE	1	190 ALUMINUM 6061-T6 SHEET	11	CAP SCREW	1	3/8-16 X 2 BUTTON HEAD SOCKET w/LOCK WASHER
4	PIVOT	3	1-1/4 SCHEDULE #40 6061-T6 ALUMINUM PIPE	12	IPAD	1	PORON QUICK RECOVERY FOAM, ADHESIVE BACK, 1/2-INCH THICK, FIRMNESS RATING 4, McMASTER-CARR PART NO. 86375K27 OR EQUAL
5	EDGE PAD	AR	1/8-INCH RUBBER BELTING	13	COVER	1	VIRGIN TEFLON SHEET, 1/8-INCH THICK, McMASTER-CARR PART NO. 854K136 OR EQUAL
6	SEC FWD	1	PARTS 7 THRU 11	14	ADHESIVE	1	TEFLON BONDING KIT, McMASTER-CARR PART NO. 7607A1 OR EQUAL
7	HANDRAIL ASS'Y	1	1-INCH SCHEDULE #40 6061-T6 ALUMINUM PIPE				



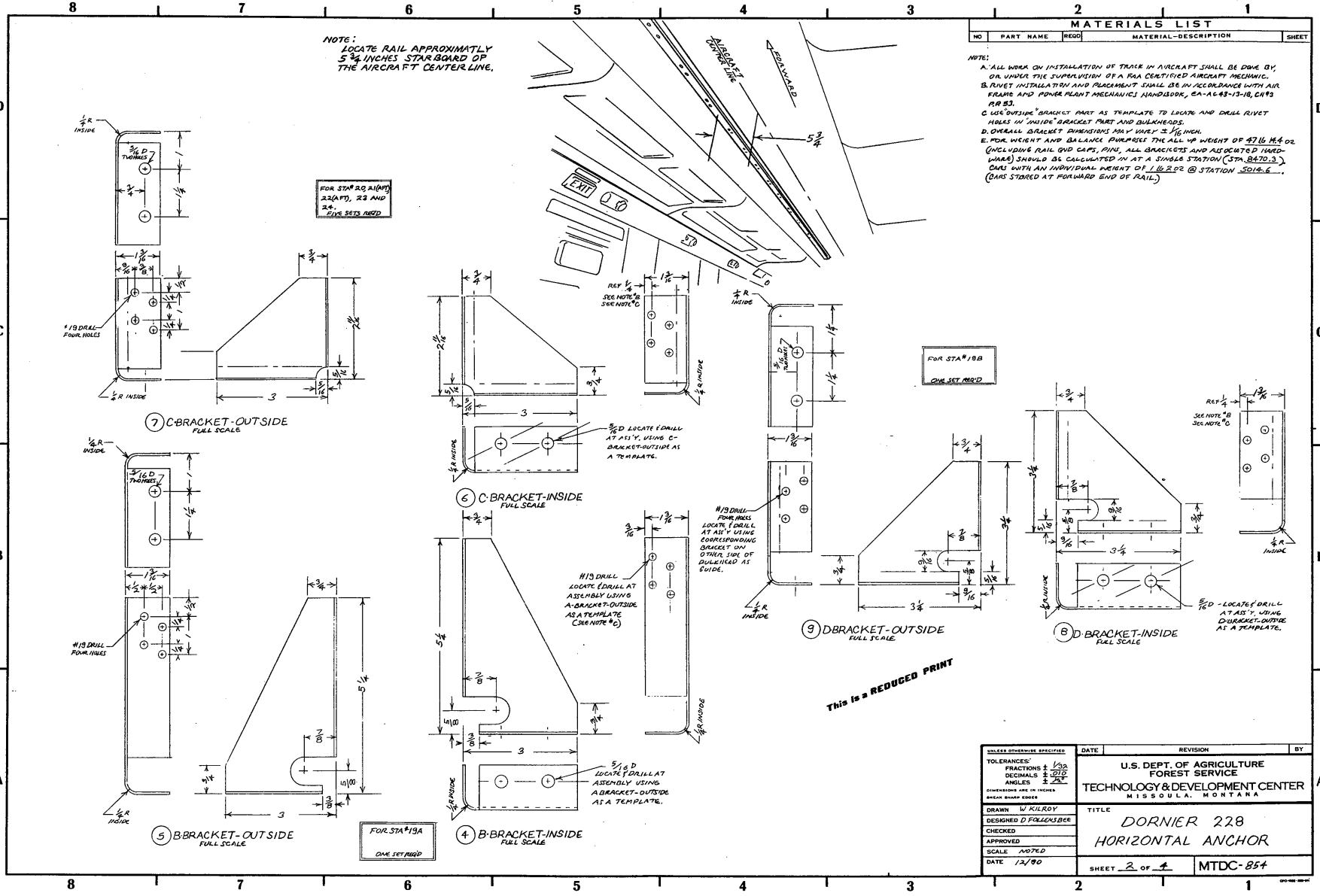
DATE	REVISION	DWM	BY
8/15/04	CONVERTED TO AUTOCAD		
5/12/01	MODIFY PART 2 - ADD PARTS 12 THRU 14	DWM	
5/12/01	MODIFY PART 2	DWM	

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

TITLE
DORNIER 228
DOOR GUARD & SECONDARY
FORWARD HANDRAIL

SCALE FULL
DATE 9-91

873-01.dwg
SHEET 1 OF 1
MTDC- 873



NOTE:
LOCATE RAIL APPROXIMATELY
5 3/4 INCHES STARBOARD OF
THE AIRCRAFT CENTER LINE.

MATERIALS LIST			
NO	PART NAME	REQD	MATERIAL-DESCRIPTION

- NOTE:
- A. ALL WORK ON INSTALLATION OF TRACK IN AIRCRAFT SHALL BE DONE BY OR UNDER THE SUPERVISION OF A FAA CERTIFIED AIRCRAFT MECHANIC.
 - B. RIVET INSTALLATION AND PLACEMENT SHALL BE IN ACCORDANCE WITH AIR FRAME AND POWER PLANT MECHANICS HANDBOOK, EA-AC43-13-18, CAPS RR 53.
 - C. USE OUTSIDE BRACKET PART AS TEMPLATE TO LOCATE AND DRILL RIVET HOLES IN "INSIDE" BRACKET PART AND DULHEADS.
 - D. OVERALL BRACKET DIMENSIONS MAY VARY 3 1/16 INCH.
 - E. FOR WEIGHT AND BALANCE PURPOSES THE ALL UP WEIGHT OF 47 LB MIN OR (INCLUDING RAIL END CAPS, PINN, ALL BRACKETS AND ASSOCIATED HARDWARE) SHOULD BE CALCULATED IN AT A STATION STATION (STA. 8422.3). (CARB WITH AN INDIVIDUAL WEIGHT OF 1.46 2.02 @ STATION 8422.3. (CARB STORED AT FORWARD END OF RAIL.)

