

AD 606887

**U. S. A R M Y  
TRANSPORTATION RESEARCH COMMAND  
FORT EUSTIS, VIRGINIA**

**SUPPLEMENT  
to  
TRECOM TECHNICAL REPORT 64-3**

**CRASH INJURY EVALUATION  
PERSONNEL RESTRAINT SYSTEM STUDY  
CV-2 DeHAVILLAND CARIBOU**

**Contract DA 44-177-AMC-888(T)**

**April 1964**

COPY 2 OF 3  
NO. COPY 3.3  
NO. TIME 3.15

**prepared by:**

**AVIATION SAFETY ENGINEERING AND RESEARCH  
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**A Division Of  
Flight Safety Foundation, Inc.  
New York, New York**

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Task 1A024701A12101  
Contract DA 44-177-AMC-888(T)  
TRECOM Technical Report 64-3

April 1964

SUPPLEMENT  
to  
PERSONNEL RESTRAINT SYSTEM STUDY,  
CV-2 DeHAVILLAND CARIBOU

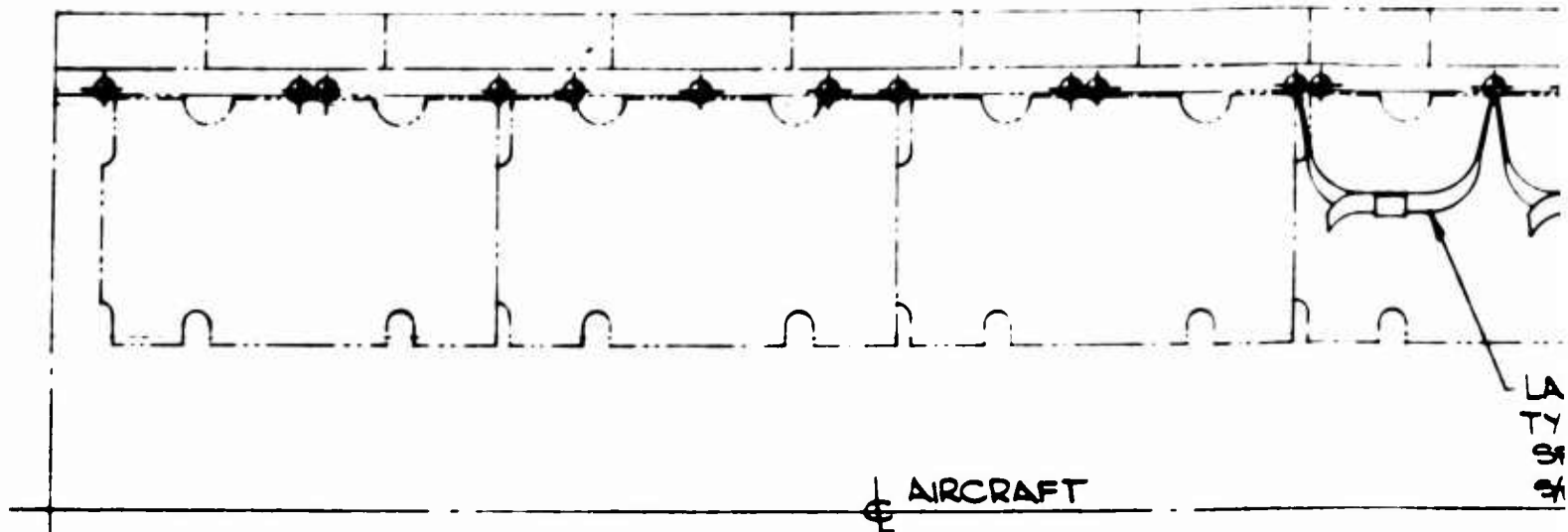
Crash Injury Evaluation  
AvCIR 62-16

Prepared by  
Aviation Safety Engineering and Research  
2871 Sky Harbor Blvd.  
Phoenix, Arizona  
A Division of  
Flight Safety Foundation, Inc.

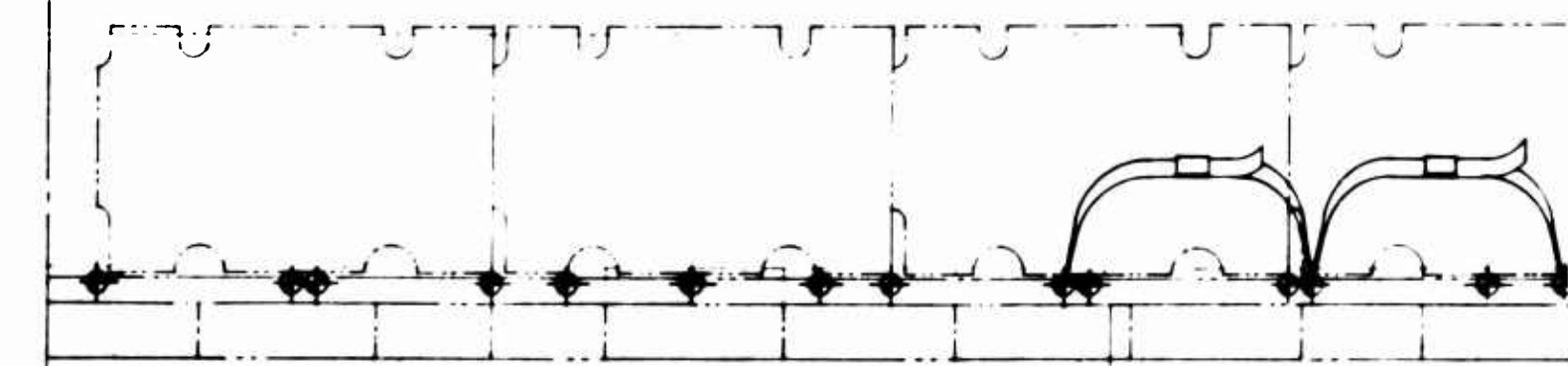
for  
U. S. ARMY TRANSPORTATION RESEARCH COMMAND  
FORT EUSTIS, VIRGINIA

## CONTENTS

	<u>Page</u>
AC-1-10	Installation of Restraint Harness . . . . . 1
AC-1-11	Modification of Shoulder Strap (Pilot's Seat Back) . . . . . 2
AC-1-12	Guide Rod Assembly . . . . . 3
AC-1-13	Installation of Tie-Down Straps (Alternate 1) . . . . . 4,5
AC-1-14	Slide (Pilot's Seat) . . . . . 6
AC-1-15	Modification of Pilot's and Copilot's Seat . . . . . 7,8
AC-1-16	Installation of Tie-Down Straps (Alternate 2) . . . . . 9,10
AC-1-17	Reinforcement of Floor Track (Pilot's Seat) . . . . . 11
AC-1-18	Reinforcement of Diagonal Brace (Crew Seat) . . . . . 12
AC-1-20	Strap Clamp Attachment (Troop Seat) . . . . . 13
AC-1-21	Ring Bolt Safety Belt Attachment (Troop Seat) . . . . . 14
AC-1-22	Modification of Lap Belt Attachment (Troop Seat) . . . . . 15,16
AC-1-23	Modification of Rail Attachment (Troop Seat) . . . . . 17
AC-1-24	Modification of Lap Belt Attachment (Troop Seat) . . . . . 18
AvCIR-10	Lap Belt Tie-Down Strap . . . . . 19
AvCIR-15	Pilot's Tie-Down Strap . . . . . 20



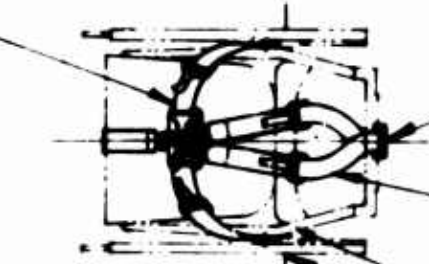
FORWARD



STA 93

STA 200

LAP BELT (REF)  
TYPE MD-1  
PART NO 54H19651

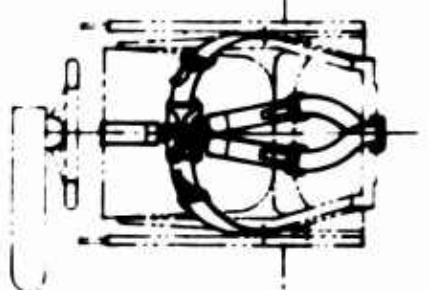


MODIFICATION-  
PILOTS SEAT - AC-1-  
DETAILS AND SUB-  
AC-1-11 SHOULDER  
AC-1-12 GUIDE RO  
AC-1-13 TIE DOWN  
AC-1-14 SLIDE - F  
AC-1-16 SIDE TIE D

SHOULDER HARNESS  
TYPE MB-2A  
PART NO 570677

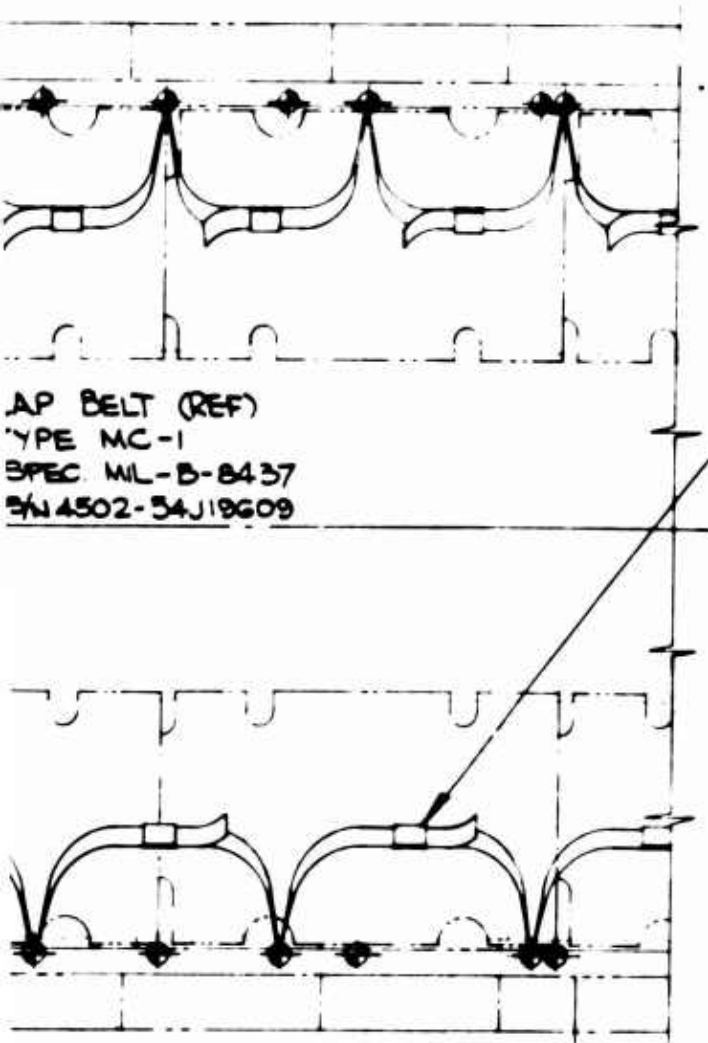
AC-1-18, REINFORCEMEN  
AC-1-17, REINFORCEMEN  
COCKPIT FLOOR A

AIRCRAFT



STA 0

STA 93



LAP BELT (REF)  
 TYPE MC-1  
 SPEC. ML-B-8437  
 SN 4502-54J19609

MODIFICATION - LAP BELT ATTACHMENT  
 TROOP SEATS AC-1-22  
 DETAILS AND SUB-ASSEMBLES REF:-  
 AC-1-20 STRAP  
 AC-1-21 RING BOLT  
 AC-1-24 DETAILS

STA  
 300

! REFERENCE DRAWINGS (DEHAVILLAND) -  
 CAF1058, CAF1035, CAF1036 PILOTS SEAT  
 CAB1875 TROOP SEAT INSTALL.  
 CAB1450 RAIL INSTALL (TROOP COMPT)  
 CAB1170 BLKD STA GO  
 NOTE:-

-1-15  
 )-ASSEMBLIES REF-  
 R STRAP GUIDE  
 DD ASSEMBLY  
 N STRAP INSTALL. (ALT.#1)  
 PILOT SEAT  
 DOWN STRAPS INSTALL. (ALT.#2)

SS (REF)

ENT, DIAG BRACE, CREW SEAT  
 1ENT,  
 AT STA. GO BLKD

#30(128) DIA. DRILL  
RADIUS PLATE AND TUBE  
LOCATE AT ASSEM.  
4 PLACES  
AN530C8-8 SCREW

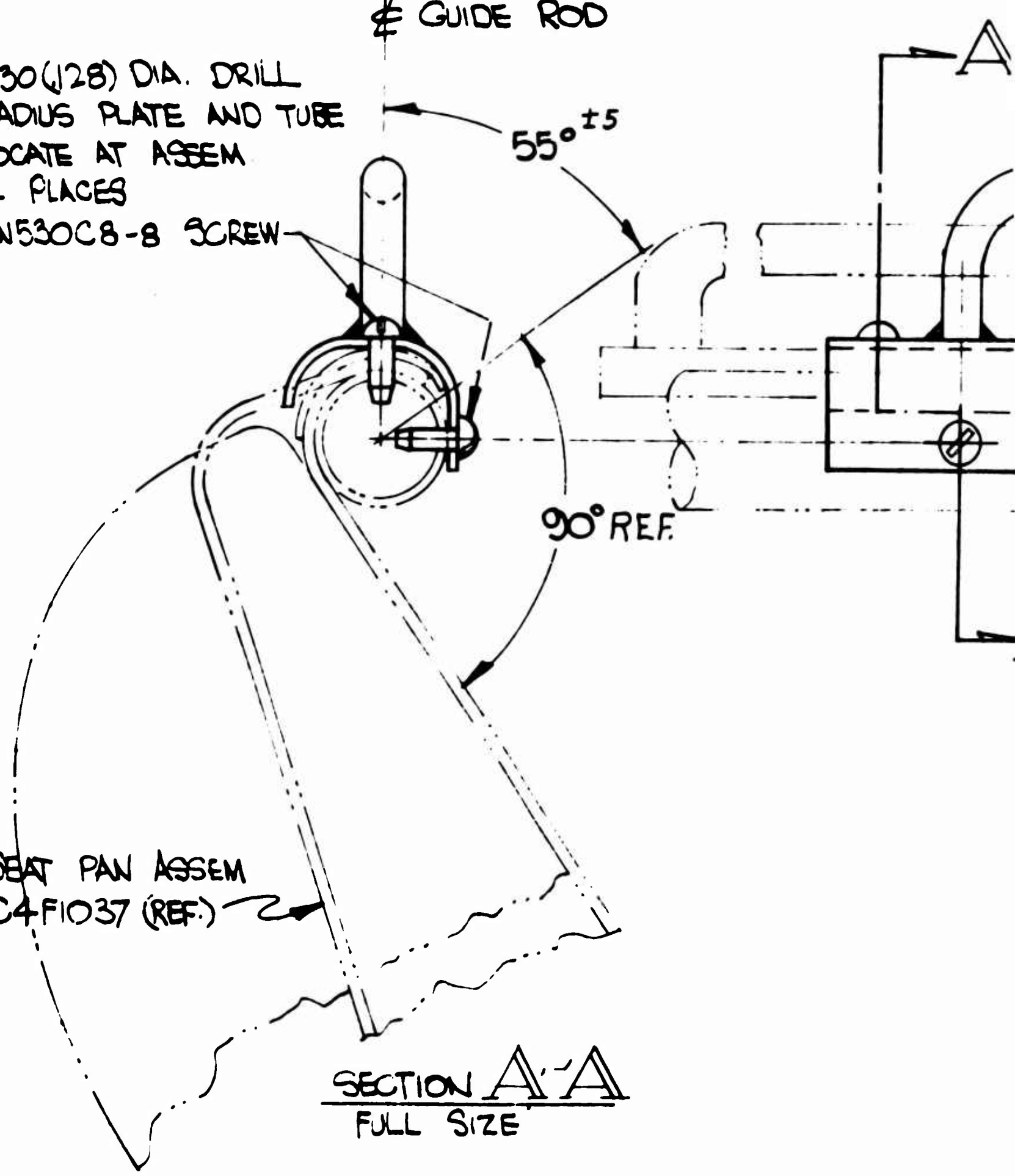
Ø GUIDE ROD

55° ±5

90° REF.

SEAT PAN ASSEM  
C4F1037 (REF.)

SECTION A-A  
FULL SIZE



GUIDE ROD ASSEM.  
AC-1-12

EXISTING GUIDE ROD PLATE  
CAF1036-21 TO BE  
REMOVED BEFORE INSTALLING  
AC-1-12 ASSEM.

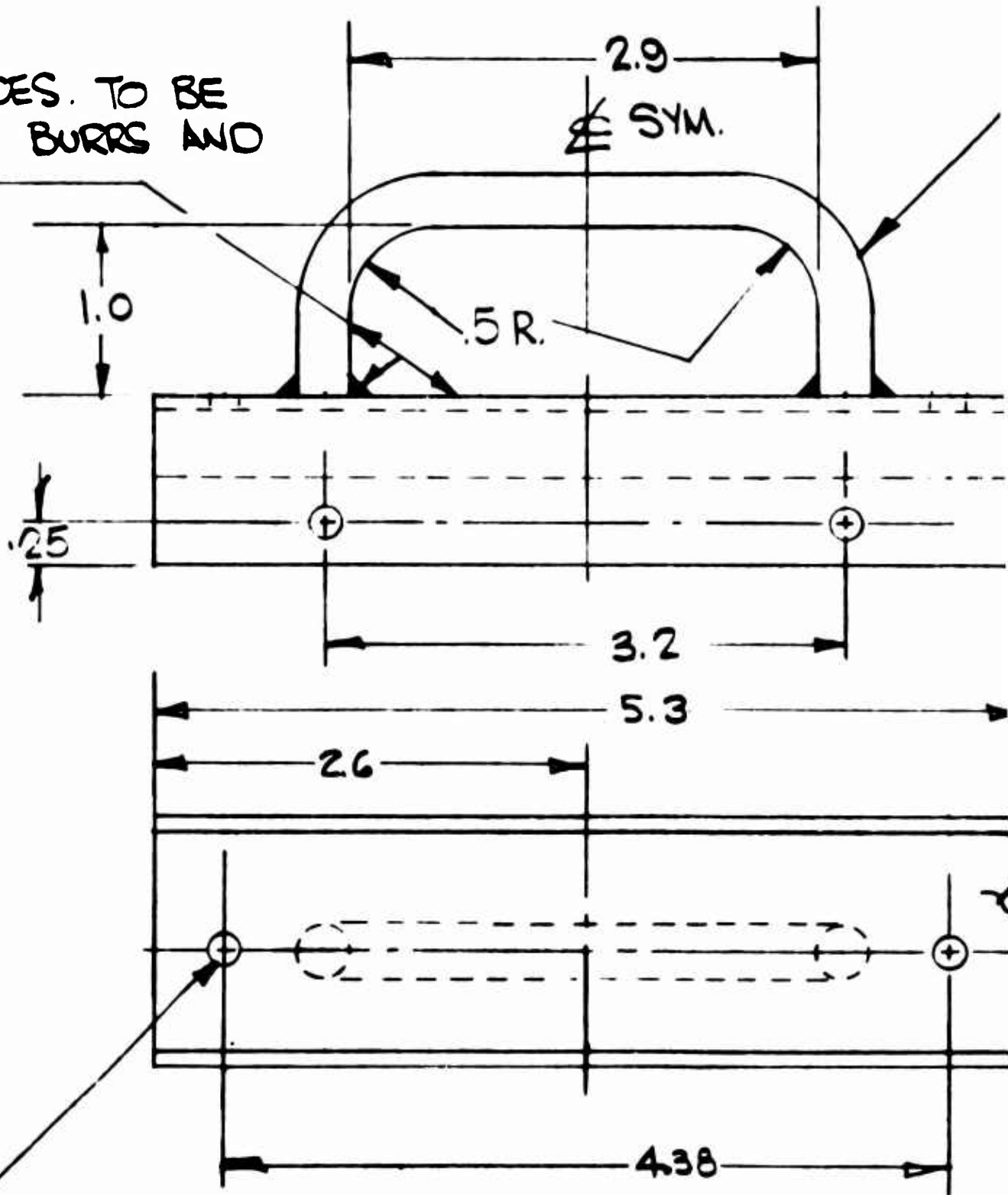
PILOTS SEAT  
& GUIDE ROD

RADIUS PLATE CAF1036-19  
(REF.) TO REMAIN IN  
POSITION

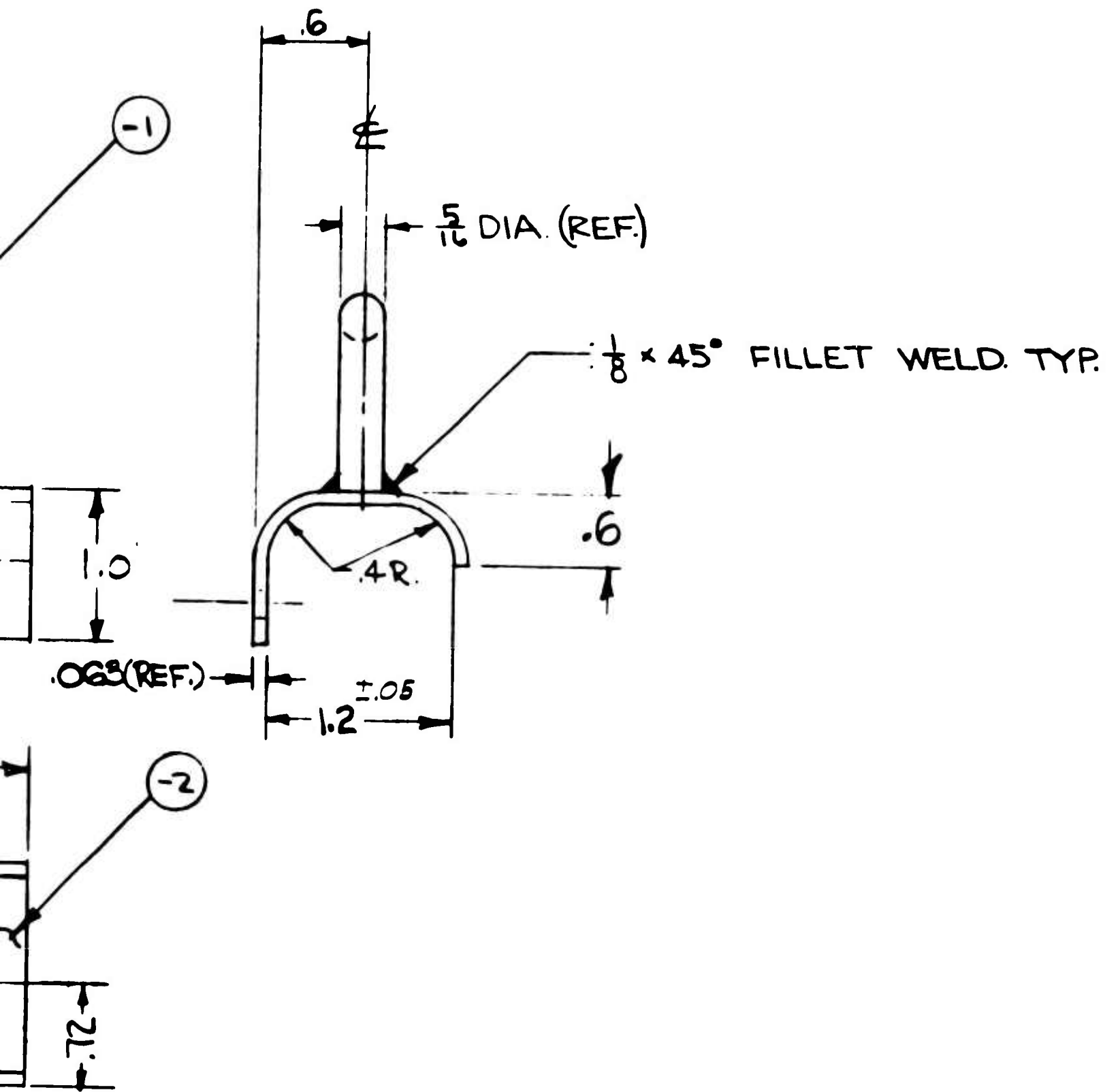


A

THESE SURFACES. TO BE FREE OF ALL BURRS AND SLAG.



\*#16 DIA. DRILL THRU. 4 PLACES

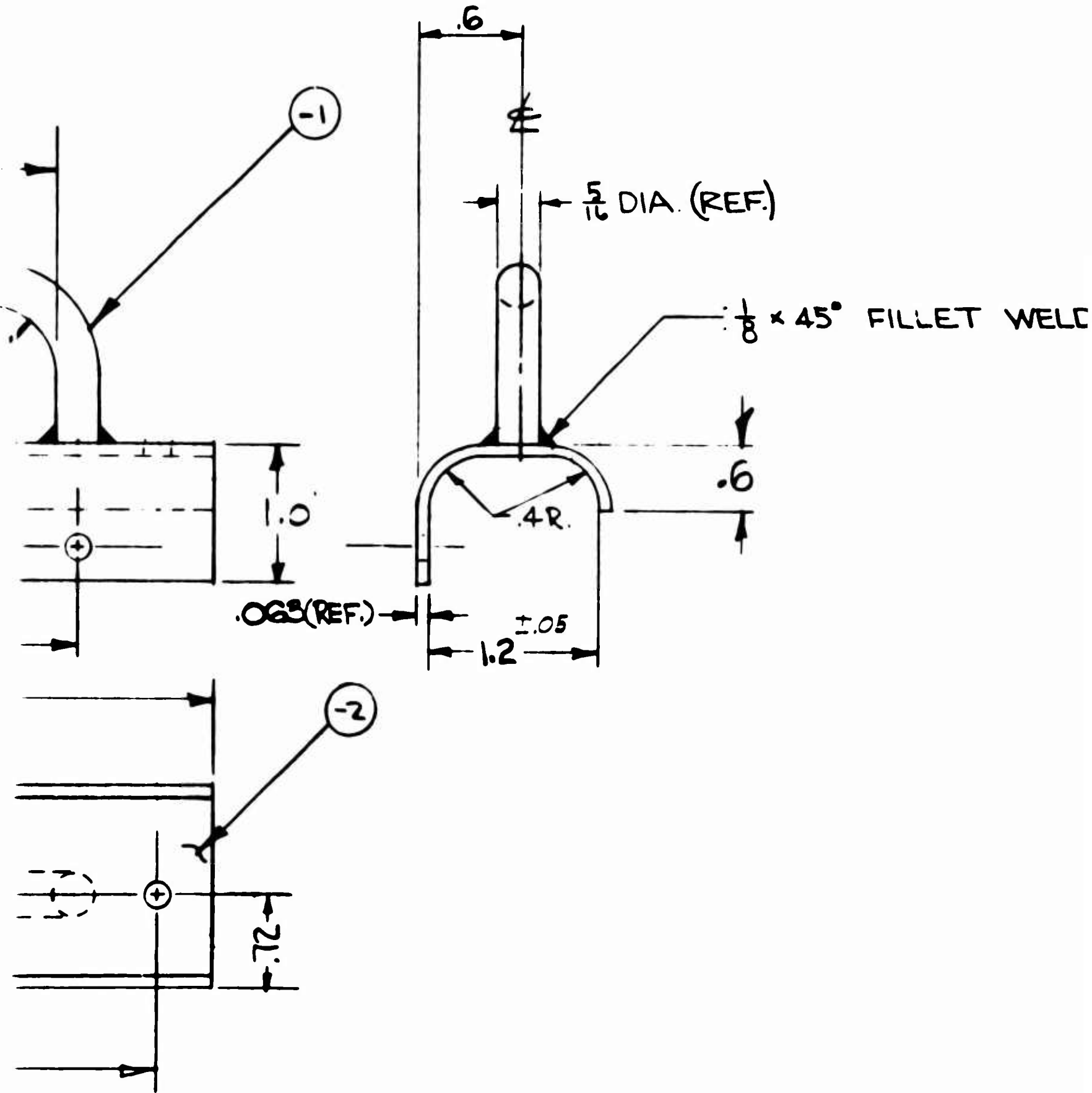


1

2

3

**B**

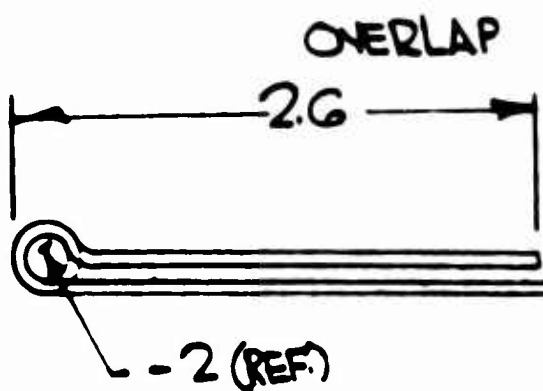


≈ NOTES ≈

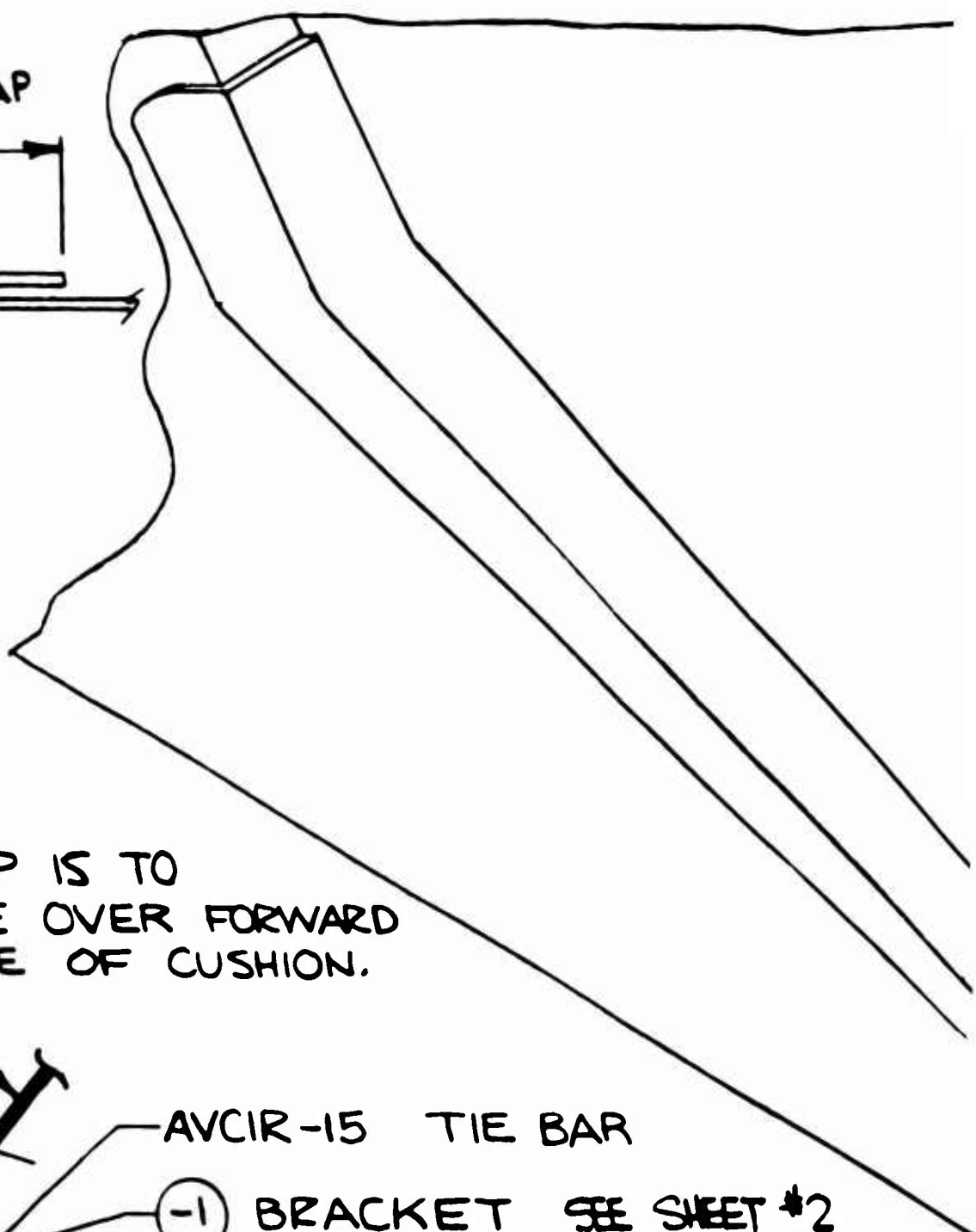
1. AFTER -1 & -2 ARE FORMED WELD THE PIECES TOGETHER & HEAT TREAT TO THE T6 CONDITION.
2. AFTER HEAT TREATING DIP ASSEMBLY IN ZINC CHROMATE PRIMER. THE PRIMER IS TO BE IN ACCORDANCE WITH SPEC. MIL-P-6889.
3. IF 3/16 TUBE IS NOT AVAILABLE, 3/8 x .046 MAY BE USED

D. TYP.

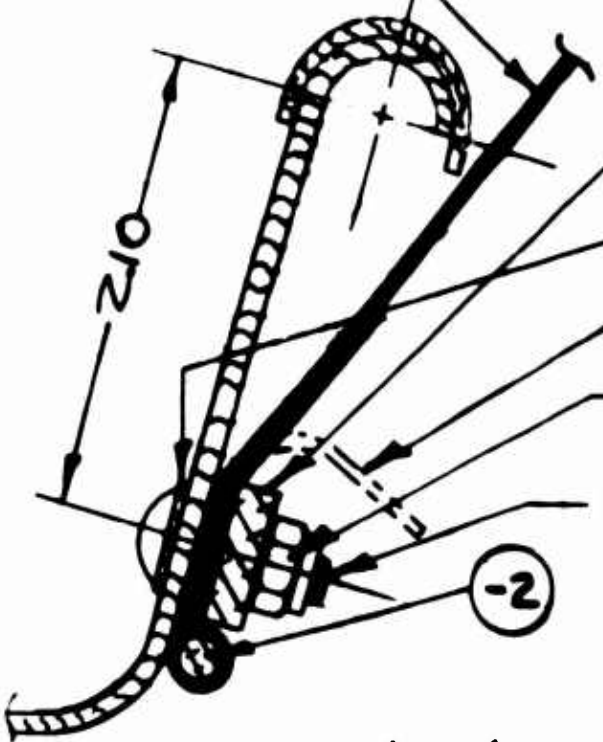
A



DETAIL B



STRAP IS TO COME OVER FORWARD EDGE OF CUSHION.



