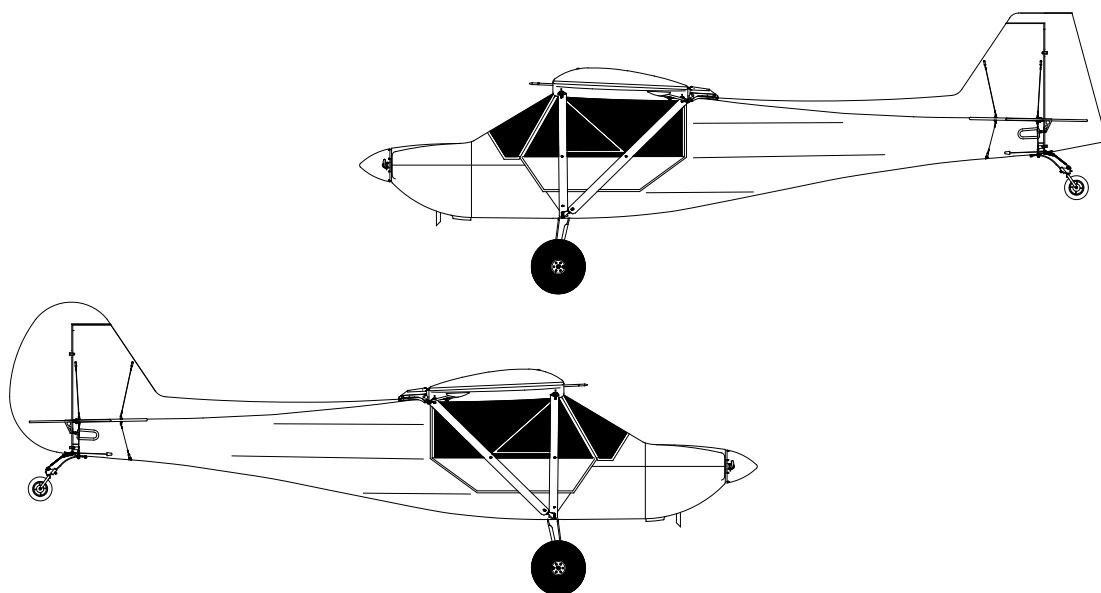




S-7S COURIER

FIGURES MANUAL



Serial Number:

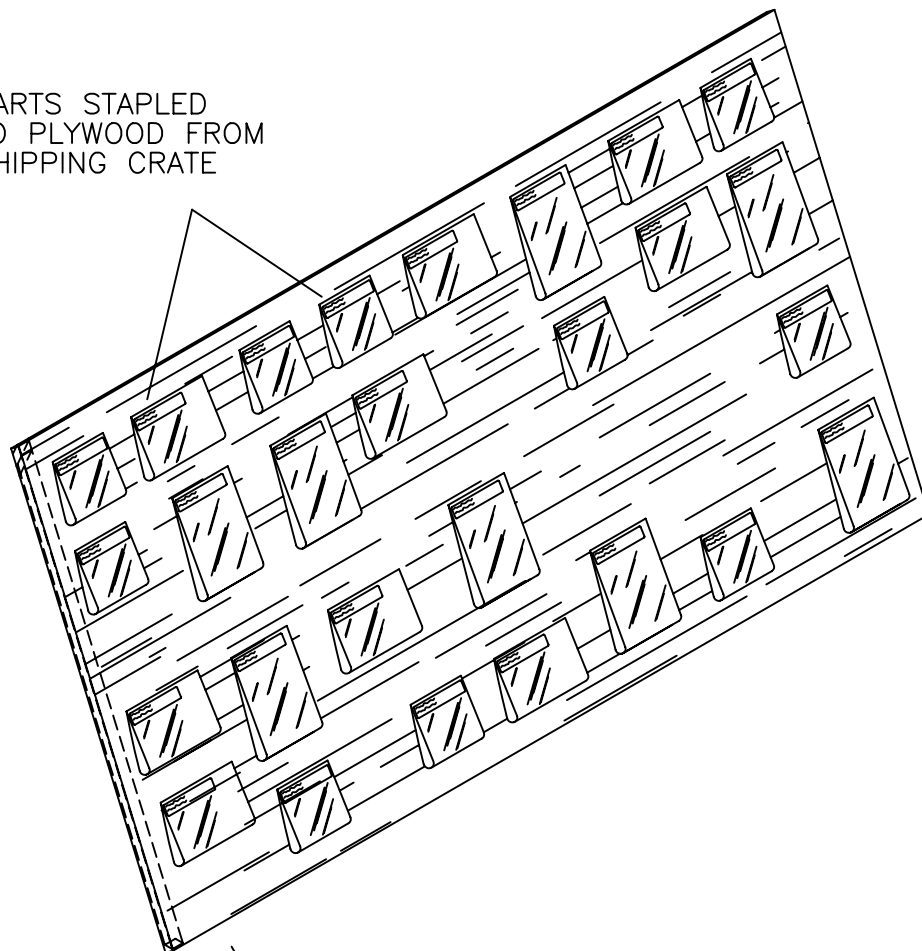
Registration Number:

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RANS DESIGNS
4600 HWY 183 Alt
HAYS, KANSAS, USA 67601
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www.rans.com

09/01/2014

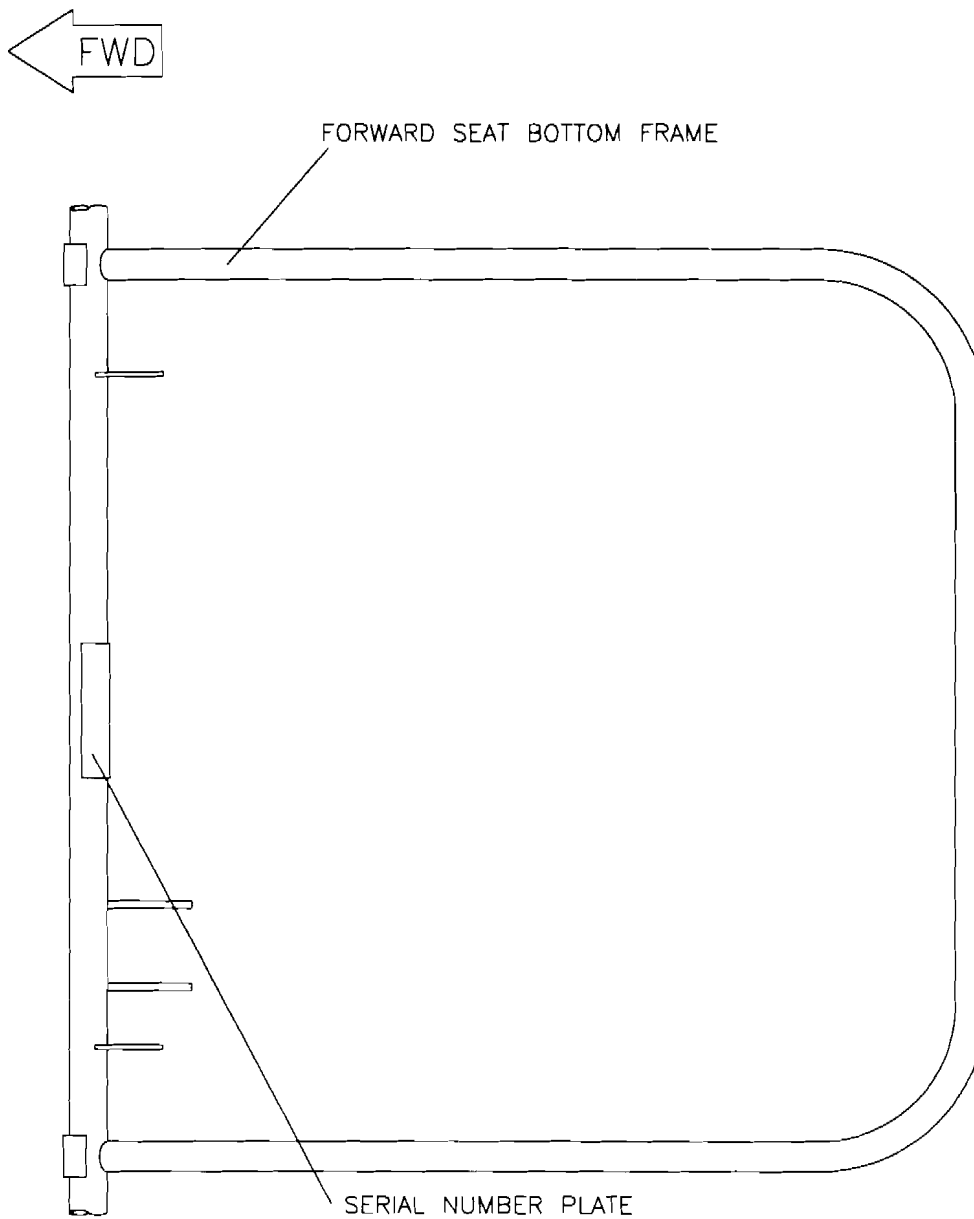
PARTS STAPLED
TO PLYWOOD FROM
SHIPPING CRATE



NAIL BOARD TO
SHOP WALL

MD4363

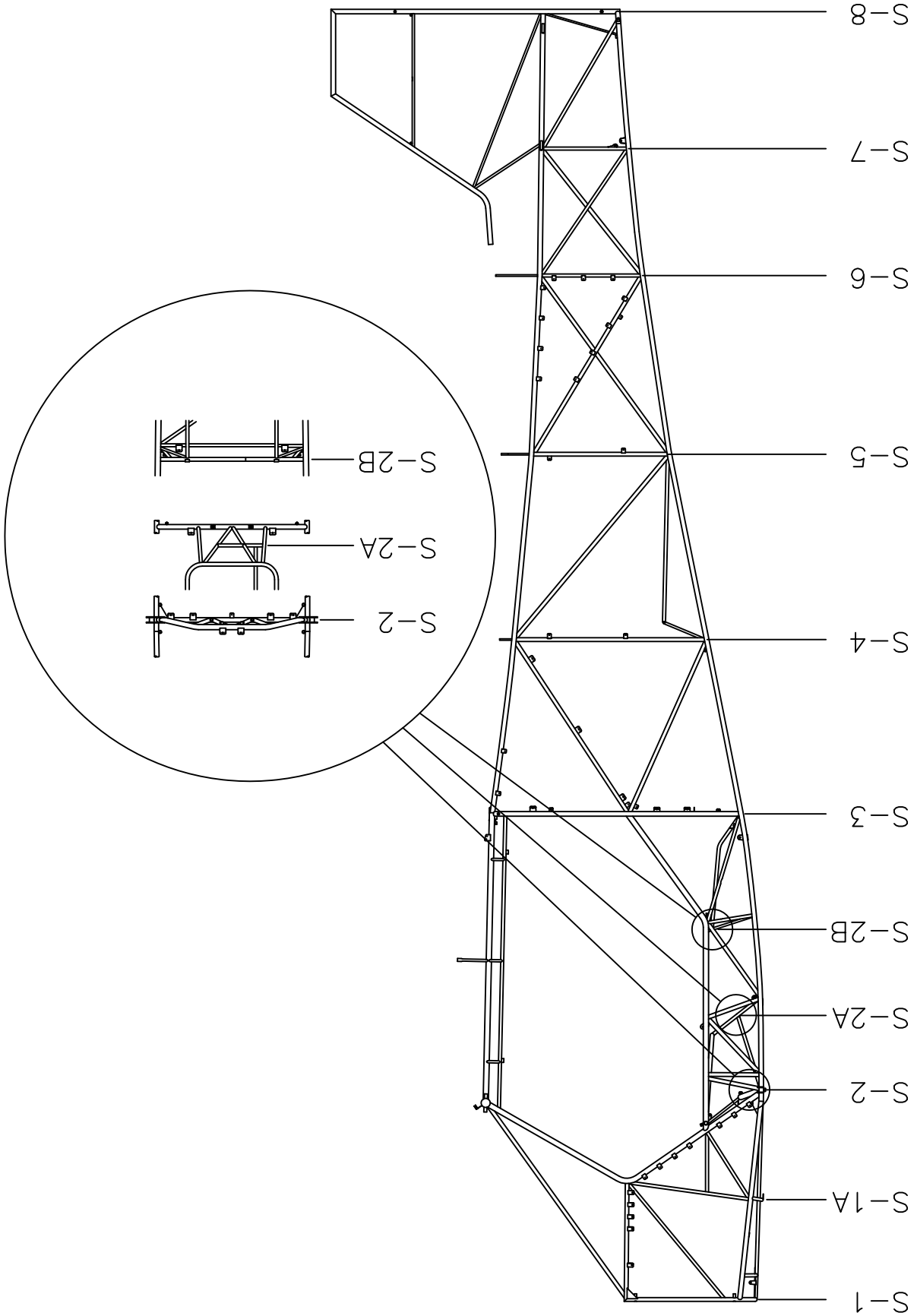
RANS S-7S
ORGANIZATION FIGURE 00-01

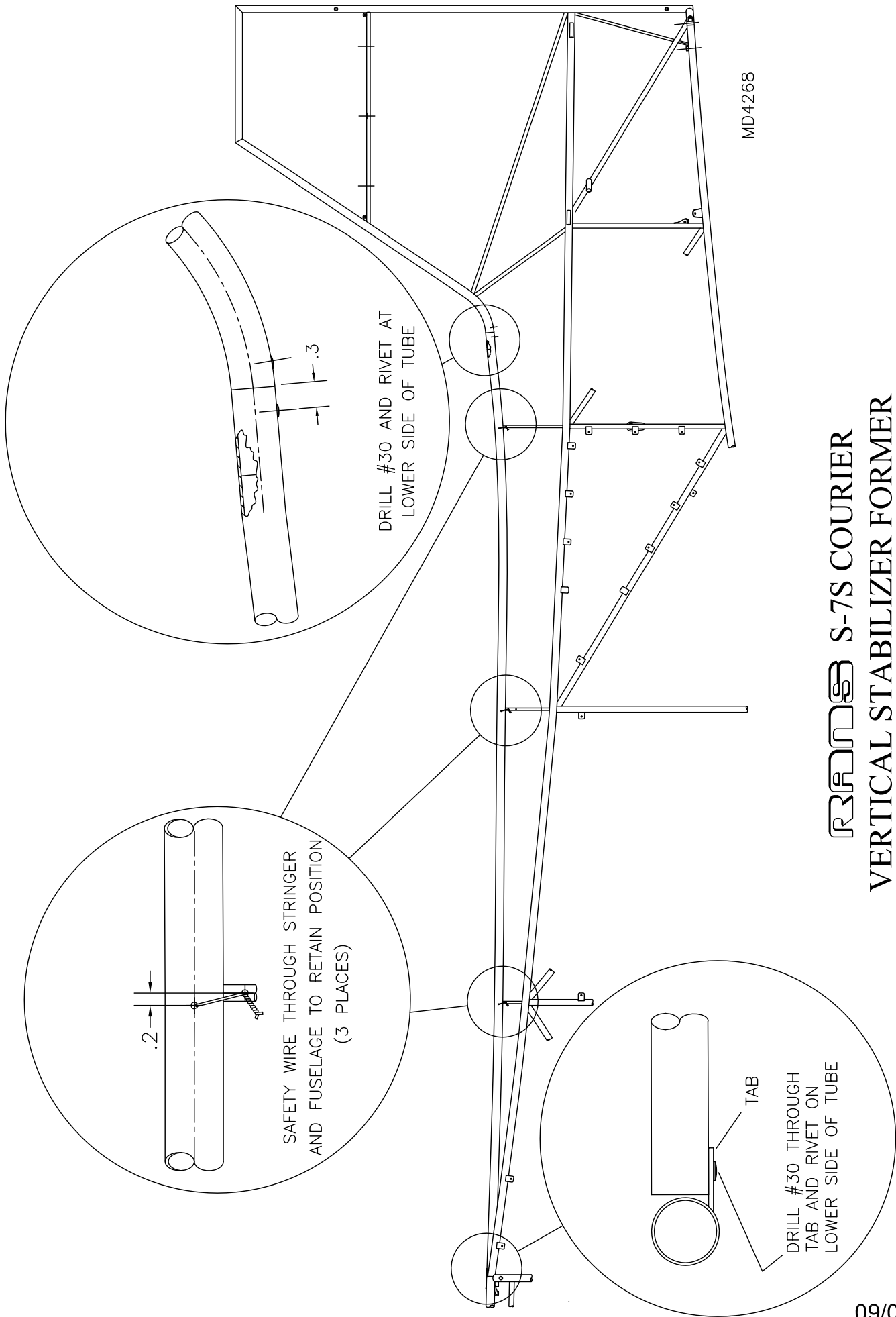


MD4293

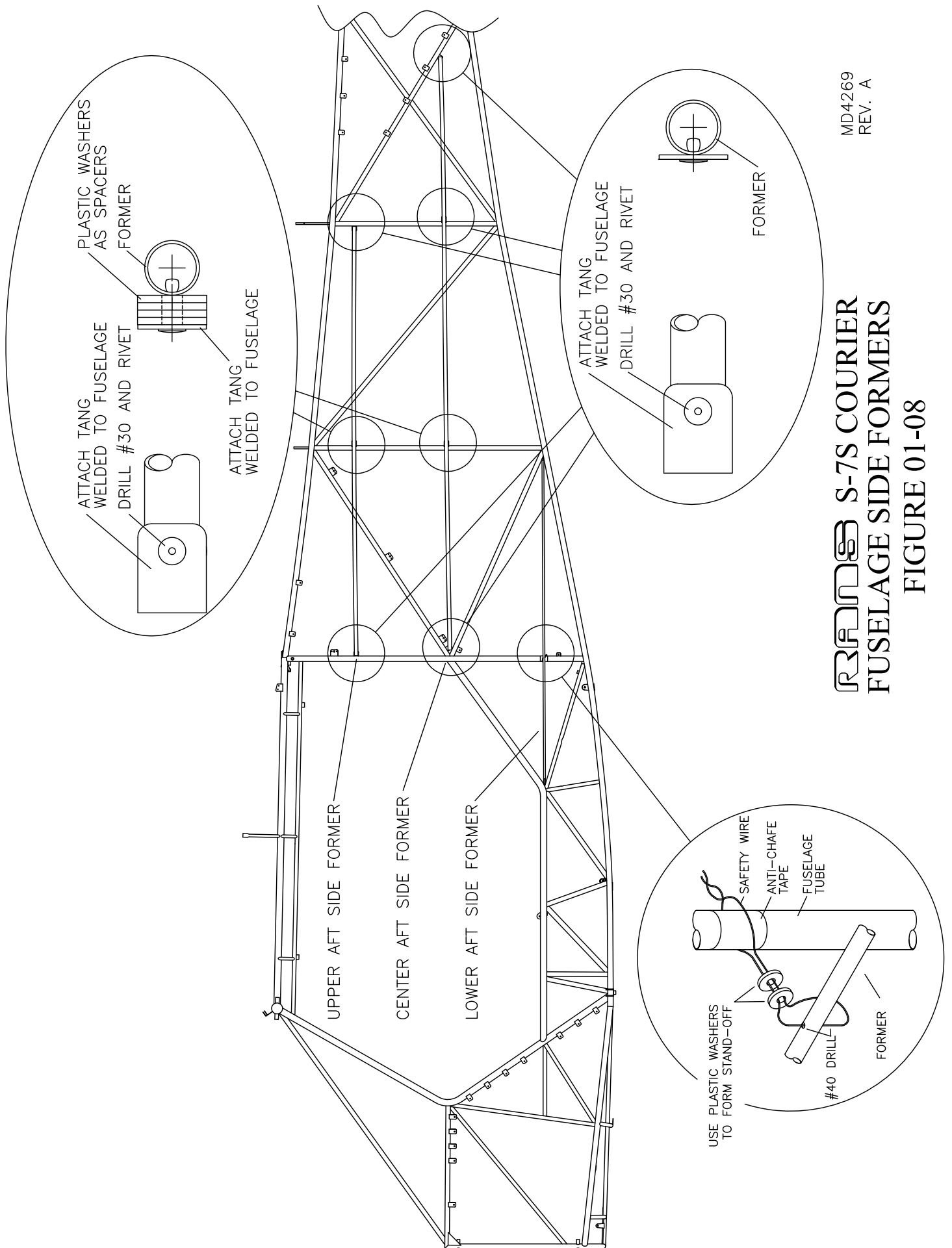
RANS S-7S
SERIAL PLATE LOCATION FIGURE 00-02

RRF S-7S
FUSELAGE STATION IDENTIFICATION
FIGURE 00-03



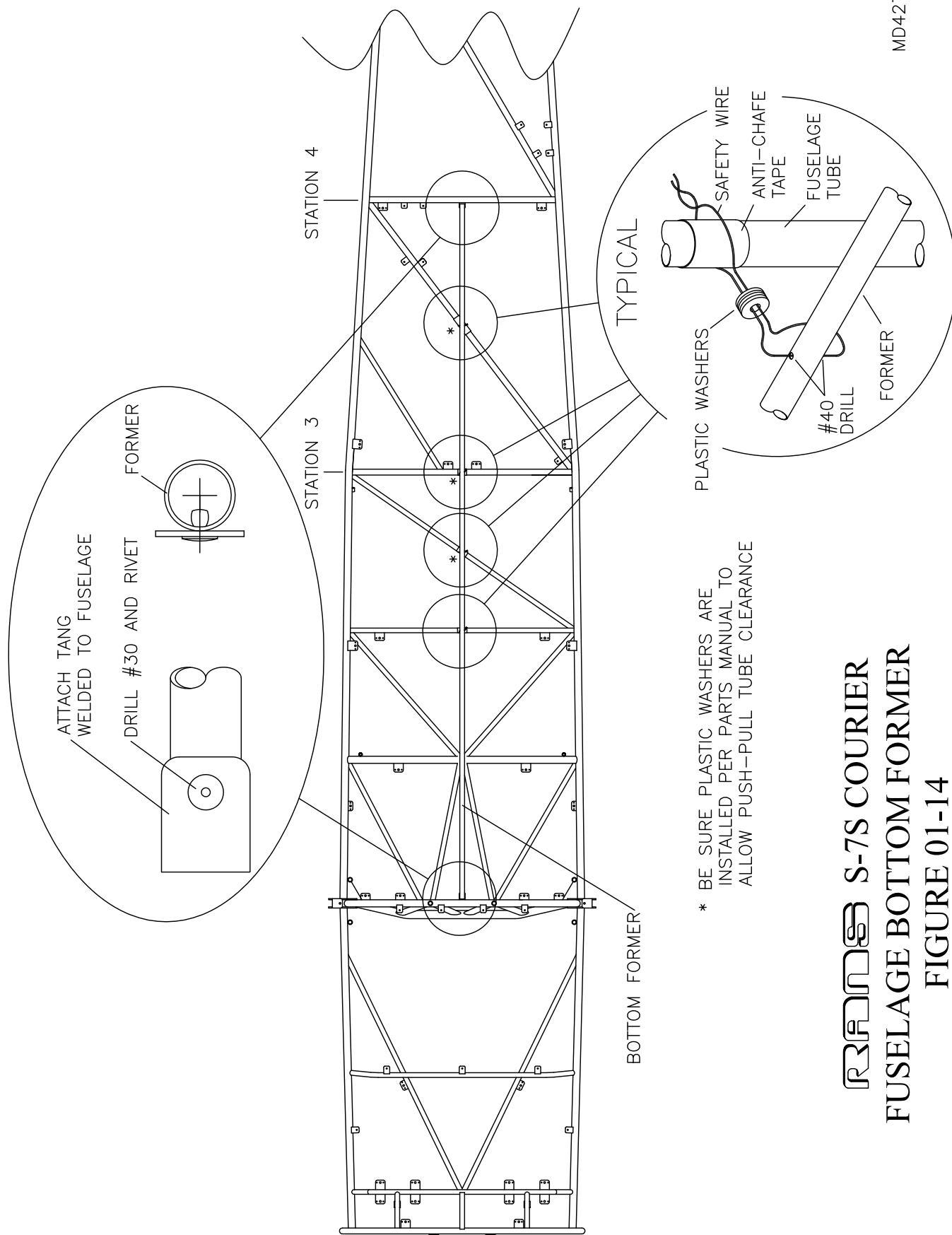


RAMS S-7S COURIER
VERTICAL STABILIZER FORMER
FIGURE 01-01



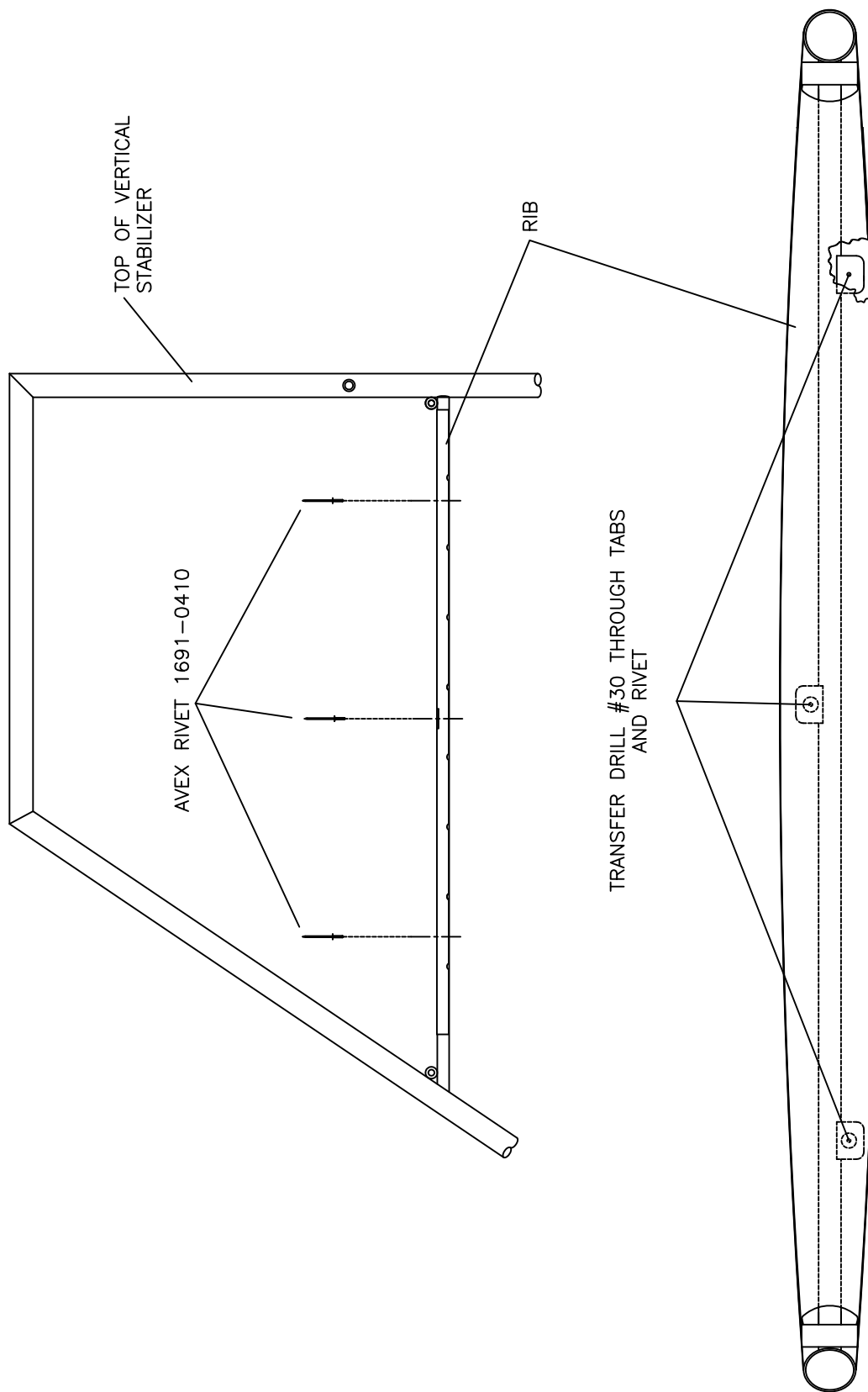
MD4269
REV. A

S-7S COURIER
FUSELAGE SIDE FORMERS
FIGURE 01-08



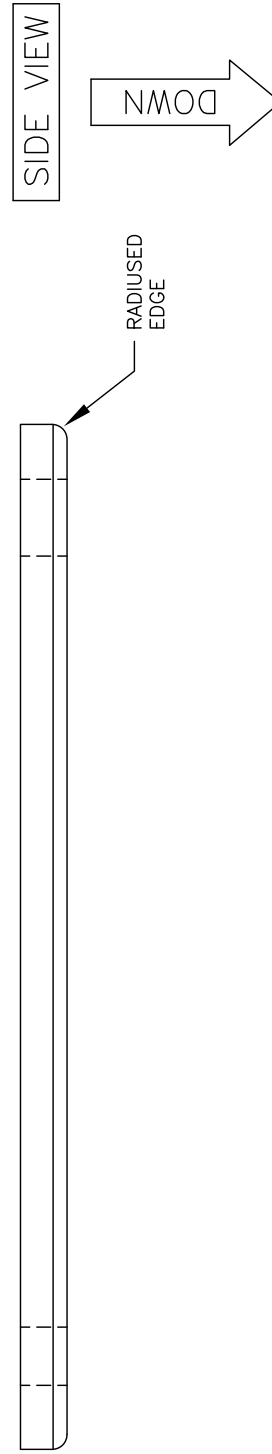
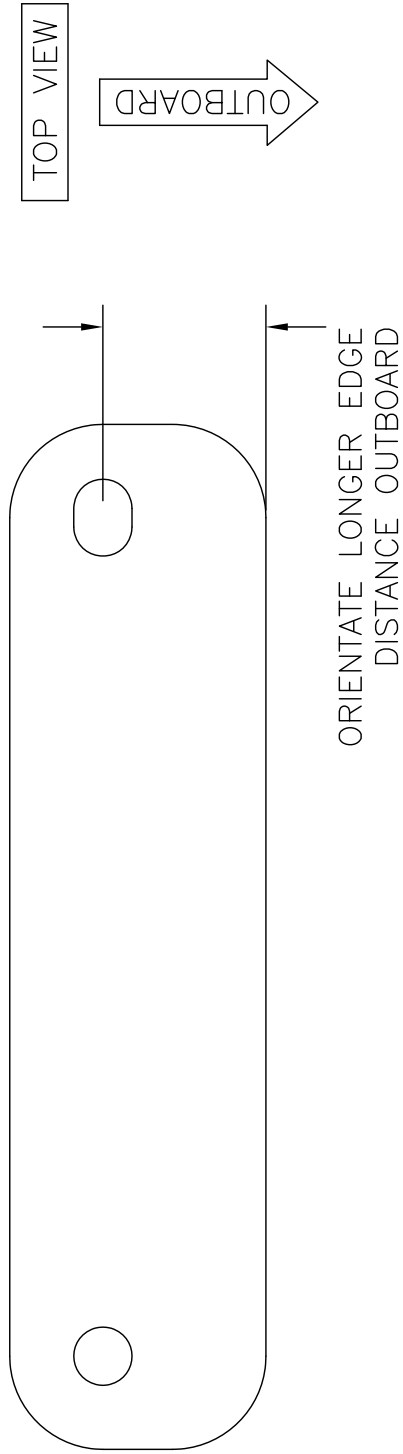
MD4270

S-7S COURIER
FUSELAGE BOTTOM FORMER
FIGURE 01-14



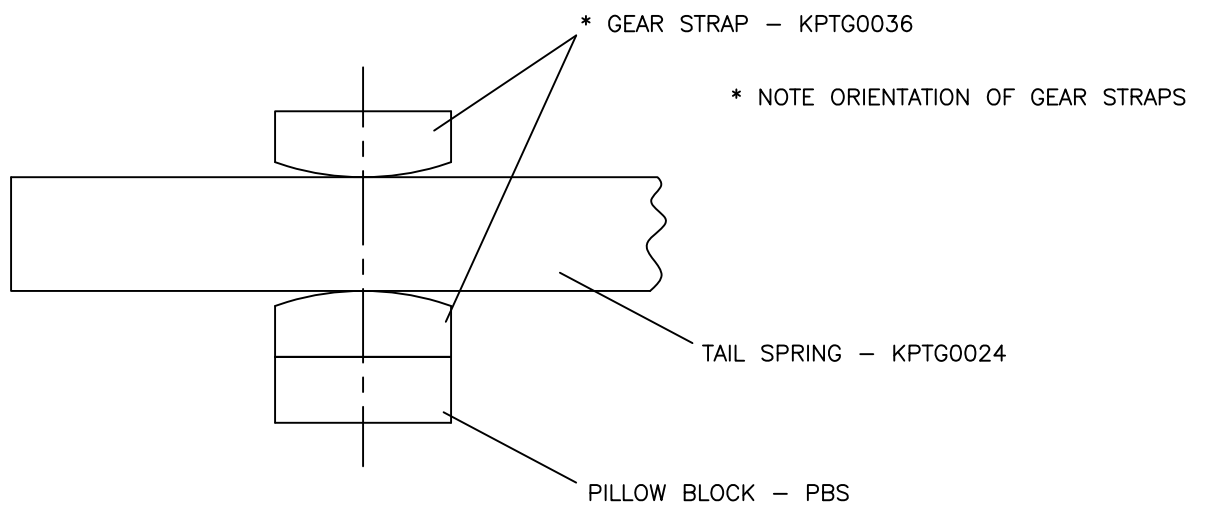
RRR S-7S COURIER
VERTICAL STABILIZER RIB
FIGURE 01-17

MD4282



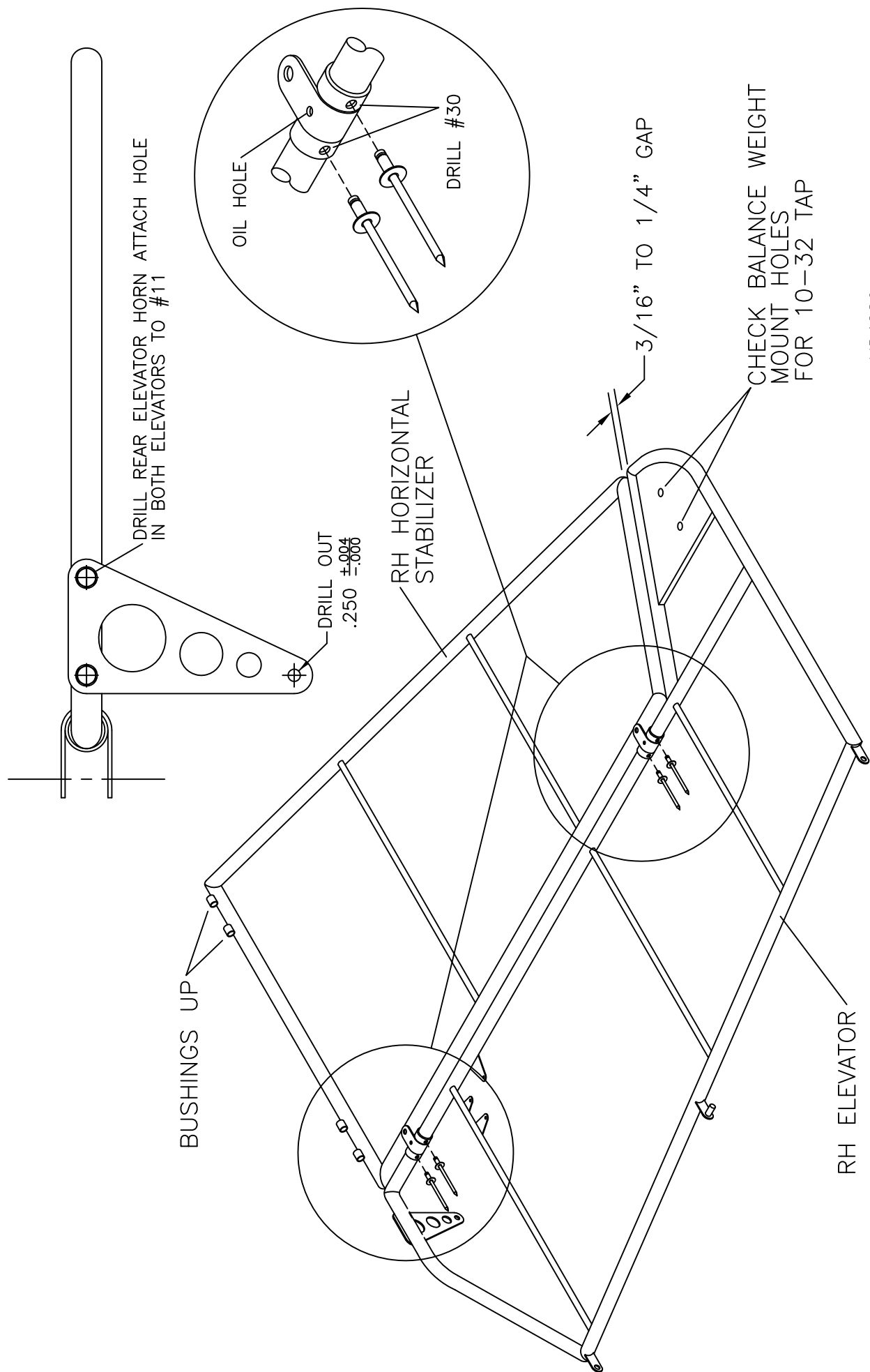
MD5600
REV. - ORIG

S-7S COURIER TOP MAIN GEAR CLAMP PLATE ORIENTATION FIGURE 01A-05



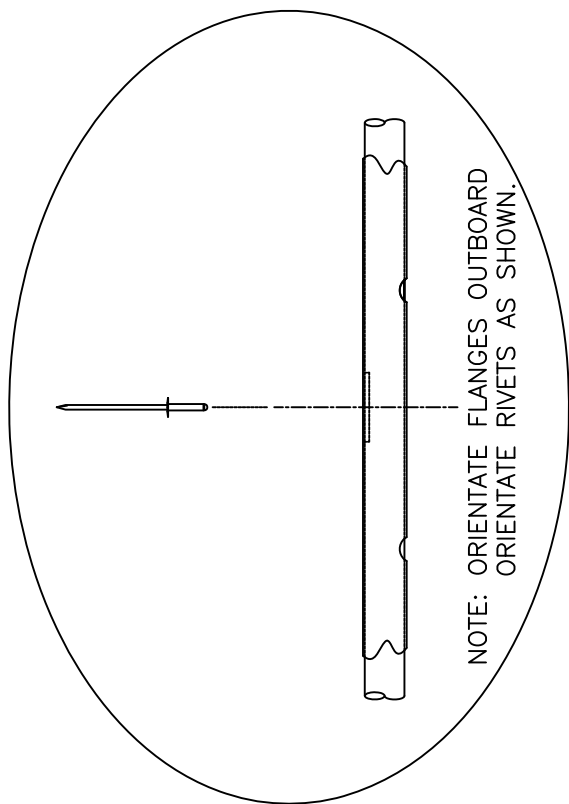
MD5054

RANS S-7S COURIER
TAIL SPRING INSTALLATION
FIGURE 01B-02

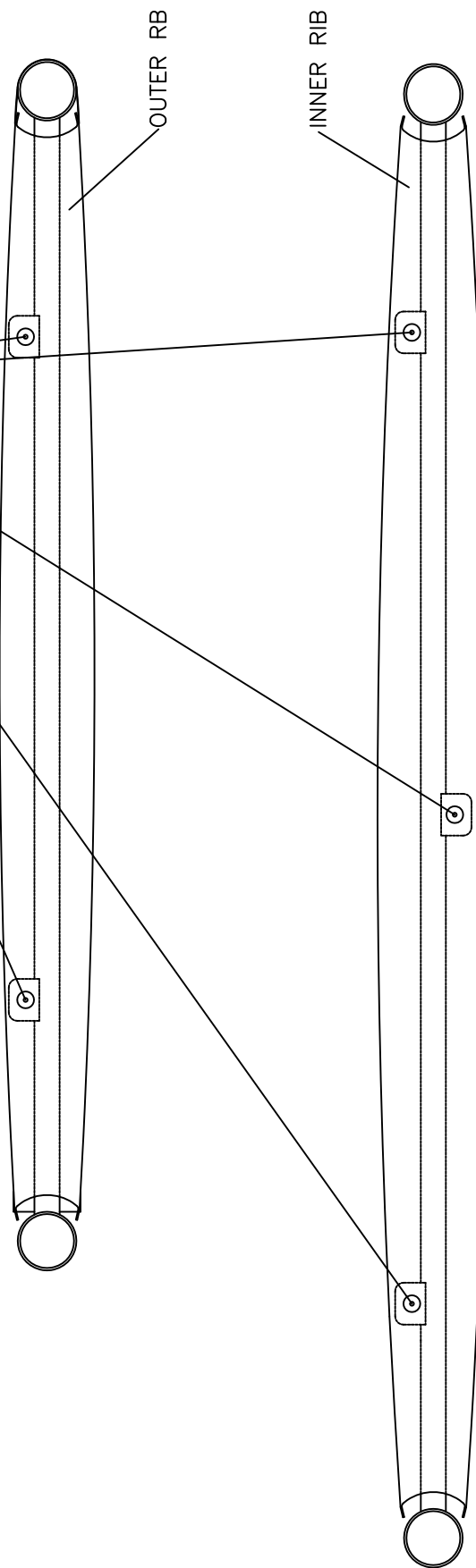


MD4286

RRM S-7S COURIER **ELEVATOR HINGE ALIGNMENT** **FIGURE 01C-01**



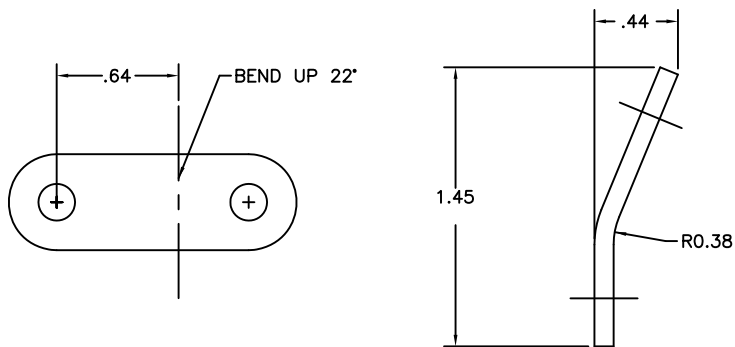
TRANSFER DRILL #30 THROUGH TABS



RAMS S-7S COURIER
HORIZONTAL STABILIZER RIBS
FIGURE 01C-11

MD4285

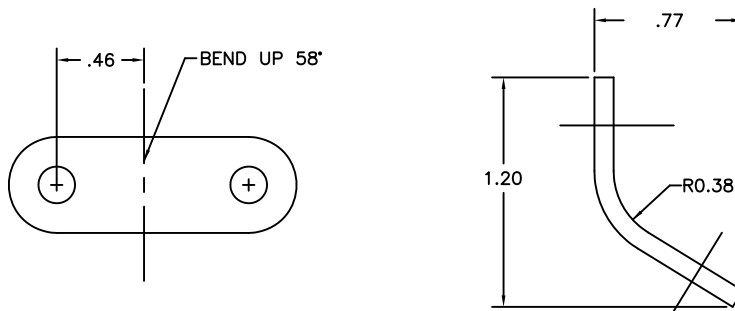
1:1



BEND PROFILE

ATTACH TANG
HORIZONTAL STABILIZER BOTTOM
MAKE (6)

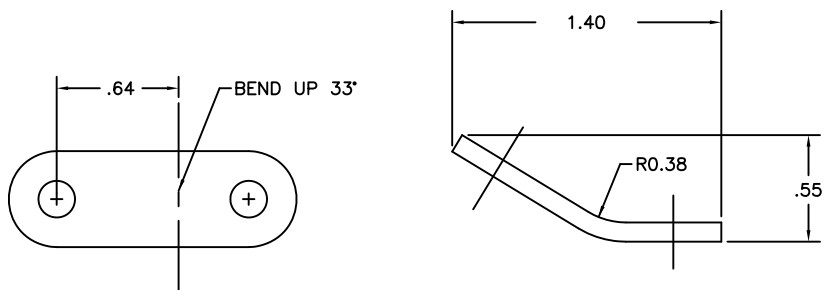
1:1



BEND PROFILE

ATTACH TANG
VERTICAL FIN MAKE (4)

1:1

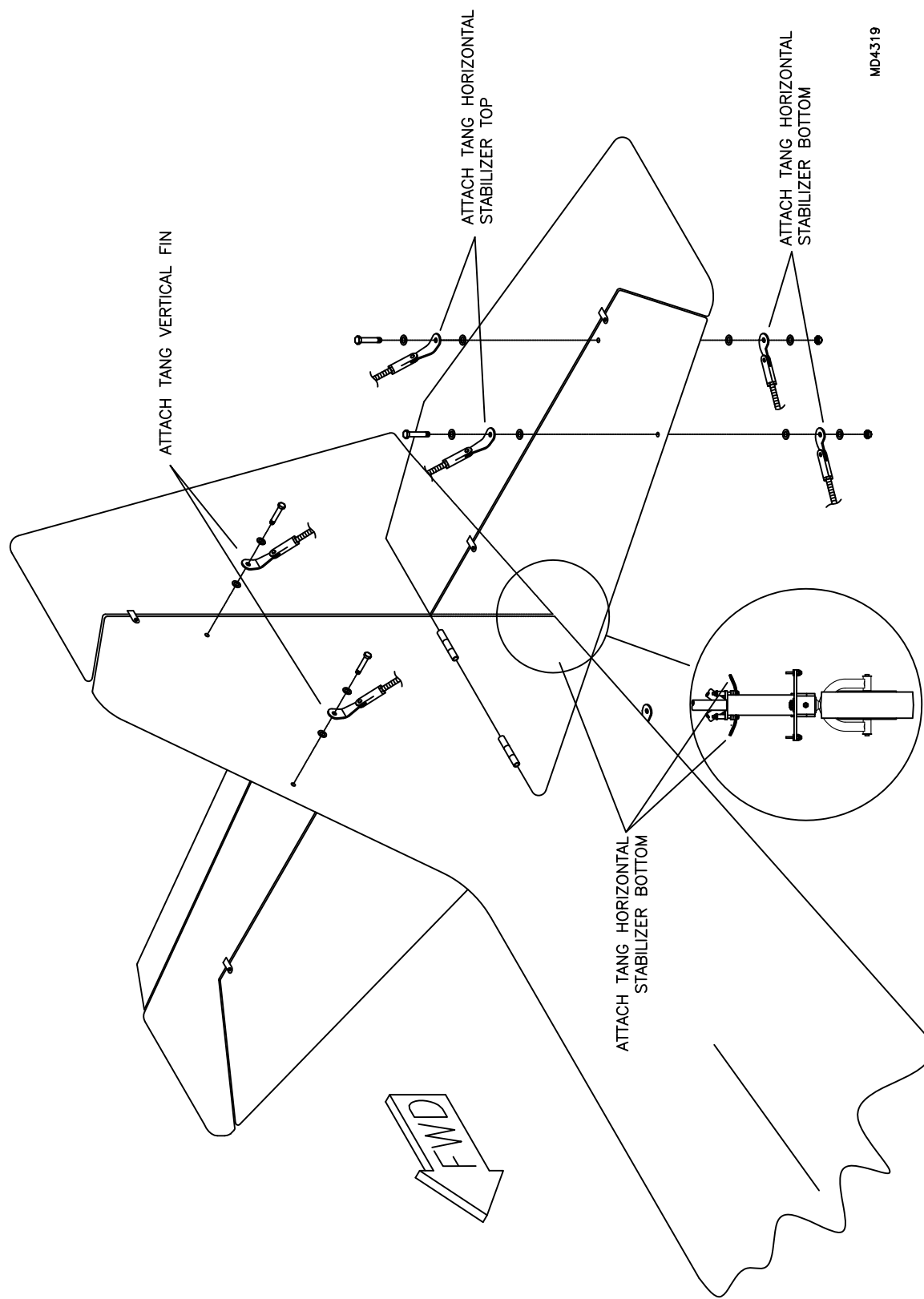


ATTACH TANG
HORIZONTAL STABILIZER TOP
MAKE (4)

MD4313

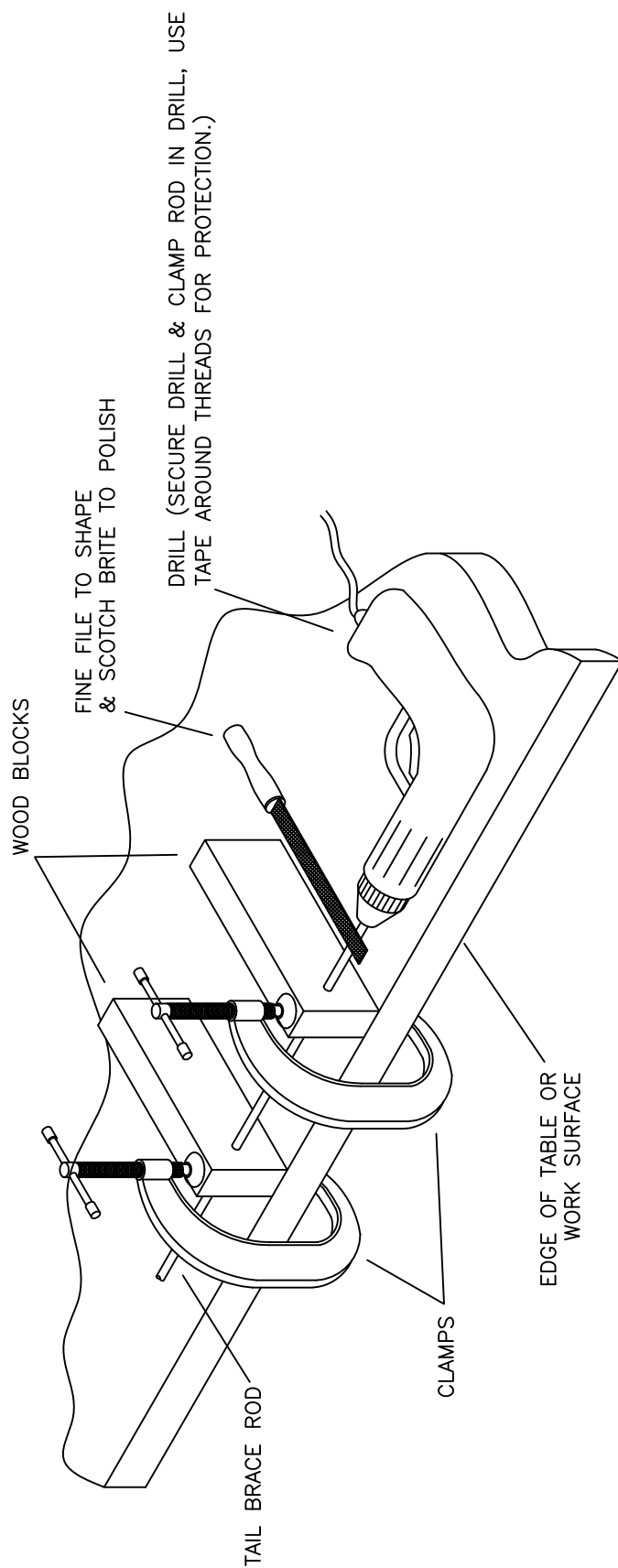
RANS S-7S COURIER
MODIFIED TANGS FOR
TAIL BRACE ROD ATTACH
FIGURE 01C-15

09/01/2014

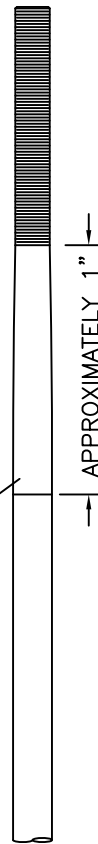


MD4319

RRAMES S-7S COURIER
TANG LOCATIONS FOR TAIL BRACE RODS
FIGURE 01C-16

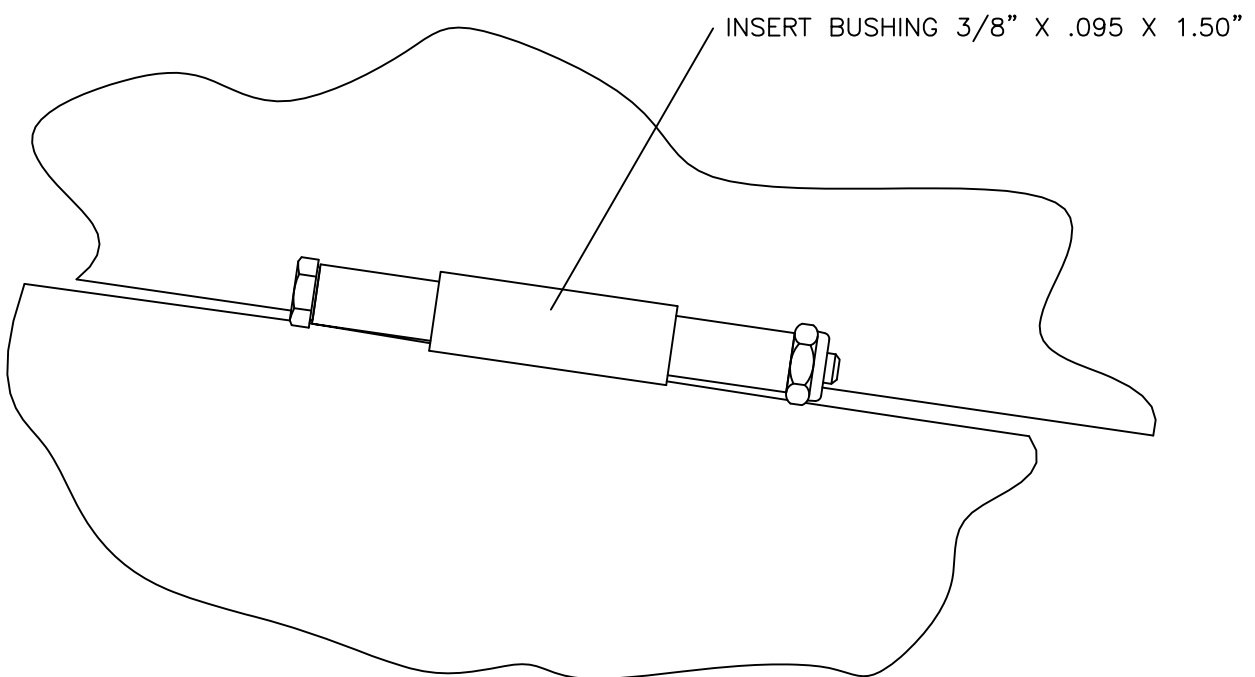


SMOOTH TRANSITION AREA FROM FULL DIA.
TO THREAD DIA. - NO ABRUPT CHANGES IN
CROSS SECTION.



RRMS S-7S COURIER
TAIL BRACE ROD MODIFICATION
FIGURE 01C-17

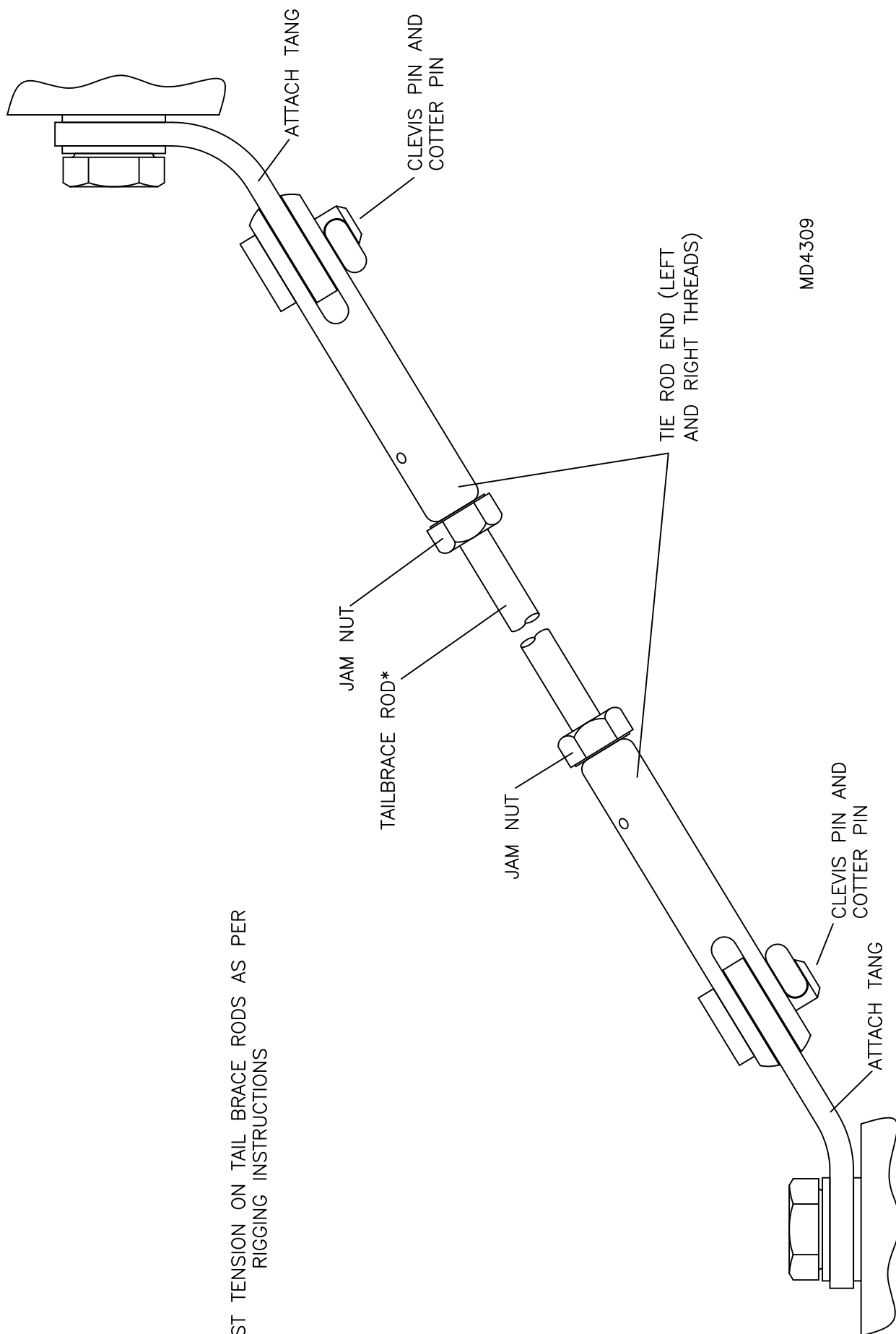
MD4464



MD4308

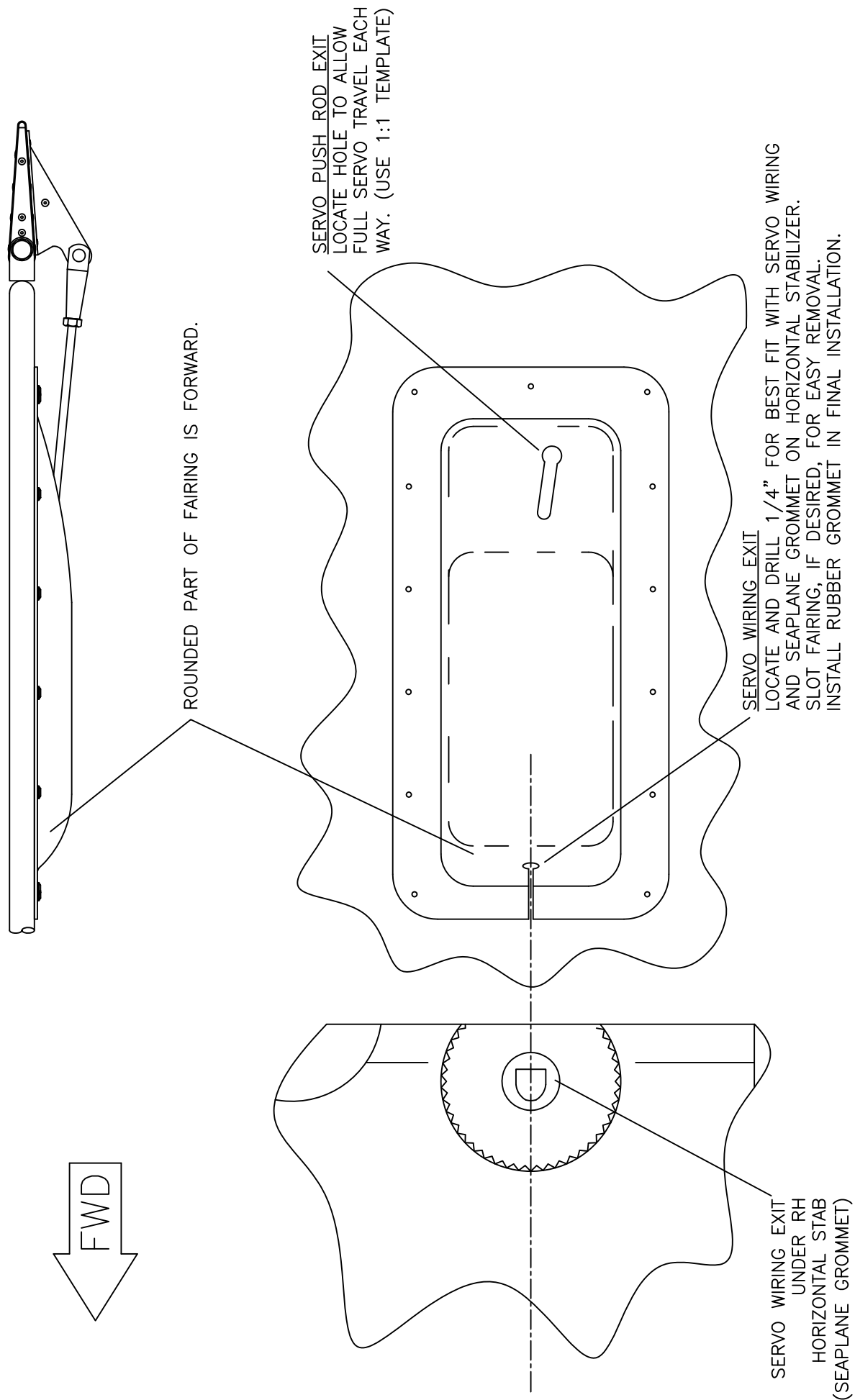
RANS S-7S COURIER
HORIZONTAL STABILIZER TO FUSELAGE ATTACH
FIGURE 01C-18

* ADJUST TENSION ON TAIL BRACE RODS AS PER RIGGING INSTRUCTIONS



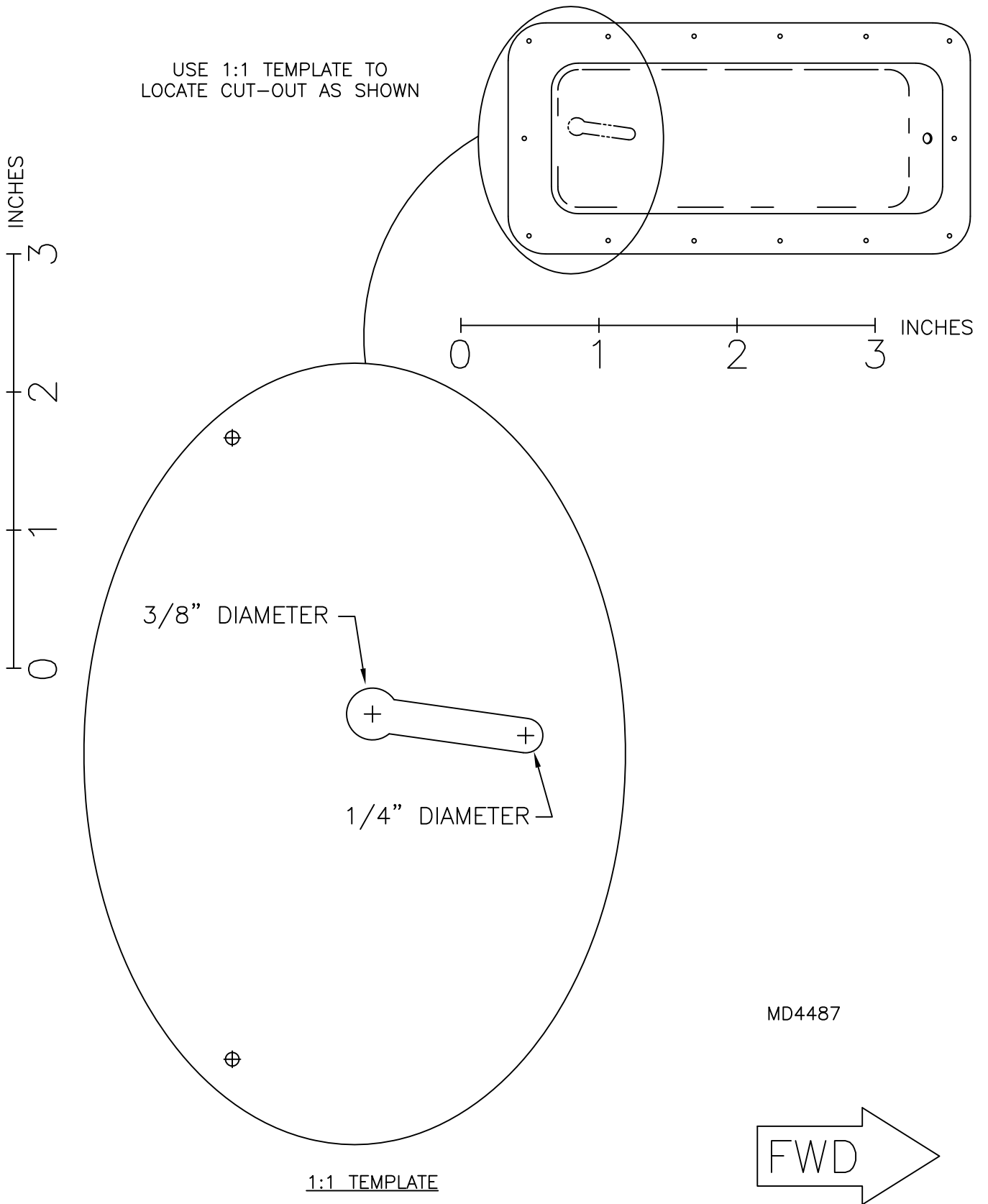
MD4309

S-7S COURIER
HORIZONTAL TAIL BRACING (TYPICAL)
FIGURE 01C-20

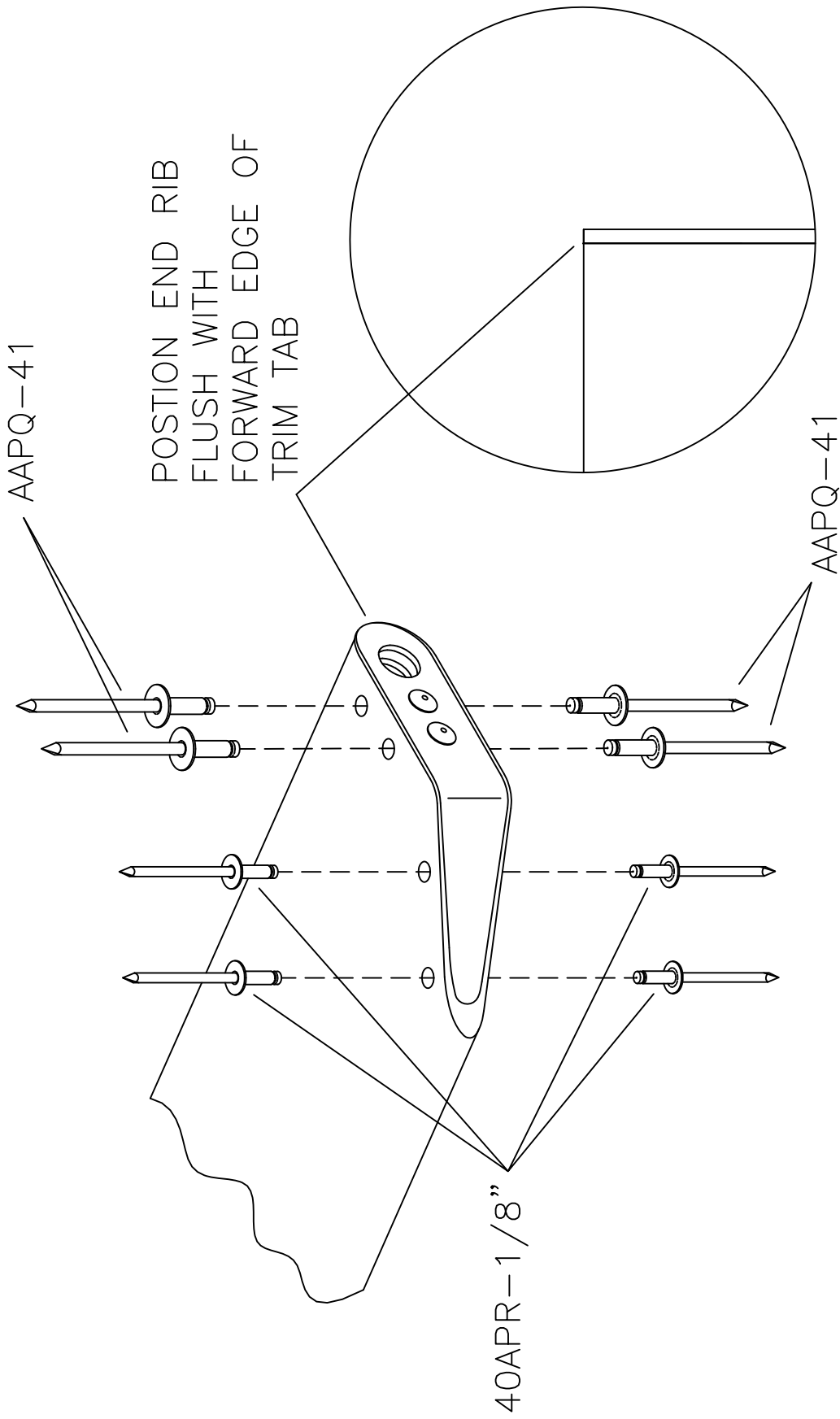


RAMS S-7S COURIER
INSTALLATION OF TRIM EXIT FAIRING
FIGURE 01C-30

MD4316

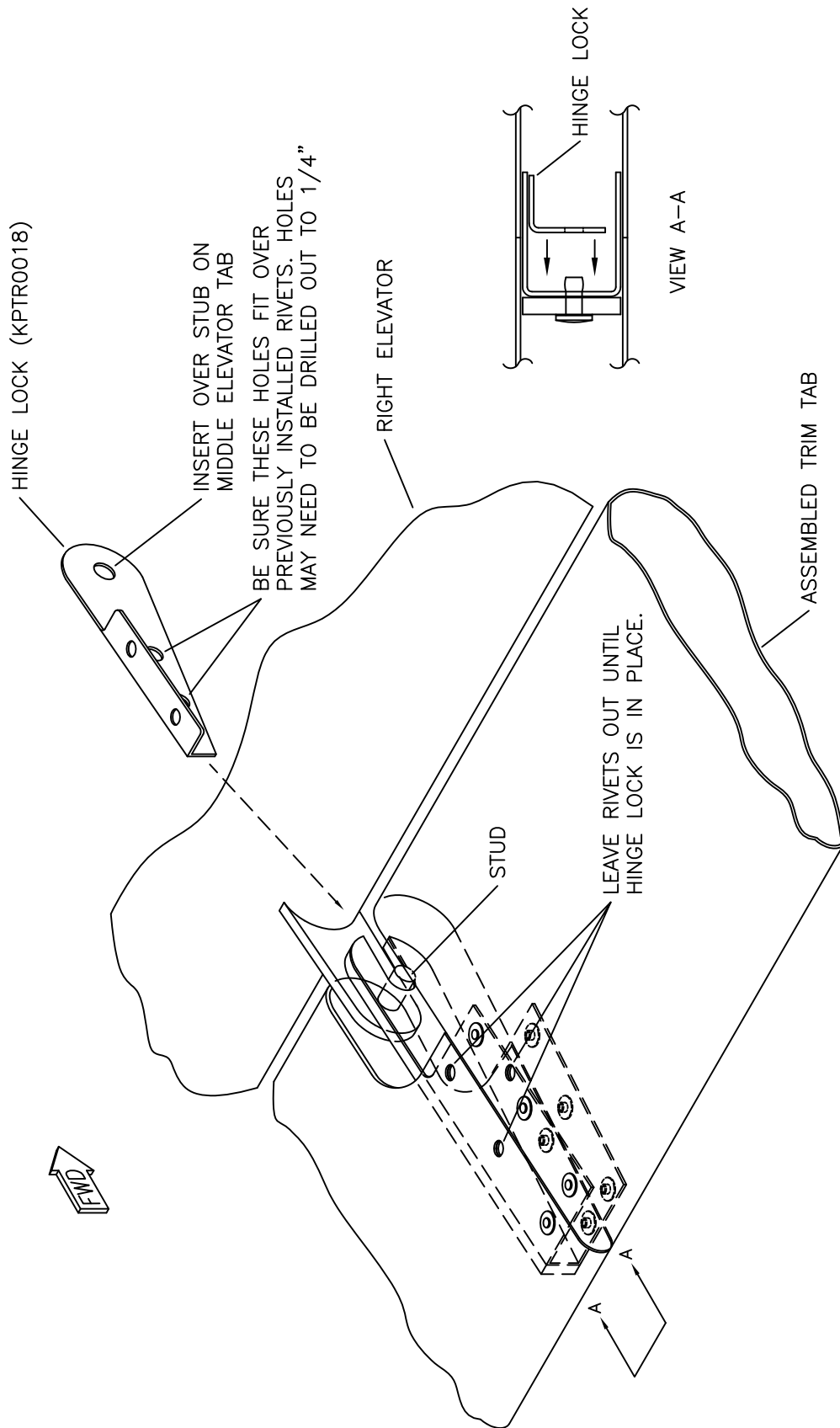


RANS S-7S COURIER
TRIM EXIT FAIRING - SERVO PUSH ROD EXIT
FIGURE 01C-34



RAM S-7S COURIER
TRIM TAB AND RIBS
FIGURE 01D-04

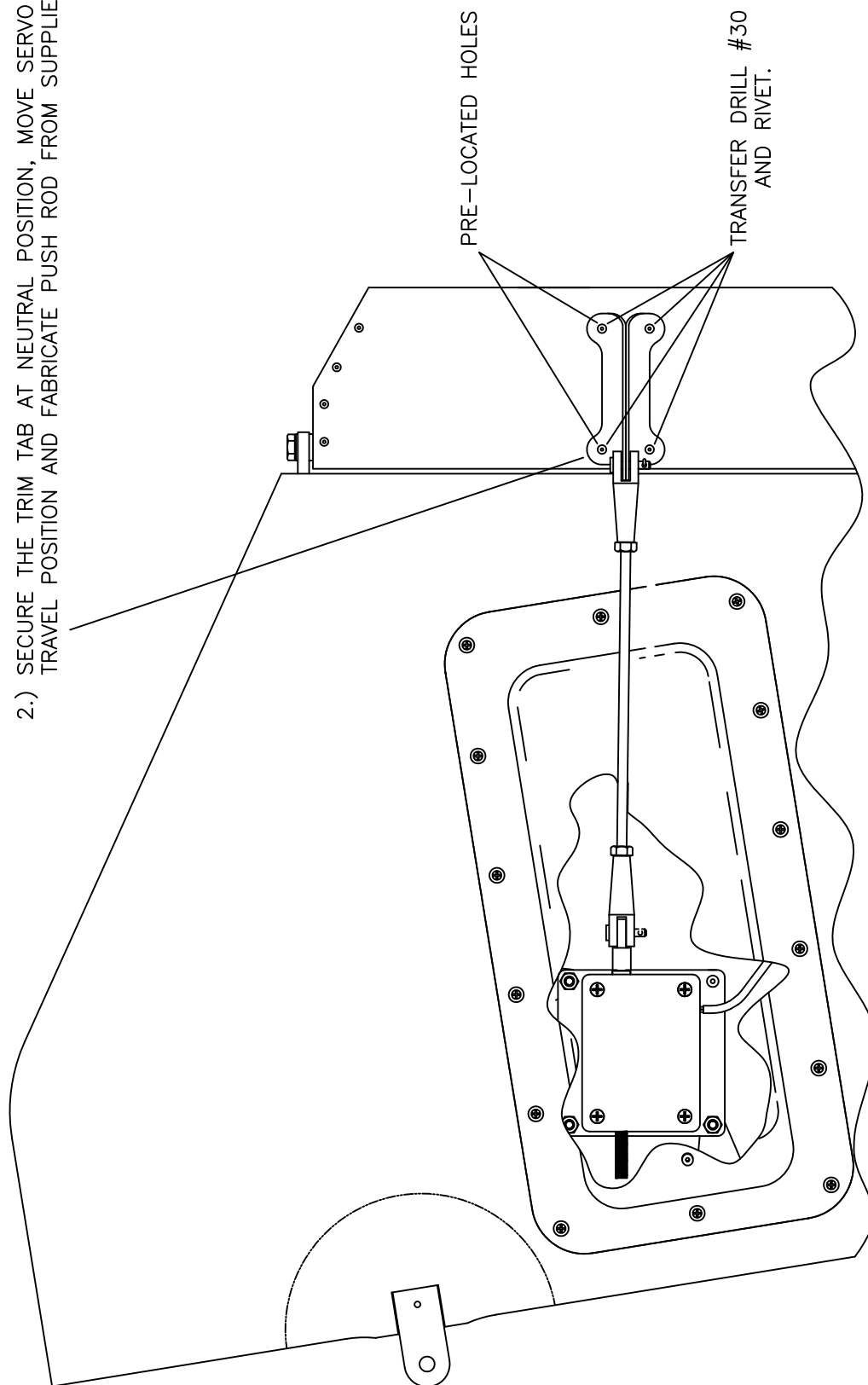
MD4306



MD4297

S-7S COURIER
TRIM TAB CENTER RIB AND HINGE LOCK
FIGURE 01D-08

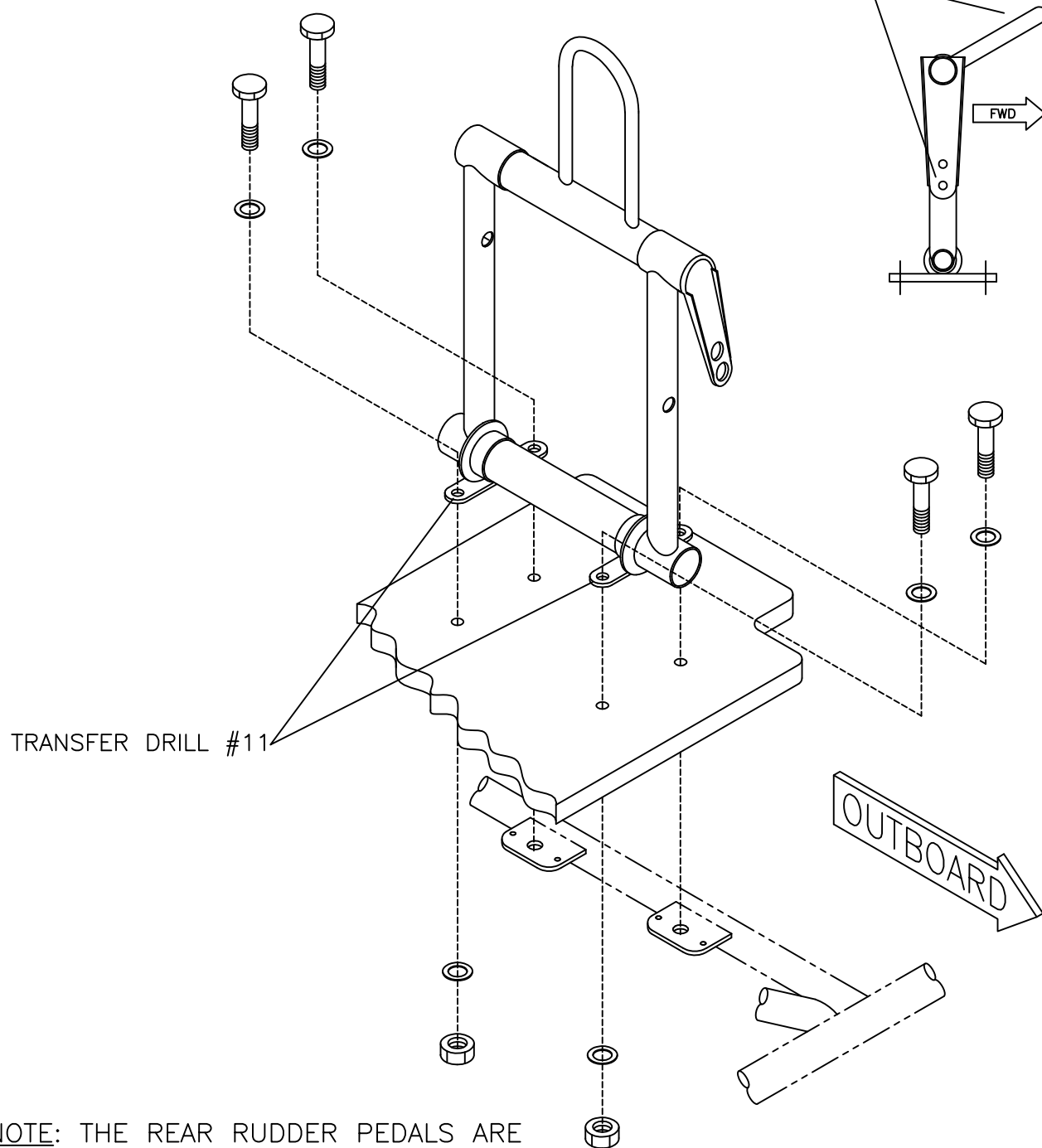
- 1.) LOCATE TRIM TAB HORNS USING TWO (2) PRE-LOCATED HOLES IN INBOARD TRIM TAB. TRANSFER DRILL ALL HOLES #30 AND RIVET.
- 2.) SECURE THE TRIM TAB AT NEUTRAL POSITION, MOVE SERVO TO HALF TRAVEL POSITION AND FABRICATE PUSH ROD FROM SUPPLIED MATERIAL.