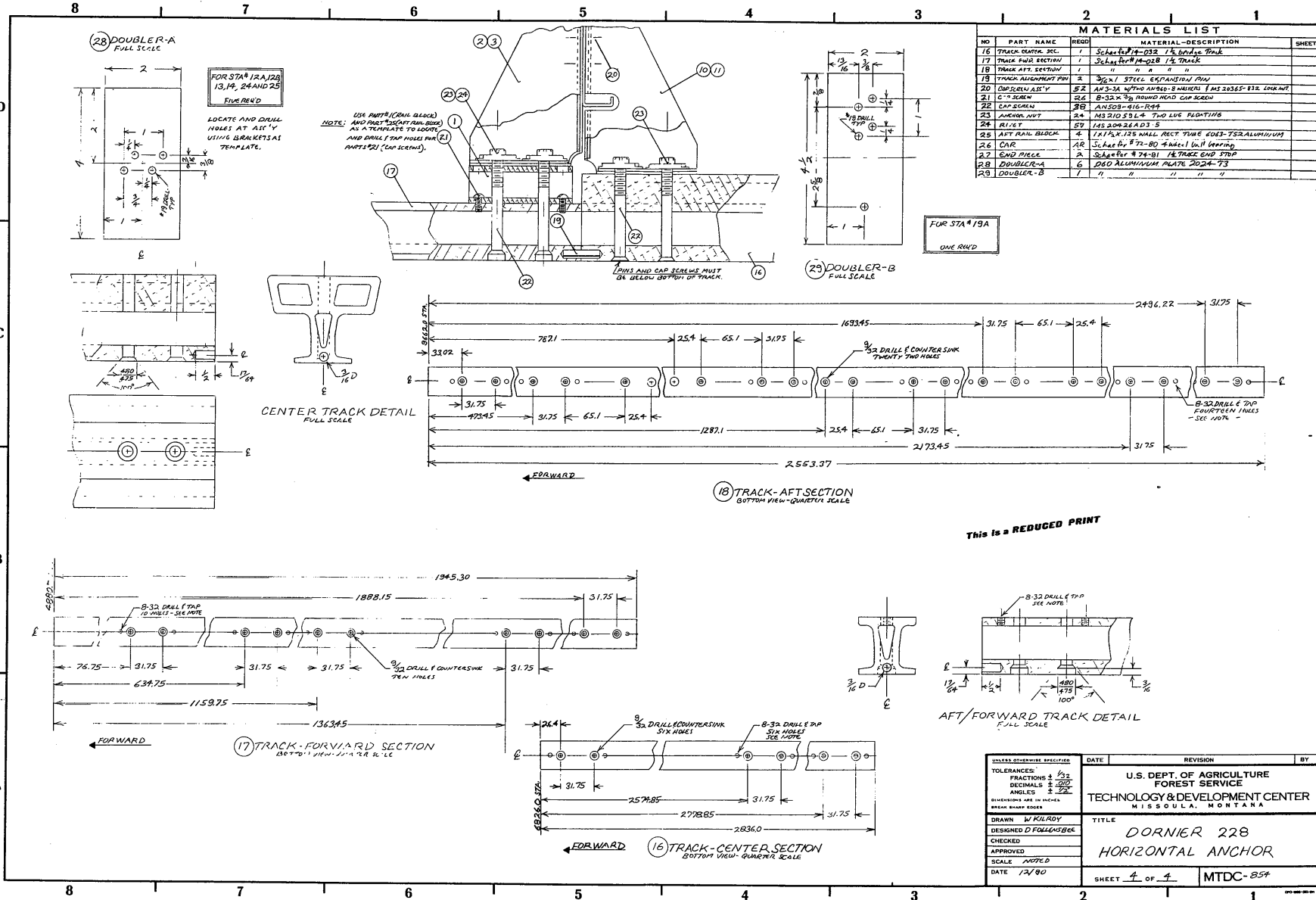
FOR STA# 20 A(1PT)
22(A PT), 23 AND
24.
ONE SET NEED

FOR STA# 18B
ONE SET NEED

FOR STA# 19A
ONE SET NEED

TOLERANCES UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
FRACTIONS ± 1/32			
DECIMALS ± 0.005			
ANGLES ± 30'			
DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE			
DRAWN BY KILROY			
DESIGNED BY FOLKENSBERG			
CHECKED			
APPROVED			
SCALE NOTED			
DATE 1/2/80			
SHEET 2 OF 4		MTDC-854	

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MATERIALS LIST

NO	PART NAME	REQD	MATERIAL-DESCRIPTION	SHEET
16	TRACK CENTER SEC.	1	Schaefer # 14-032 1/4 END SEC. PAIR	
17	TRACK END SECTION	1	Schaefer # 14-028 1/4 TRACK	
18	TRACK AFT SECTION	1	" " " " " "	
19	TRACK ALIGNMENT PIN	3	3/8" 1/2" STEEL EXPANSION PIN	
20	CAP SCREW AS'Y	52	A4-32 X 3/8" ROUND HEAD CAP SCREW	
21	CAP SCREW	52	B-32 X 3/8" ROUND HEAD CAP SCREW	
22	CAP SCREW	36	A4-32 X 3/8" ROUND HEAD CAP SCREW	
23	ANCHOR NUT	24	M12 X 1.75 - 2.0 LUG FLOATING	
24	RI-VET	54	1/8" 20 X 3/4" S	
25	AFT RAIL BLOCK	4	1 1/2" X 1 1/2" WALL RECT. TUBE 6063-T52 ALUMINUM	
26	CAR	AR	Schaefer # 72-80 4 Wheel Unit bearing	
27	END PIECE	2	Schaefer # 74-81 1/4 TRACK END STOP	
28	DOUBLER-A	6	200 ALUMINUM PLATE 2024-T3	
29	DOUBLER-B	1	" " " " " "	