AVCIR-15 TIE BAR

(-1) BRACKET SEE SHEET #2

EXCESS WEBBING-SEE DETAIL B

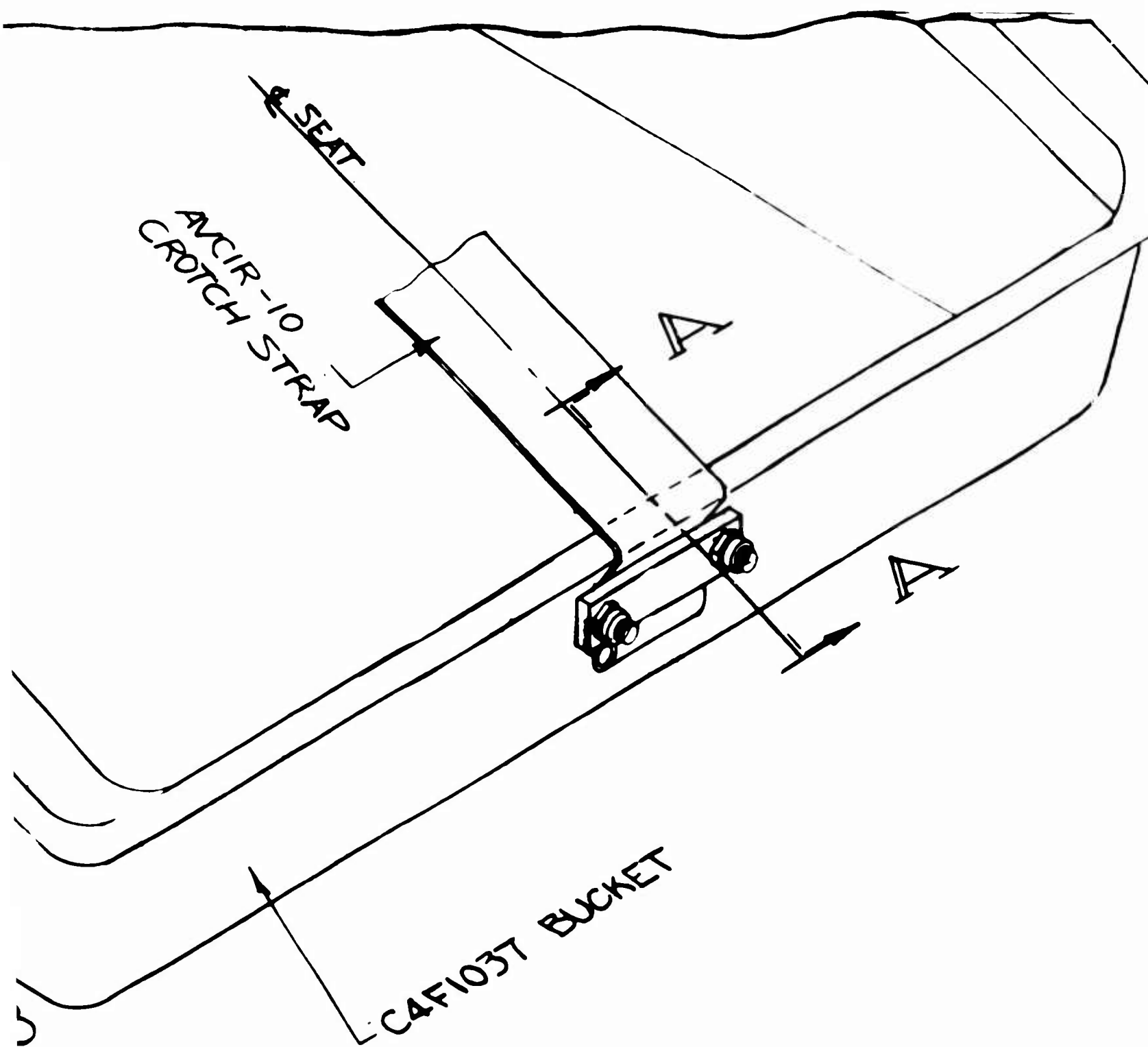
AN365C-3 NUT

CLEVIS BOLT AN23-11A

(-2)

- 1. CEMENT CLAMP
- 2. THIS TIE TYPICAL

SECTION A-A  
FULL SIZE



~ NOTES ~

DETAIL-2 TO WEBBING BEFORE  
INSTALLING. USE HOUSEHOLD CEMENT.

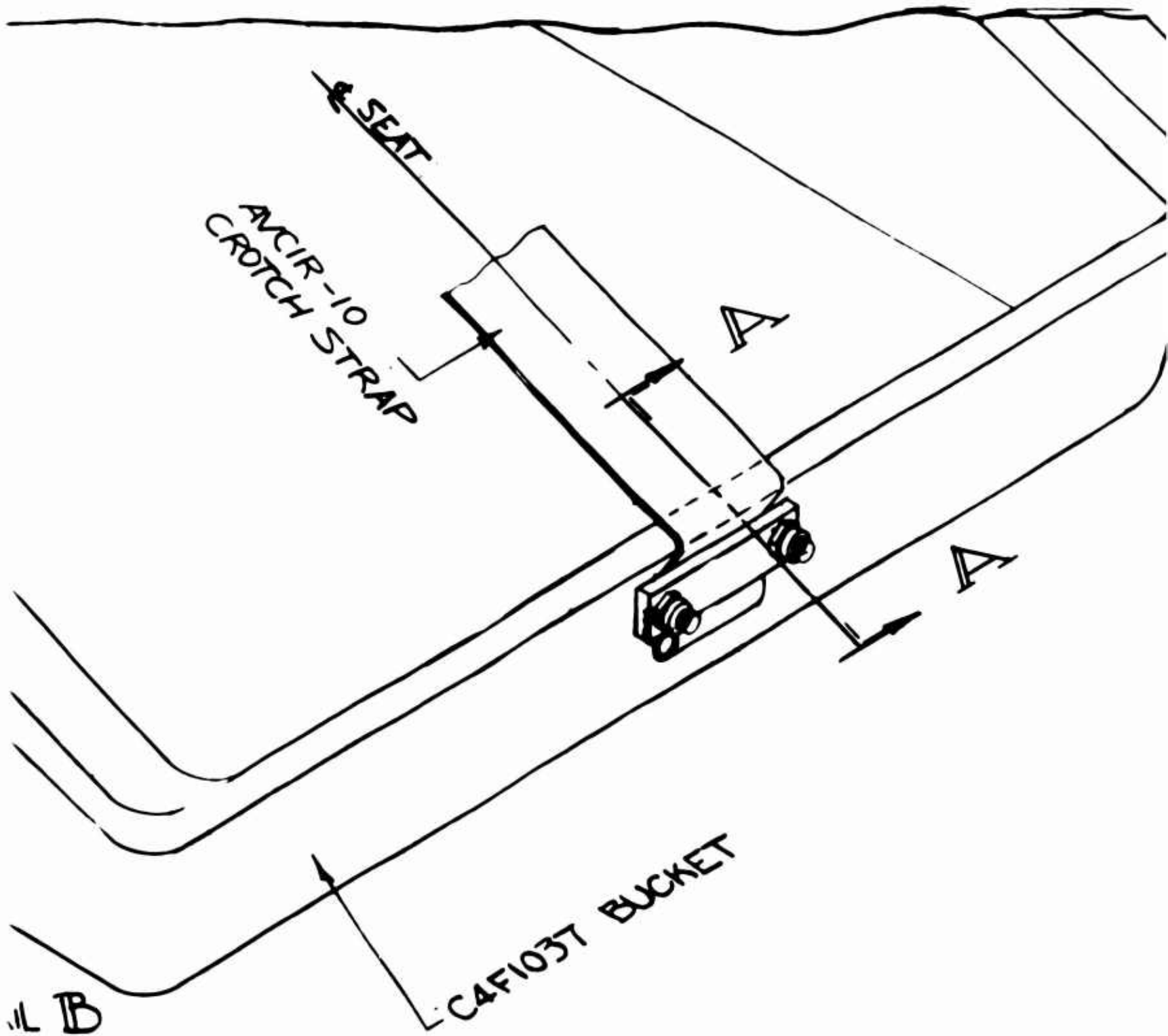
THE DOWN STRAP INSTALLATION IS  
THE SAME FOR BOTH PILOT & CO-PILOT SEAT.

B

CR

BUG

(-1)

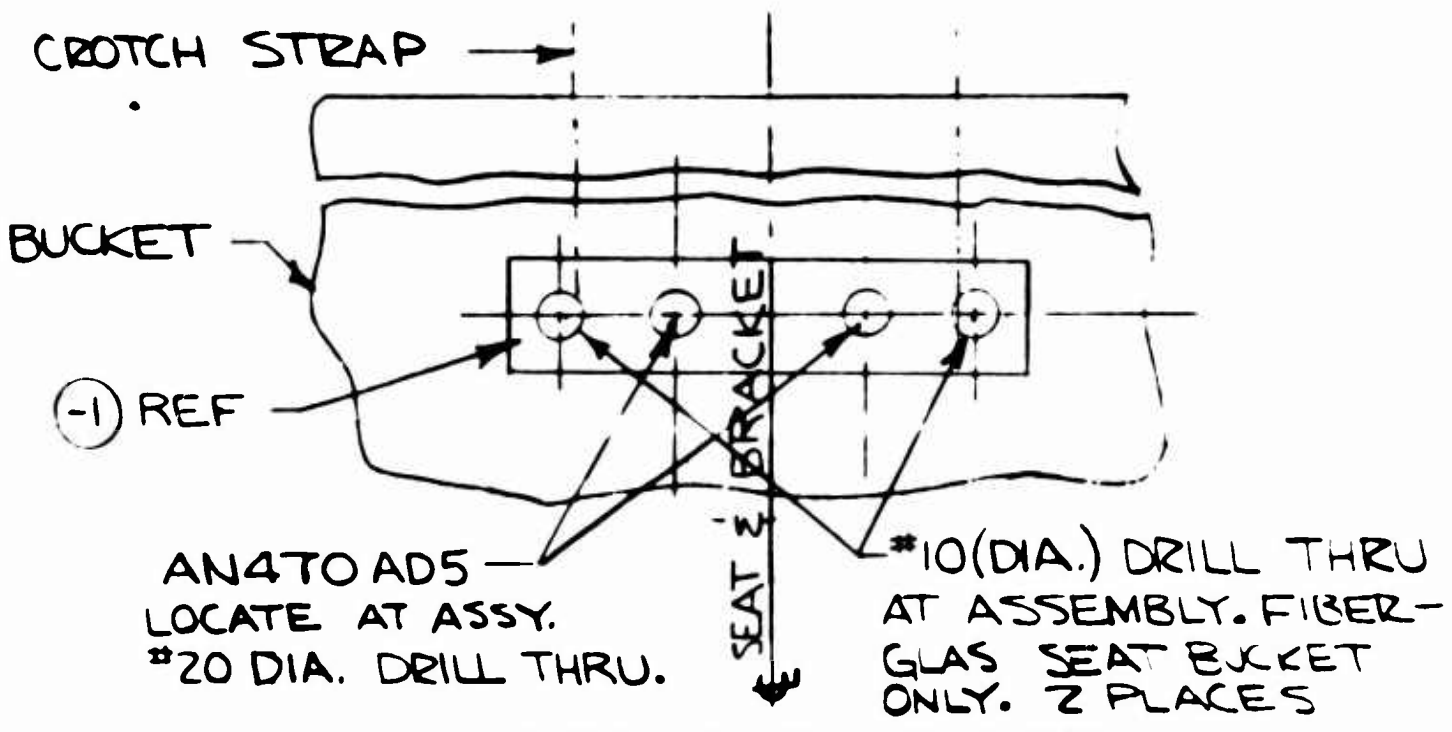


~ NOTES ~

REFER TO DRAWING DETAIL-2 TO WEBBING BEFORE  
INSTALLING. USE HOUSEHOLD CEMENT.  
THIS TIE DOWN STRAP INSTALLATION IS  
TYPICAL FOR BOTH PILOT & CO-PILOT SEAT.

✓

-

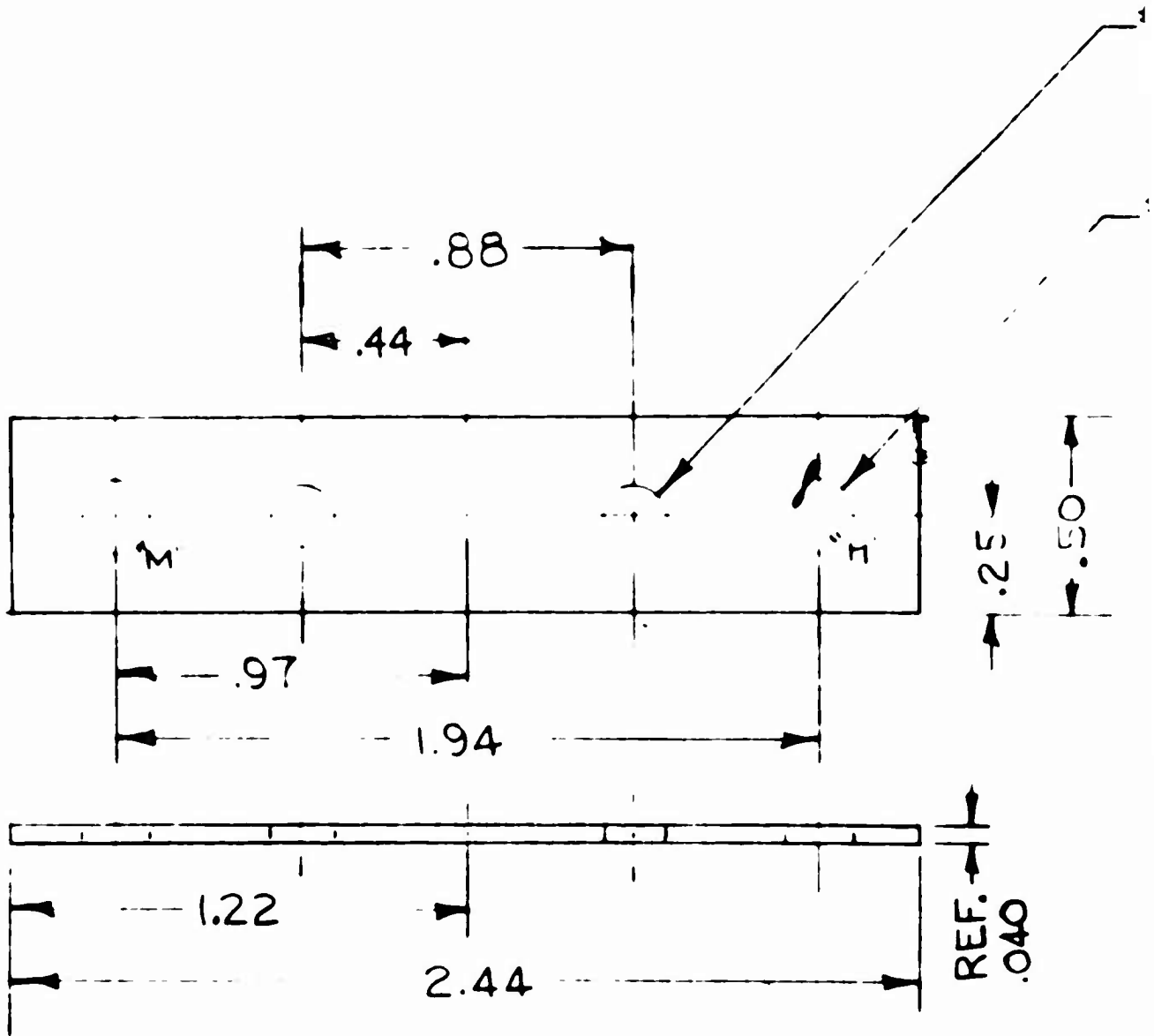


AN4 TO AD5 —  
 LOCATE AT ASSY.  
 #20 DIA. DRILL THRU.

#10 (DIA.) DRILL THRU  
 AT ASSEMBLY. FIBER-  
 GLAS SEAT BUCKET  
 ONLY. 2 PLACES

VIEW SHOWING RIVET PATTERN.  
 HEADS OF RIVETS ARE TO BE ON  
 FWD SIDE OF SEAT BUCKET. FULL SIZE.



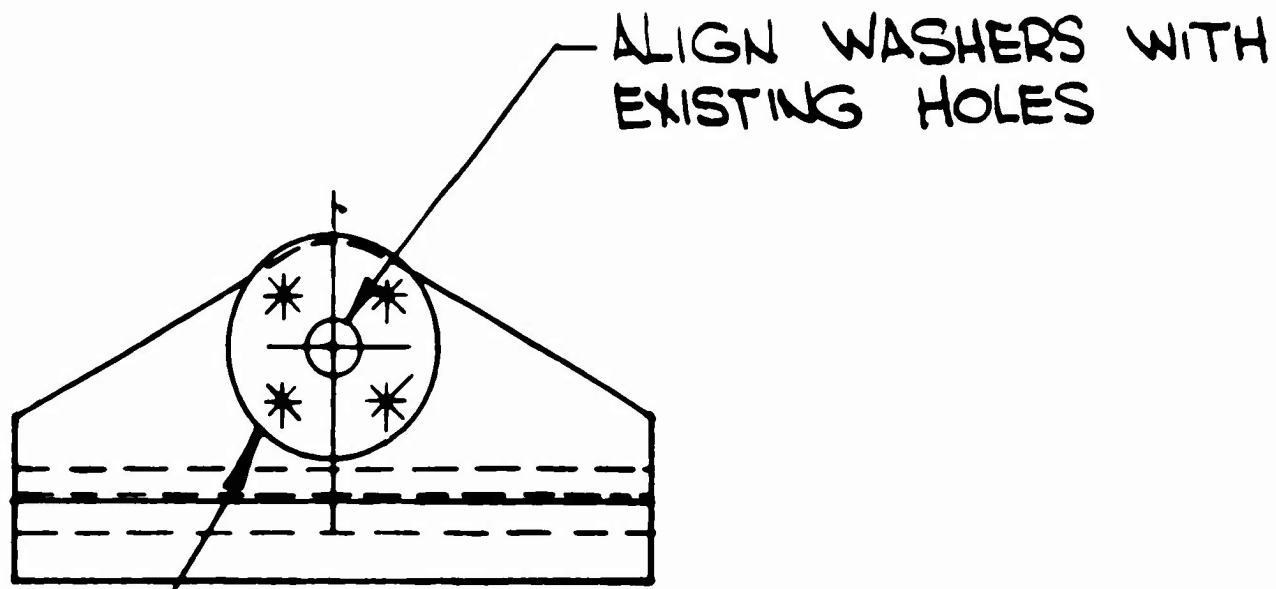


DETAIL (1)

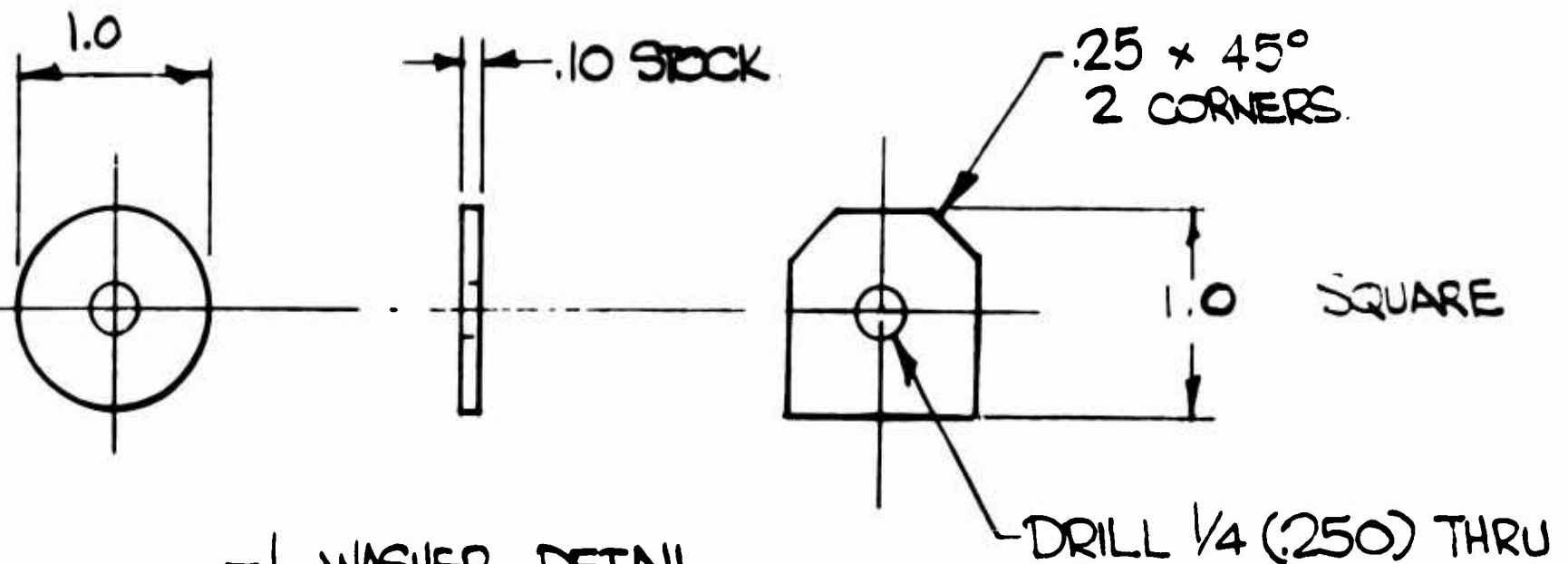
-#19 DIA. DRILL THRU. 2 PLACES

-#10 DIA. DRILL THRU. 2 PLACES MARKED "M".

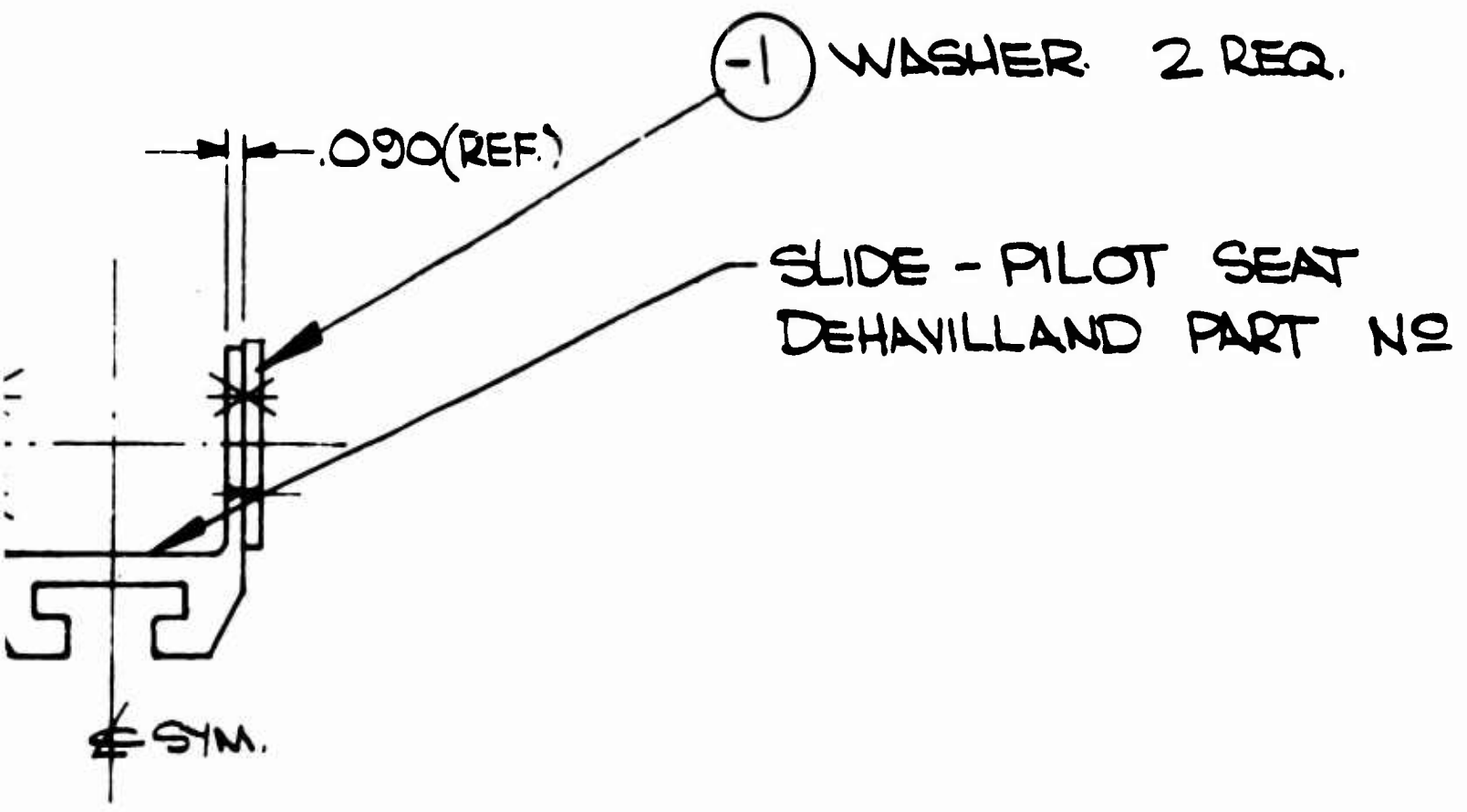
A



SPOT WELD (HI-FREQUENCY)  
- 1 WASHER TO SLIDE  
4 PLACES AS SHOWN.



- 1 WASHER DETAIL  
OPTIONAL CONSTRUCTION



$-1$

WASHER. 2 REQ.

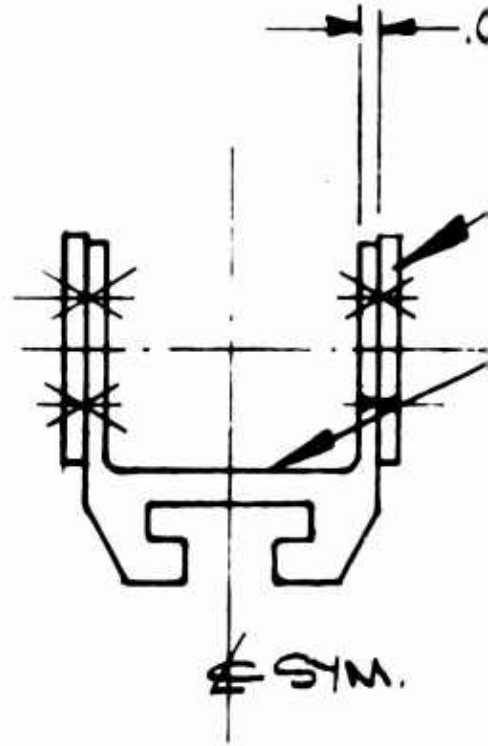
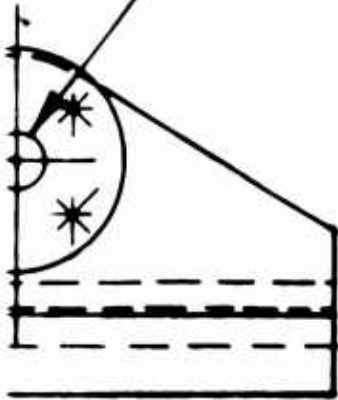
$.090(\text{REF.})$

SLIDE - PILOT SEAT  
DEHAVILLAND PART NO

SYM.

# B

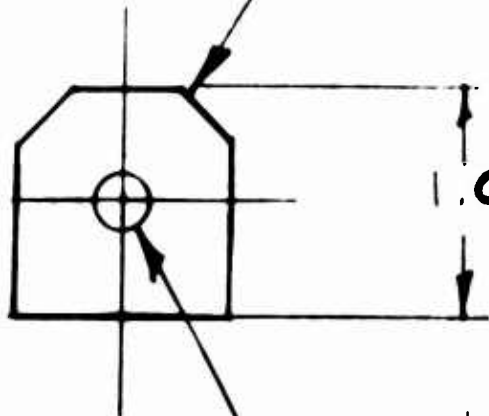
ALIGN WASHERS WITH  
EXISTING HOLES



WELD (HI-FREQUENCY)  
PER TO SLIDE  
ACES AS SHOWN

-.10 STOCK

.25 x 45°  
2 CORNERS



1.0 SQUARE

DRILL 1/4 (.250) THRU

DETAIL  
CONSTRUCTION

.090(REF.)

① WASHER. 2 REQ.