RFA S-7S COURIER
TRIM TAB HORN INSTALLATION
FIGURE 01D-18

MD4317

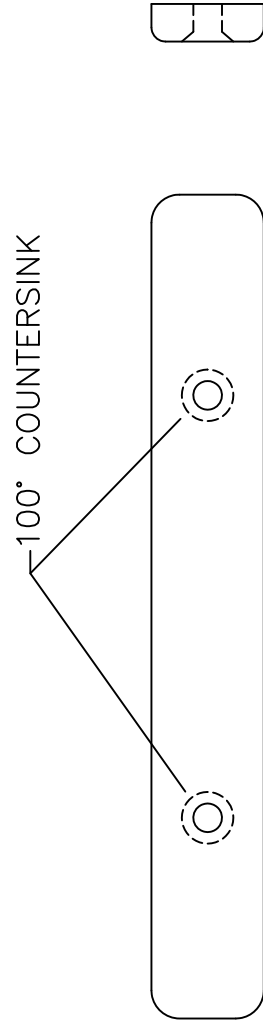
BRAKE PEDAL LOOP
WILL BE FORWARD WHEN
BRAKE TANG IS VERTICAL



RANS S-7S COURIER
REAR RUDDER PEDAL AND FLOORBOARD
FIGURE 01E-08

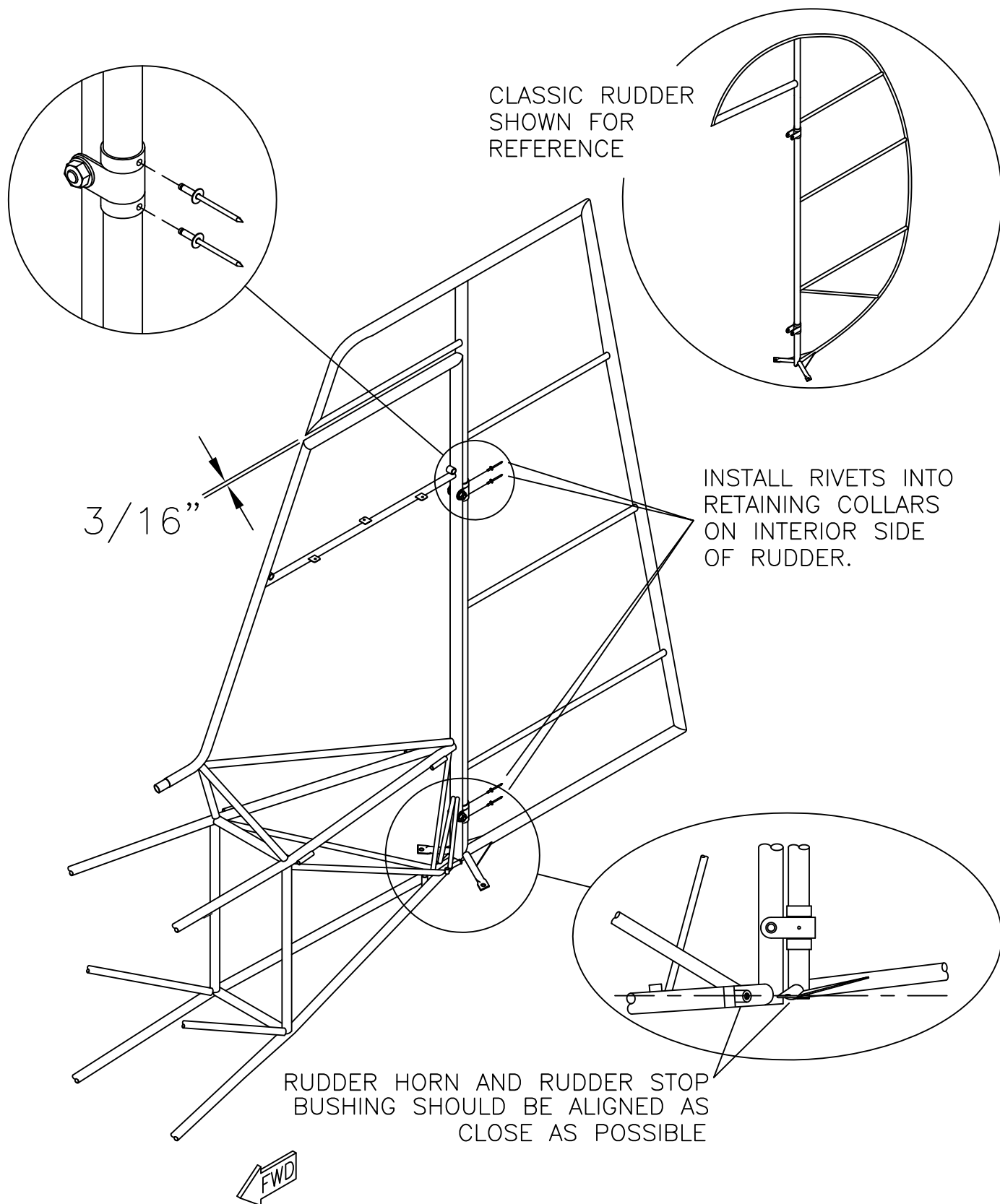
MD4305

09/01/2014



MD5447

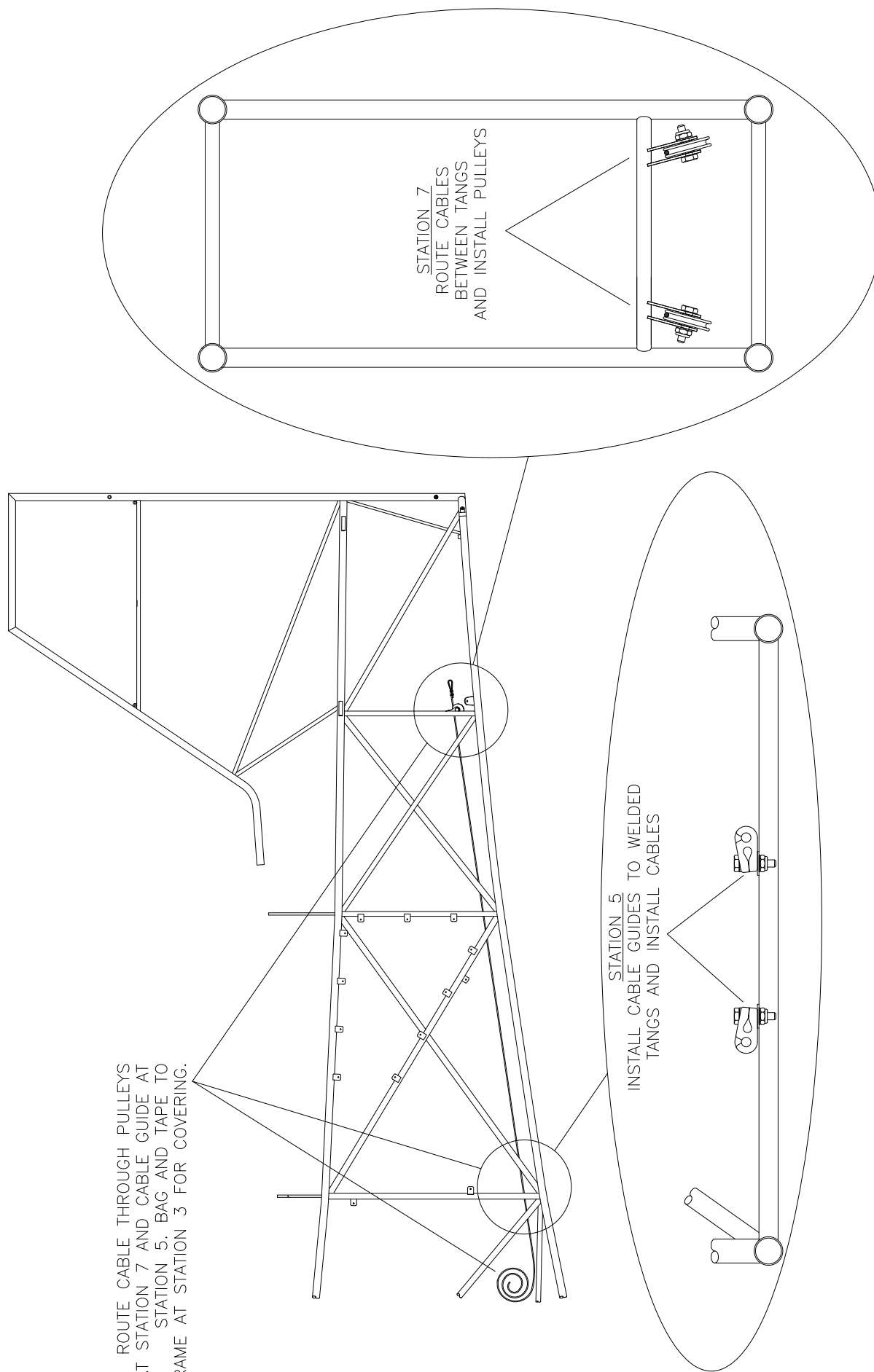
RRF S-7S COURIER
RUDDER PEDAL FOOT BAR MODIFICATION
FIGURE 01F-08



MD4294

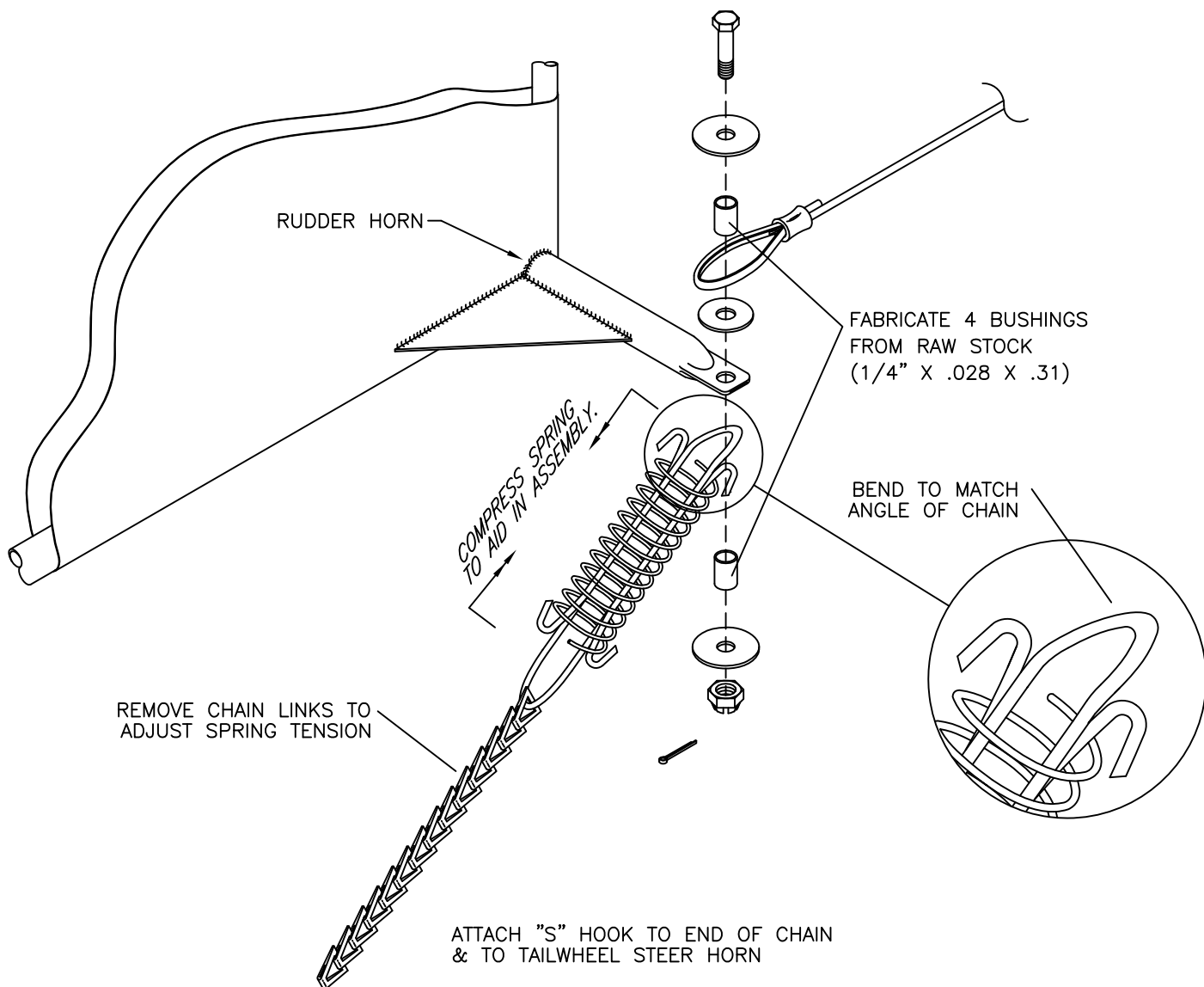
RANS S-7S COURIER
RUDDER HINGE ALIGNMENT
FIGURE 01G-02

ROUTE CABLE THROUGH PULLEYS
AT STATION 7 AND CABLE GUIDE AT
STATION 5. BAG AND TAPE TO
FRAME AT STATION 3 FOR COVERING.



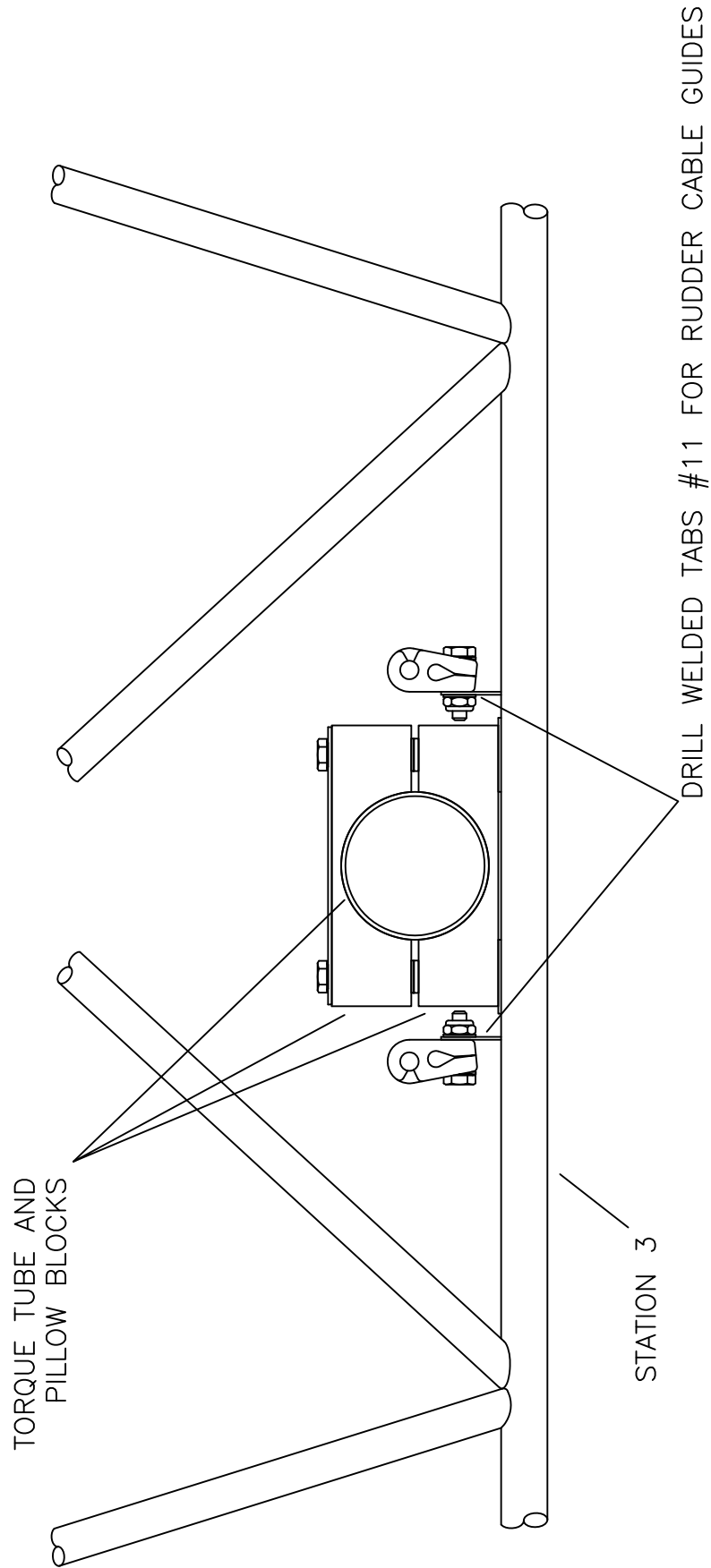
RRAMES S-7S COURIER
RUDDER CABLE GUIDES AT STATION 5
AND PULLEYS AT STATION 7
FIGURE 01G-07

MD4314



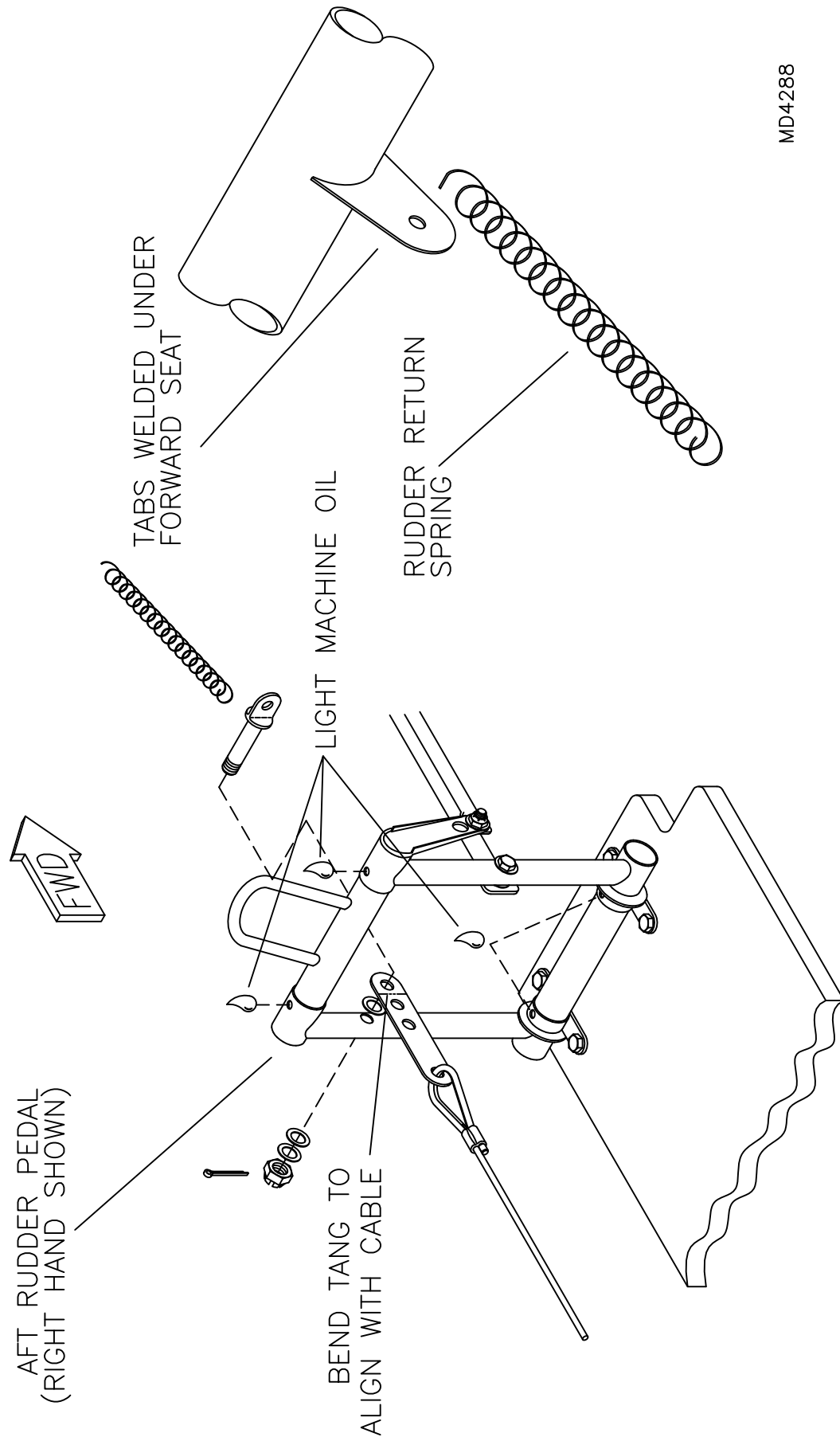
MD4287

RANS S-7S COURIER **RUDDER CABLE TO RUDDER ATTACH** **FIGURE 01G-14**



MD4312

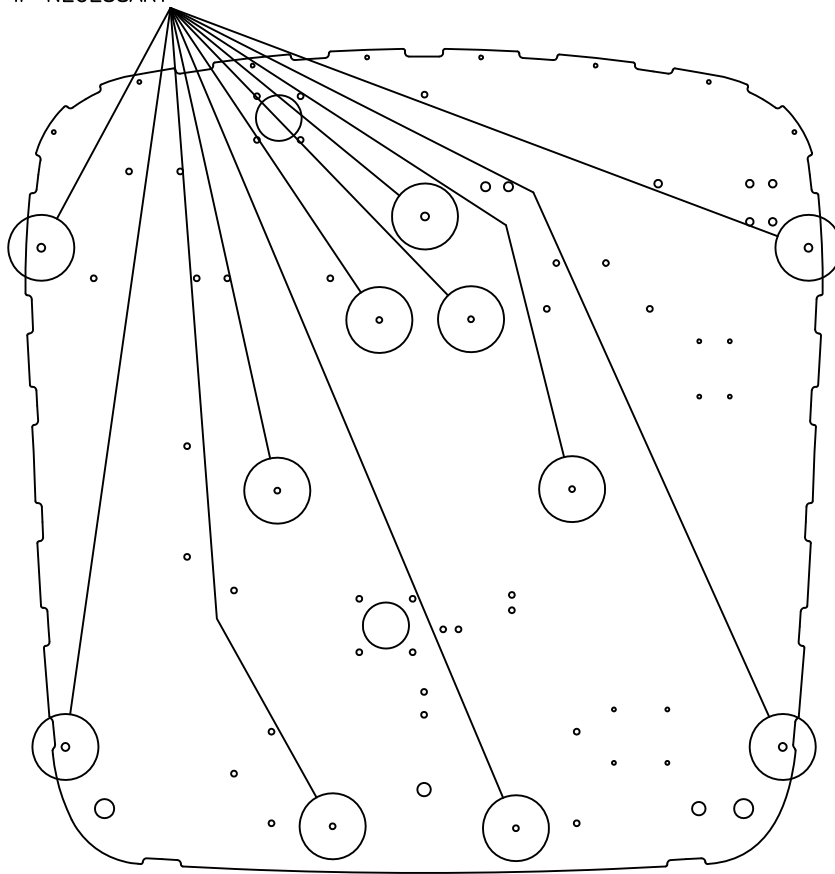
RRF S-7S COURIER
RUDDER CABLE GUIDES
 STATION 3
 FIGURE 01G-15



MD4288

RAMS S-7S COURIER
RUDDER CABLE AND RETURN SPRING TO RUDDER PEDAL ATTACH
FIGURE 01G-17

CHECK FIREWALL FIT WITH THESE
CORRESPONDING FUSELAGE ATTACH
POINTS, MODIFY IF NECESSARY

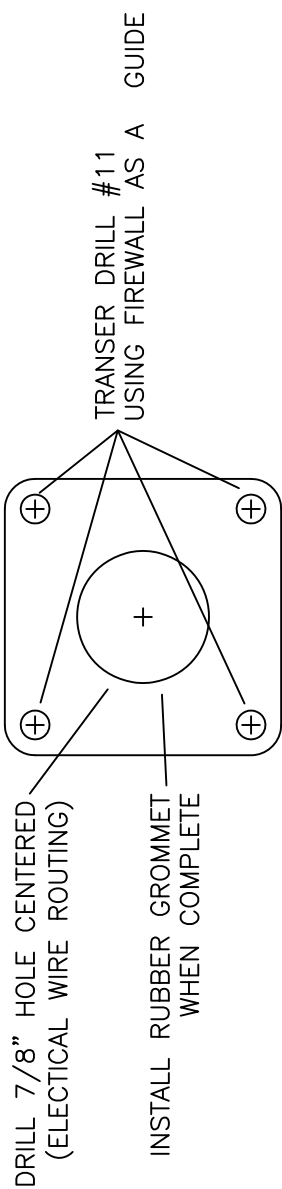
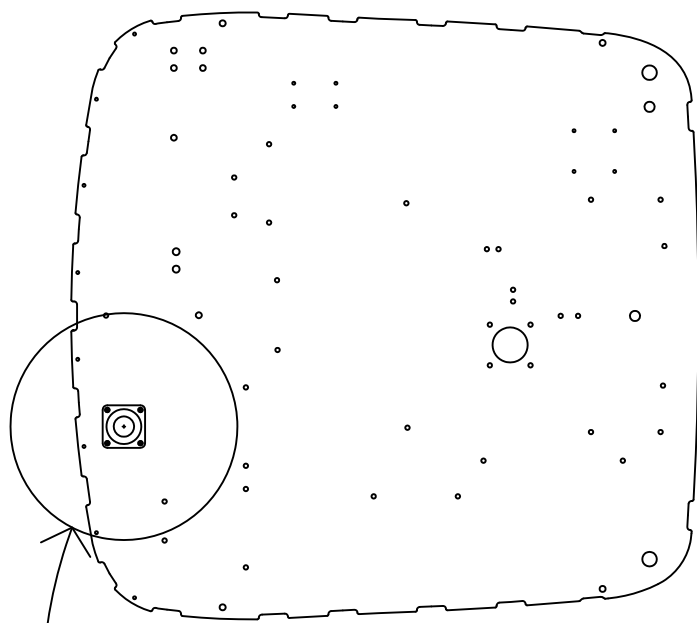


FRONT VIEW

MD4422

RANS S-7S COURIER
FIREWALL FIT UP
FIGURE 01H-02

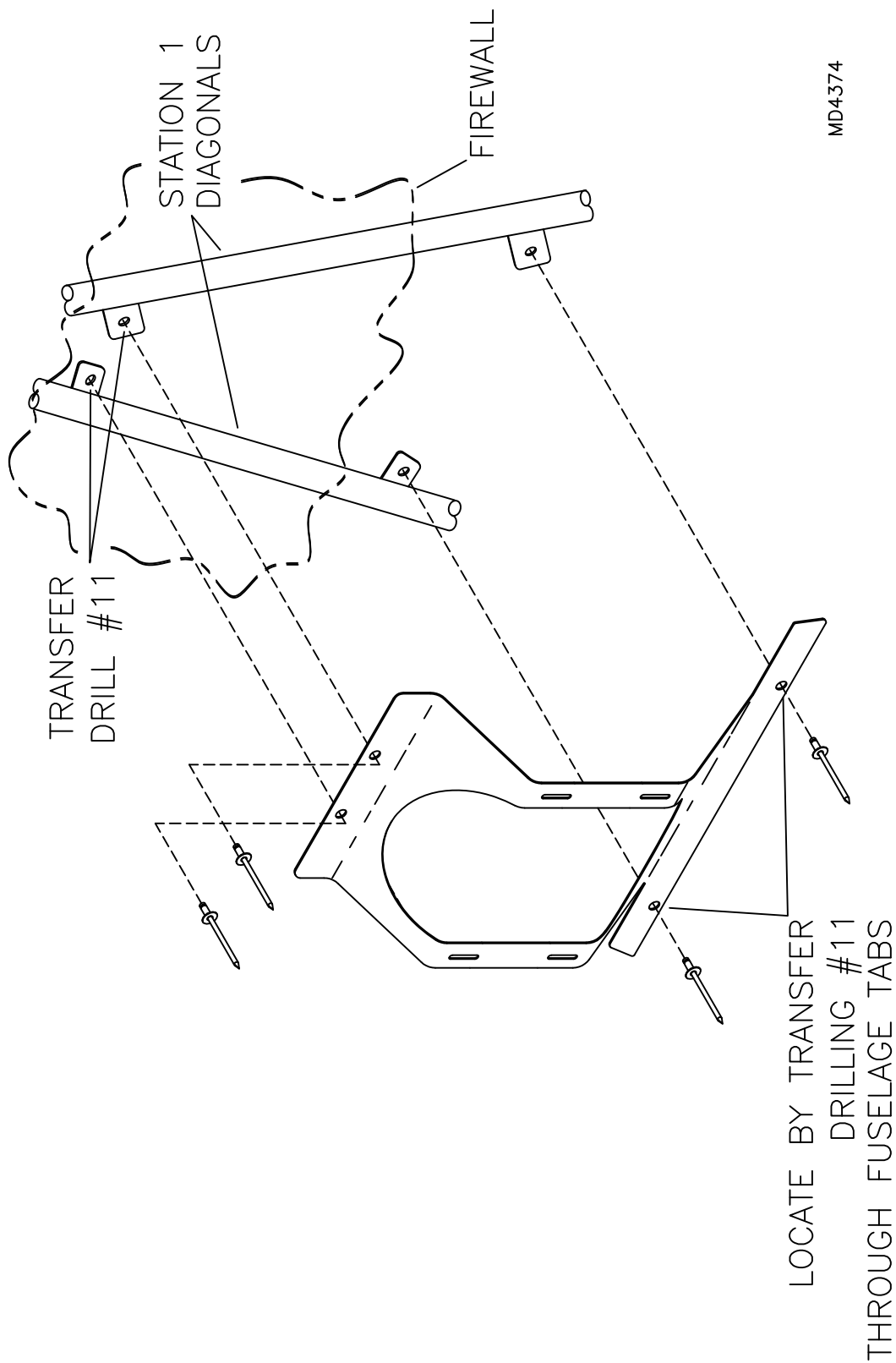
09/01/2014



FIREWALL CLOSEOUT – MAKE 1
FABRICATE FROM .025" SHEET ALUMINUM RAW STOCK PROVIDED

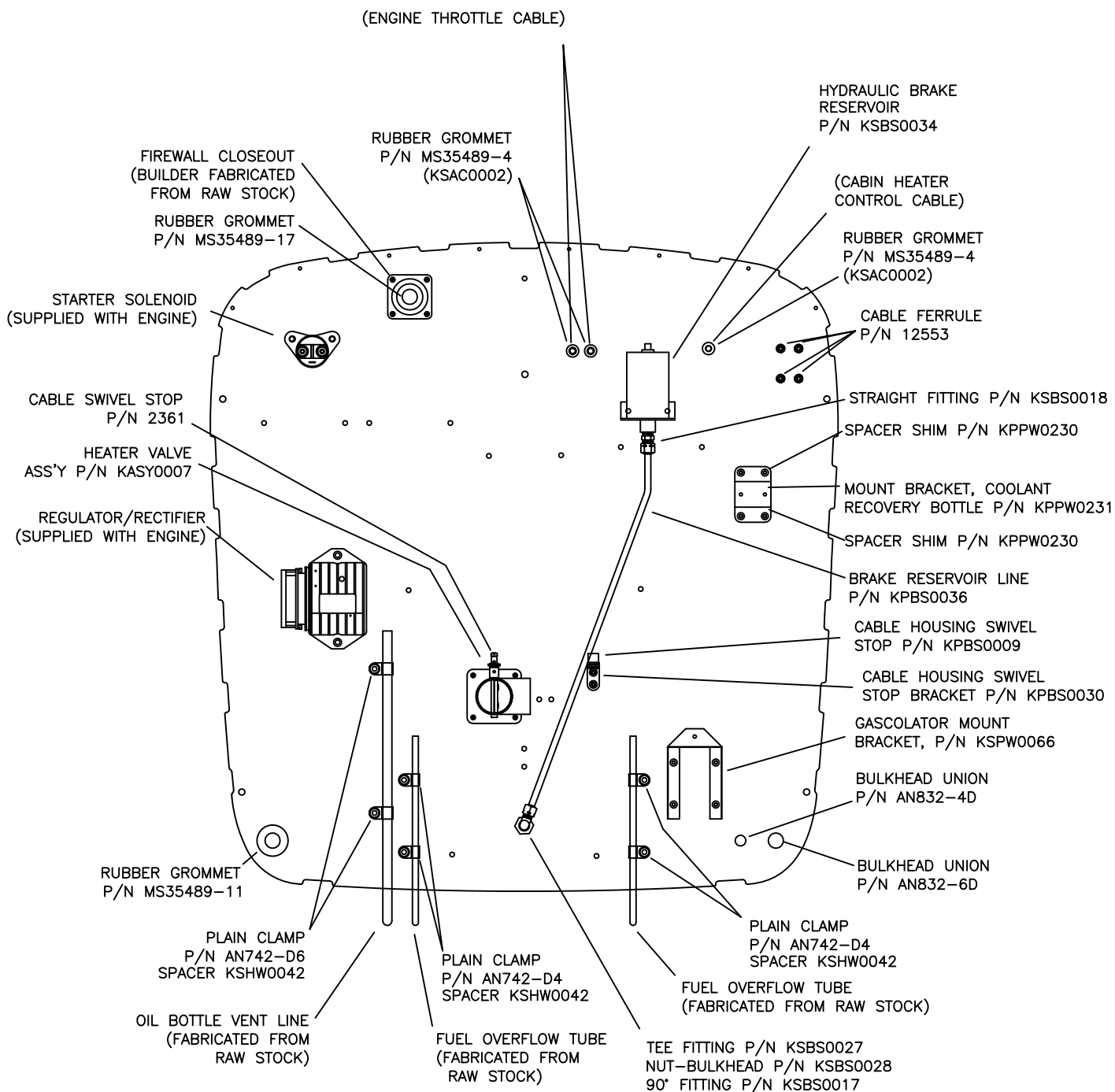
MD4421

RRR S-7S COURIER
FIREWALL CLOSEOUT
FIGURE 01H-03



RAM S-7S COURIER
OIL TANK MOUNT BRACKET INSTALLATION
FIGURE 01H-05

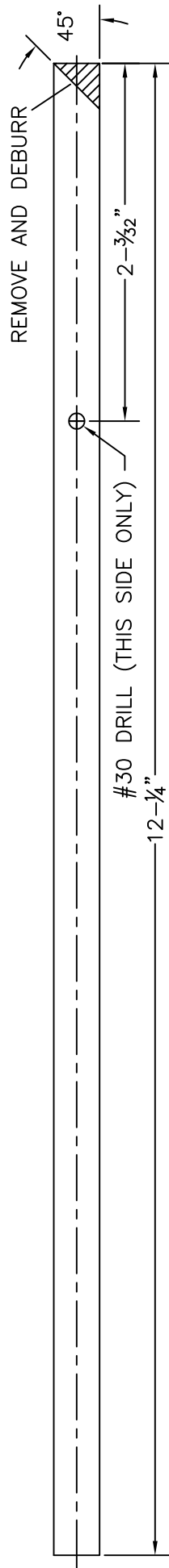
NOTE: ALL HOLES IN FIREWALL
ARE PRE-LOCATED



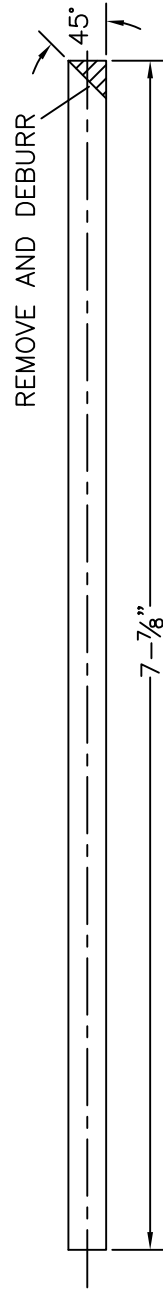
FRONT VIEW

MD4420

RANS S-7S COURIER **FIREWALL ATTACHMENTS - FWD** **FIGURE 01H-07**



OIL BOTTLE VENT OVERFLOW TUBE (.375 DIA. X .035 TUBING) — MAKE 1



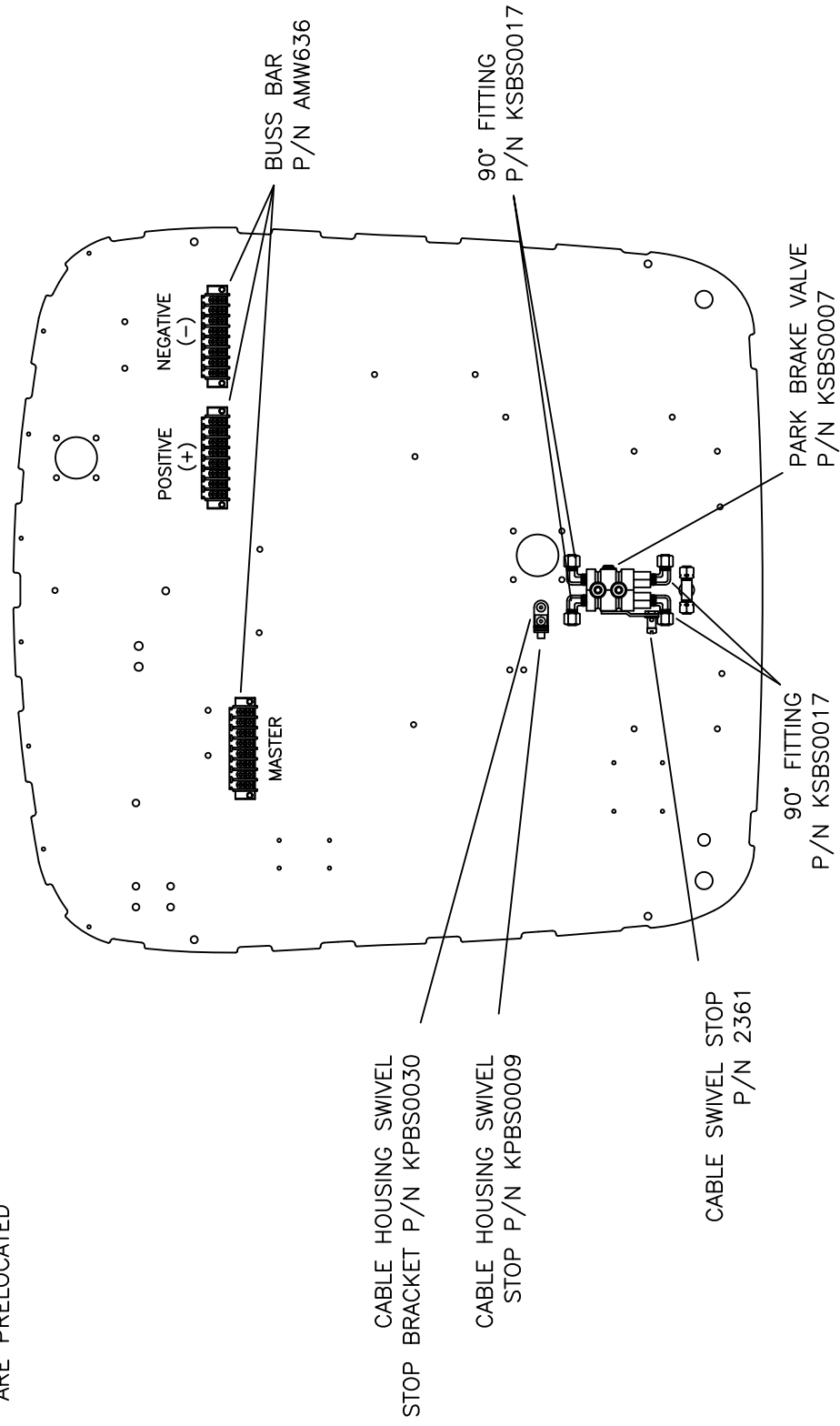
FUEL OVERFLOW TUBE (.25 DIA. X .028 TUBING) — MAKE 2

NOTE: FABRICATE ALL FROM RAW STOCK

MD4421

S-7S COURIER ENGINE COMPARTMENT DRAIN TUBES FIGURE 01H-17

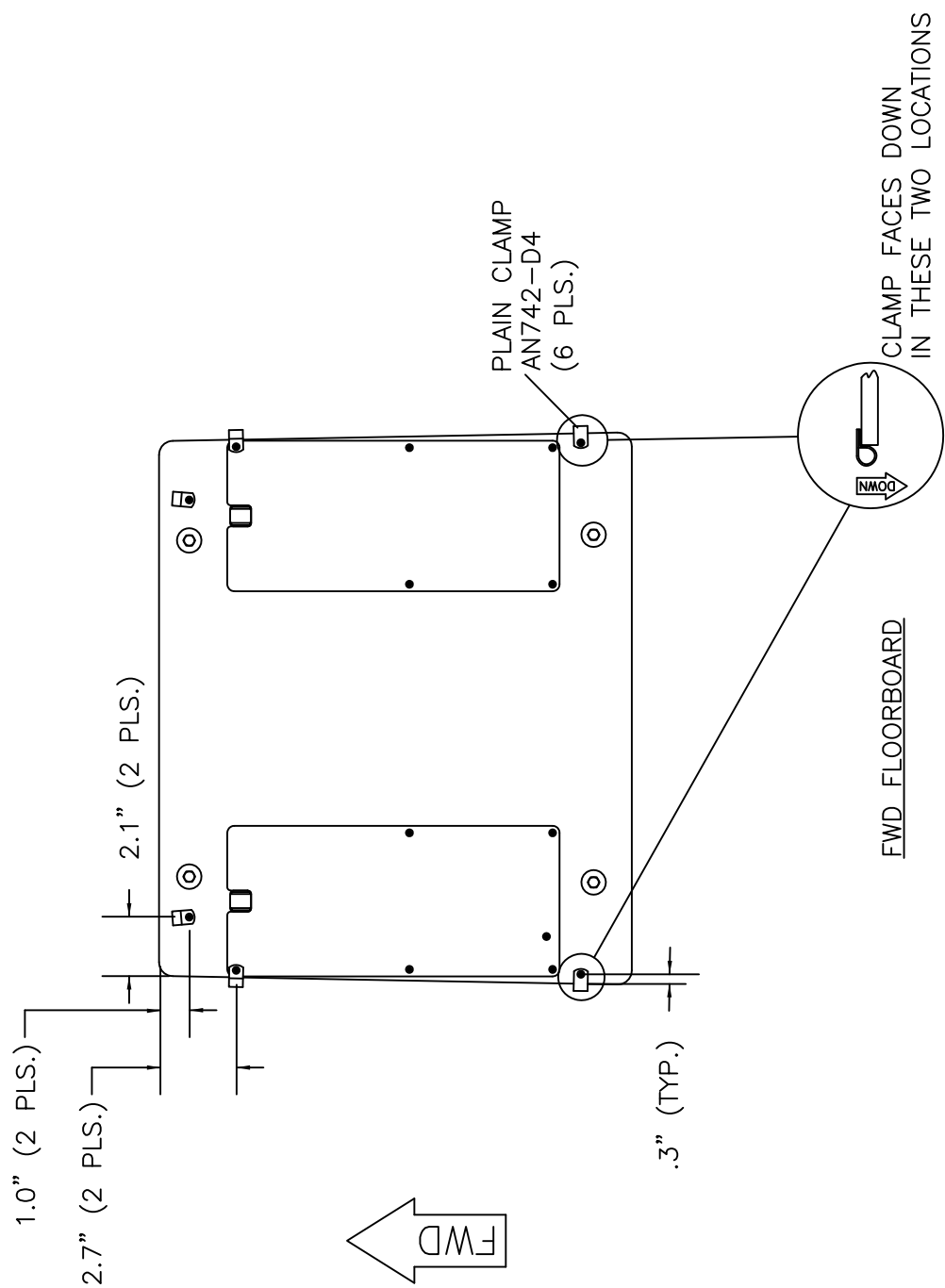
NOTE: ALL HOLES IN FIREWALL
ARE PRELOCATED



AFT VIEW

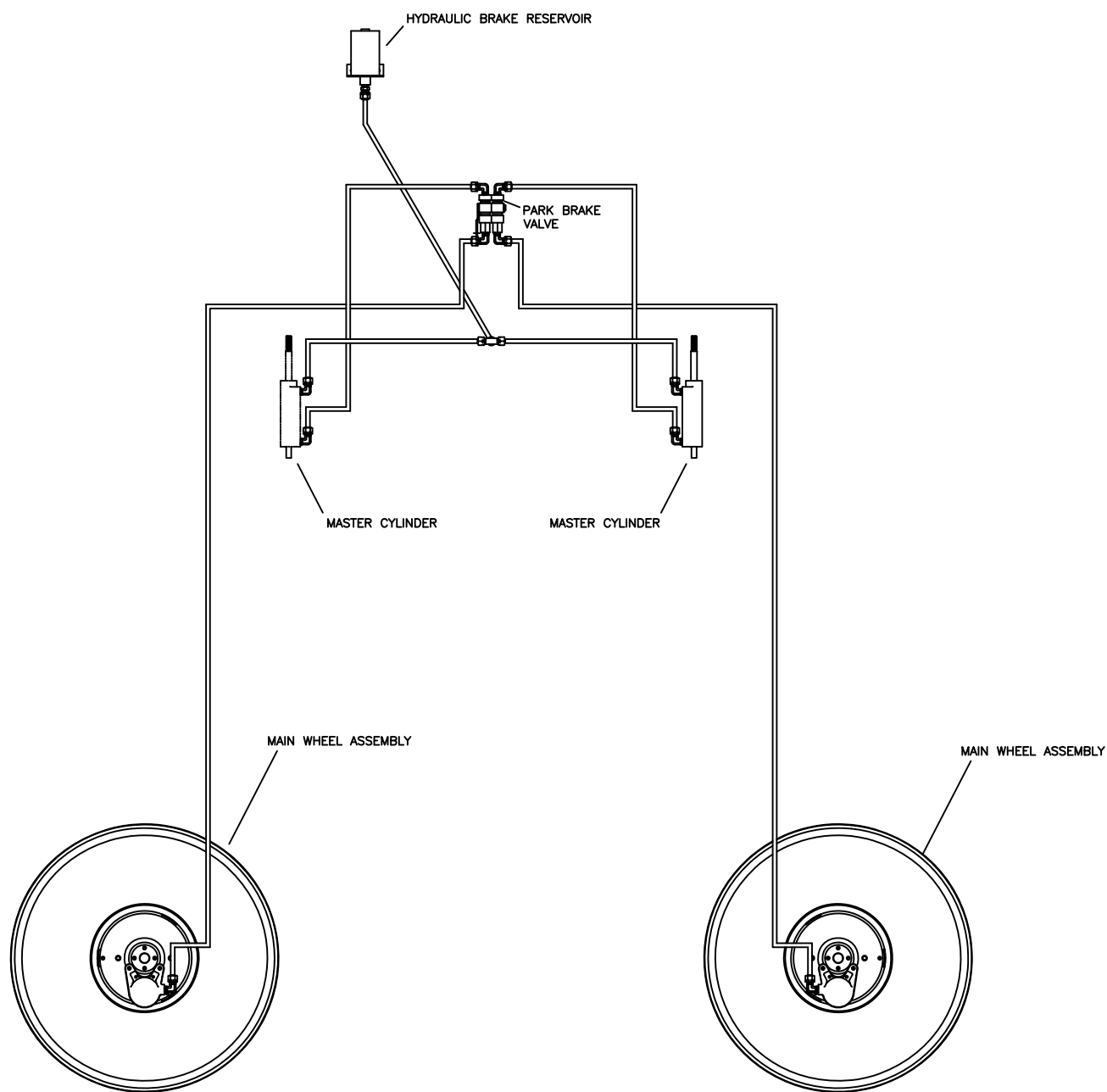
MD4420

RRM S-7S COURIER
FIREWALL ATTACHMENTS - AFT
FIGURE 01H-21



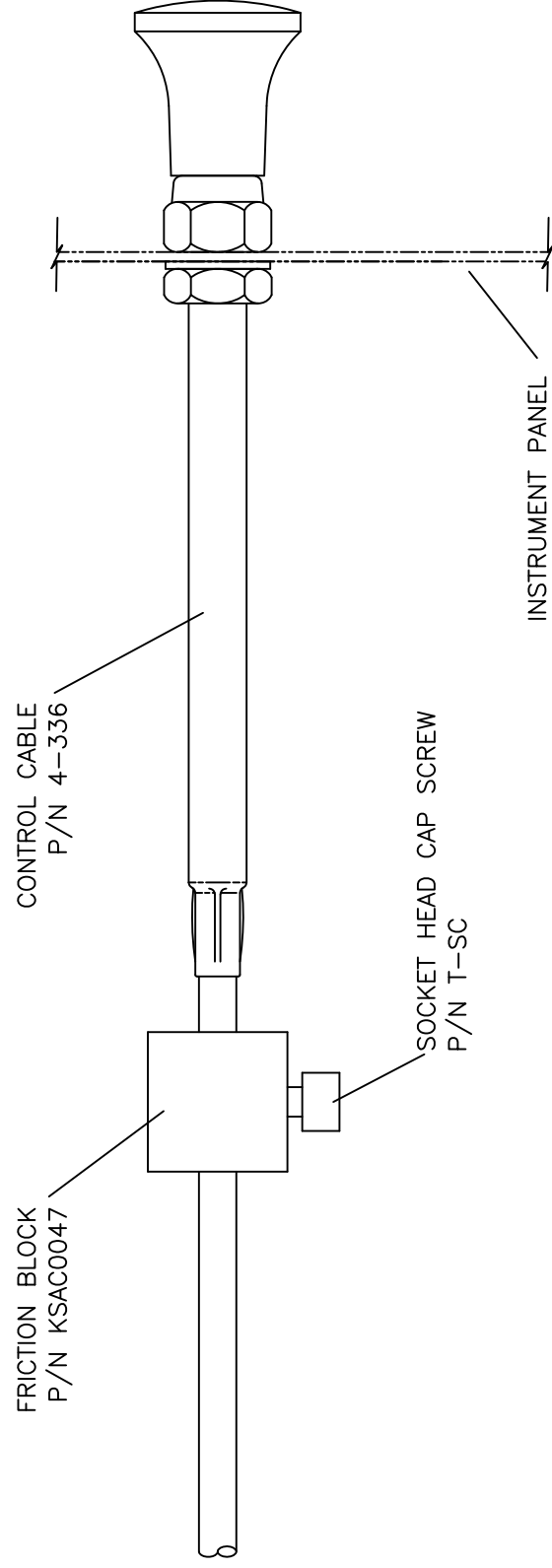
RAM S-7S COURIER
BRAKE LINE ROUTING - FLOOR BOARD CLAMPS
FIGURE 01I-05

MD4425



MD4424

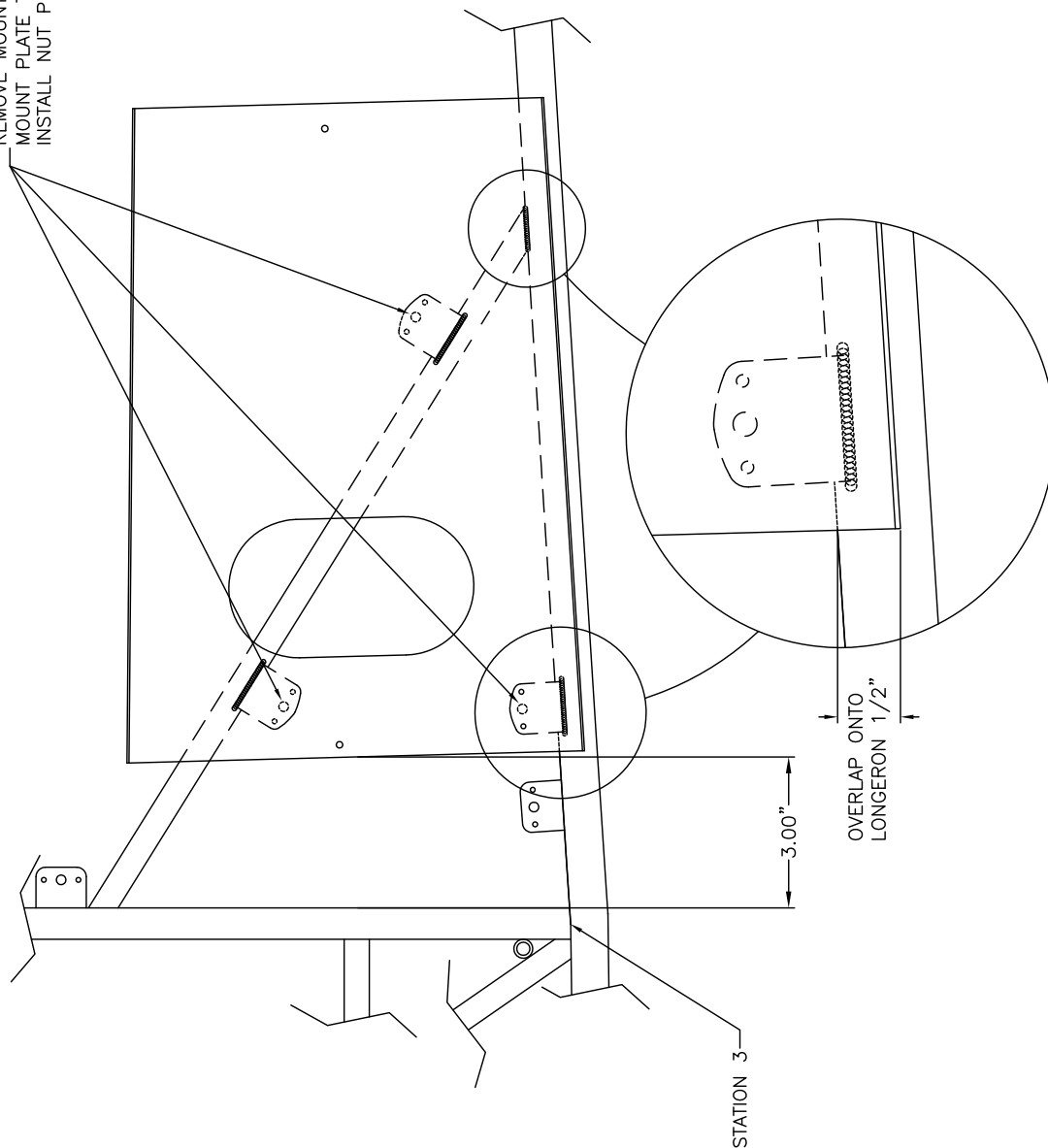
RANS S-7S COURIER
BRAKE SYSTEM SCHEMATIC
FIGURE 01I-06



MD4423

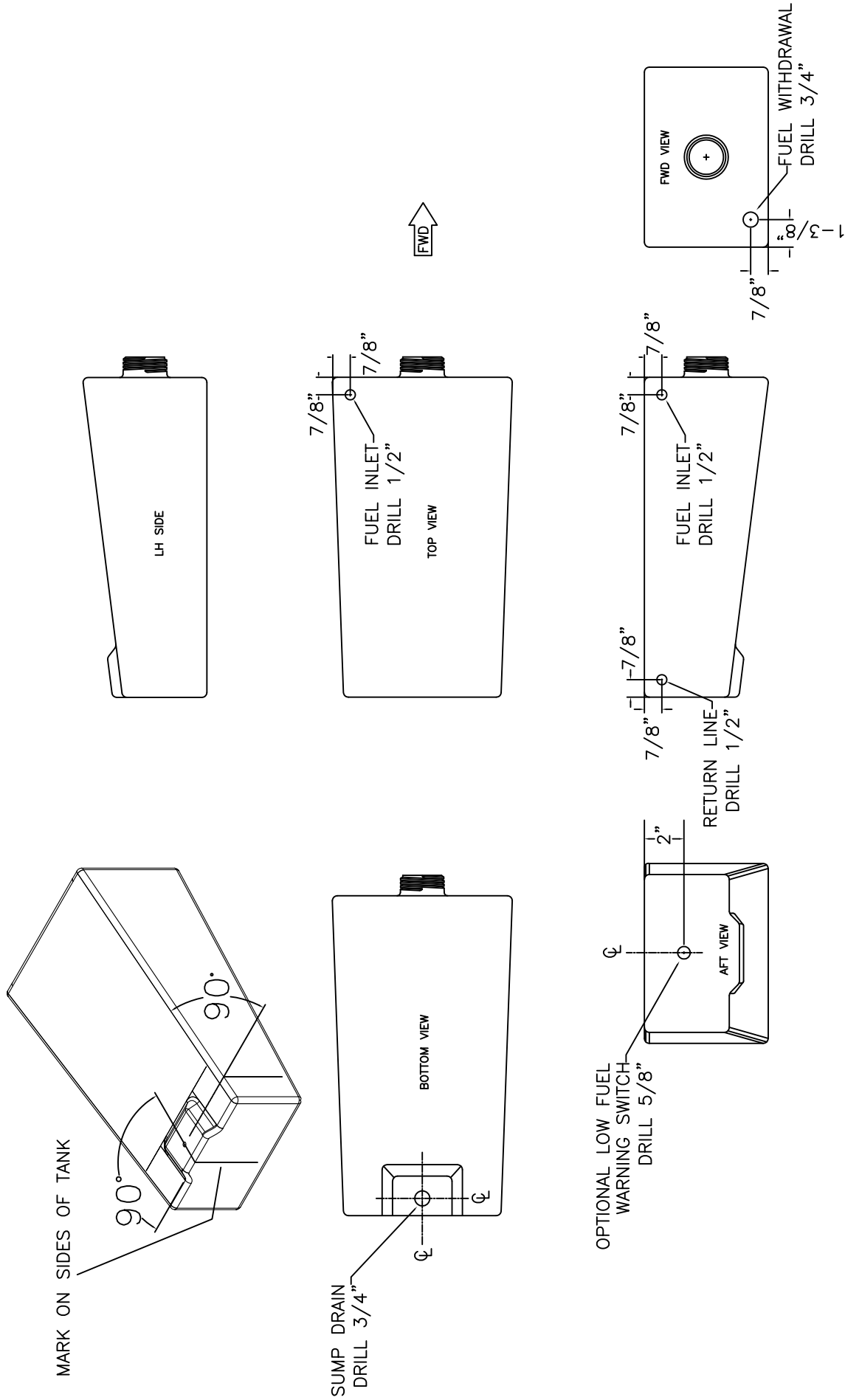
RRM S-7S COURIER
PULL KNOB INSTALLATION
FIGURE 01I-12

TRANSFER DRILL #11.
 REMOVE MOUNT PLATE, AND FINAL SIZE DRILL
 MOUNT PLATE TO 3/8" FOR COUNTERSUNK WASHER.
 INSTALL NUT PLATE TO BOTTOM OF TABS.



MD5616
 REV. B

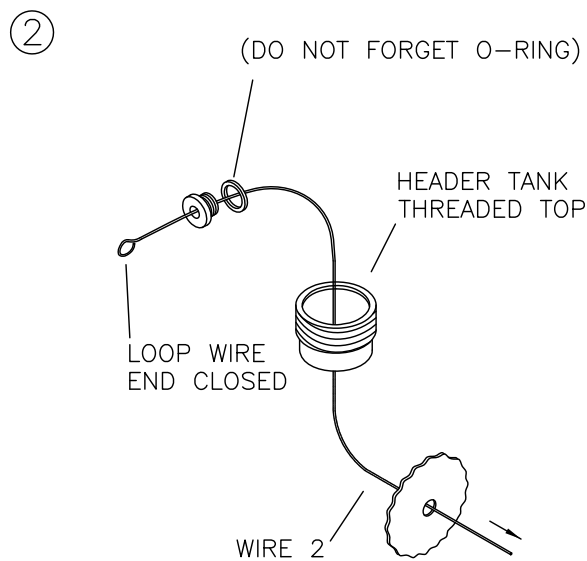
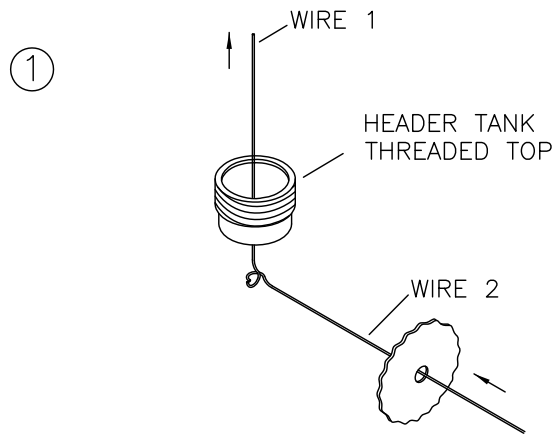
**RAMS S-7S COURIER
 HEADER TANK MOUNT
 FIGURE 01K-01**



MD2861
REV. B

RAMS S-7S COURIER
2.75 GALLON HEADER TANK MODIFICATION
FIGURE 01K-02

09/01/2013



③ INSTALL RUBBER WASHER, STEEL WASHER, LOCTITE, AND NUT.

④ REMOVE WIRE.