FOR STA # 19A
13, 14, 24 AND 25
FIVE RND

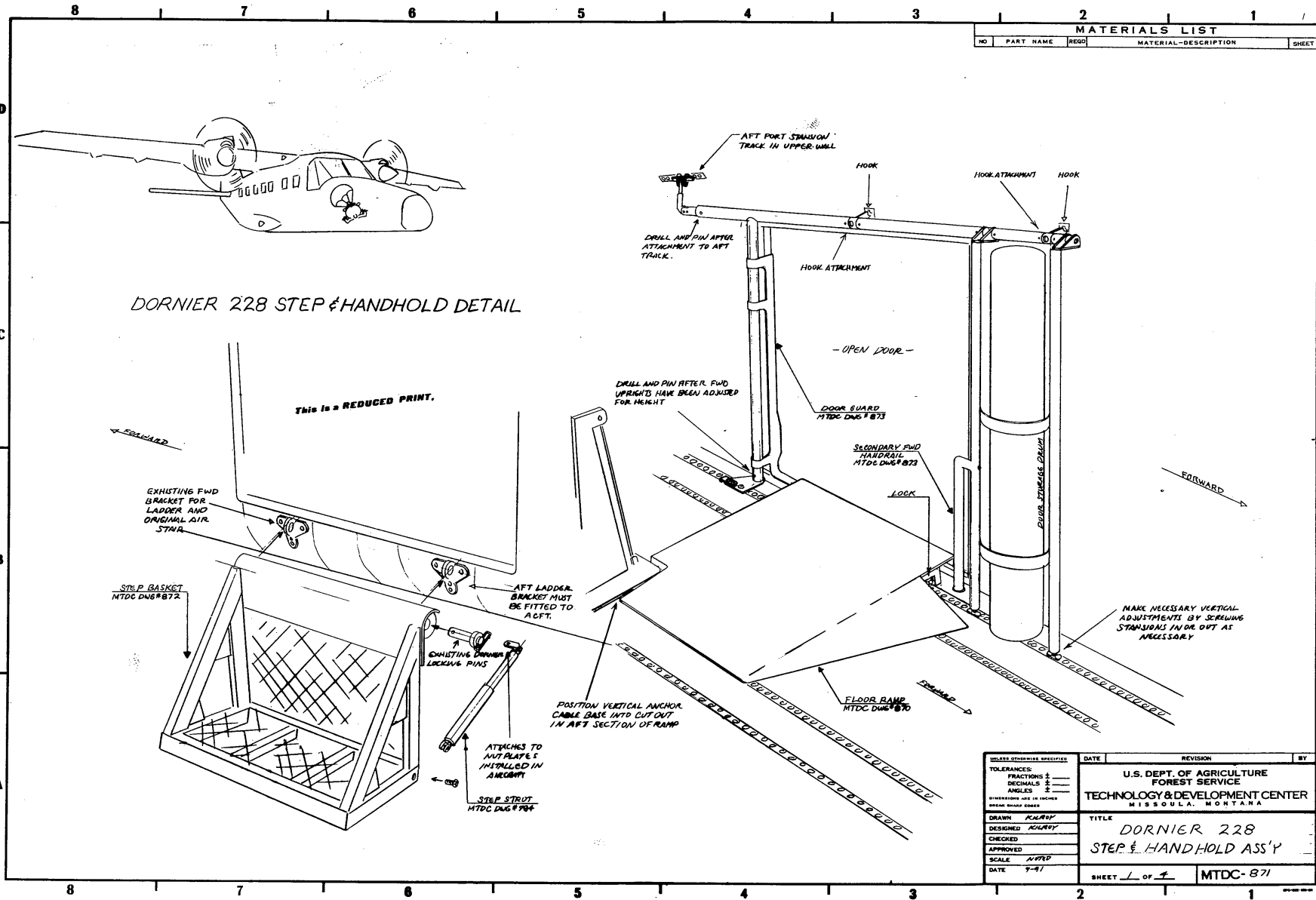
LOCATE AND DRILL
HOLES AT 1/4"
USING BRACKETS AS
TEMPLATE.

USE PARTS (CON. BLOCK)
NOTE: AND PART (SCAFFOLD BIRD)
AS A TEMPLATE TO LOCATE
AND DRILL TAP HOLES FOR (E)
PARTS (S) (CAP SCREWS).

FOR STA # 19A
ONE RND

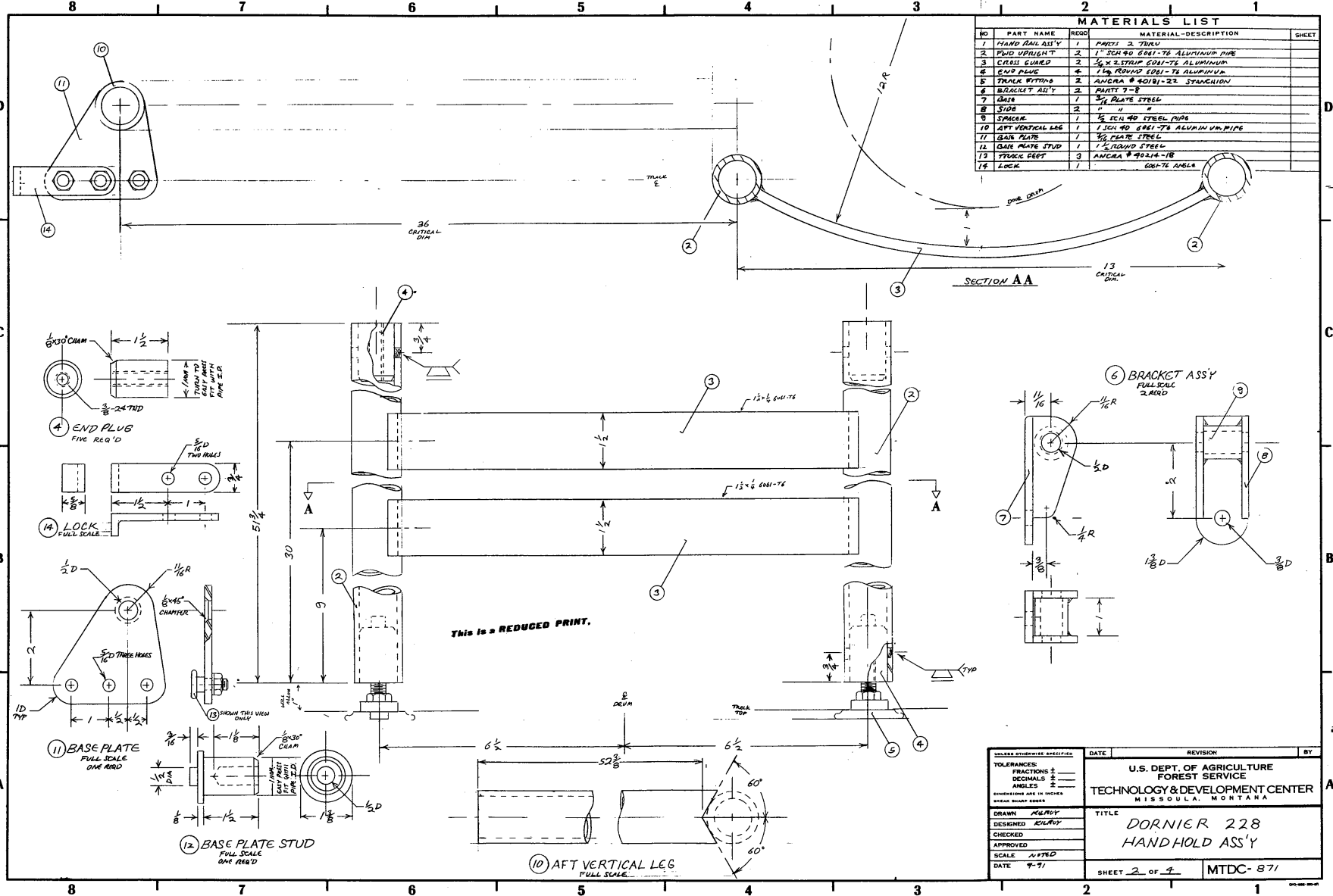
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TOLERANCES UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
FRACTIONS ± 1/32			
DECIMALS ± 0.005			
ANGLES ± 30'			
DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE			
DRAWN BY KILROY	TITLE		
DESIGNED D FOLLENBERG	DORNIER 228		
CHECKED	HORIZONTAL ANCHOR		
APPROVED			
SCALE NOTED			
DATE 12/80	SHEET 4 OF 4	MTDC-854	