SLIDE - PILOT SEAT  
DEHAVILLAND PART NO. C4FM1052

**A**

SEAT ASSEMBLY - PILOTS  
DEHAV LAND DWS NO CAF1058

TIE DOWN STRAP  
ALTERNATE #1  
AC-1-13



GUIDE ROD ASSEM  
AC-1-11

GUSSET (REF)  
CAF 035-29

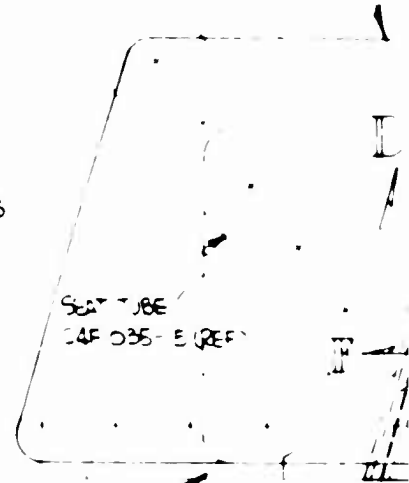
GUSSET (REF)  
CAF1035-31

MODIFICATION A  
SEE DETAIL

SIDE TIE DOWN STRAPS  
ALTERNATE #2  
AC-1-16

MODIFICATION B  
SEE DETAIL

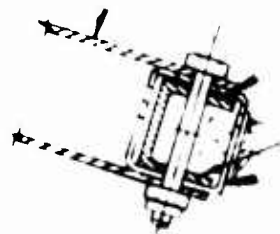
MODIFICATION - SLIDE  
AC-1-14



SEAT TUBE  
CAF 035-E (REF)

SEAT TUBE  
CAF1035-9 (REF)

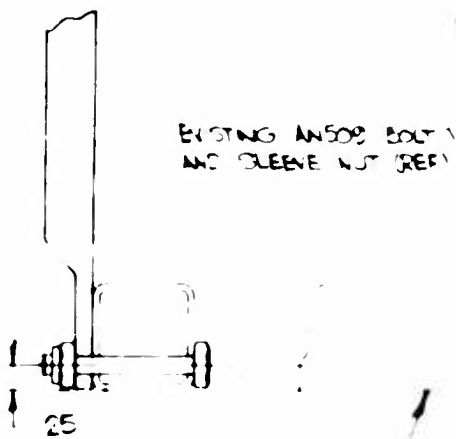
GUSSET (REF)



SECTION  
FULL S

MODIFICATION C

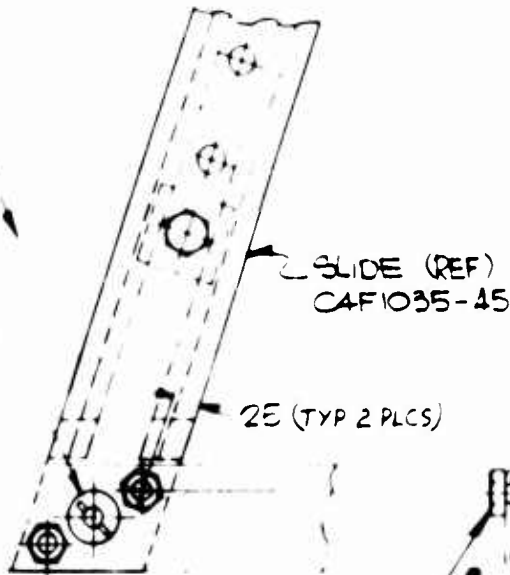
MODIFICATION G  
SEE SHEET #2



EXISTING AN508 BOLT  
AND SLEEVE NUT (REF)

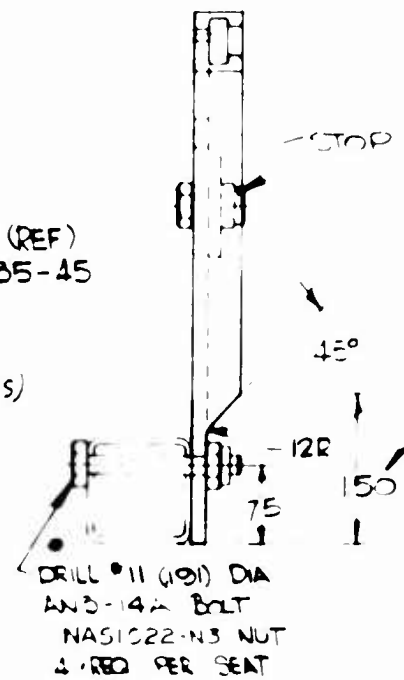
25

SEAT TUBE  
CAF1035-19 (REF)



SLIDE (REF)  
CAF1035-15

25 (TYP 2 PLCS)



STOP LUG (REF)

45°

12R

75

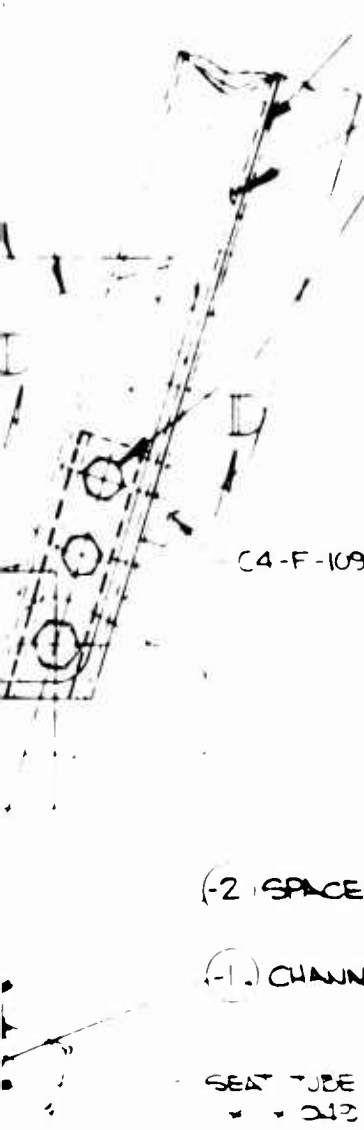
150

1

CUT BACK OF  
TRACK SLIDE  
THIS DISTANCE

DRILL #11 (101) DIA  
AN3-14A BOLT  
NAS1022-N3 NUT  
4 REQ PER SEAT

MODIFICATION DETAIL B  
FULL SIZE



AC-1-18 (REF.)

SEAT TUBE  
CAF 035-3 (REF)

REPLACE EXISTING CHERRY RIVETS  
DRILL #11 (.9175) DIA  
AN3-14A BOLT  
NAS 022-N3 NUT  
4 EA REQ PER SEAT

SEAT TUBE REF  
CAF 035-1

C4-F-1097 (REF.)



SECTION H-H  
FULL SIZE

EXISTING SPACER  
PART NO CAF 058-1 (REF)

BOLT NAS 662-4-28F  
NUT NAS 079A4  
4 PER PLATE

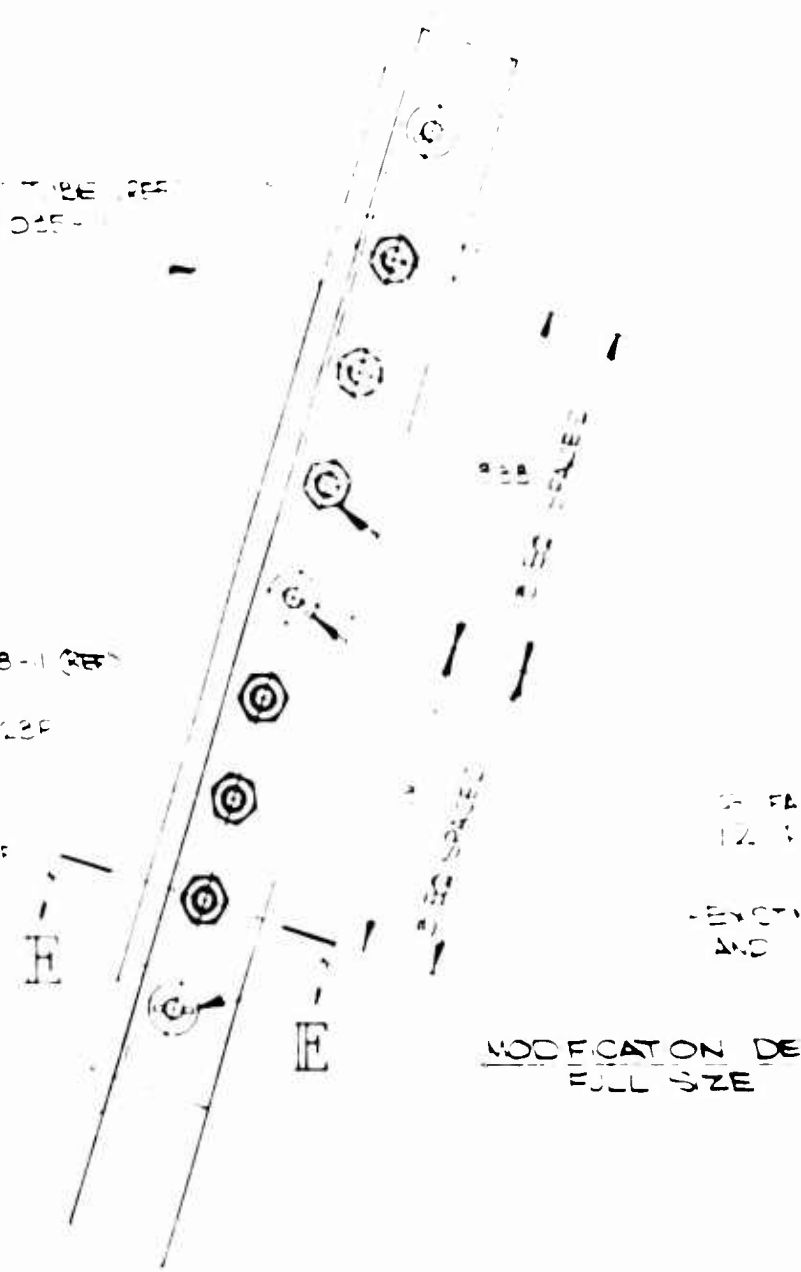
SEE A-1-4 REF

(-2) SPACER

(-1) CHANNEL

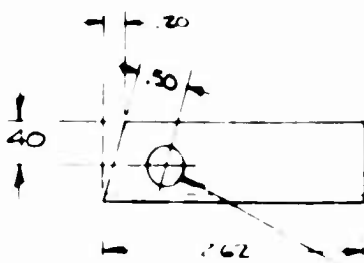
SEAT TUBE  
WALL (REF)

SEAT TUBE (REF)  
CAF 035-17



MODIFICATION DE  
FULL SIZE

ON D-D  
FULL SIZE

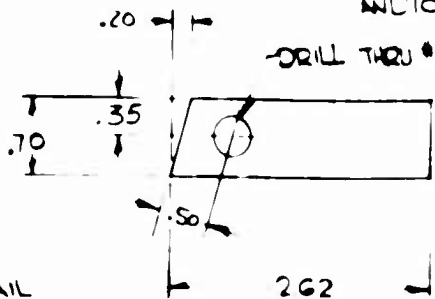


CUT BACK CHANNEL  
TO DIMENSION SHOWN

DRILL THRU  
#11 (.9175) DIA

OF  
EXTRUSION  
FACE

CHANNEL DETAIL  
TAKE FROM STANDARD SECTION  
AN10157-0710 WALL 2024-T4



DRILL THRU #11 (.9175) DIA

SPACER DETAIL

- 3 NET WEIGHT WITH ALTERNATE #1 2.25-24 = 2.01 LBS
- NET WEIGHT WITH ALTERNATE #2 2.10-24 = 1.86 LBS.
- 2 THESE PARTS REPLACE EXISTING PARTS NO WEIGHT ADDITION
- ! TOTAL EXISTING WEIGHT REMOVED

PART NO CAF 035-41 PLATE = .085" x 4 = 14  
CAF 036-21 PLATE (HARNESS GUIDE) = .085" x 2 = 10 TOTAL 24

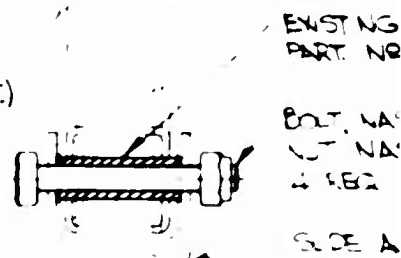
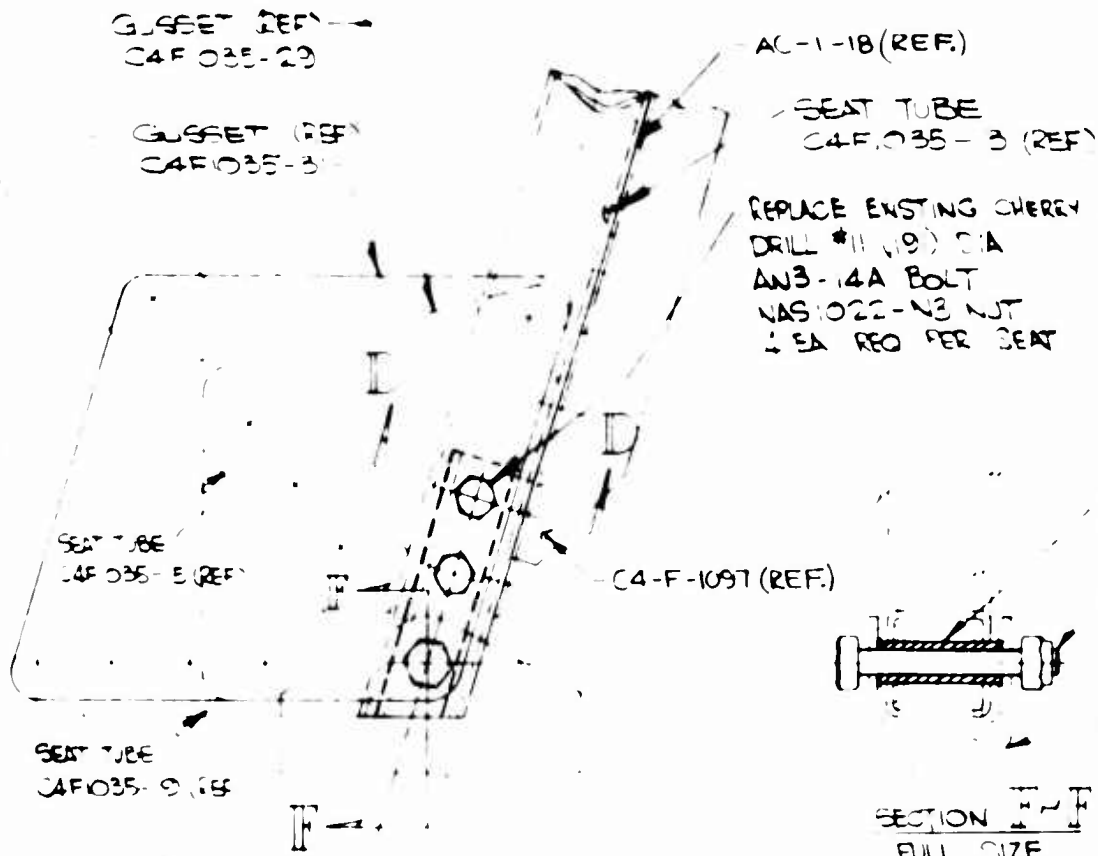
NOTES



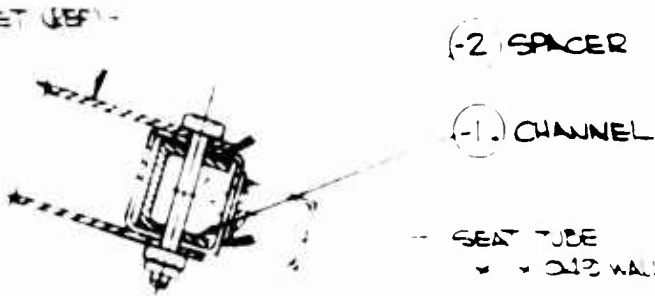
# B

## MODIFICATION DETAIL B FULL SIZE

- GUIDE ROD ASSEM  
AC-1-11
- MODIFICATION A  
SEE DETAIL
- SIDE TIE DOWN STRAPS  
ALTERNATE #2  
AC-1-16
- MODIFICATION B  
SEE DETAIL
- MODIFICATION - SIDE  
AC-1-14

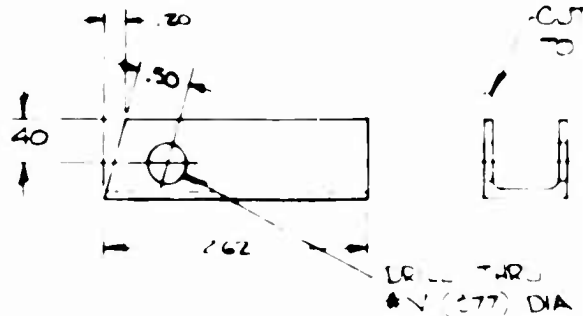
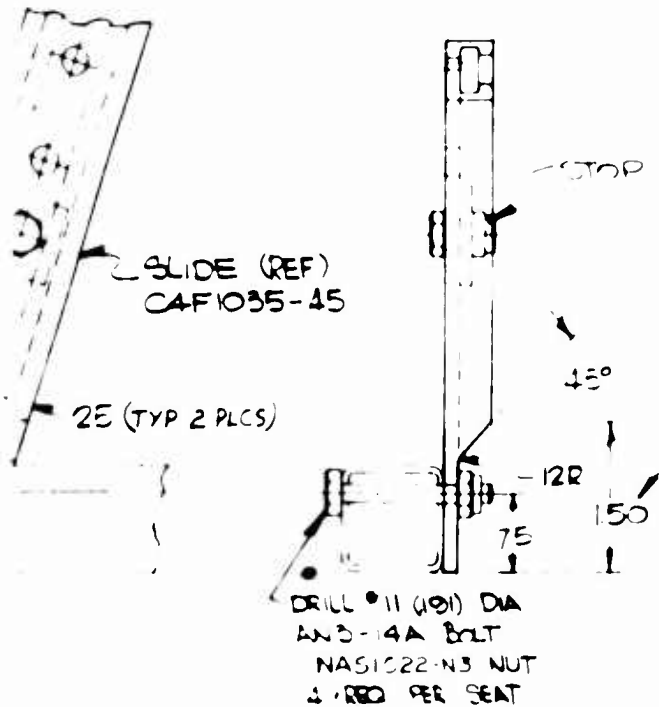


SECTION F-F  
FULL SIZE

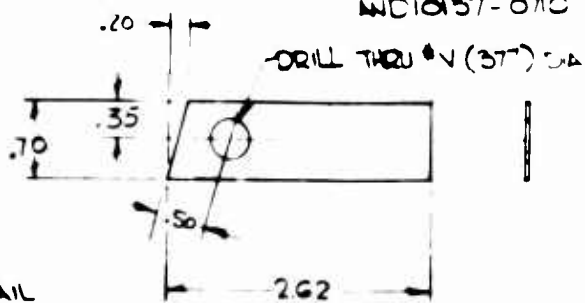


SECTION D-D  
FULL SIZE

SECTION G  
REF #2



CHANNEL DETAIL  
WAKE FROM STANDARD  
IND10157-0710 WIT



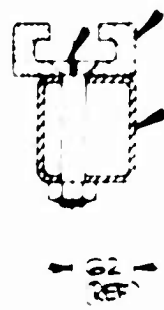
-2 SPACER DETAIL

SEAT TUBE (REF)  
CAF 035-1

DRILL  $\frac{1}{4}$  (25) & CHAMFER  
AN509-224 22 BOLT  
N45022-14 NUT  
TORQUE 20 IN/LBS MAX

SLIDE (REF)  
CAF 035-13

SEAT TUBE (REF)  
CAF 035-3



SECTION E-E  
FULL SIZE  
TYPICAL SECTION THROUGH  
FASTENER

3 FASTENERS ADDED AS SHOWN  
12 PER SEAT ASSEMBLY

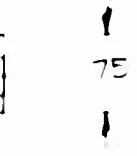
EXISTING AN509 BOLT  
AND SLEEVE NUT (REF)

MODIFICATION DETAIL A  
FULL SIZE

SPACER  
NO CAF 038-11 (REF)  
JAS224-4-23P  
JAS670A4  
2 PER AL  
AL - 4 REF

(REF)  
72

AT BACK CHANNEL  
DIMENSION SHOWN

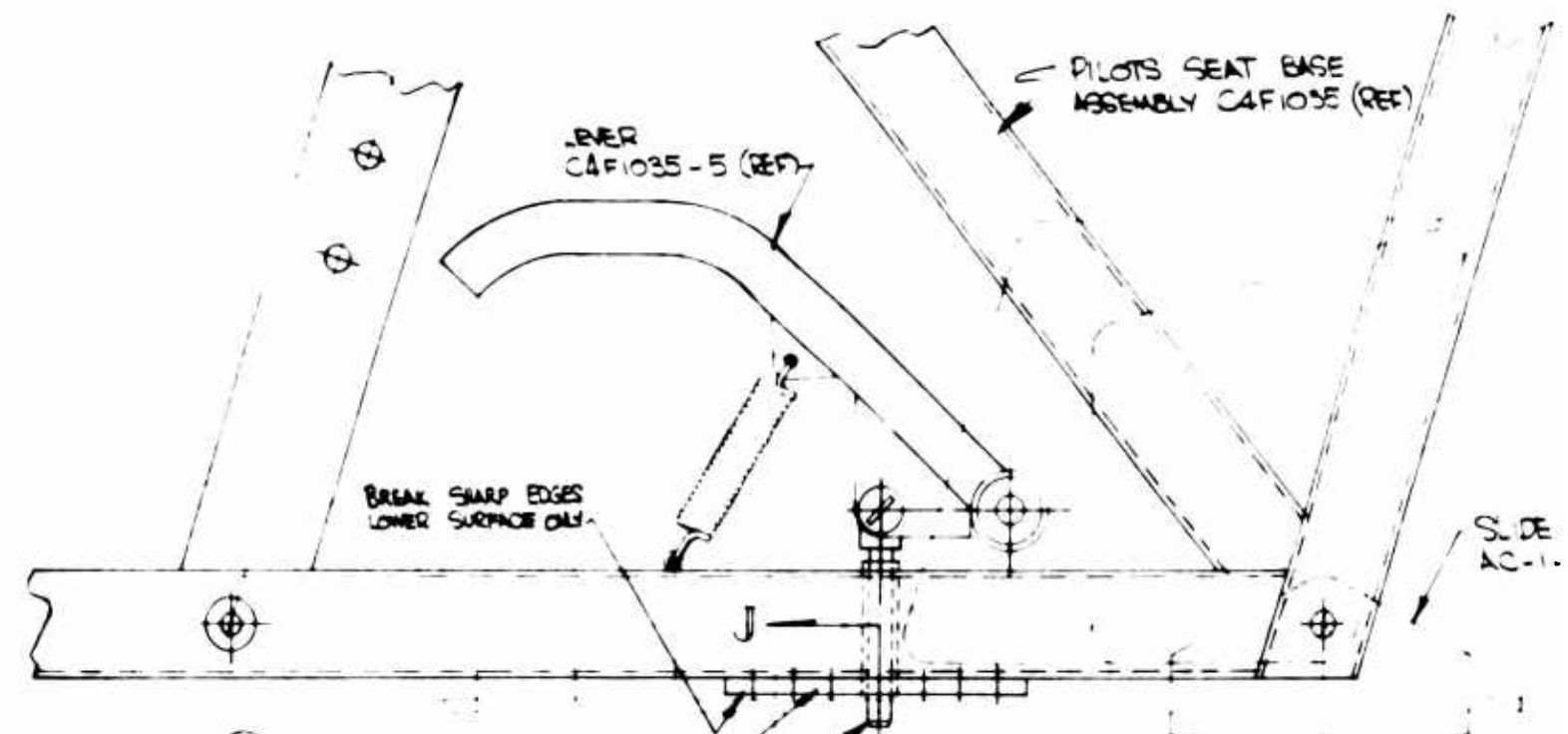


W/L  
SECTION  
W/L 2024-T4

- 3 NET WEIGHT WITH ALTERNATE #1 2.25-24 = 2.01 LBS
- NET WEIGHT WITH ALTERNATE #2 2.10-24 = 1.86 LBS.
- 2 THESE PARTS REPLACE EXISTING PARTS NO WEIGHT ADDITION
- 1 TOTAL EXISTING WEIGHT REMOVED

7

NOTES  
PART NO CAF 035-41 PLATE (2.08" x 4") = 1.4  
CAF 1036-21 PLATE (HARNES GUIDE) = 0.572 = 1.0 TOTAL 2.4

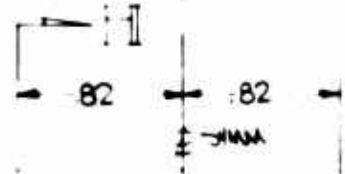


MODIFICATION G  
FULL SIZE

PLATE -5  
EYE BOLT -38  
-4

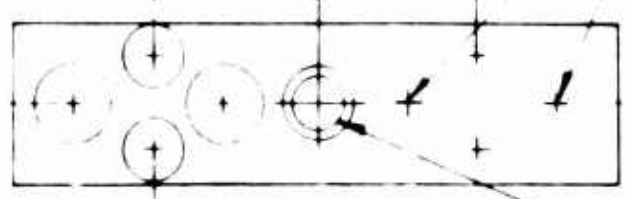
SEAT RAIL ASSEM (REF)  
CAF 10205  
CAF 10206  
CAF 10207  
(SECT CV 300)

65 STOCK



REPLACE EXISTING RIVET  
4 PLACES PER PLATE  
WITH MS 2060 ADG-4  
CAF 1035-10 SEAT TUBE

9mm



REAM SPACER IF NECESSARY  
CLEARANCE OF .5 EVERC  
CAF 1035-32 SPACER (REF)

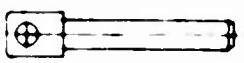
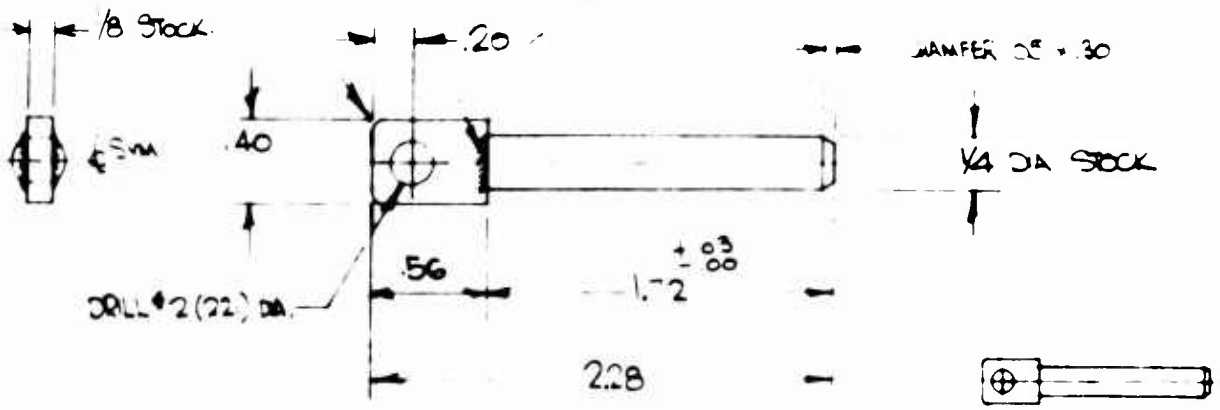
SECTION H-H  
DOUBLE SIZE

NEW RIVET - 6 PLACES  
MS 2060 ADG-4

.5 DETAIL - PLATE - DOUBLE SIZE  
PROJAC MS DETAIL AND PART NO CAF 1035-4  
2 REQ PER SEAT 1 REQ PER AIRCRAFT  
MATERIAL -  
A130 STEEL - 1.25 x .80 x 3.00  
FINISH - ZINC CHROMATE SPRAY AFTER DRILLING

BREAK SHARP CORNER .06R  
OR .06 - 45° CHAMFER

WELD AS SHOWN  
BOTH SIDES

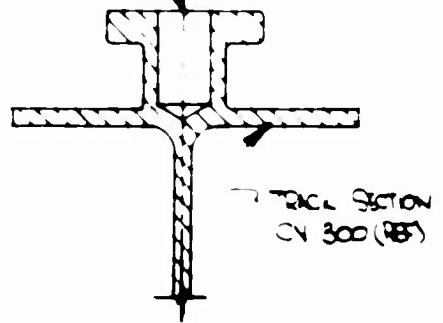


ACTUAL SIZE

E (REF SHEET #1)  
1-14

DRILL  $7/16$  (.265) DIA  
DEPTH .44  $^{+0.00}_{-.03}$

Ø EYE BOLT (REF)



SECTION J - J  
DOUBLE SIZE  
SEAT NOT SHOWN

DETAIL - EYE BOLT - 36-4  
DOUBLE SIZE  
REPLACING DEHAVILLAND PART NO  
C4FM1075-1 EYE BOLT  
MATERIAL -  
EYE 430 STEEL  $1/8 \times .56 \times .40$   
BOLT 430 STEEL  $1/4$  DIA ROD  $\times 1.75$  LG  
HEAT-TREAT -  
200 - 220,000 PSI.  
AFTER WELDING ROCKWELL C42-45  
FINISH -  
CADMIUM PLATE AFTER HEAT-TREAT

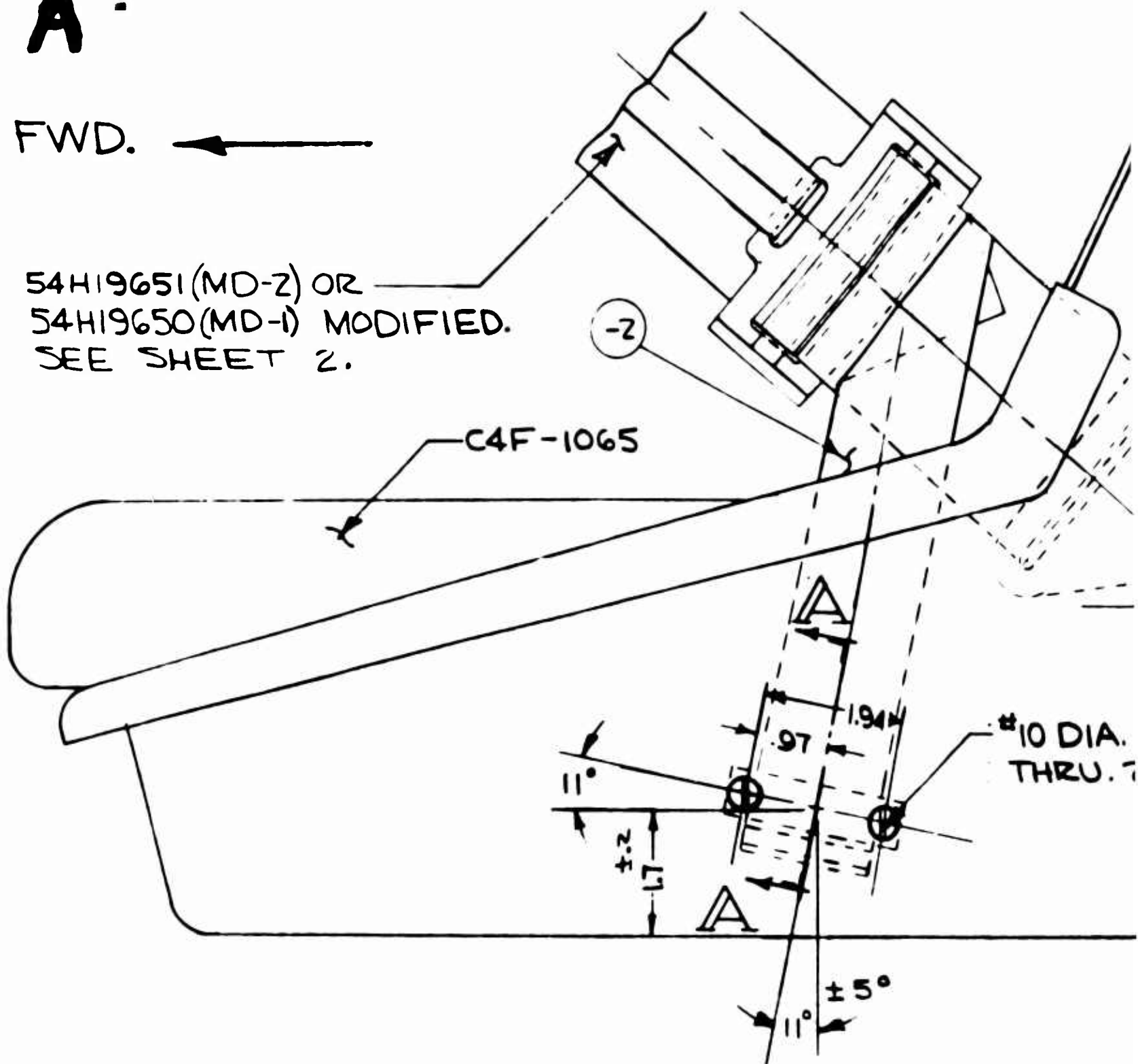
1ETS  
TE  
4 BLIND RNET  
BE (REF)

4 FOR  
BOLT  
REF

A -

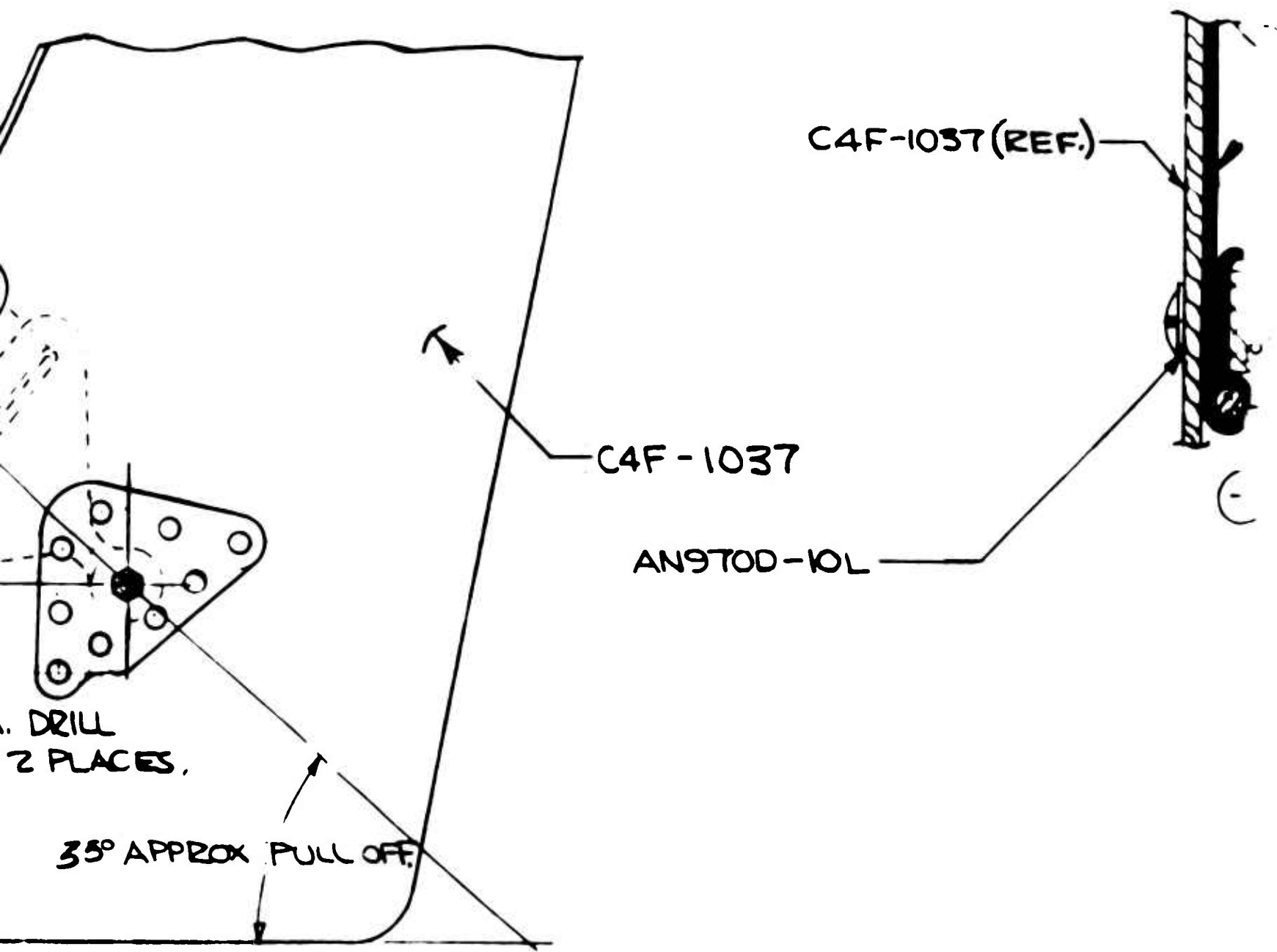
FWD. ←

54H19651 (MD-2) OR  
54H19650 (MD-1) MODIFIED.  
SEE SHEET 2.