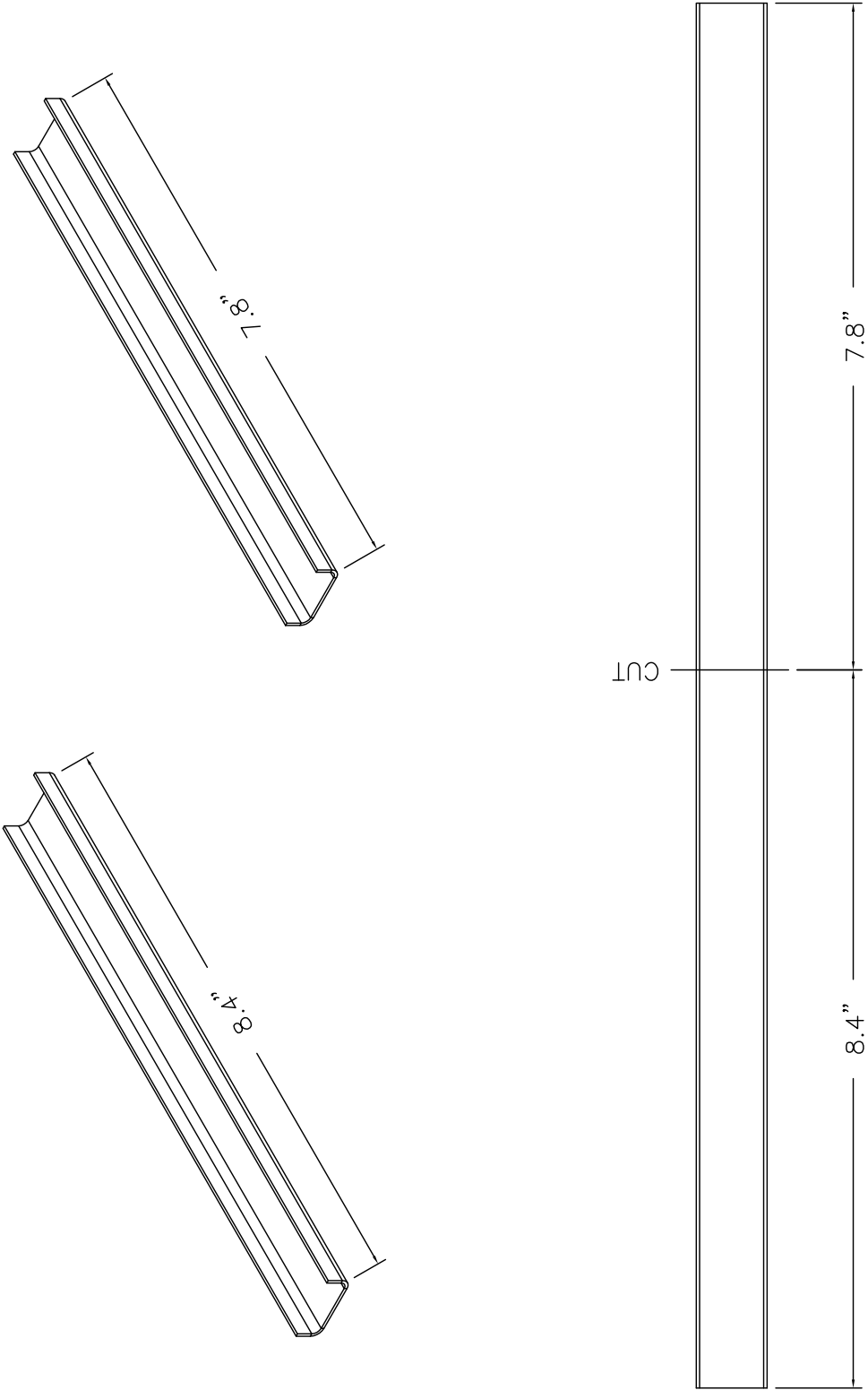
RANS S-7S COURIER
HEADER TANK FITTING INSTALLATION
FIGURE 01K-03

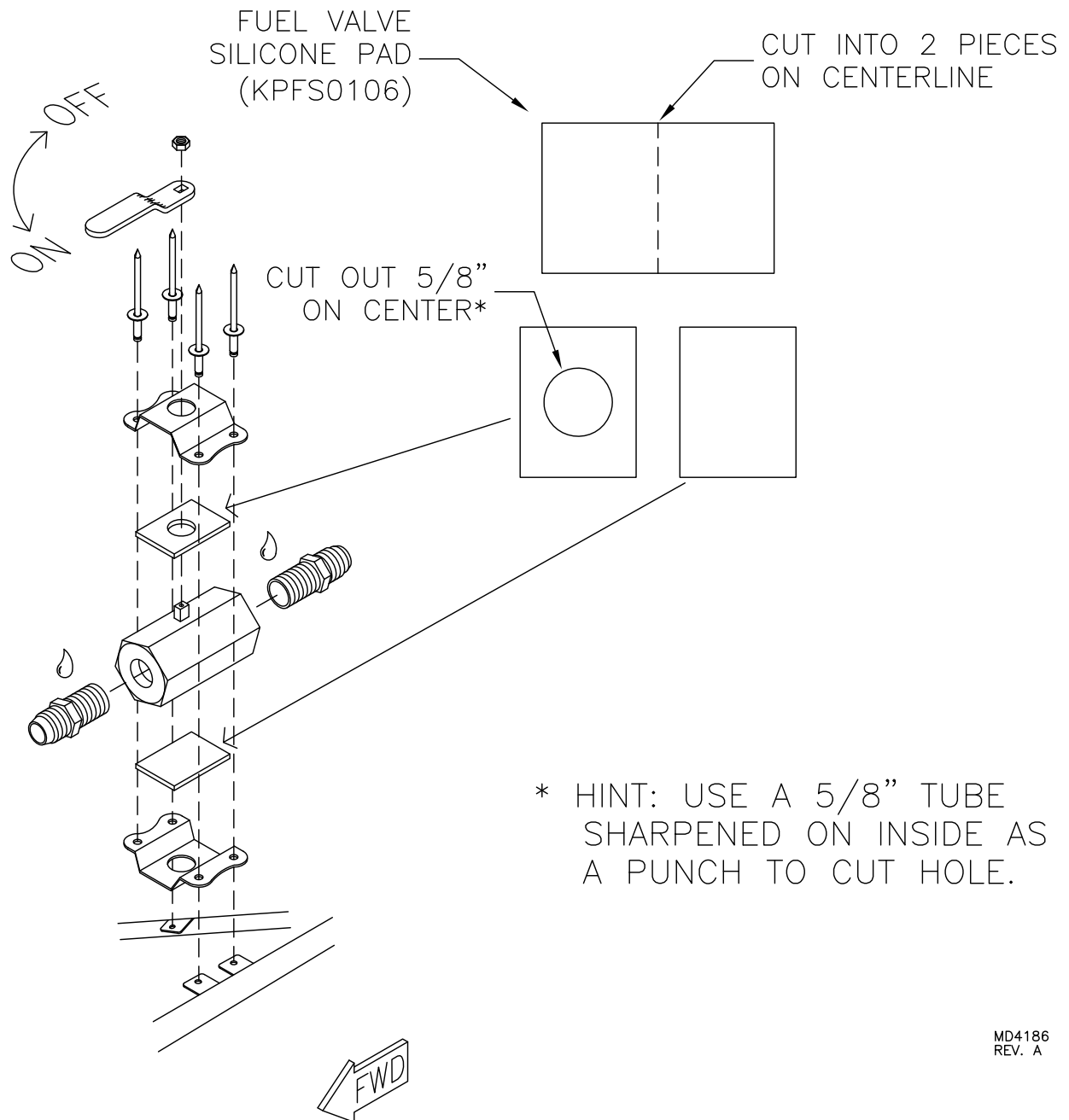
MD4832

MD5616

RAMMS S-7S COURIER
HEADER TANK MOUNT CHANNEL MODIFICATION
FIGURE 01K-08

CUT TO INDICATED LENGTHS

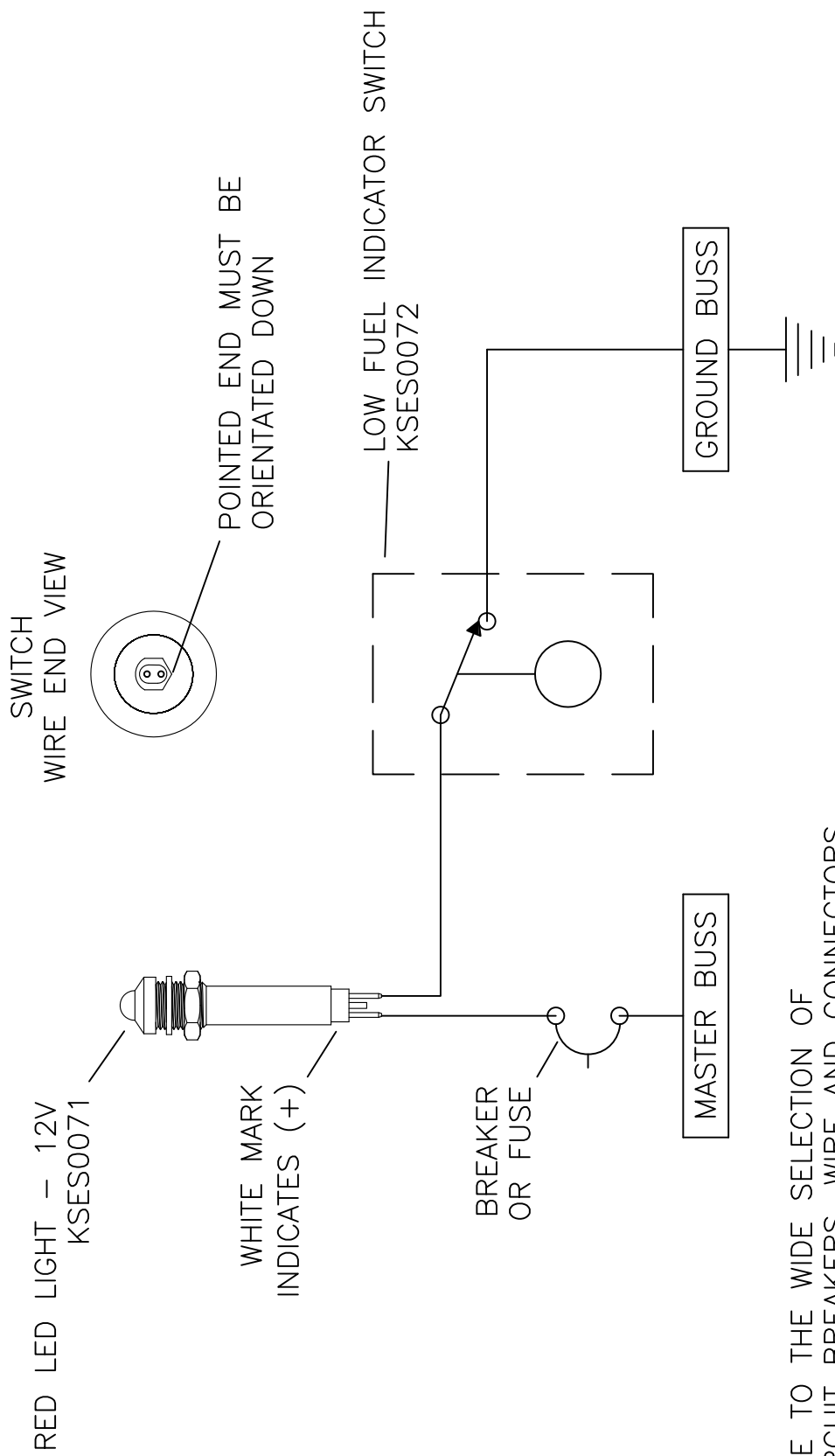




MD4186
REV. A

RANS S-7S COURIER **FUEL VALVE MOUNTING** **FIGURE 01K-09**

01/26/2017

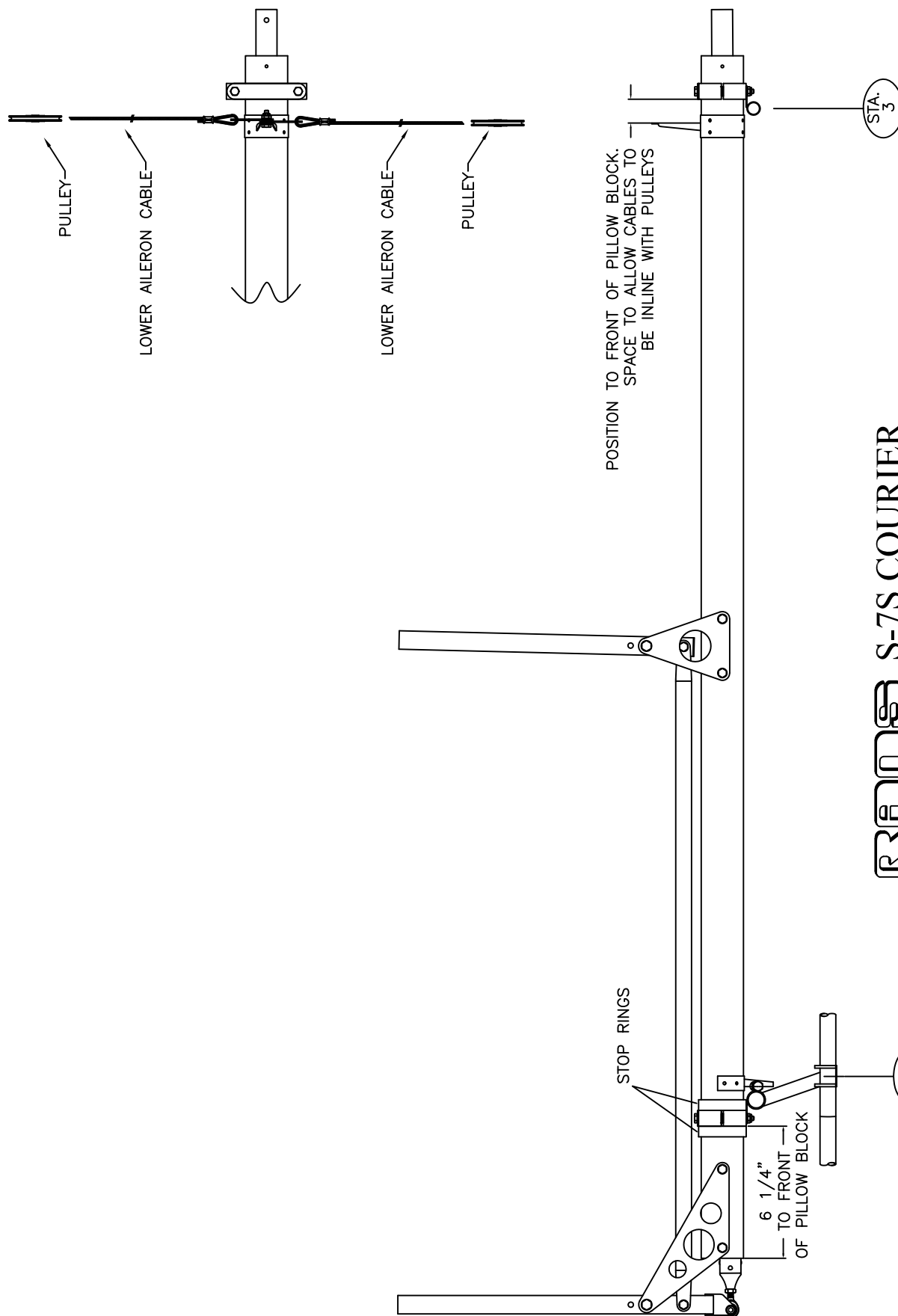


DUE TO THE WIDE SELECTION OF
CIRCUIT BREAKERS, WIRE AND CONNECTORS
WHICH MAY BE USED TO CUSTOMIZE YOUR
AIRCRAFT. THESE ITEMS ARE "BUILDER SUPPLIED"

RAMS S-7S COURIER

LOW FUEL WARNING SYSTEM WIRING
FIGURE 01K-16

MD2861
REV. - ORIG



RRR S-7S COURIER
CONTROL STICK ASSEMBLY
FIGURE 02-01

MD5633
 REV. - A

FABRICATE PIN AND USE AS TOOL TO LOCATE
NUT PLATES ON OUTSIDE
OF TORQUE TUBE FOR DRILLING

REMOVE REMOVE



10-32 SCREW OR BOLT



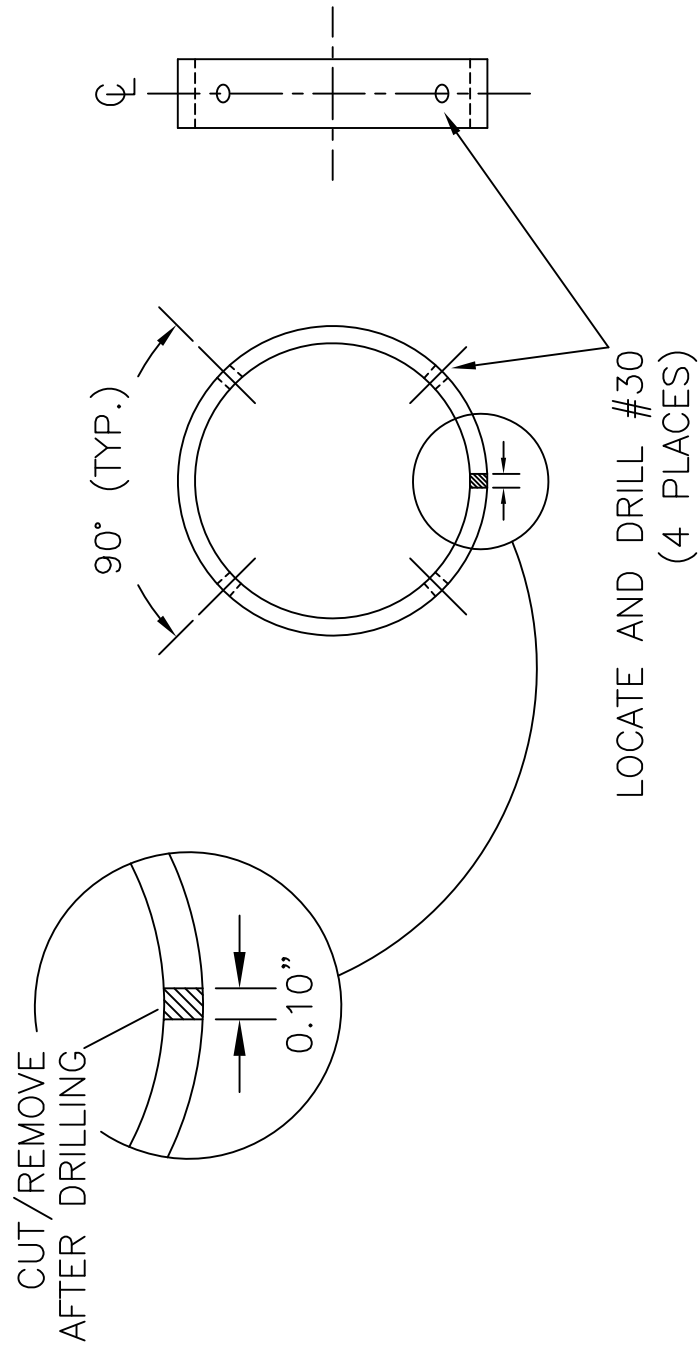
FWD

DRILL #11.
TRANSFER DRILL EARS OF NUT
PLATES TO #40.
INSTALL NUT PLATES INSIDE
TORQUE TUBE

INSERT GLIDE UNTIL FLUSH WITH
END OF TORQUE TUBE.
TRANSFER DRILL #30 AND RIVET

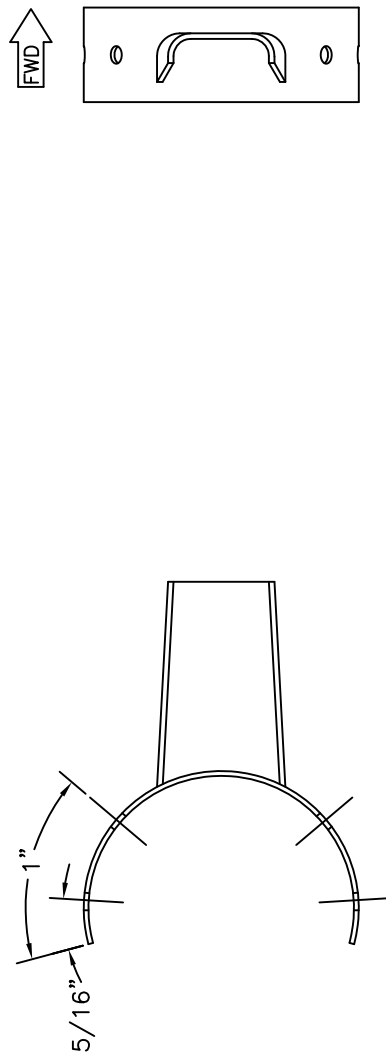
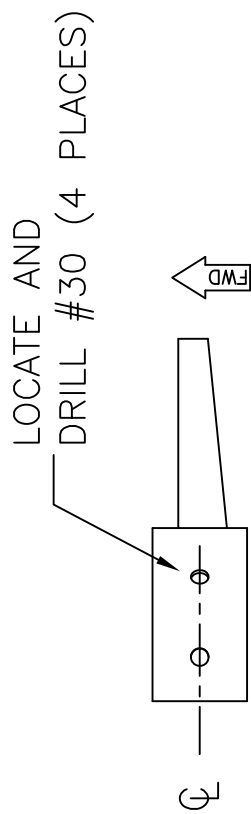
MD5633
REV. - ORIG

RAM S-7S COURIER CONTROL STICK ASSEMBLY FIGURE 02-02



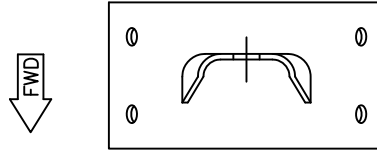
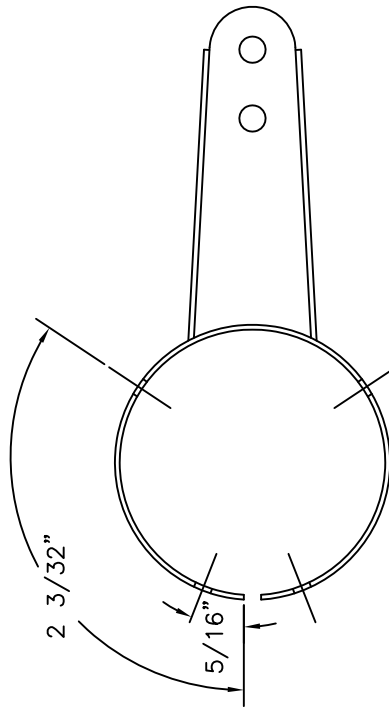
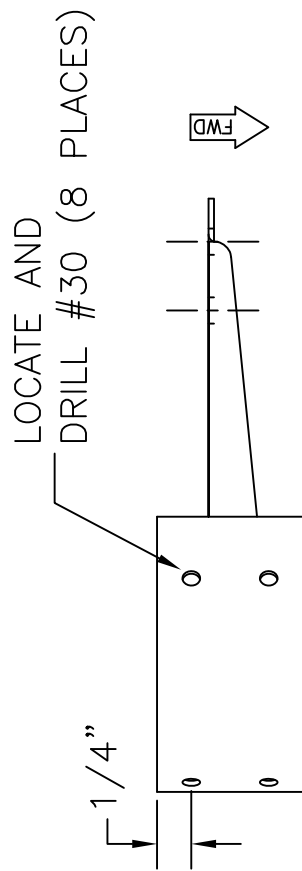
RRR S-7S COURIER
STOP RING MODIFICATION
FIGURE 02-05

MD5633
REV. - ORIG



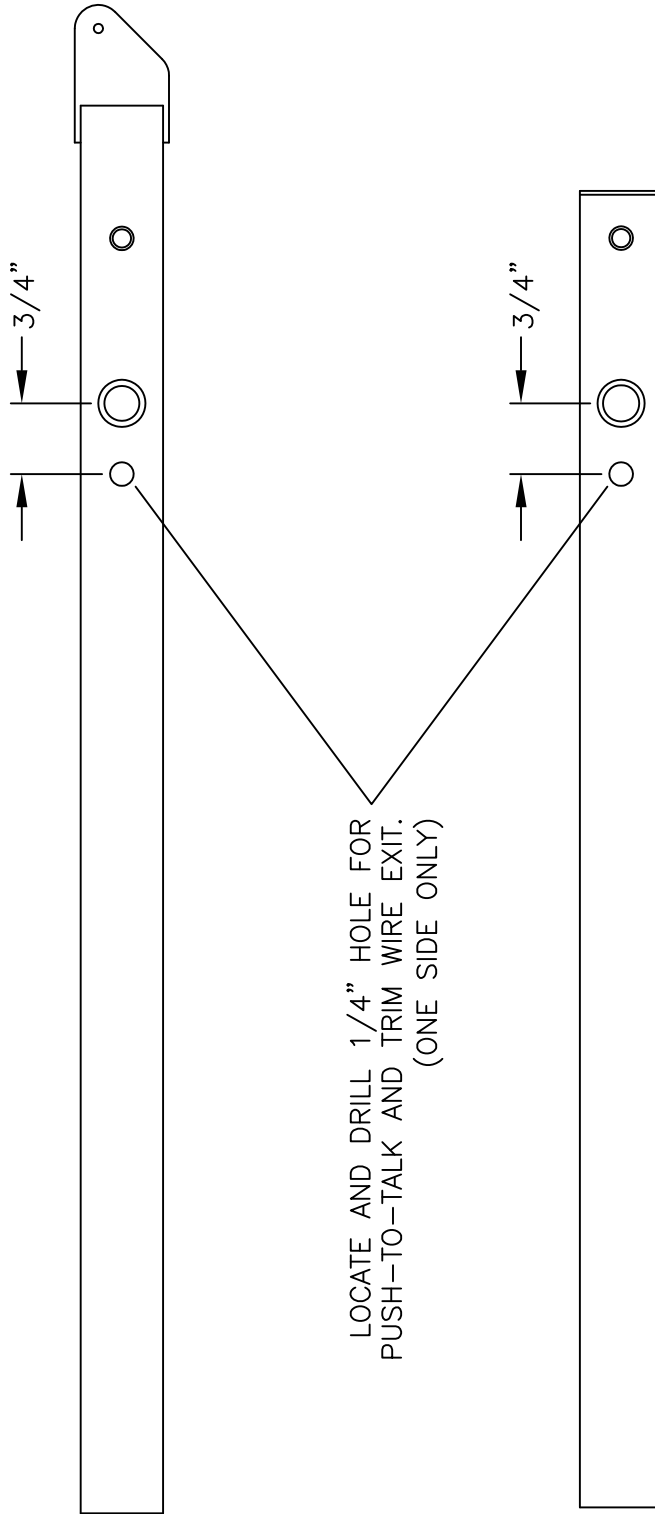
MD5633
REV. - ORIG

S-7S COURIER CONTROL STICK STOP MODIFICATION FIGURE 02-06



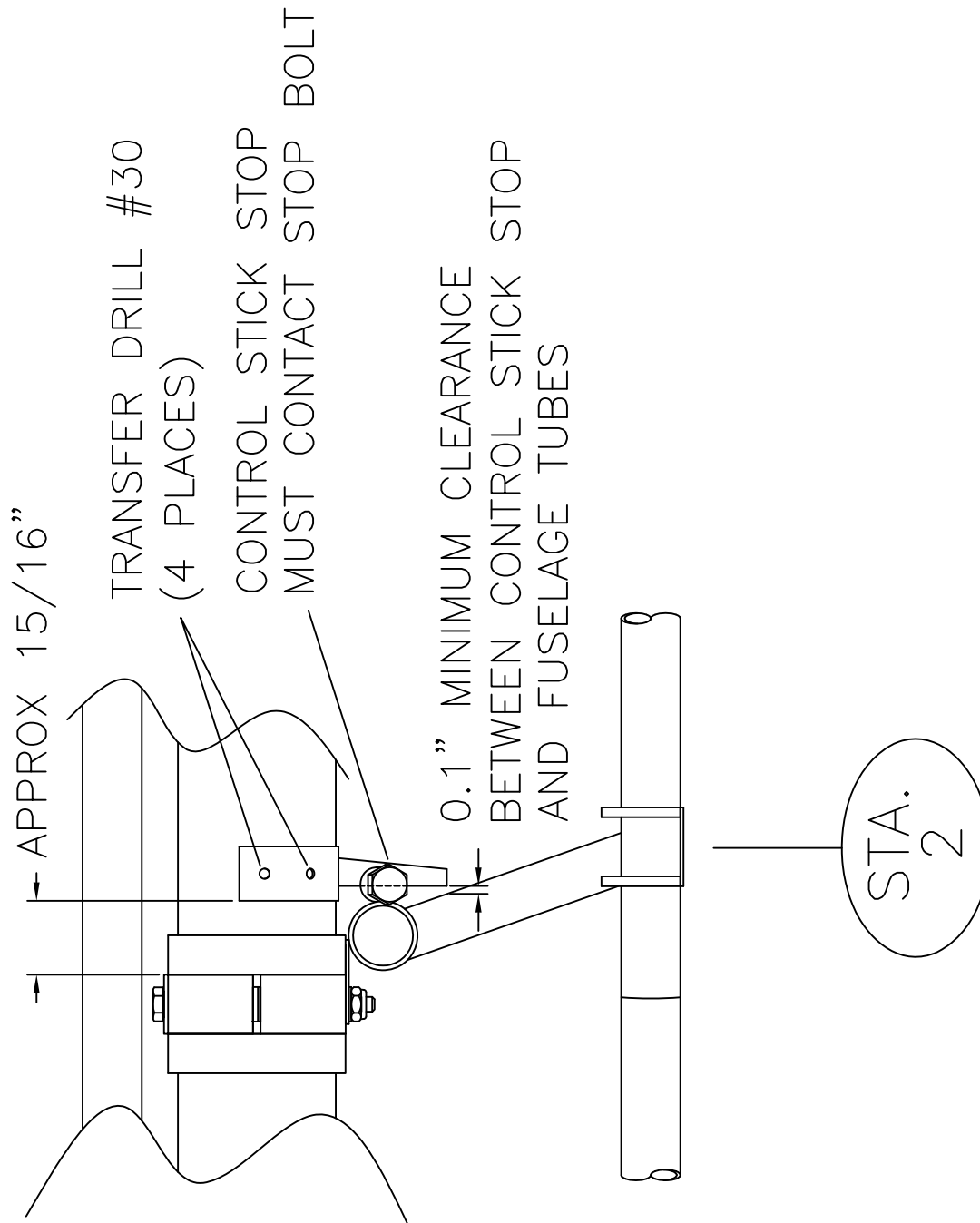
MD5633
REV. - ORIG

RRM S-7S COURIER **TORQUE TUBE HORN MODIFICATION** **FIGURE 02-07**



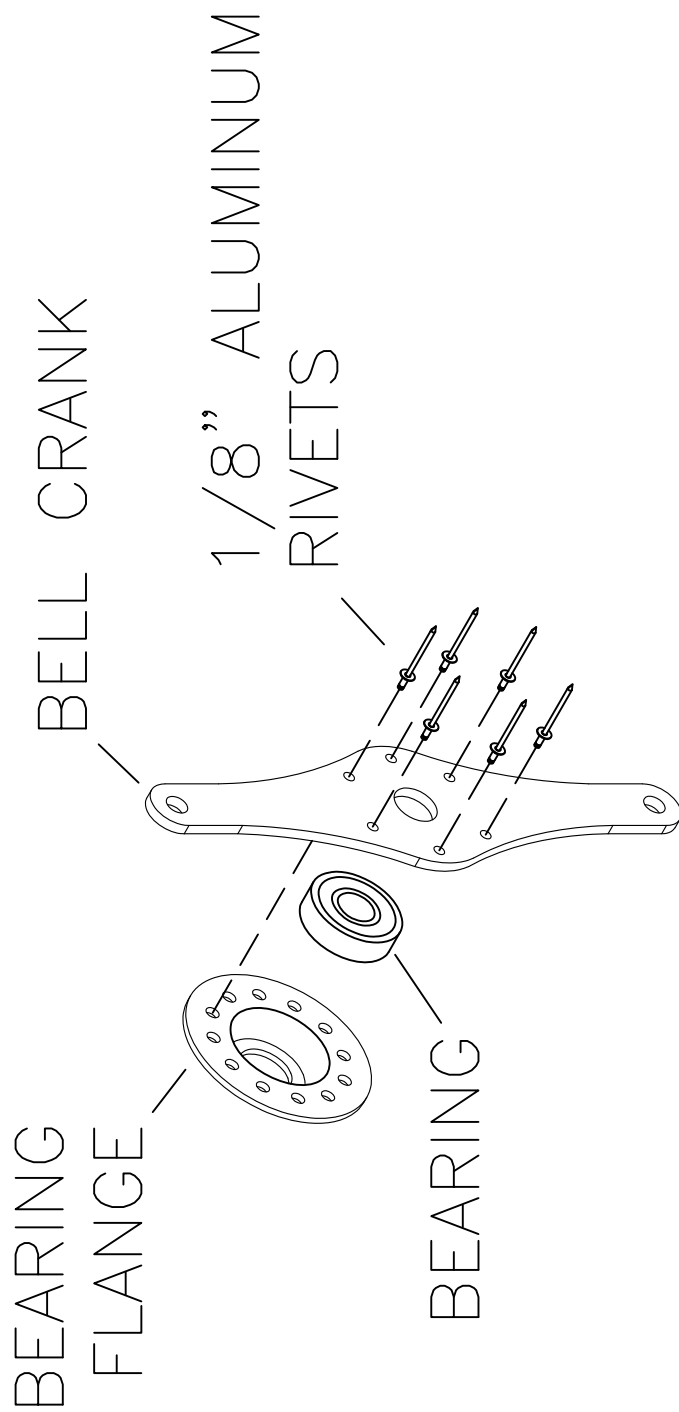
MD5638
REV. - ORIG

RRM S-7S COURIER **CONTROL STICK MODIFICATION** **FIGURE 02-09**



MD5633
REV. - ORIG

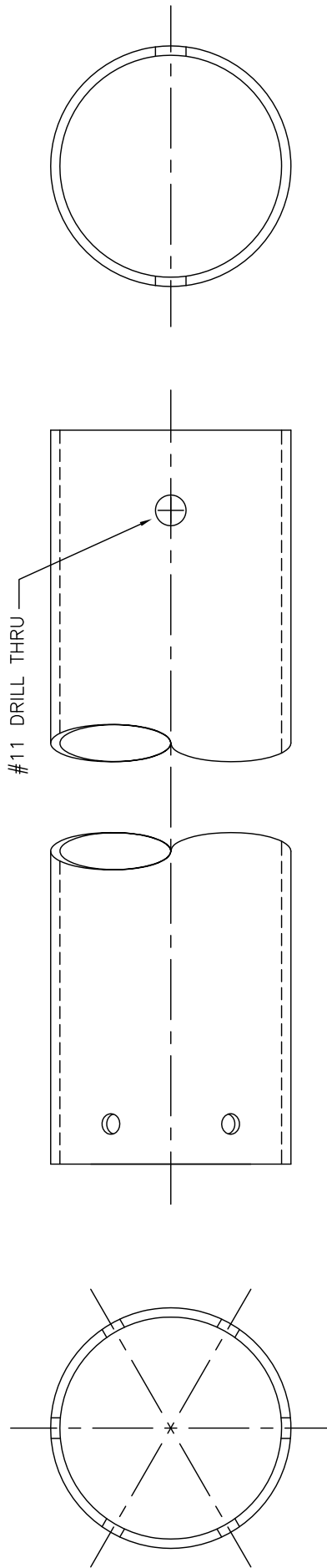
RAMS S-7S COURIER
CONTROL STICK STOP INSTALLATION
FIGURE 02-17



MAKE 2 ASSEMBLIES

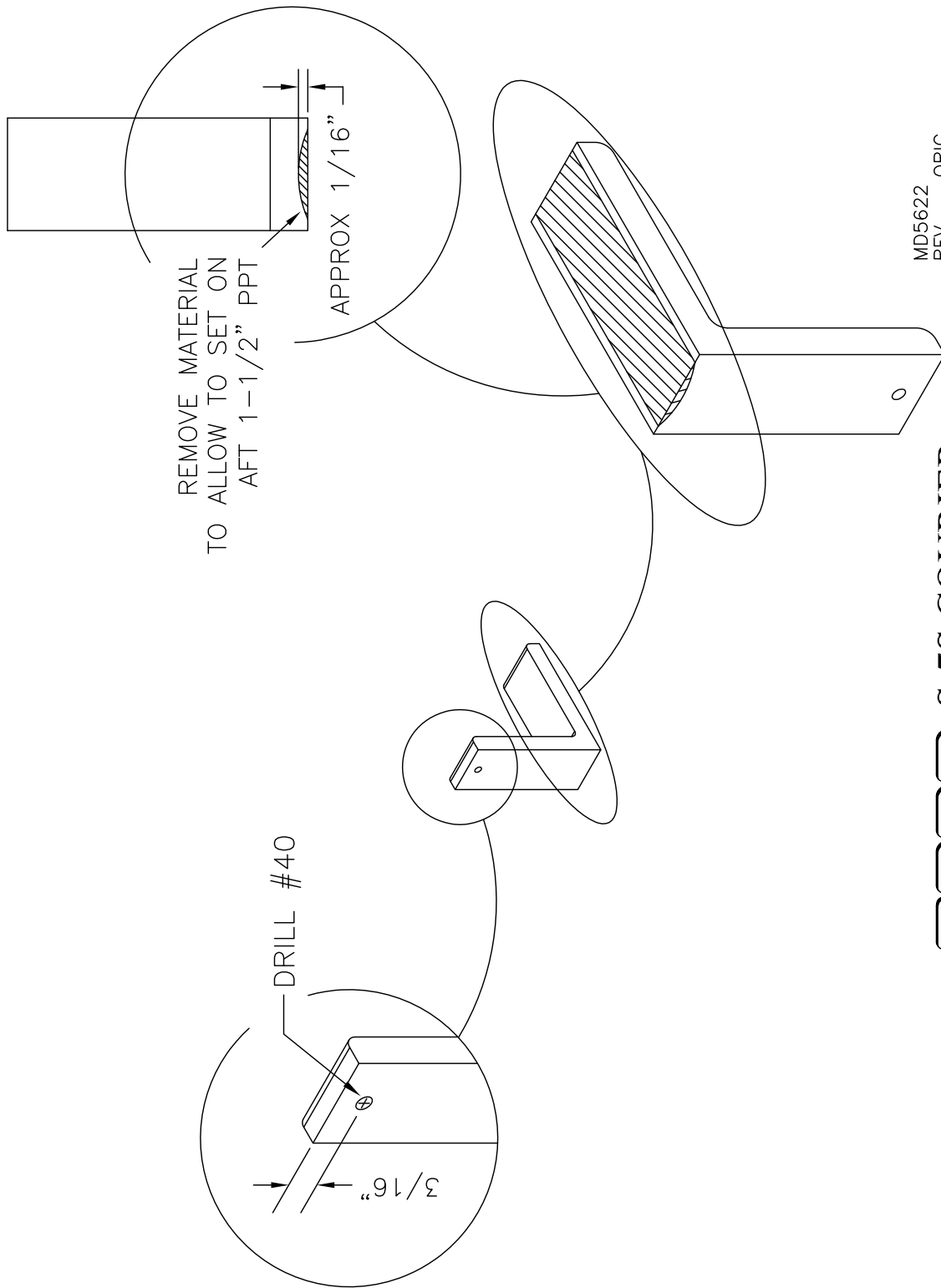
MD5639
REV. - ORIG

RRR S-7S COURIER
BELL CRANK ASSEMBLY
FIGURE 02A-04



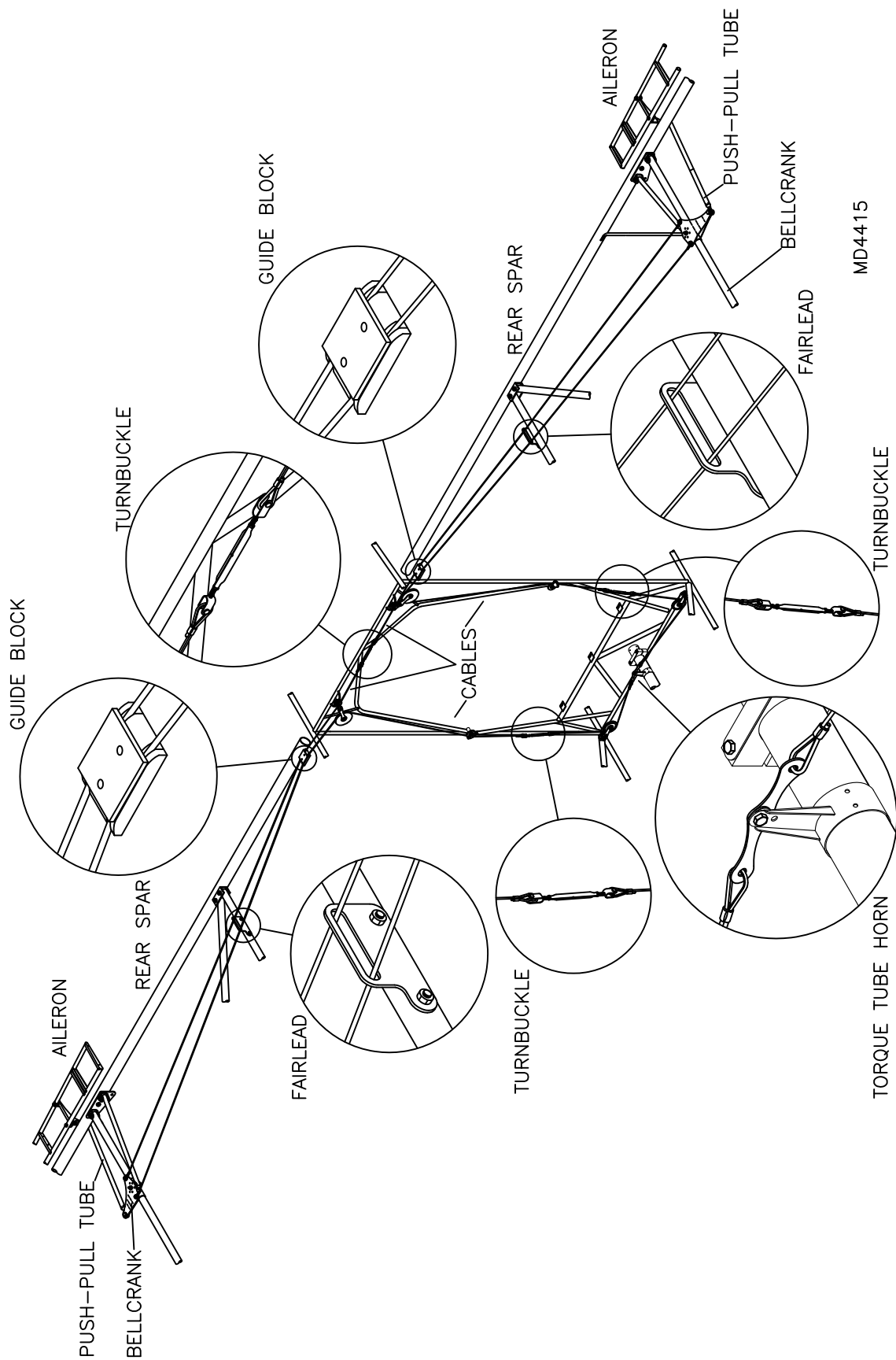
MD5630
REV. - A

RRM S-7S COURIER **AFT 1-1/2" PUSH-PULL TUBE MODIFICATION** **FIGURE 02B-01**

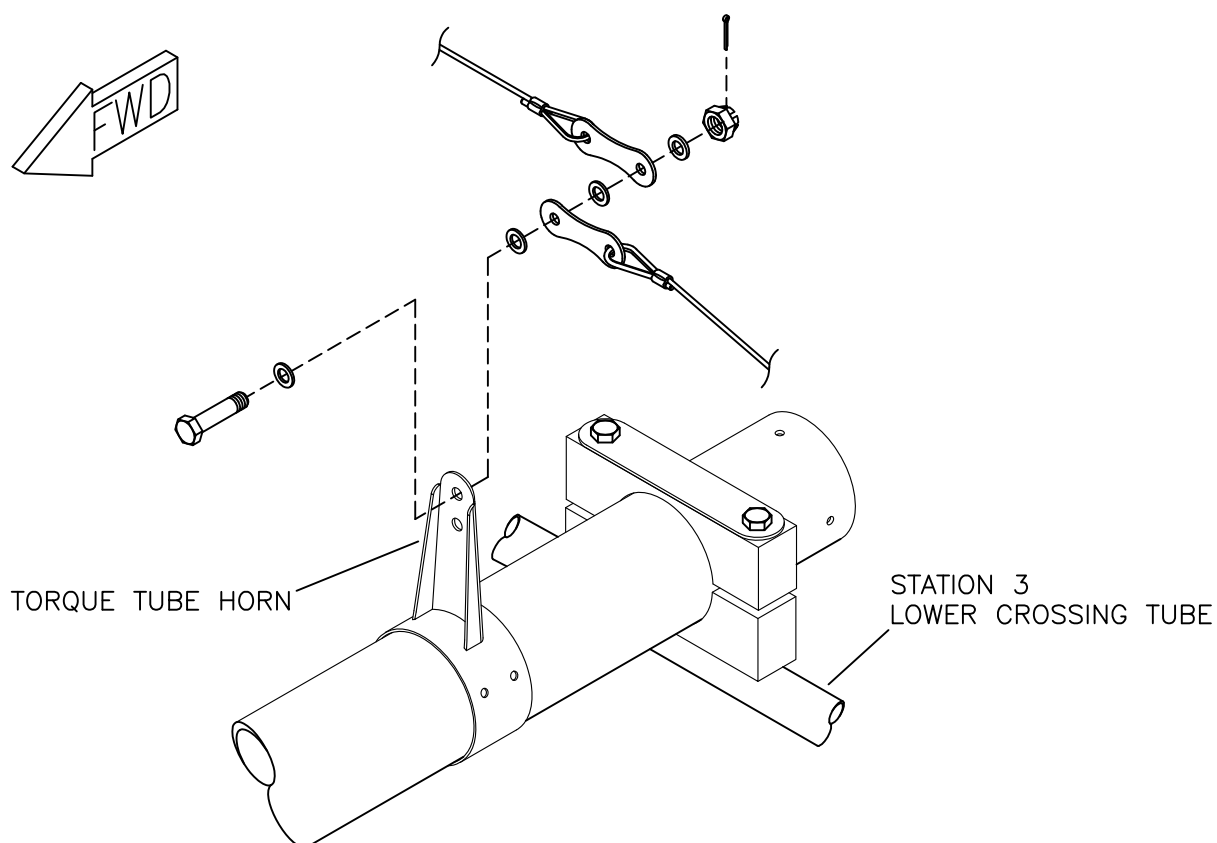
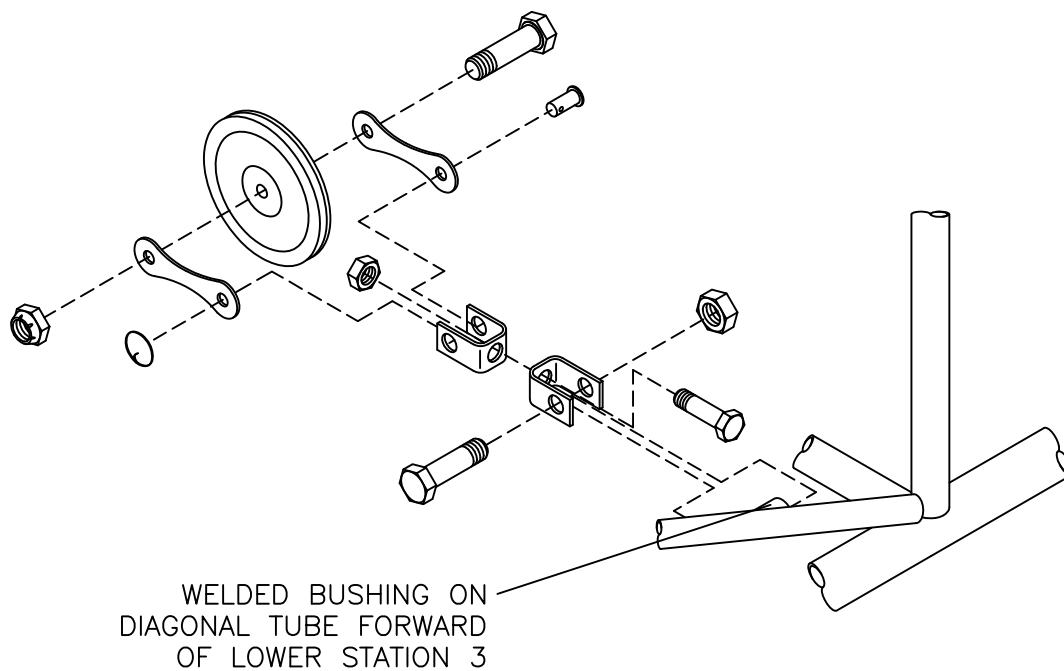


MD5622
REV. - ORIG

RRR S-7S COURIER
PITCH STOP MODIFICATION
FIGURE 02B-11



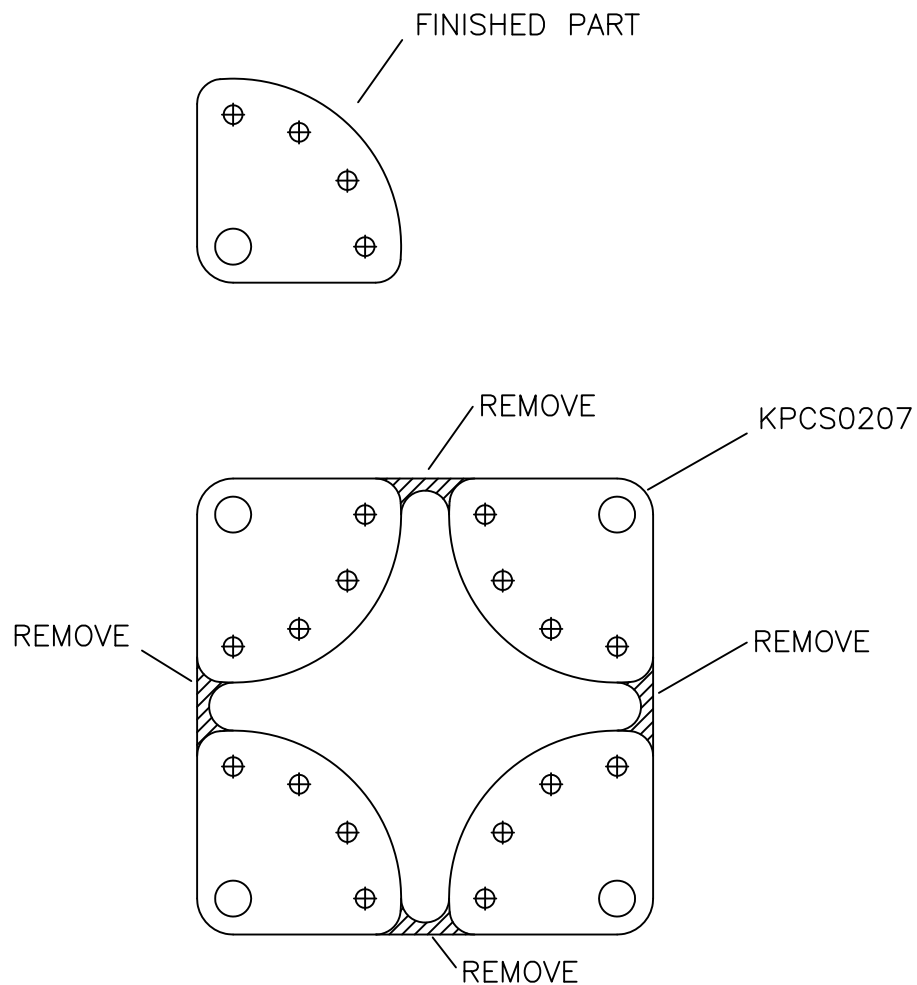
S-7S COURIER
AILERON CONTROL SYSTEM OVERVIEW
FIGURE 02C-01



MD4417

RANS S-7S COURIER
AILERON CABLE SYSTEM
FIGURE 02C-02

09/01/2014

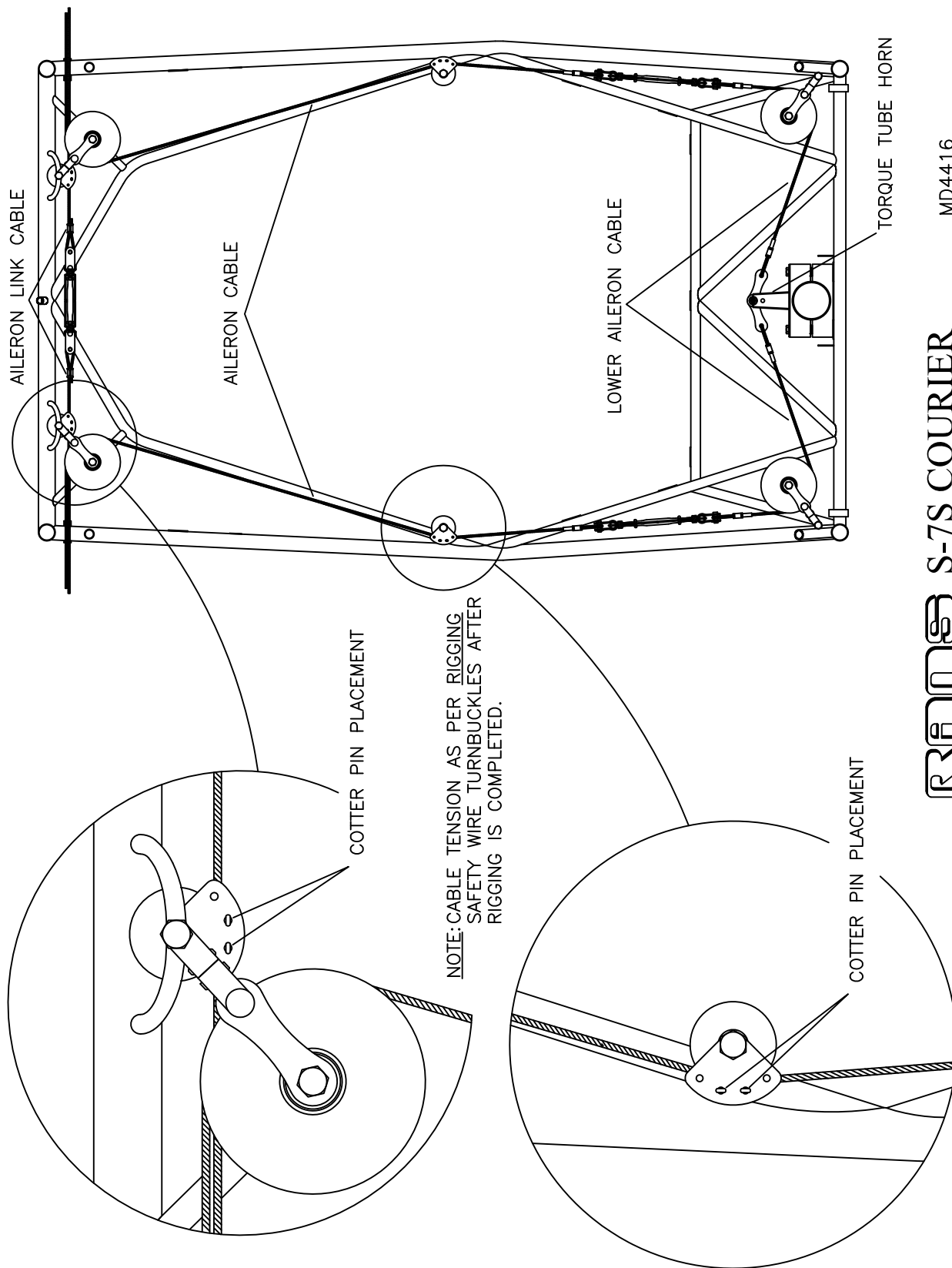


REMOVE SHADED AREA, MAKES 4 PARTS

MD4390

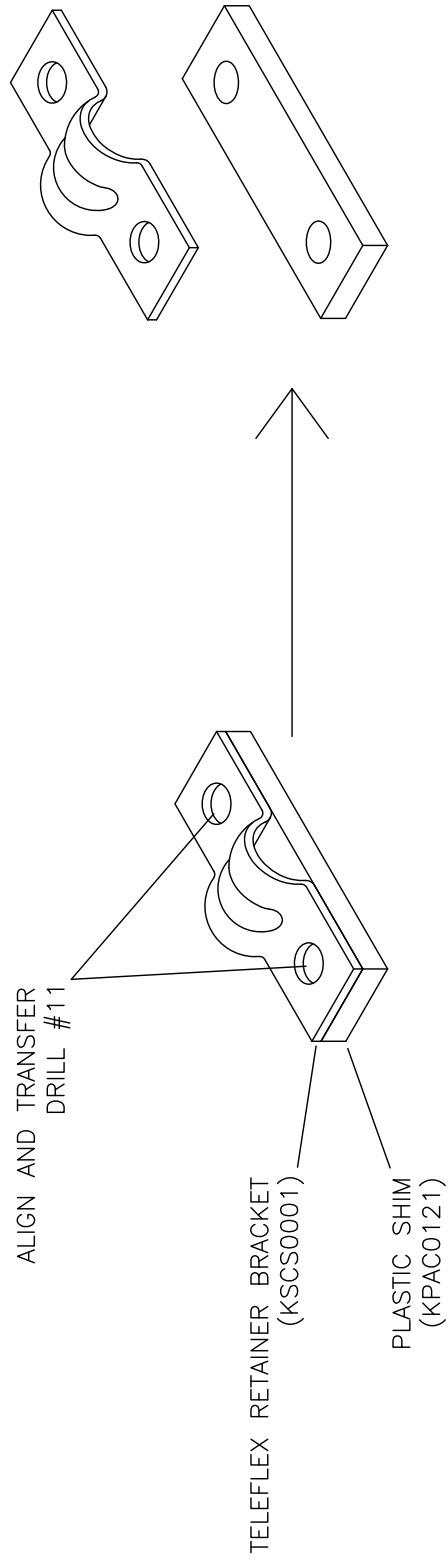
RANS S-7S COURIER
CABLE KEEPER MODIFICATION
FIGURE 02C-06

09/01/2014



S-7S COURIER
AILERON CONTROL SYSTEM
FIGURE 02C-11

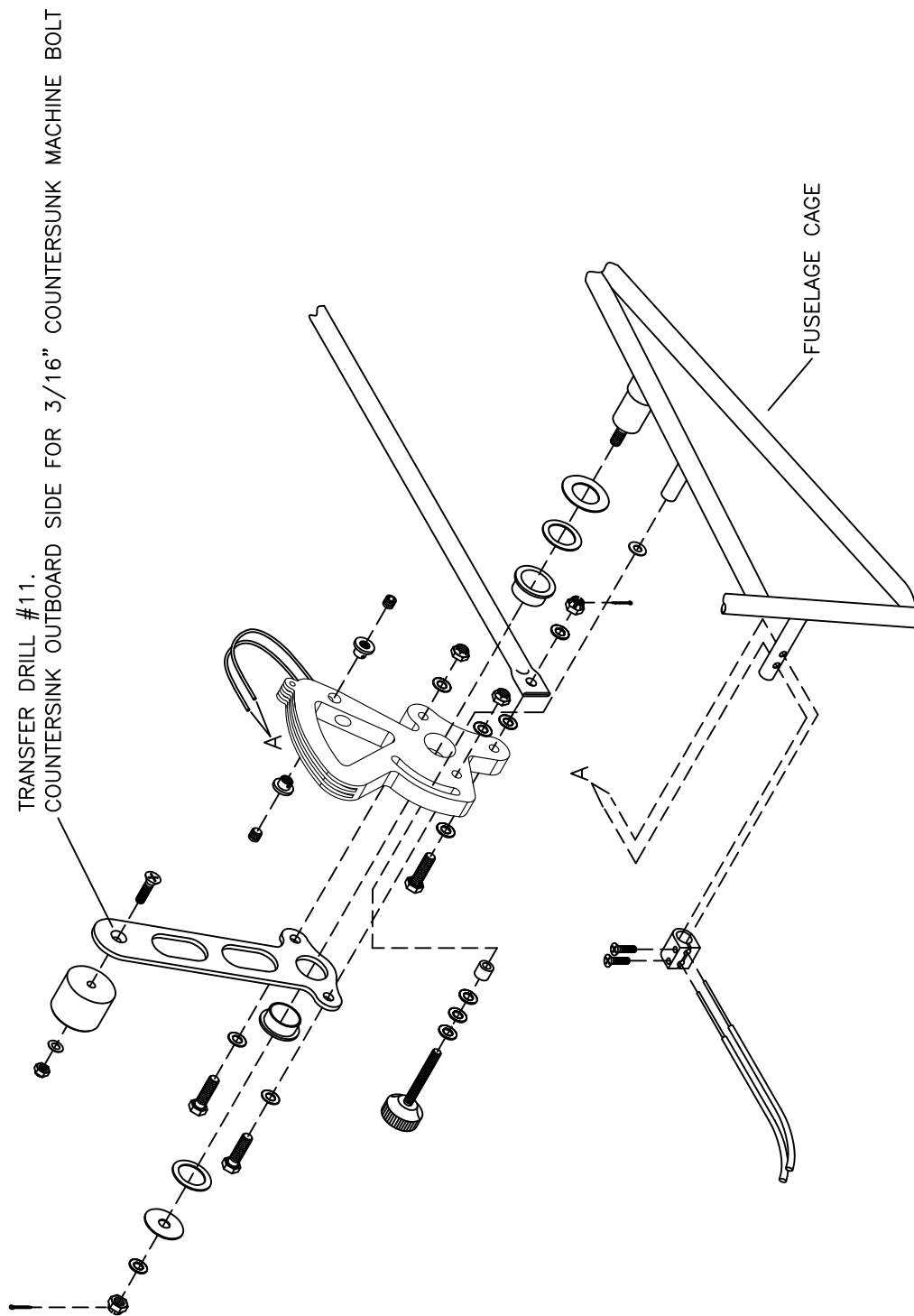
MD4416



MODIFY 2 PLASTIC SHIMS

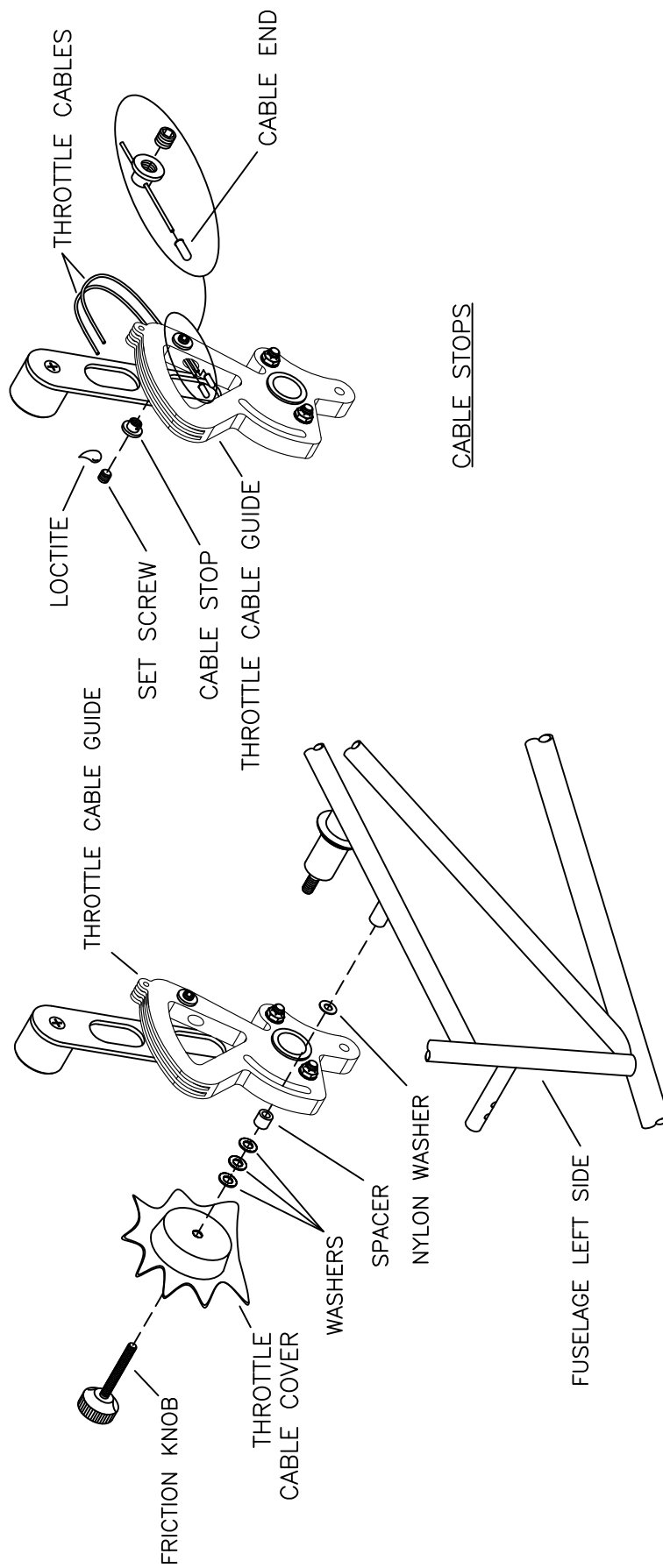
MD5617

RRMS S-7S COURIER
FLAP LEVER PLASTIC SHIM MODIFICATION
FIGURE 02D-07



MD4323

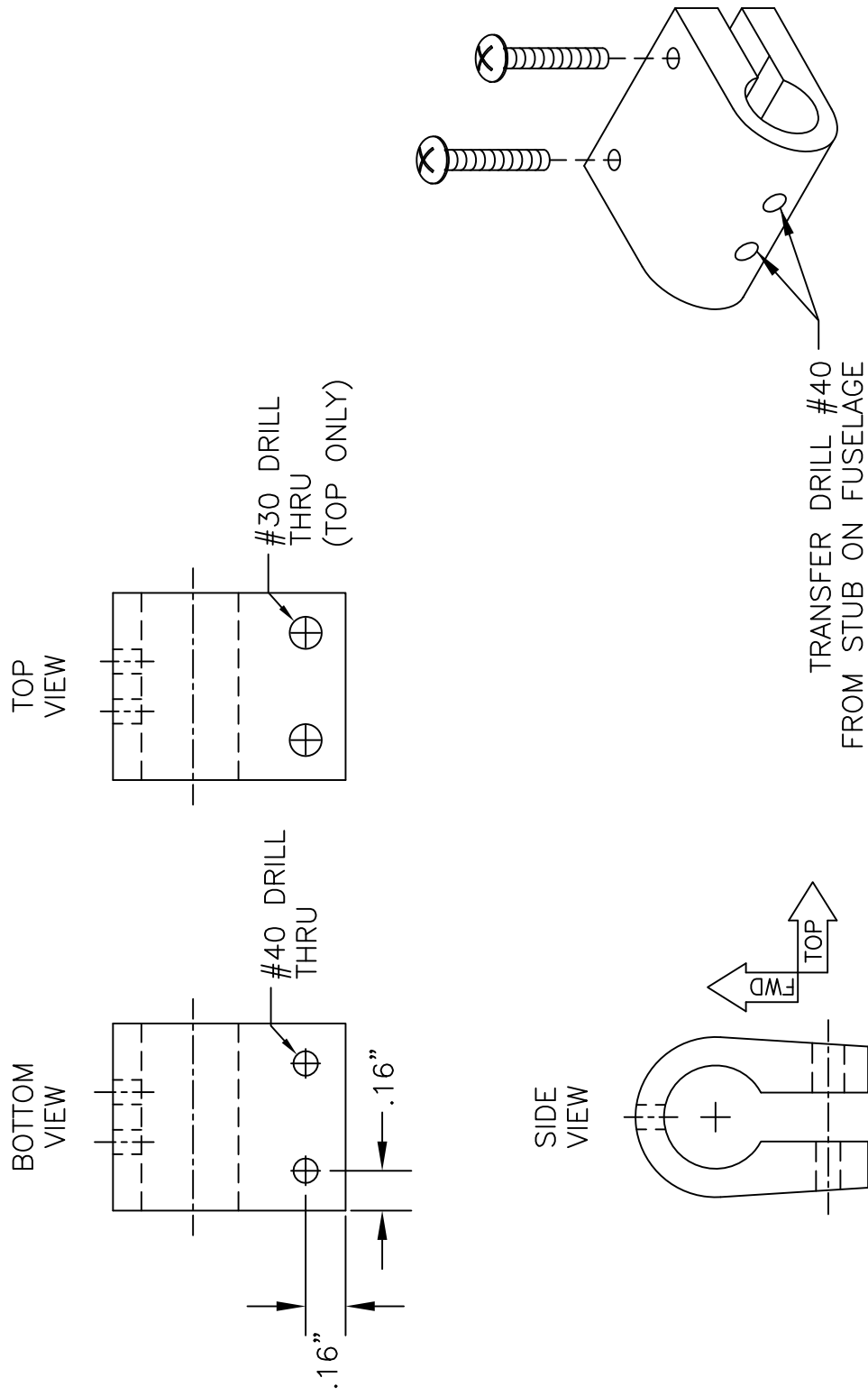
RAMS S-7S COURIER
FORWARD THROTTLE LEVER INSTALLATION
FIGURE 02E-01



FRICION KNOB

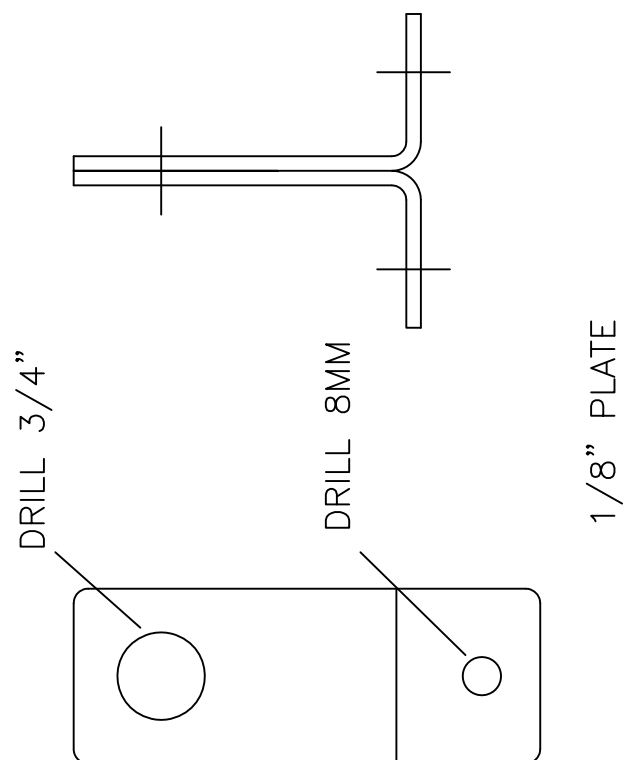
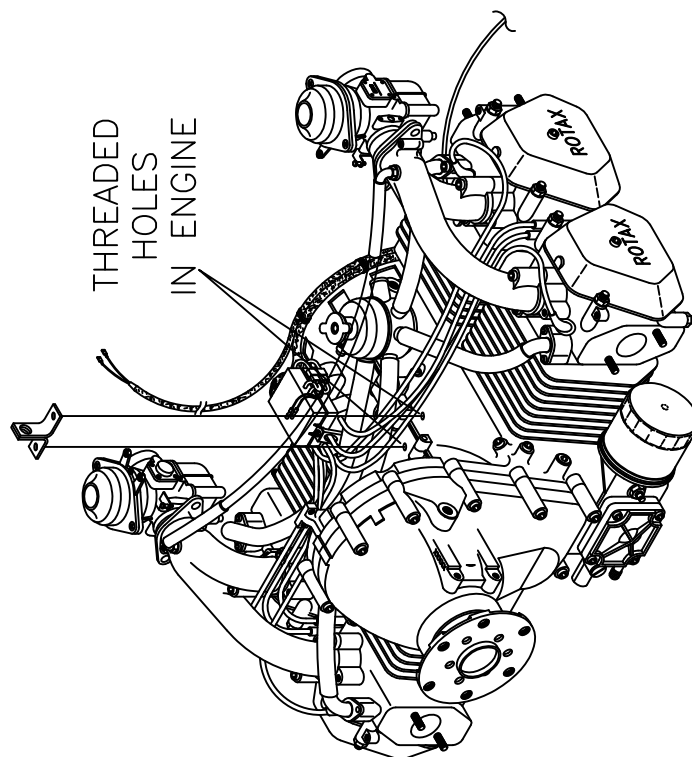
MD4322