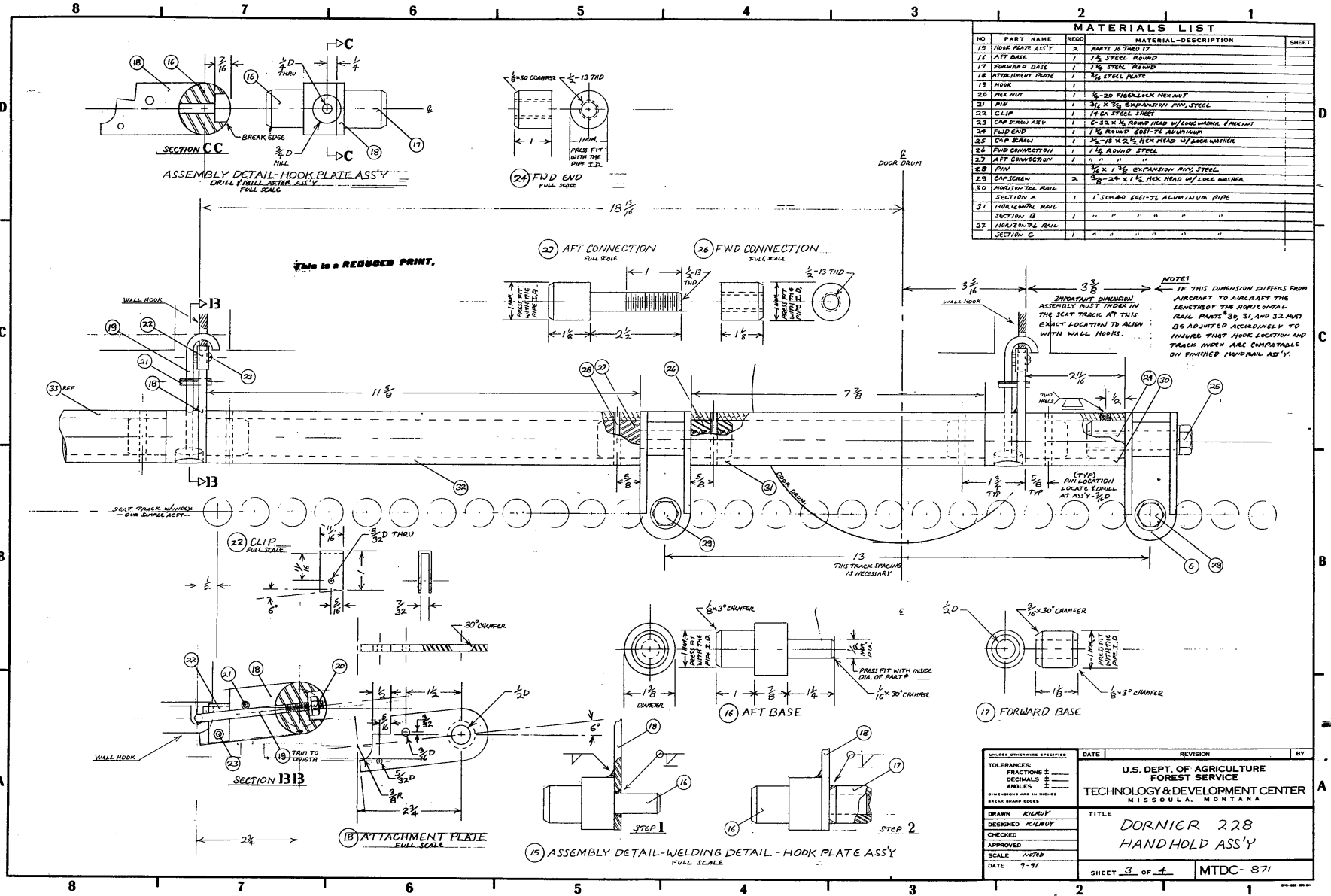
MATERIALS LIST			
NO	PART NAME	REQD	SHEET

UNLESS OTHERWISE SPECIFIED		DATE	REVISION	BY
TOLERANCES:	FRACTIONS \pm			
	DECIMALS \pm			
	ANGLES \pm			
DIMENSIONS ARE IN INCHES UNLESS SHOWN OTHERWISE				
DRAWN	KALBY			
DESIGNED	KALBY			
CHECKED				
APPROVED				
SCALE	AS SHOWN			
DATE	7-71			
U.S. DEPT. OF AGRICULTURE FOREST SERVICE TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA		TITLE		
		DORNIER 228 STEP & HANDHOLD ASS'Y		
		SHEET	1	OF 1
		MTDC-871		



This is a REDUCED PRINT.