~ NOTES ~

1. CEMENT DETAIL-1 TO WEBBING CLAMPING. USE WEAK CEMENT
2. LEFT SIDE OF SEAT IS SHOWN OF SEAT SAME.
3. THIS INSTALLATION IS TYPICAL & CO-PILOT SEAT.
4. THE NOTES & DIMENSIONS ON TYPICAL FOR ALL LAP BELTS TO THE AC-1 AIRCRAFT. SEE SHEET
5. DACRON WEBBING TYPE II PER .085 THICK x 1.72 WIDE MAX. WT.
6. LOCATE ALL DIMENSIONS AFTER



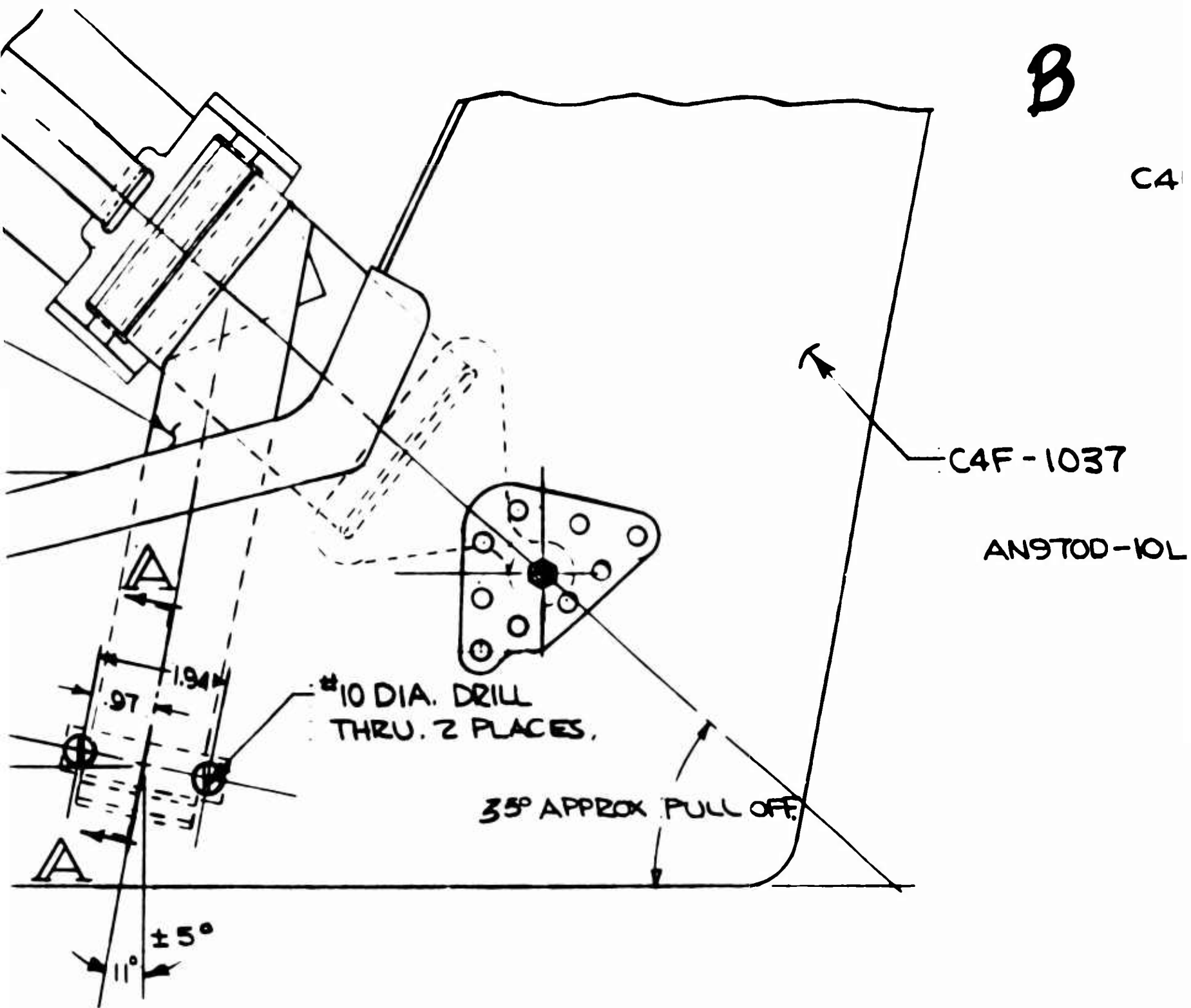
NG BEFORE  
 NT.  
 IN, RIGHT HAND SIDE  
 CAL FOR BOTH PILOT

U THIS SHEET ARE  
 THAT MAY BE USED ON  
 ET 2.  
 SPEC. MIL-W-25361,.065 -  
 T. 2.10 OZ/YD. MAX..  
 Z LAP BELT IS POSITIONED TO 35° PULL OFF.

0-1-2-3-4-5-6-7-8-9-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100-101-102-103-104-105-106-107-108-109-110-111-112-113-114-115-116-117-118-119-120-121-122-123-124-125-126-127-128-129-130-131-132-133-134-135-136-137-138-139-140-141-142-143-144-145-146-147-148-149-150-151-152-153-154-155-156-157-158-159-160-161-162-163-164-165-166-167-168-169-170-171-172-173-174-175-176-177-178-179-180-181-182-183-184-185-186-187-188-189-190-191-192-193-194-195-196-197-198-199-200-201-202-203-204-205-206-207-208-209-210-211-212-213-214-215-216-217-218-219-220-221-222-223-224-225-226-227-228-229-230-231-232-233-234-235-236-237-238-239-240-241-242-243-244-245-246-247-248-249-250-251-252-253-254-255-256-257-258-259-260-261-262-263-264-265-266-267-268-269-270-271-272-273-274-275-276-277-278-279-280-281-282-283-284-285-286-287-288-289-290-291-292-293-294-295-296-297-298-299-300-301-302-303-304-305-306-307-308-309-310-311-312-313-314-315-316-317-318-319-320-321-322-323-324-325-326-327-328-329-330-331-332-333-334-335-336-337-338-339-340-341-342-343-344-345-346-347-348-349-350-351-352-353-354-355-356-357-358-359-360-361-362-363-364-365-366-367-368-369-370-371-372-373-374-375-376-377-378-379-380-381-382-383-384-385-386-387-388-389-390-391-392-393-394-395-396-397-398-399-400-401-402-403-404-405-406-407-408-409-410-411-412-413-414-415-416-417-418-419-420-421-422-423-424-425-426-427-428-429-430-431-432-433-434-435-436-437-438-439-440-441-442-443-444-445-446-447-448-449-450-451-452-453-454-455-456-457-458-459-460-461-462-463-464-465-466-467-468-469-470-471-472-473-474-475-476-477-478-479-480-481-482-483-484-485-486-487-488-489-490-491-492-493-494-495-496-497-498-499-500-501-502-503-504-505-506-507-508-509-510-511-512-513-514-515-516-517-518-519-520-521-522-523-524-525-526-527-528-529-530-531-532-533-534-535-536-537-538-539-540-541-542-543-544-545-546-547-548-549-550-551-552-553-554-555-556-557-558-559-560-561-562-563-564-565-566-567-568-569-570-571-572-573-574-575-576-577-578-579-580-581-582-583-584-585-586-587-588-589-590-591-592-593-594-595-596-597-598-599-600-601-602-603-604-605-606-607-608-609-610-611-612-613-614-615-616-617-618-619-620-621-622-623-624-625-626-627-628-629-630-631-632-633-634-635-636-637-638-639-640-641-642-643-644-645-646-647-648-649-650-651-652-653-654-655-656-657-658-659-660-661-662-663-664-665-666-667-668-669-670-671-672-673-674-675-676-677-678-679-680-681-682-683-684-685-686-687-688-689-690-691-692-693-694-695-696-697-698-699-700-701-702-703-704-705-706-707-708-709-710-711-712-713-714-715-716-717-718-719-720-721-722-723-724-725-726-727-728-729-730-731-732-733-734-735-736-737-738-739-740-741-742-743-744-745-746-747-748-749-750-751-752-753-754-755-756-757-758-759-760-761-762-763-764-765-766-767-768-769-770-771-772-773-774-775-776-777-778-779-780-781-782-783-784-785-786-787-788-789-790-791-792-793-794-795-796-797-798-799-800-801-802-803-804-805-806-807-808-809-810-811-812-813-814-815-816-817-818-819-820-821-822-823-824-825-826-827-828-829-830-831-832-833-834-835-836-837-838-839-840-841-842-843-844-845-846-847-848-849-850-851-852-853-854-855-856-857-858-859-860-861-862-863-864-865-866-867-868-869-870-871-872-873-874-875-876-877-878-879-880-881-882-883-884-885-886-887-888-889-890-891-892-893-894-895-896-897-898-899-900-901-902-903-904-905-906-907-908-909-910-911-912-913-914-915-916-917-918-919-920-921-922-923-924-925-926-927-928-929-930-931-932-933-934-935-936-937-938-939-940-941-942-943-944-945-946-947-948-949-950-951-952-953-954-955-956-957-958-959-960-961-962-963-964-965-966-967-968-969-970-971-972-973-974-975-976-977-978-979-980-981-982-983-984-985-986-987-988-989-990-991-992-993-994-995-996-997-998-999-1000

B

C4



~NOTES~

DETAIL-1 TO WEBBING BEFORE

G. USE WEAK CEMENT.

IDE OF SEAT IS SHOWN, RIGHT HAND SIDE  
T SAME.

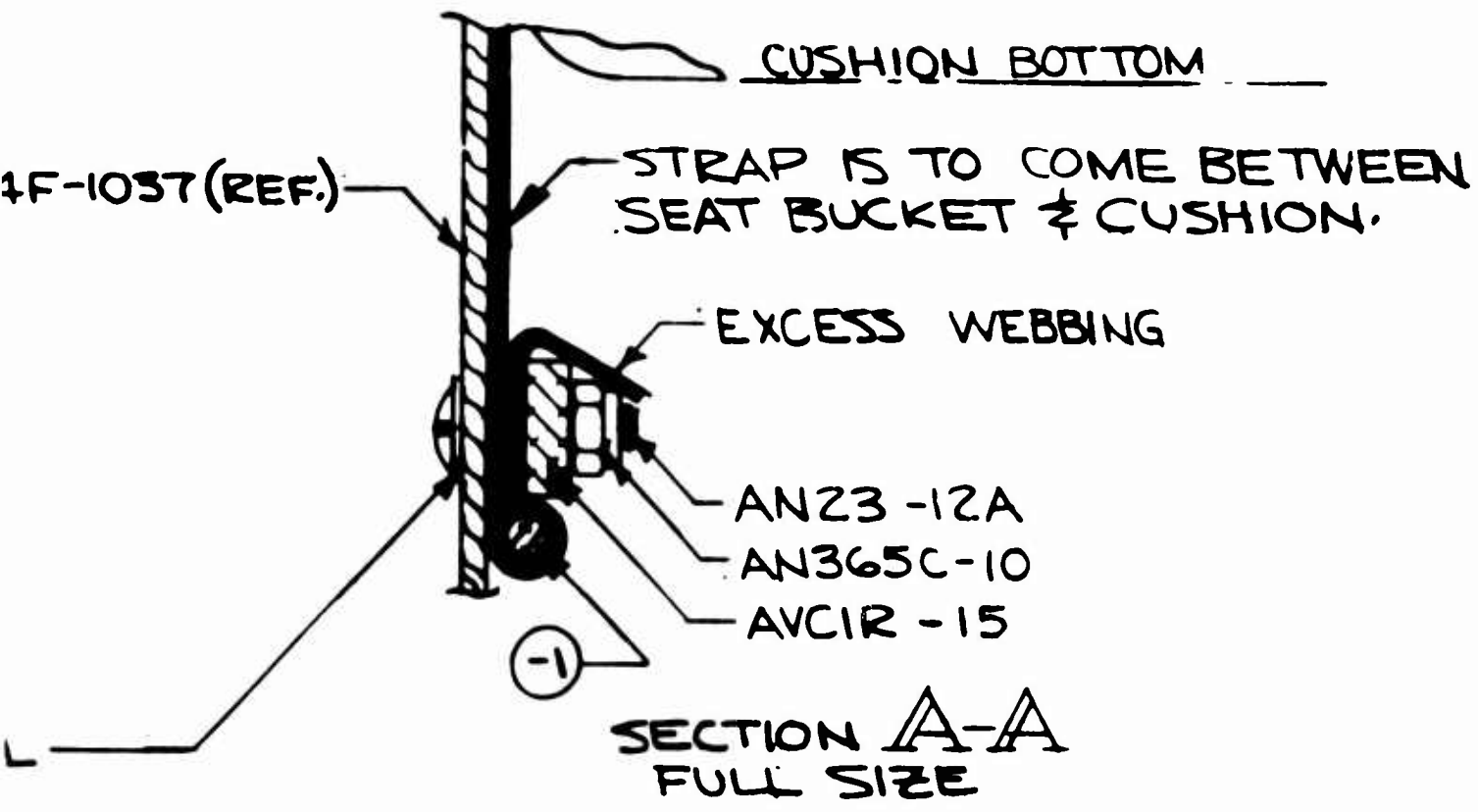
INSTALLATION IS TYPICAL FOR BOTH PILOT  
LOT SEAT.

TES & DIMENSIONS ON THIS SHEET ARE

FOR ALL LAP BELTS THAT MAY BE USED ON  
-1 AIRCRAFT. SEE SHEET 2.

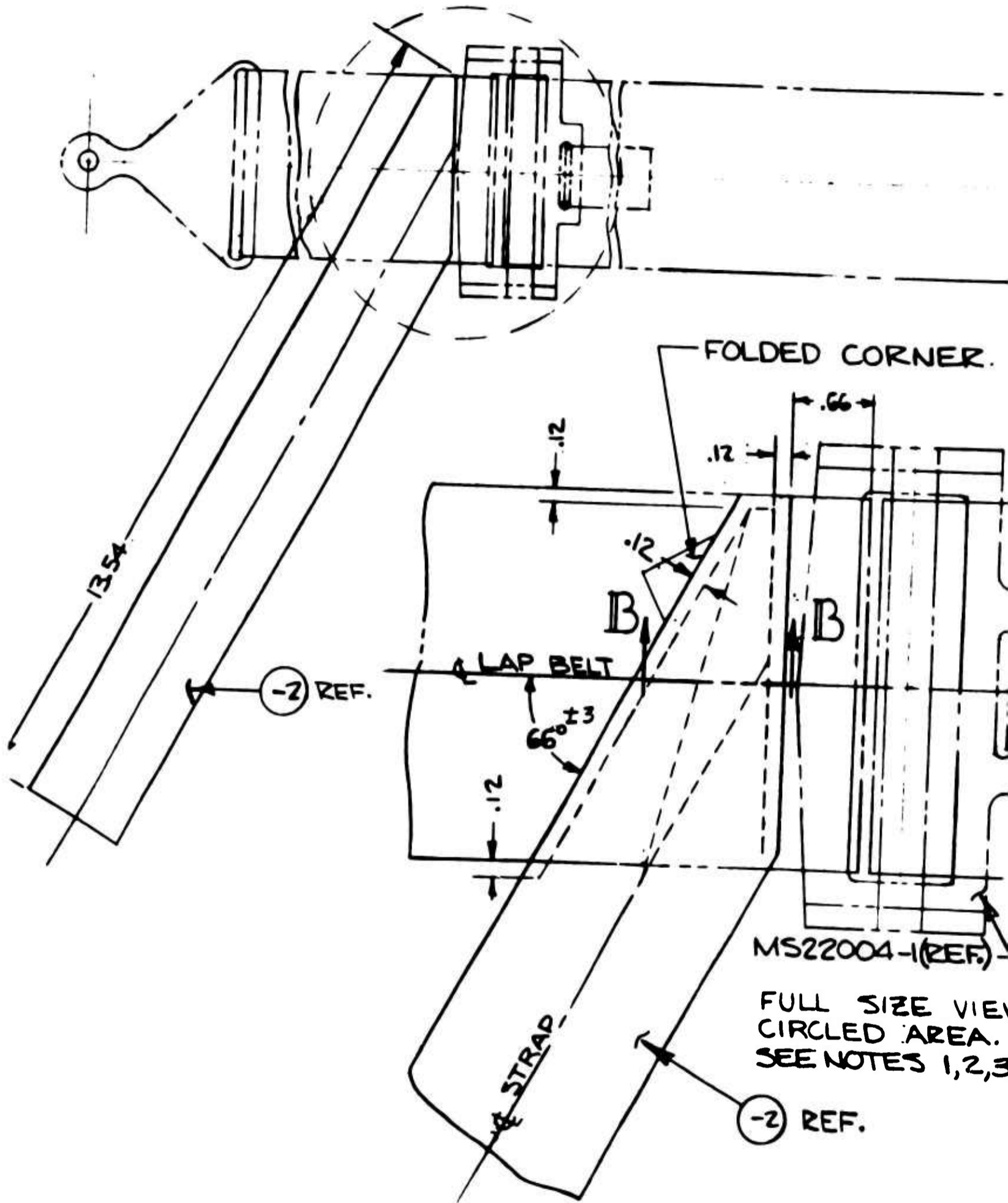
WEBBING TYPE II PER SPEC. MIL-W-25361,.065-  
.K x 1.72 WIDE MAX. WT. 2.10 OZ/YD. MAX..

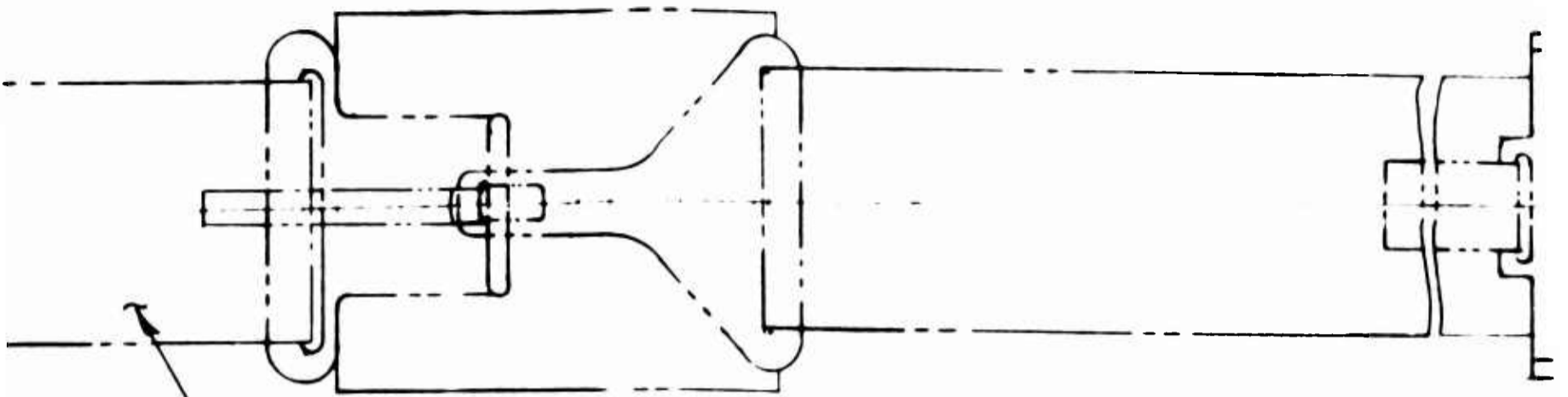
ALL DIMENSIONS AFTER LAP BELT IS POSITIONED TO 35° PULL OFF





**A**

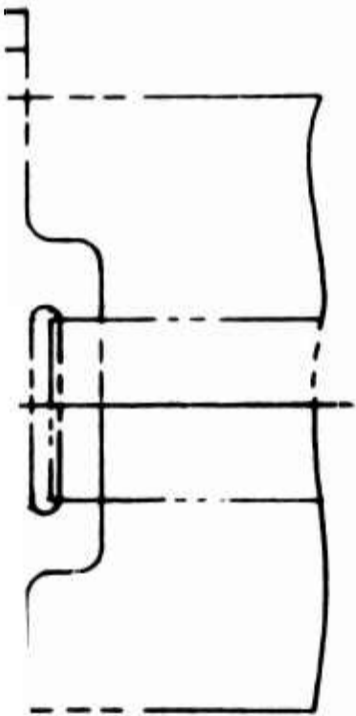




54H19651 (MD-2) OR 54H19650 (MD-1) REF.

~ NOTES ~

1. LEFT HAND SIDE SHOWN RIGHT HAND SIDE
2. STITCHING IS TO BE AS SHOWN AND SHALL BE NYLON CORD, MIL-T-7807B NO.3 SIZE TYPE I, AND SHALL CONTAIN NOT LESS THAN 6 OR 8 STITCHES PER INCH IN ACCORDANCE WITH DDD-S-751-301.
3. ENDS OF STITCHING SHALL BE BACK STITCH
4. SEAR ENDS OF ALL WEBBING TO PREVENT
5. STITCHING INDICATED - - - - - .



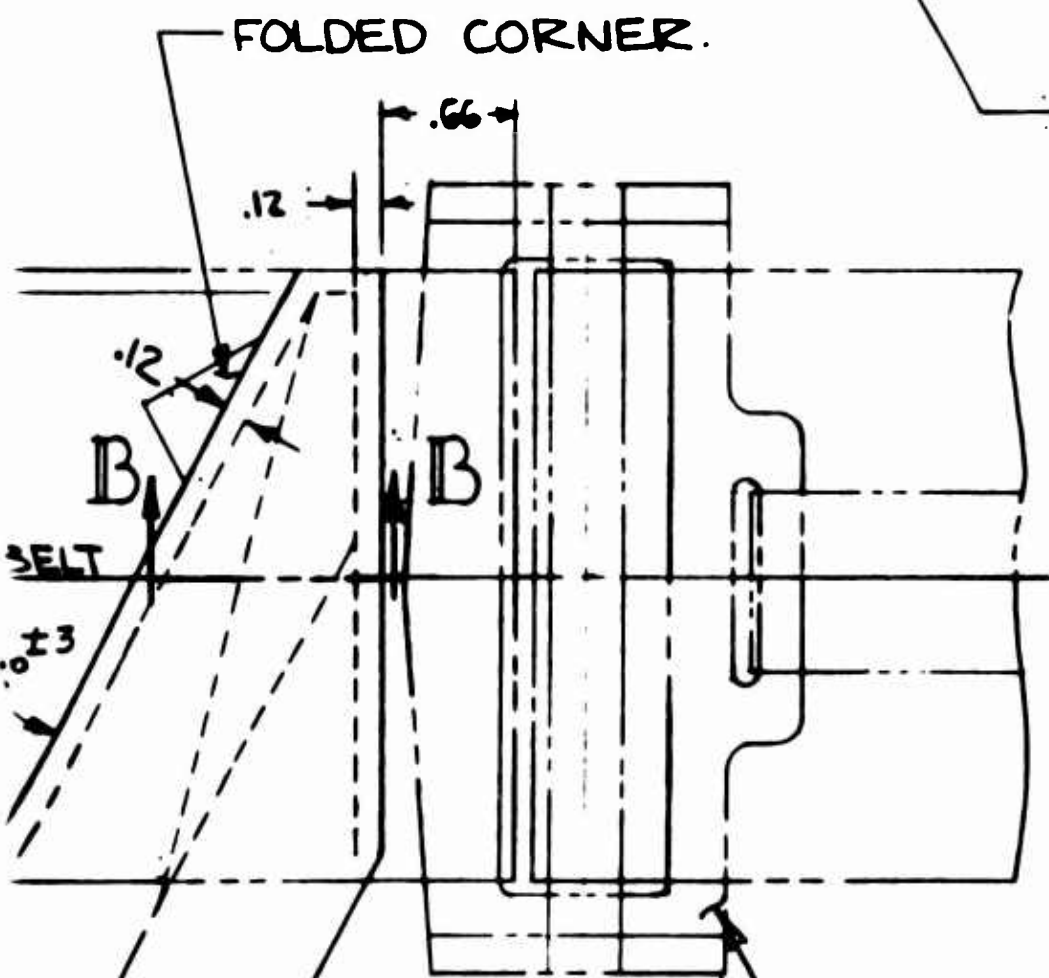
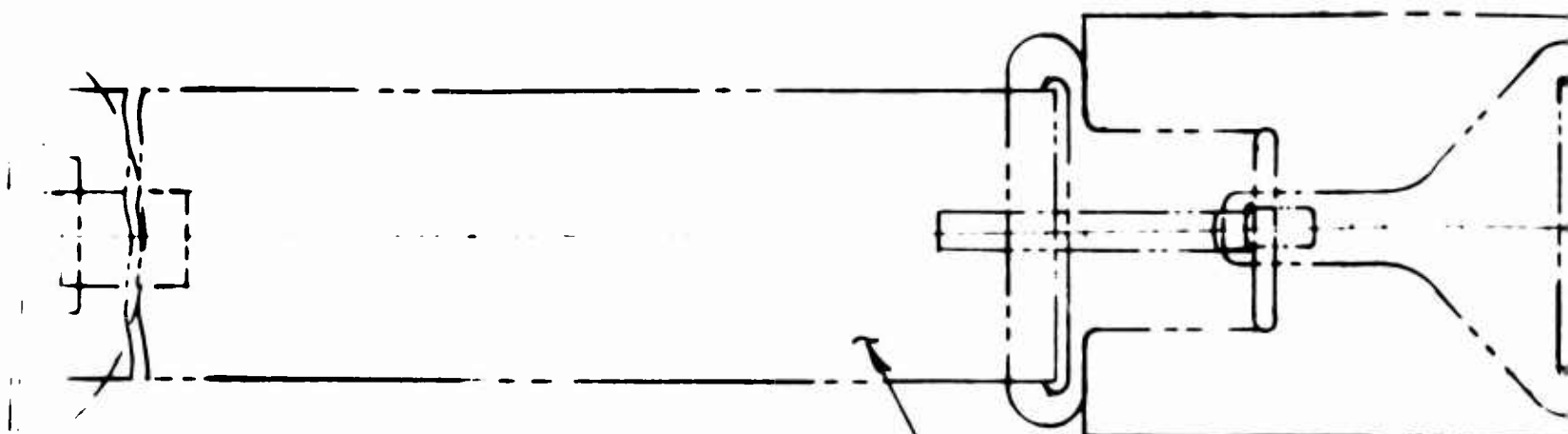
VIEW OF  
3, 4 & 5.

FOLD STRAP  
UNDER BEFORE  
STITCHING.



SECTION B-B  
FULL SIZE

# B



54H19651 (MD-2) OR 5

1. LEF
2. STI
- NYL
- F, A
- 8 S
- DDI
3. END
4. SE
5. STI

MS22004-1(REF.)