RAMS S-7S COURIER **THROTTLE FRICTION KNOB AND** **CABLE STOP INSTALL** **FIGURE 02E-11**

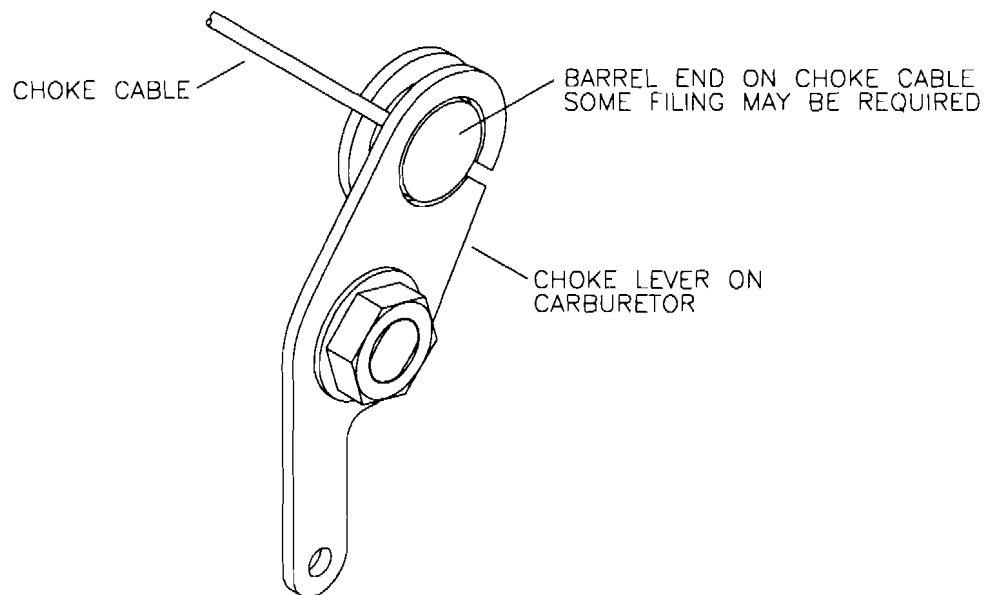
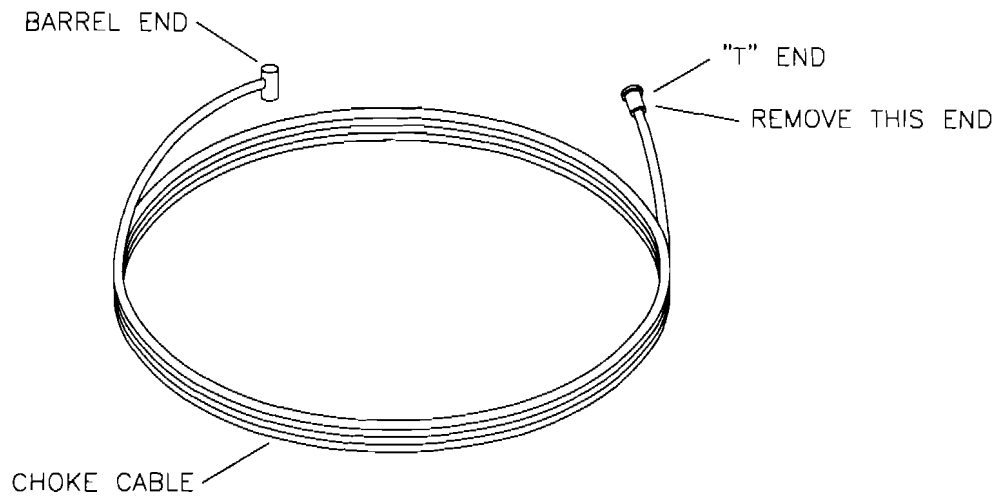


RRAMES S-7S COURIER
THROTTLE CABLE RETENTION BLOCK
FIGURE 02E-13

MD4321

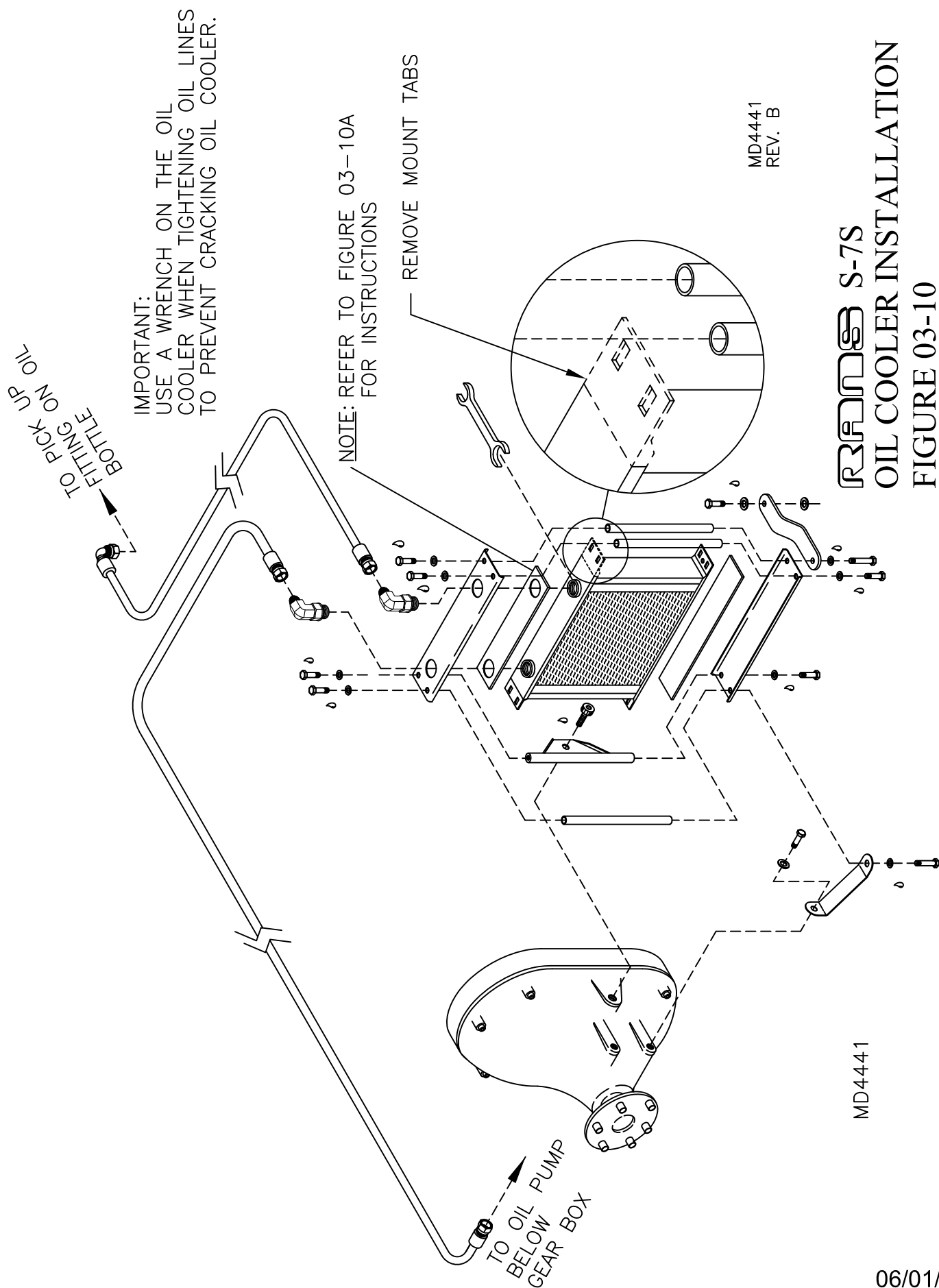


RAM S-7S COURIER
ENGINE LIFT ANGLES
FIGURE 03-06



MD4440

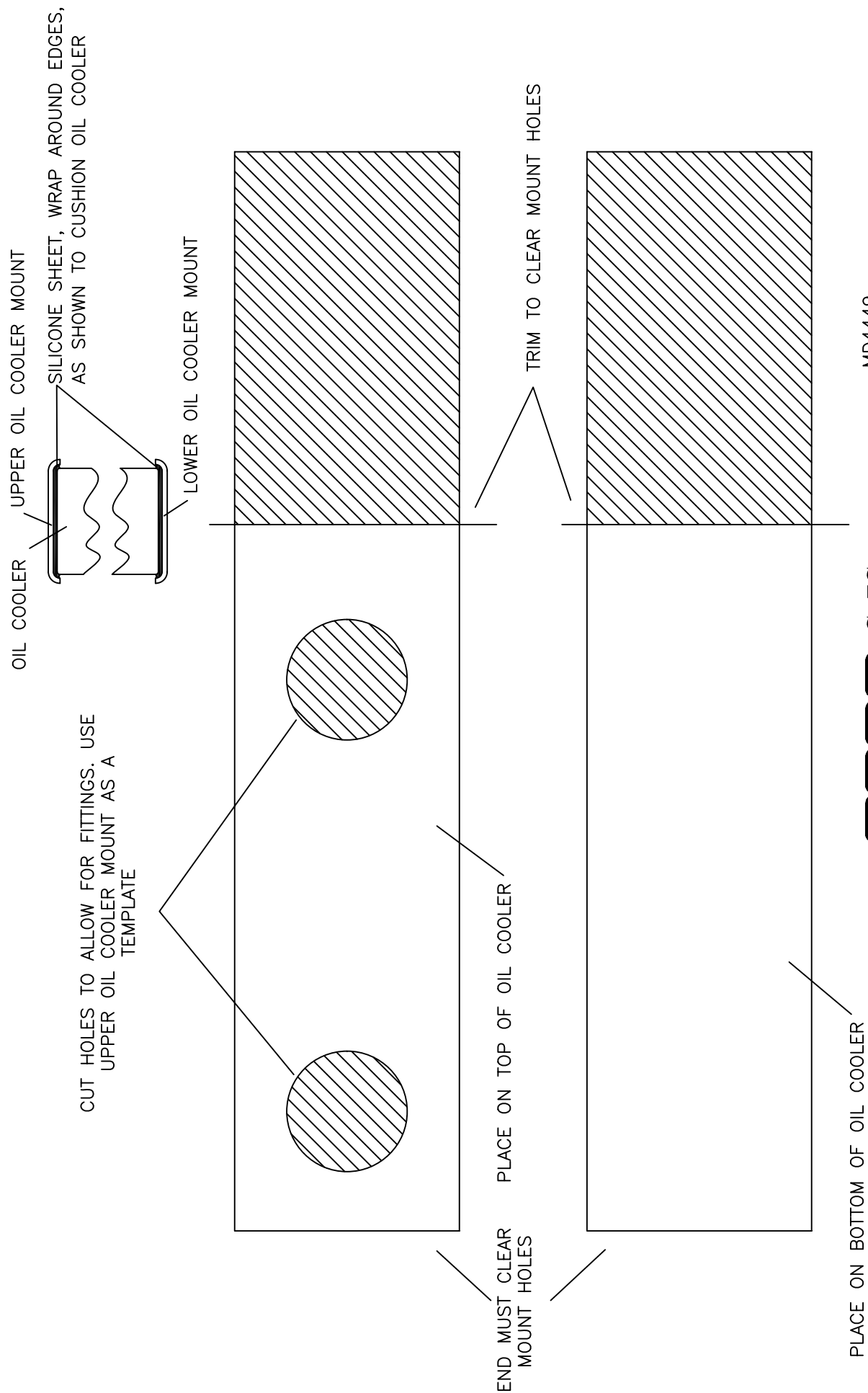
RANS S-7S **CHOKE CABLE INSTALLATION FIGURE 03-09**



MD4441
REV. B

RAMS S-7S OIL COOLER INSTALLATION FIGURE 03-10

MD4441

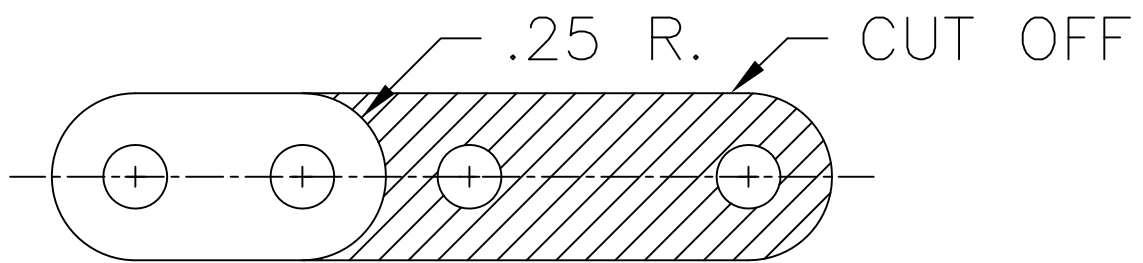


MD4449

RAMMS S-7S

OIL COOLER INSTALLATION

FIGURE 03-10A



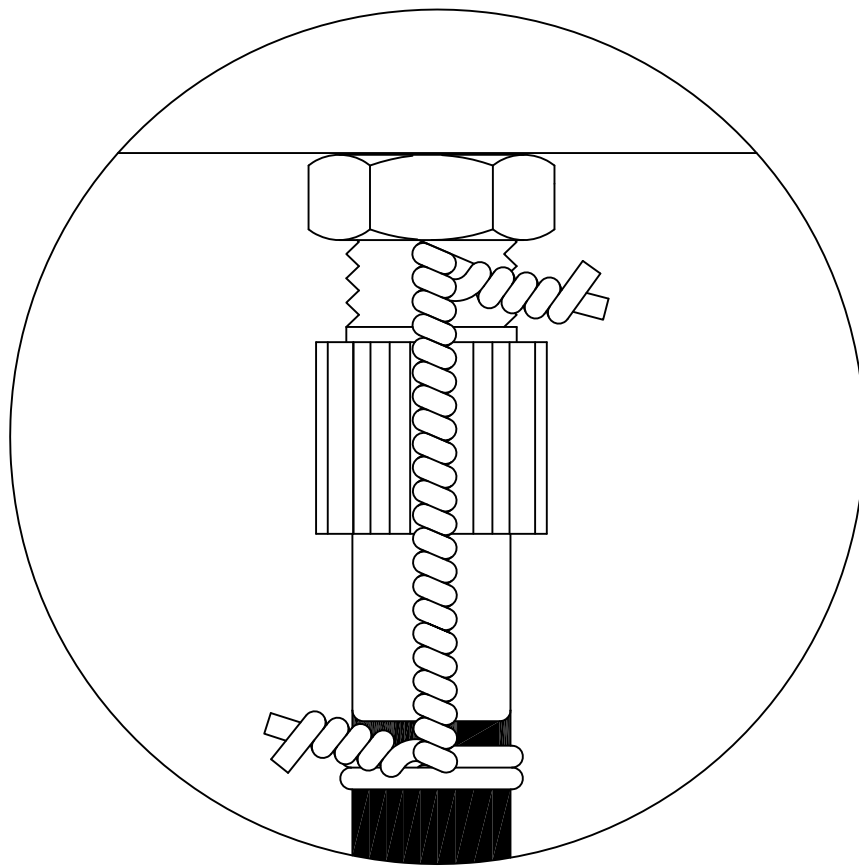
MODIFY MULTI-HOLE TANG
AS SHOWN

MD4439

RANS S-7S COURIER
MULTI-HOLE TANG MODIFICATION
FIGURE 03-12

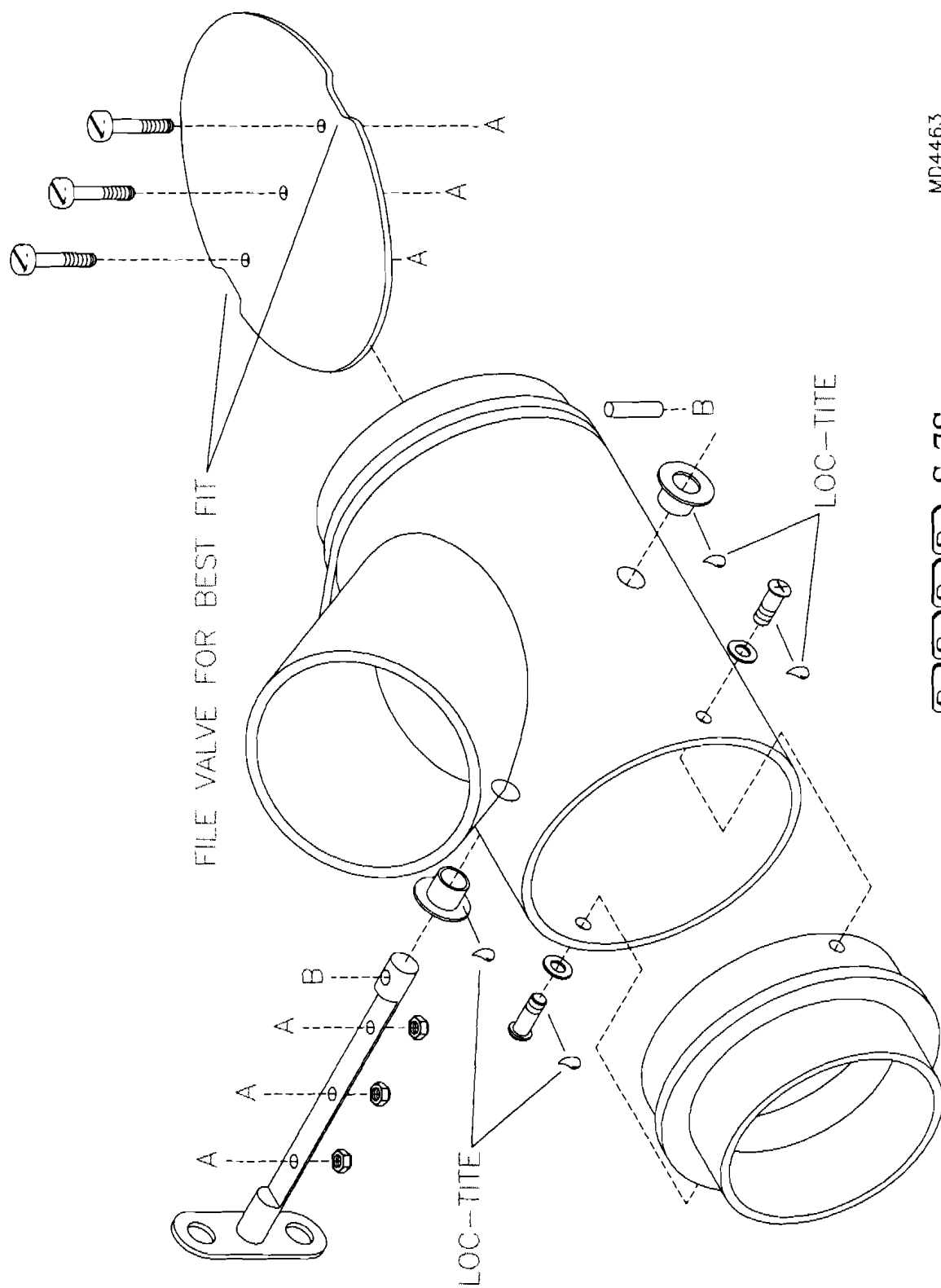
09/01/2014

SAFETY WIRE ALL CABLE HOUSING ENDS
TO FERRULES AS SHOWN



RAMS S-7S COURIER
CABLE HOUSING SECURING
FIGURE 03-13

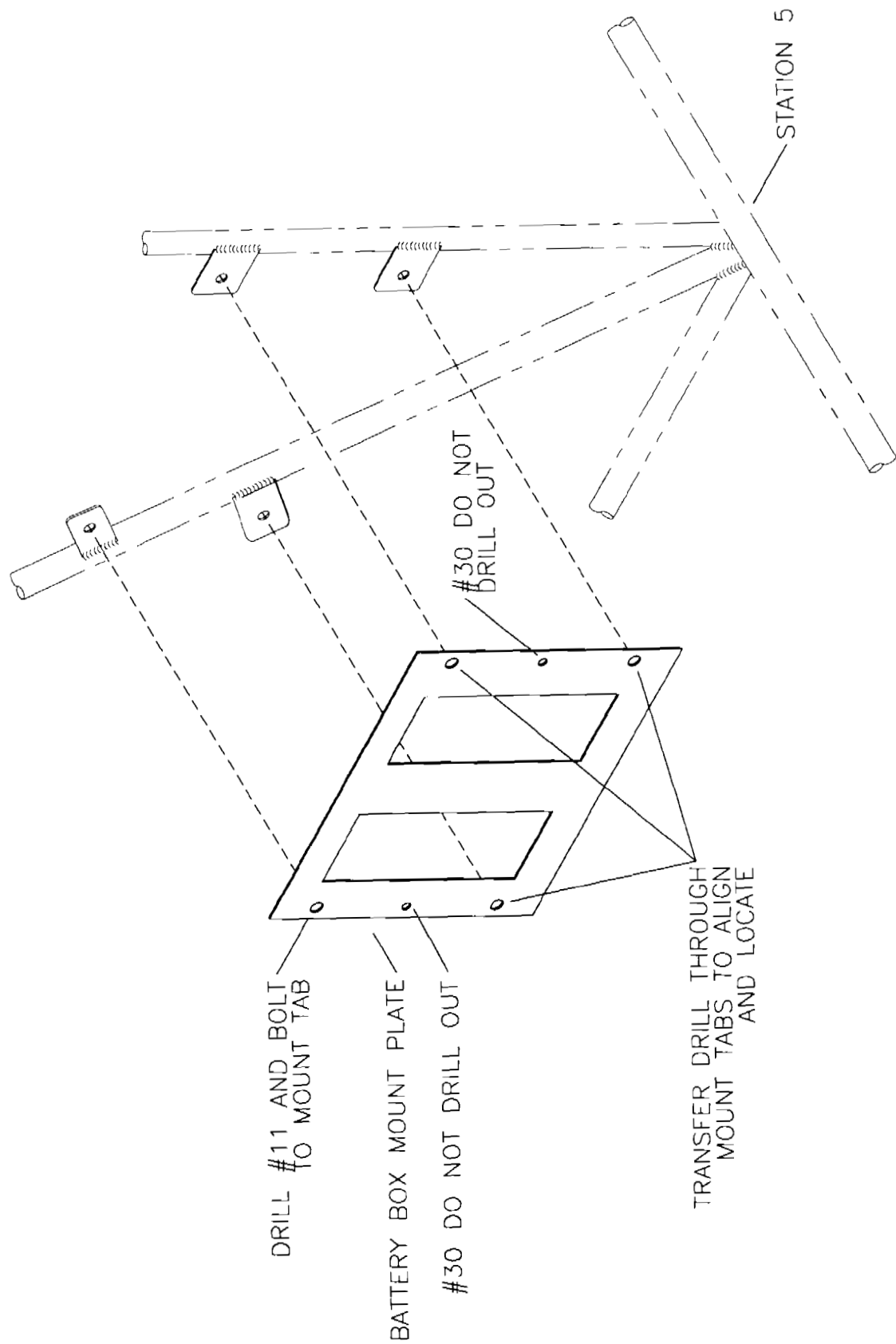
MD4436



MD4463

RRM S-7S

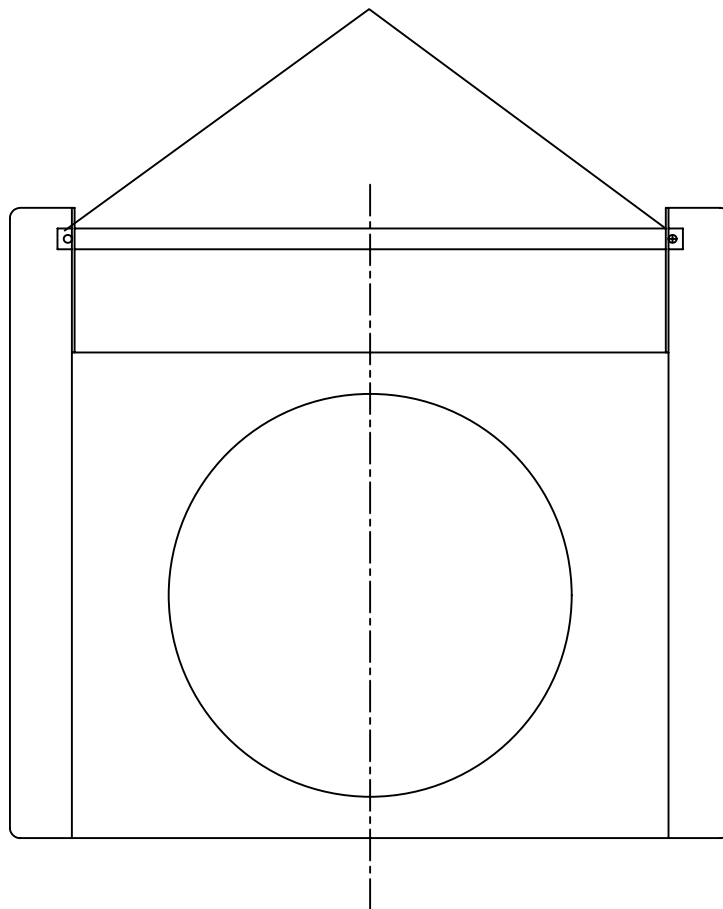
CARB HEAT ASSEMBLY FIGURE 03-14



MD4289

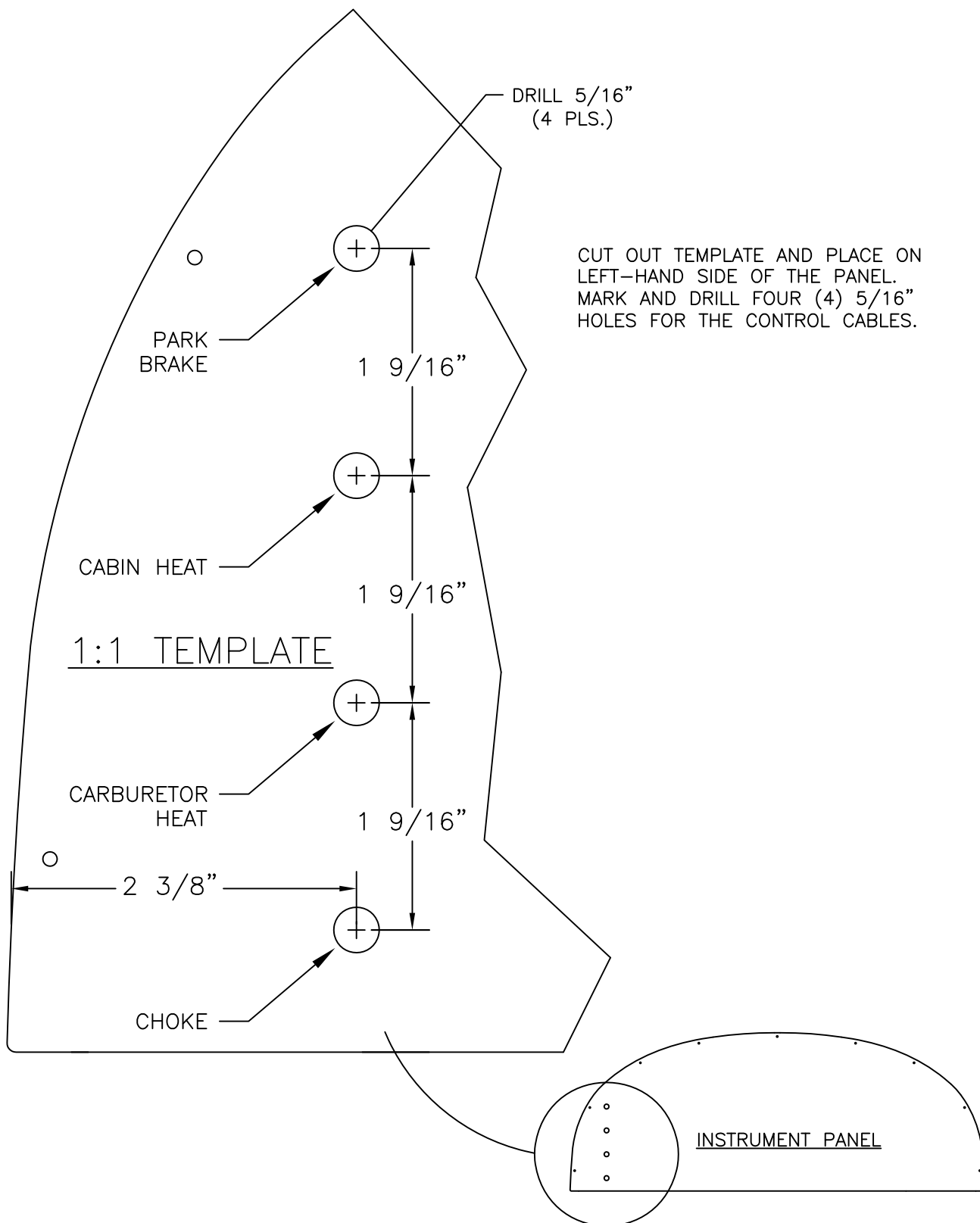
RRAMES S-7S **BATTERY BOX PLATE FIGURE 04-01**

CENTER BATTERY BAR AND DRILL #40
AS NECESSARY



RANS S-7S
BATTERY BAR MODIFICATION
FIGURE 04-01A

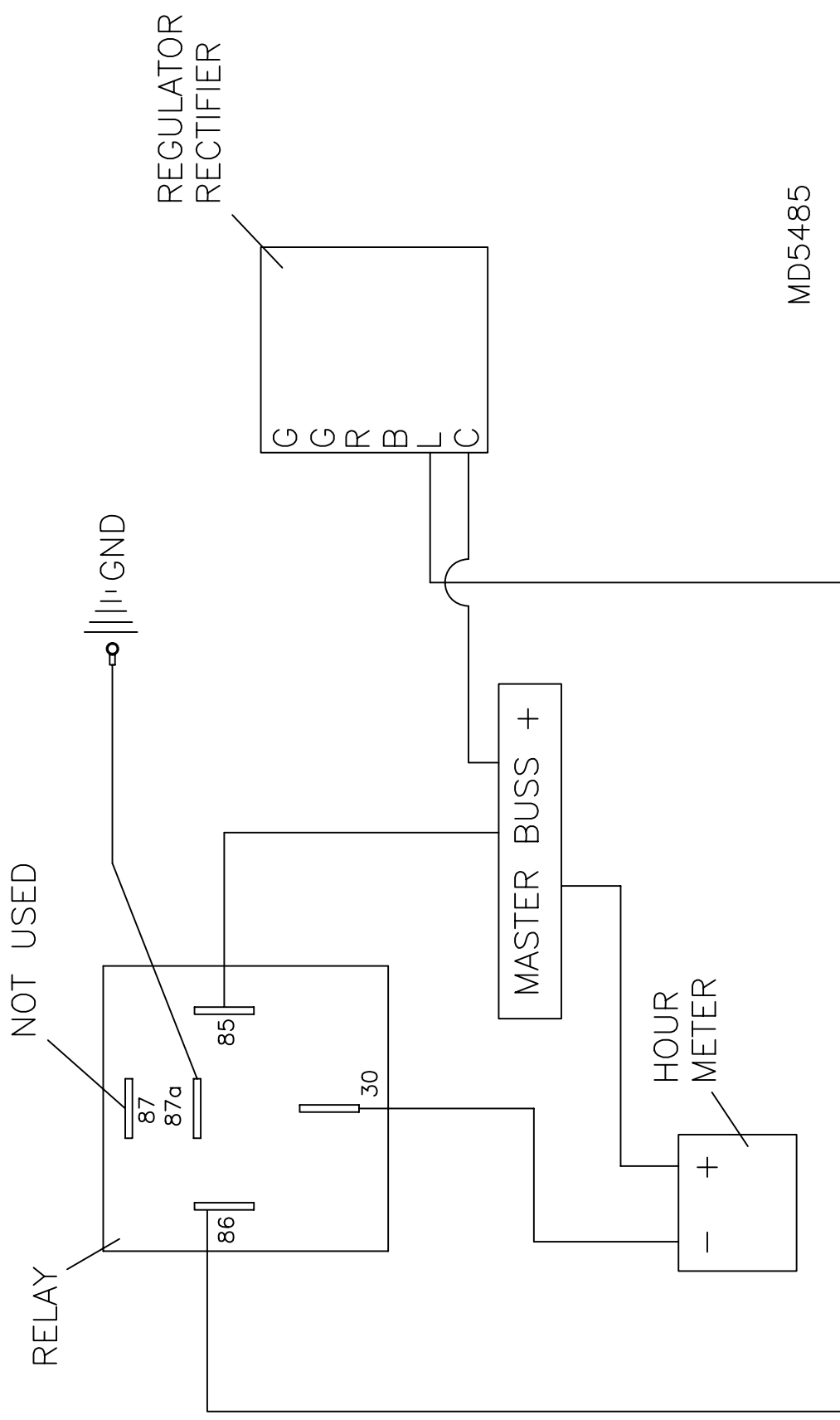
MD5468



MD4437

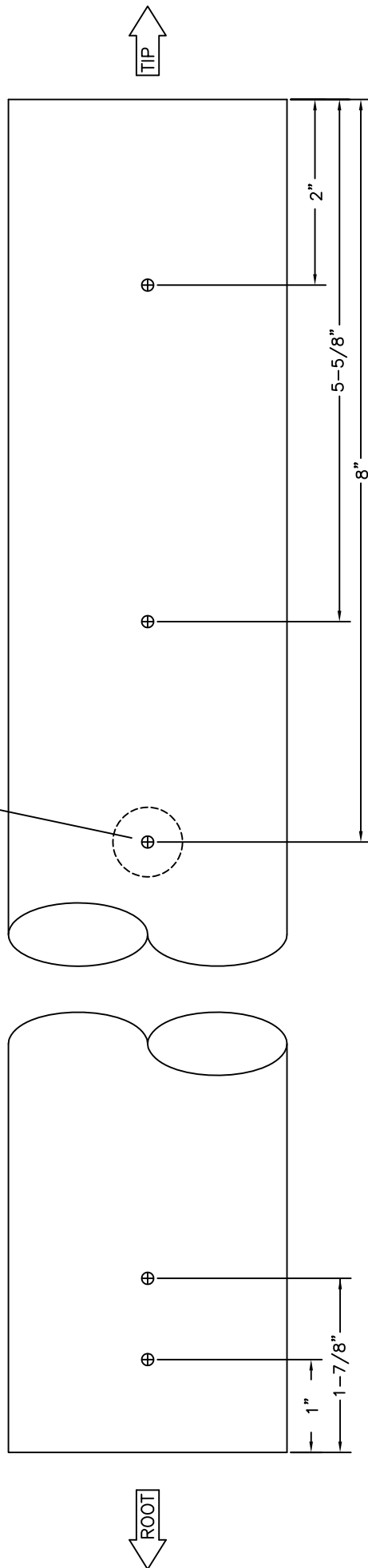
RANS S-7S
VERTICAL INSTRUMENT PANEL
DRILL TEMPLATE
FIGURE 04-02

01/15/2013

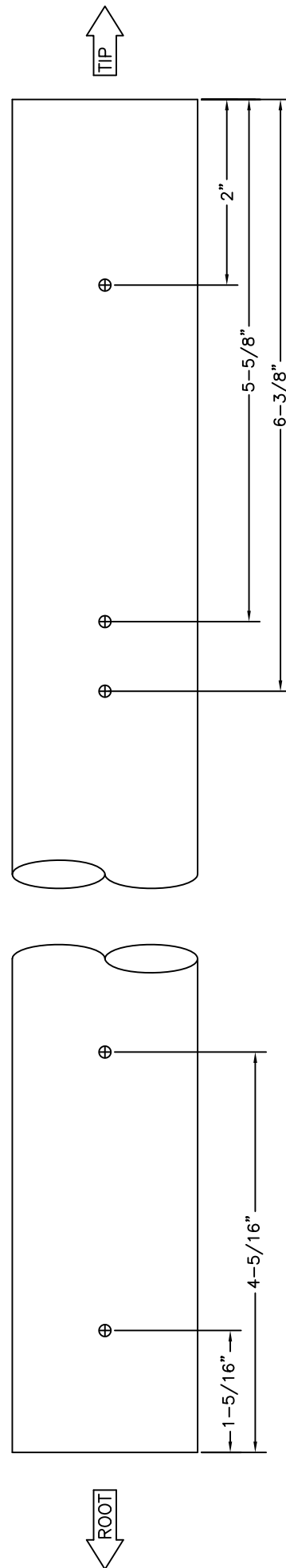


RAMS S-7S
HOUR METER RELAY
FIGURE 04A-01

LH SPAR ONLY (STEP DRILL TO 3/4" ON BOTH SIDES; THIS HOLE ONLY)
FOR PITOT/STATIC TUBE INSTALLATION



LEADING EDGE SPAR (FWD SIDE SHOWN)

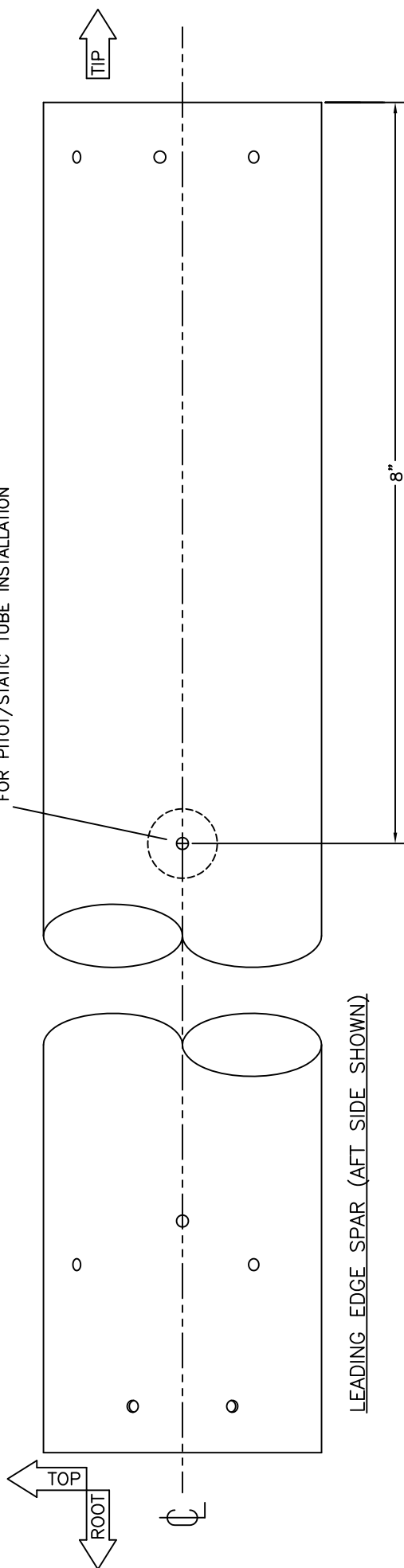


TRAILING EDGE SPAR (AFT SIDE SHOWN)

MD4351
REV. A

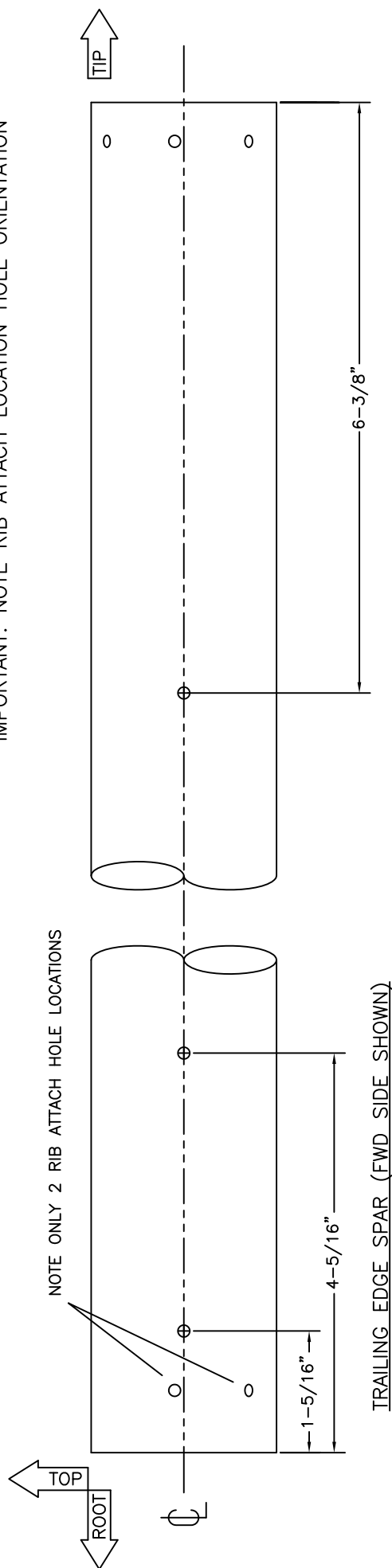
RAMS S-7S WING SPAR ORIENTATION FIGURE 05-02

LH SPAR ONLY (STEP DRILL TO 3/4" ON BOTH SIDES; THIS HOLE ONLY)
FOR PITOT/STATIC TUBE INSTALLATION



LEADING EDGE SPAR (AFT SIDE SHOWN)

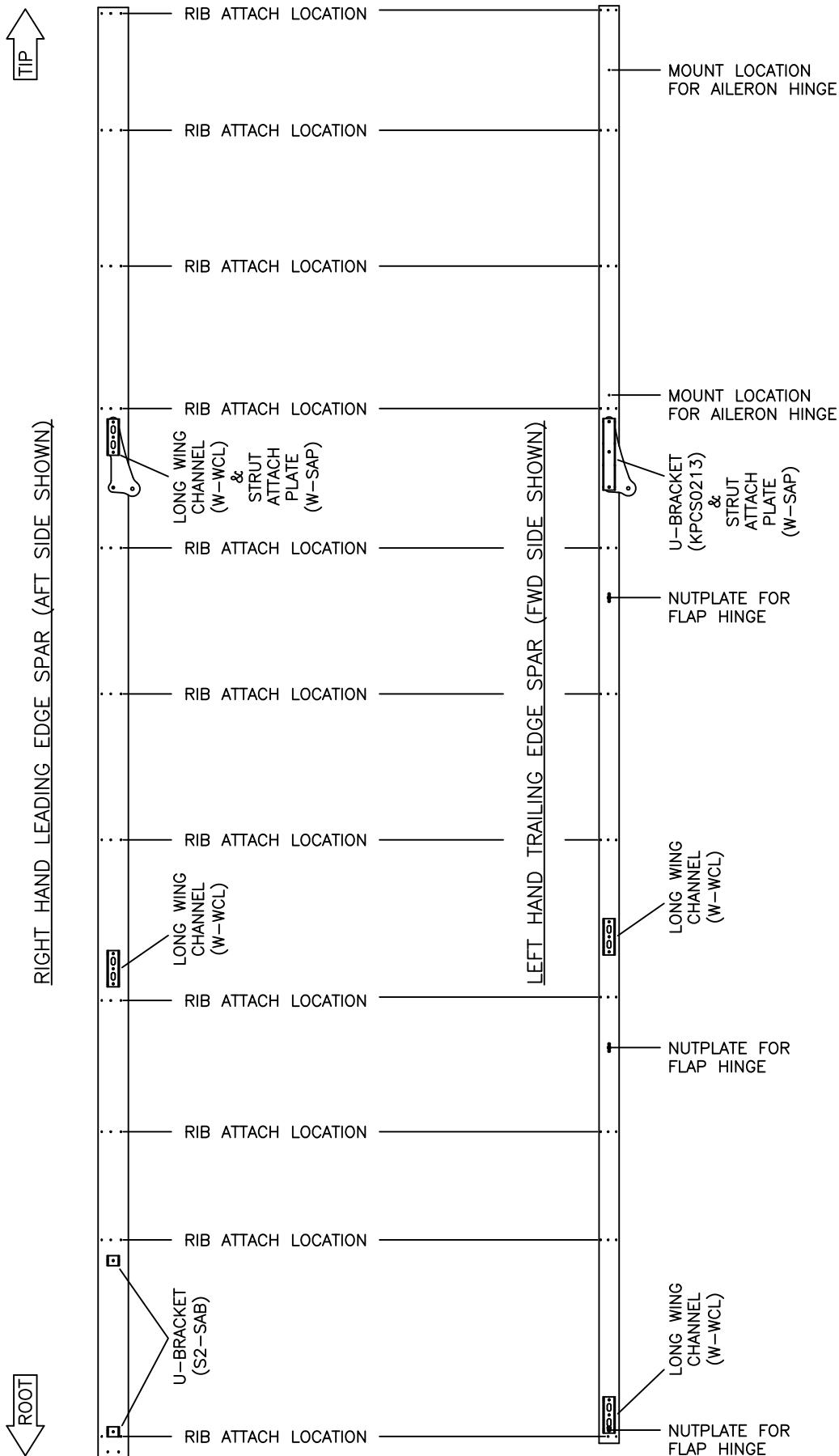
IMPORTANT: NOTE RIB ATTACH LOCATION HOLE ORIENTATION



TRAILING EDGE SPAR (FWD SIDE SHOWN)

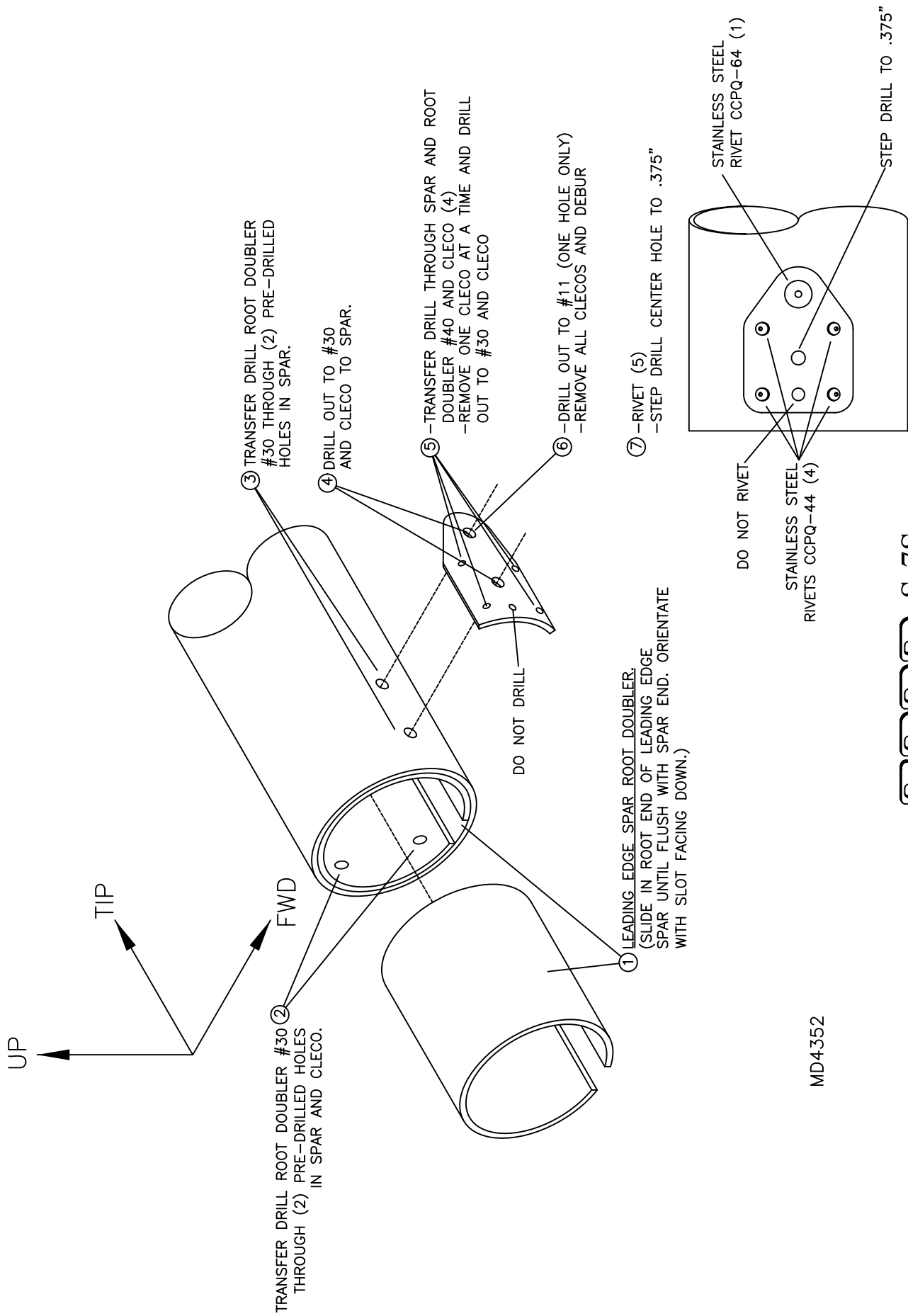
MD4351
REV. A

RAMS S-7S WING SPAR ORIENTATION FIGURE 05-02A



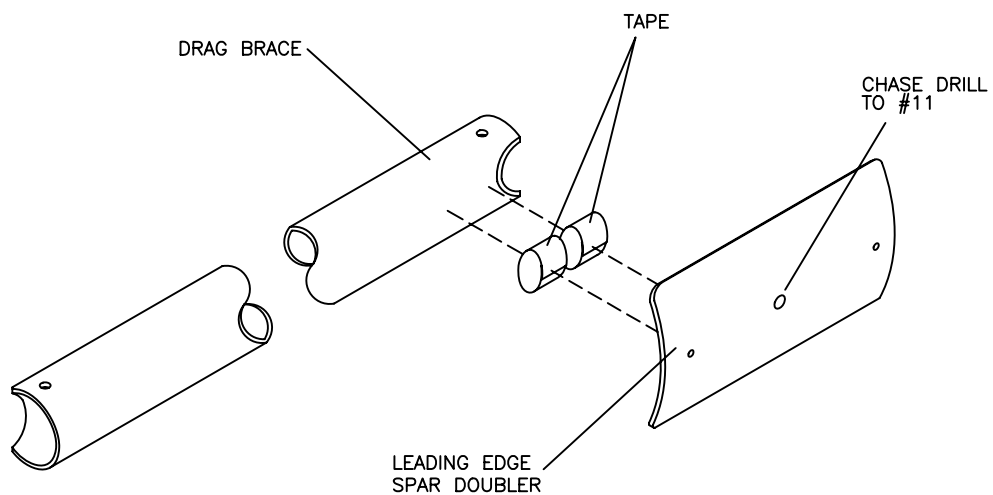
MD4351
REV. B

RFA S-7S WING SPAR ORIENTATION FIGURE 05-03

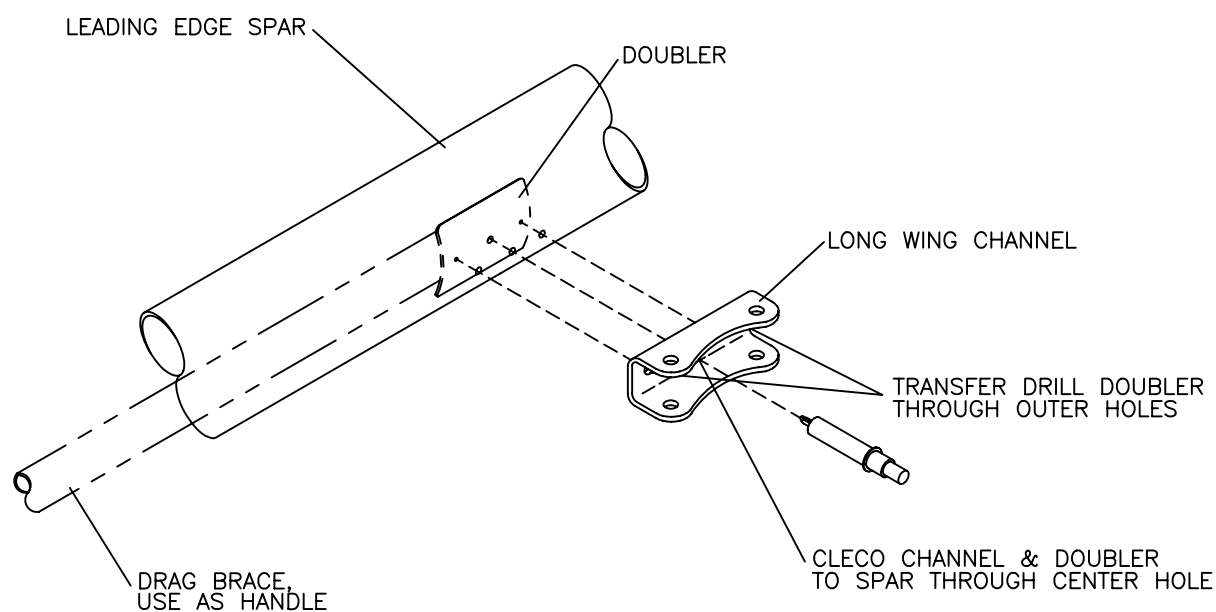


MD4352

RAMP S-7S
**LEADING EDGE SPAR ROOT DOUBLER &
 LEADING EDGE SPAR PATCH INSTALLATION**
FIGURE 05-05



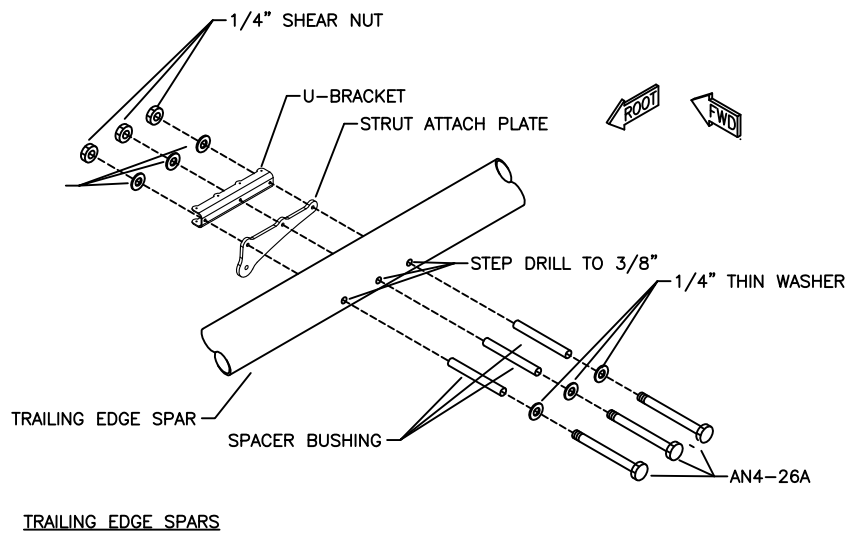
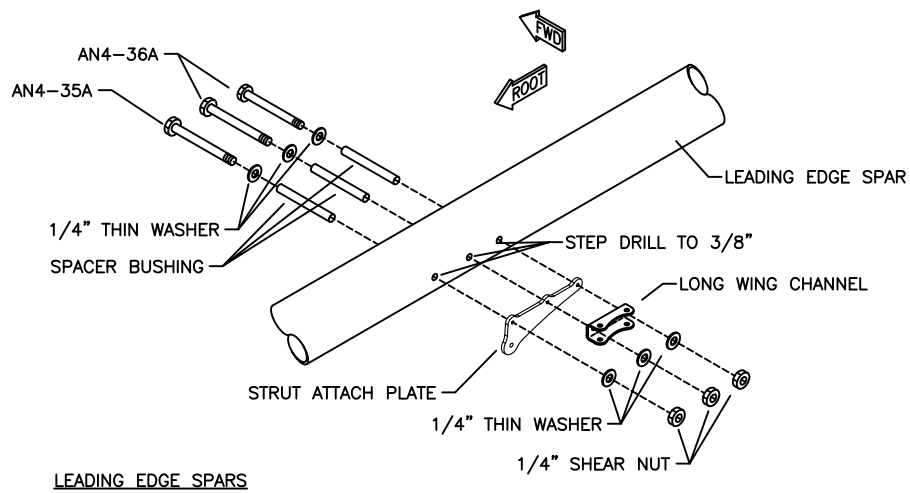
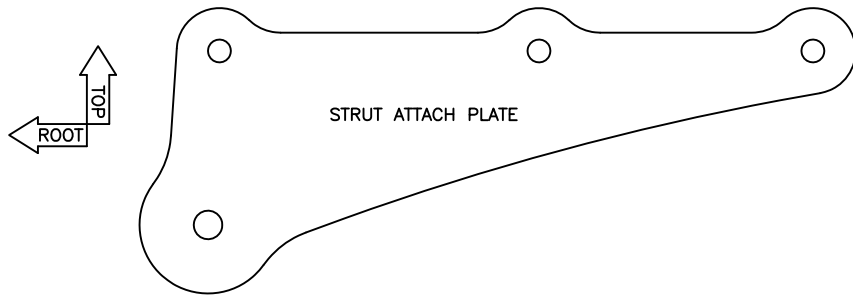
NOTE: USE DRAG BRACE TO POSITION DOUBLER INSIDE THE LEADING EDGE SPAR.



MD4353

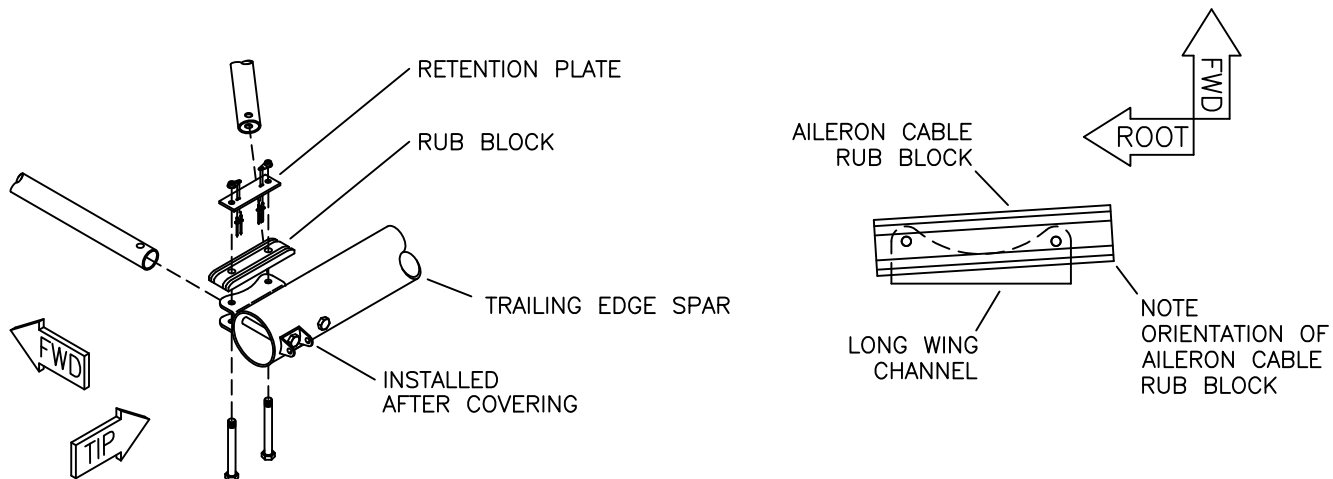
RANS S-7S **LEADING EDGE SPAR** **DOUBLER INSTALLATION** **FIGURE 05-14**

06/15/2011

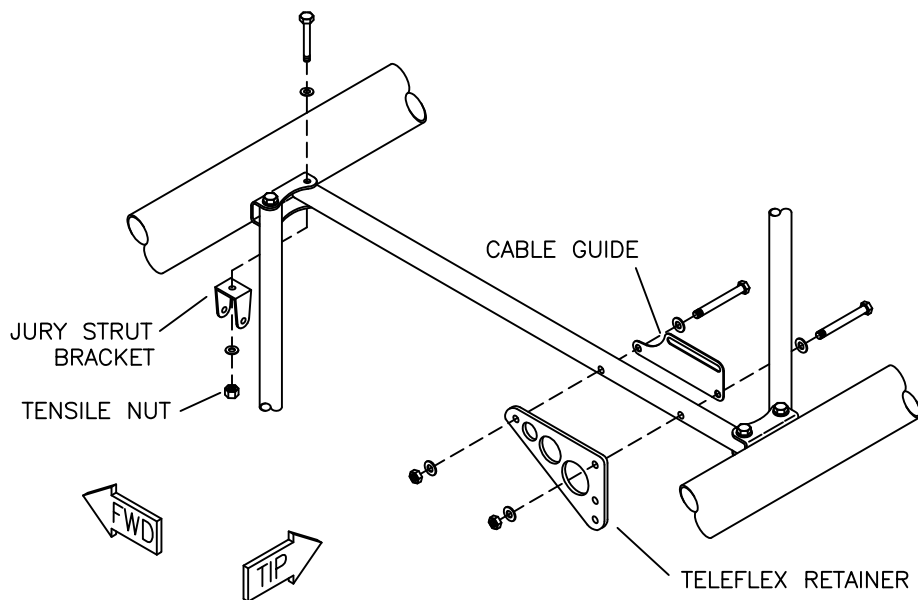


MD4354
REV. A

RANS S-7S **STRUT ATTACH PLATE INSTALLATION** **LEADING AND TRAILING EDGE SPARS** **FIGURE 05-18**



AILERON CABLE RUB BLOCK



JURY STRUT BRACKET, CABLE GUIDE AND TELEFLEX RETAINER

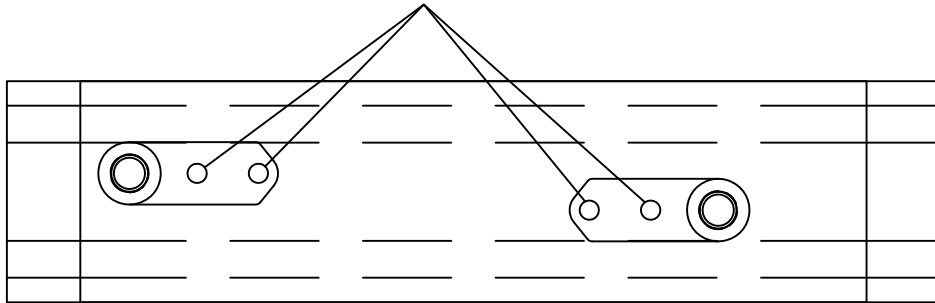
MD4355
REV. A

RANS S-7S COURIER **WING FRAME ASSEMBLY DETAILS** **FIGURE 05-26**

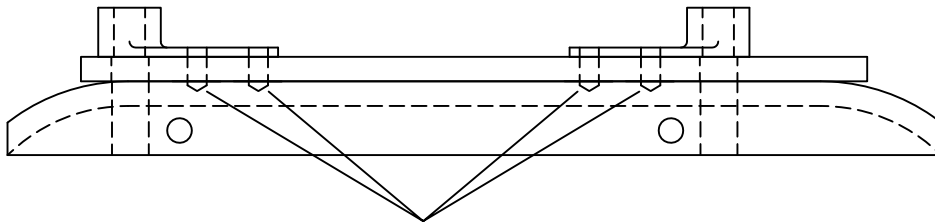
INSERT 3/16" BOLTS THROUGH RUB BLOCK & RETENTION PLATE TO ALIGN NUT PLATES.
ORIENTATE NUT PLATES PARALLEL TO RUB BLOCK.

TRANSFER DRILL #40 THROUGH PLATE.

1.

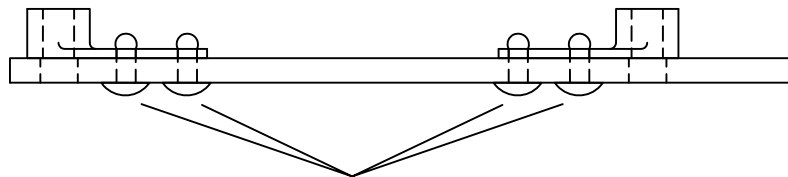


2.



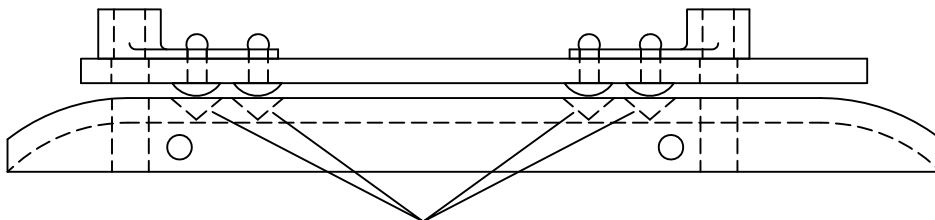
TRANSFER DRILL #40 INTO RUB BLOCK JUST
DEEP ENOUGH TO MARK RIVET HOLE LOCATIONS.

3.



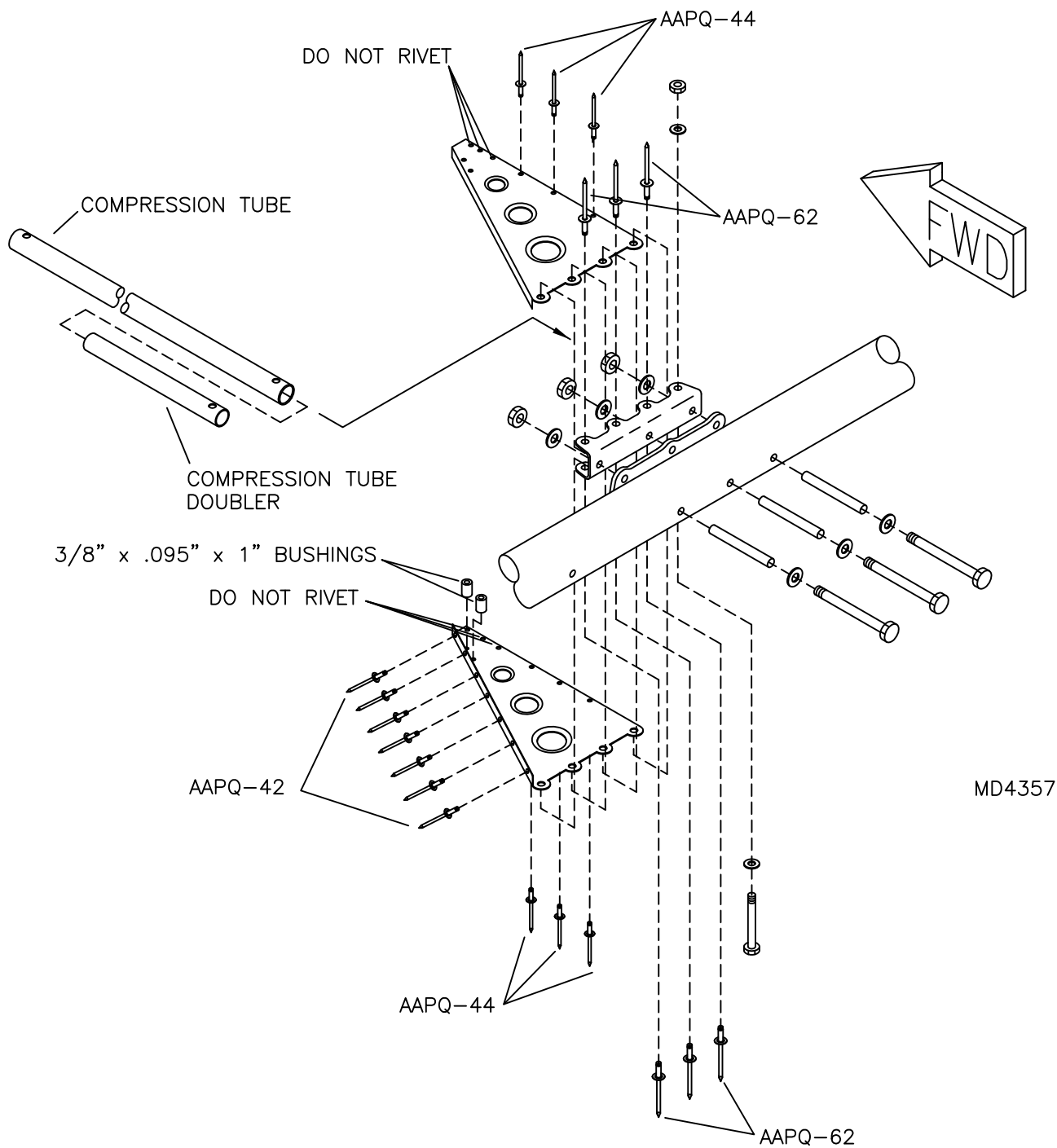
RIVET THROUGH BOTTOM OF RETENTION PLATE.

4.