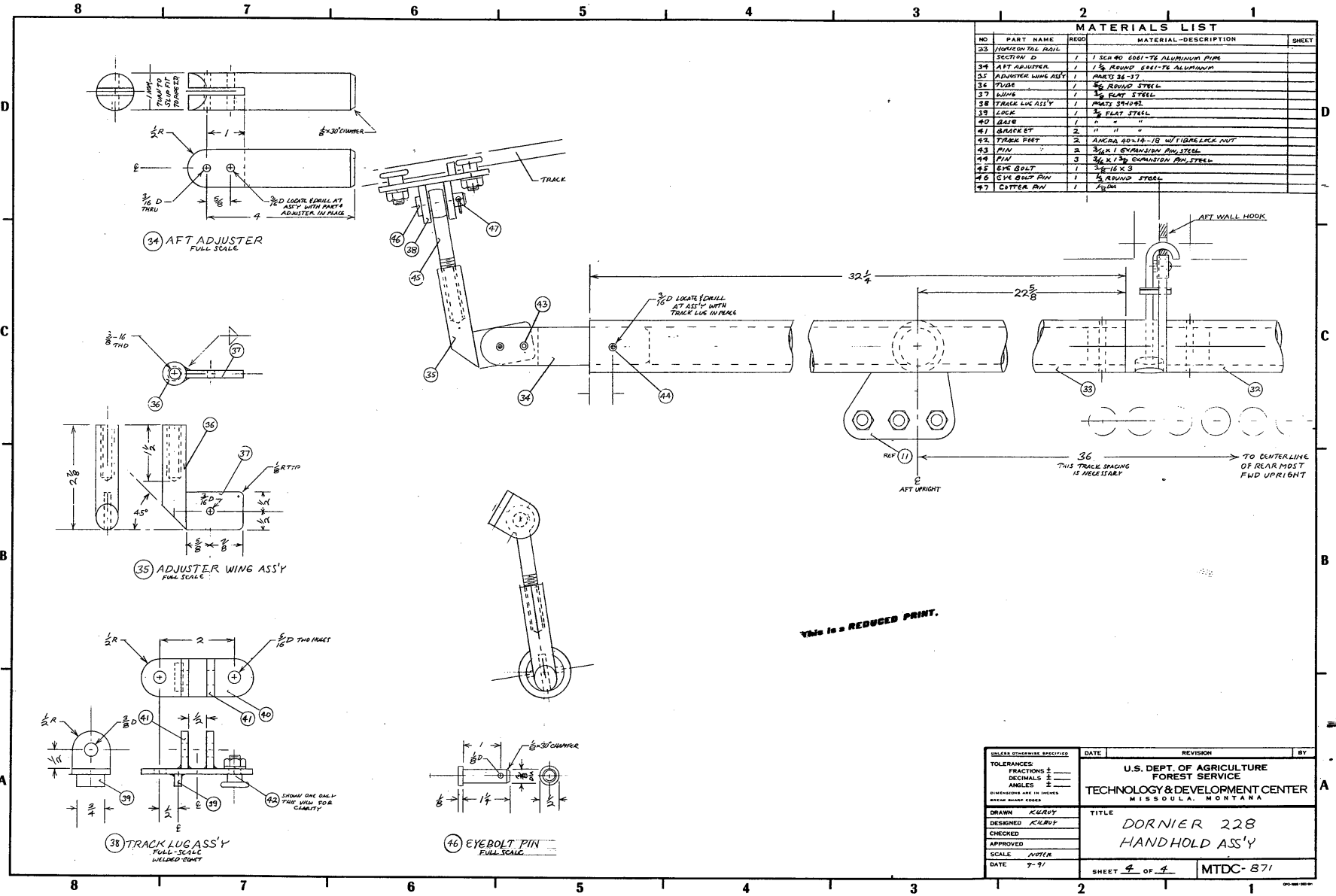
TOLERANCES:	DATE	REVISION	BY
FRACTIONS \pm			
DECIMALS \pm			
ANGLES \pm			
UNLESS OTHERWISE SPECIFIED			
DIRECTIONS ARE IN INCHES UNLESS SHOWN OTHERWISE			
DRAWN <i>KILROY</i>	TITLE		
DESIGNED <i>KILROY</i>	U.S. DEPT. OF AGRICULTURE FOREST SERVICE TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA		
CHECKED	DRAWN		
APPROVED	DATE		
SCALE <i>NAT'D</i>	DATE <i>9-71</i>		
	SHEET <i>2</i> OF <i>4</i>	MTDC-871	



MATERIALS LIST			
NO	PART NAME	REQD	MATERIAL-DESCRIPTION
15	HOOK PLATE ASS'Y	2	PART 16 THRU 17
16	AFT BASE	1	1/2" STEEL ROUND
17	FORWARD BASE	1	1/2" STEEL ROUND
18	ATTACHMENT PLATE	1	3/8" STEEL PLATE
19	HOOK	1	
20	NER NUT	1	1/2-20 FIBERLOCK NER NUT
21	PIN	1	3/8 X 3/8 EXPANSION PIN, STEEL
22	CLIP	1	1/4" SA STEEL SHEET
23	CLIP SCREW ASSY	1	5/32 X 1/2 ROUND HEAD W/ LOCK WASHER EMER NUT
24	FWD END	1	1/2" ROUND 6061-T6 ALUMINUM
25	CLIP SCREW	1	1/4-18 X 2 1/2 NER HEAD W/ LOCK WASHER
26	FWD CONNECTION	1	1/2" ROUND STEEL
27	AFT CONNECTION	1	" " " " " " " "
28	PIN	2	3/8 X 1 1/2 EXPANSION PIN, STEEL
29	CAPSCREW	2	3/8-24 X 1 1/2 NER HEAD W/ LOCK WASHER
30	HORIZONTAL RAIL		
31	SECTION A	1	1" SCH 40 6061-T6 ALUMINUM PIPE
32	SECTION B	1	" " " " " " " "
33	SECTION C	1	" " " " " " " "