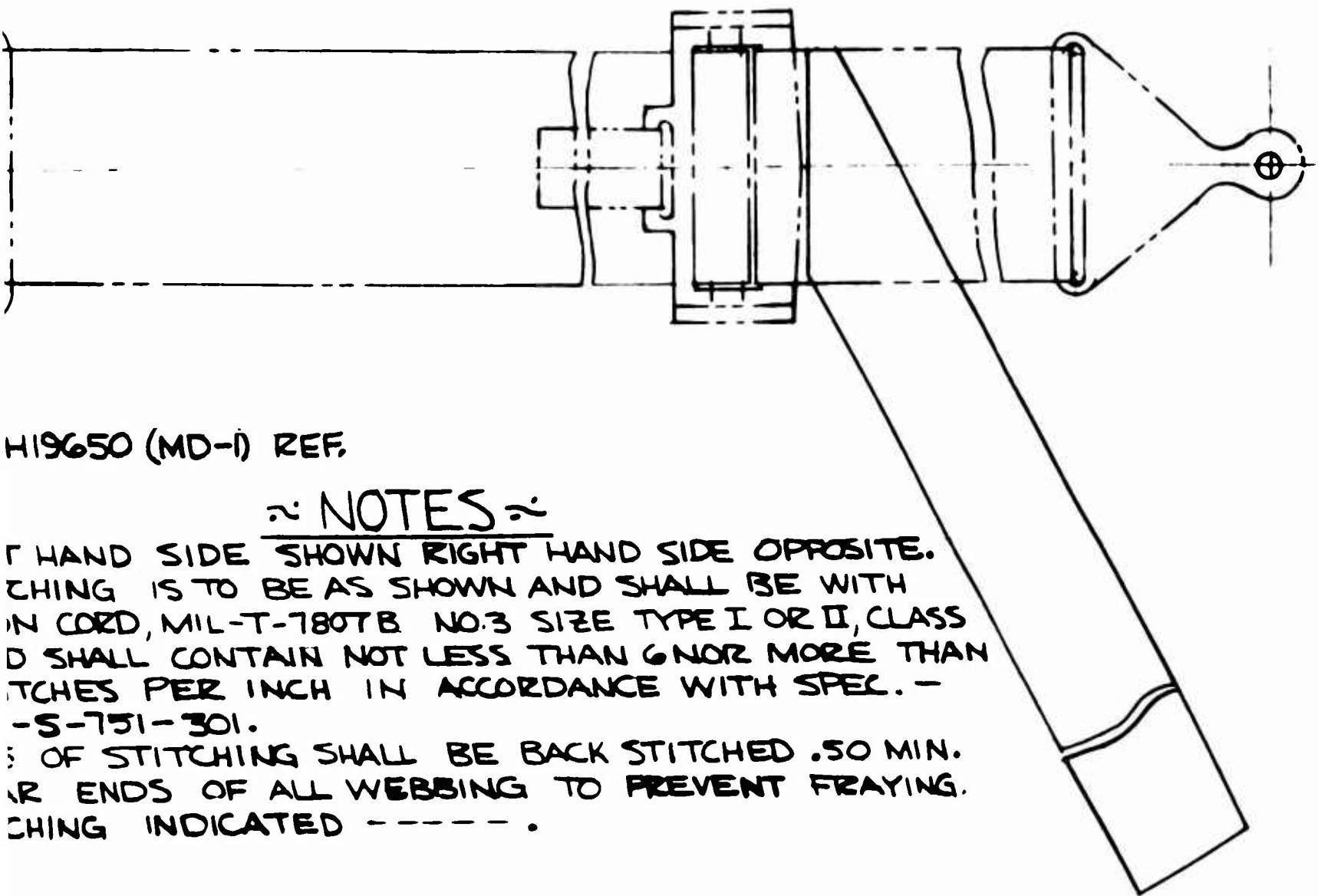
FULL SIZE VIEW OF  
CIRCLED AREA.  
SEE NOTES 1,2,3,4 & 5.

(-2) REF.

FOLD STRAP  
UNDER BEFO  
STITCHING



SECTION B  
FULL SIZE



H19650 (MD-1) REF.

≈ NOTES ≈

RIGHT HAND SIDE SHOWN LEFT HAND SIDE OPPOSITE.  
 STITCHING IS TO BE AS SHOWN AND SHALL BE WITH  
 1/8 IN CORD, MIL-T-7807B NO.3 SIZE TYPE I OR II, CLASS  
 D SHALL CONTAIN NOT LESS THAN 6 NOR MORE THAN  
 8 STITCHES PER INCH IN ACCORDANCE WITH SPEC. -  
 -S-751-301.  
 ALL EDGES OF STITCHING SHALL BE BACK STITCHED .50 MIN.  
 AT BOTH ENDS OF ALL WEBBING TO PREVENT FRAYING.  
 STITCHING INDICATED -----.

11  
 12  
 13

# A

BL 2915 LEFT

2030 (REF)

SEAT TRACK (REF)

RAIL ASSEMBLY (REF)  
C4BM205-1  
C4BM207-1

TOP OF COCKPIT FLOOR (REF)

RAIL SECT  
DH STD

FLOOR BEAM  
STA GO BLKD  
C4B1170-57 (REF)

AN4-5A BOLT  
AN365-4 NUT  
AN960-416 WASHER  
8 REQ EA (PER A/C)

(-1) ANGLE

EXISTING TOOLING  
HOLE IN FLOOR BEAM (REF)

AN470DG RIVET: 6 PLACES  
THIS RIVET PATTERN IS  
IDENTICAL FOR BL 2915 R

DRILL # F (257)  
2 HOLES

- 3. + INDICATES NEW RIVET LOCATION PER THIS DWG (AN470DG RIVET)
- 2. ALL VIEWS LOOKING FORWARD EXCEPT WHERE OTHERWISE NOTED
- 1. EXISTING TOOLING HOLES AT BL 2915 L, 885L, 2915R & 885R TO BE UTILIZED FOR AN470DG RIVET

NOTES

# B

FORWARD

STA  
60

885 REF

REF)

SEAT  
TRACK (REF)

RAIL ASSEMBLY (REF)  
C4BM 206-1  
C4BM 208-1

SECTION  
ID CV300 (REF)

TOP OF FLOOR BEAM  
FLOOR PLATE NOT SHOWN (REF)

W.L.  
148<sup>86</sup>

EXISTING TOOLING  
HOLE (REF)  
IN FLOOR BEAM

EXISTING RIVET PATTERN  
AN470AD4 (REF)

ANGLE (-)

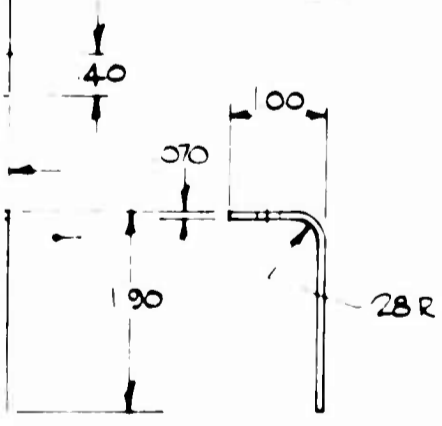
REMOVE EXISTING RIVETS  
DRILL #11 (101) 6 PLACES  
AN470DG RIVET 6 REQ

CHANNEL SECTION  
C4B170-63 (REF)

SECTION A-A  
FULL SIZE  
LOOKING OUTBOARD  
AFT

PANEL ASSEMBLY STA 60 BLKD  
C4B170-23 (REF)

STEP WELL (REF)



ANGLE 4 REQ PER A.C

- 1ST CHOICE: FORMED FROM SHEET
- 2ND CHOICE: EXTRUDED SECTION  
AN10134-2001  
(2 x 1 x 125 x 156R)

# B

BL 29.5 LEFT

STA 60

20 30 (REF)

SEAT TRACK (REF)

RAIL SECTION  
DH STD CV300 (REF)

W.L.  
148.86

AN4-5A BOLT  
AN365-4 NUT  
AN860-416 WASHER  
8 REQ EA (PER A/C)

① ANGLE

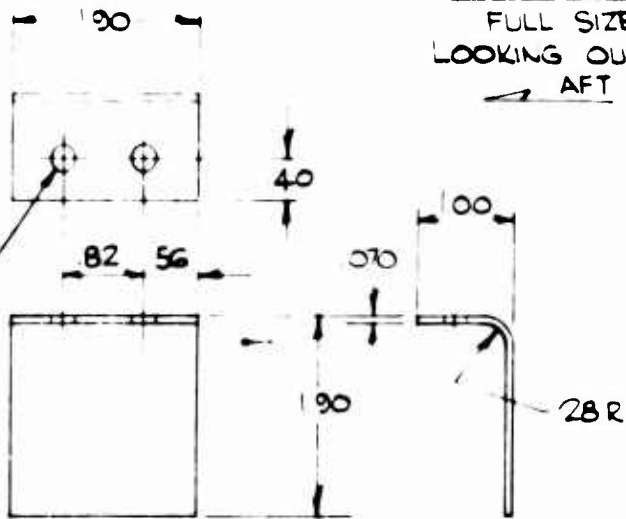
AN470D6 RIVET - 6 PLACES  
THIS RIVET PATTERN IS  
IDENTICAL FOR BL. 29.15 R

24

ANGLE ①

SECTION A-A  
FULL SIZE  
LOOKING OUTBOARD  
AFT

DRILL # F (257)  
2 HOLES



① ANGLE 4 REQ PER A/C

1ST CHOICE: FORMED FROM SHEET  
2ND CHOICE: EXTRUDED SECTION  
AN10134-2001  
(2 x 1 x .125 x .156R)

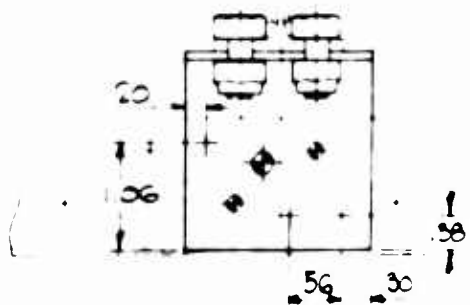
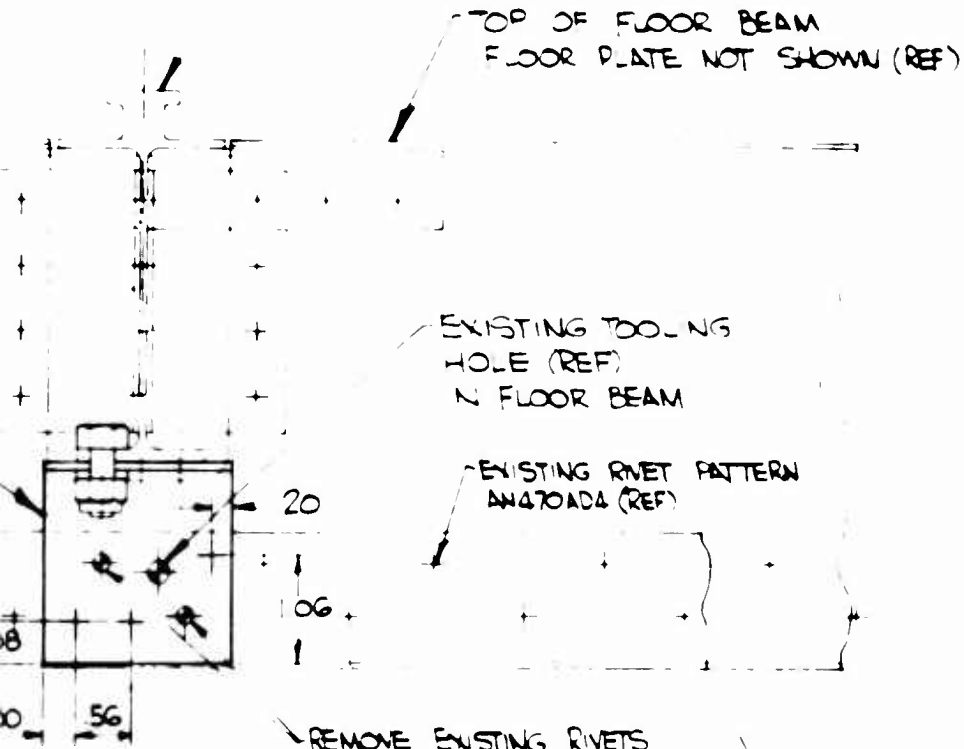
B  
885 LEFT

B  
885 RIGHT

SEAT  
TRACK (REF)

RAIL ASSEMBLY (REF)  
C4BM 206-1  
C4BM 208-1

TRACK (REF)



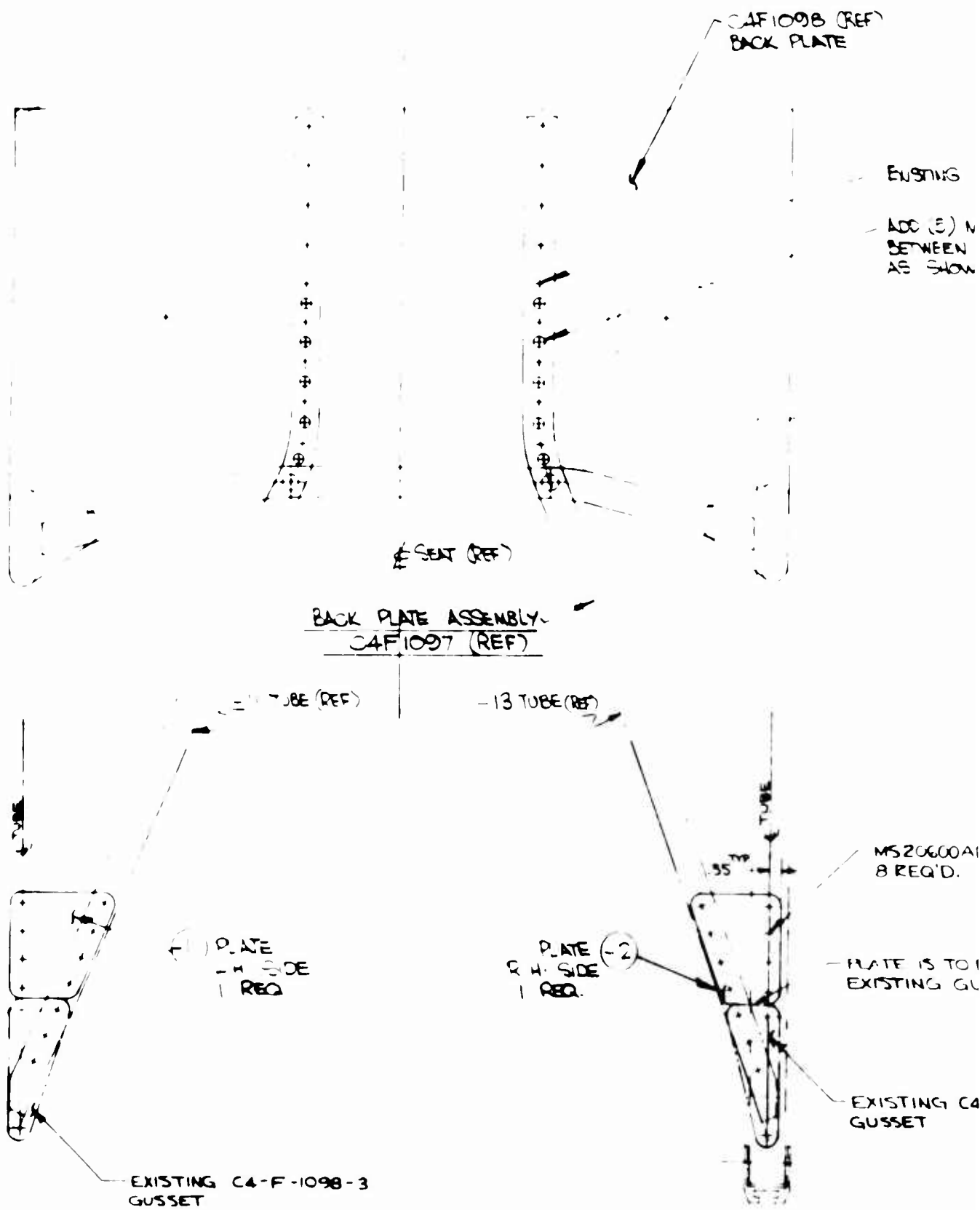
REMOVE EXISTING RIVETS  
DRILL #11 (191) 6 PLACES  
AN470DG RIVET 6 REQ

CHANNEL SECTION  
C4B1170-63 (REF)

PANEL ASSEMBLY STA 20 BLD  
C4B1170-29 (REF)

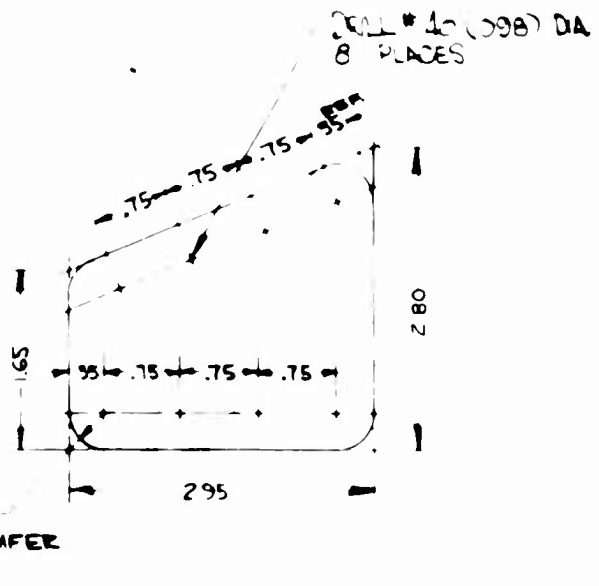
STEP WELL (REF)



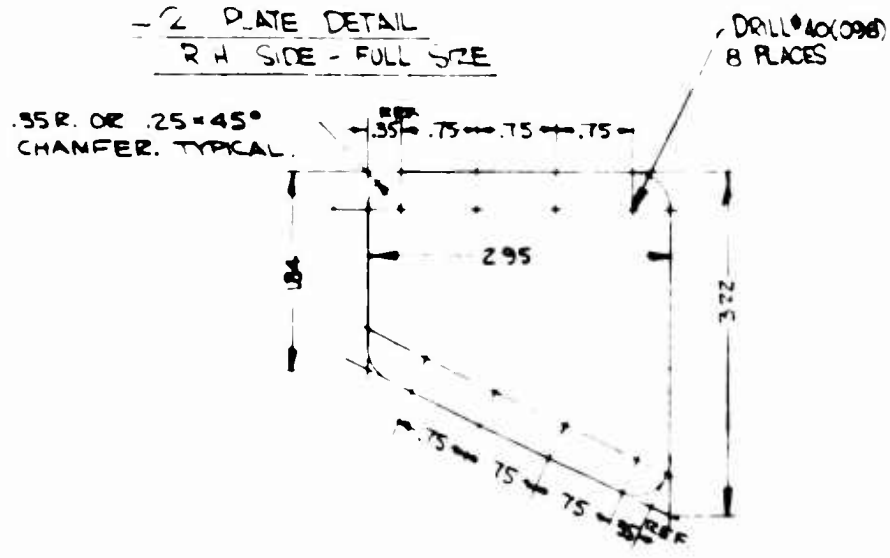


NOTE  
1. THIS DRAWING APPLIES TO CO-PILOT SEAT

3/8 DIA BLIND RIVETS (REF)  
 MS20600AD4 RIVETS &  
 IN EXISTING RIVETS  
 ON BOTH SIDES (O REQ)



- 2 PLATE DETAIL  
 R H SIDE - FULL SIZE



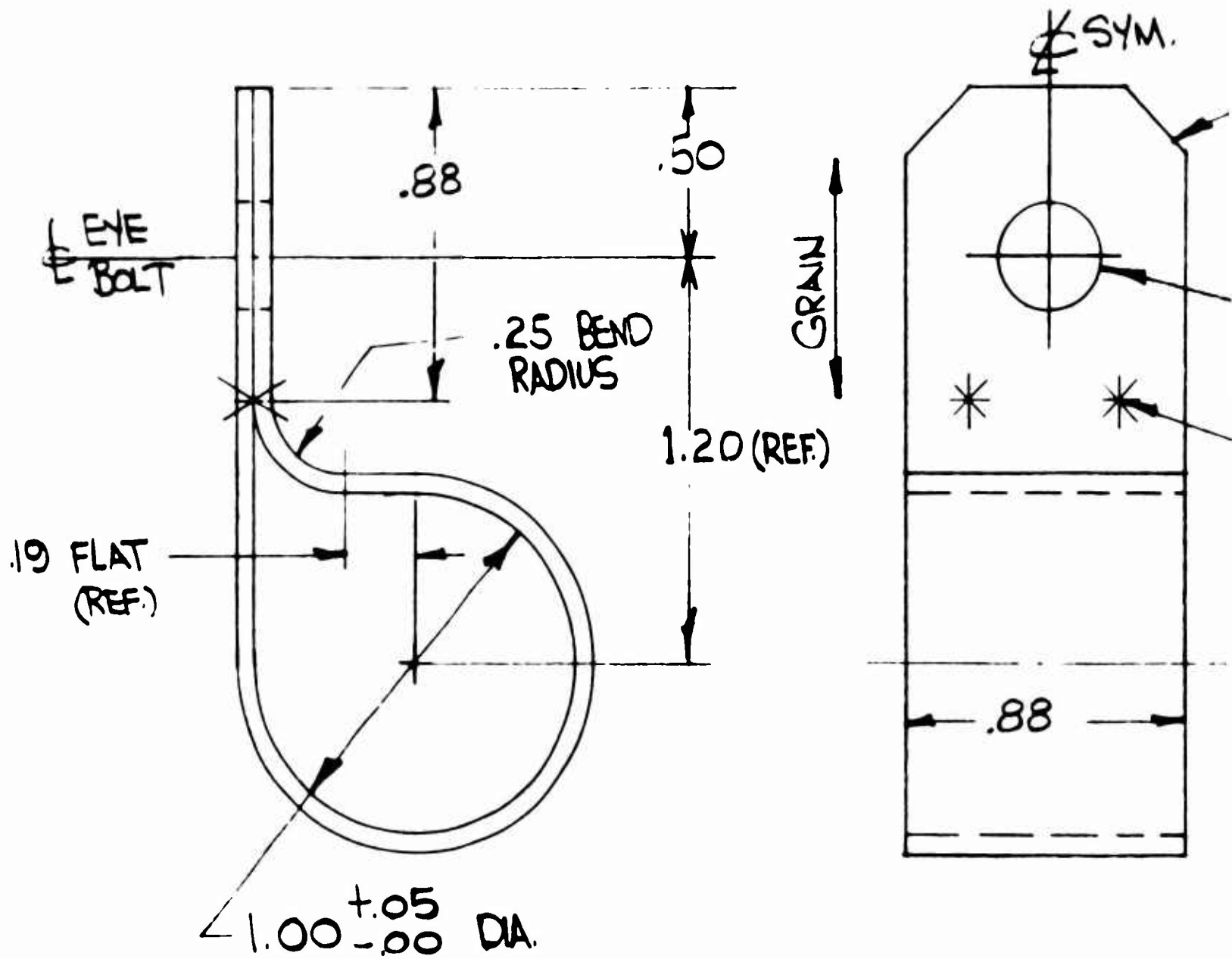
- PLATE DETAIL  
 L H SIDE - FULL SIZE

AD6 BLIND RIVET.  
 TYPICAL

O BE FLUSH WITH  
 GUSSET. (TYPICAL)

C4-F-1098-5

APPLIES TO PILOT  
 AT.

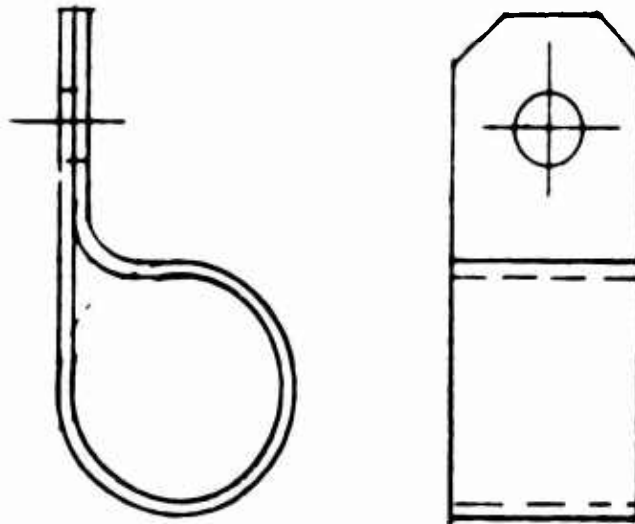


BREAK SHARP CORNERS  
.2 x .45° CHAMFER OR  
.25 RADIUS OPTIONAL.

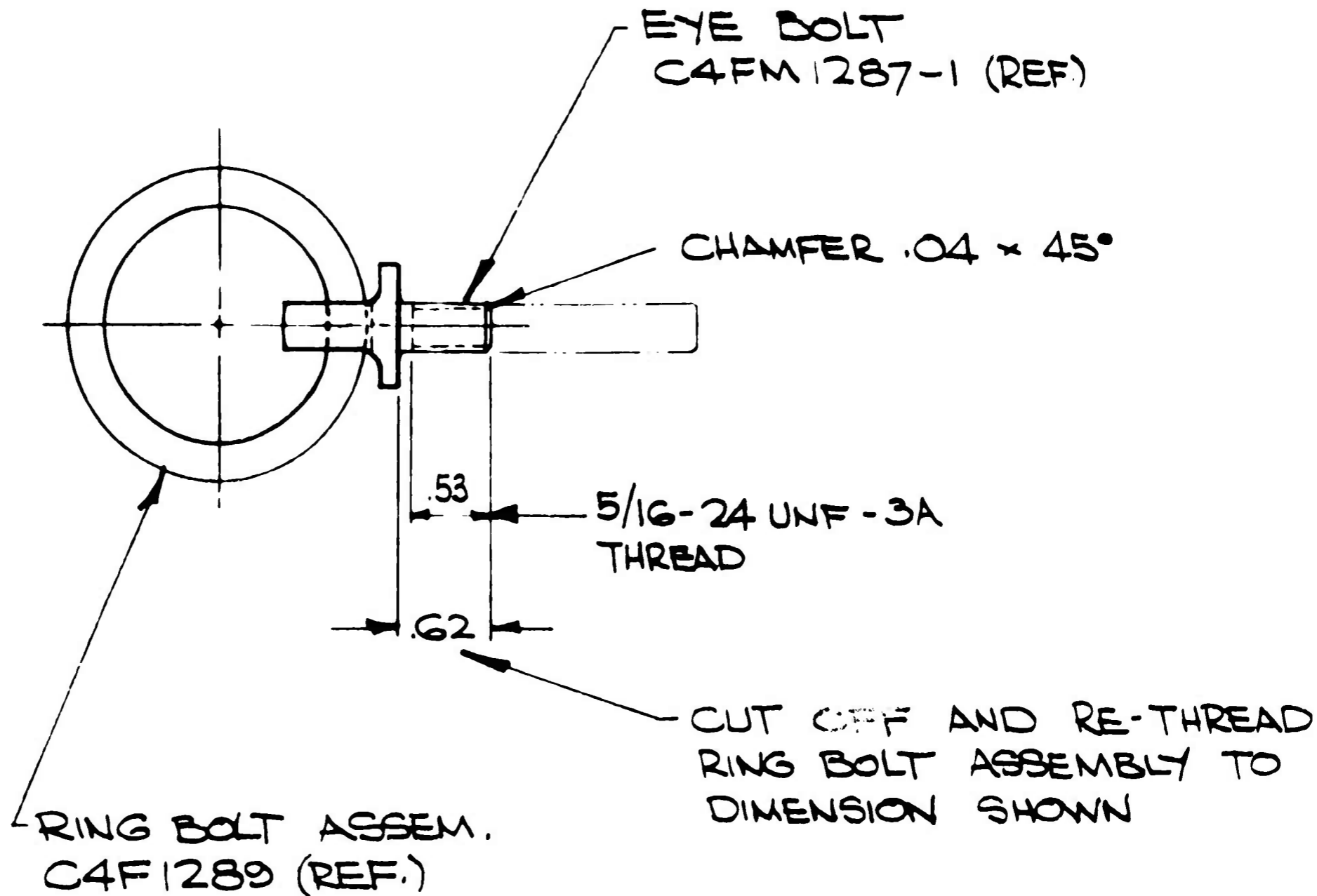
LINE DRILL #0 (.316) DIA.  
AFTER FORMING

SPOTWELD  
2 PLACES

SEAT TUBE (REF.)