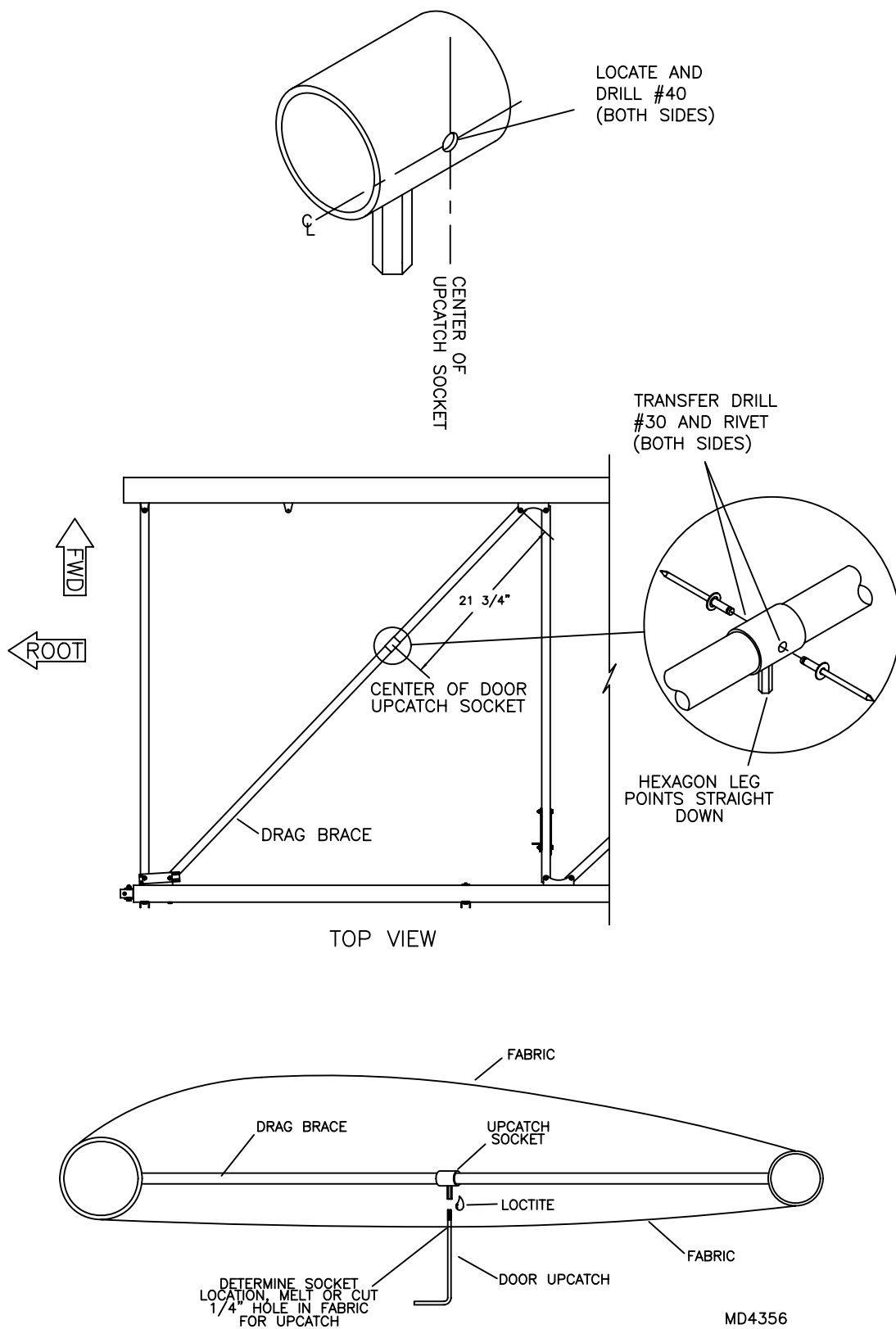


COUNTER-SINK MARKED LOCATIONS IN RUB
BLOCK TO ALLOW CLEARANCE FOR RIVET HEADS

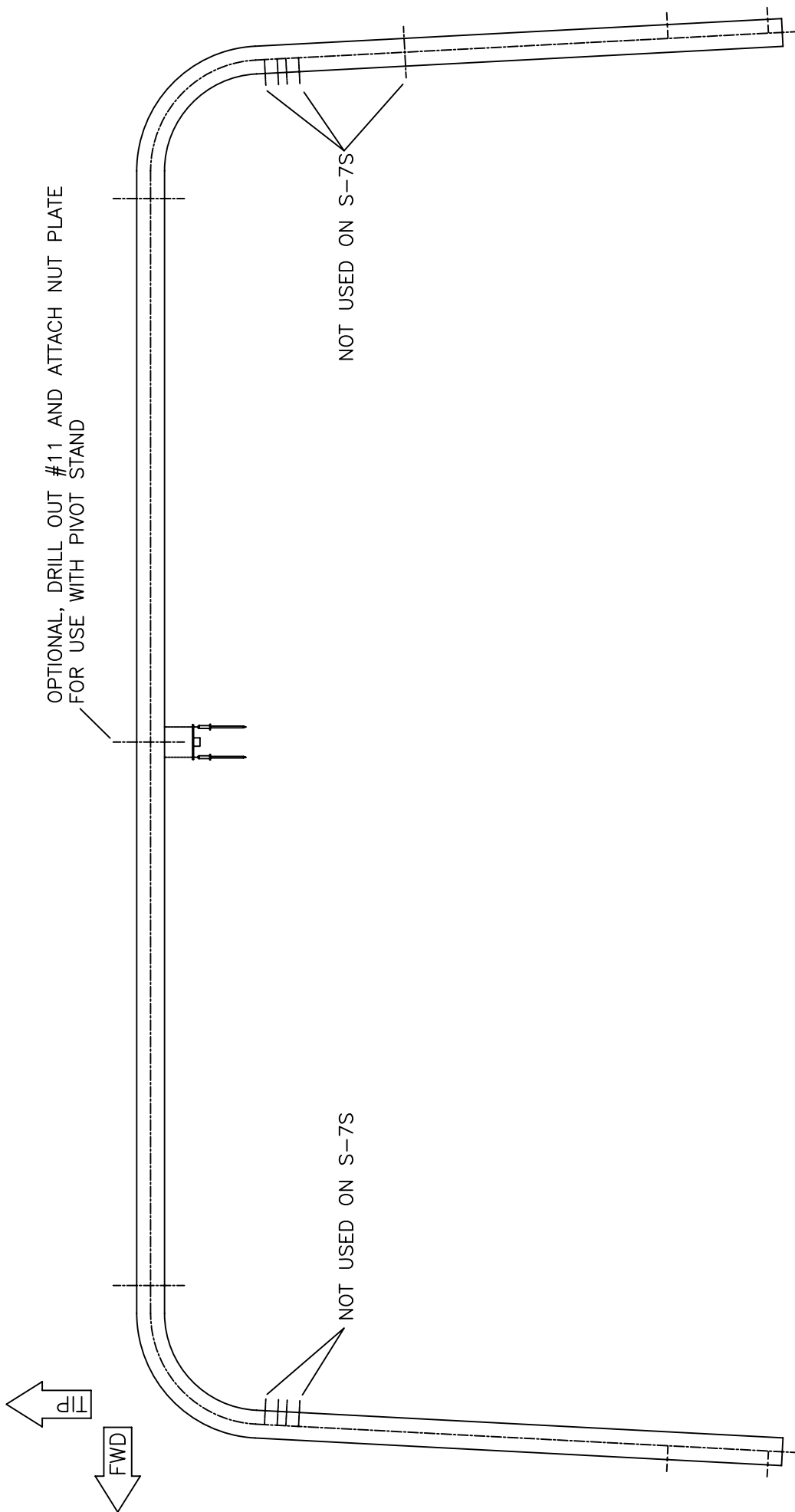
RANDS S-7S COURIER
RUB BLOCK & RETENTION PLATE
FIGURE 05-26A



RANS S-7S COURIER
BELLCRANK BRACE INSTALLATION
FIGURE 05-27

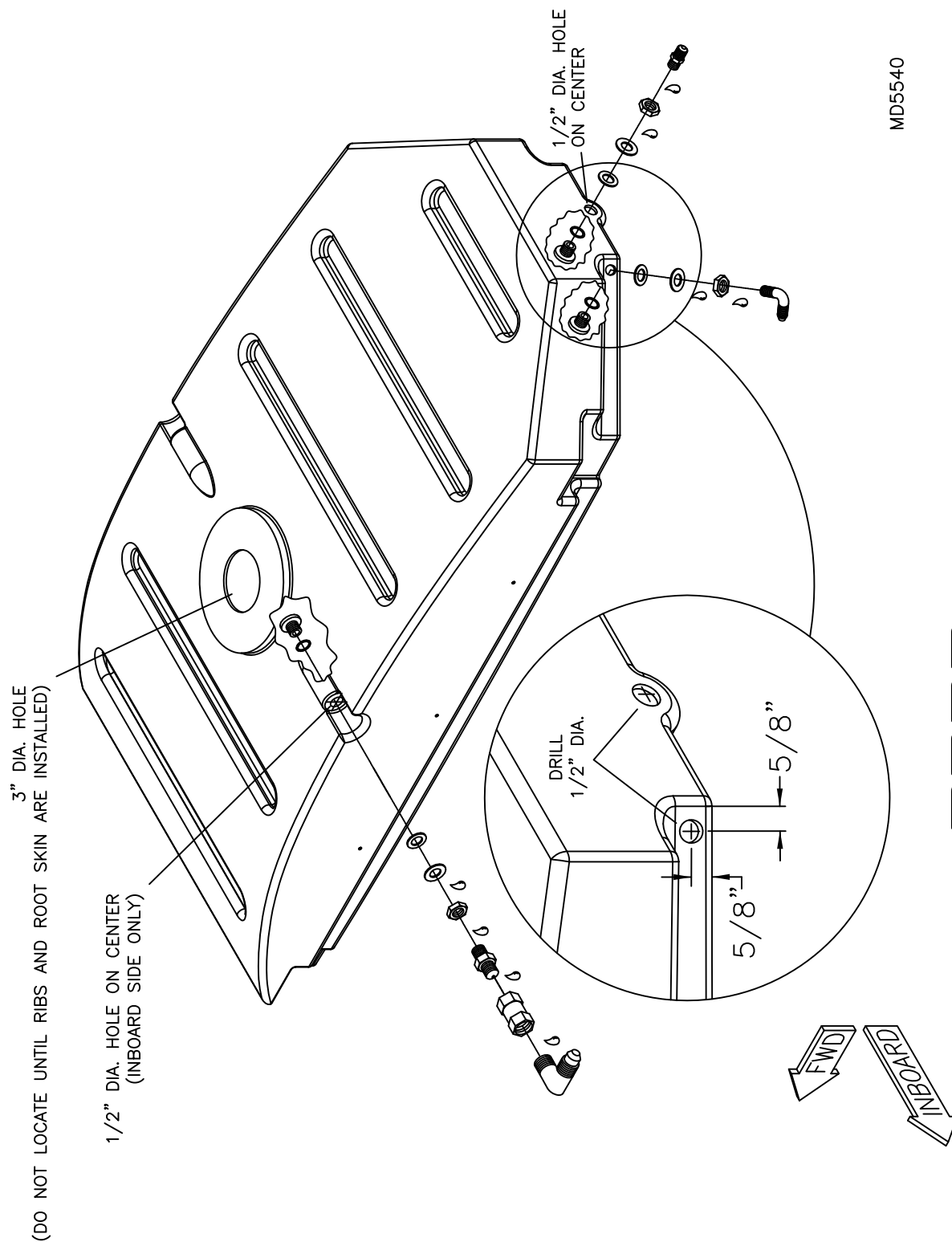


RANS S-7S
DOOR UPCATCH INSTALLATION
FIGURE 05-31



MD5552

RAMMS S-7S
TIP BOW ORIENTATION
FIGURE 05-35



MD5540

S-7S COURIER
WING FUEL TANK ASSEMBLY
FIGURE 05A-02



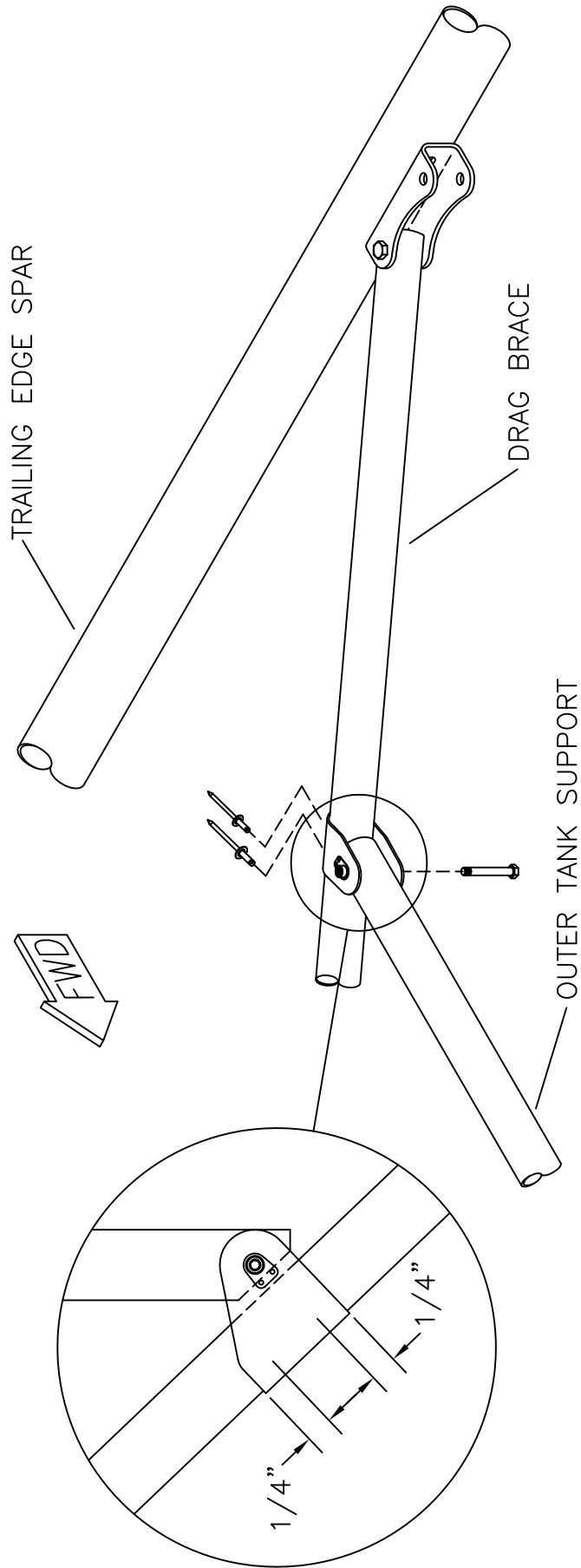
- ③

- ④

RANS S-7S COURIER

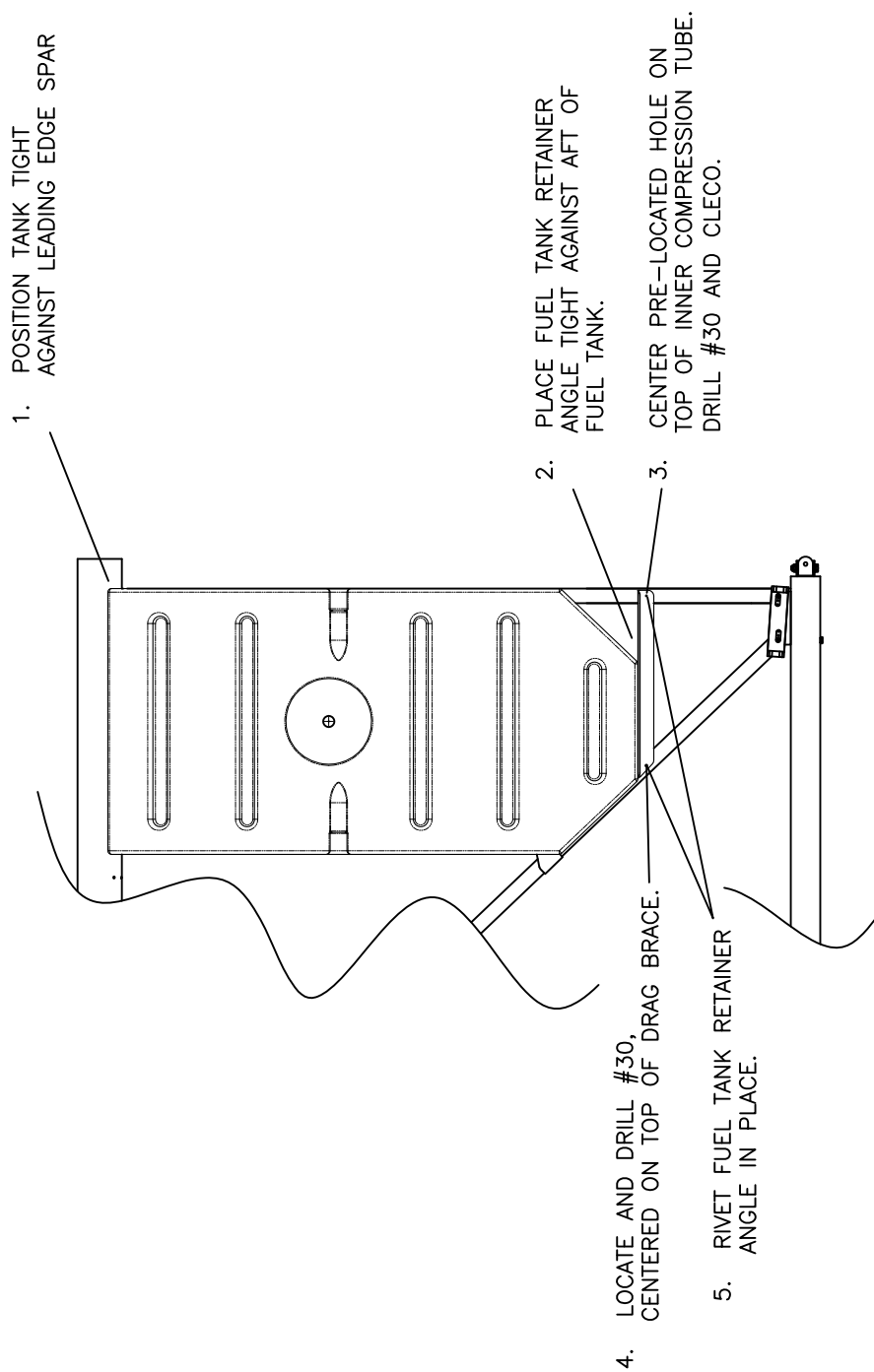
FUEL TANK FITTING INSTALLATION

FIGURE 05A-03



MD4359

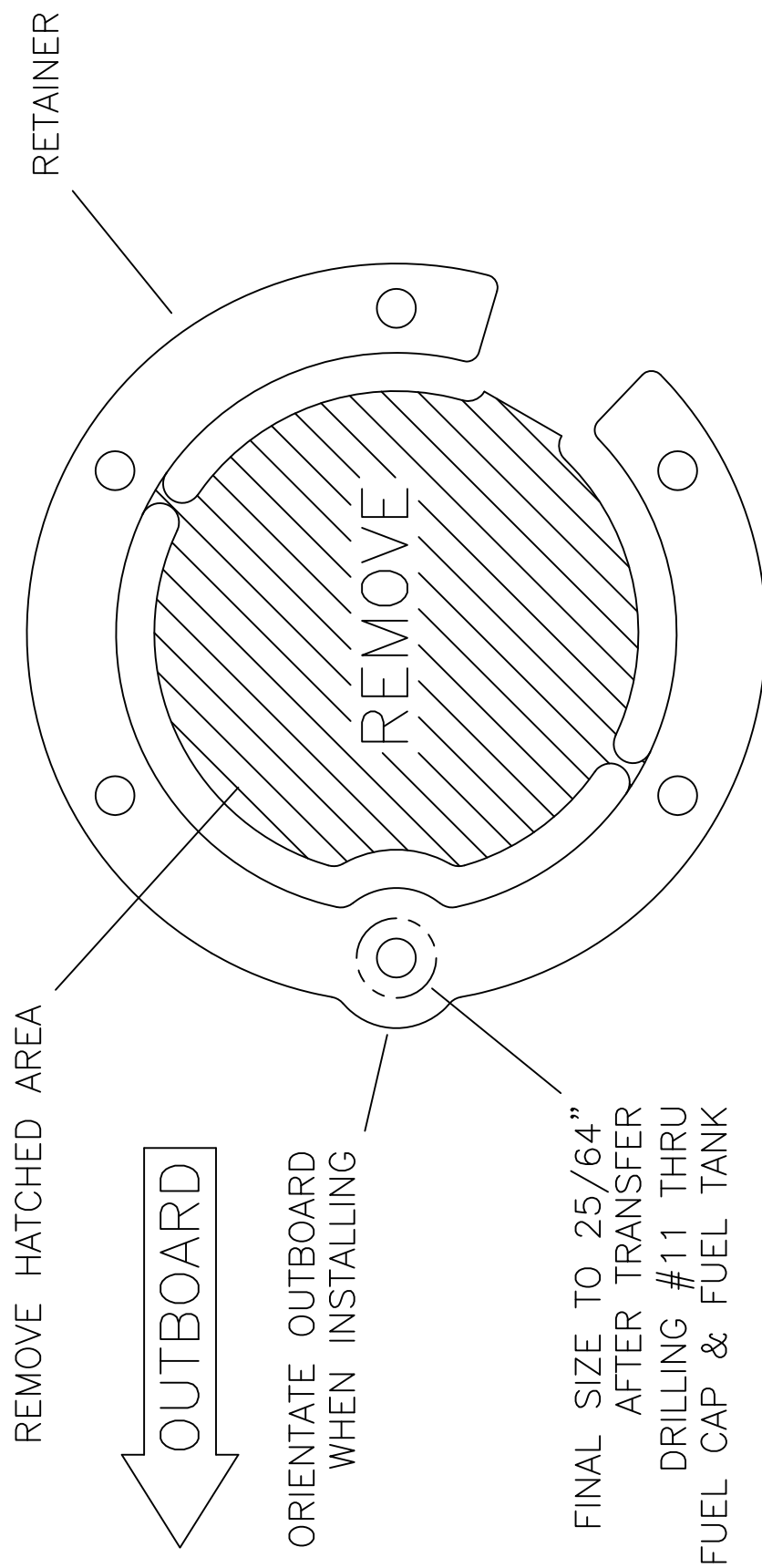
RRR S-7S COURIER
WING TANK SUPPORT TUBE INSTALLATION
FIGURE 05A-07



LH WING SHOWN

RAMS S-7S COURIER **FUEL TANK RETAINER ANGLE INSTALLATION** **FIGURE 05A-10**

MD4365



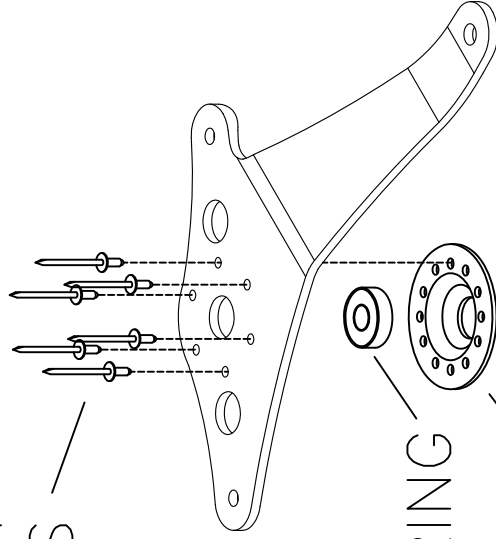
MD5549

RRF S-7S COURIER
RETAINER MODIFICATION
FIGURE 05A-14

1/8" ALUMINUM

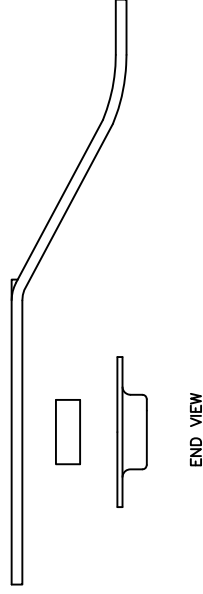
RIVETS

BELL CRANK
UPPER ARM



BEARING

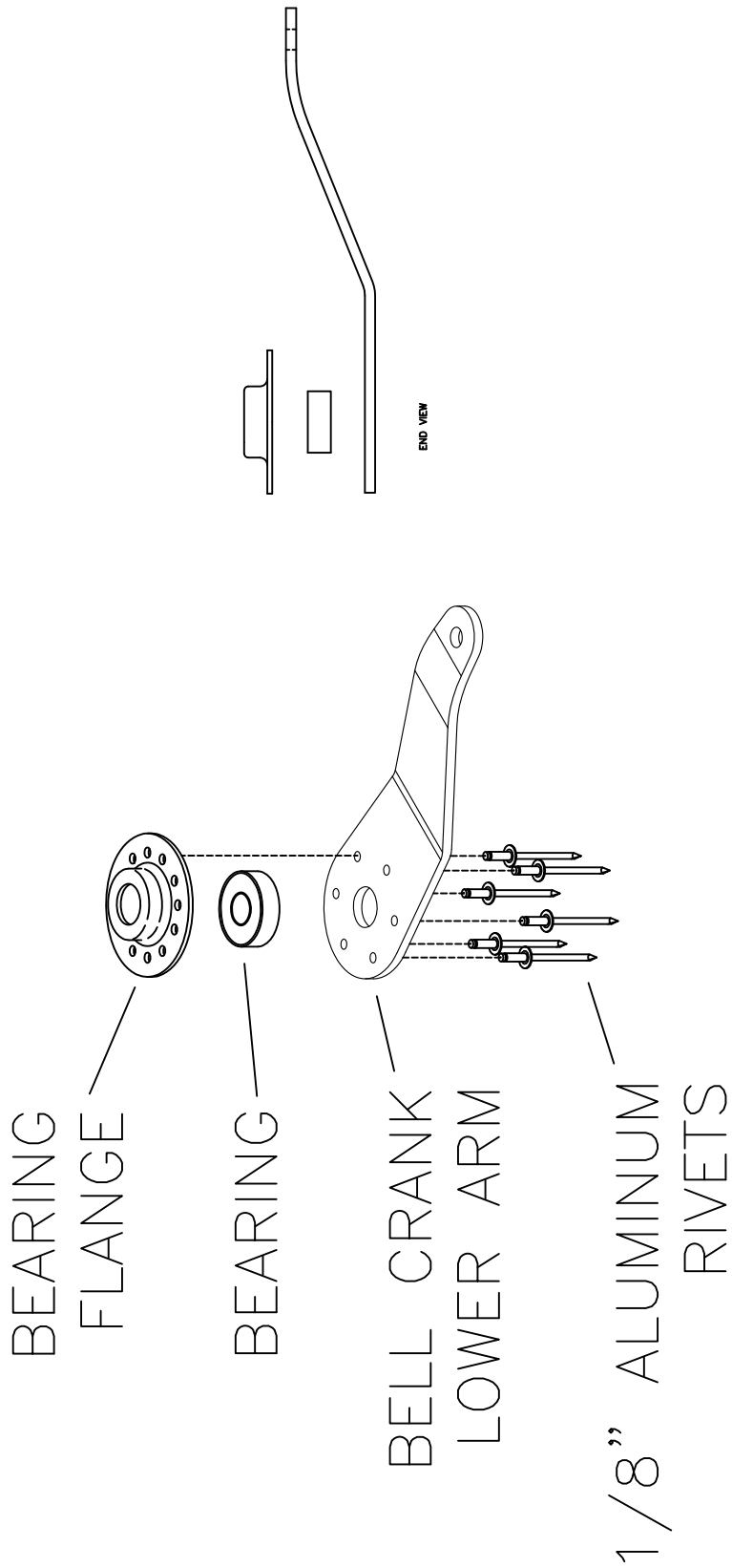
BEARING
FLANGE



MAKE LEFT AND RIGHT ASSEMBLIES

MD5639
REV. - ORIG

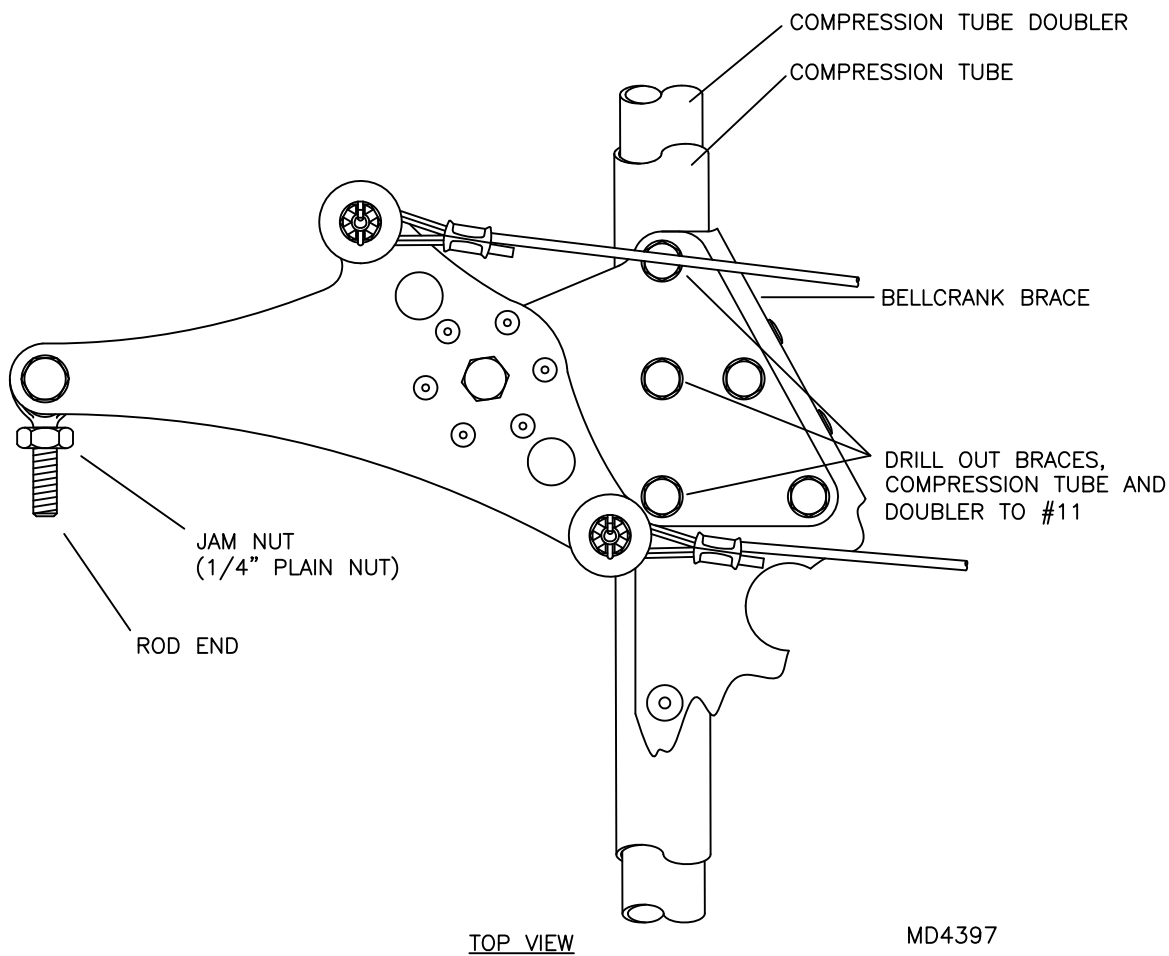
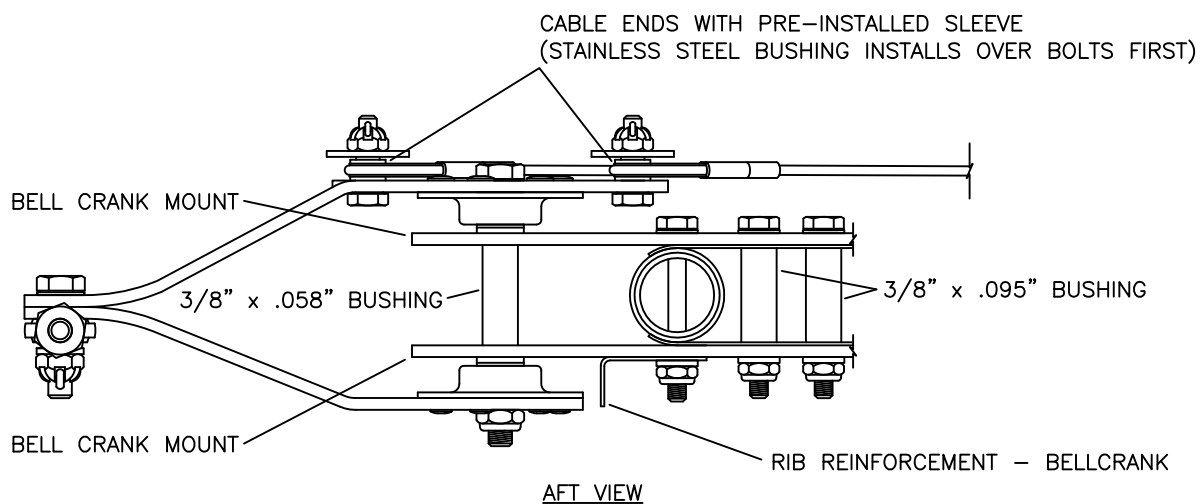
RAMS S-7S COURIER
BELL CRANK - UPPER ARM ASSEMBLY
FIGURE 05B-02



MAKE 2 ASSEMBLIES

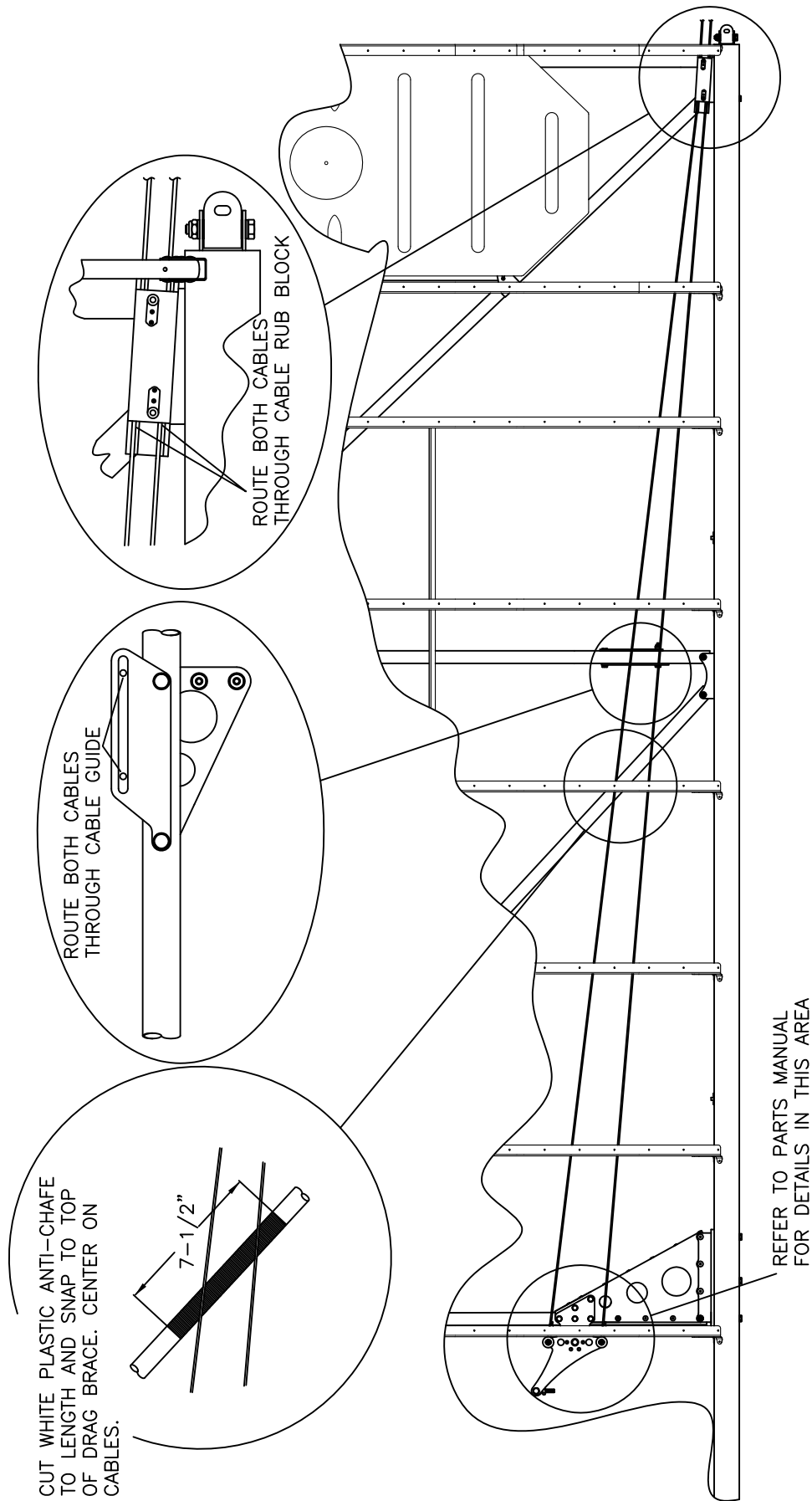
MD5639
REV. - ORIG

RAM S-7S COURIER
BELL CRANK - LOWER ARM ASSEMBLY
FIGURE 05B-02A



RANS S-7S COURIER
WING BELL CRANK ASSEMBLY AND INSTALLATION
FIGURE 05B-04

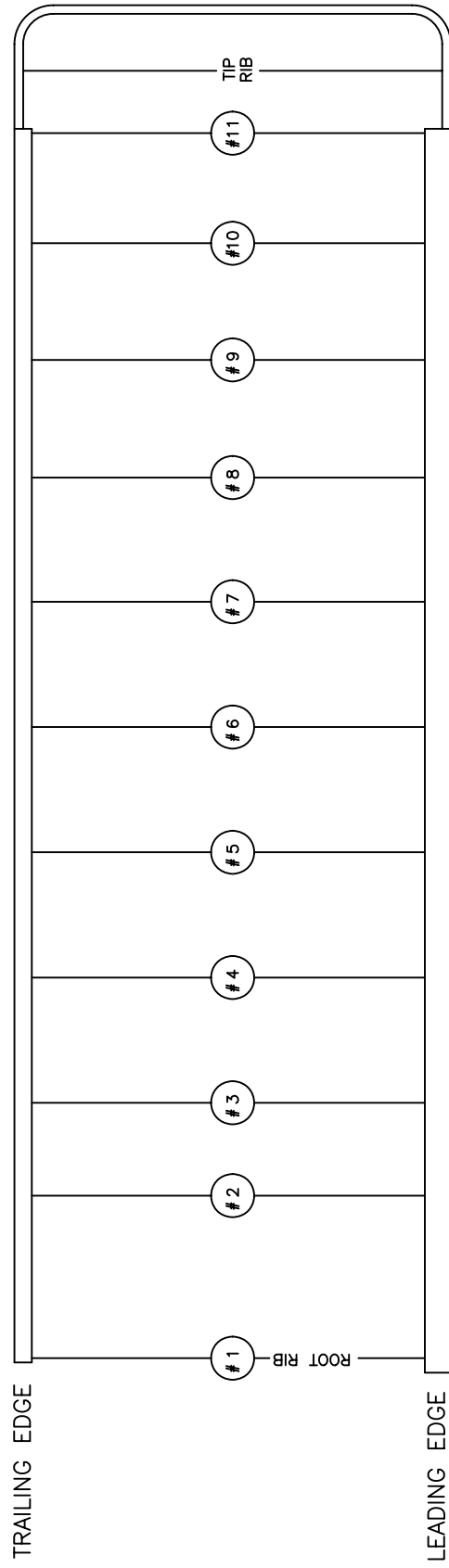
06/09/2015



LH WING SHOWN

RAVEN S-7S COURIER **AILERON CABLE INSTALLATION - WING** **FIGURE 05B-09**

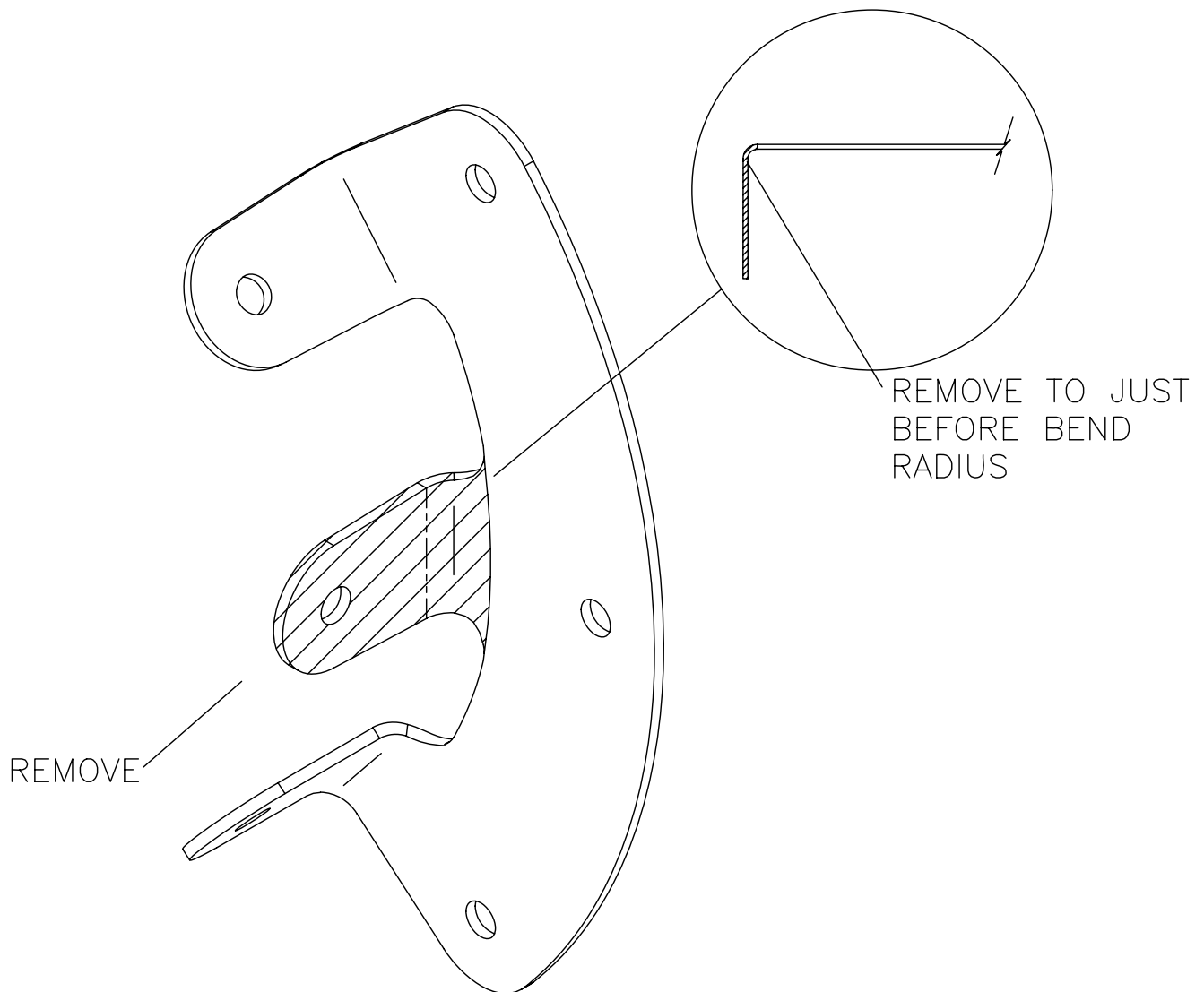
MD4365



RIB LOCATIONS CAN BE IDENTIFIED BY PRE-DRILLED HOLES IN SPARS AND TIP BOW

RRF S-7S RIB LOCATIONS FIGURE 05C-01

MD4348

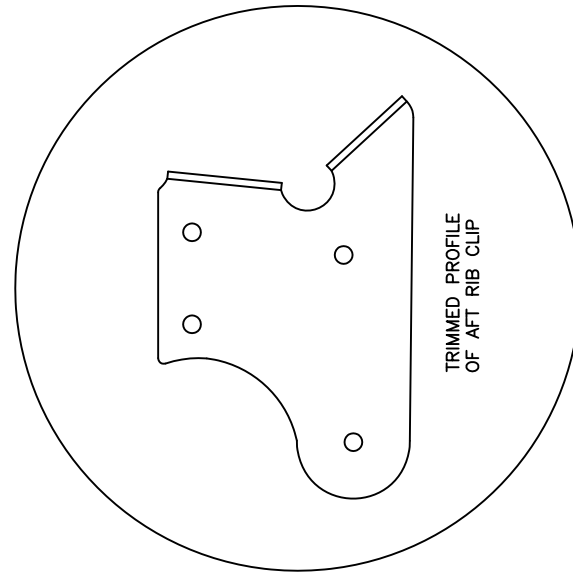
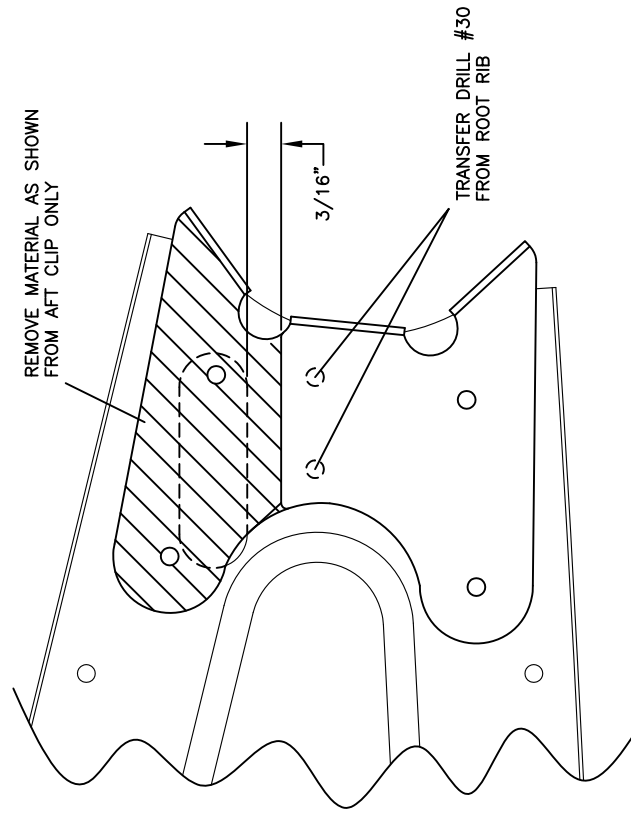
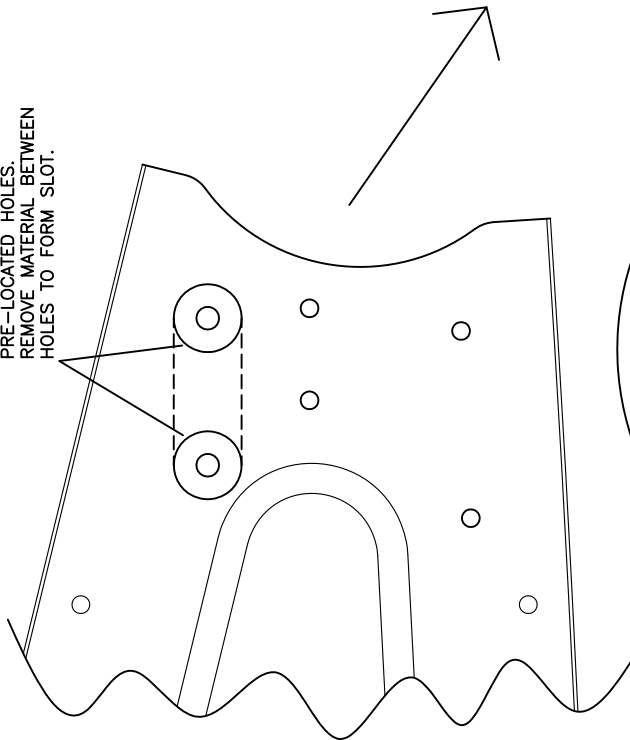


MD5558

RANS S-7S
ROOT RIB - FWD RIB ATTACH CLIP MODIFICATION
FIGURE 05C-06

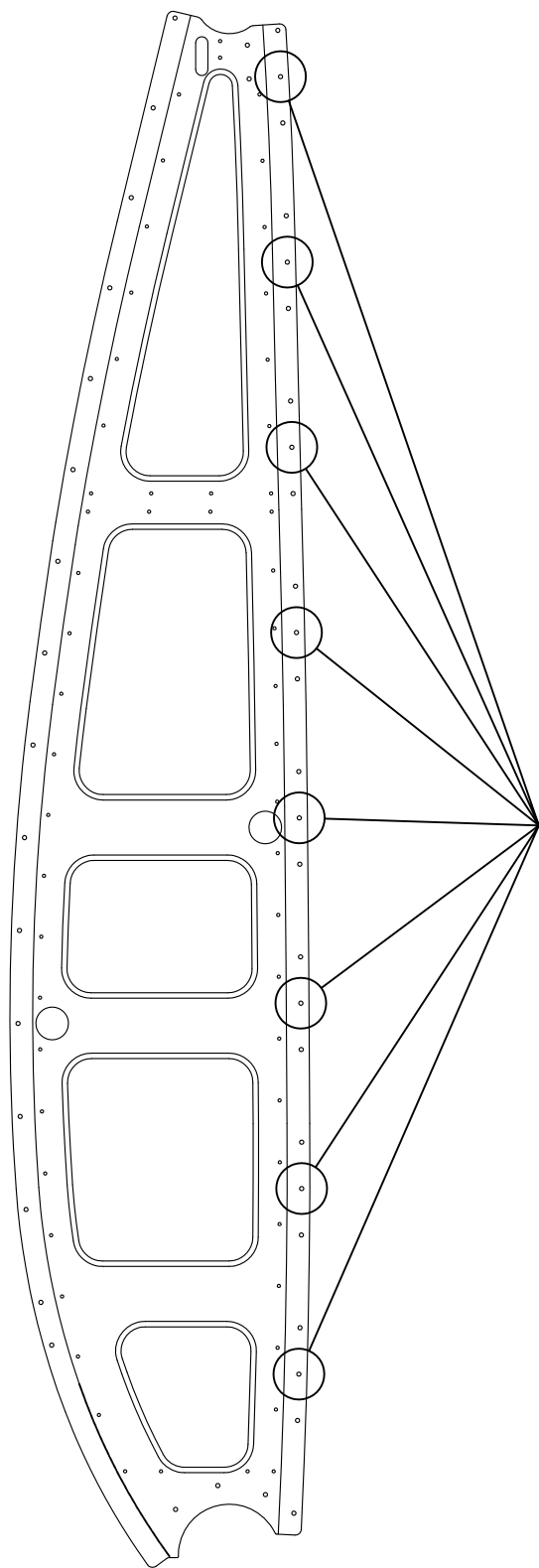
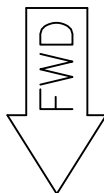
06/15/2011

DRILL 3/8" CENTERED ON
PRE-LOCATED HOLES.
REMOVE MATERIAL BETWEEN
HOLES TO FORM SLOT.



MD5542
REV. A

RRM S-7S COURIER
ROOT RIB - AFT RIB ATTACH CLIP MODIFICATION
FIGURE 05C-07

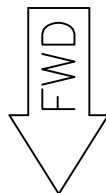


DRILL TO #11 FOR TINNERMAN CLIPS
DO NOT DIMPLE!!

DIMPLE ALL RIVET HOLES ON UPPER AND LOWER FLANGES EXCEPT
THOSE THAT ARE CIRCLED

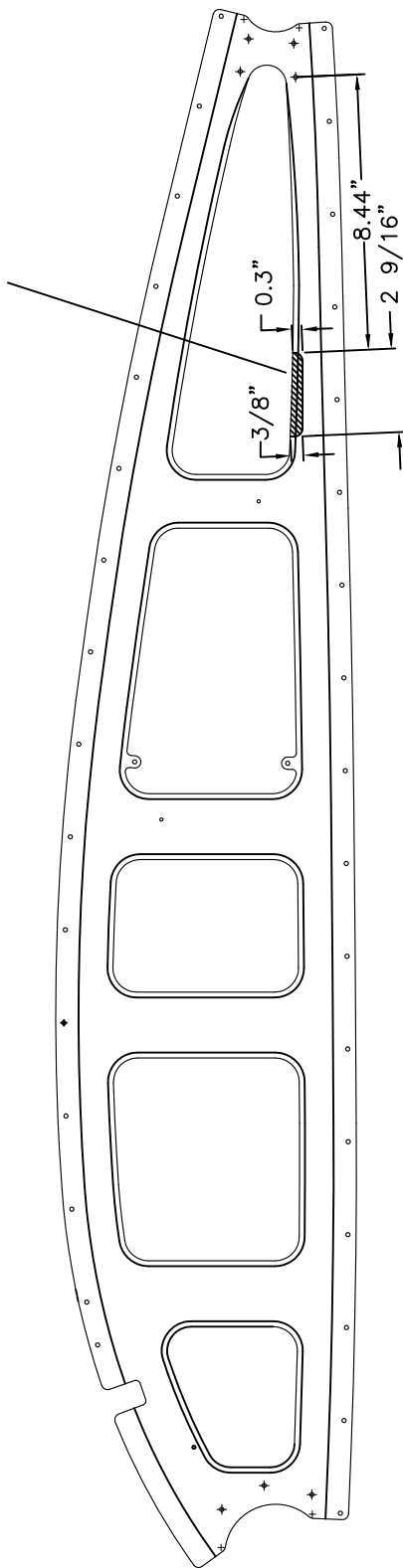
MD5557

RRR S-7S ROOT RIB MODIFICATION FIGURE 05C-09



REMOVE FOR BELLCRANK
MOUNT PLATE PLACEMENT

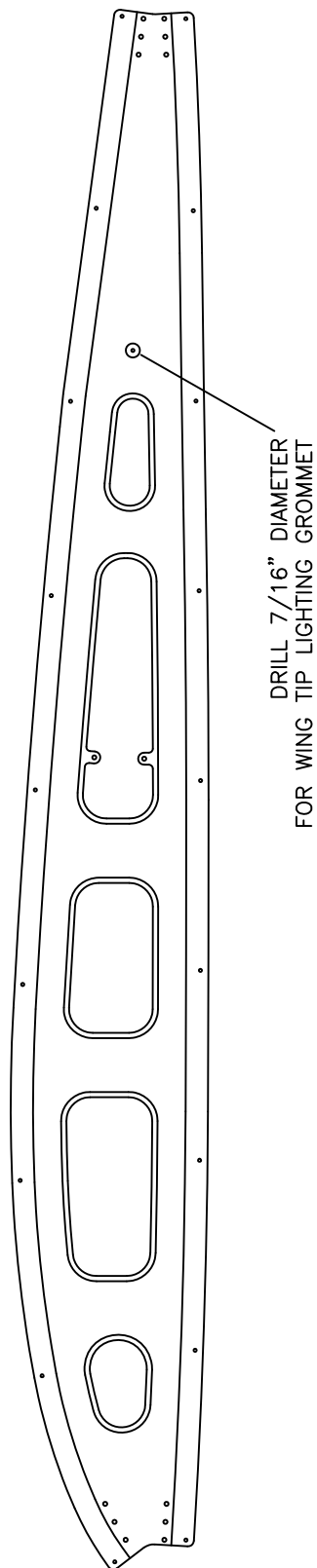
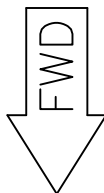
CAUTION:
RIB REINFORCEMENT PLATE
INSTALLS BELOW THIS REMOVAL.
DO NOT REMOVE EXCESS MATERIAL



MD5557

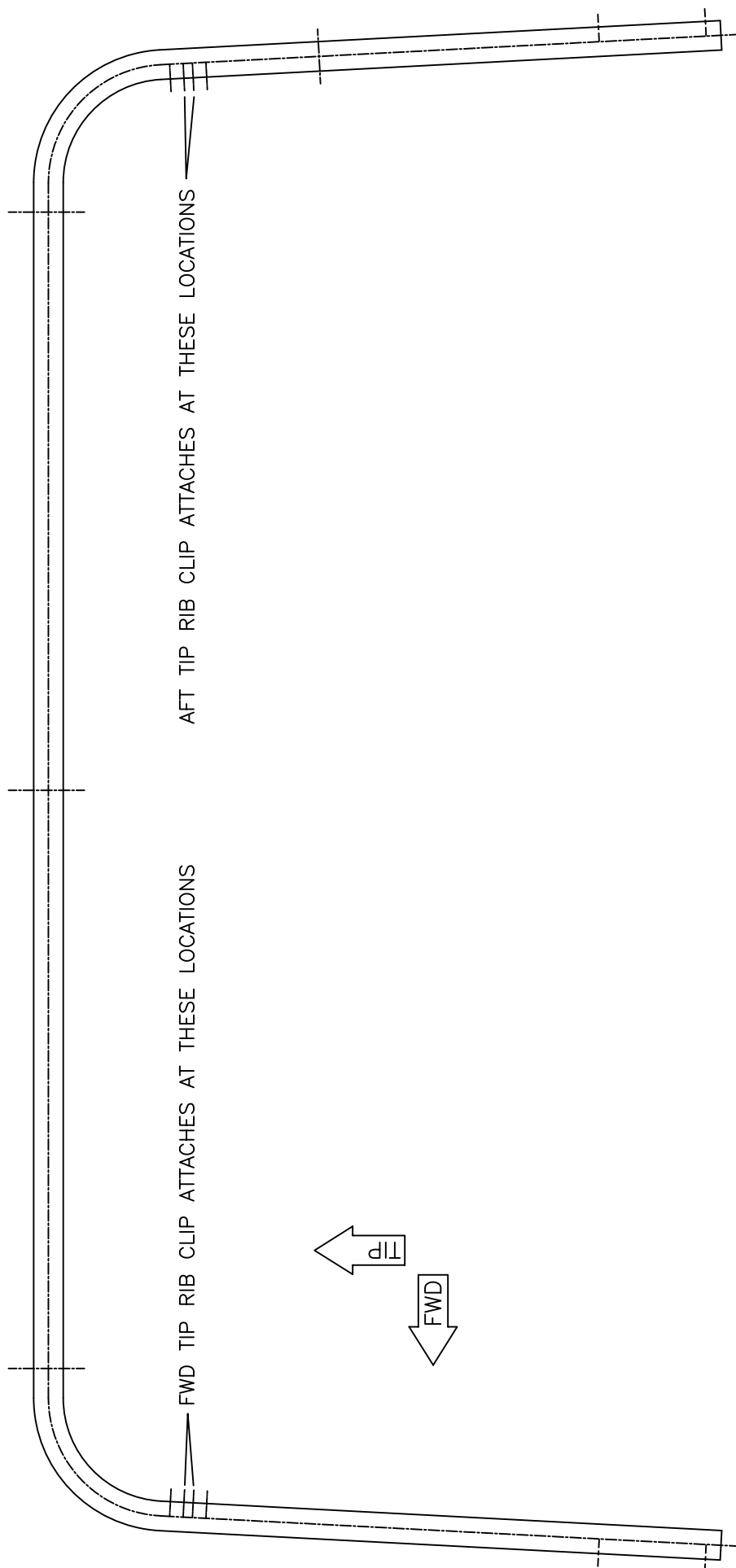
RRR S-7S
RIB #8 MODIFICATION
FIGURE 05C-09A

09/25/2014



MD5557

RRR S-7S
TIP RIB MODIFICATION
FIGURE 05C-09B

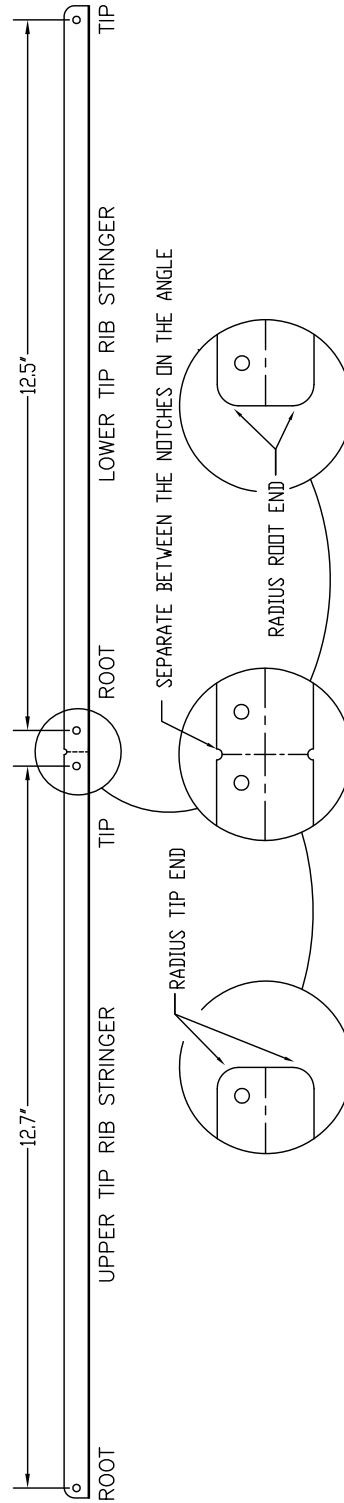
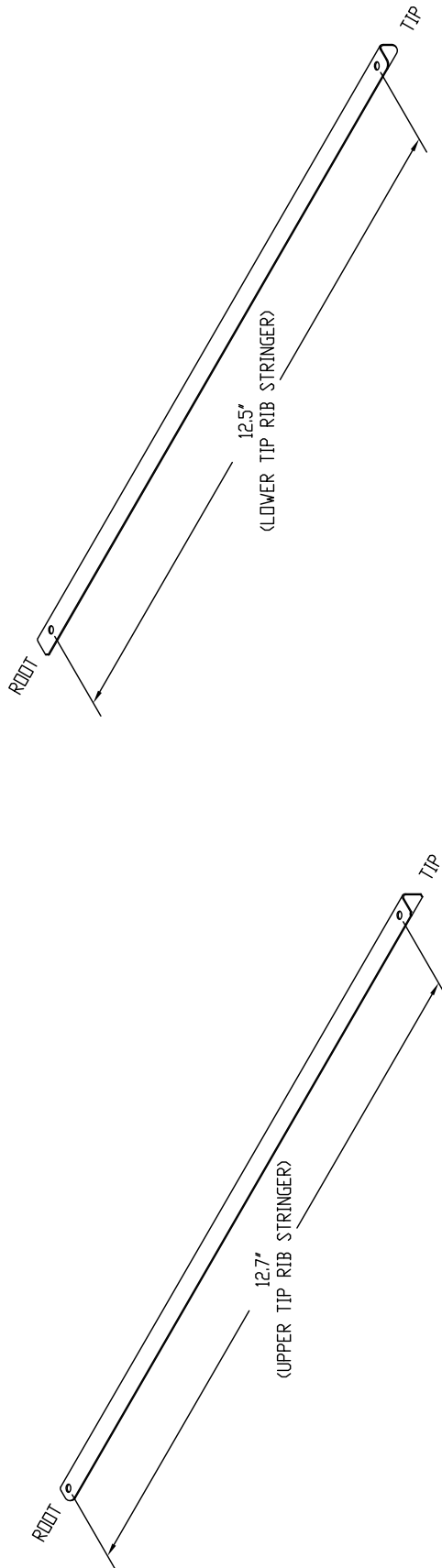


MD5552

RRR S-7S

TIP RIB CLIP LOCATION

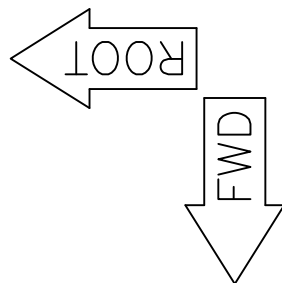
FIGURE 05C-11



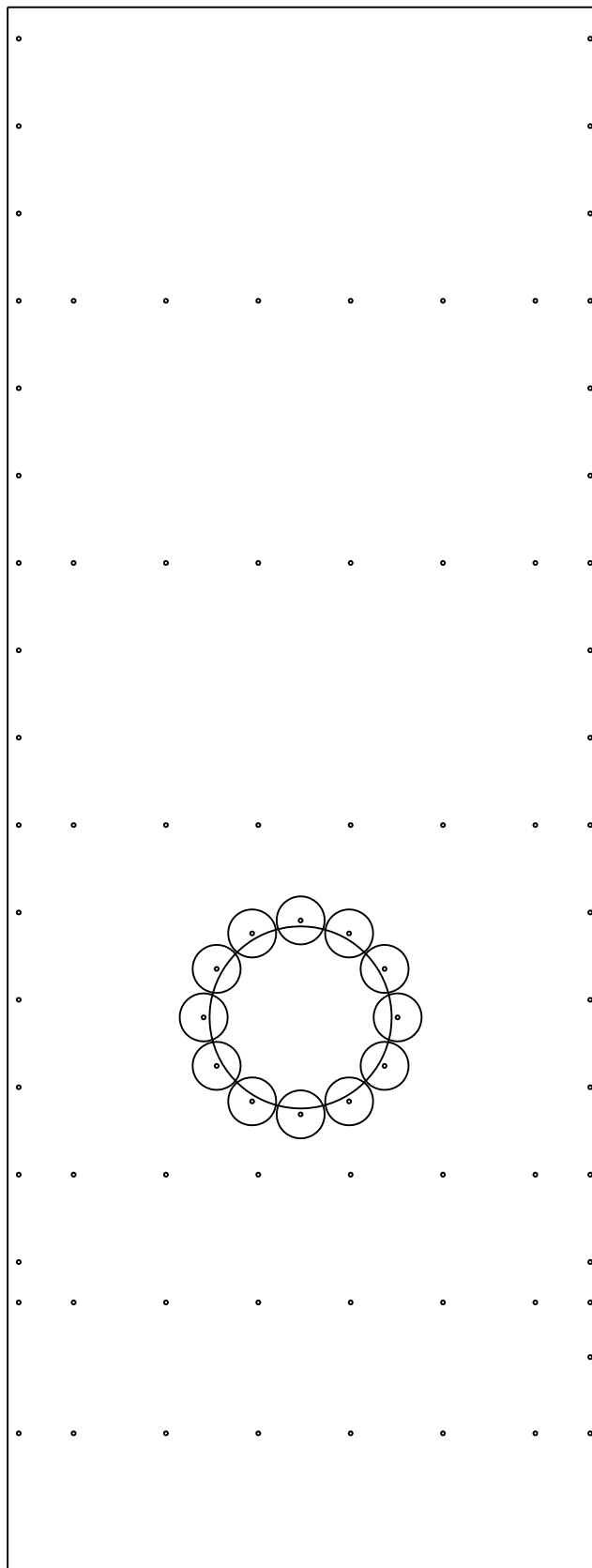
NOTE: STRINGER SHOWN UN-BENT FOR CLARITY

MD5635
REV. — ORIG

RAMS S-7S COURIER
TIP RIB STRINGER MODIFICATION
FIGURE 05C-19



DIMPLE ALL RIVET HOLES EXCEPT THOSE THAT ARE CIRCLED

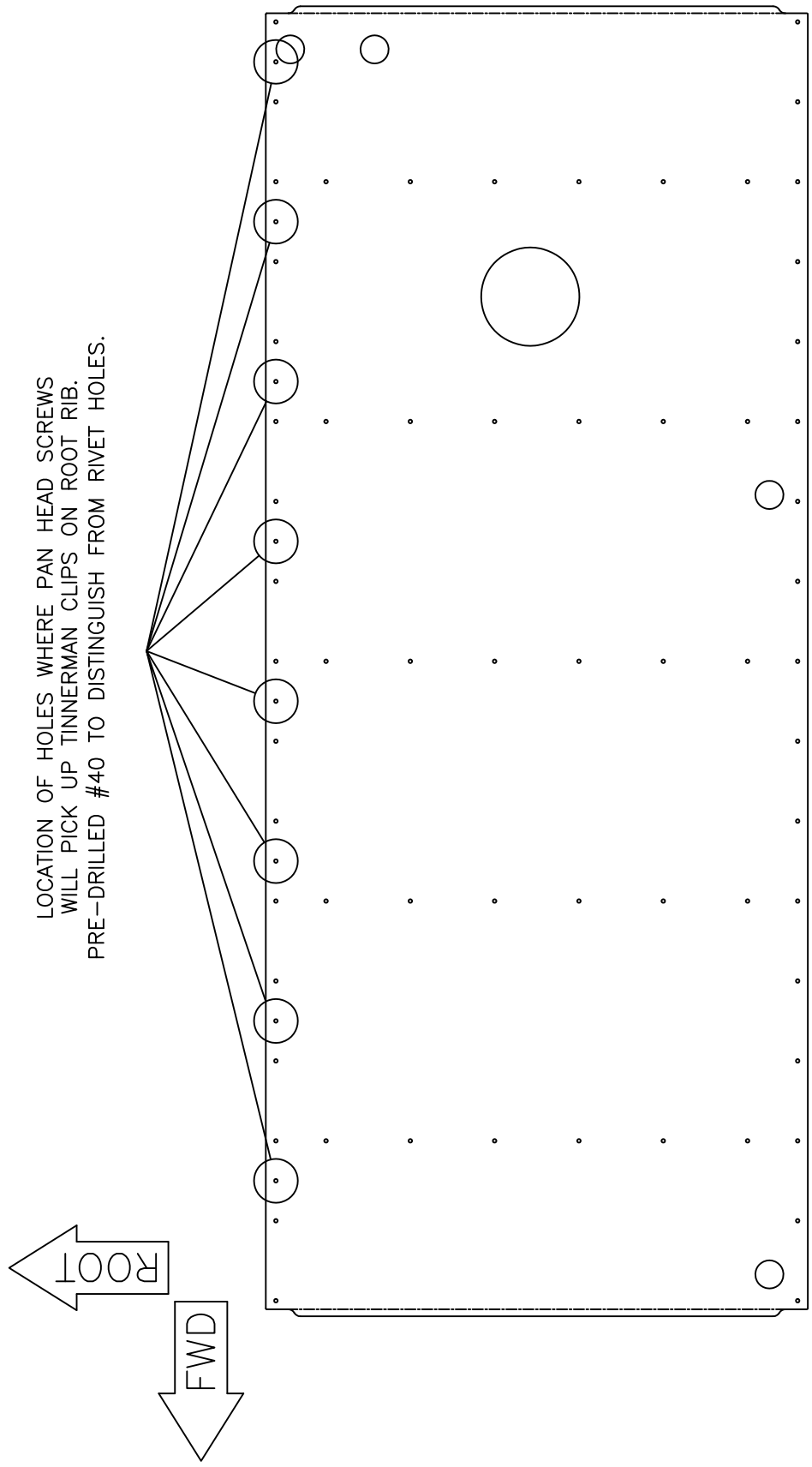


LEFT TOP ROOT SKIN SHOWN

THIS HOLE IDENTIFIES
FWD OUTBOARD SIDE

MD5556

RRM S-7S COURIER UPPER ROOT SKIN MODIFICATION FIGURE 05C-23

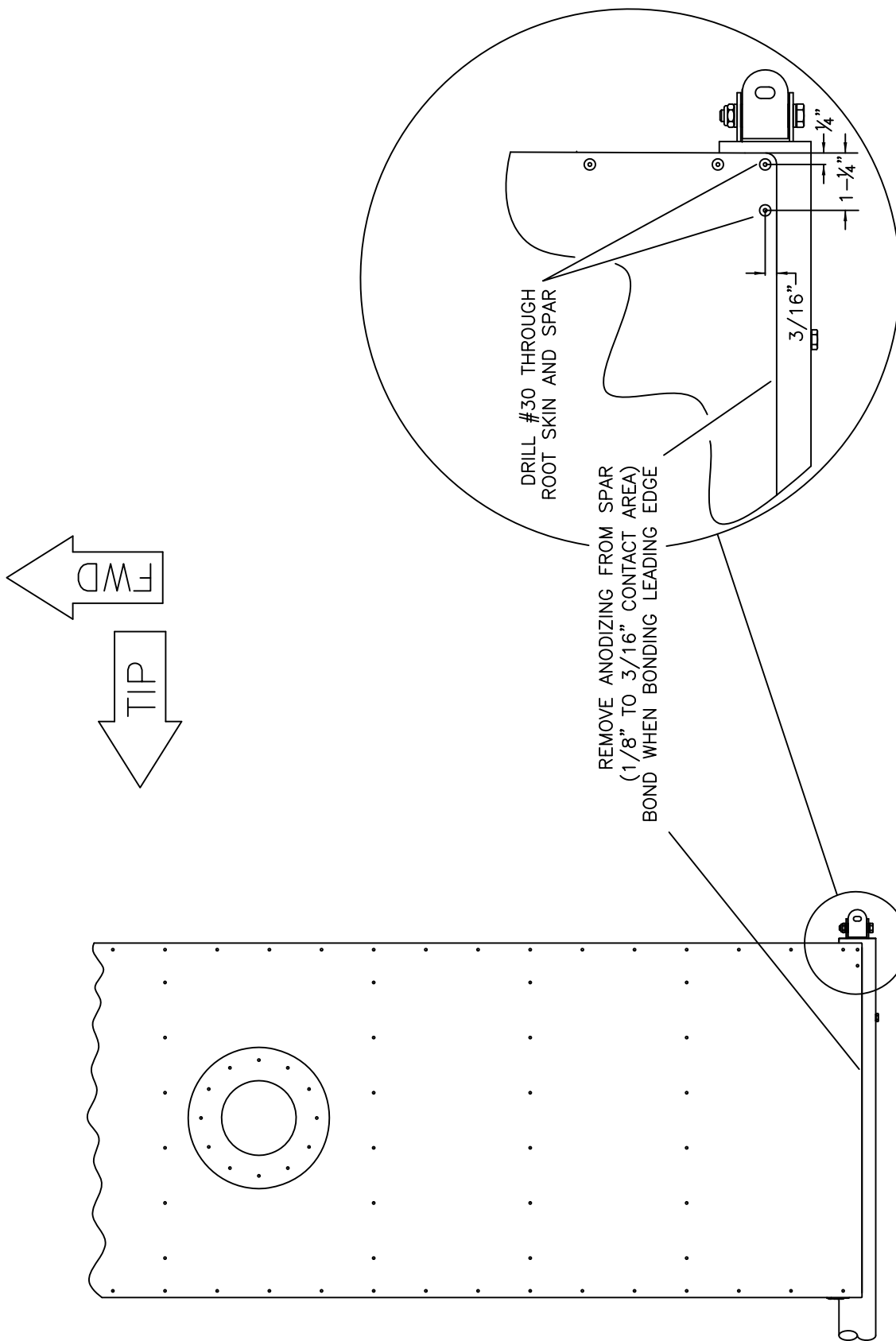


DIMPLE ALL RIVET HOLES EXCEPT THOSE THAT ARE CIRCLED

LEFT BOTTOM ROOT SKIN SHOWN

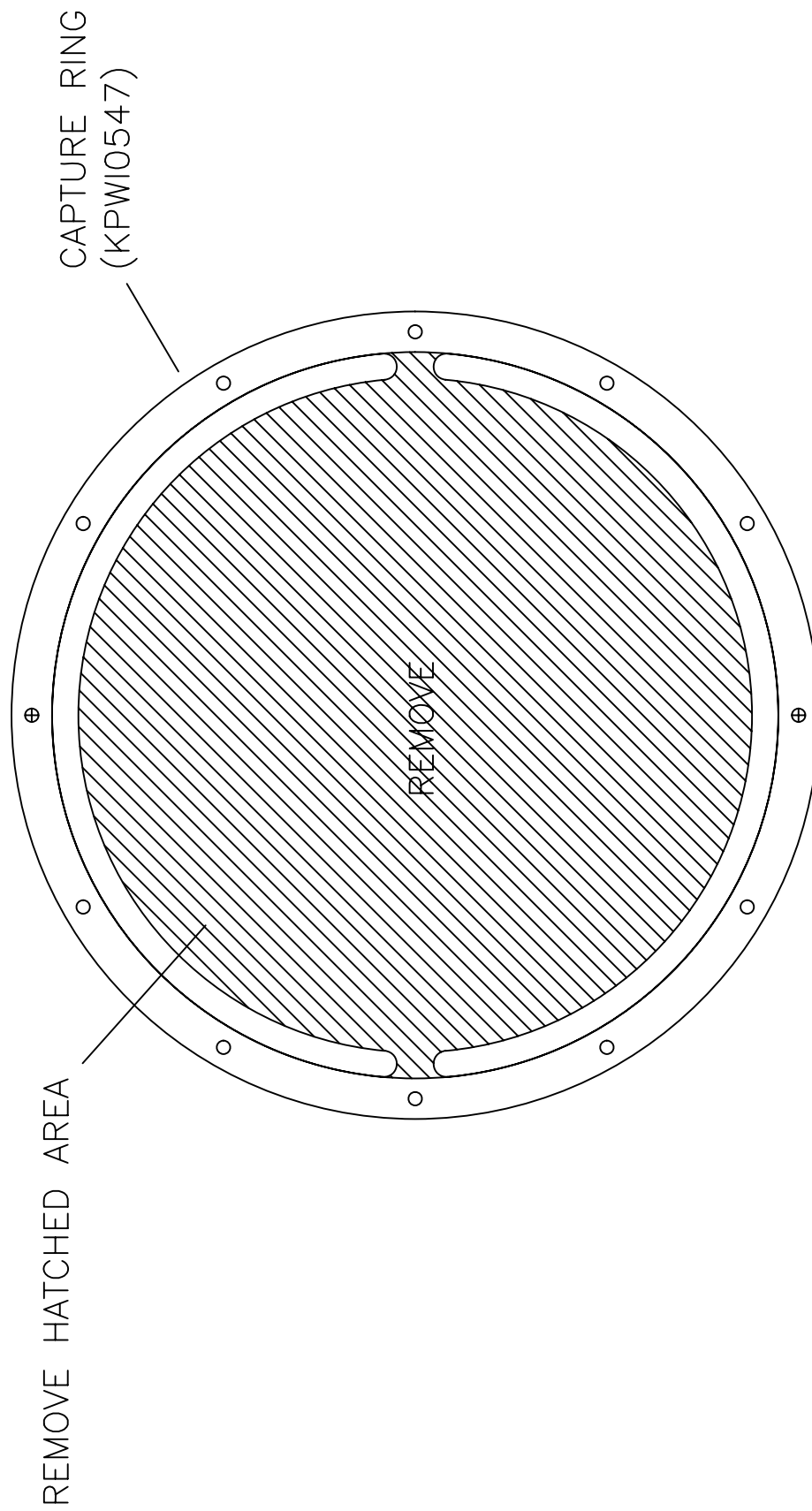
MD5555

RAMS S-7S COURIER
LOWER ROOT SKIN MODIFICATION
FIGURE 05C-24



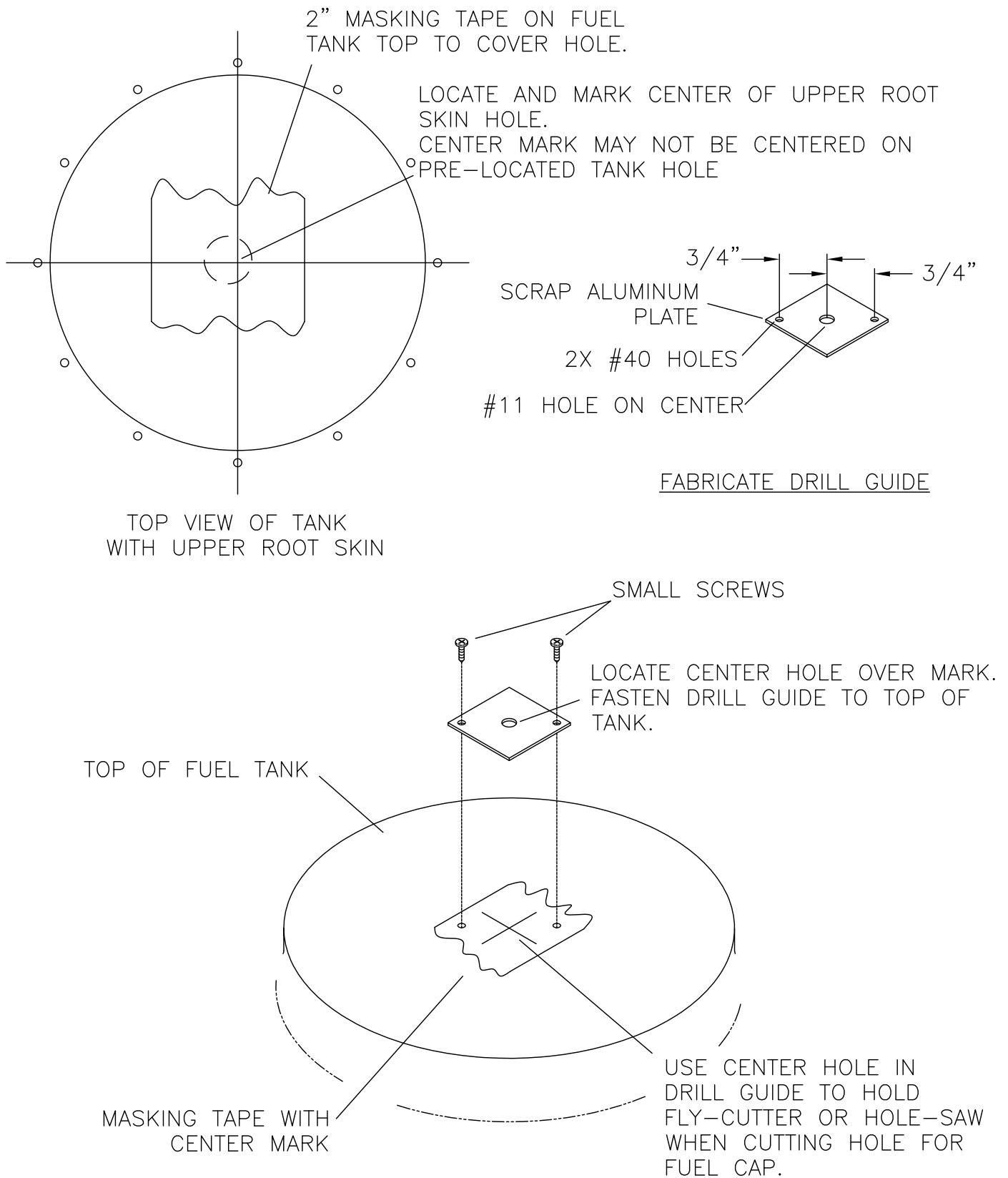
RAMROD S-7S COURIER
TOP ROOT SKIN INSTALLATION
FIGURE 05C-31