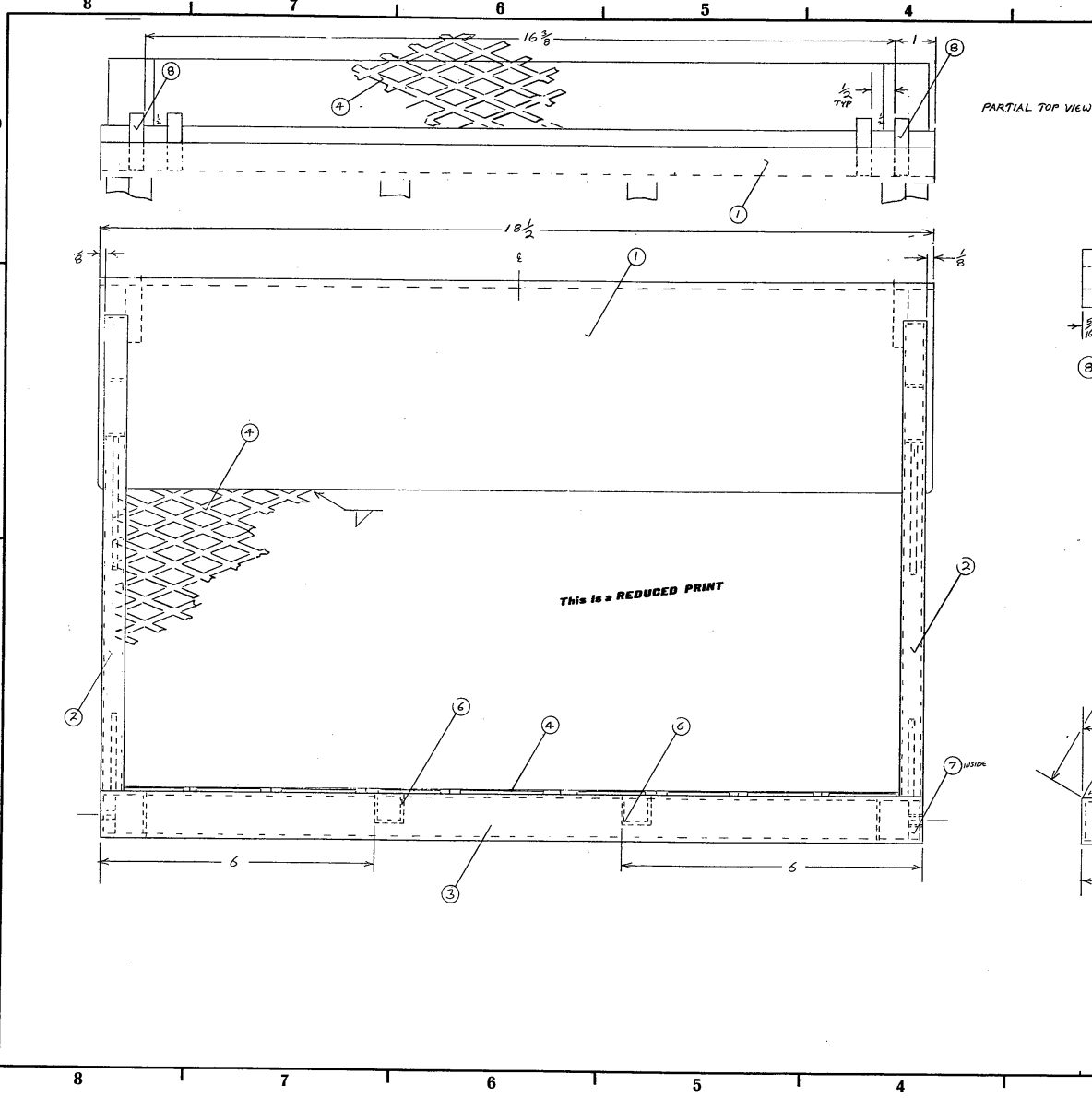
NOTE: IF THIS DIMENSION DIFFERS FROM AIRCRAFT TO AIRCRAFT THE LENGTH OF THE HORIZONTAL RAIL PARTS 30, 31, AND 32 MUST BE ADJUSTED ACCORDINGLY TO INSURE THAT HOOK LOCATION AND TRACK INDEX ARE COMPATIBLE ON FINISHED MANUAL ASS'Y.

UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
TOLERANCES: FRACTIONS ± DECIMALS ± ANGLES ±			
DIMENSIONS ARE IN INCHES BREAK SHARP EDGES			
DRAWN KILROY			
CHECKED KILROY			
APPROVED			
SCALE: NOTED			
DATE: 7-91			
S. U.S. DEPT. OF AGRICULTURE FOREST SERVICE TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA			
TITLE DORNIER 228 HAND HOLD ASS'Y			
SHEET 3 OF 4			MTDC- 871



MATERIALS LIST			
NO.	PART NAME	REQD.	MATERIAL-DESCRIPTION
23	WIPER FOR RAIL		
SECTION ID	1	1	SCH 40 6061-T6 ALUMINUM PIPE
34	AFT ADJUSTER	1	1/2 ROUND 6061-T6 ALUMINUM
35	ADJUSTER WING ASS'Y	1	ITEMS 36-37
36	PLATE	1	3/16 ROUND STEEL
37	WING	1	3/8 PLAT STEEL
38	TRACK LUG ASS'Y	1	ITEMS 39-42
39	LUG	1	3/8 PLAT STEEL
40	WIPER	1	" "
41	BRACKET	2	" "
42	TRACK FEET	2	AMCA 4018-18 W/FIBERGLASS MIT
43	PIN	2	3/16 X 1 EXPANDED PIN STEEL
44	PIN	3	3/16 X 1 EXPANDED PIN STEEL
45	EYE BOLT	1	1/2-16 X 3
46	EYE BOLT PIN	1	1/2 ROUND STEEL
47	COPPER PIN	1	3/16

UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
TOLERANCES: FRACTIONS ± DECIMALS ± ANGLES ±			
DIMENSIONS ARE IN INCHES BREAK SHARP EDGES			
DRAWN KLRBY			
DESIGNED KLRBY			
CHECKED			
APPROVED			
SCALE NOTER			
DATE 7-91			
U.S. DEPT. OF AGRICULTURE FOREST SERVICE			
TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA			
TITLE DORNIER 228 HANDHOLD ASS'Y			
SHEET 4 OF 4		MTDC-871	