ACTUAL SIZE



2. WT. OF EYE BOLT REMOVED = .029 LBS.  
 WT. OF EYE BOLT AC-1-21 = .144 LBS.  
 WT OF EYE BOLT CAFM1287-1 = .173 LBS.
1. ZINC CHROMATE PRIMER DIP ON REWORKED AREA

NOTE:-

# A

STA 93

STA 98

40' REF  
TROOP SEAT TYPICAL

DETAIL A

DETAIL B

C4F1875-11 SEAT LOCATION UNCH

STA 118

STA 198

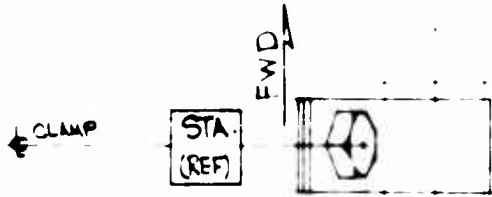


CANVAS WEBBING ON SEAT BOTTOM (REF)

SPREADER TUBE (REF)

DETAIL C

DETAIL A  
WEBBING TO BE MOVED  
FWD ON TUBE TO ACCOMMODATE  
SEAT SPREADER TUBE



FORMER SECTION (REF)

BOLT AN5-5A

SEAT TUBE (REF)

D1450-11-12 SECTION (REF)  
2V338

.S627A5 ANCHOR NUT  
.426A04 RIVET W/SHANK  
ON BOARD SIDE OF RAIL

-CLAMP STRAP AC-1-20

CAB1450 PANEL (REF)

FORMER SECTION (REF)

RING BOLT AC-1-21  
58 REQ PER 4C

SEAT TUBE C4F1875 (REF)

CAB1450 PANEL (REF)

DL 3969

FORMER SECT. (REF)

RING BOLT AC-1-21

C

DETAIL A

(FULL SIZE) INDICATED BY SYMBOL +  
TYPICAL AND USED AT  
FOLLOWING STATIONS:

08	188	268	348
28	208	288	368
148	228	308	388
168	248	328	408

DETAIL B

(FULL SIZE) INDICATED BY SYMBOL ⊕  
TYPICAL AND USED AT  
FOLLOWING STATIONS:

120.5	220.5	320.5
145.5	245.5	345.5
170.5	270.5	370.5
	295.5	395.5

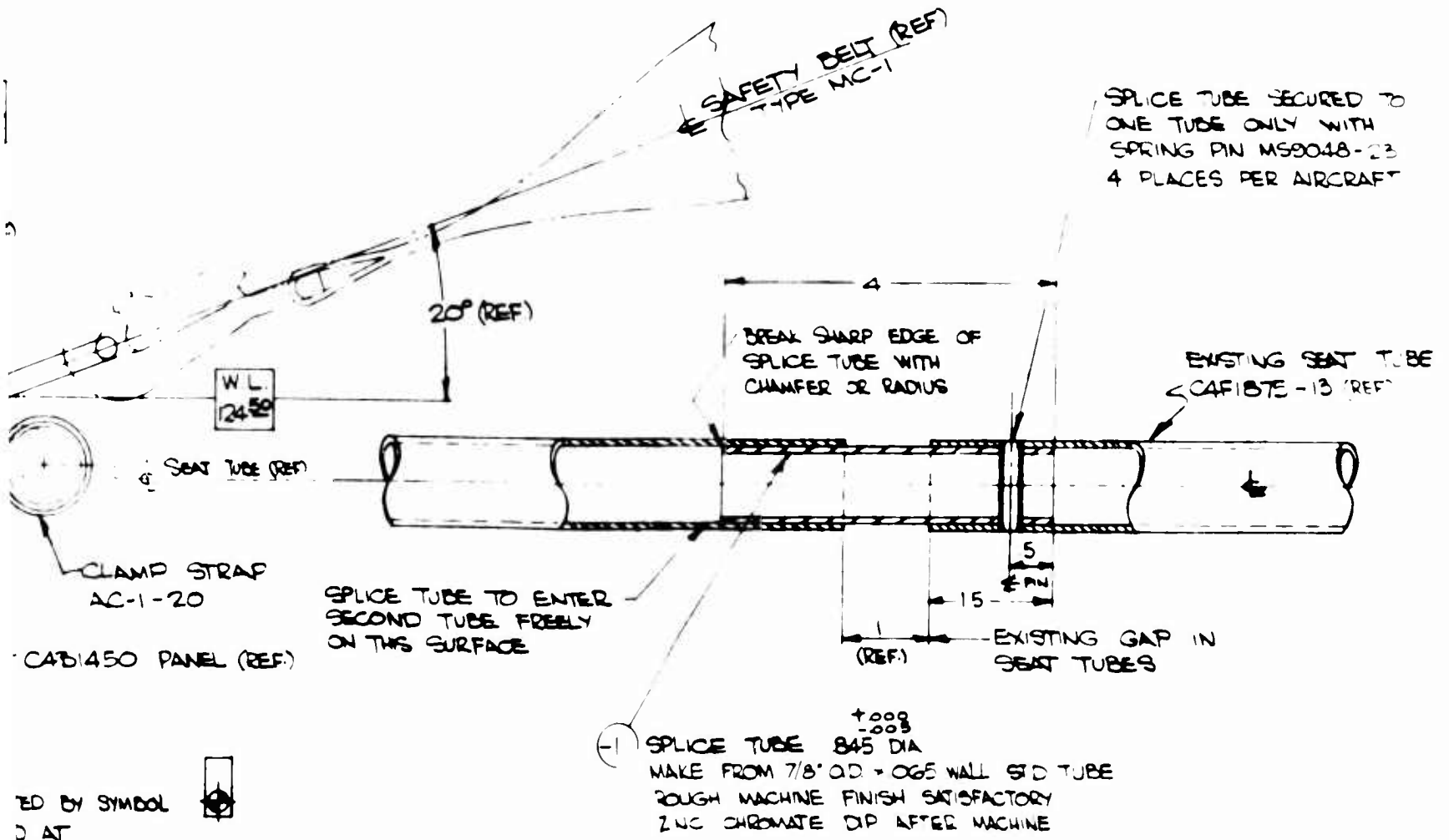
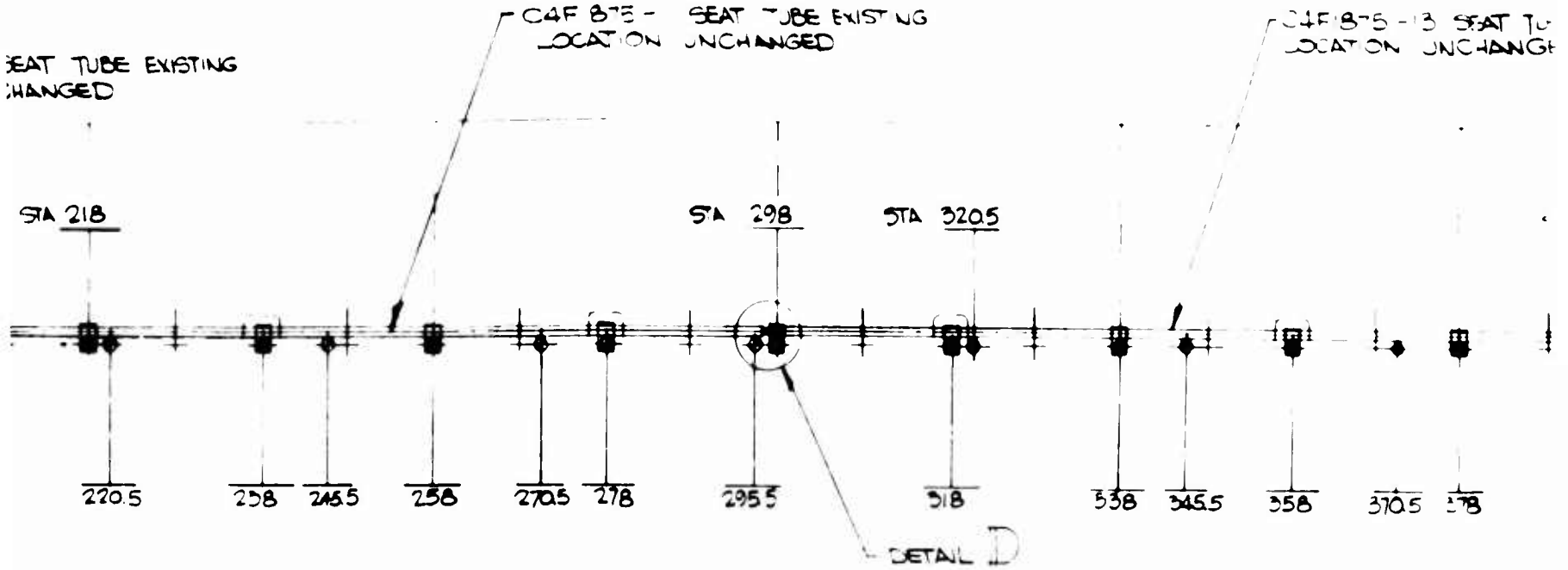
DETAIL C

(FULL SIZE) INDICATED BY SYMBOL ⊕  
TYPICAL AND USED AT  
FOLLOWING STATION:

98	178	258
118	198	278
138	218	298
158	238	318

FORWARD

AIRCRAFT SYMM - L.H. SIDE SHOWN - R.H. FUSELAGE STATIONS IDENTICAL



SPlice TUBE SECURED TO ONE TUBE ONLY WITH SPRING PIN MS9048-23 4 PLACES PER AIRCRAFT

BREAK SHARP EDGE OF SPLICE TUBE WITH CHAMFER OR RADIUS

EXISTING SEAT TUBE <CAFIB7E-13 (REF)

SPLICE TUBE TO ENTER SECOND TUBE FREELY ON THIS SURFACE

EXISTING GAP IN SEAT TUBES

-1 SPLICE TUBE 845 DIA MAKE FROM 7/8\"/>

ED BY SYMBOL  
D AT  
ONS.

338	415.5
358	195.5
378	
398	

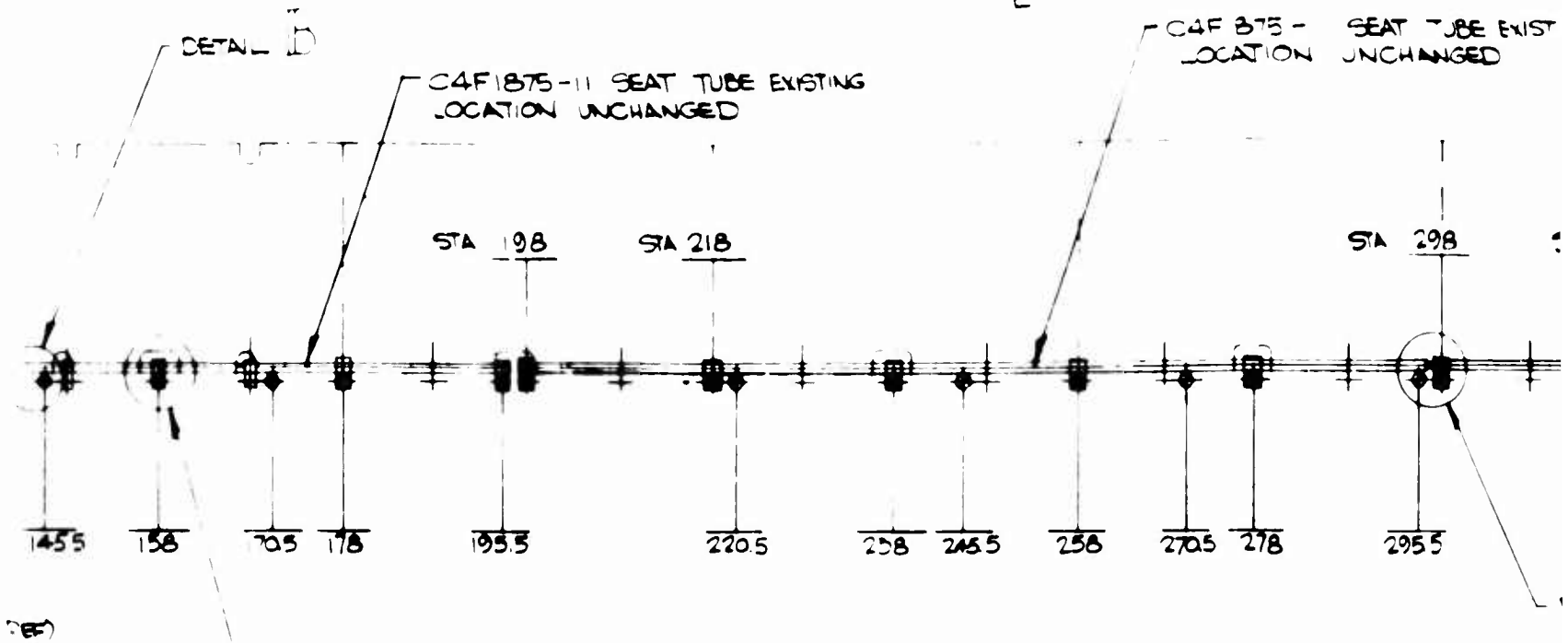
DETAIL D SPLICE  
FULL SIZE AT APPROX STA 297 - L & R.

3  
2  
1  
NOT

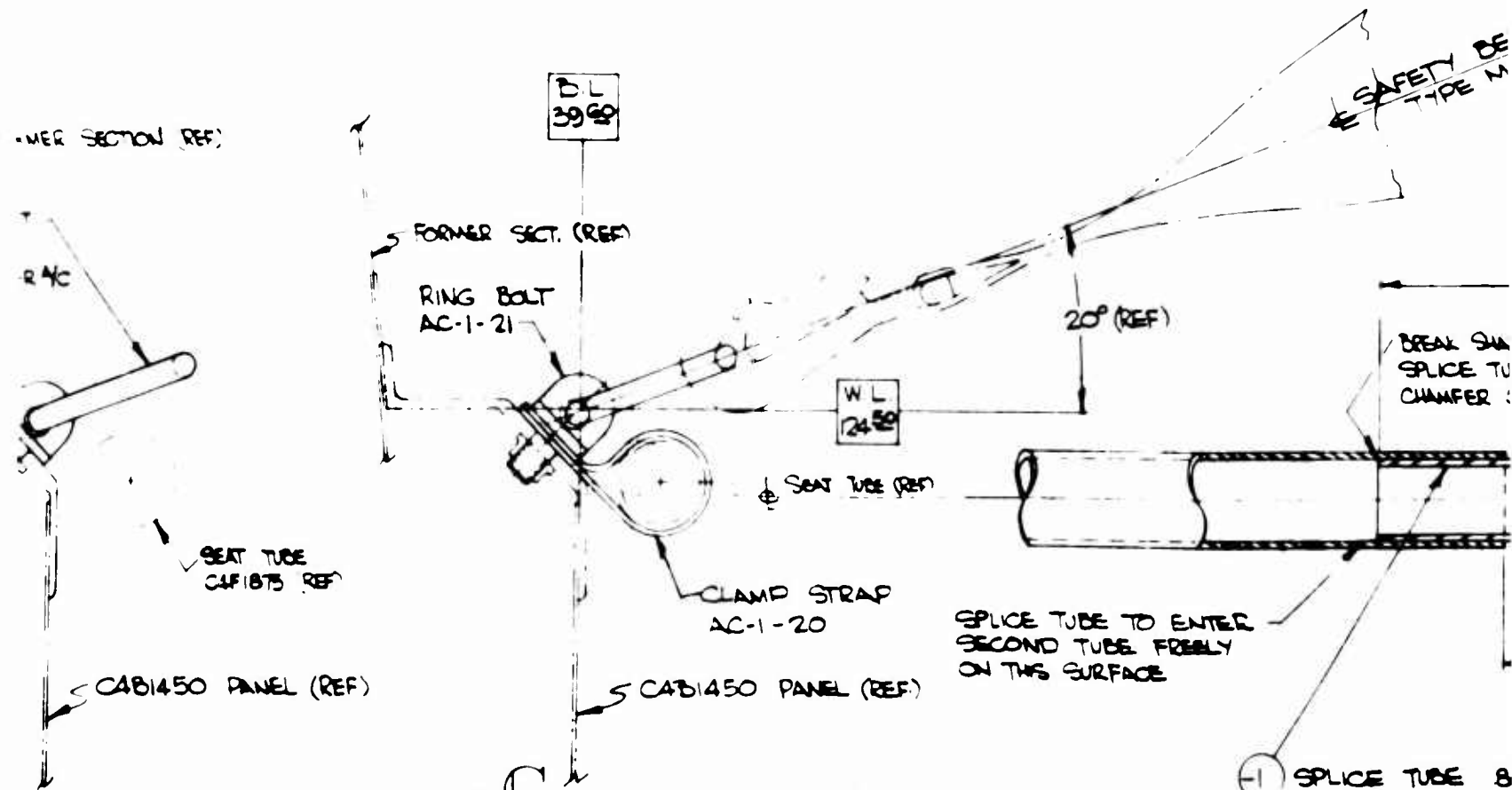
# B

FORWARD

AIRCRAFT SYMM - H SIDE



DETAIL C



DETAIL C

INDICATED BY SYMBOL

USED AT

- STATIONS:
- 5 320.5
  - 5 345.5
  - 5 370.5
  - 5 395.5

(FULL SIZE) INDICATED BY SYMBOL

TYPICAL AND USED AT

FOLLOWING STATIONS:

98	178	258	338	415.5
118	198	278	358	435.5
138	218	298	378	
158	238	318	398	

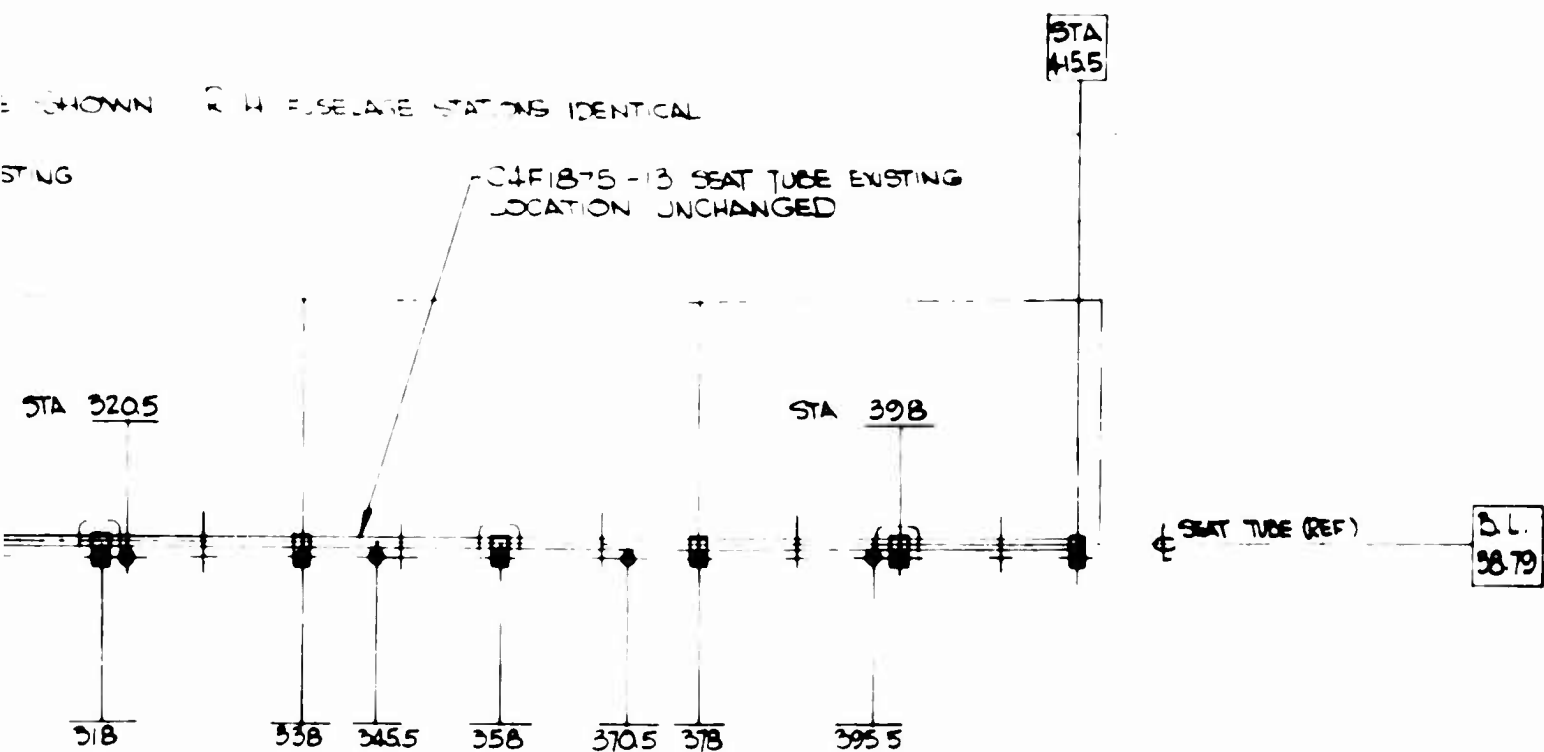
SPICE TUBE 8  
MAKE FROM 7/8" O.D.  
ROUGH MACHINE F  
ZNC CHROMATE

DETAIL D  
FULL SIZE  
297 L & B



SHOWN R H FUSELAGE STATIONS IDENTICAL

STING



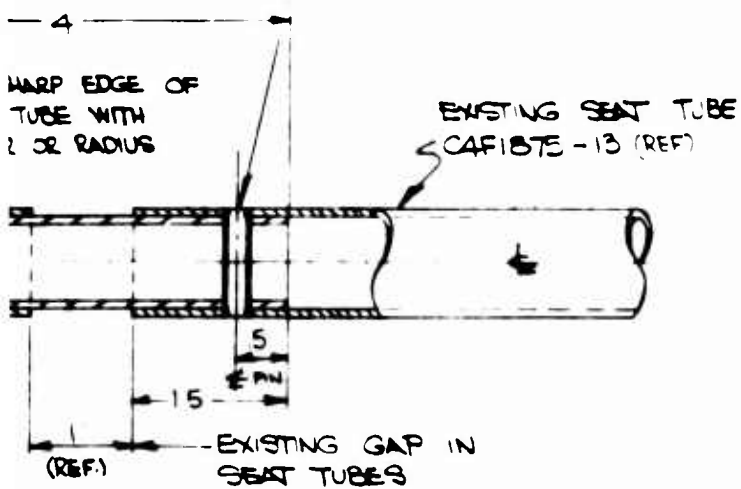
DETAIL D

SEIT (REF)  
MC-1

SPLICE TUBE SECURED TO ONE TUBE ONLY WITH SPRING PIN MS9048-23 4 PLACES PER AIRCRAFT

- 3. EXISTING WEIGHT REMOVED, PART NO C4FC1849-3 AND C4FC1849-1, .3 LBS x 58 = -7.54 LBS
- 2 PART NO C4FM1287-1 MODIFIED = -1.68 LBS
- 1 TOTAL EXISTING WEIGHT REMOVED = -9.22 LBS

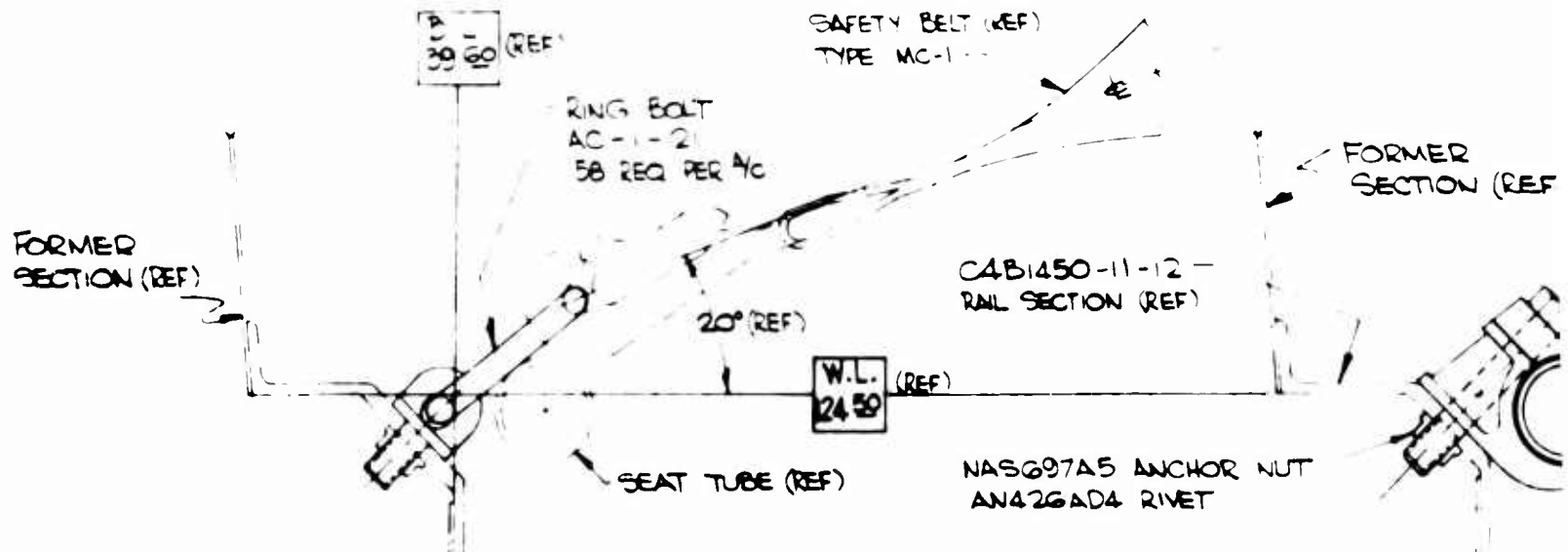
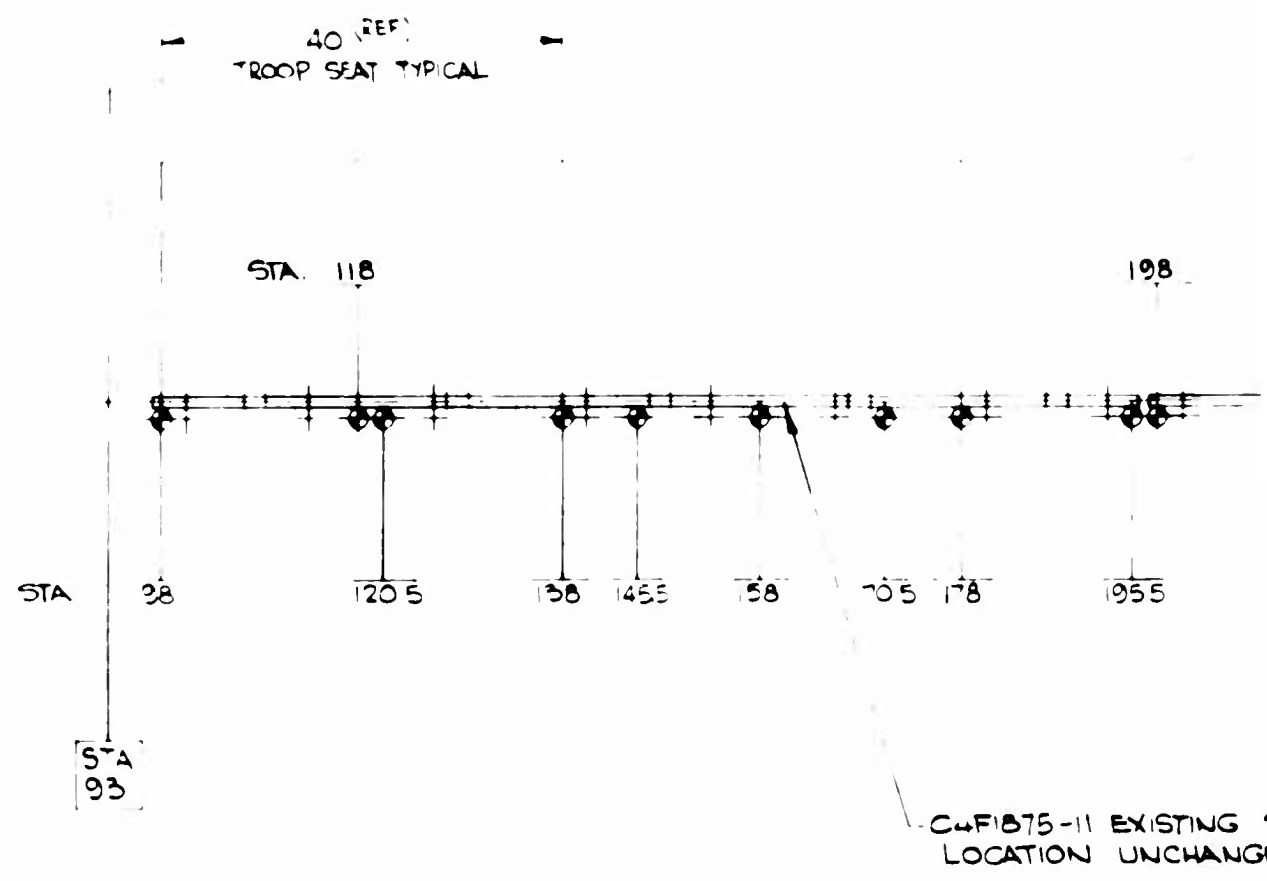
NOTE:




+0.008  
-0.008  
.845 DIA  
OD .065 WALL STD TUBE  
FINISH SATISFACTORY  
DIP AFTER MACHINE

D SPLICE  
E AT APPROX STA  
& R

# A




## DETAIL B

FULL SIZE  
INDICATED BY SYMBOL   
AND TYPICAL AT THE FOLLOWING STATIONS:-

98	195.5	278	
118	198	293.5	370.5
120.5	218	298	378
138	220.5	318	395.5
145.5	238	320.5	398
158	245.5	338	415.5
170.5	258	345.5	
178	270.5	358	

## DETAIL A

FULL SIZE  
INDICATED BY SYMBOL   
AND TYPICAL AT THE FOLLOWING STATIONS:-

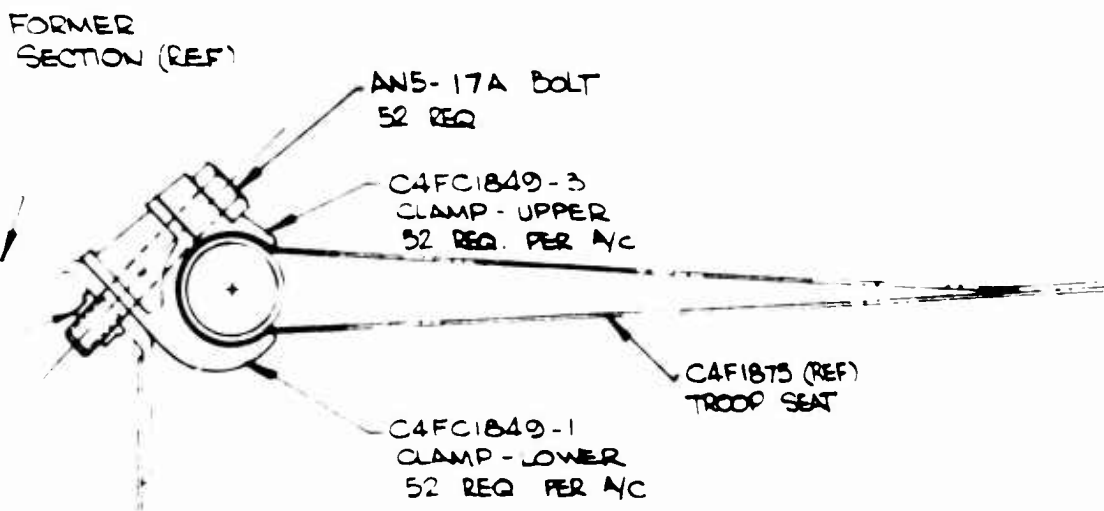
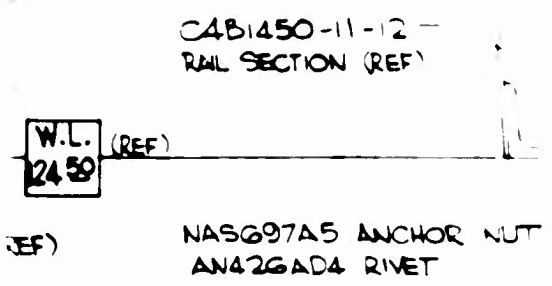
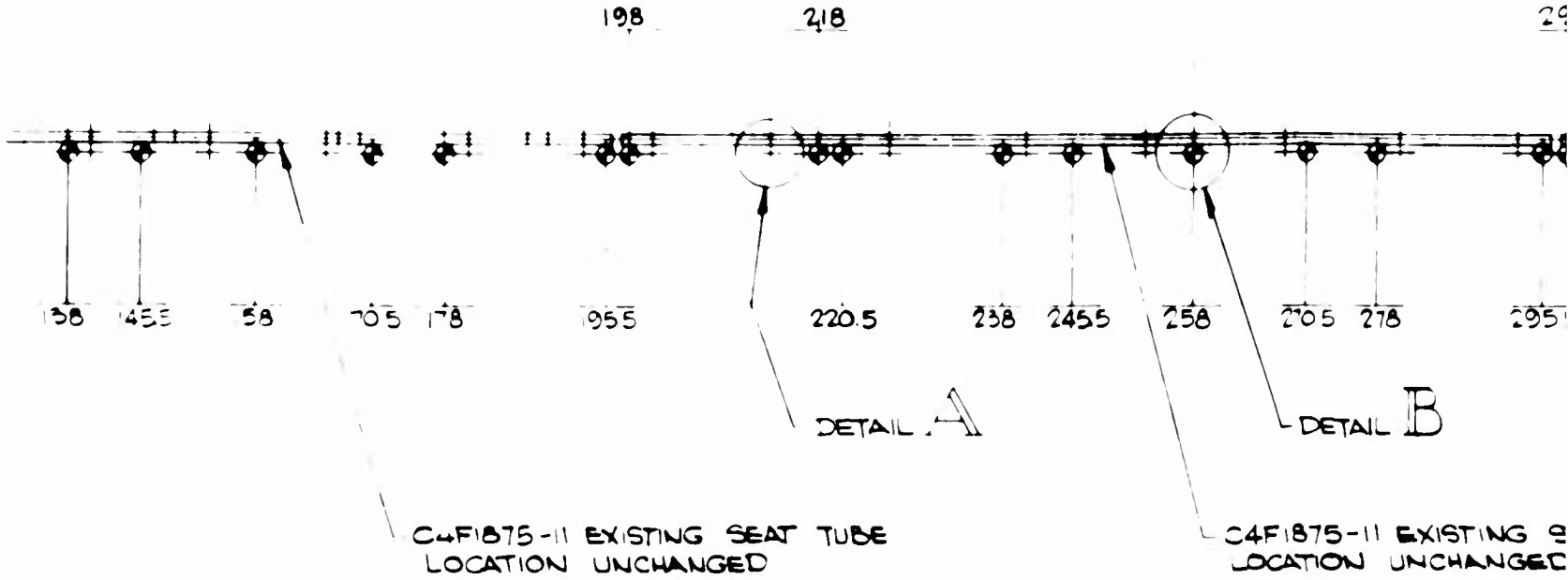
100.5	200.5	300.5	
113	213	310.5	
125.5	225.5	323	400.5
140.5	240.5	335.5	413
153	253	350.5	
165.5	268	363	
180.5	280.5	375.5	
193	293	388	