MD4366



MD5549

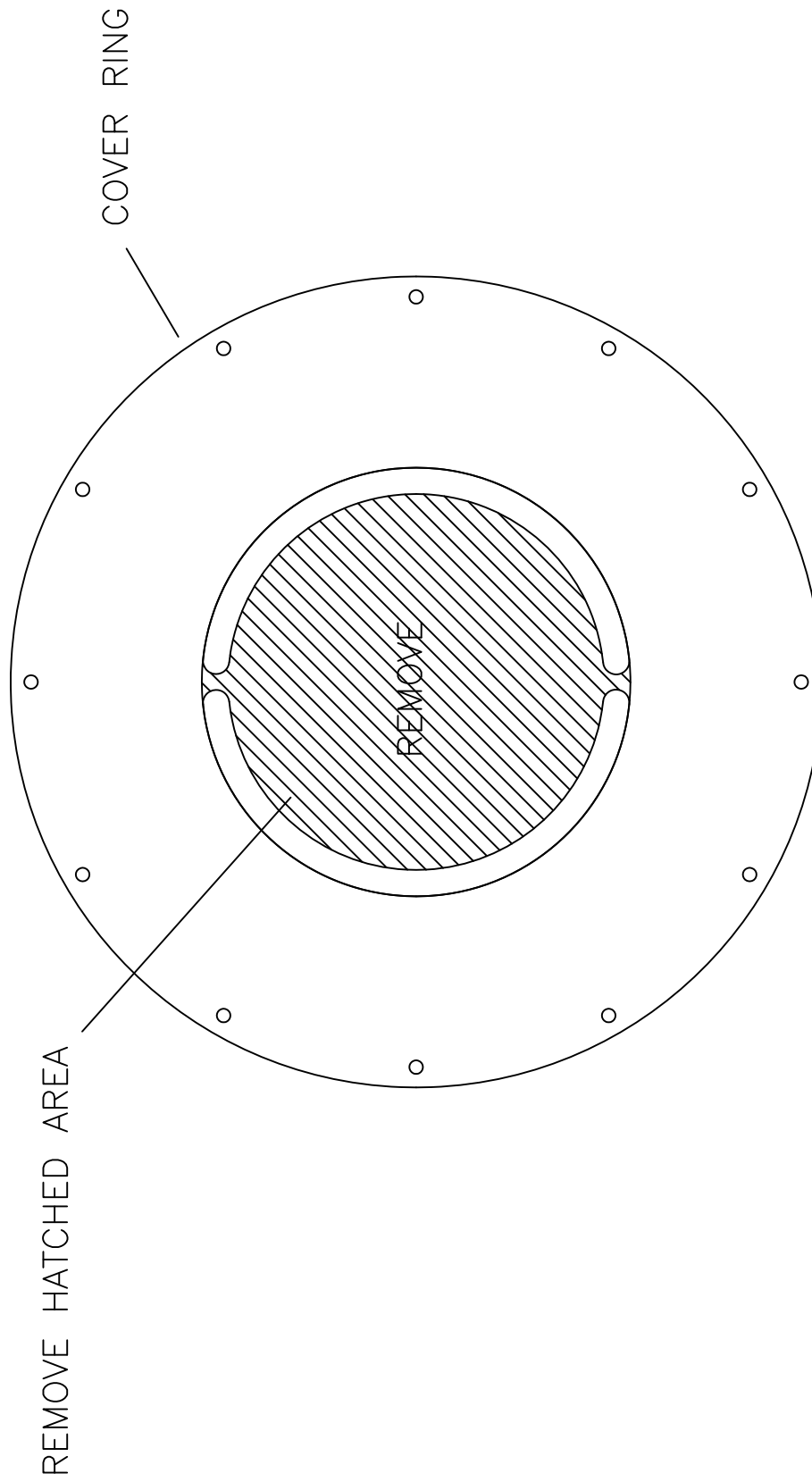
RRMS S-7S
CAPTURE RING MODIFICATION
FIGURE 05C-37



RANS S-7S COURIER
FUEL CAP HOLE PLACEMENT
FIGURE 05C-38

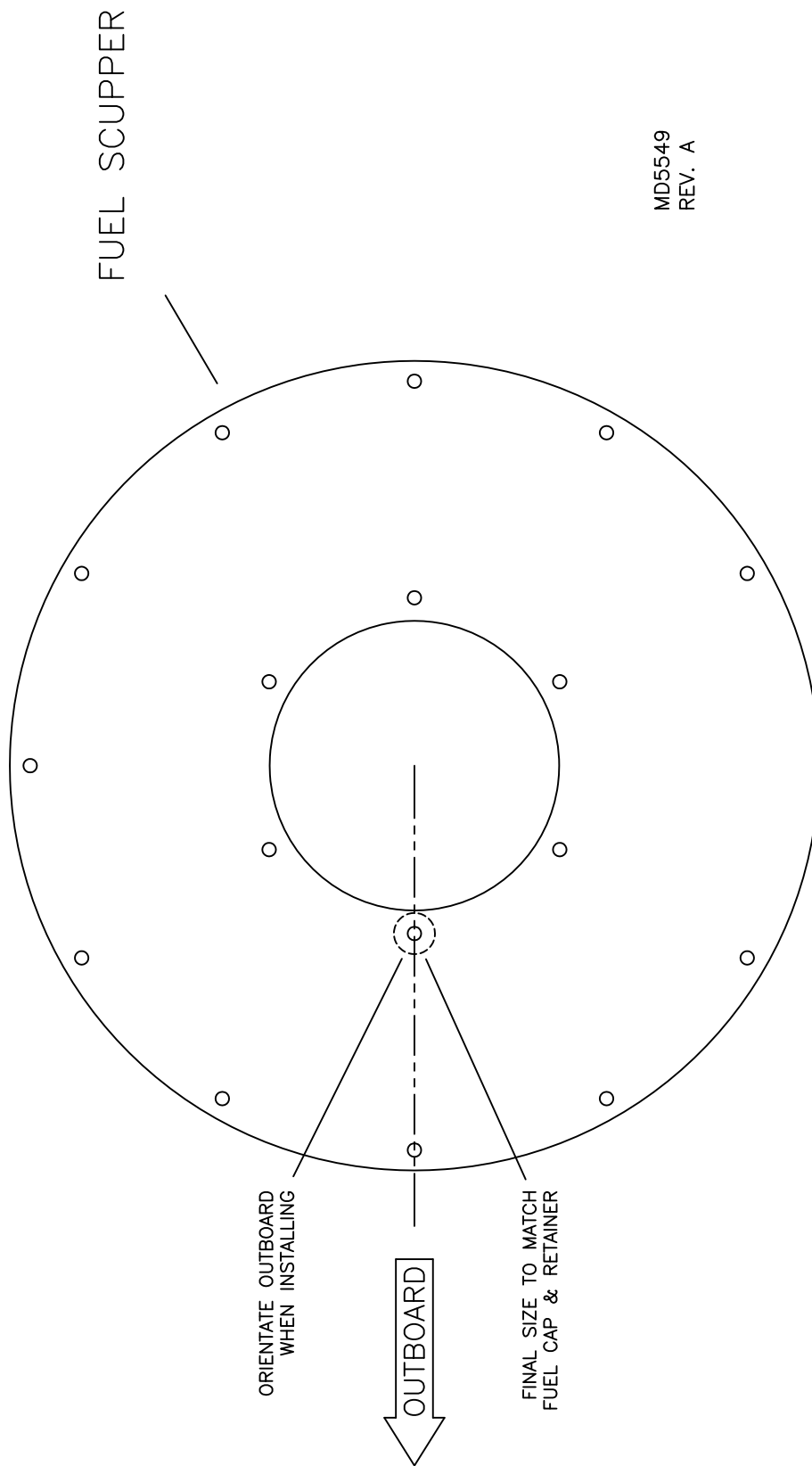
MD5560
 REV. A

07/28/2014



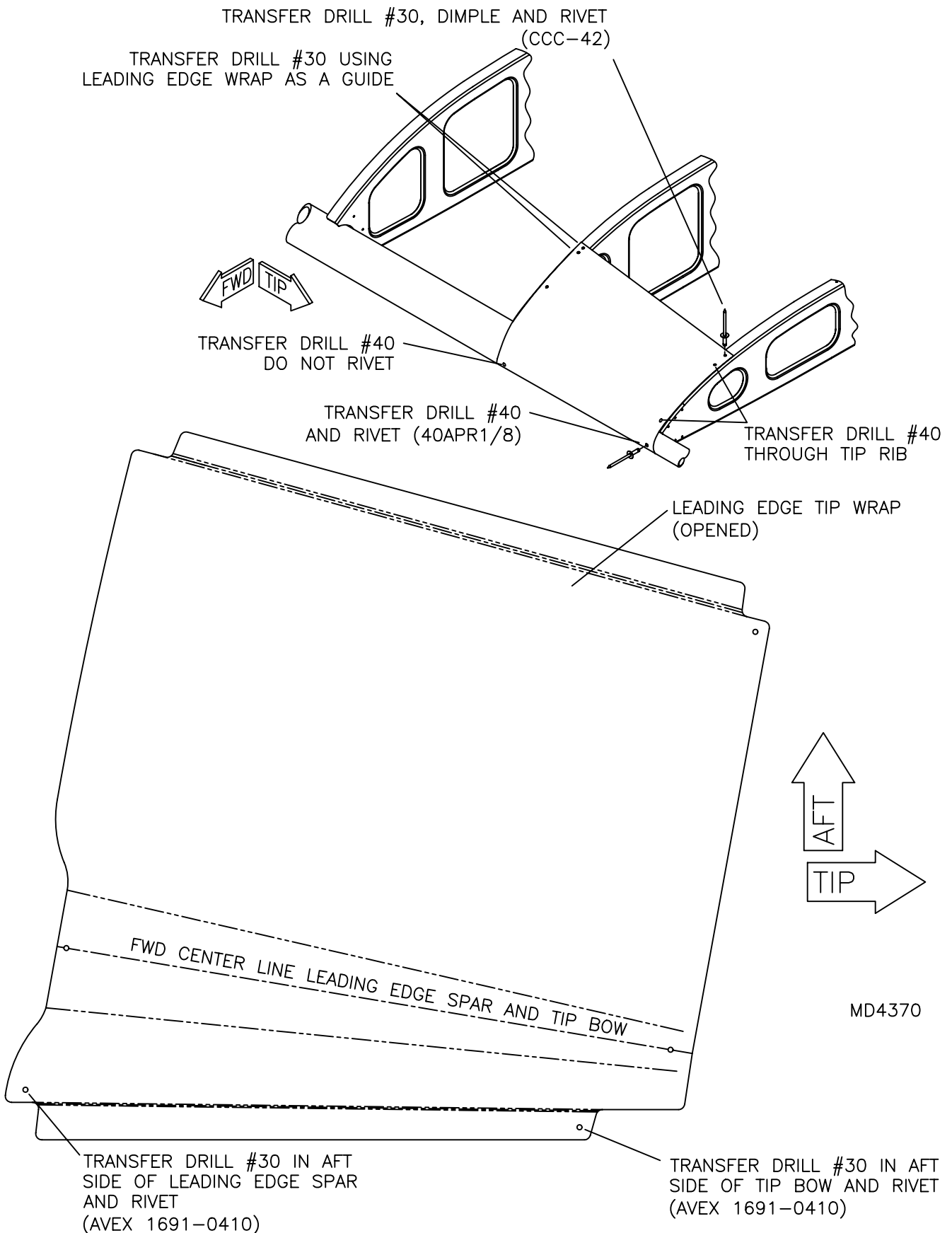
MD5549

RAMS S-7S
COVER RING MODIFICATION
FIGURE 05C-42

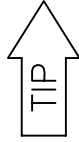
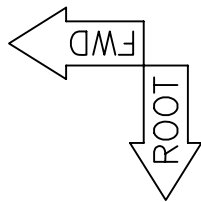


MD5549
REV. A

RRF S-7S COURIER
FUEL SCUPPER ORIENTATION
FIGURE 05C-42A



RANS S-7S
LEADING EDGE TIP WRAP INSTALLATION
FIGURE 05C-48



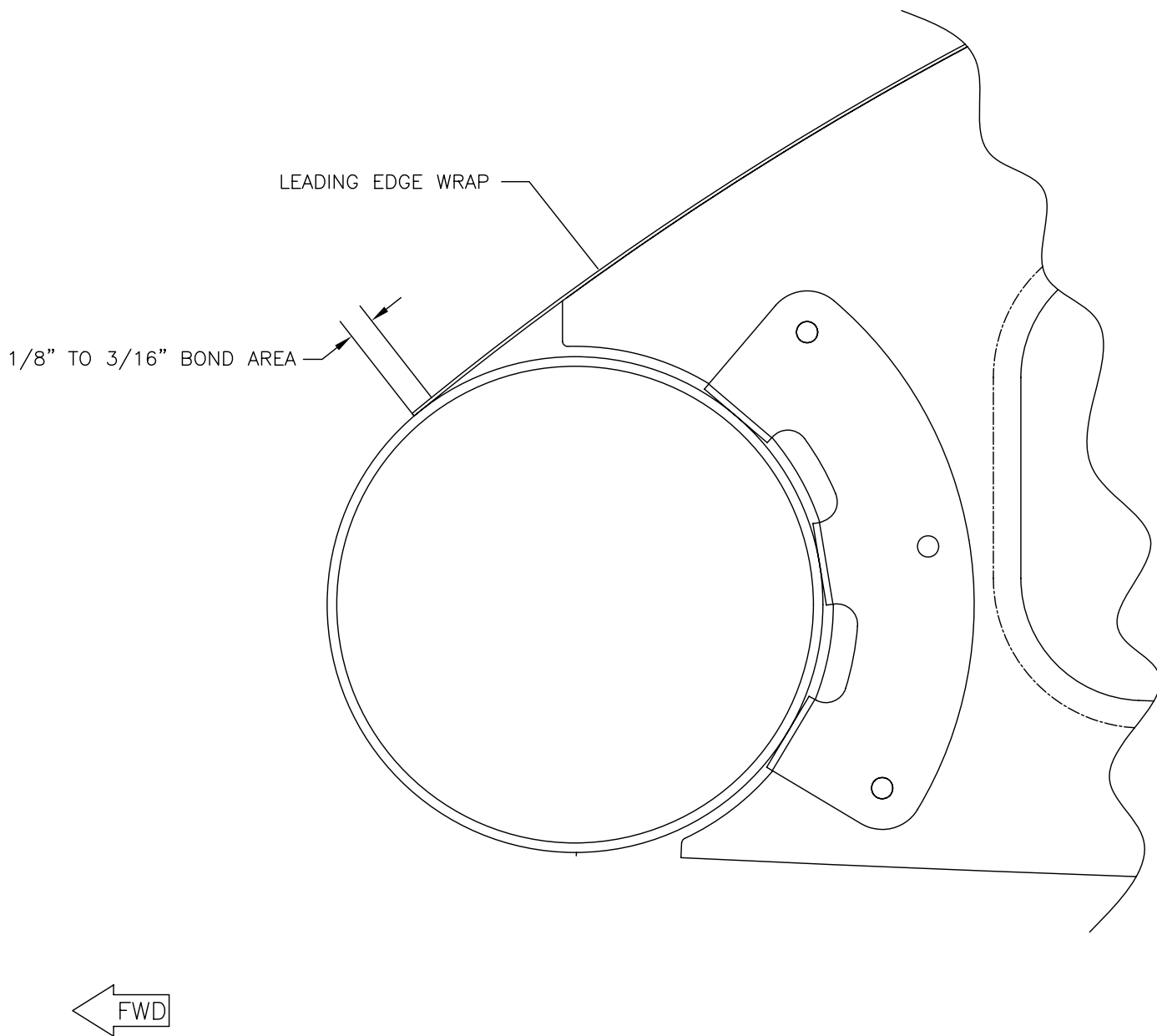
KEY TO POSITIONING



RH WING SHOWN
DIMPLE ALL HOLES

MD5554

RF S-7S **LEADING EDGE WRAP MODIFICATION** **FIGURE 05C-54**

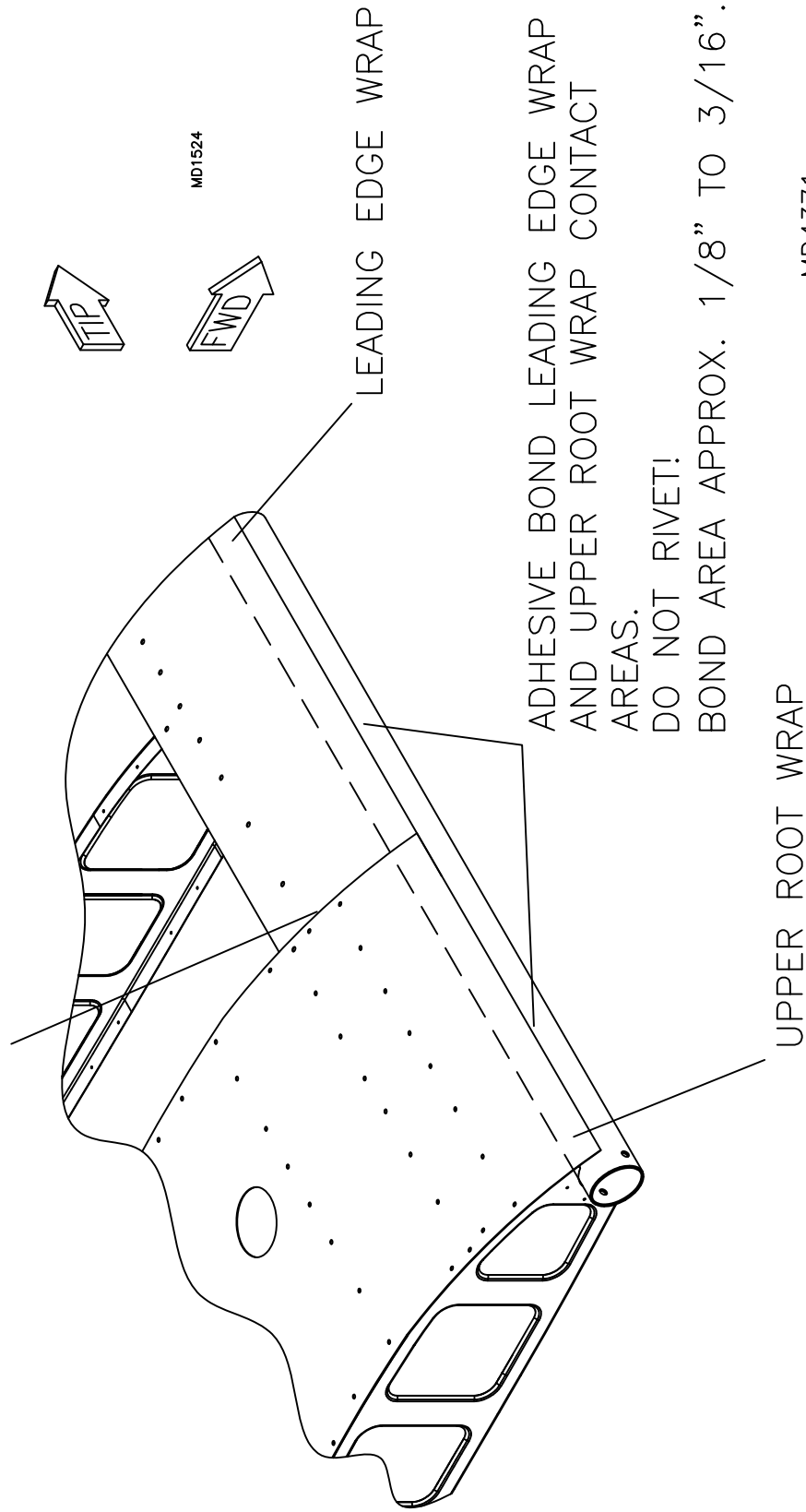


MD1525

RANS S-7S
LEADING EDGE WRAP BOND AREA
FIGURE 05C-55

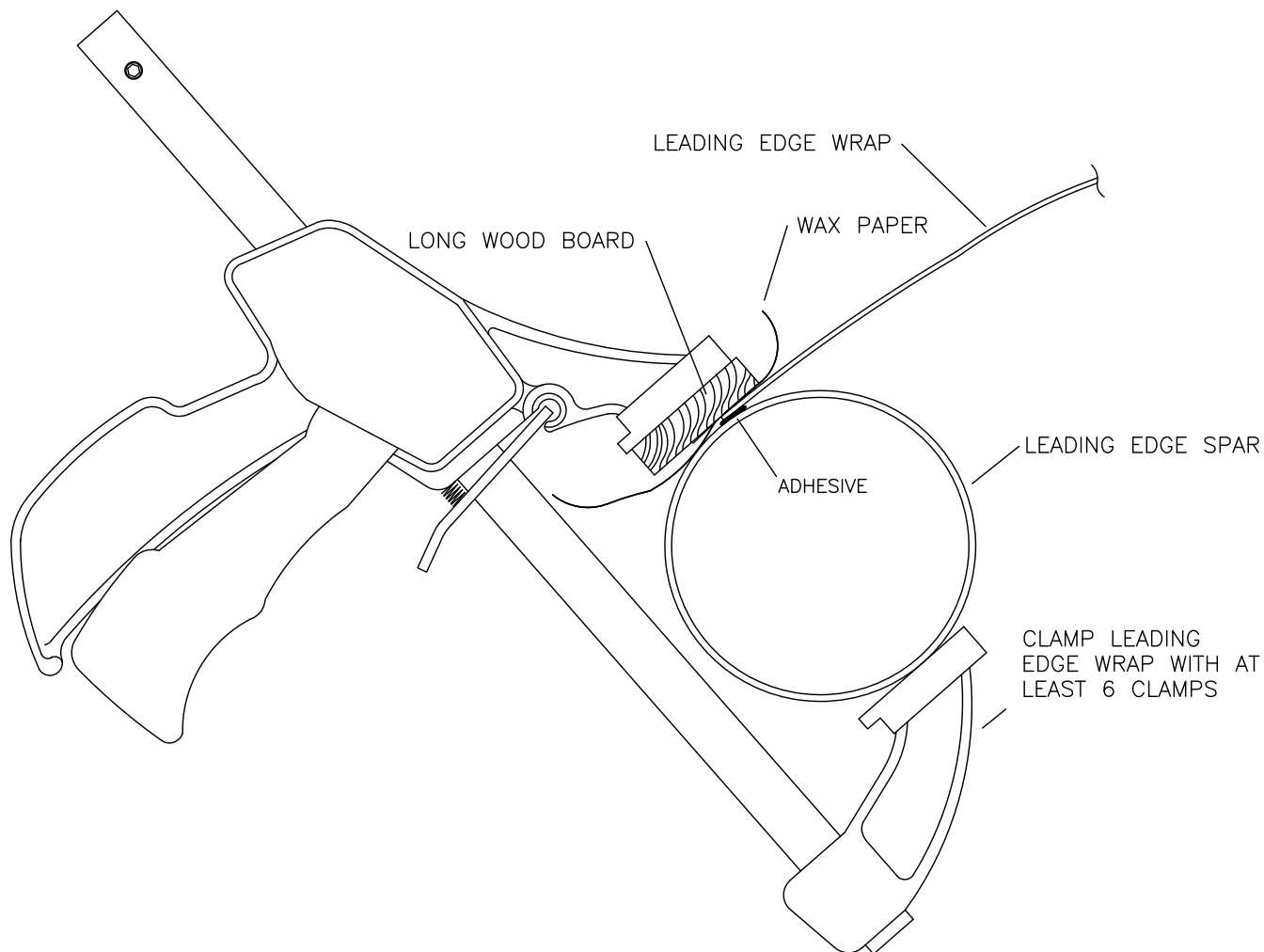
06/15/2011

LEADING EDGE WRAP INSERTS
UNDER UPPER ROOT WRAP



MD4371
REV. A

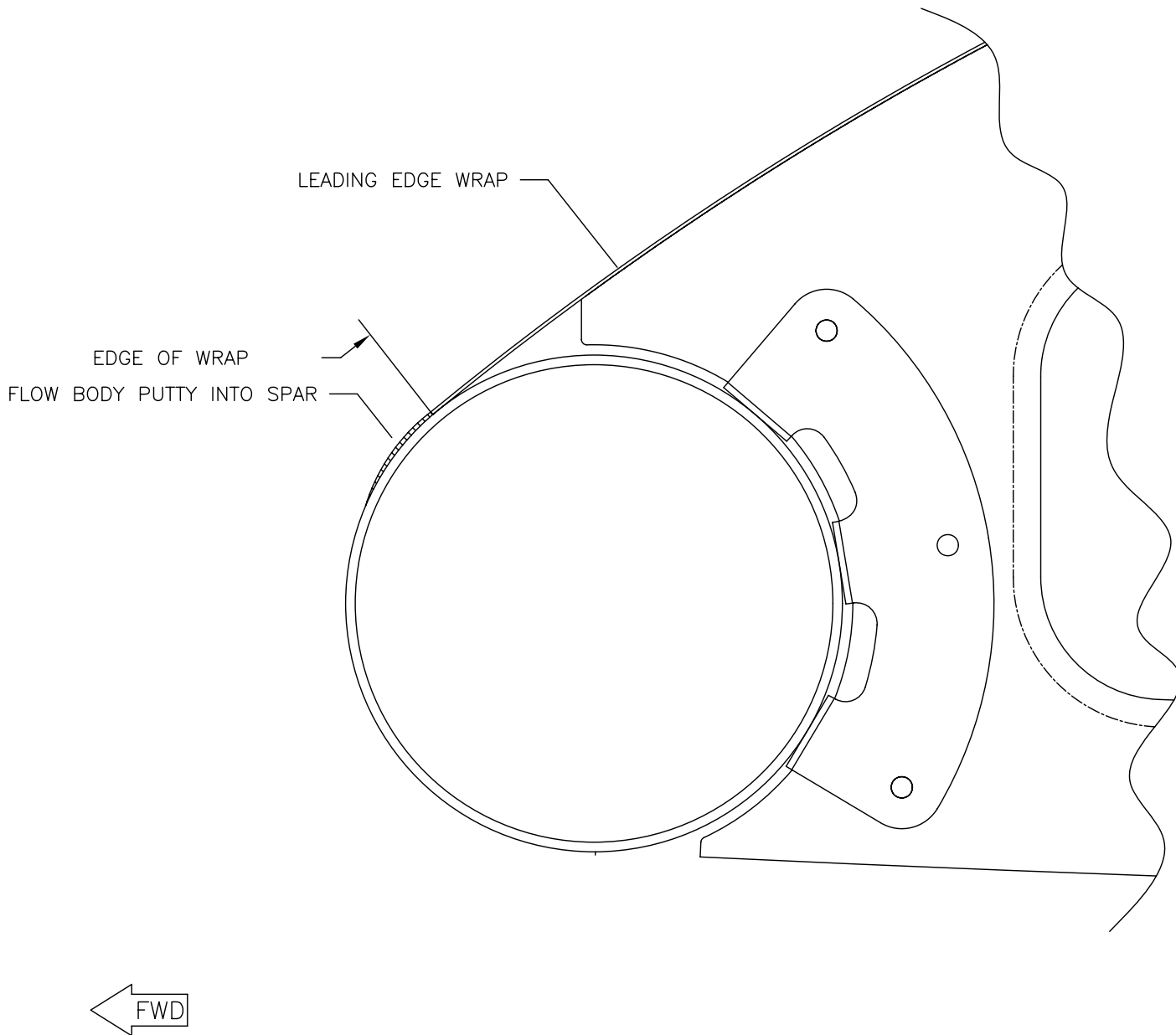
RRR S-7S
LEADING EDGE & UPPER ROOT WRAP BOND AREA
FIGURE 05C-56



MD1525
REV. A

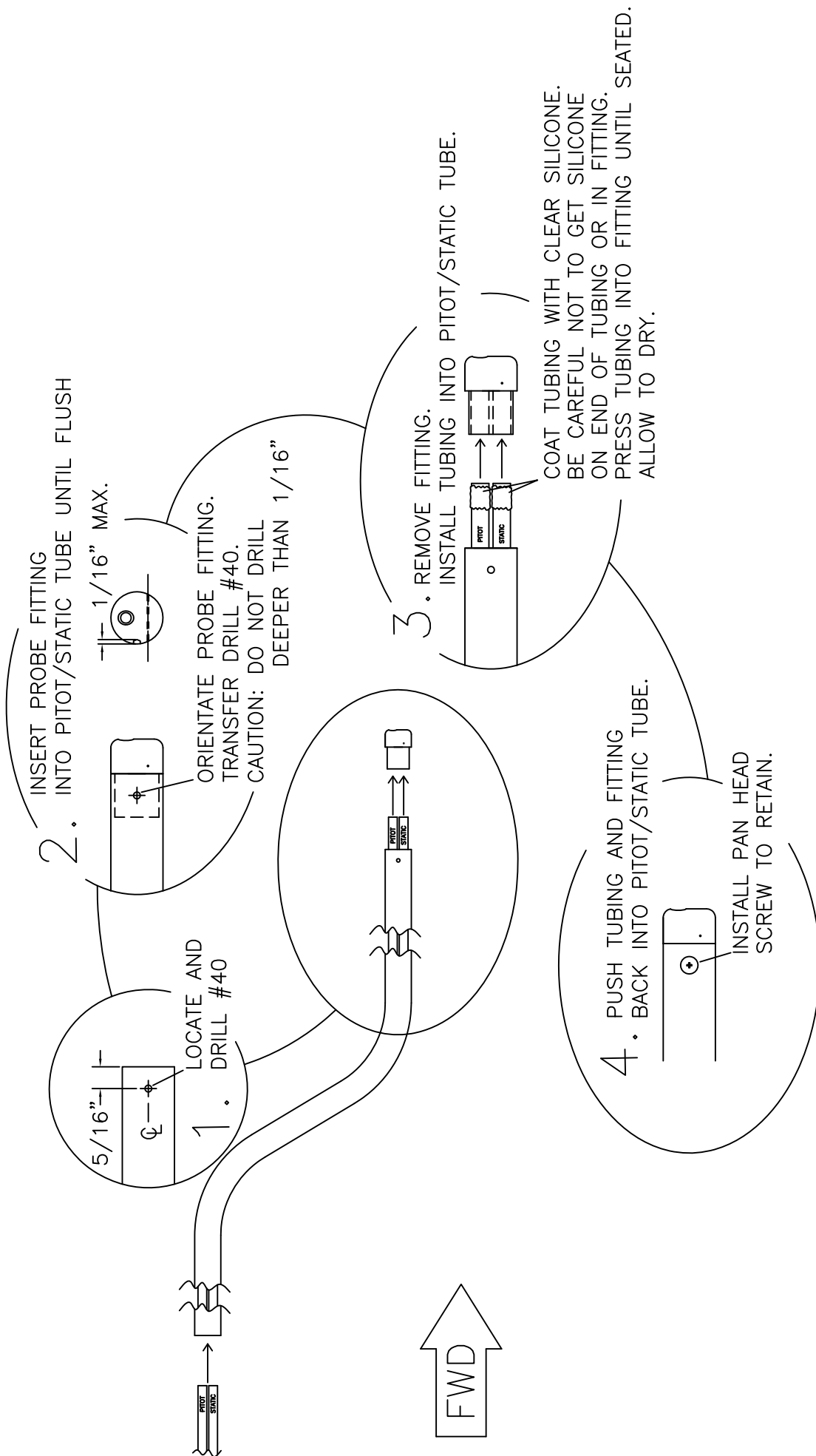
RANS S-7S
LEADING EDGE WRAP CLAMPING
FIGURE 05C-57

05/01/2017

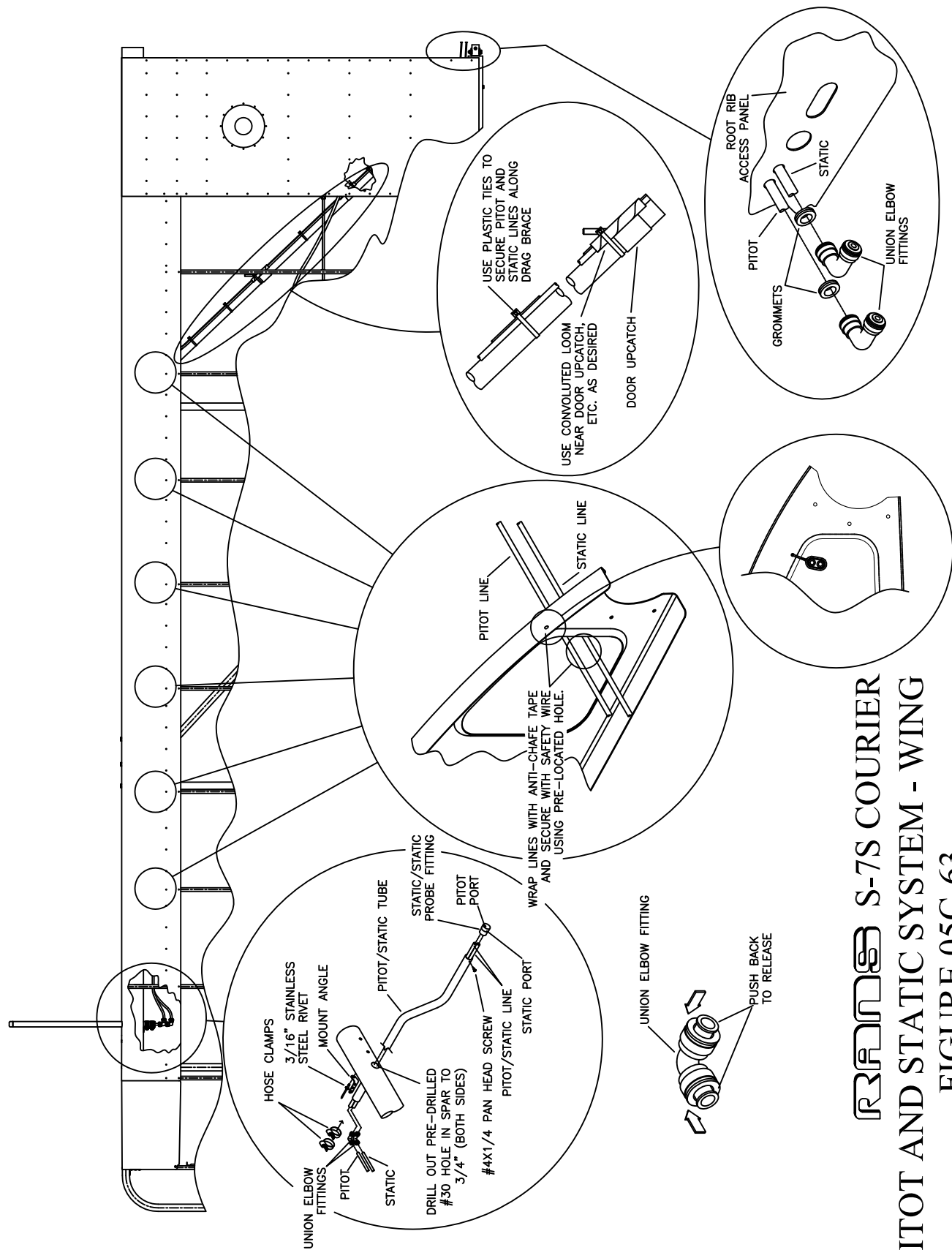


MD1525

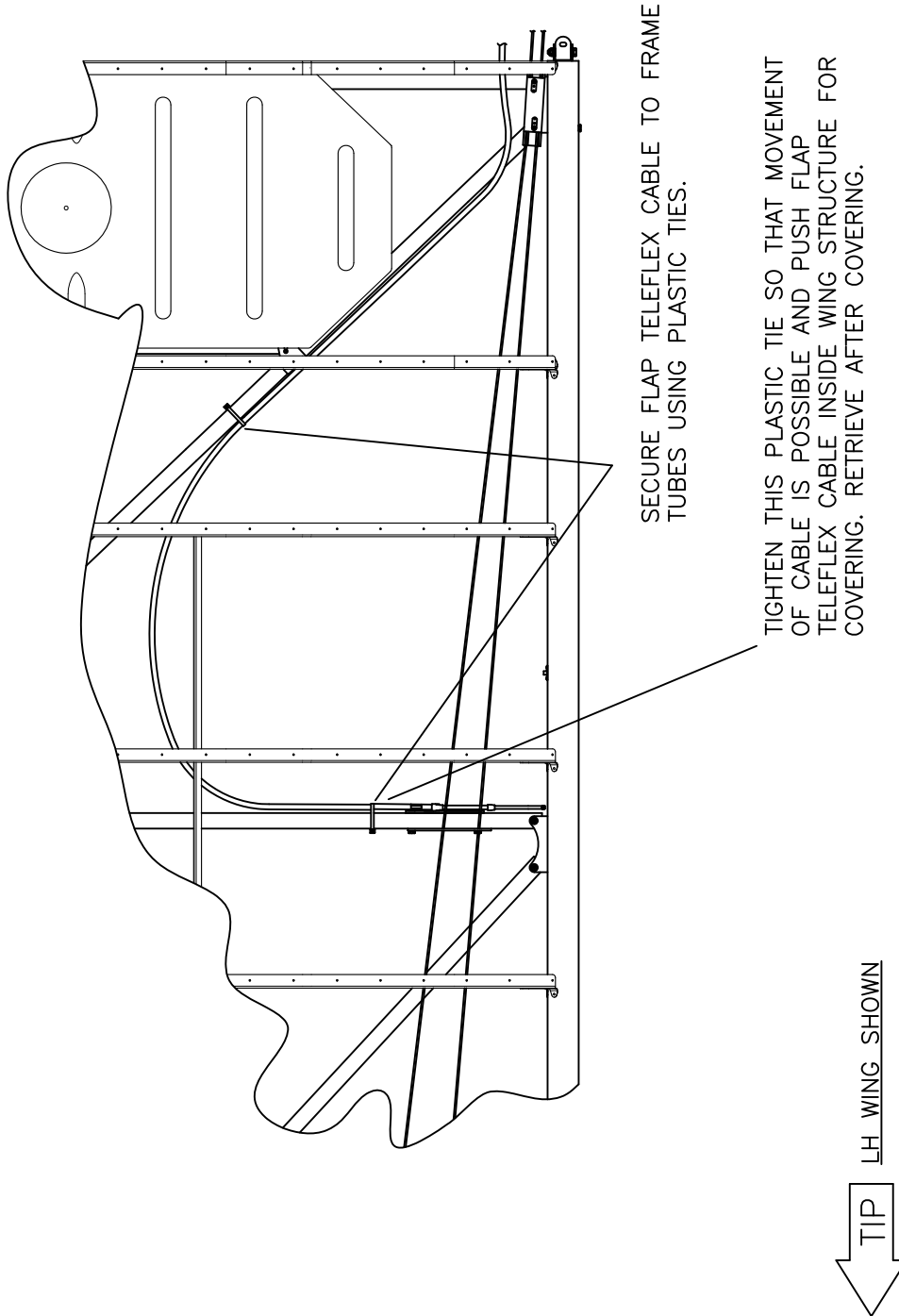
RANS S-7S
LEADING EDGE WRAP FILLET
FIGURE 05C-59



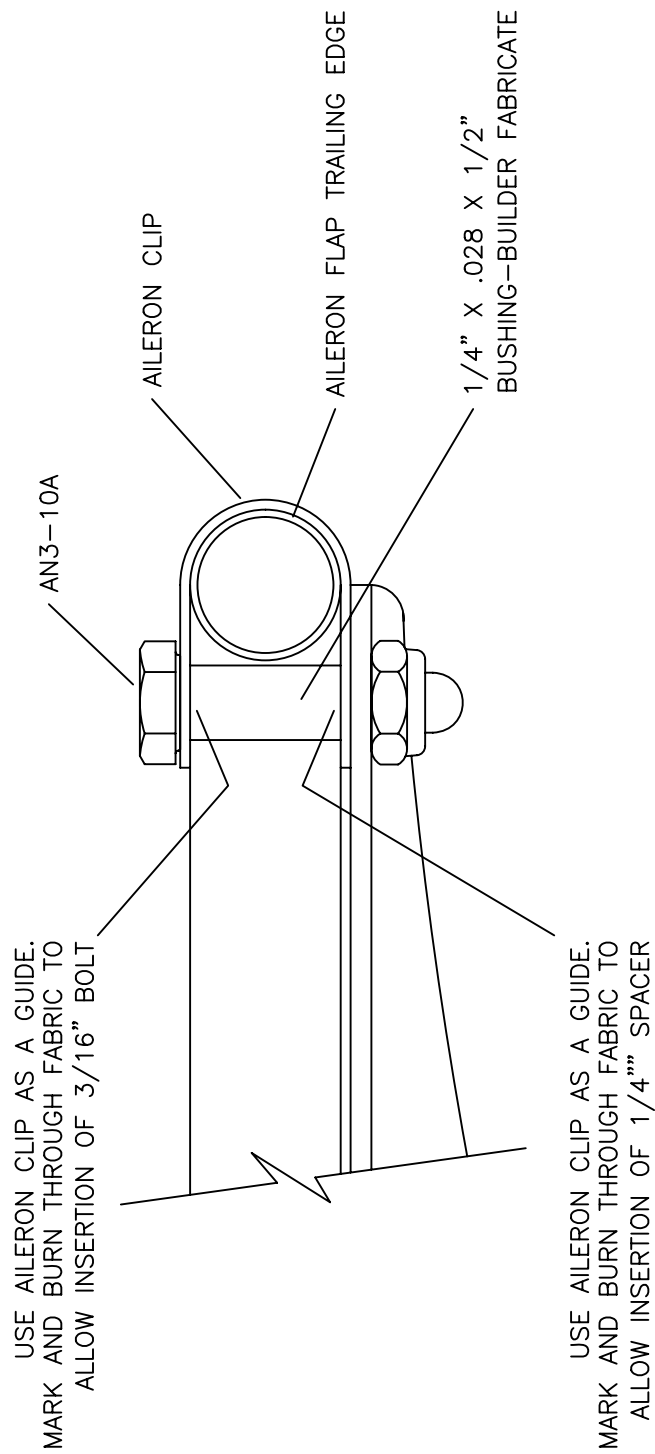
RRM S-7S COURIER
PITOT/STATIC PROBE ASSEMBLY
FIGURE 05C-61



RAMS S-7S COURIER
PITOT AND STATIC SYSTEM - WING
FIGURE 05C-63

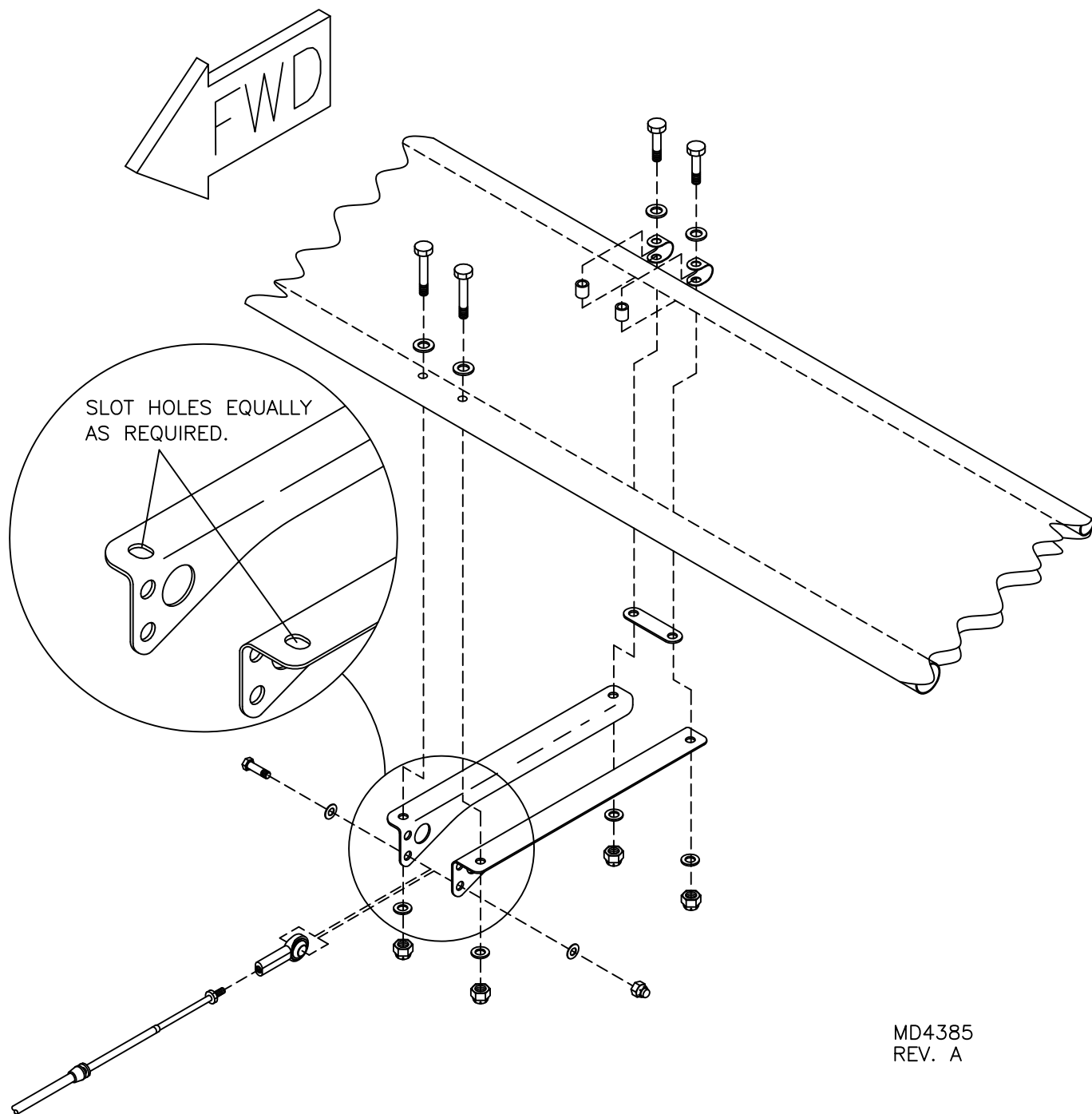


RAMS S-7S COURIER
FLAP TELEFLEX CABLE INSTALLATION - WING
FIGURE 05C-69

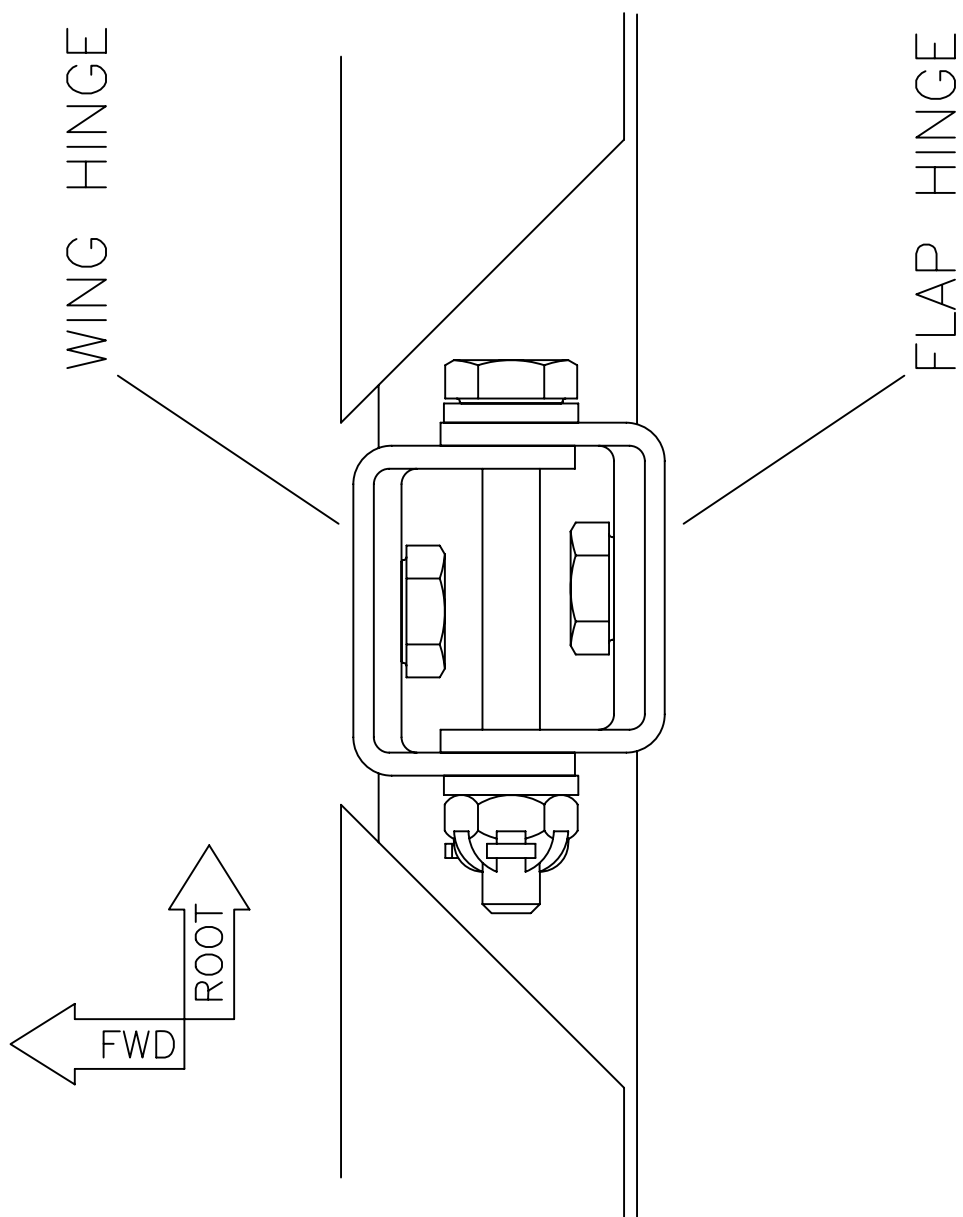


MD4349

RRM S-7S
AILERON AND FLAP ATTACH ANGLE
(TRAILING EDGE)
FIGURE 05D-05



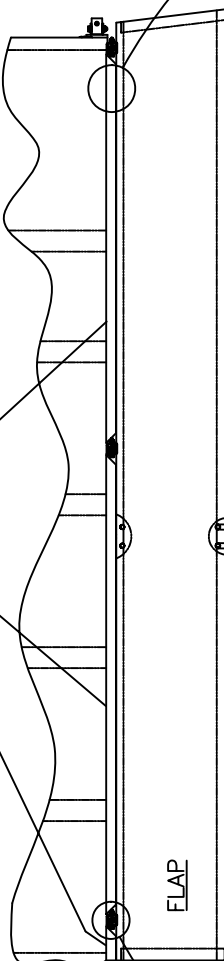
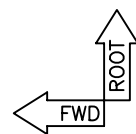
RANS S-7S
FLAP HORN ATTACH ANGLE INSTALLATION
FIGURE 05D-08



RRR S-7S
FLAP HINGE ORIENTATION
FIGURE 05D-09

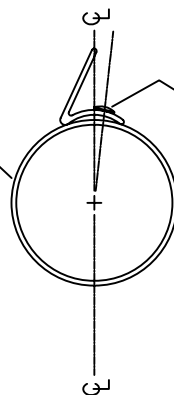
MD4384

CONTROL SURFACE GAP SEAL (3 PIECES PER WING)

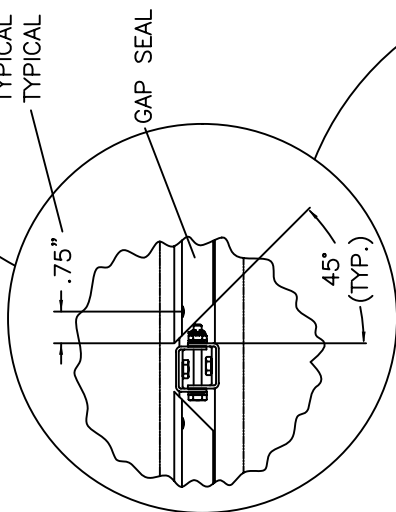


TYPICAL EDGE DISTANCE FOR RIVETS IS 3/4".
TYPICAL DISTANCE BETWEEN OTHER RIVETS IS 8" TO A MAX. OF 10."

TRAILING EDGE SPAR



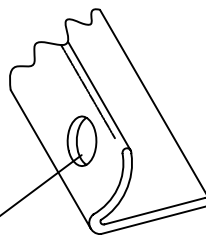
#30 DRILL (TYP.)
LOCATE BELOW CENTERLINE
OF TRAILING EDGE SPAR.
ORIENTATION OF GAP SEAL
ON TRAILING EDGE SPAR.



DETAIL FOR CUTTING AND
RIVETING OF GAP SEAL

IMPORTANT: TRIM AFT EDGE OF GAPSEAL TO PROVIDE
.060" CLEARANCE (MIN.) BETWEEN GAP SEAL
AND FLAP LEADING EDGE.

DRILL 5/8" OR AS REQUIRED
FOR BOLT HEAD CLEARANCE

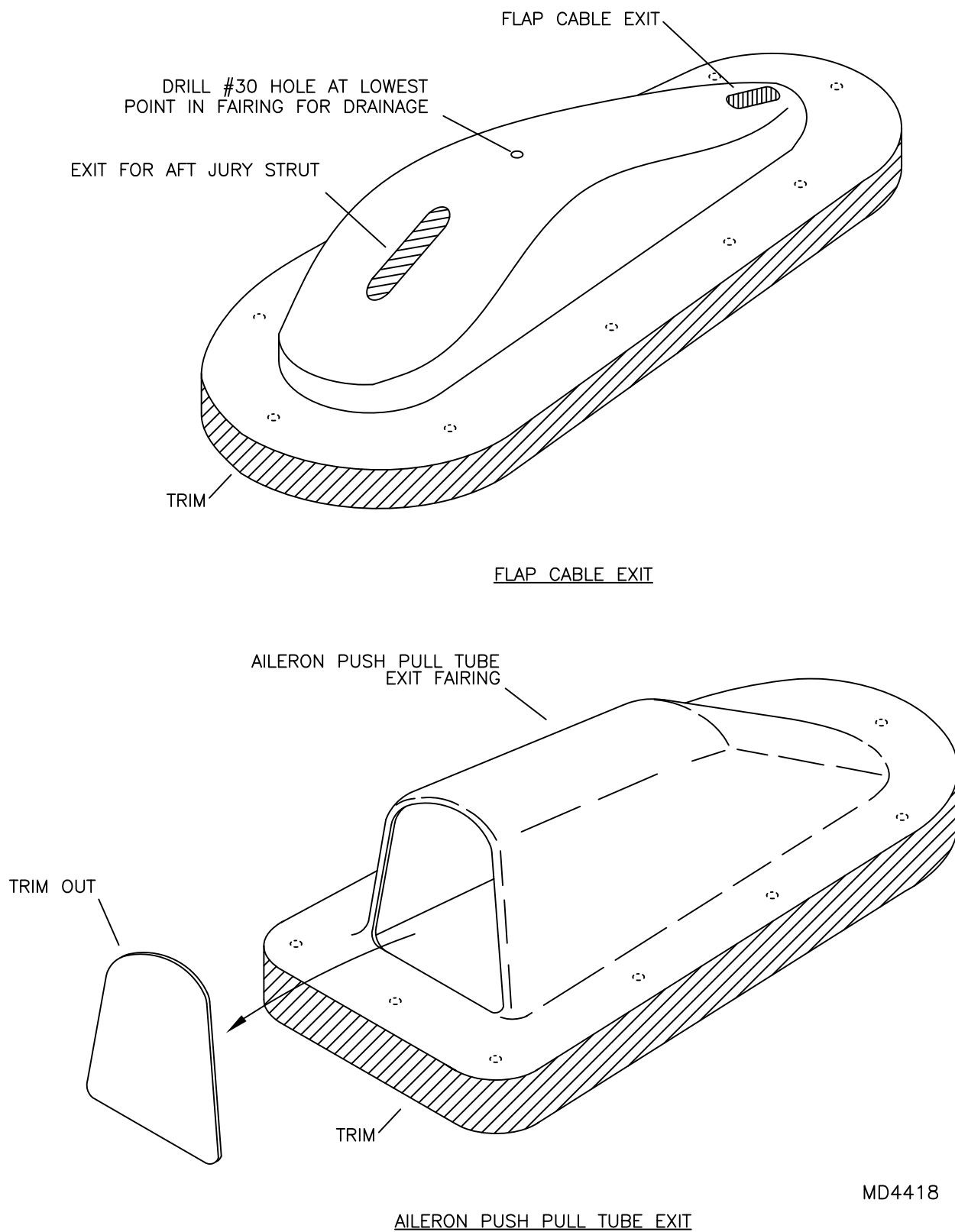


DETAIL GAP SEAL FOR
BOLT HEAD CLEARANCE

RAM S-7S

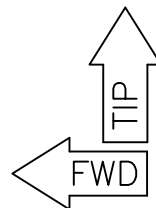
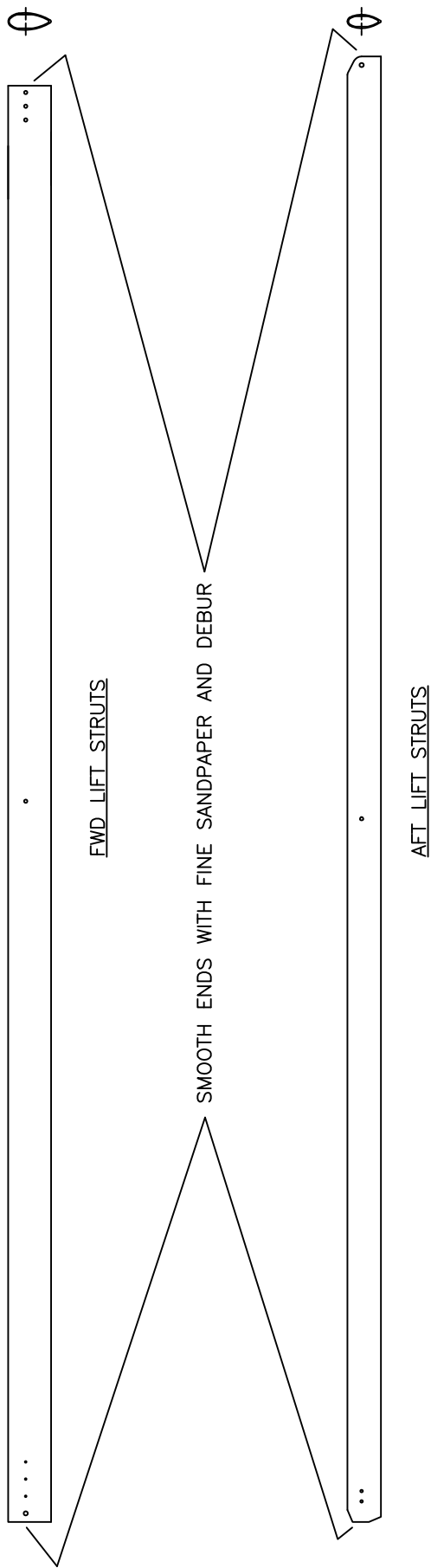
GAP SEAL INSTALLATION FIGURE 05D-13

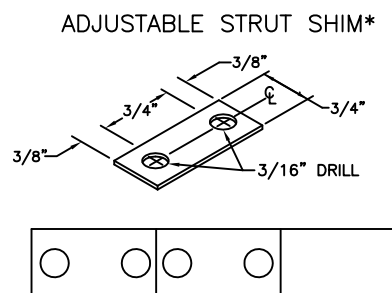
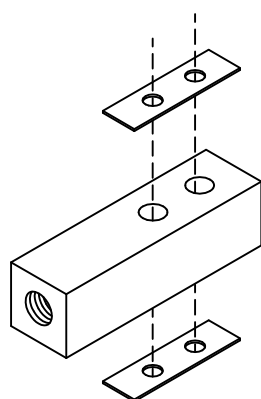
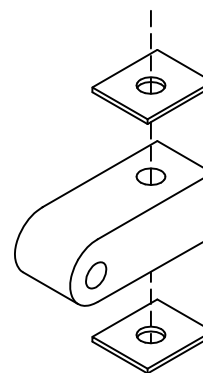
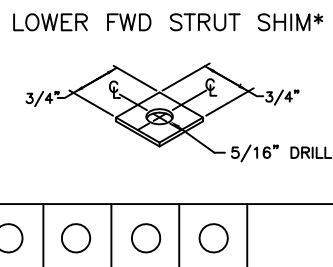
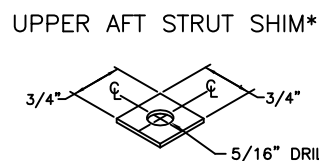
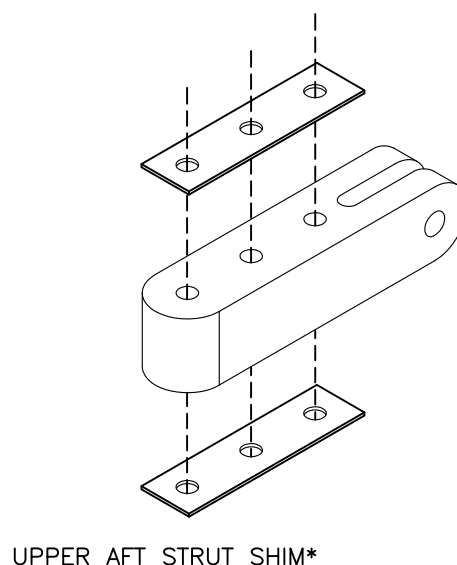
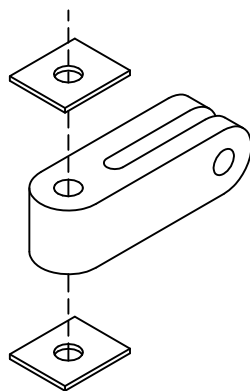
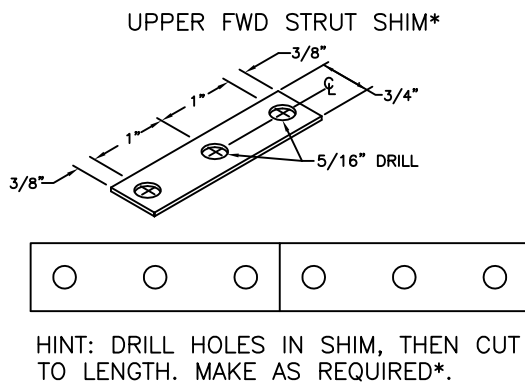
MD4382