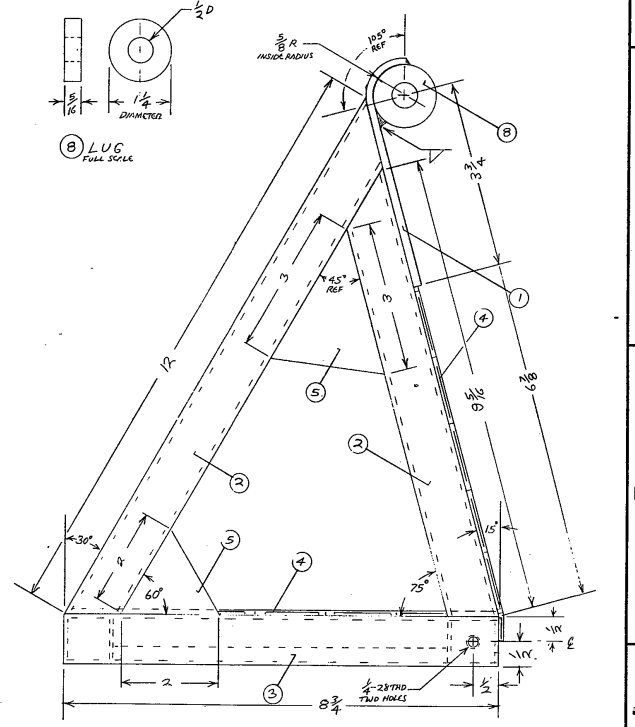


PARTIAL TOP VIEW

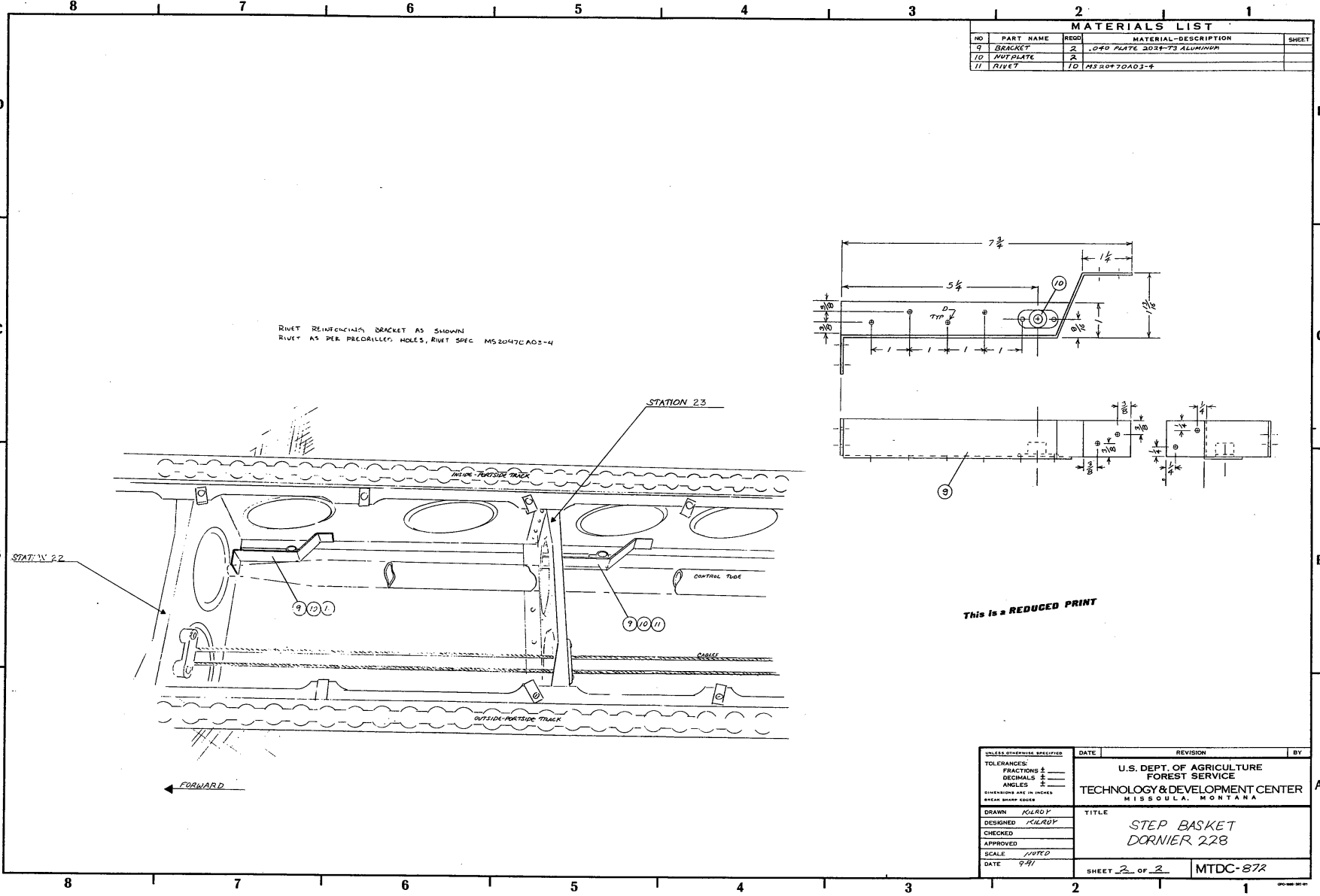
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MATERIALS LIST			
NO	PART NAME	REQD	MATERIAL-DESCRIPTION
1	MOUNTING PLATE	1	1/8" STEEL PLATE 1020 STEEL
2	SIDE FRAME	4	1/2" X 1" X .045 WALL AISI3 STEEL RECT. TUBE
3	FRAME	4	1" SQUARE X .045 WALL AISI3 STEEL TUBE
4	GRADE	2	1/2" X 10" STEEL FLATTENED EXPANDED METAL WEBS
5	WEBS	4	1/2" STEEL PLATE 1020
6	GROSS FRAME	2	2" SQUARE X .045 WALL AISI3 STEEL TUBE
7	PLAT	2	3/4" X 6" X 1" 1020 CONTROLLED FLAT STEEL
8	LUG	4	1" DIA. ROUND 1020 HOT ROLLED STEEL

NOTE: THIS STEP IS DESIGNED TO BE INSTALLED USING THE MTDC UNIVERSAL STEP STRUT (MTDC DWG # 784) CUT TO REQUIRED LENGTH.
ZINC CHROMATE, PRIME AND PAINT



UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
TOLERANCES: FRACTIONS ± DECIMALS ± ANGLES ±			
DIMENSIONS ARE IN INCHES BEEP SHARP EDGES			
DRAWN KILROP			
DESIGNED KILROP			
CHECKED			
APPROVED			
SCALE NOTED			
DATE 9-91			
U.S. DEPT. OF AGRICULTURE FOREST SERVICE TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA			
TITLE STEP BASKET DORNIER 228			
SHEET 1 of 2			MTDC-872