# B

AIRCRAFT  
 H SIDE SHOWN  
 R H SIDE FUSELAGE ST

FORWARD



**DETAIL A**

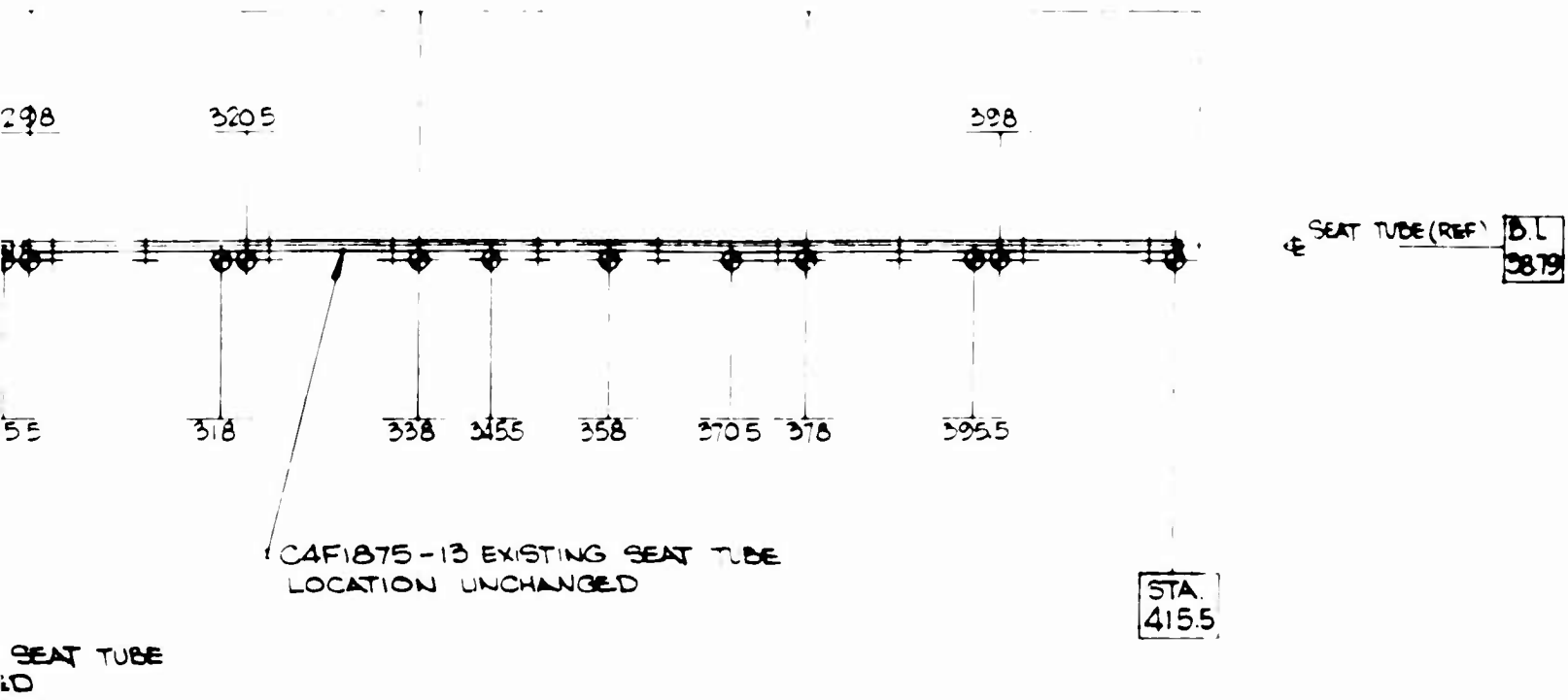
FULL SIZE  
 INDICATED BY SYMBOL  
 AND TYPICAL AT THE  
 FOLLOWING STATIONS:

100.5	200.5	300.5
113	213	310.5
125.5	225.5	323
140.5	240.5	335.5
155	253	350.5
165.5	268	363
180.5	280.5	375.5
193	293	388

400.5  
413

3.  
2  
1.  
N

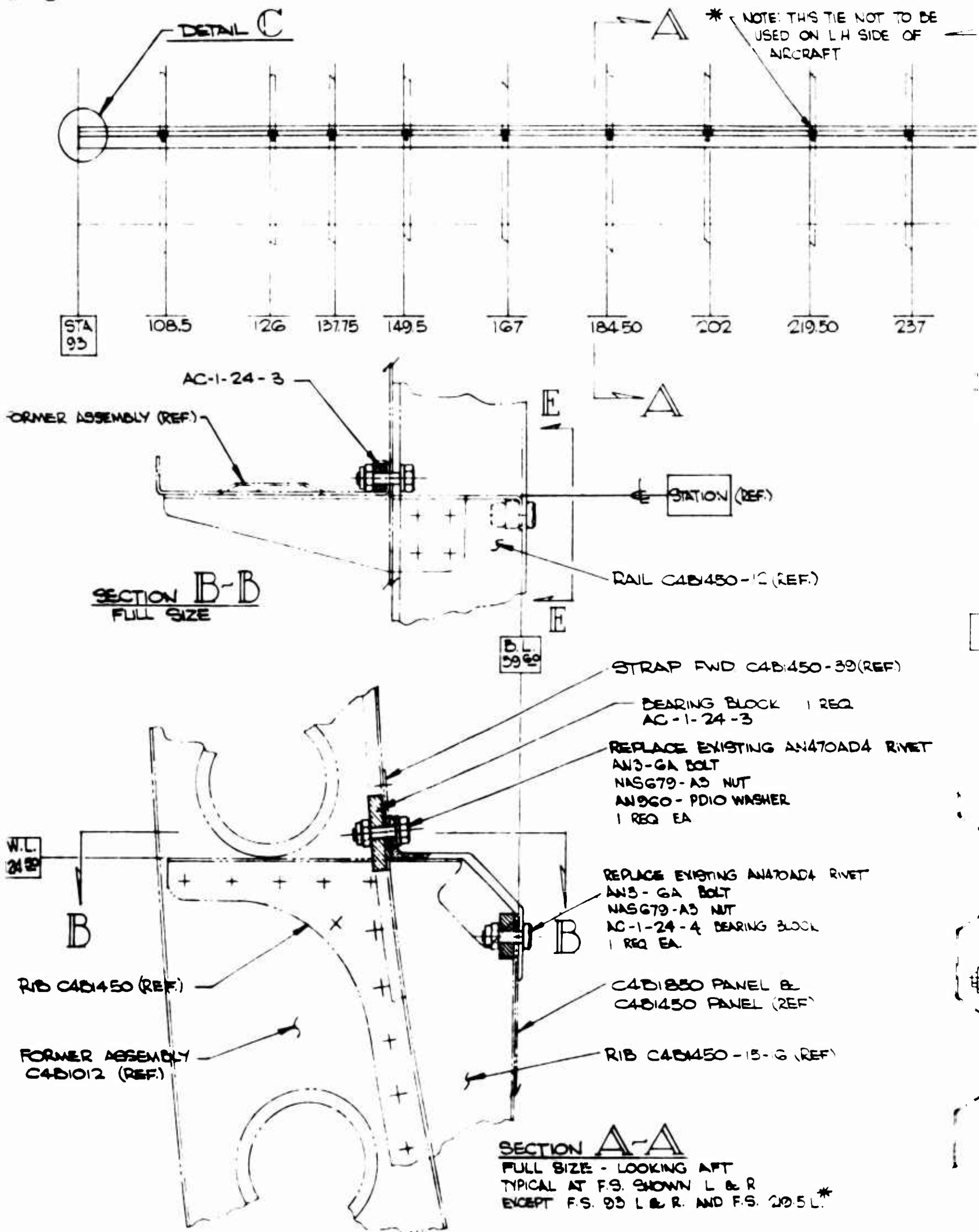
STATIONS IDENTICAL



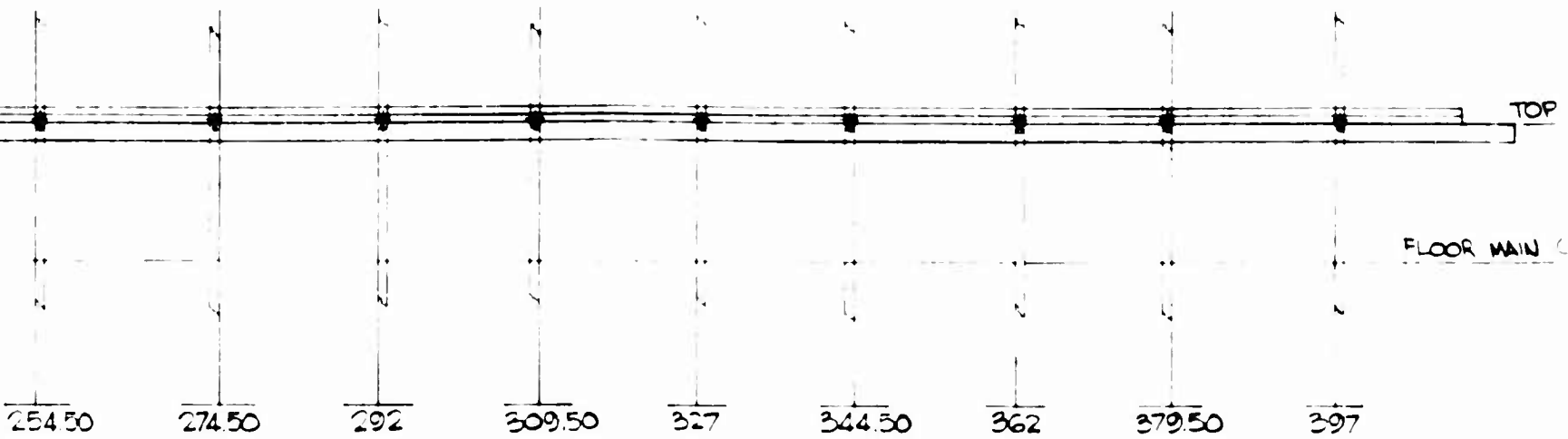
- 3. EXISTING WEIGHT REMOVED, PART NO. C4FC1849-3  
AND C4FC1849-1, .13 LBS \* 6 PARTS = -0.78 LBS.
- 2 PART NO. C4FM1287-1 MODIFIED = -1.68 LBS
- 1. TOTAL EXISTING WEIGHT REMOVED = -2.46 LBS

NOTE:-

# A



FORWARD

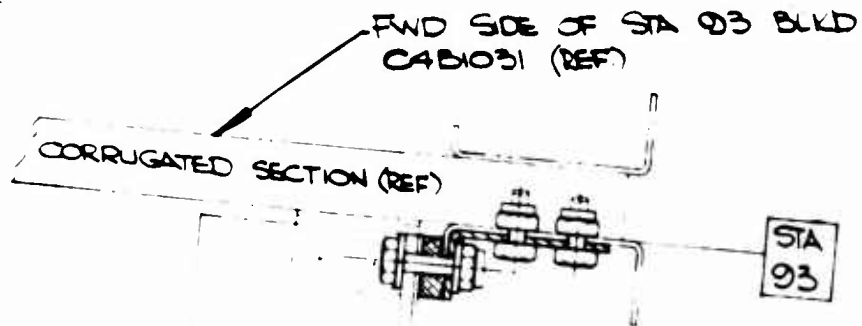


VIEW LOOKING OUTBOARD

R. H. SIDE OF AIRCRAFT

SCALE: 1/10

L. H. SIDE IDENTICAL EXCEPT AS NOTED\*



SECTION D-D  
THRU  $\epsilon$  OF TIE  
FULL SIZE

REPLACE EXISTING RIVET WITH  
 AN3-7A BOLT (1)  
 NAS679-A3 NUT (1)  
 AN260-P10 WASHER (2)  
 THRU RAIL, STRAP, SPACER  
 BLOCK AND ANGLE

CORRUGATED SECTION (REF)

FWD STRAP C4B1450-39 (REF)

DL 3992

CHANNEL SECTION C4B1031-71-72 (REF)

OUTSIDE CONTOUR OF FUSELAGE AT STA. 93 (REF)

RAIL SECTION C4B145-11-12 (REF)

AN3-3A BOLT (2)  
NAS679-A3 NUT (2)

ANGLE AC-1-24-1

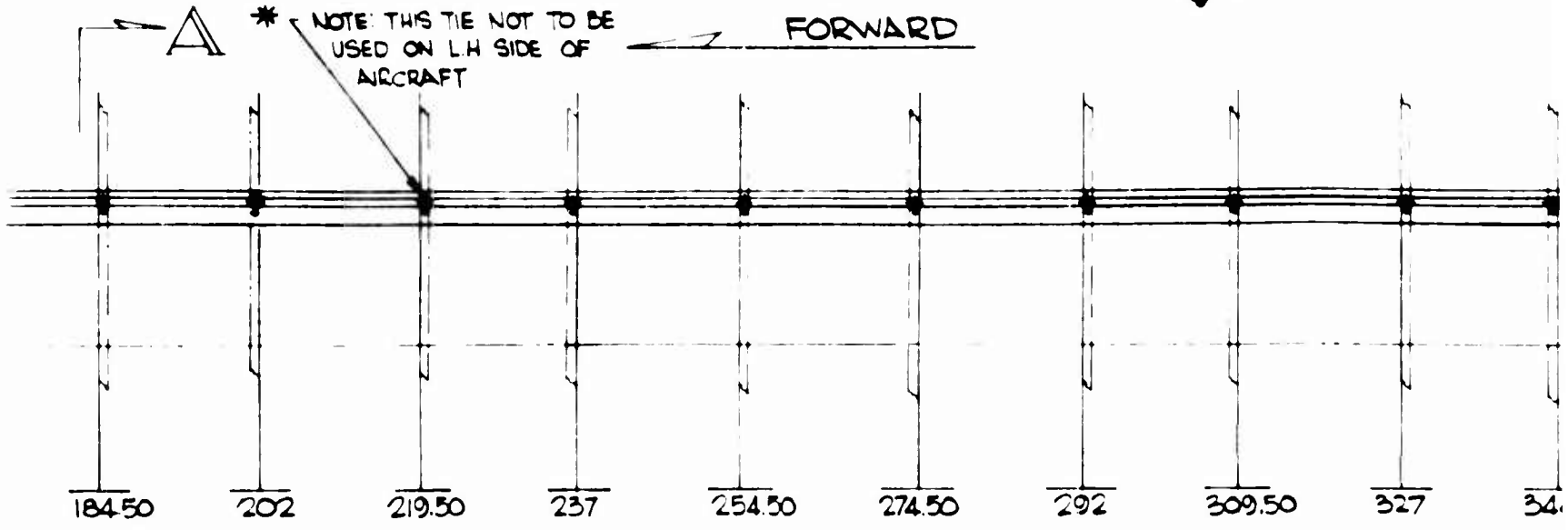
RIB AT STA. 93 BLD C4B1450-13-14 (REF)

SPACER BLOCK AC-1-24-2

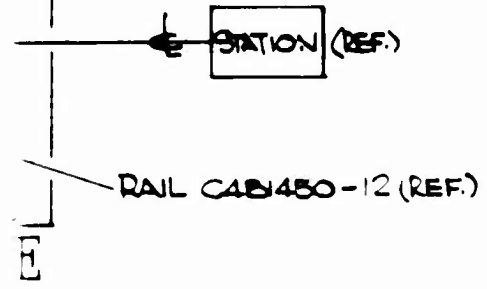
NOTE: USE ADDITIONAL SHIMS IF NECESSARY

DETAIL C  
RAIL-TIE AT STA. 93  
FULL SIZE

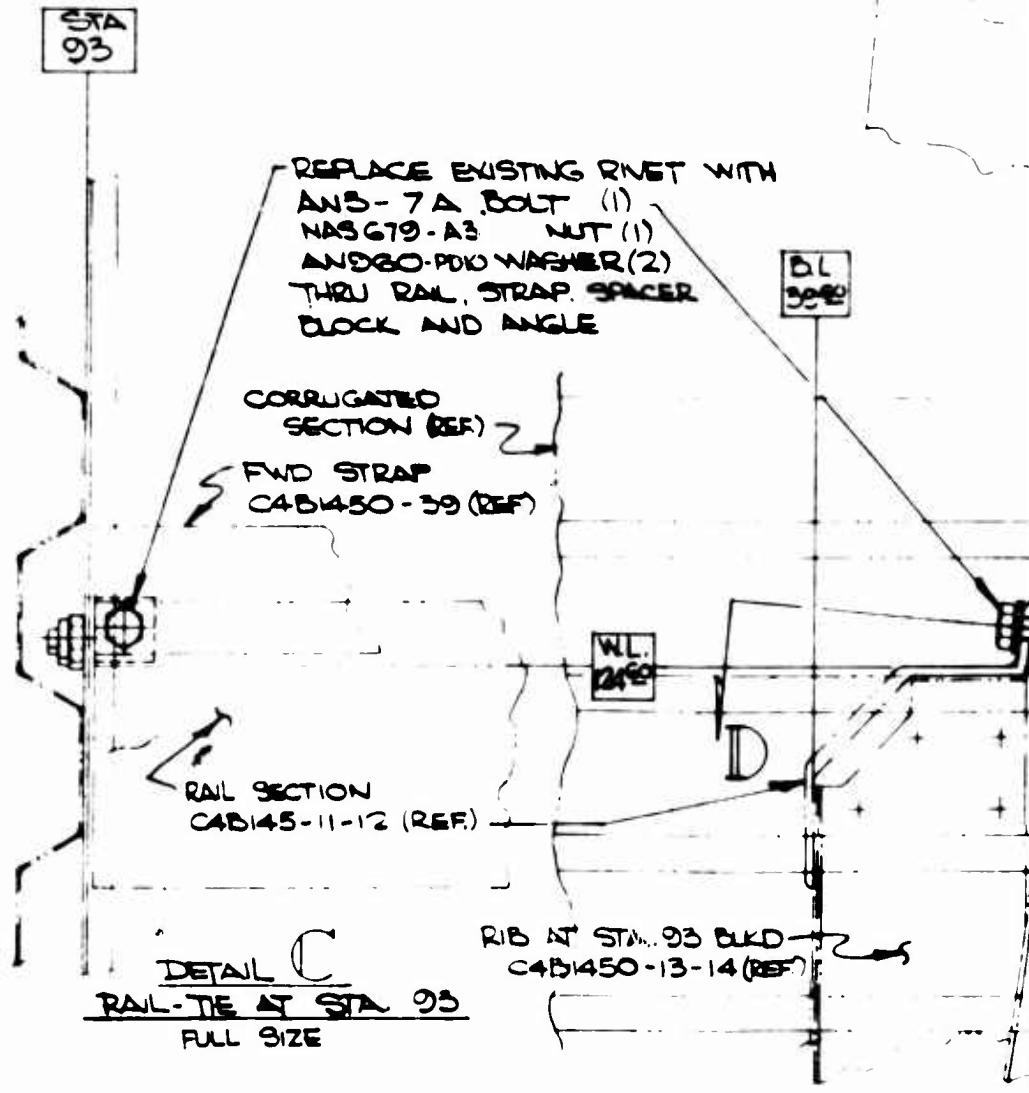
VIEW LOOKING FWD RH. SIDE AT STA. 93



VIEW LOOKING OUTBOARD  
 R. H. SIDE OF AIRCRAFT  
 SCALE: 1/10  
 \* L. H. SIDE IDENTICAL EXCEPT AS NOTED



- STRAP FWD. C4B1450-39 (REF.)
- BEARING BLOCK 1 REQ. AC-1-24-3
- REPLACE EXISTING AN470AD4 RIVET  
 AN3-GA BOLT  
 NAS679-A3 NUT  
 AN960-PD10 WASHER  
 1 REQ. EA.
- REPLACE EXISTING AN470AD4 RIVET  
 AN3-GA BOLT  
 NAS679-A3 NUT  
 AC-1-24-4 BEARING BLOCK  
 1 REQ. EA.
- C4B1850 PANEL & C4B1450 PANEL (REF.)
- RIB C4B1450-15-16 (REF.)

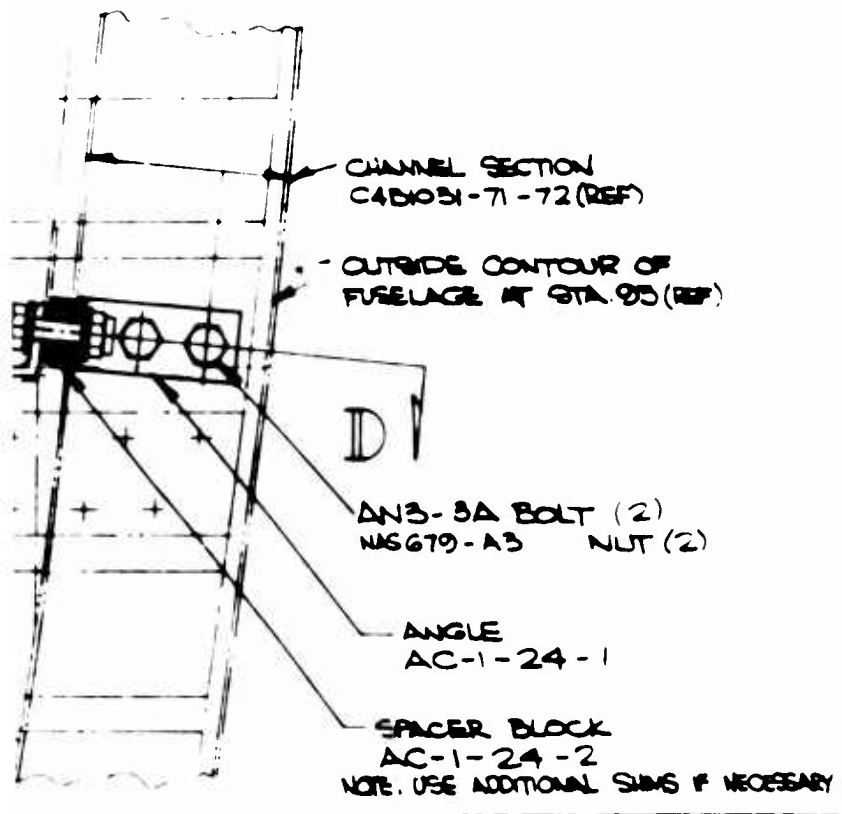
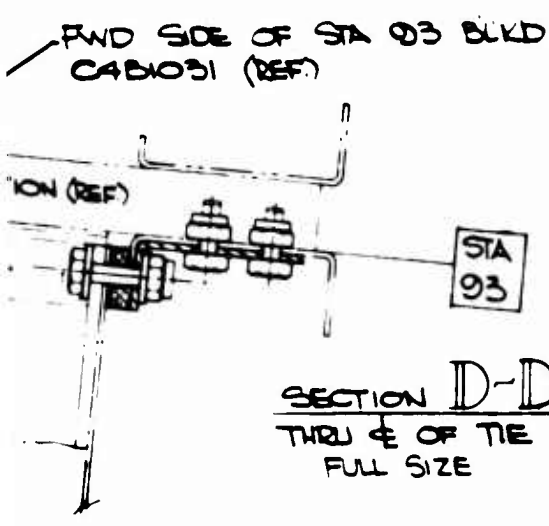
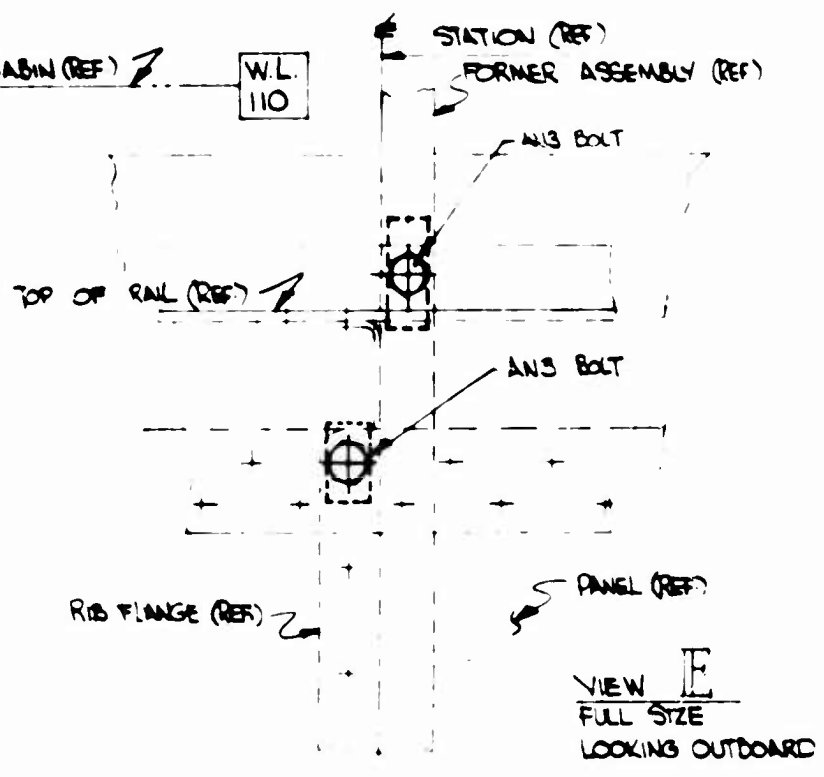
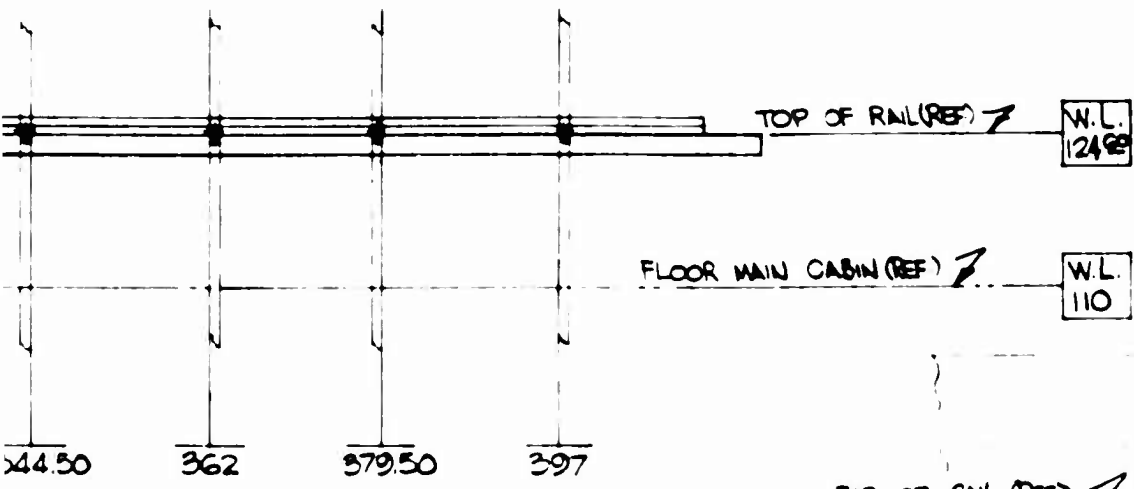


DETAIL C  
 RAIL-TIE AT STA. 93  
 FULL SIZE

ON A-A  
 SIZE - LOOKING AFT  
 AT F.S. SHOWN L. & R.  
 F.S. 93 L. & R. AND F.S. 29.5 L.\*

VIEW LOOKING FW

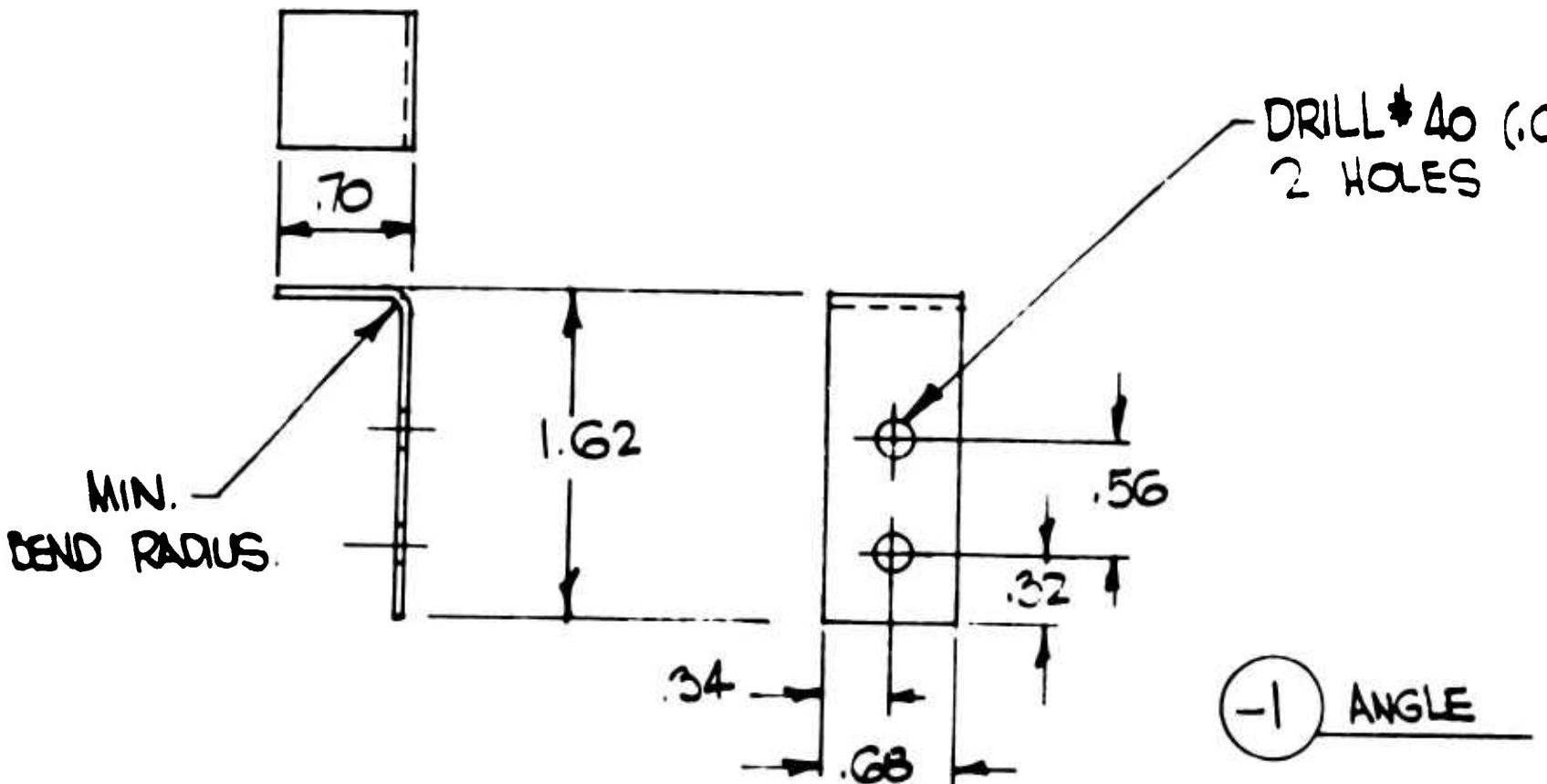
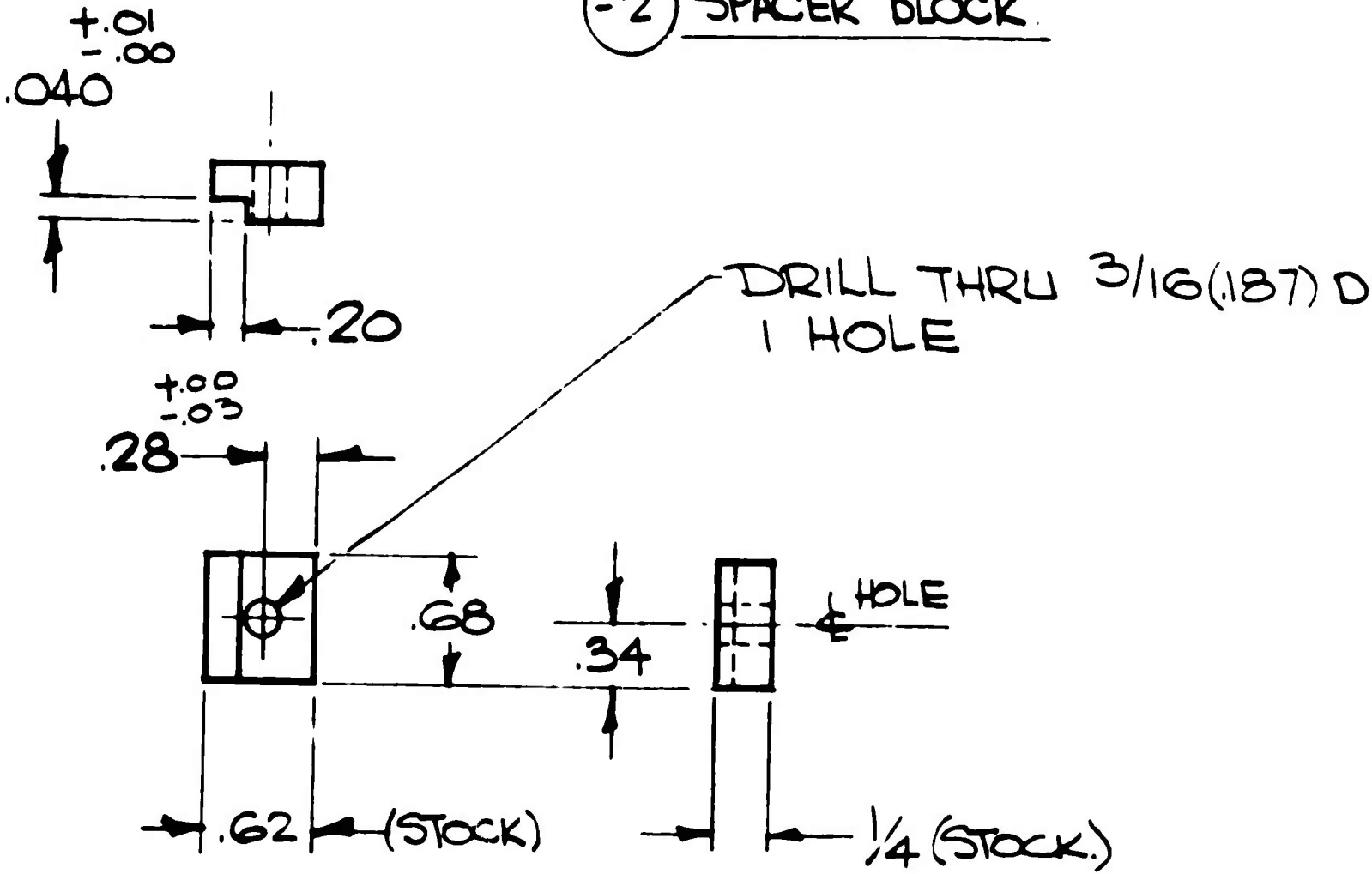