RRM S-7S
LIFT STRUT ORIENTATION
FIGURE 05E-01

02/07/2017



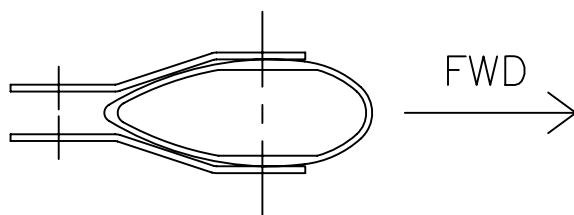
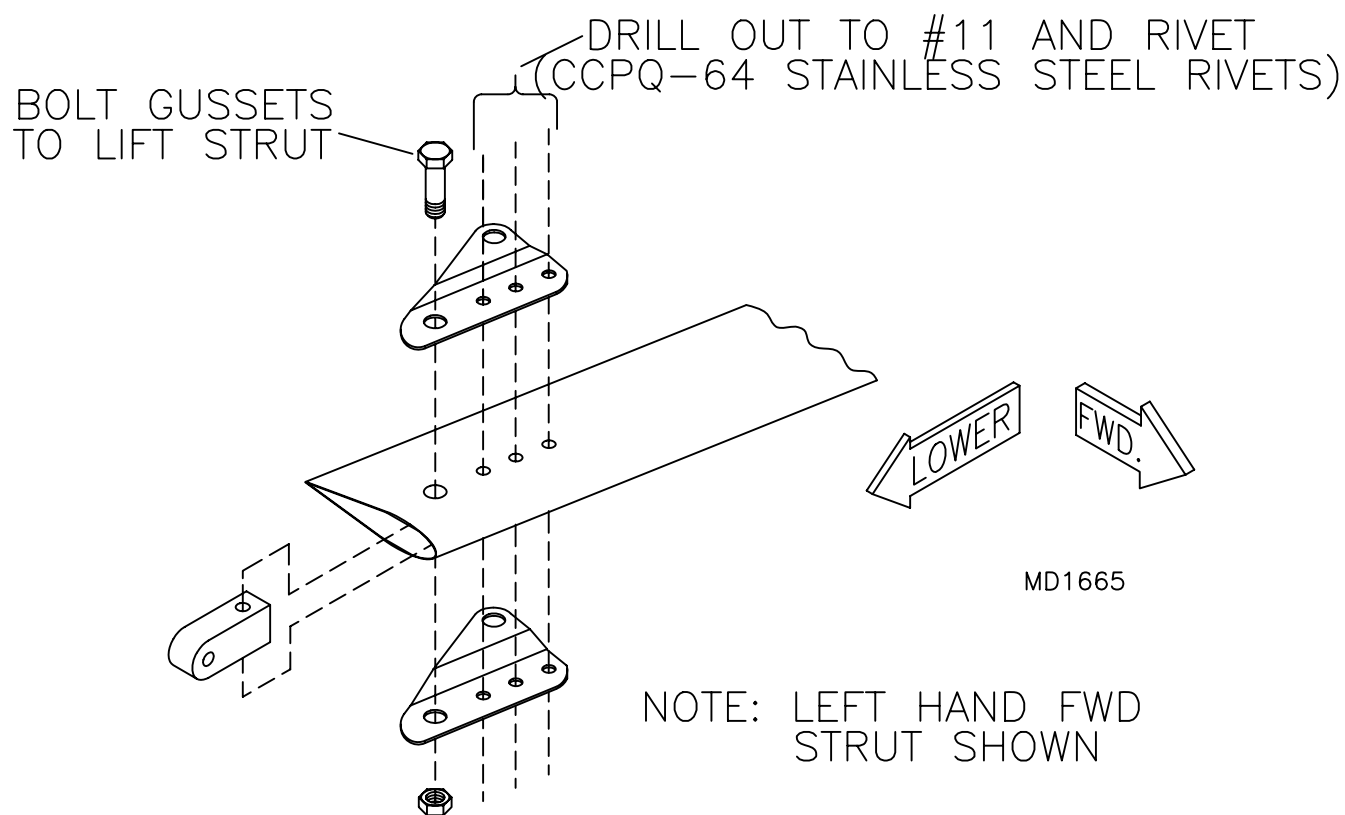
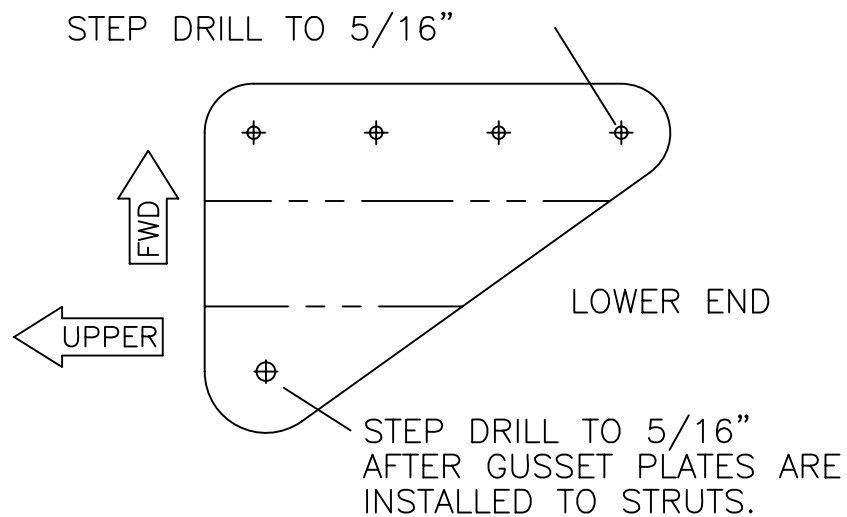


RANS S-7S COURIER **LIFT STRUT SHIMS** **FIGURE 05E-03**

*CUT & USE ONLY AS NEEDED

MD4375
REV. A

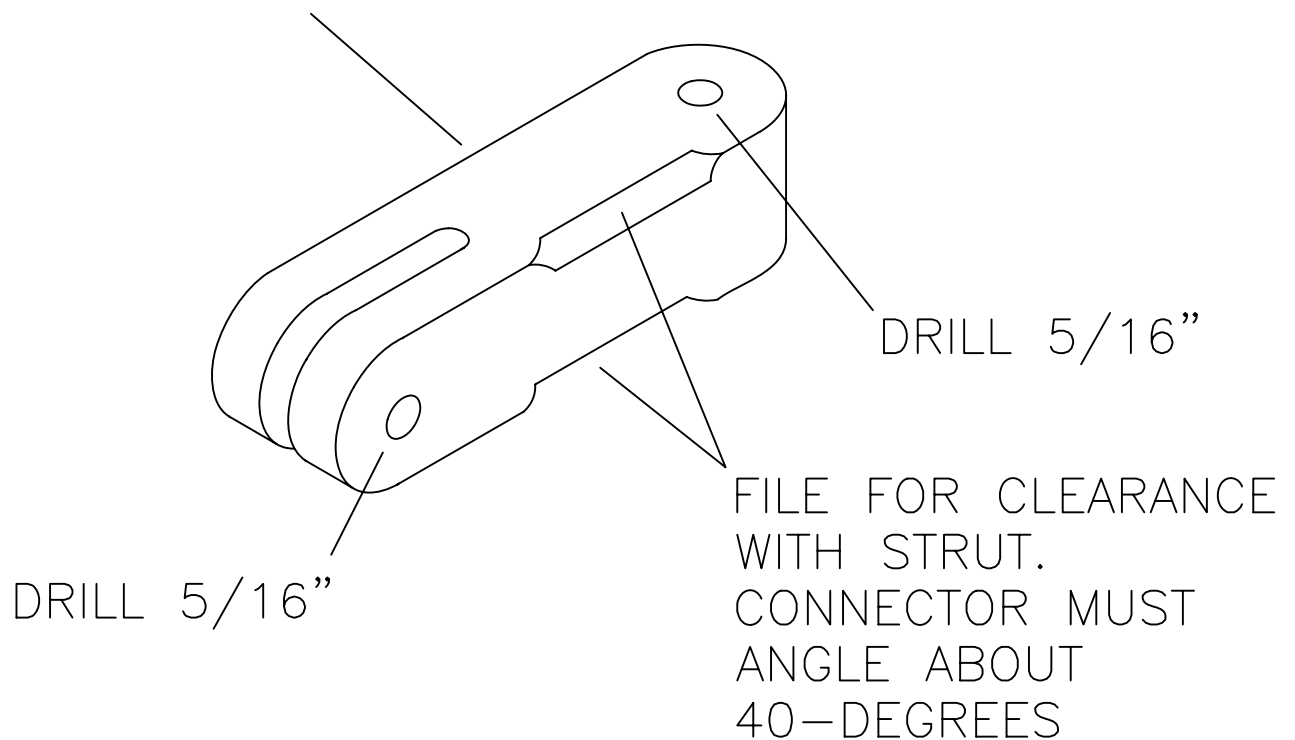
02/07/2017



RANS S-7S
LIFT STRUT GUSSET PLATES
FIGURE 05E-04

MD4376

AFT CONNECTOR — LIFT STRUT
(LS-ACU-2)

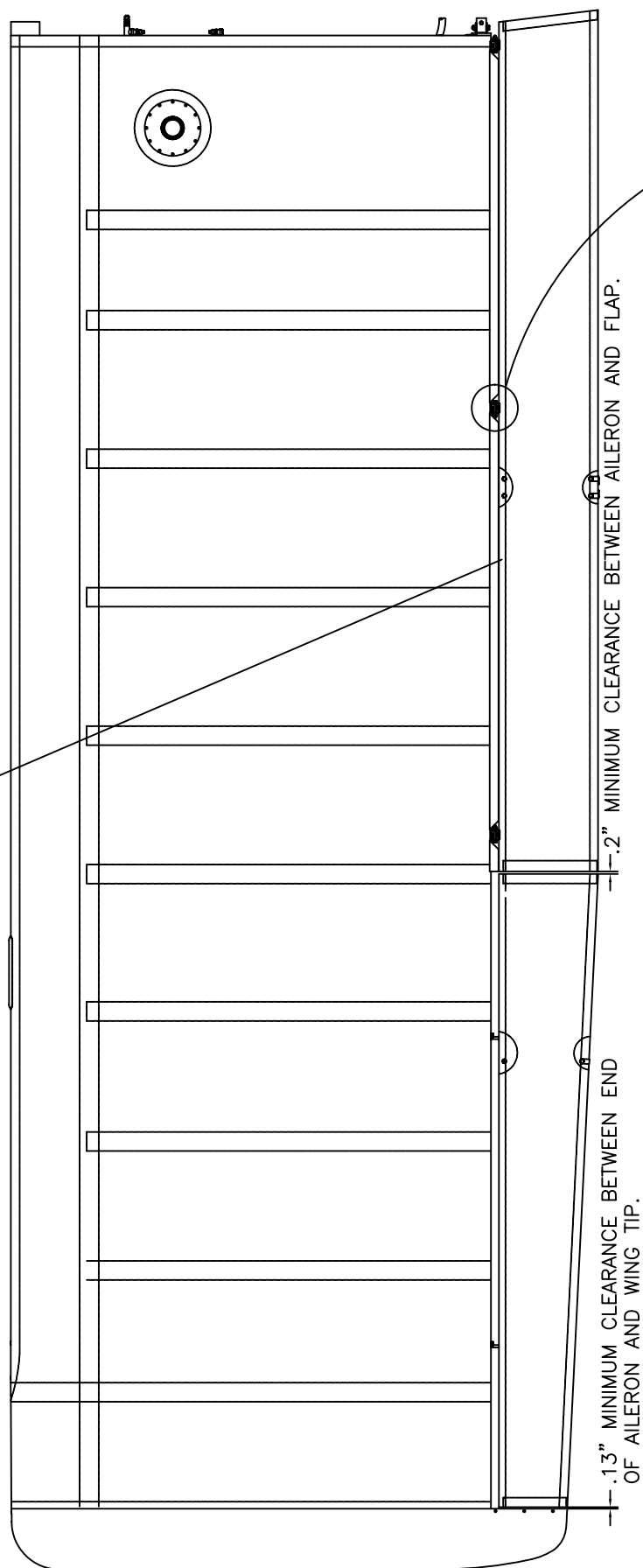


RANS S-7S
UPPER AFT LIFT STRUT CONNECTOR MODIFICATION
FIGURE 05E-13

MD1416

06/15/2011

MINIMUM CLEARANCE BETWEEN FLAP AND GAP SEAL — .060" (ENTIRE LENGTH)

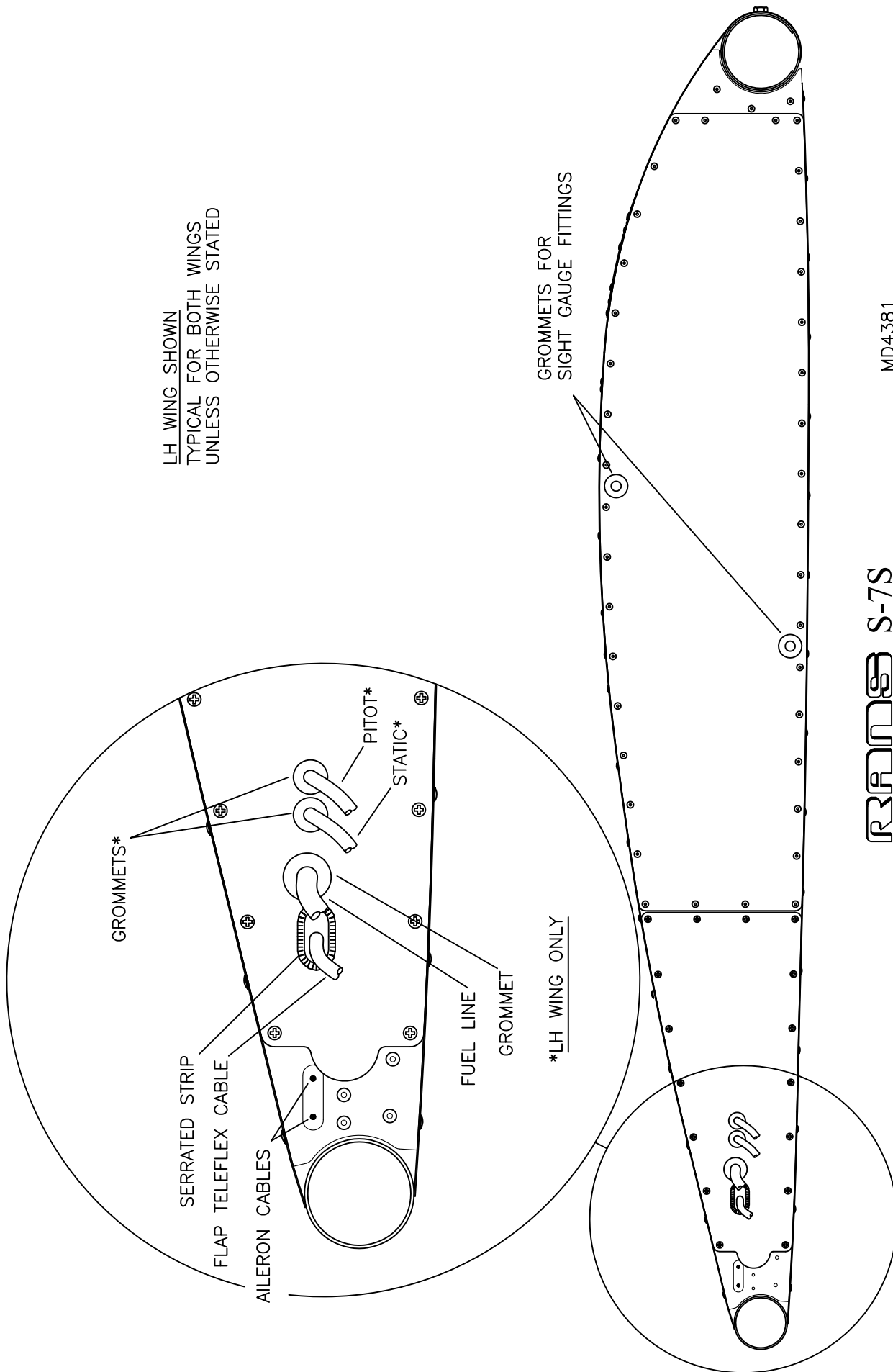


MD4384

RAMS S-7S

CONTROL SURFACE CLEARANCE - WING

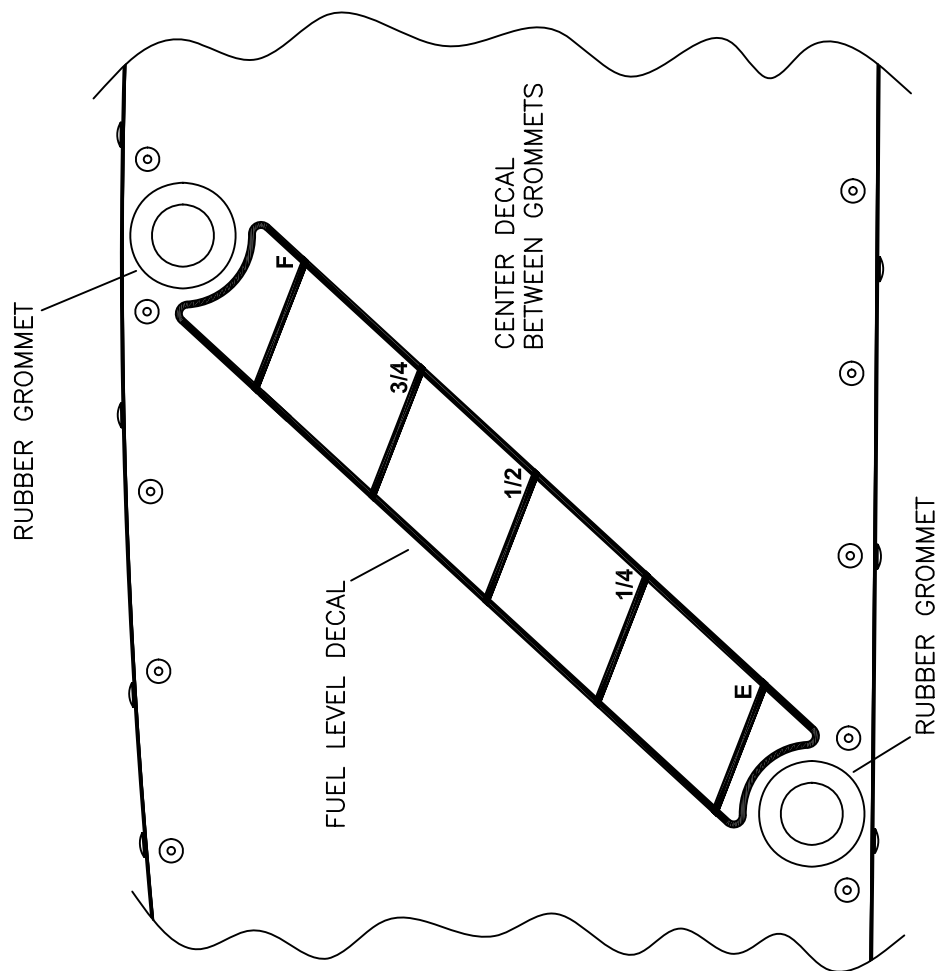
FIGURE 05F-04



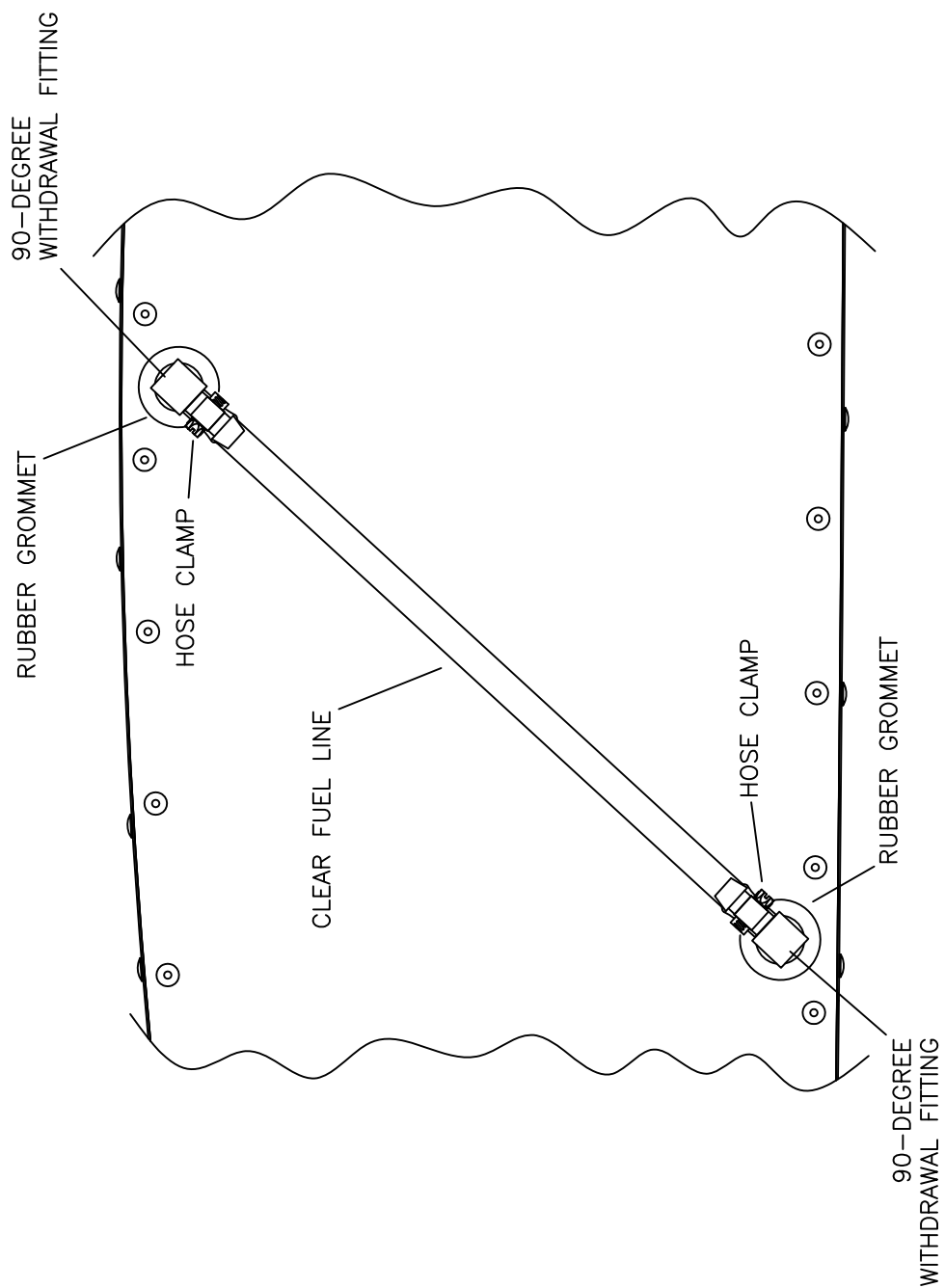
LH WING SHOWN
TYPICAL FOR BOTH WINGS
UNLESS OTHERWISE STATED

RRF S-7S
ROOT CLOSEOUT DETAIL
FIGURE 05G-03

MD4381

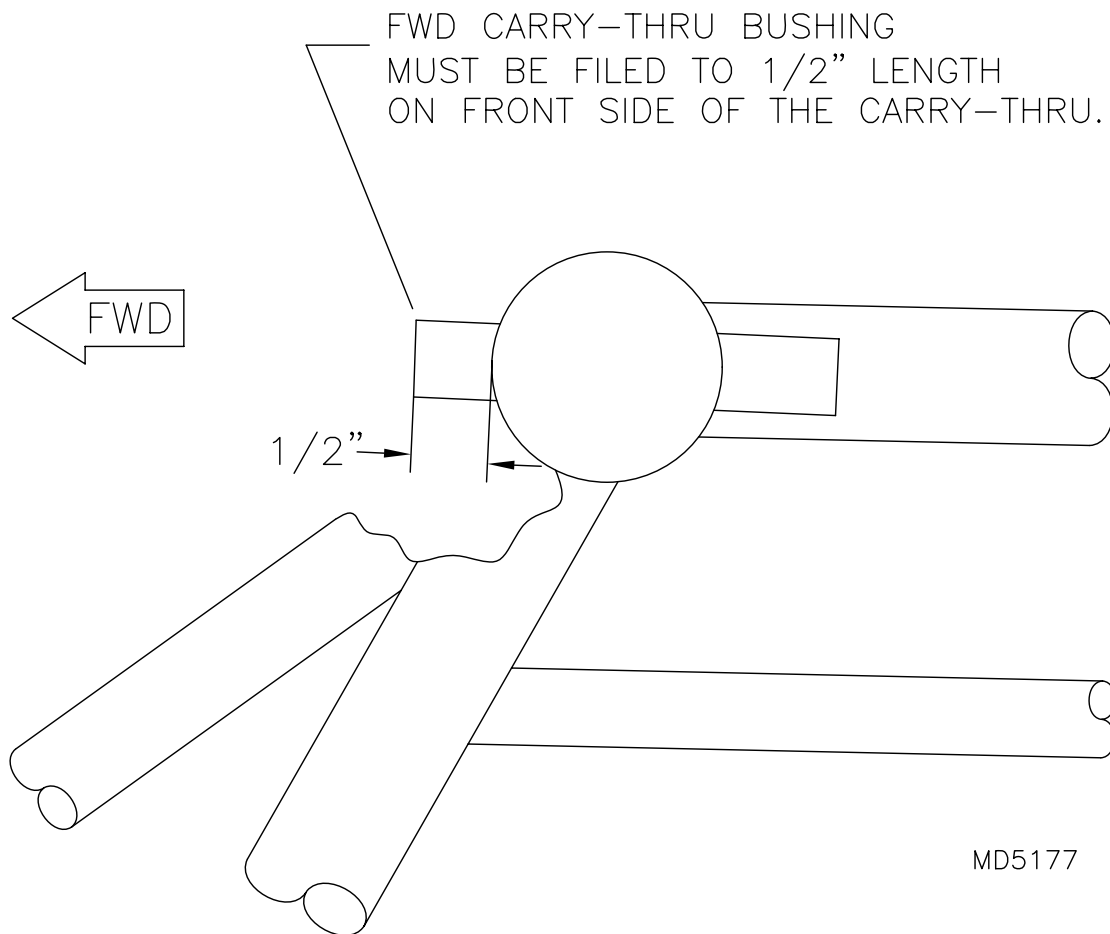


RAMS S-7S MD4414
 FUEL SIGHT GAUGE DECAL INSTALLATION
 FIGURE 05G-04

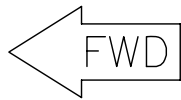


RAM S-7S COURIER
FUEL SIGHT GAUGE INSTALLATION
FIGURE 05G-05

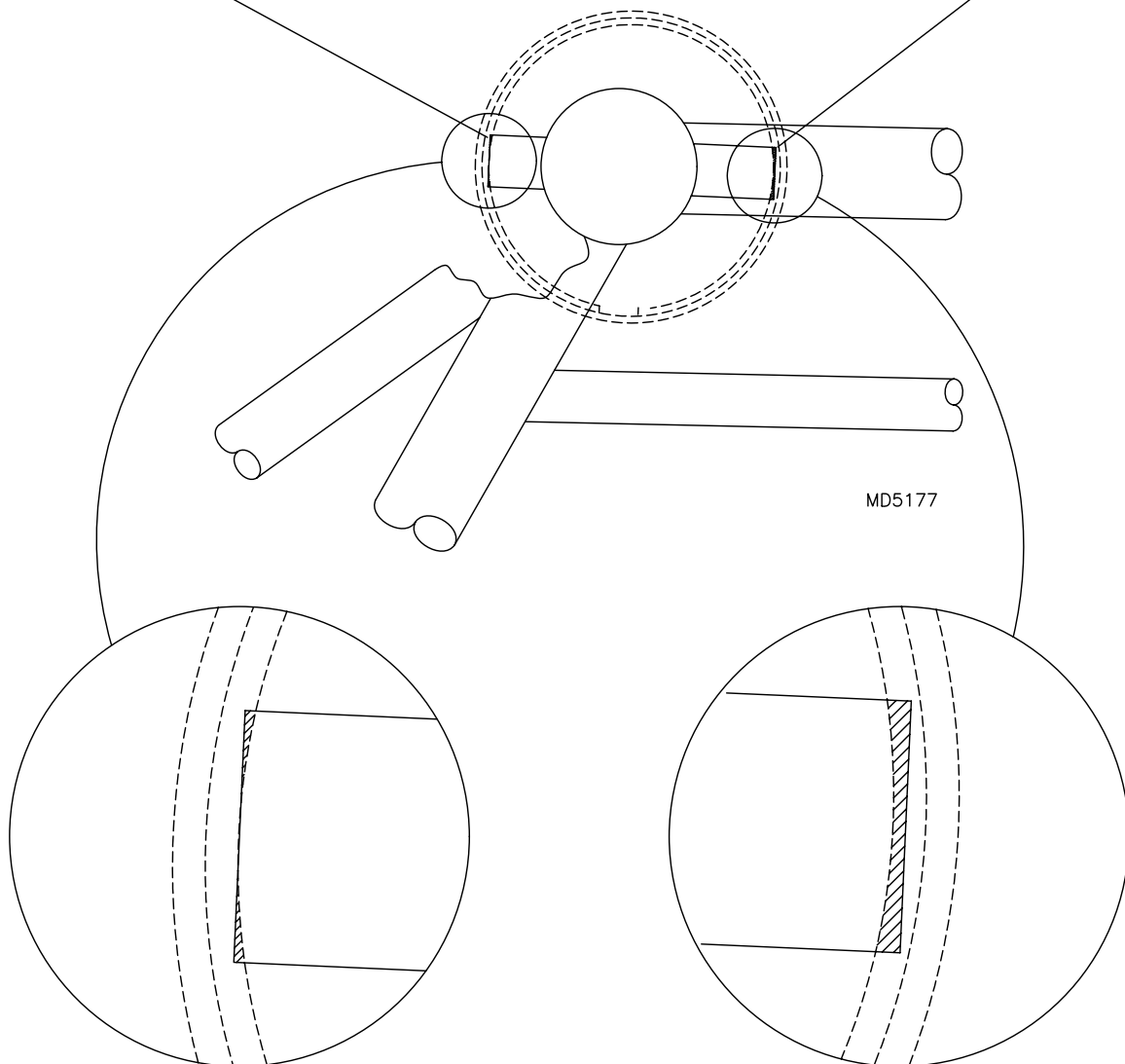
MD4414
 REV. A



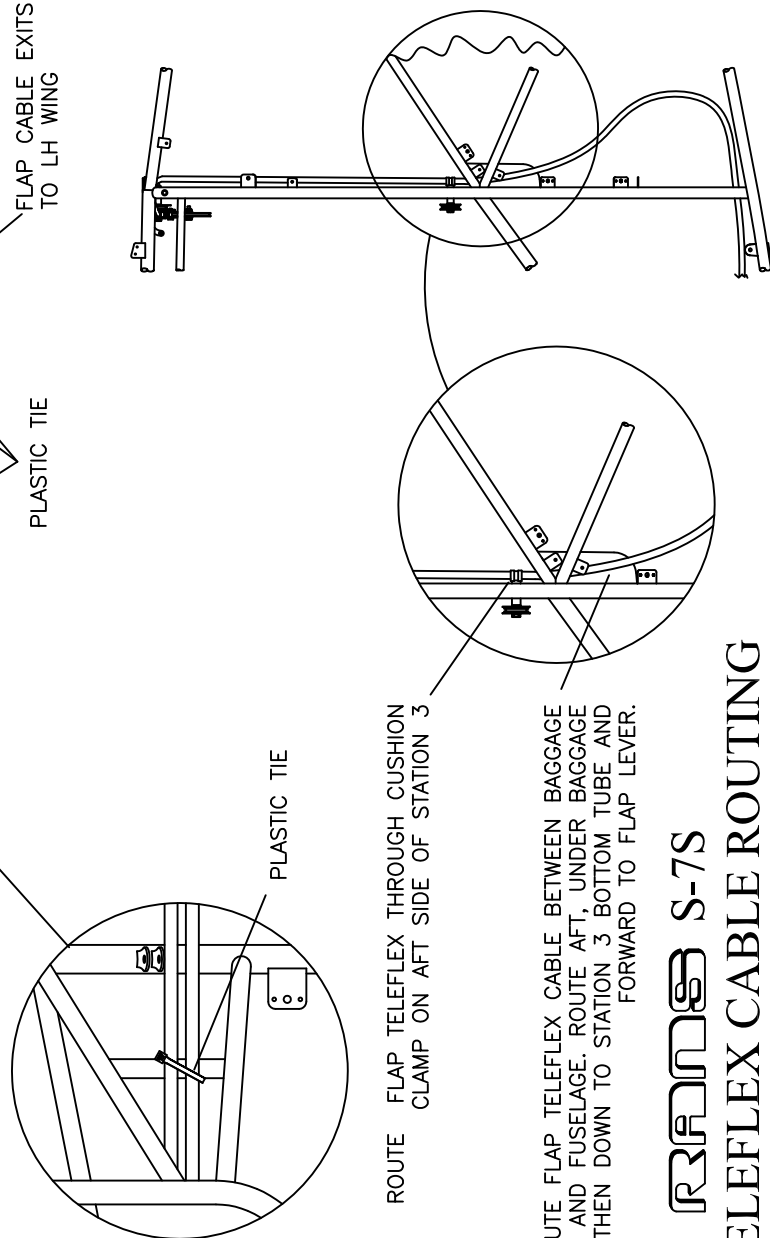
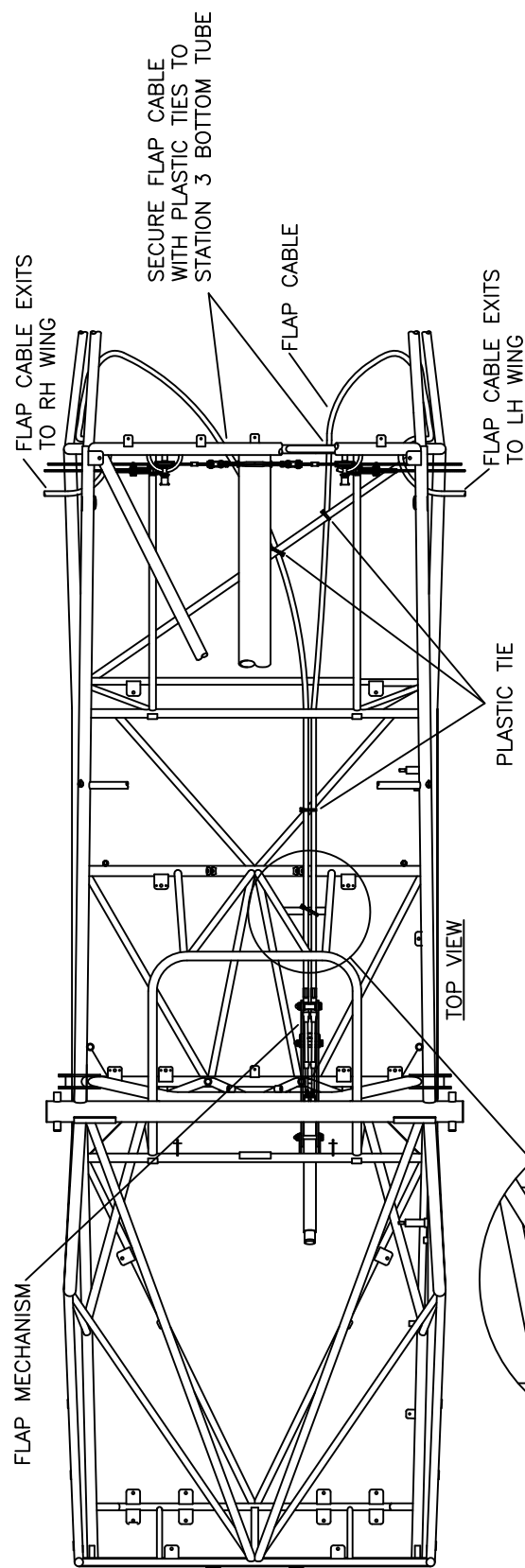
RANS S-7S
WING ATTACHMENT (T-BONE) MODIFICATION
FIGURE 05H-07



CONTOUR FWD AND AFT PORTION OF THE BUSHING (T-BONE)
UNTIL LEADING EDGE SPAR (WITH DOUBLER INSTALLED) SLIPS OVER
THE CARRY-THRU BUSHING.



RANS S-7S
WING ATTACHMENT (T-BONE) MODIFICATION
FIGURE 05H-08

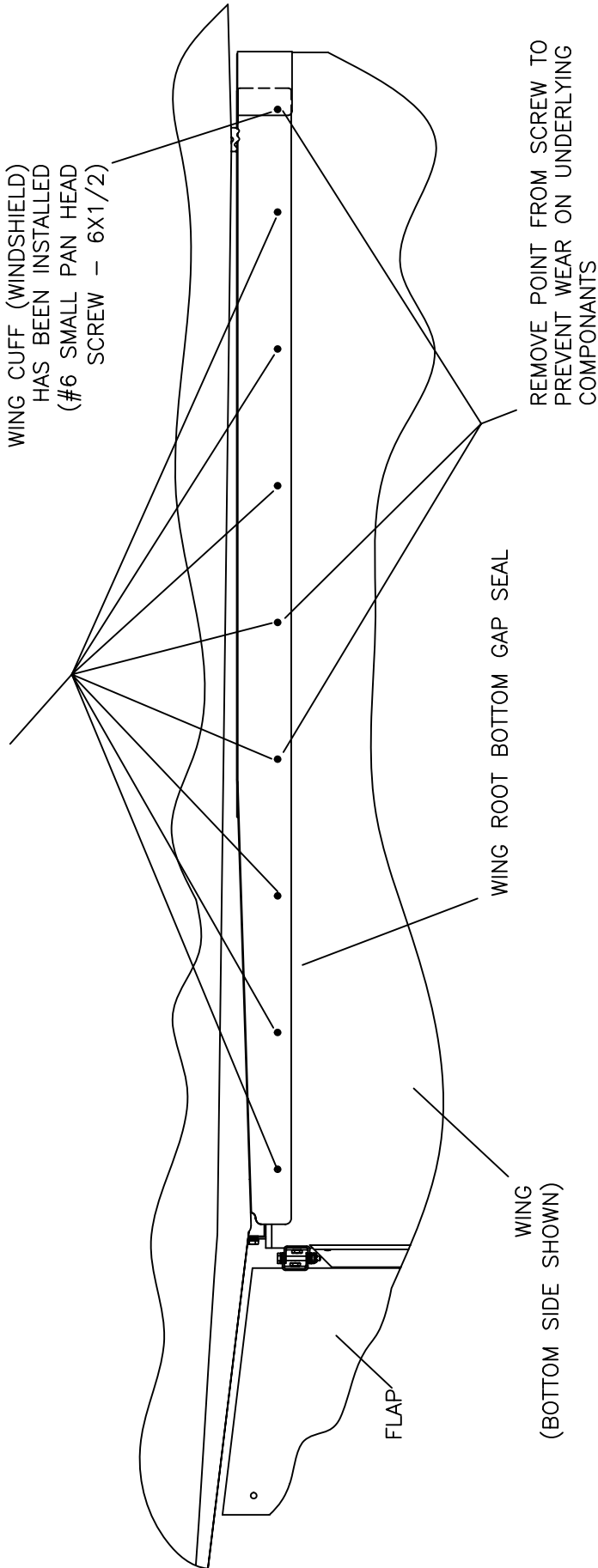


RAMS S-7S
FLAP TELEFLEX CABLE ROUTING
FIGURE 05H-27

MD4406

LOCATE CENTER OF TINNERMANS INSTALLED ON ROOT RIB.
 DRILL #30 AND INSTALL #8 PAN HEAD SCREW – 8X1/2

LOCATE ON WING AFTER
 WING CUFF (WINDSHIELD)
 HAS BEEN INSTALLED
 (#6 SMALL PAN HEAD
 SCREW – 6X1/2)

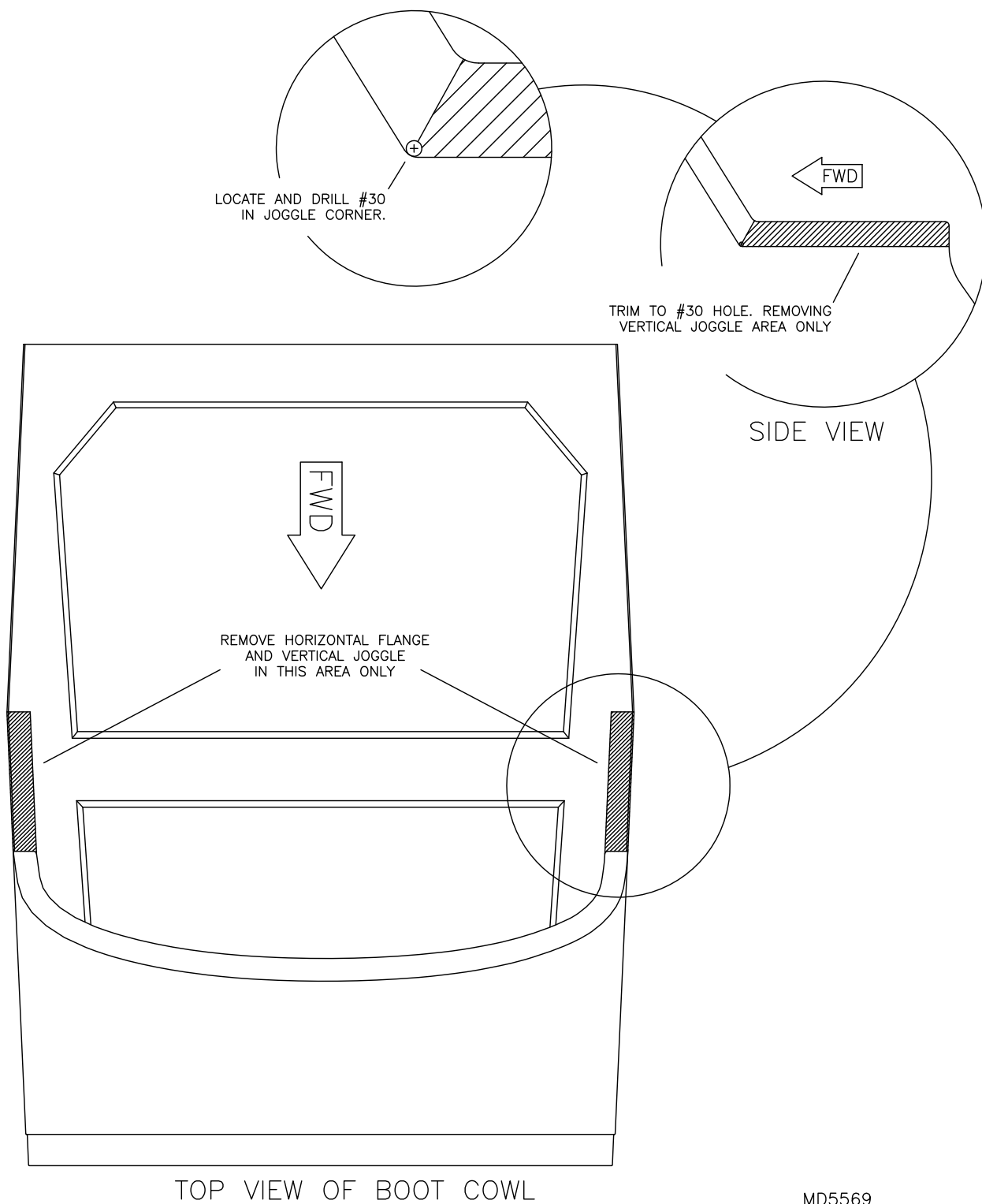


RRR S-7S
WING ROOT BOTTOM GAP SEAL ATTACH
FIGURE 05H-30

MD4407



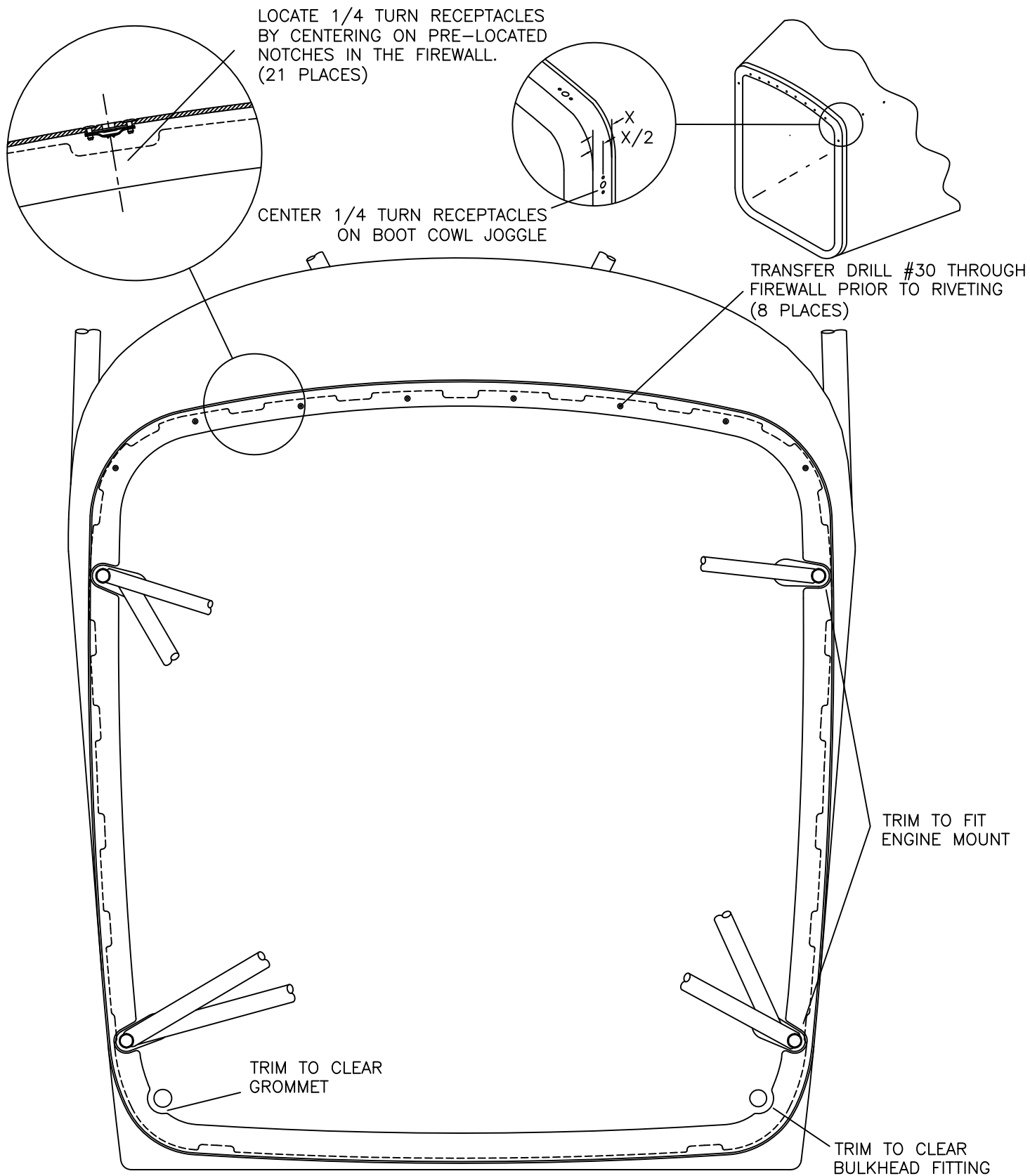
MD4398



MD5569

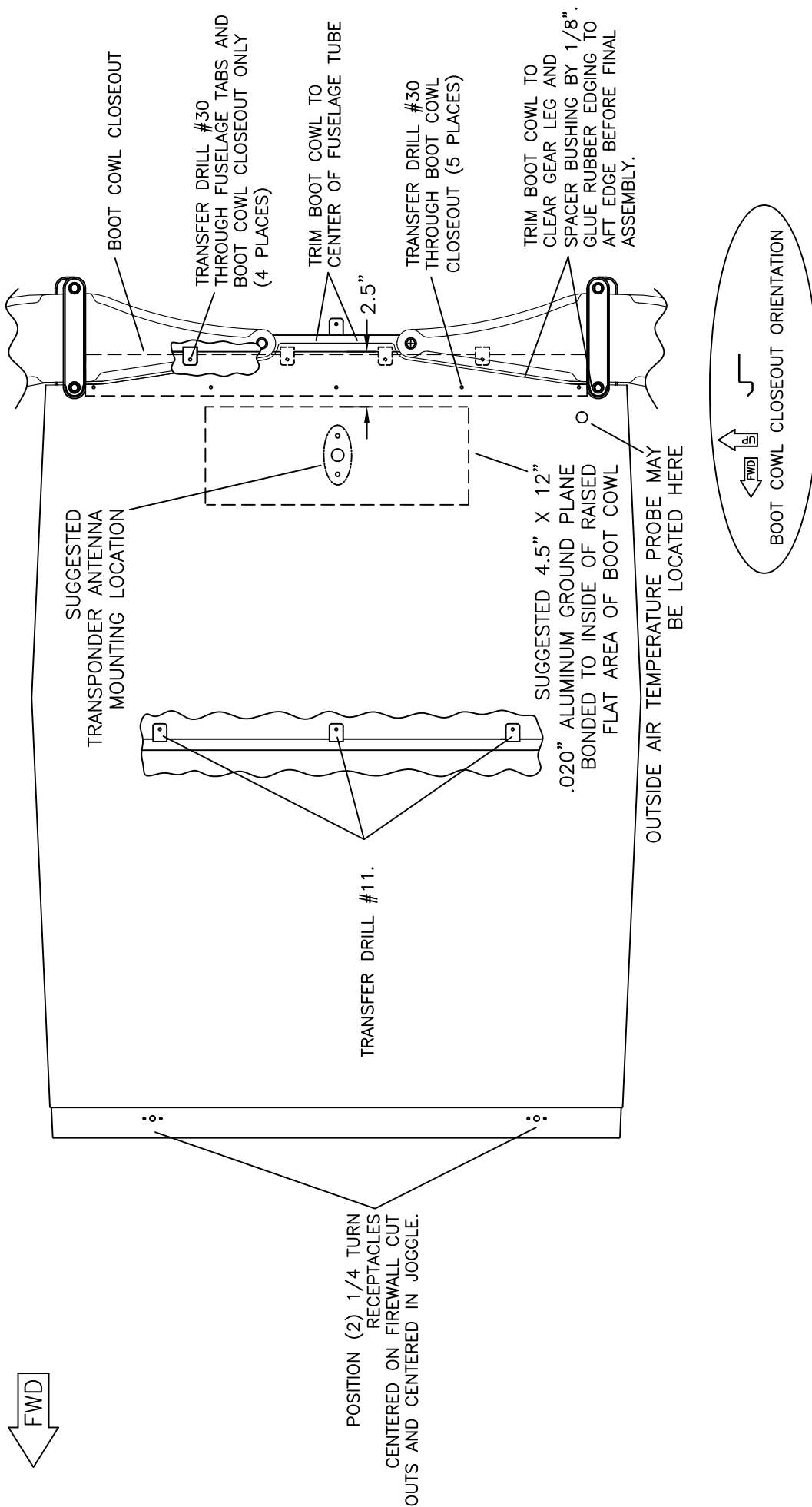
RANSS-7S COURIER BOOT COWL TRIMMING FIGURE 06-02

09/01/2014



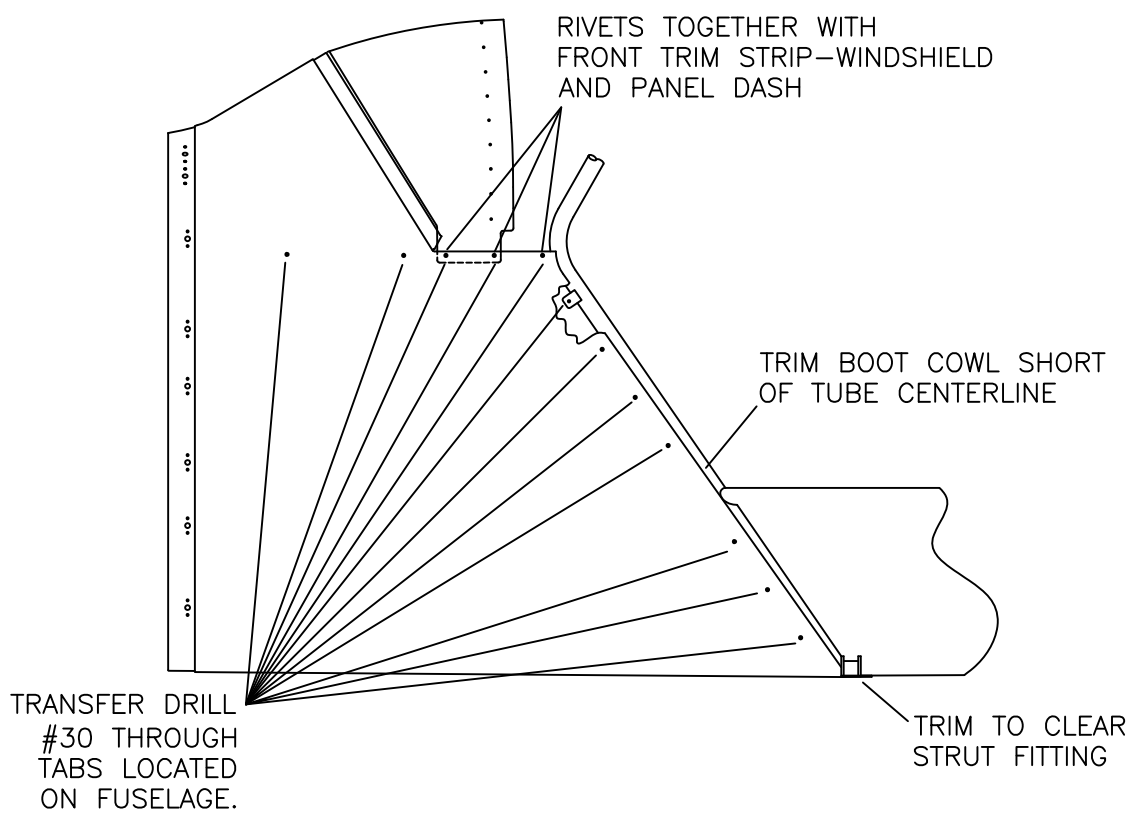
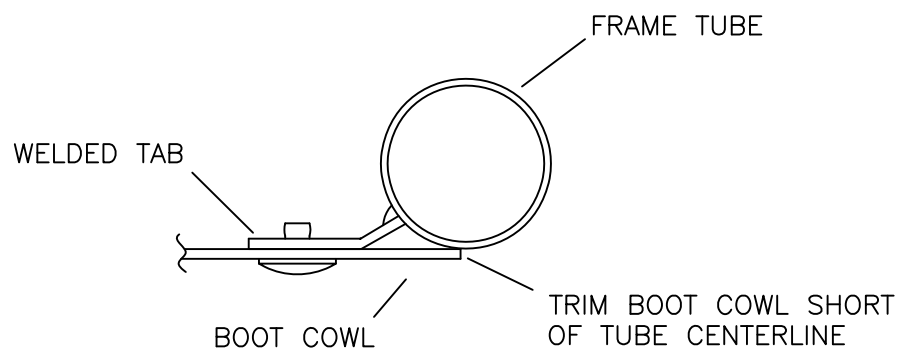
RANS S-7S COURIER
BOOT COWL - FRONT DETAILS
FIGURE 06-02A

MD4396



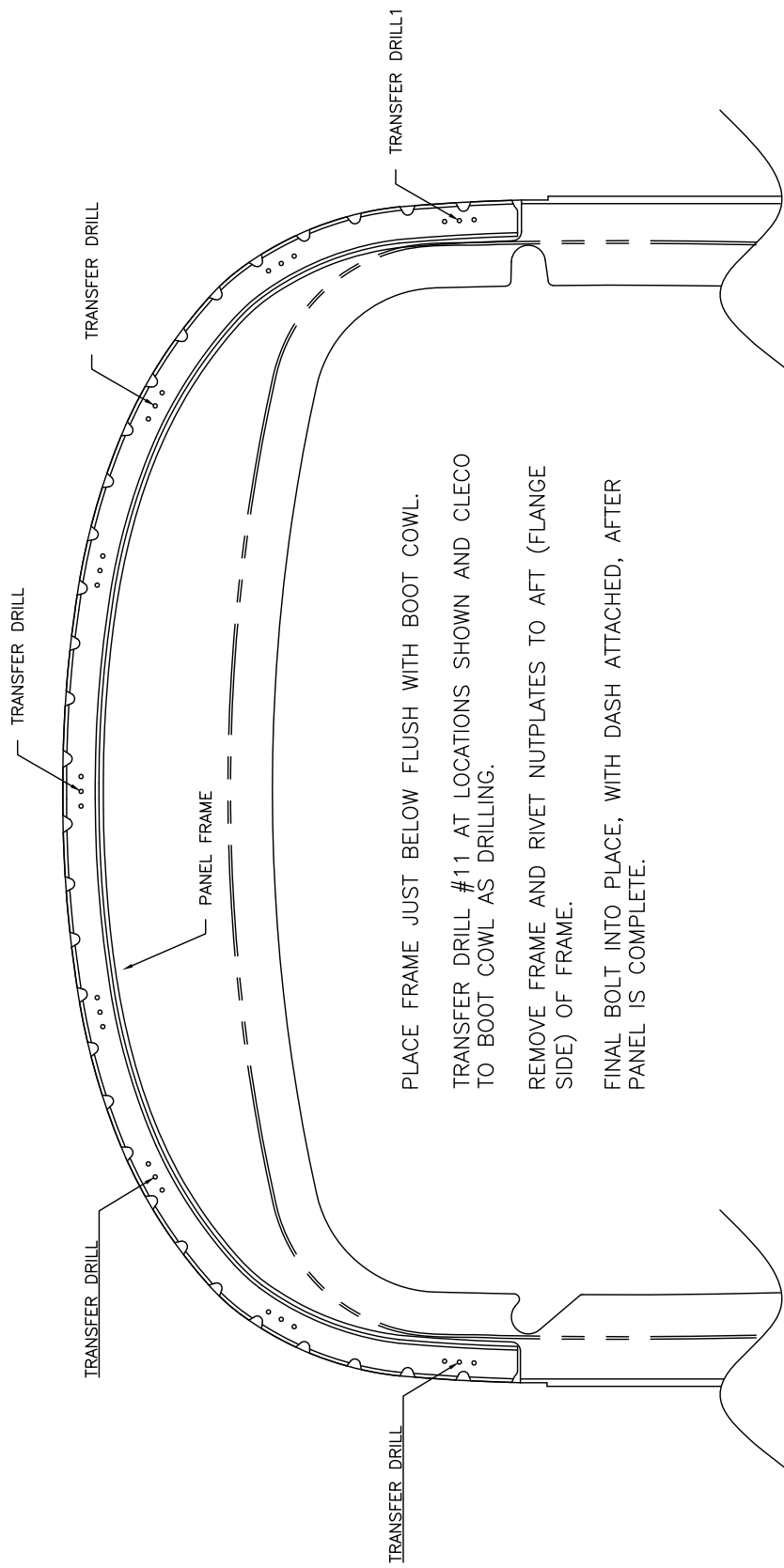
S-7S COURIER
BOOT COWL BOTTOM DETAIL
FIGURE 06-02B