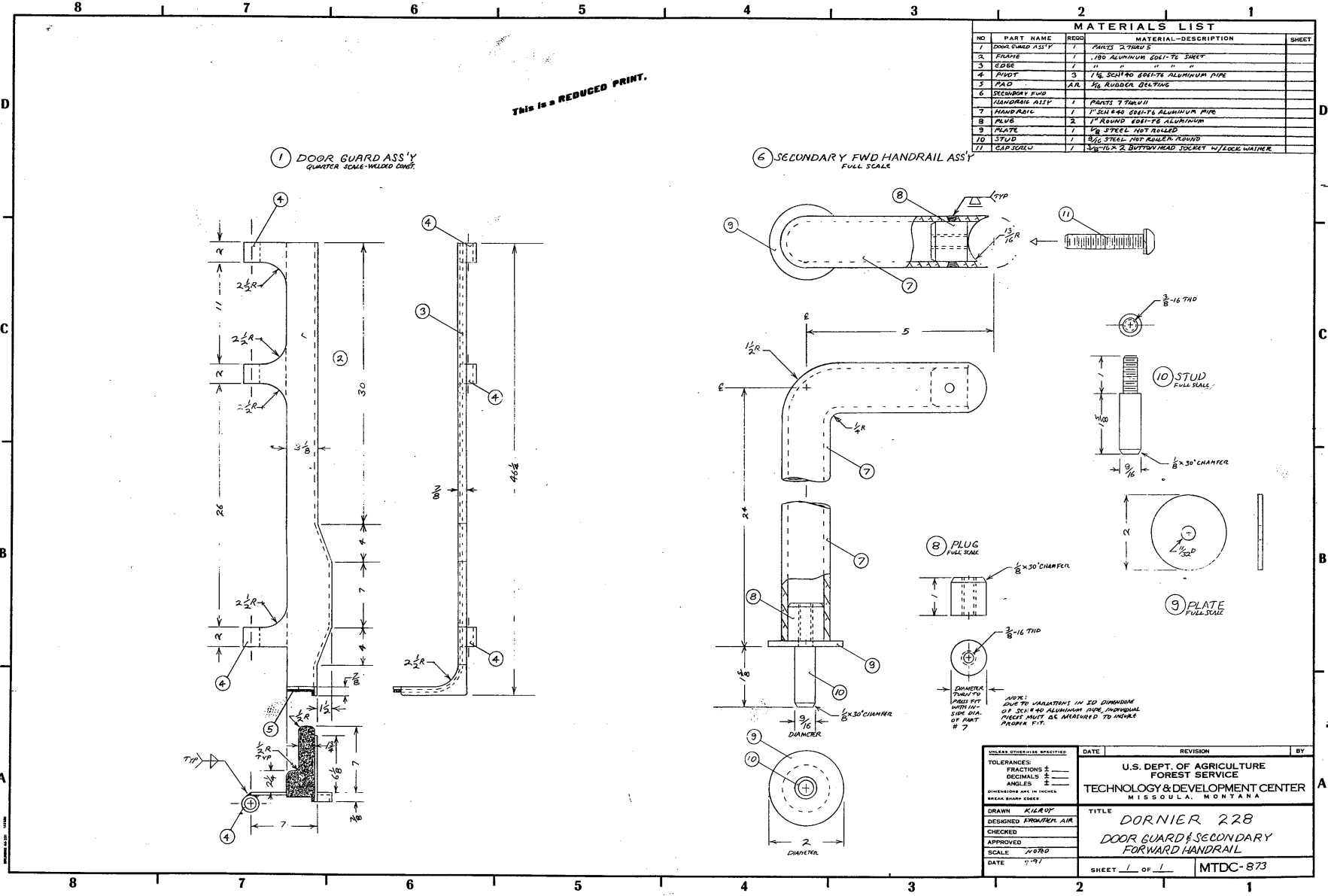


RIVET REINFORCING BRACKET AS SHOWN
 RIVET AS PER PREDRILLED HOLES, RIVET SPEC MS2047CA02-4

MATERIALS LIST			
NO	PART NAME	REQD	MATERIAL-DESCRIPTION
9	BRACKET	2	.040 PLATE 2024-T3 ALUMINUM
10	NUT PLATE	2	
11	RIVET	10	MS2047CA02-4

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UNLESS OTHERWISE SPECIFIED		DATE	REVISION	BY
TOLERANCES:				
FRACTIONS \pm				
DECIMALS \pm				
ANGLES \pm				
DIMENSIONS ARE IN INCHES				
SHOWN SHARP CORNERS				
DRAWN	KILROY	TITLE		
DESIGNED	KILROY	STEP BASKET		
CHECKED		DORNIER 228		
APPROVED				
SCALE	NOTED			
DATE	9/91	SHEET 2 OF 2		MTDC-872



MATERIALS LIST

NO	PART NAME	REQD	MATERIAL-DESCRIPTION	SHEET
1	DOOR GUARD ASS'Y	1	PARTS 7 DRAW'G	
2	PLATE	1	.180 ALUMINUM 6061-T6 SHEET	
3	EDGE	1	" " " " " "	
4	PIVOT	3	1/4 SCOT 90 DEGREE ALUMINUM PIPE	
5	PAD	A.R.	1/2 RUBBER GELTING	
6	SECONDARY FWD HANDRAIL ASS'Y	1	PARTS 7 DRAW'G	
7	HANDRAIL	1	1 SCOT 90 DEGREE ALUMINUM PIPE	
8	PLUG	2	1" ROUND 6061-T6 ALUMINUM	
9	PLATE	1	1/8 STEEL NOT ROLLED	
10	STUD	1	3/16 STEEL NOT ROLLED ROUND	
11	CAP SCREW	1	3/8-16 X 2 BUTT HEAD SOCKET W/ LOCK WASHER	

1 DOOR GUARD ASS'Y
QUARTER SCALE-WELDED UNIT

6 SECONDARY FWD HANDRAIL ASS'Y
FULL SCALE

UNLESS OTHERWISE SPECIFIED	DATE	REVISION	BY
TOLERANCES: FRACTIONS ± DECIMALS ± ANGLES ±			
DIMENSIONS ARE IN INCHES BREAK SHOWN EDGE			
DRAWN <i>KIAK OF</i>	U.S. DEPT. OF AGRICULTURE FOREST SERVICE		
CHECKED	TECHNOLOGY & DEVELOPMENT CENTER MISSOULA, MONTANA		
APPROVED	TITLE DORNIER 228 DOOR GUARD & SECONDARY FORWARD HANDRAIL		
SCALE <i>NONE</i>	SHEET <u>1</u> OF <u>1</u>		
DATE <i>7-77</i>	MTDC-873		

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