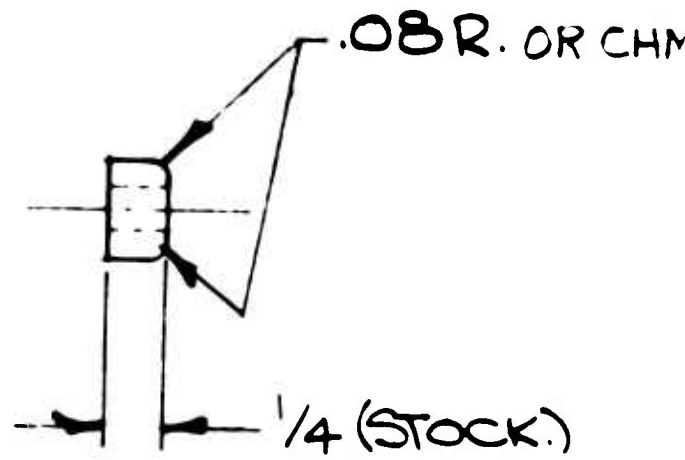
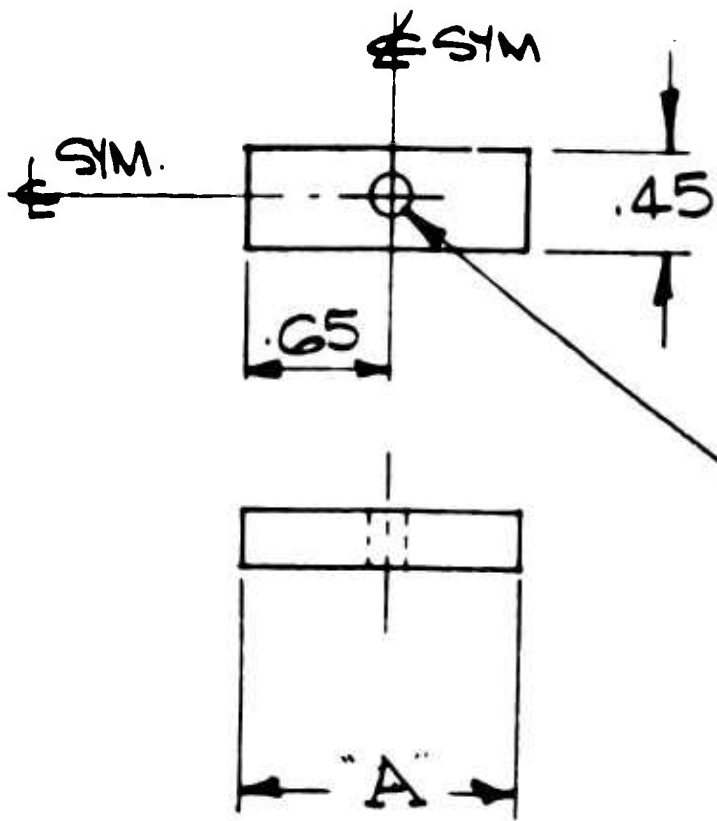


WD RH. SIDE AT STA 93

A

(-2) SPACER BLOCK





DRILL THRU  $3/16$  (.187) DIA.  
1 HOLE

- (-4) SAME AS -3 EXCEPT AS NOTED
- (-3) BEARING BLOCK.

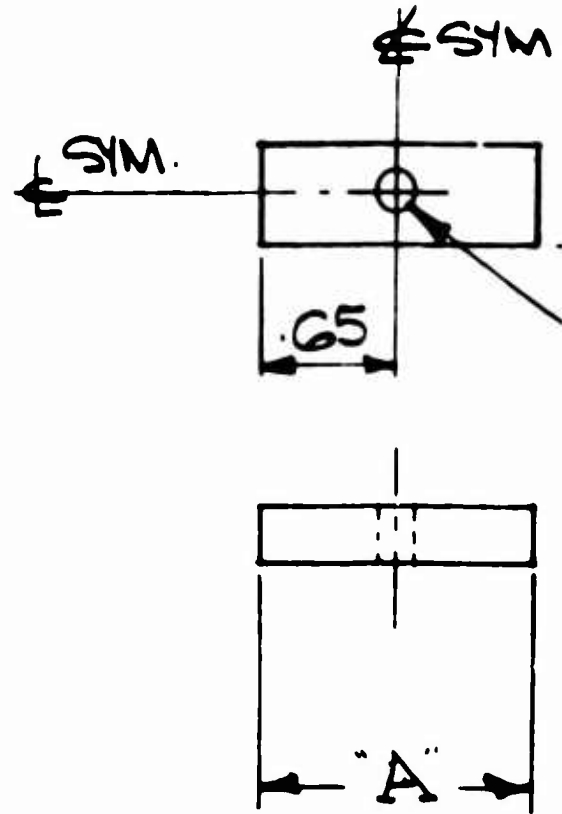
NOTES:

1. BREAK ALL SHARP EDGES ON FINIS  
BAR STOCK .02 RADIUS

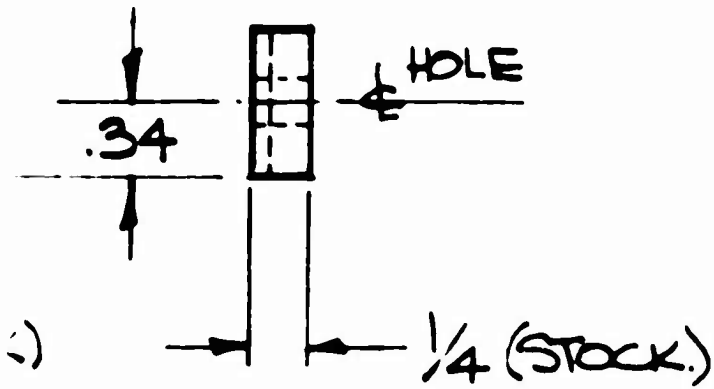
098) DIA.

# B

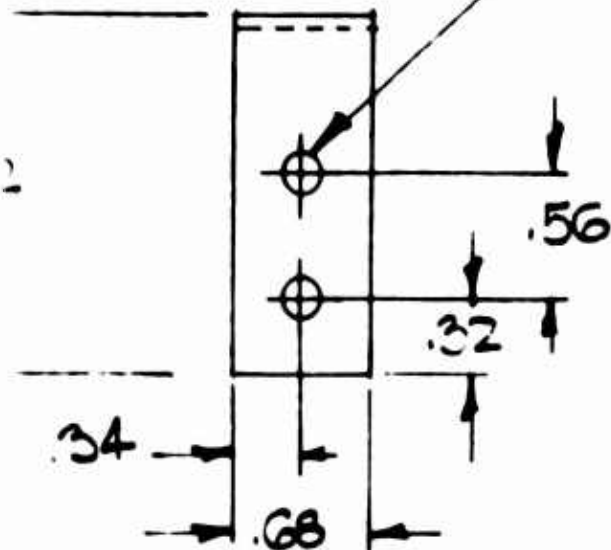
(-2) SPACER BLOCK



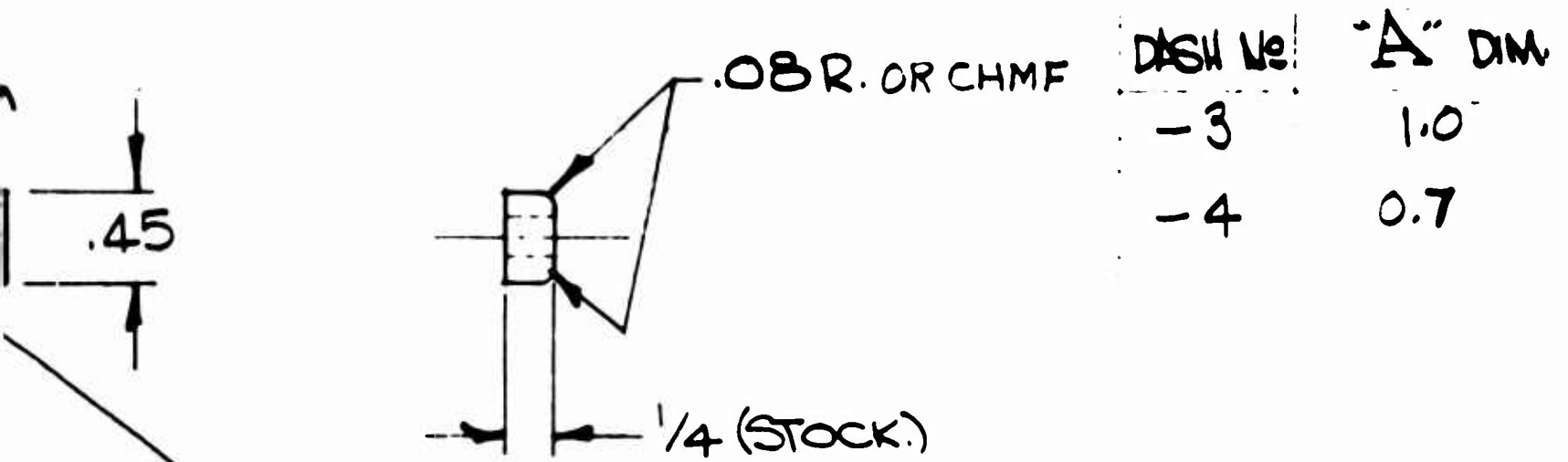
DRILL THRU  $3/16$  (.187) DIA.  
1 HOLE



DRILL #40 (.098) DIA.  
2 HOLES



(-1) ANGLE



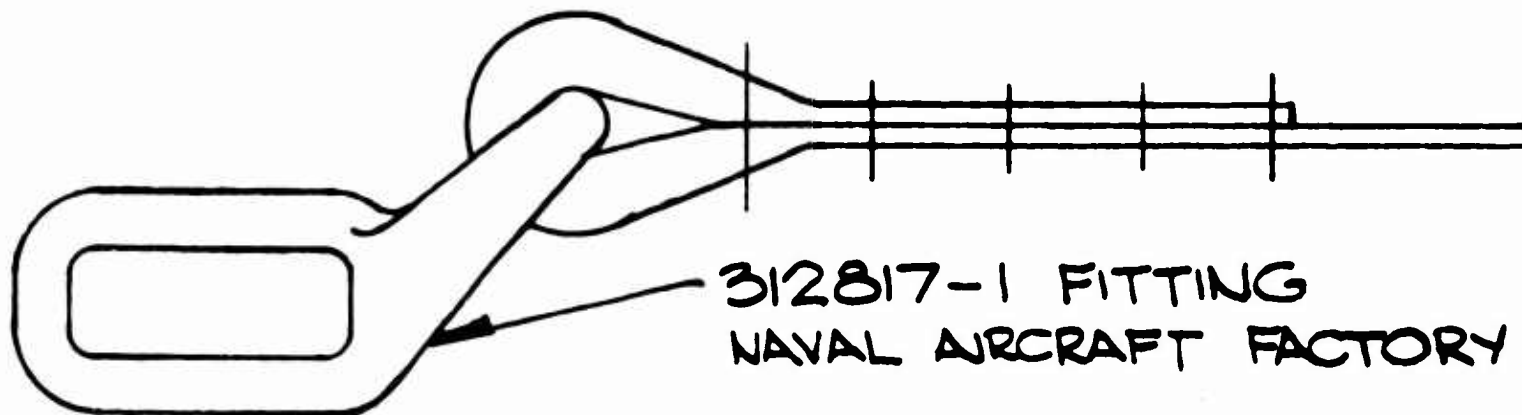
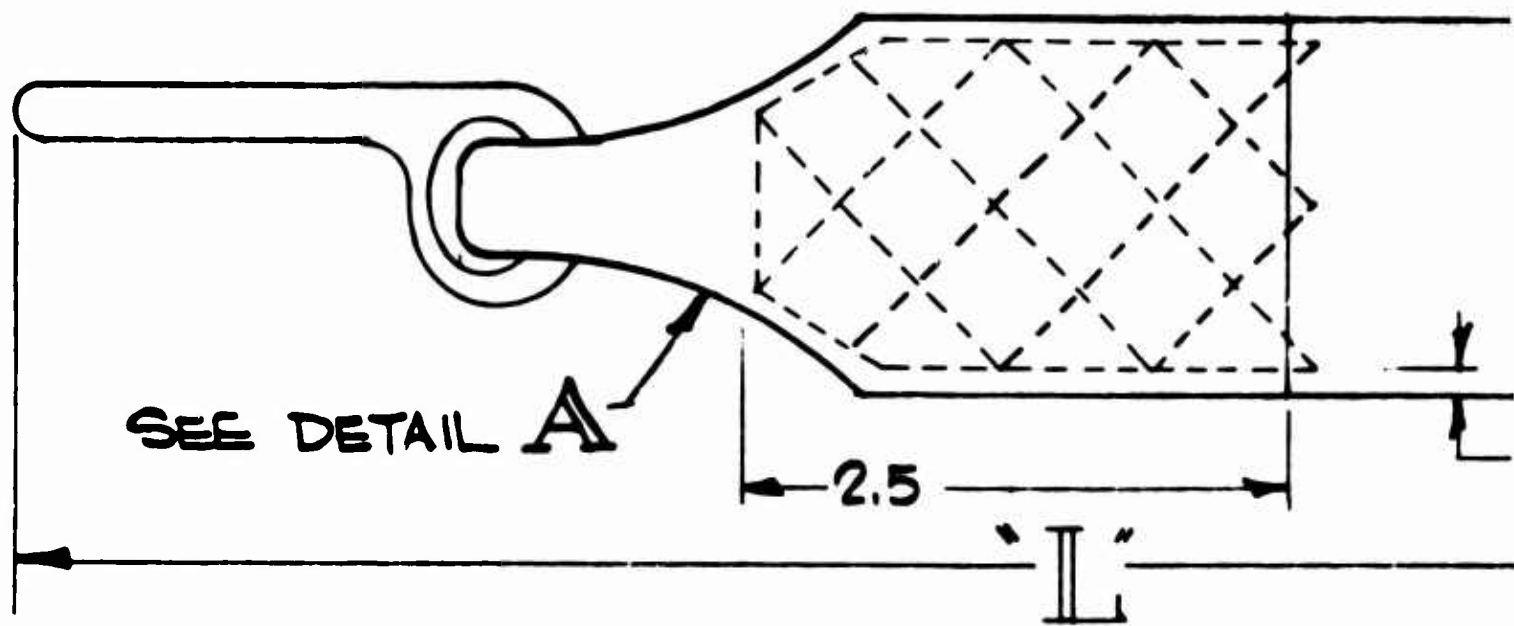
DRILL THRU  $3/16$  (.187) DIA.  
1 HOLE

(-4) SAME AS -3 EXCEPT AS NOTED.

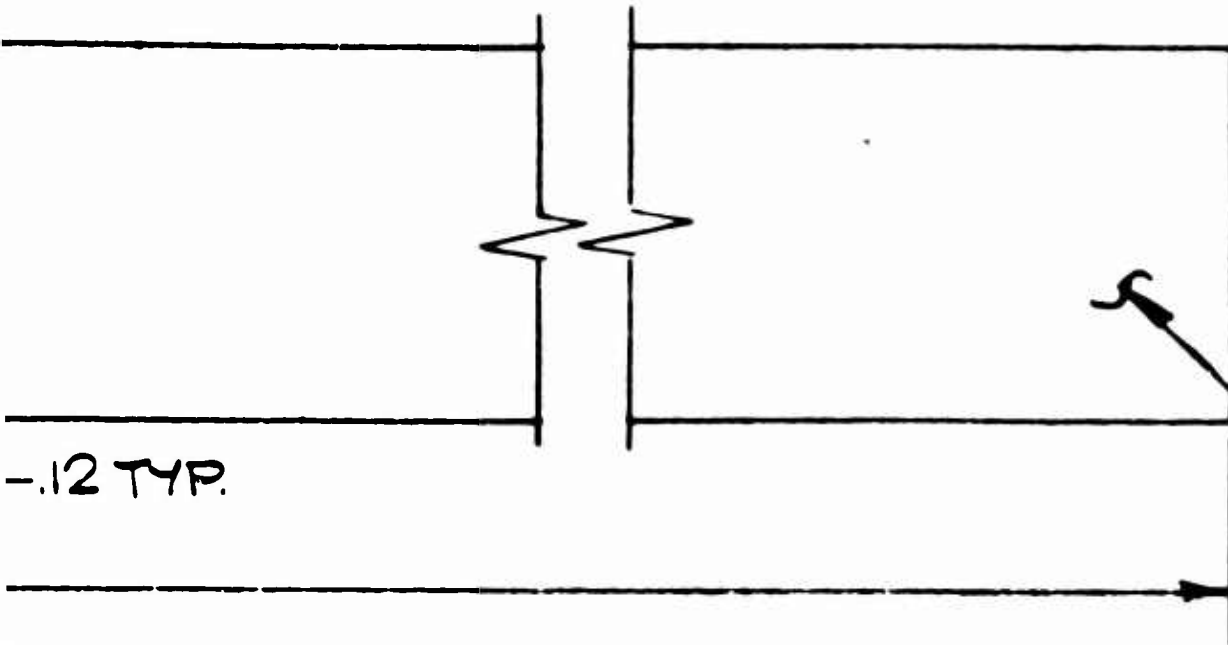
(-3) BEARING BLOCK.

NOTES: 1. BREAK ALL SHARP EDGES ON FINISHED  
BAR STOCK .02 RADIUS

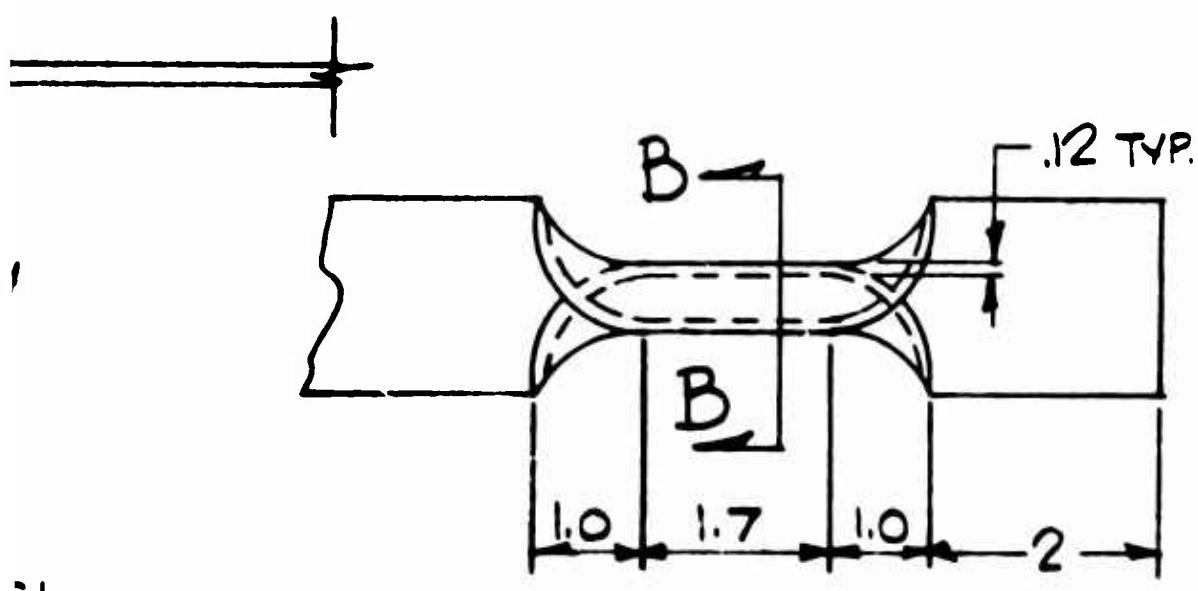
**A**



5. DACRON WEBBING TYPE II PER SPEC. MIL-W-25361  
.065 - .085 THICK x 1.72 WIDE MAX.  
WT. 2.10 OZ. /YD. MAX.
  4. STITCHING SHALL BE WITH NYLON CORD, MIL-T-7807  
NO. 3 SIZE TYPE I OR II, CLASS I, AND SHALL CON  
NOT LESS THAN 6 NOR MORE THAN 8 STITCHES PER  
IN ACCORDANCE WITH SPEC. DDD-S-751 TYPE 301
  3. ENDS OF STITCHING SHALL BE BACK STITCHED 0.5 IN. M
  2. SEAR ENDS OF ALL WEBBING TO PREVENT FRAYING
  1. STITCHING INDICATED BY DOTTED LINES - - - - -
- NOTES:

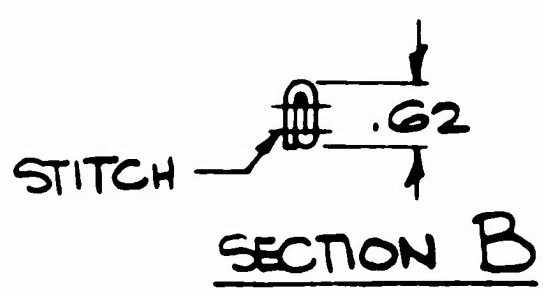


① WEBBING  
SEE NO

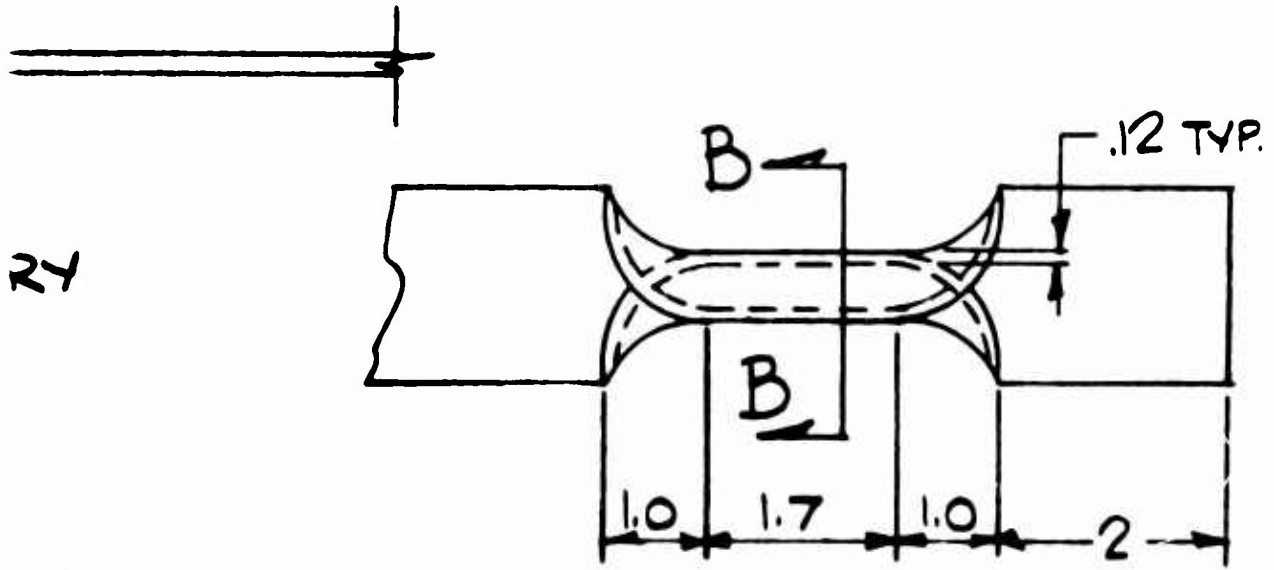
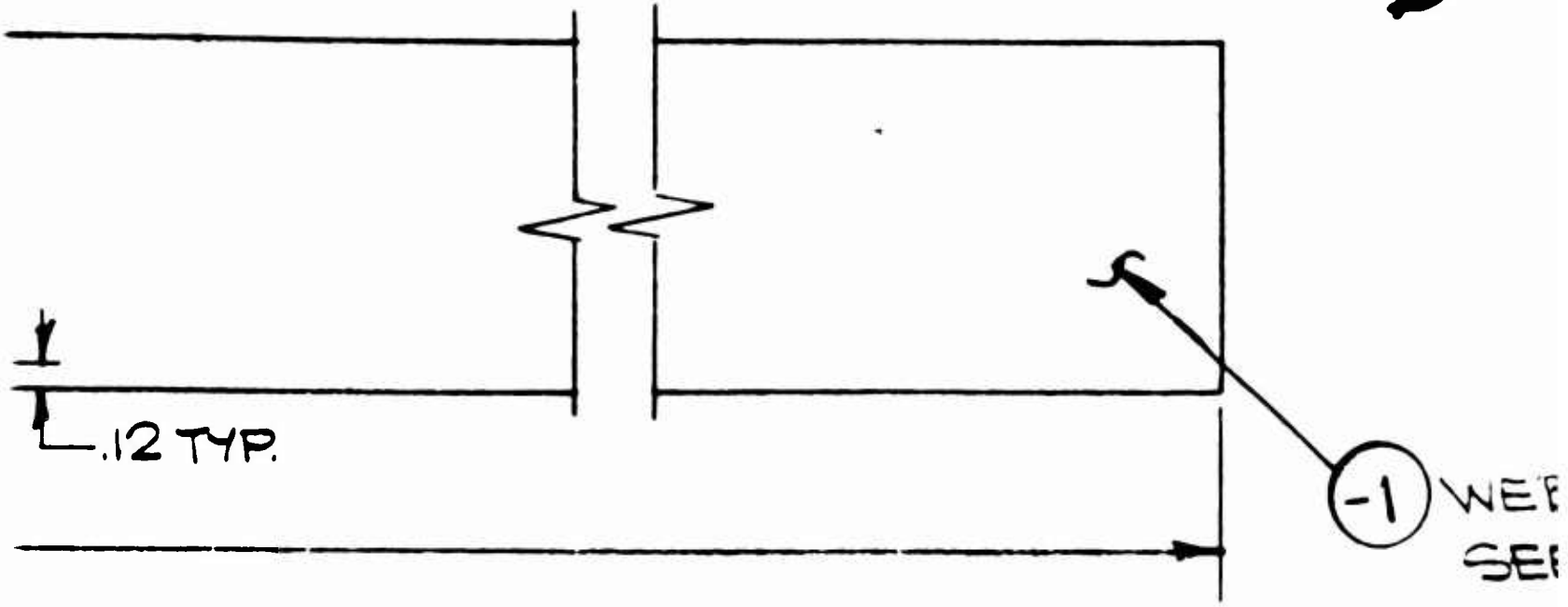


DETAIL A  
HALF SIZE

51  
7B  
MANTAIN  
ER INCH  
MIN.



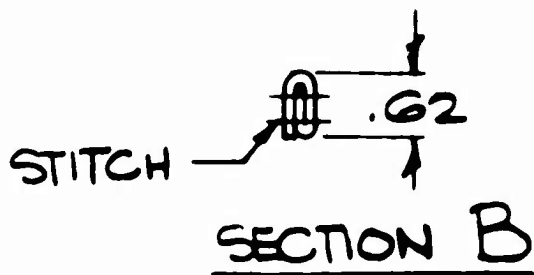
B



361

DETAIL A  
HALF SIZE

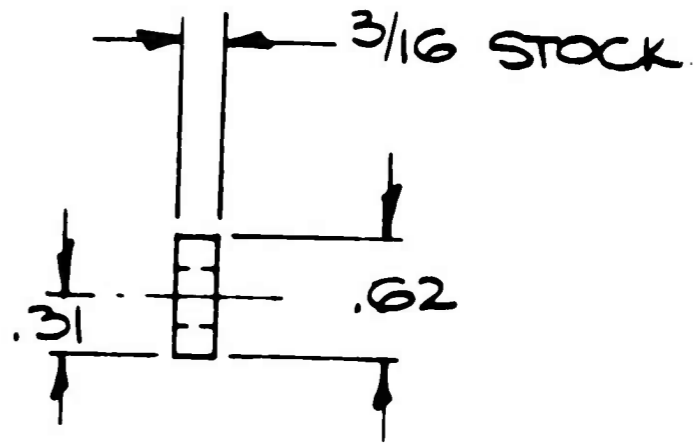
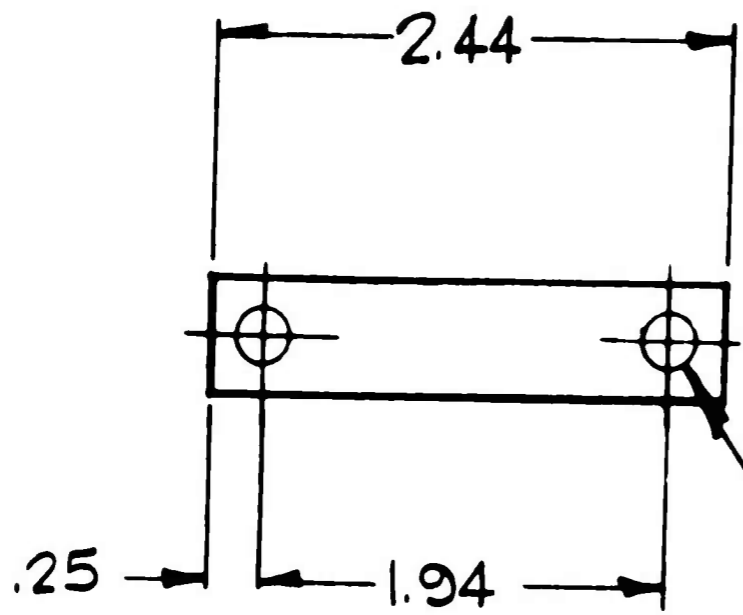
07B  
CONTAIN  
PER INCH  
DI  
MIN.





LENGTH OF STRAP		
AIRCRAFT	"L" DIM.	NEXT ASSEMBLY.
HC-1	18.1	HC-1-14
HU-1	16.5	HU-1-11
AC-1	20.8	AC-1-10

ABBING  
 IE NOTE #3



DRILL THRU 3/16 DIA.  
2 HOLES

1. BREAK SHARP EDGES .02 R.  
NOTE:-