MD4398



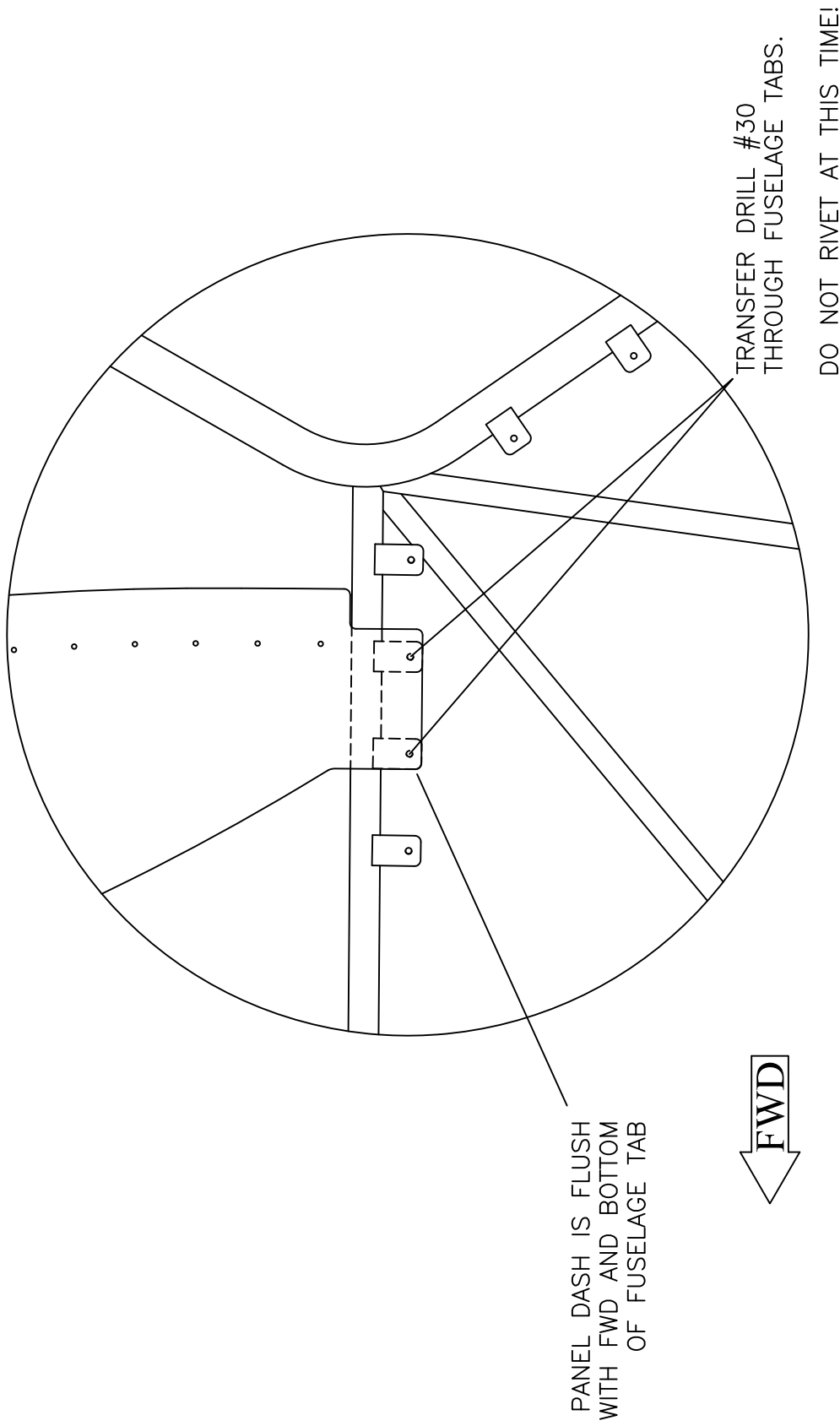
MD4399

RANS S-7S COURIER
BOOT COWL SIDE DETAIL
FIGURE 06-02C



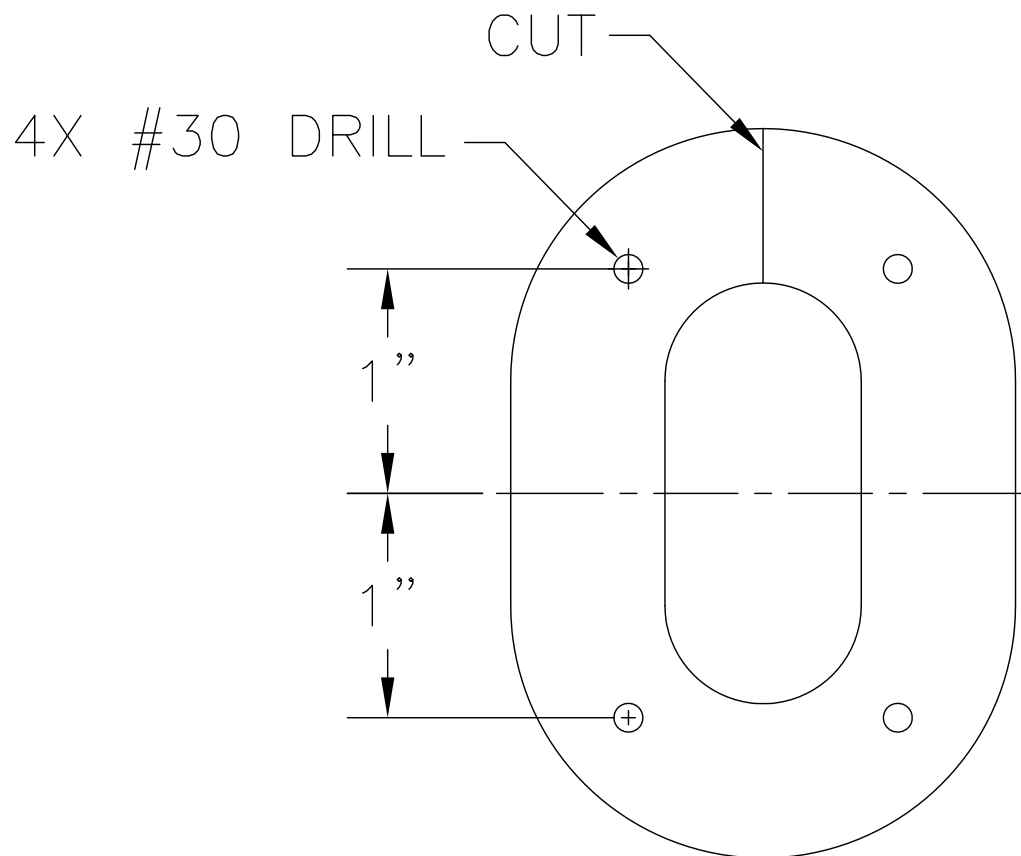
MD5569

RAMS S-7S
 VERTICAL INSTRUMENT PANEL
 FORWARD FRAME MOUNTING
 FIGURE 06-03A



MD5564

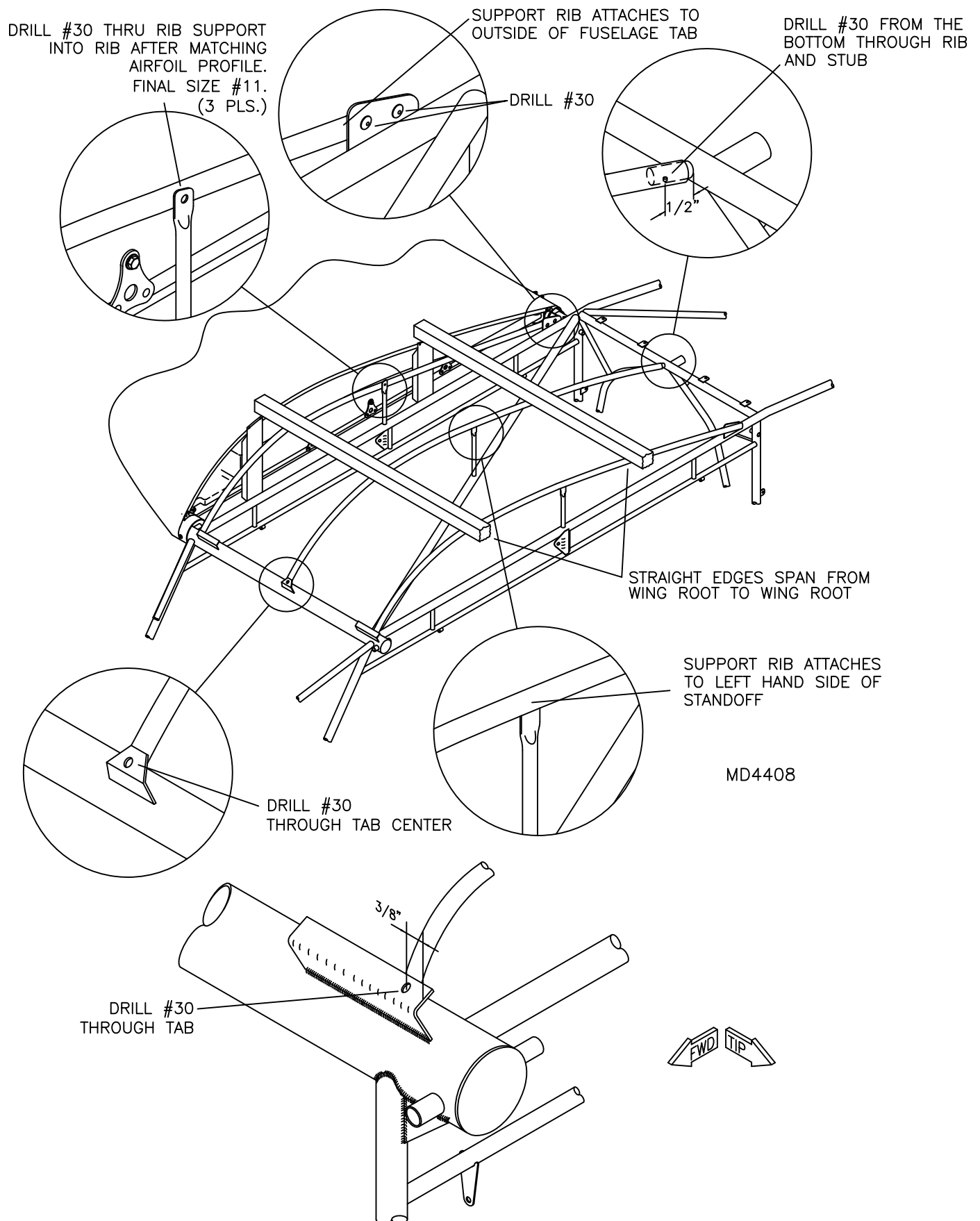
RFA S-7S
VERTICAL INSTRUMENT PANEL ALIGNMENT
FIGURE 06-03B



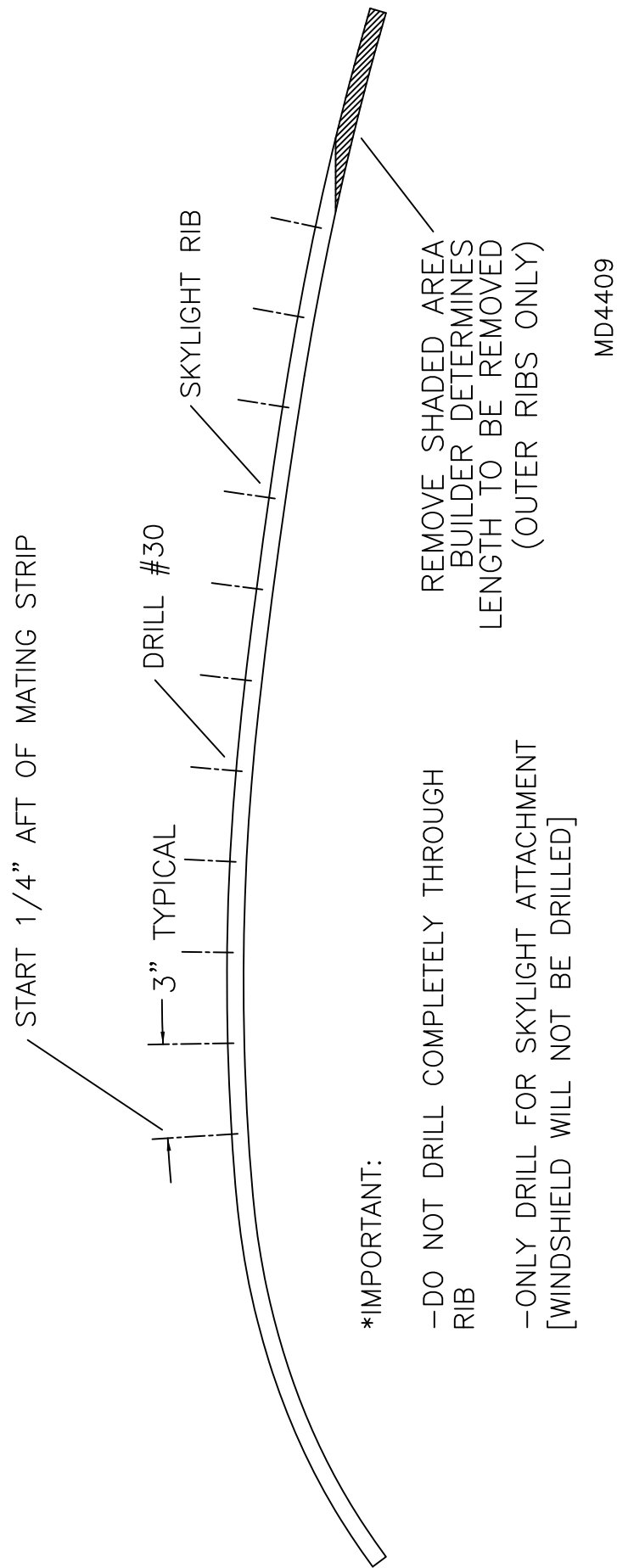
MD5118

RANS S-7S
INSTRUMENT PANEL CLOSEOUT MODIFICATION
FIGURE 06-03C

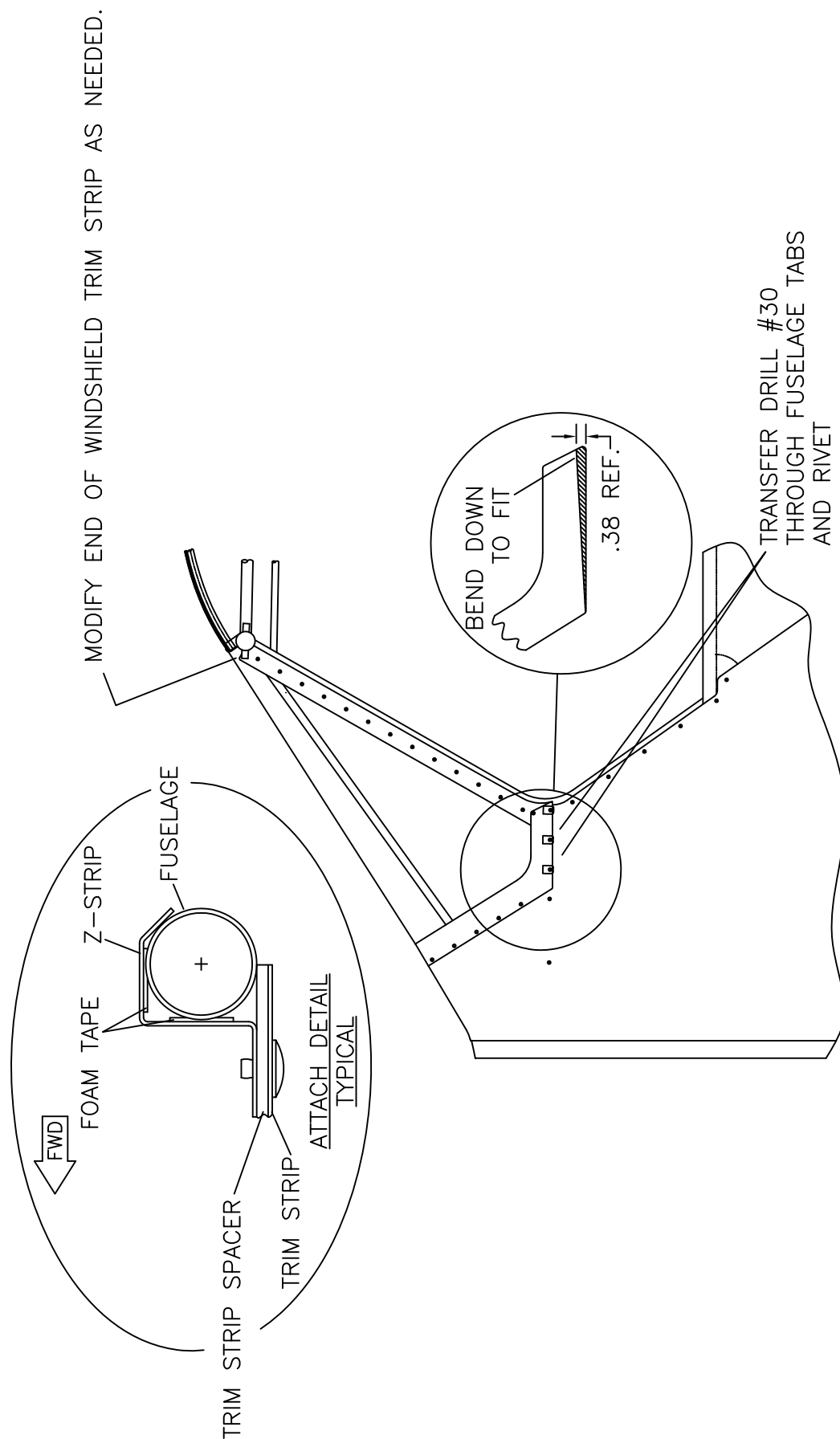
01/15/2013



RANS S-7S
WINDSHIELD INSTALLATION
FIGURE 06-04

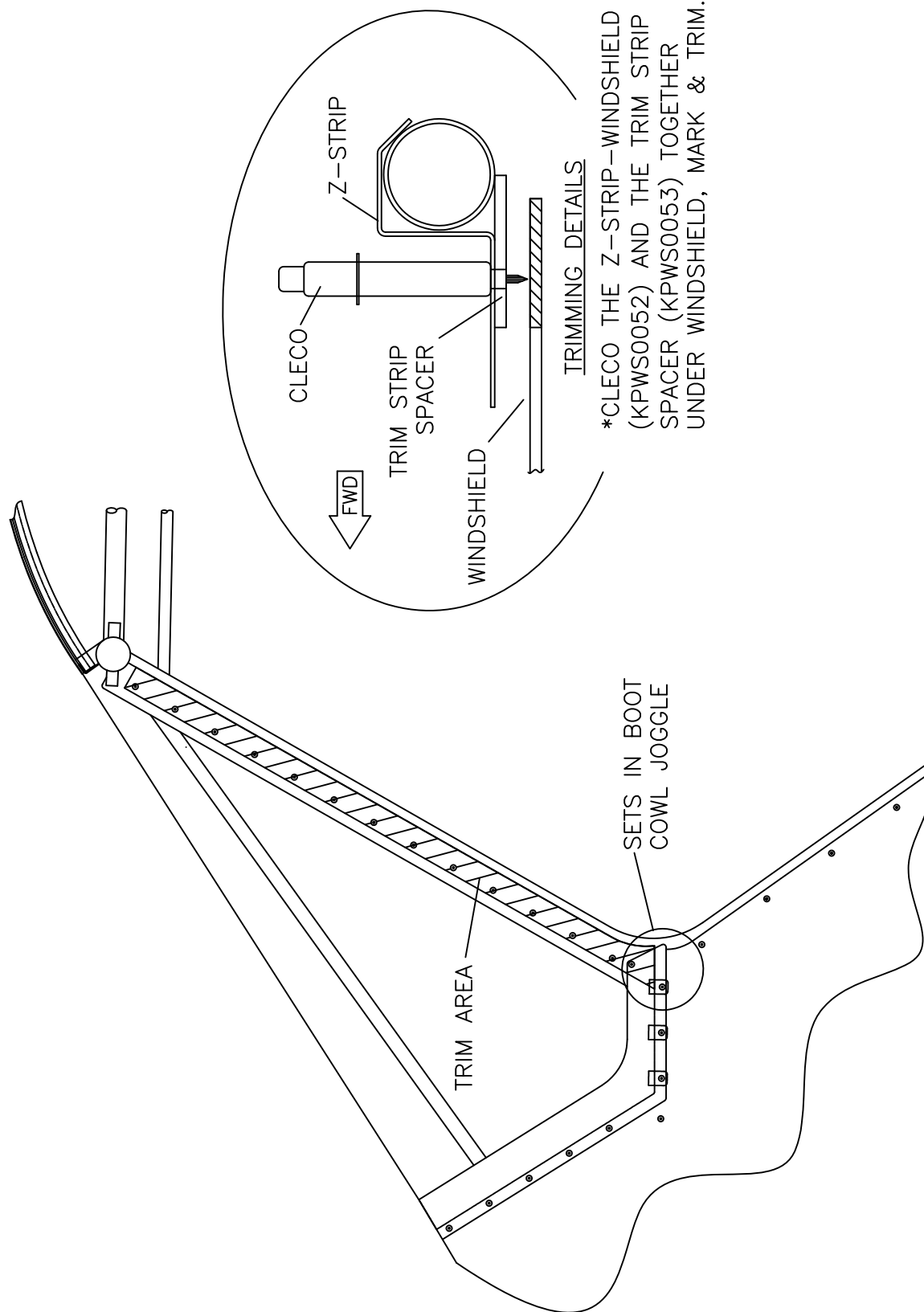


RRR S-7S
WINDSHIELD SUPPORT TUBE DRILL
FIGURE 06-05



S-7S COURIER
WINDSHIELD INSTALLATION
FIGURE 06-06

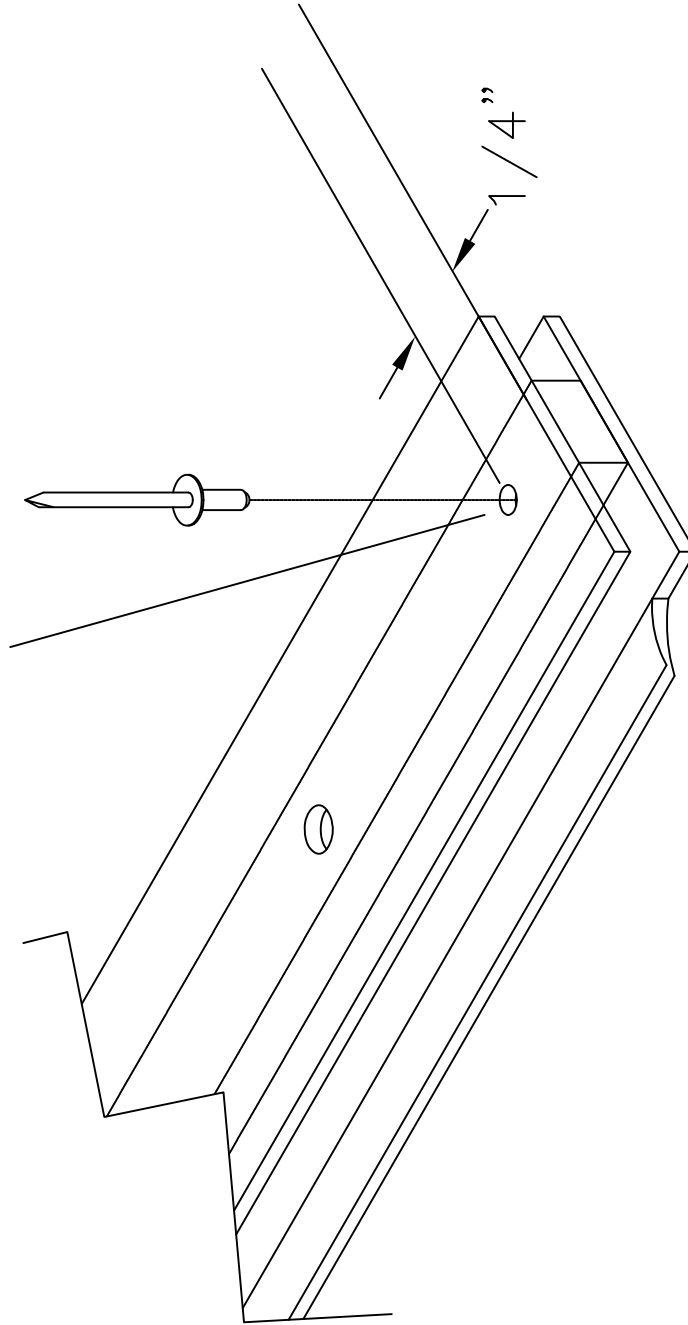
MD4410



MD5572

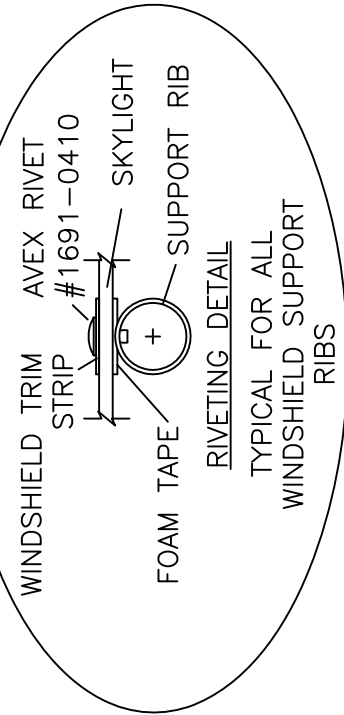
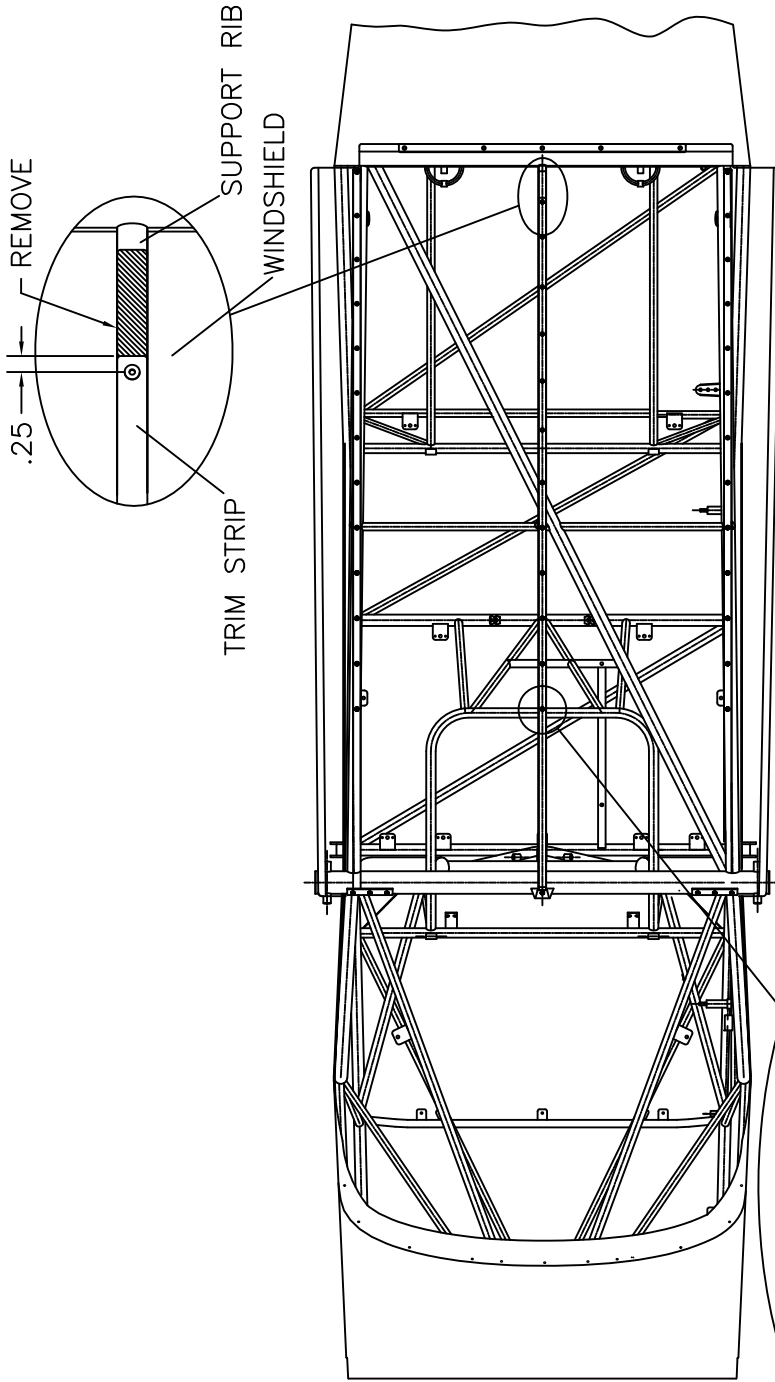
RRM S-7S COURIER
FORMED WINDSHIELD TRIMMING
FIGURE 06-06A

LOCATE AND DRILL #40.
SQUEEZE RIVET DURING
ASSEMBLY
TO PREVENT CHAFING
ON WING



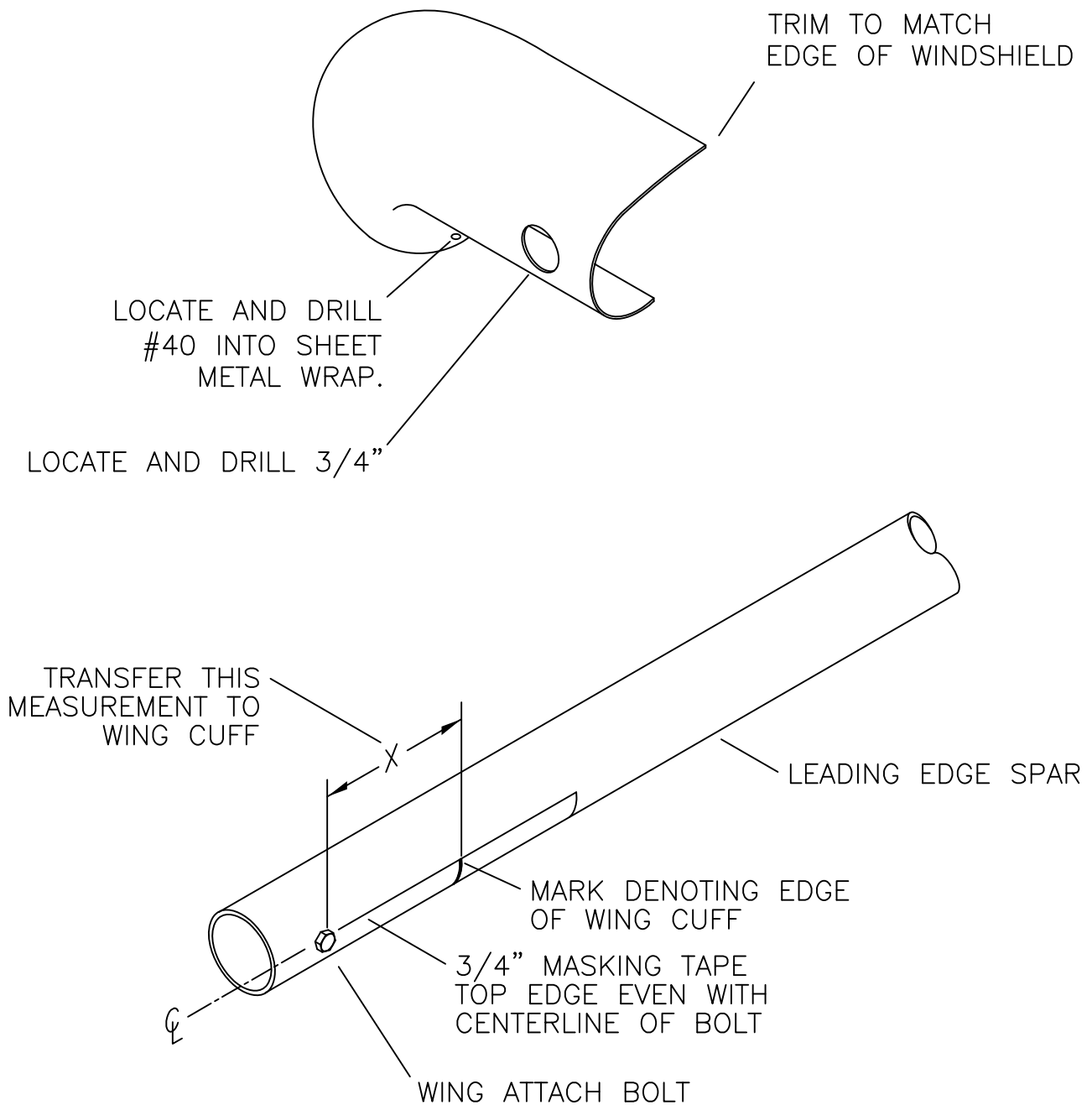
MD5576

RRR S-7S
MATING STRIP MODIFICATION
FIGURE 06-06B



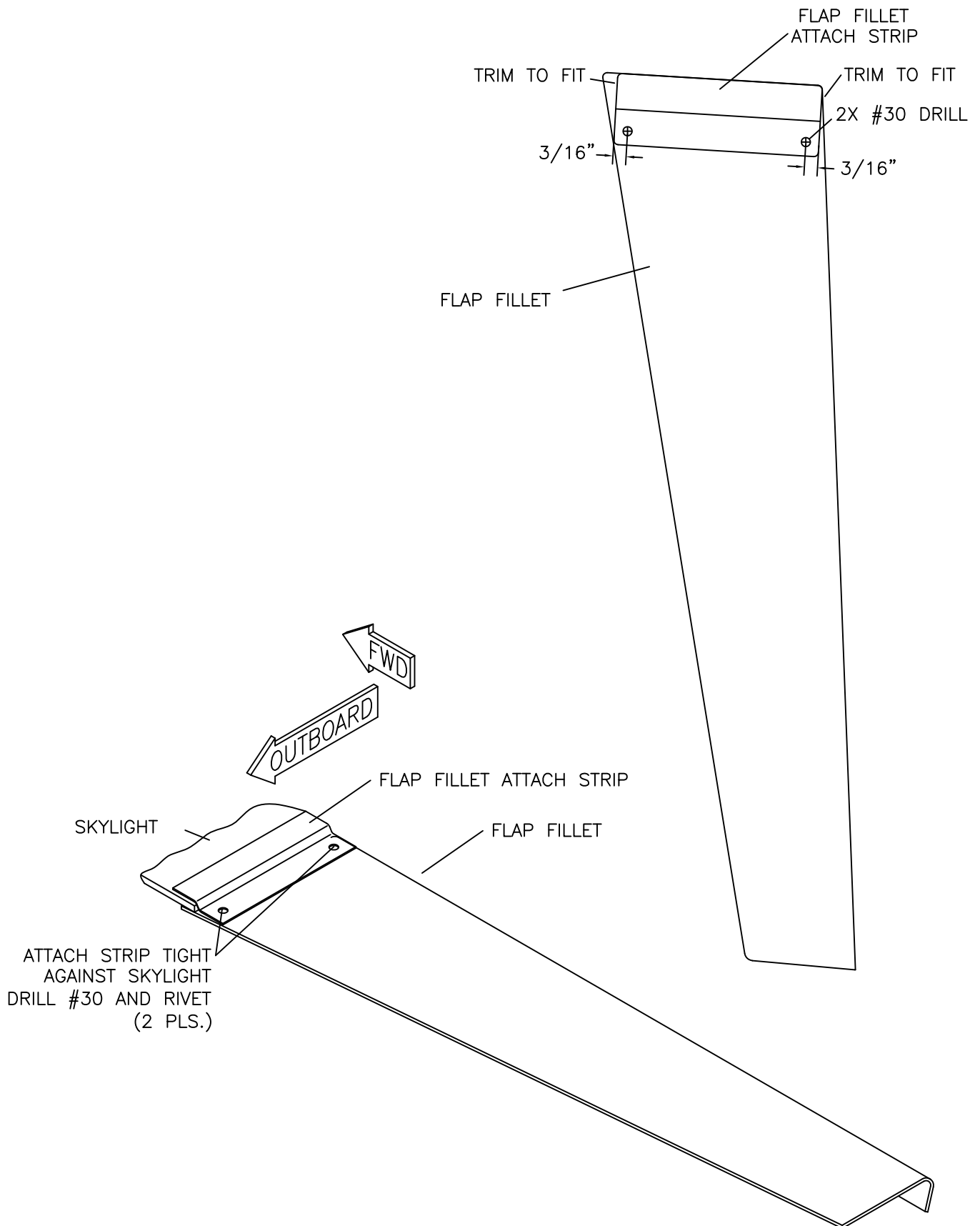
MD4411

RAMMER S-7S **WINDSHIELD INSTALLATION** **FIGURE 06-07**



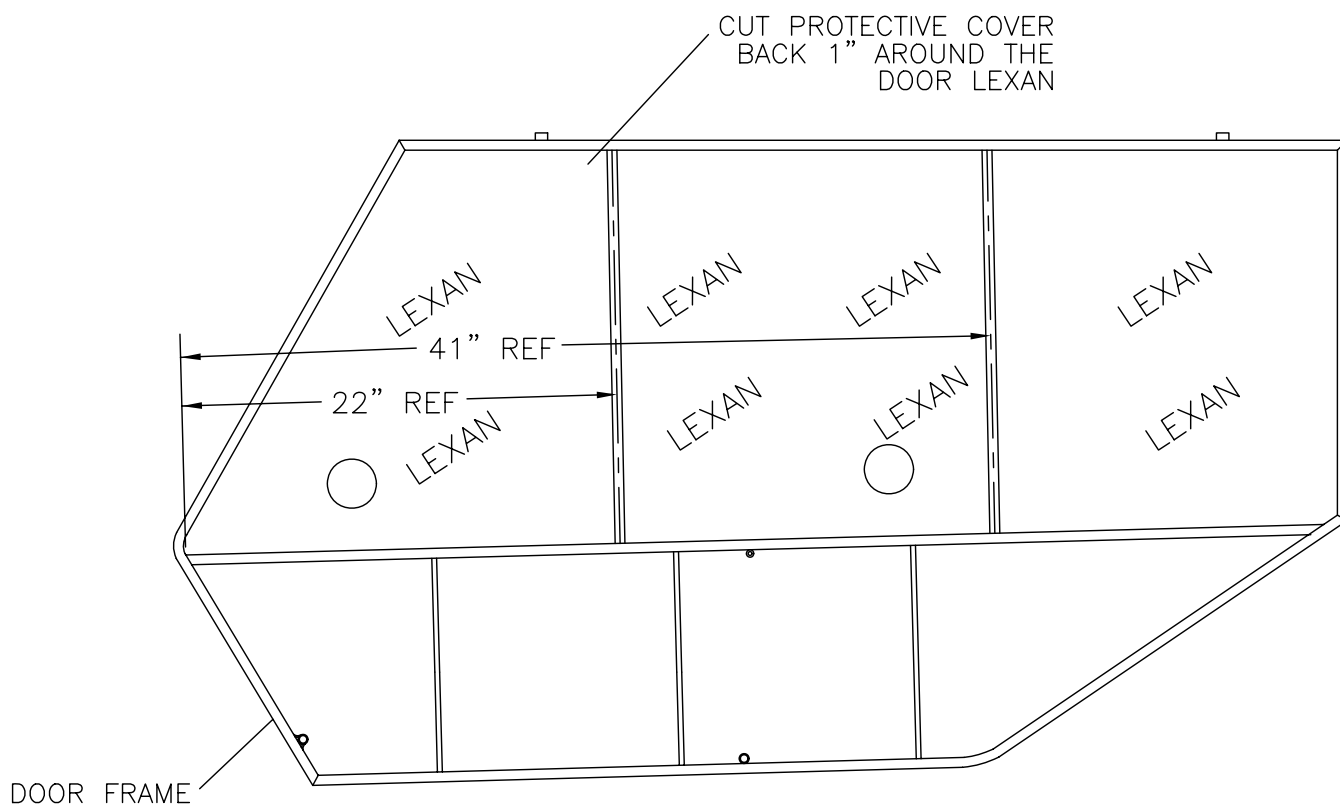
MD4412
REV. A

RANS S-7S
WING CUFF INSTALLATION
FIGURE 06-08



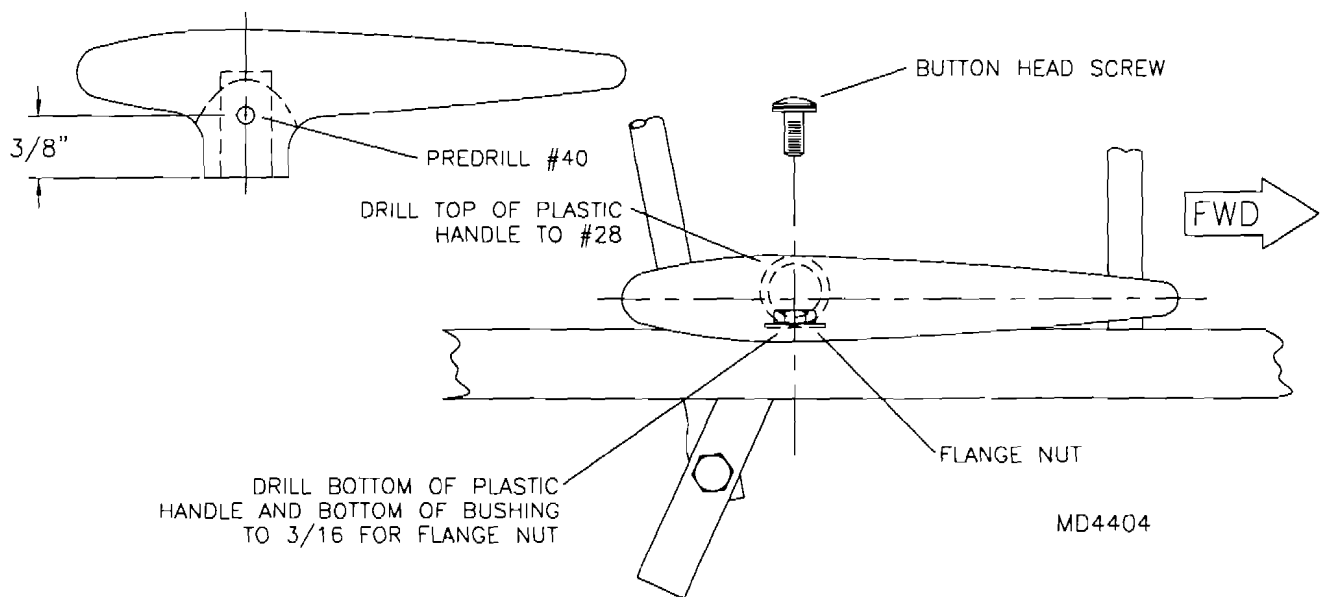
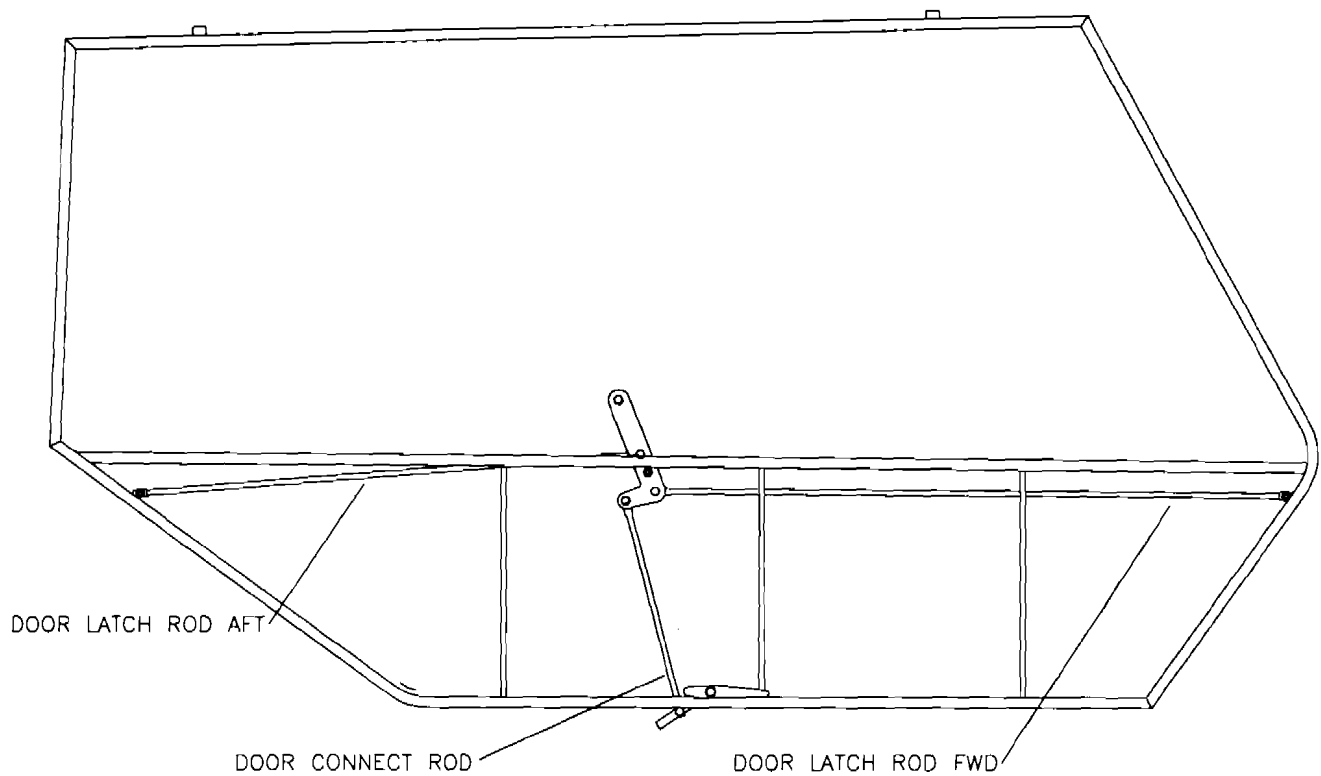
RANS S-7S
FLAP FILLET MODIFICATION
FIGURE 06-08A

MD5083



MD4403
REV. A

RANS S-7S
DOOR ASSEMBLY - LEXAN AND TRIM
FIGURE 06-09



RANS S-7S
DOOR LATCH DETAIL FIGURE 06-10

SPINNER BACKING PLATE

COUNTER SINK SO RIVET
HEADS ARE FLUSH.

NUT PLATE

SPINNER CUT OUT TEMPLATE FOR SENSENICH
WOOD PROP. (ASSURE $\frac{1}{8}$ " MINIMUM CLEARANCE
BETWEEN PROP AND SPINNER DOME.)

SPINNER DOME

TEMPLATE

180° REF. LINE

180°

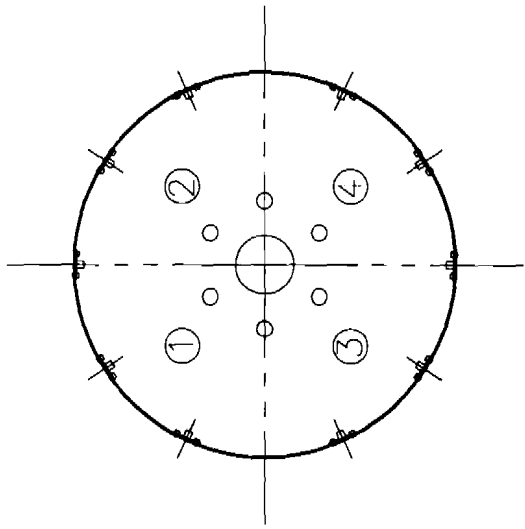
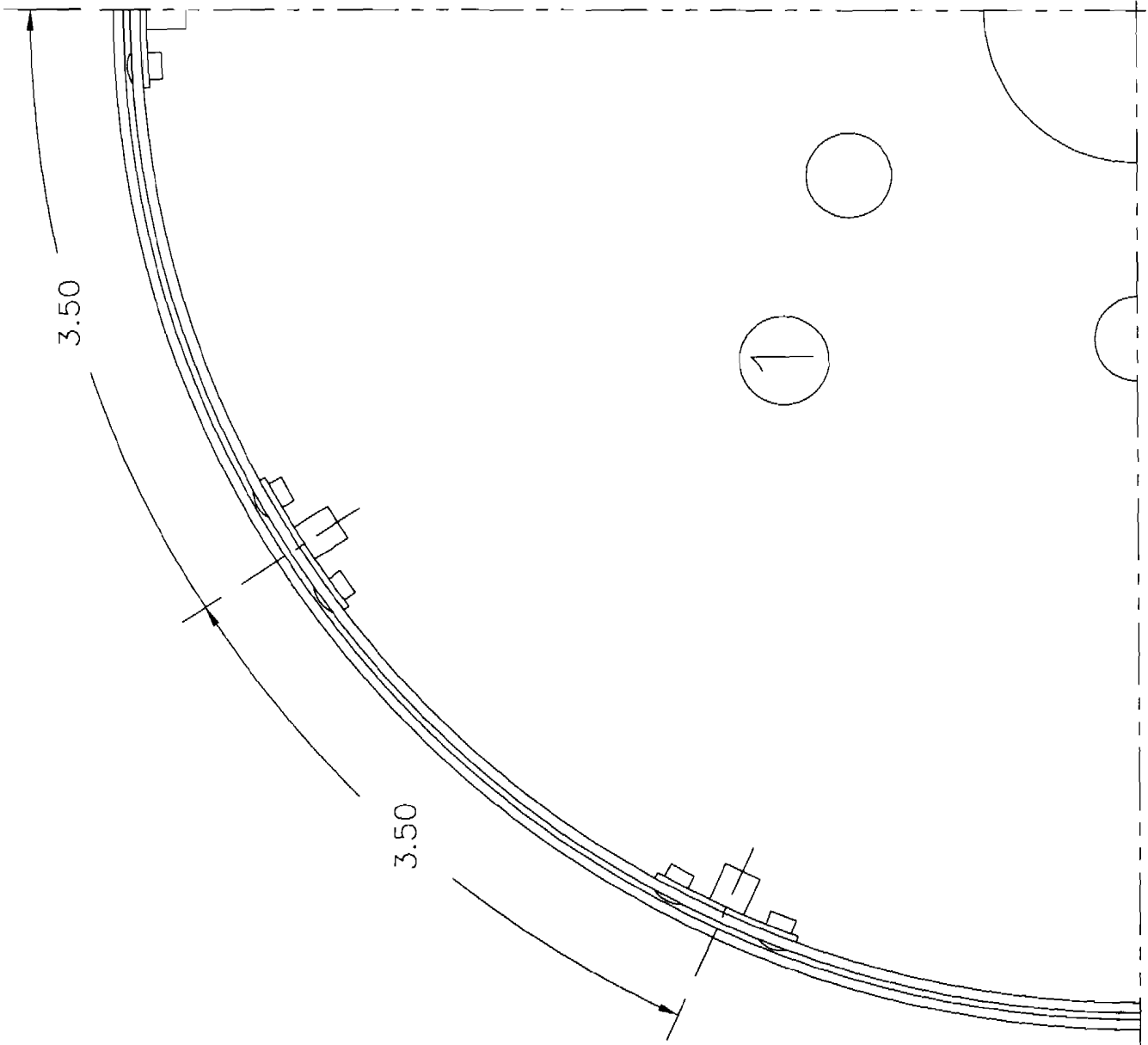
5/16" TYPICAL

TEMPLATE

MD4378

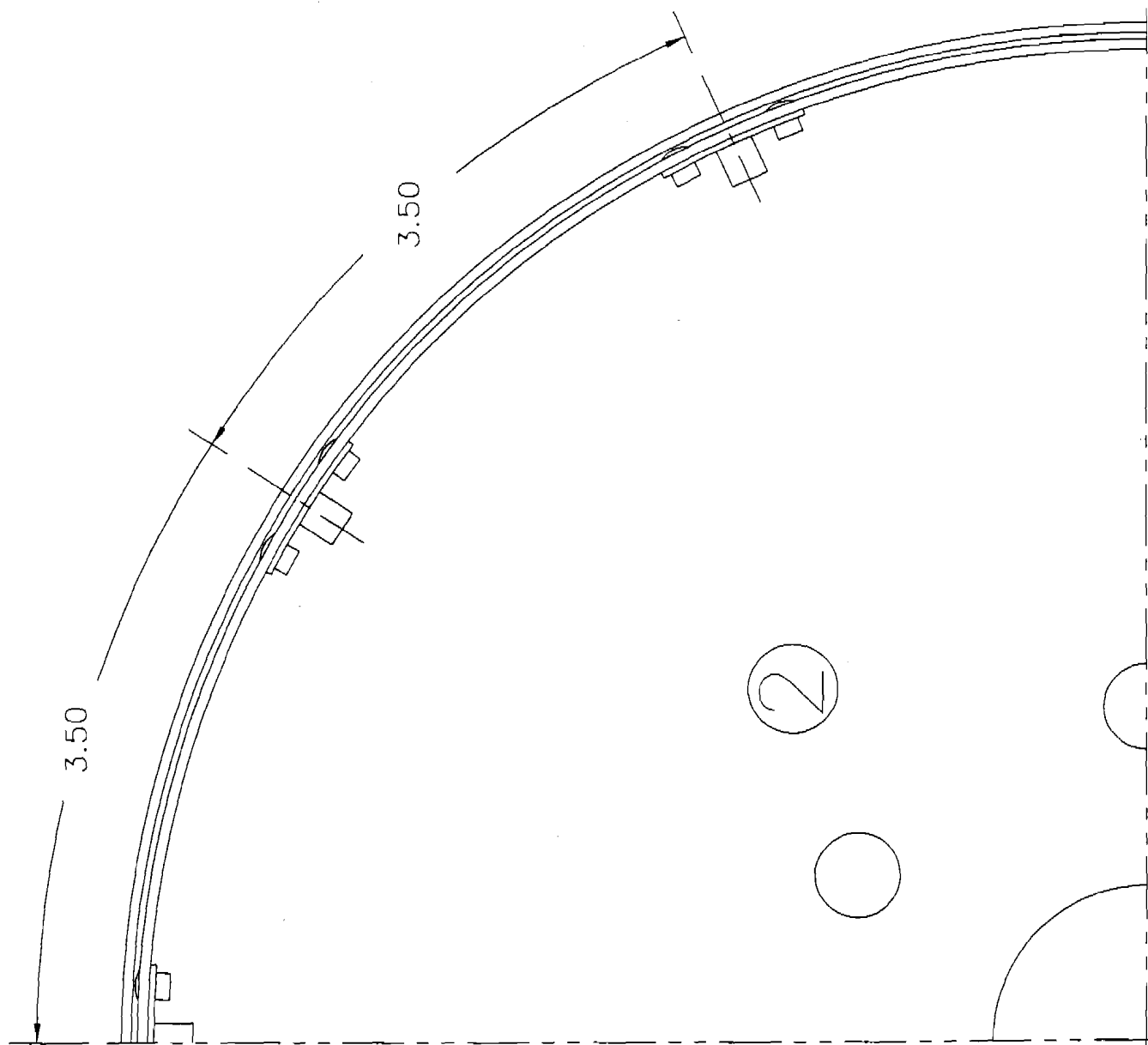
RRF S-7S

SPINNER DETAIL FIGURE 06-11



MD4377

RRF S-7S
SPINNER BACKING
PLATE TEMPLATE #1
FIGURE 06-12-A

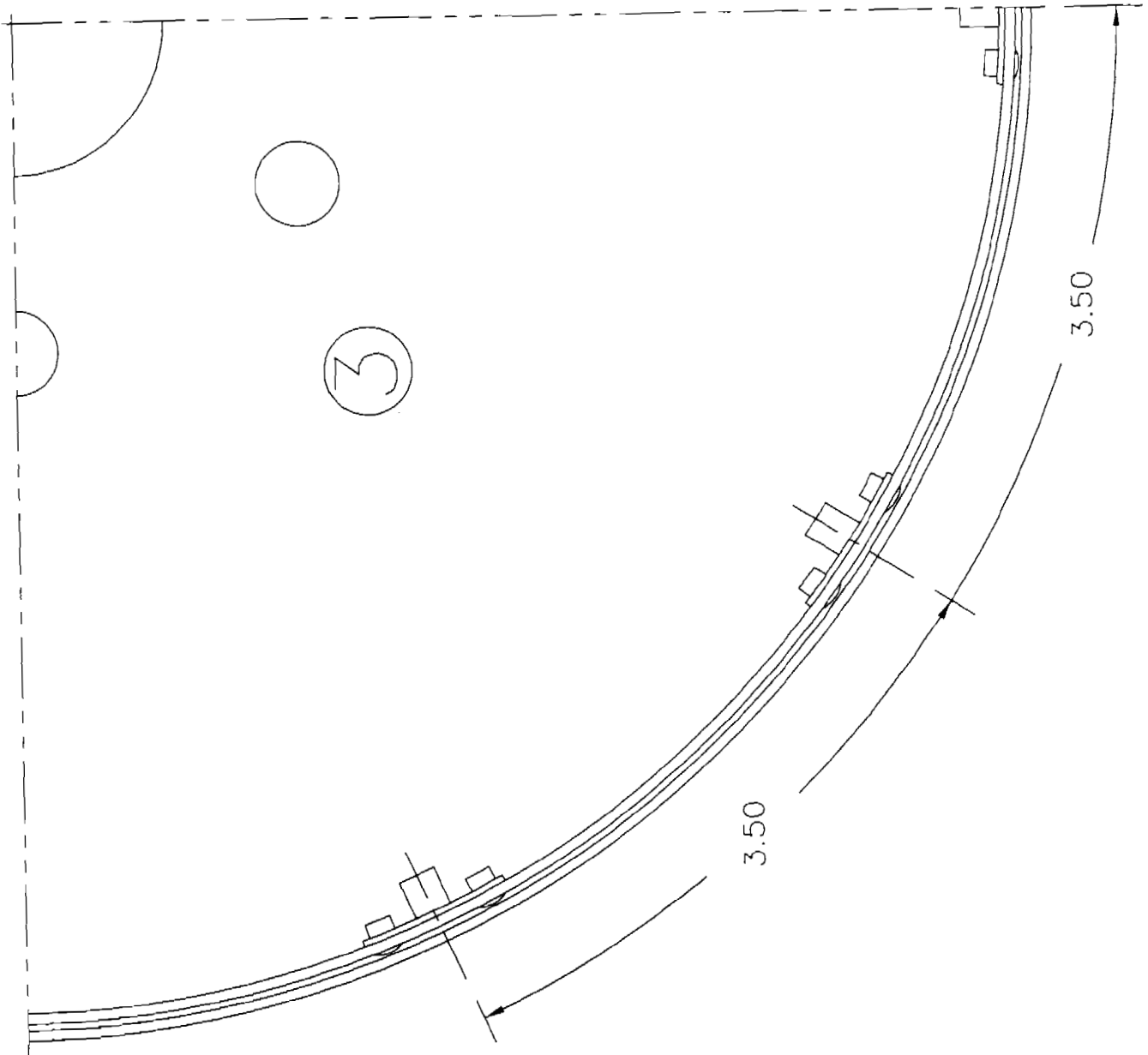


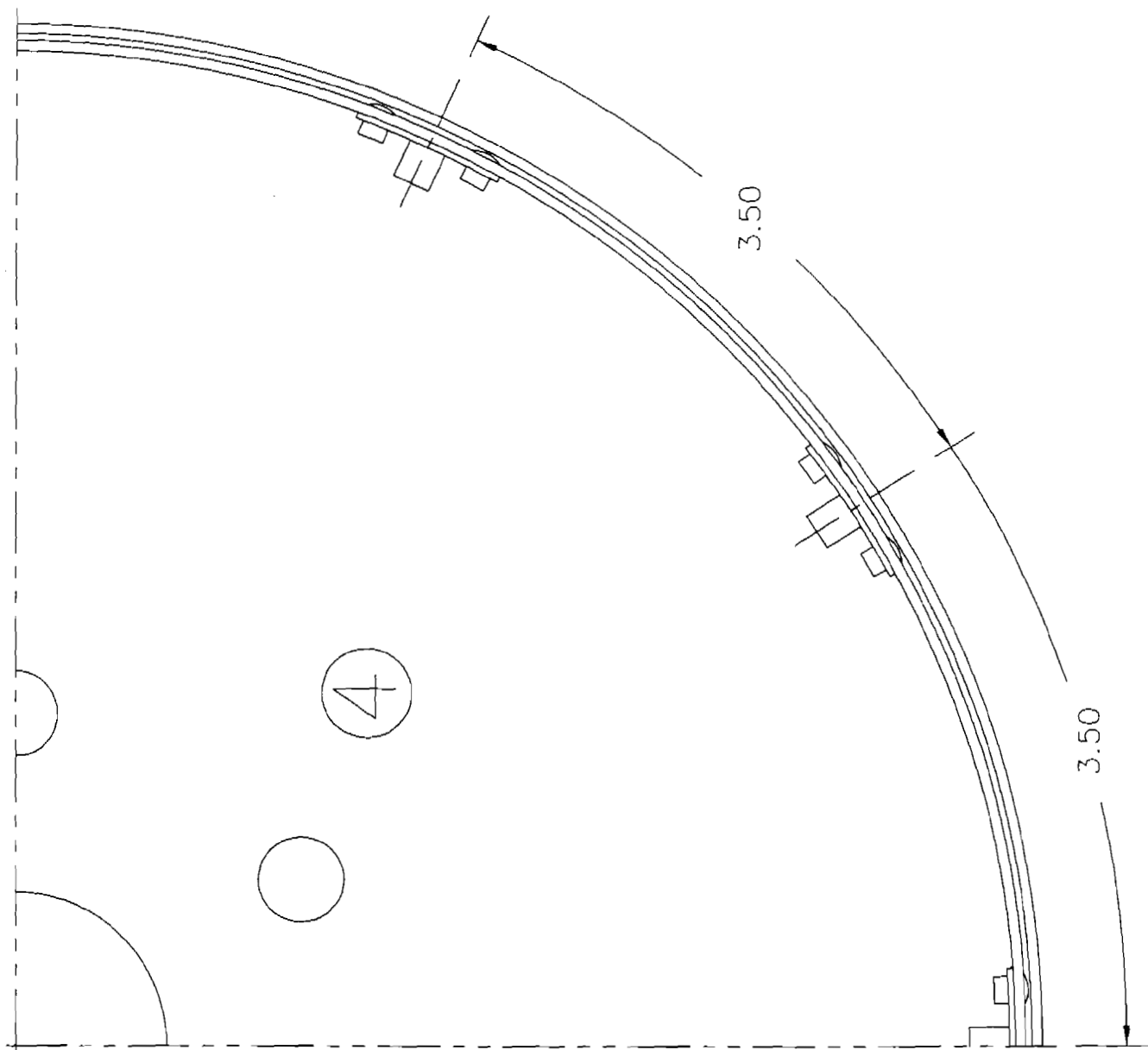
MD4377

SPINNER S-7S
SPINNER BACKING
PLATE TEMPLATE #2
FIGURE 06-12-B

MD4377

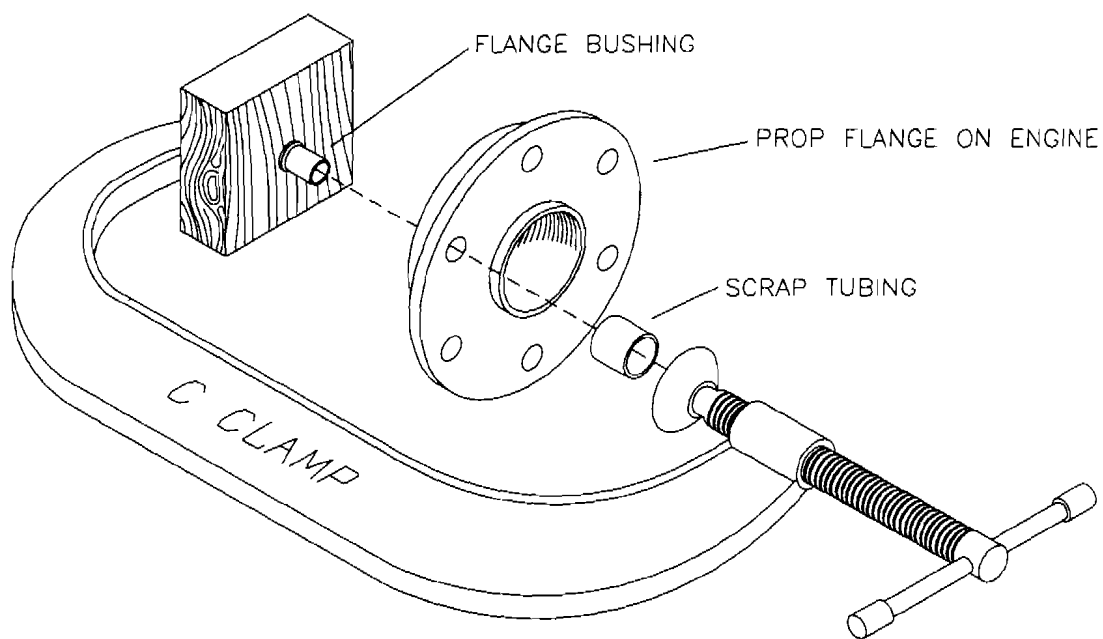
RRR S-7S
SPINNER BACKING
PLATE TEMPLATE #3
FIGURE 06-12-C





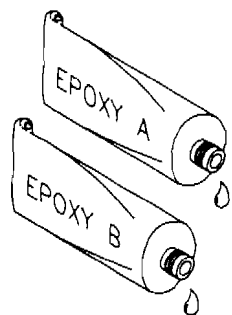
MD4377

RRR S-7S
SPINNER BACKING
PLATE TEMPLATE #4
FIGURE 06-12-D

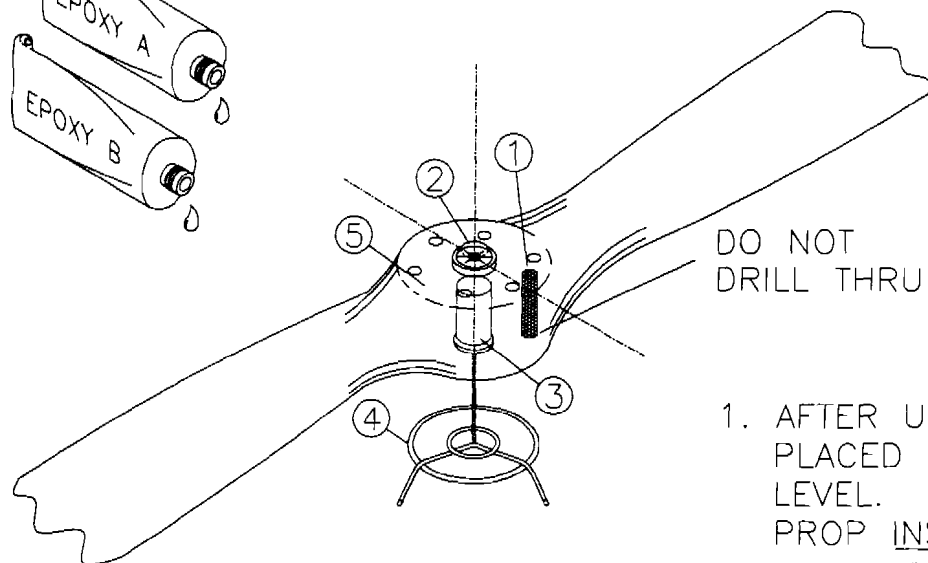


MD4401

RANS S-7S
FLANGE BUSHING INSTALLATION
FIGURE 06-13

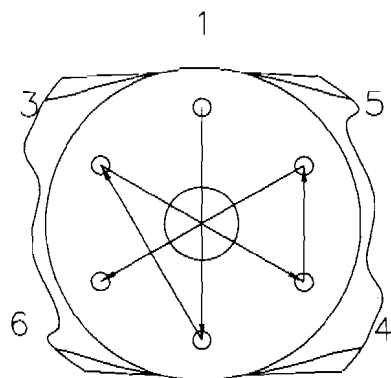


NOTE: BALANCE PROP
INDOORS OUT
OF WIND



1. AFTER USING COINS
PLACED TO CENTER BUBBLE
LEVEL. DRILL A HOLE INTO
PROP INSIDE OF CRUSH PLATE
ZONE. FILL WITH LEAD "BB'S"
SEAL WITH EPOXY.

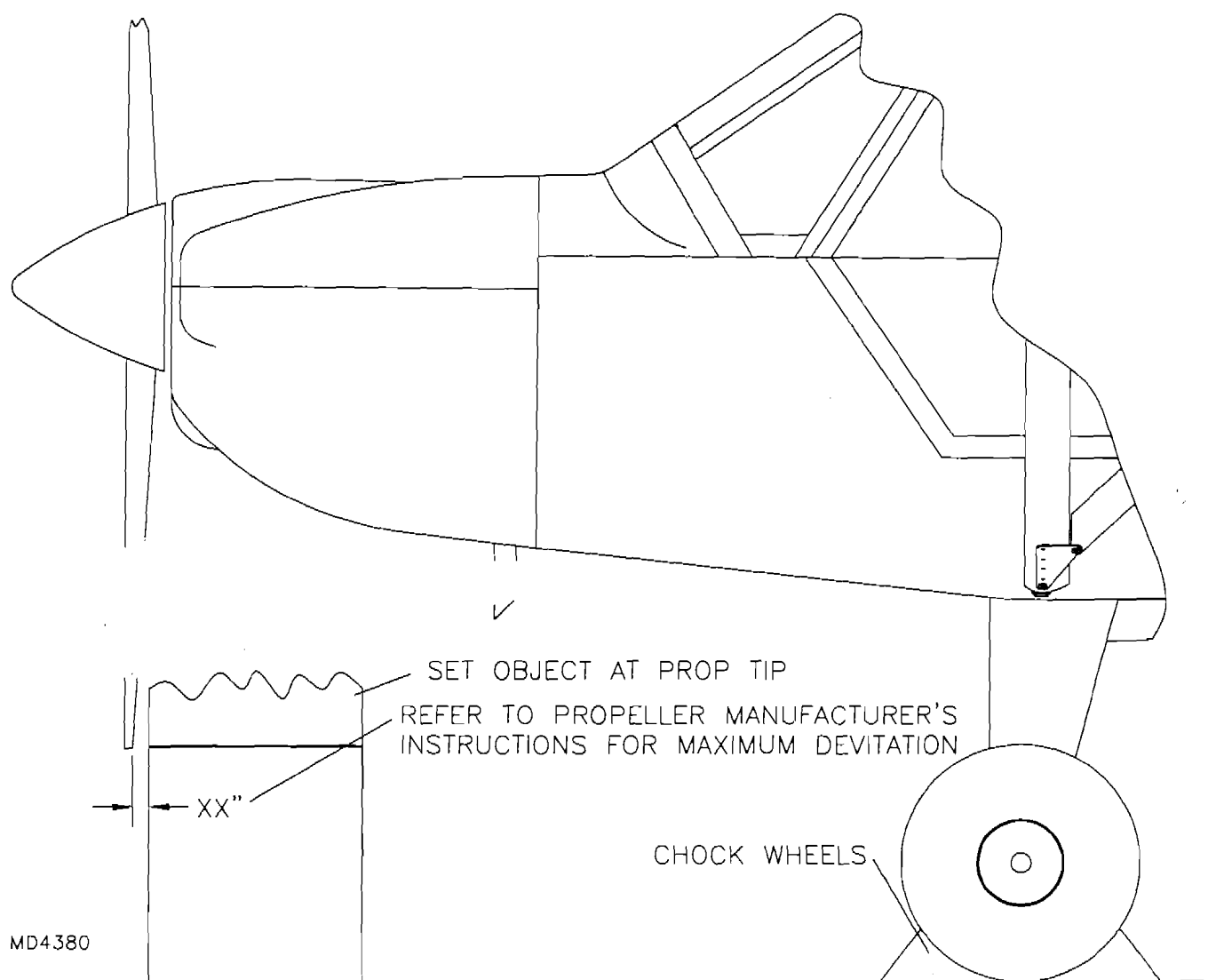
2. CENTER LEVEL
3. DUAL AXIS PROP BALANCER INSERT
SPECIFY PROP INSIDE DIAMETER WHEN
ORDERING.
4. STAND FOR INSERT
5. CRUSH PLATE ZONE



MD4379

2
RE-TORQUE BOLTS AFTER 5 HRS. OF FLIGHT

RANS S-7S WOOD PROPELLER STATIC BALANCE AND TORQUE FIGURE 06-14



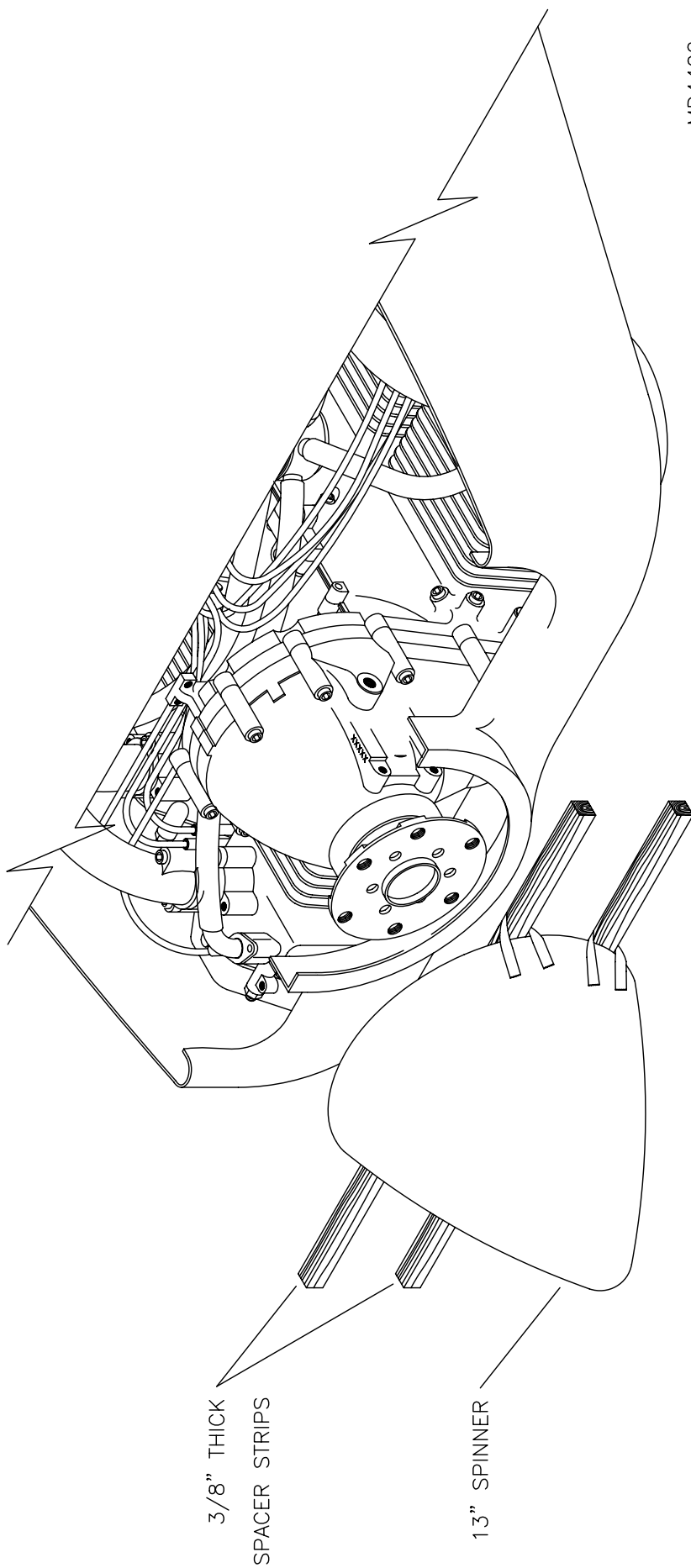
MD4380

TRACK PROP IN CALM CONDITIONS

IMPORTANT!

CHECK PROPELLER TORQUE EVERY 50 HOURS OR AFTER LARGE CHANGES IN CLIMATE. WOOD PROPS WILL SHRINK AND EXPAND WITH HUMIDITY. IF YOU LIVE IN A CLIMATE WITH LARGE CHANGES IN HUMIDITY OR FLY TO A DIFFERENT CLIMATE, PROP TORQUE MAY CHANGE MORE OFTEN. FAILURE TO MAINTAIN PROP TORQUE MAY RESULT IN SEPARATION OF THE PROPELLER FROM THE AIRCRAFT AND MAY CAUSE INJURY OR DEATH. REFER TO PROPELLER MANUFACTURER'S INSTRUCTIONS FOR SPECIAL MAINTENANCE REQUIREMENTS.

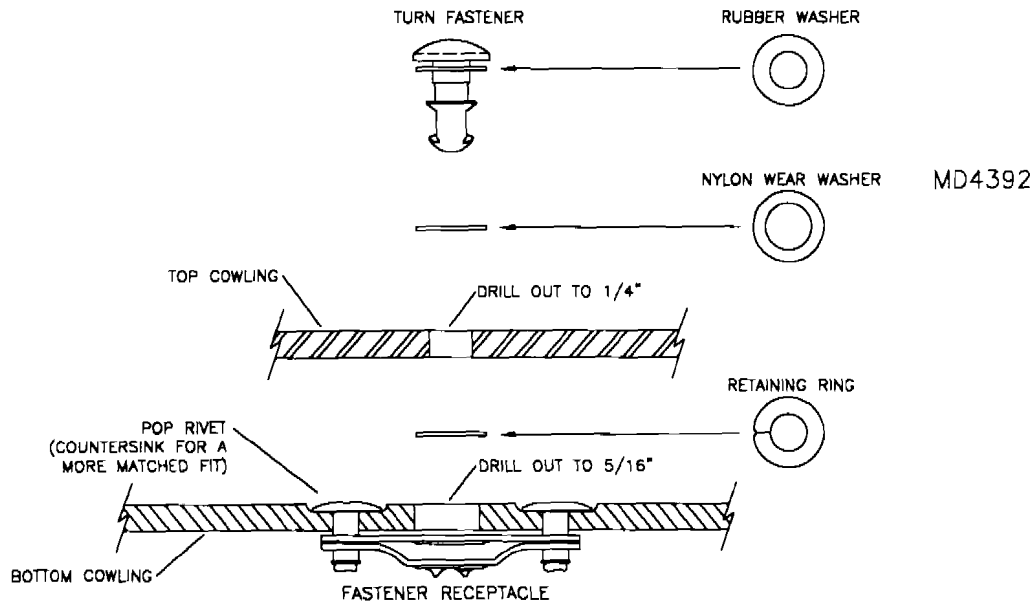
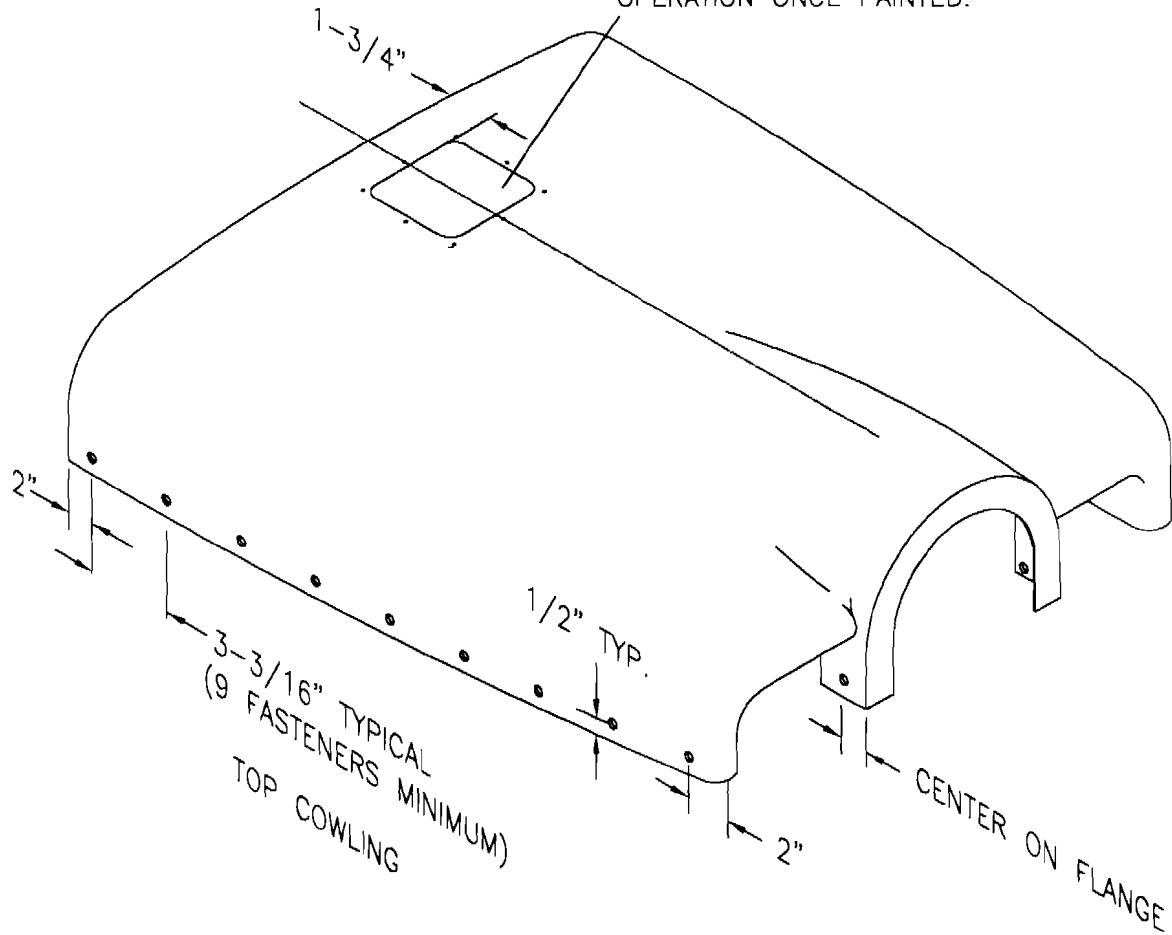
RANS S-7S
WOOD PROPELLER TRACKING
FIGURE 06-15



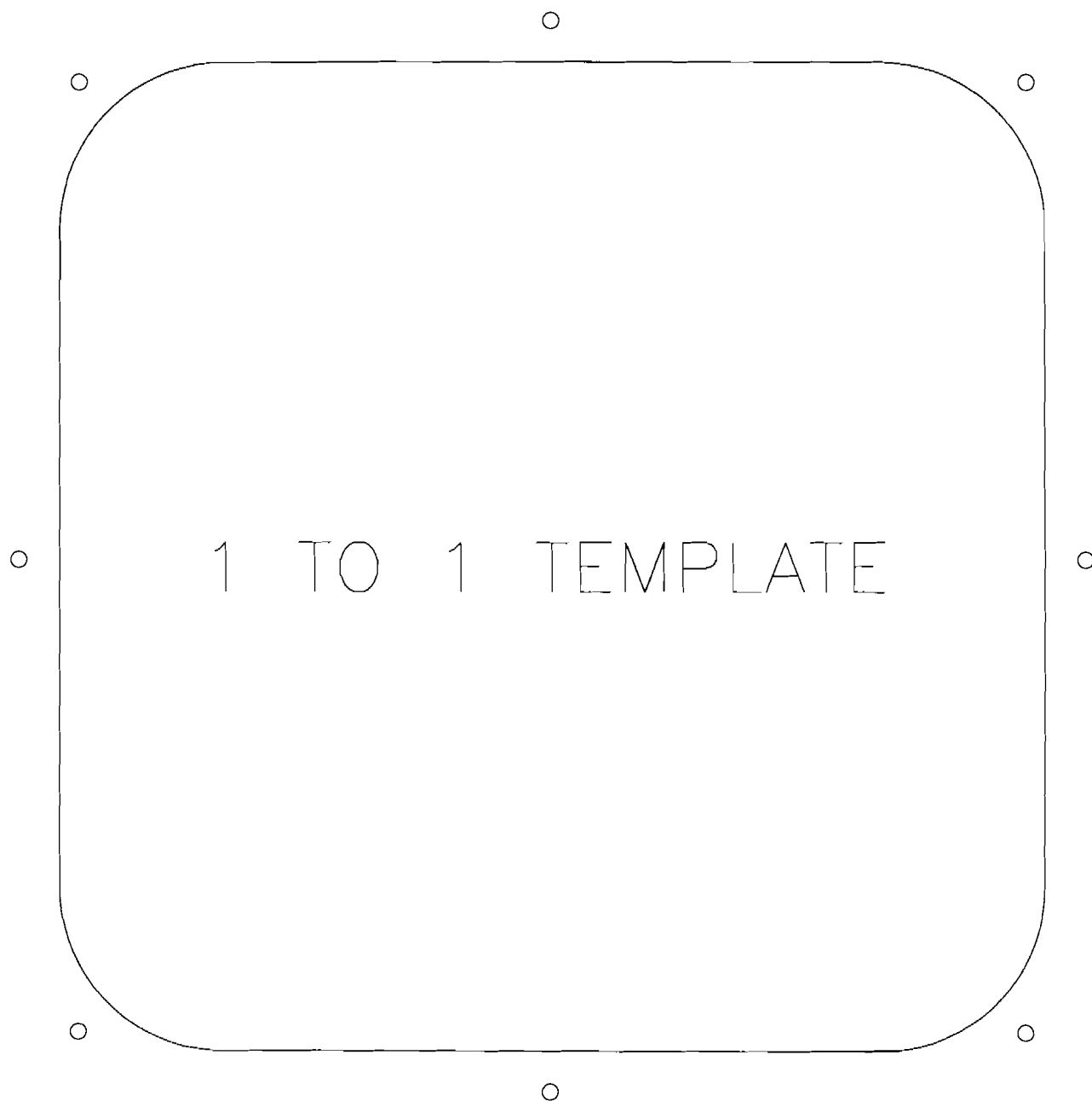
MD4402

RAMS S-7S SPINNER TO COWLING FIGURE 06-16

CUT AND DRILL USING 1:1 TEMPLATE,
TEST FIT WITH OIL DOOR P/N KPCW0036
MAINTAIN SUFFICIENT CLEARANCE FOR PROPER
OPERATION ONCE PAINTED.

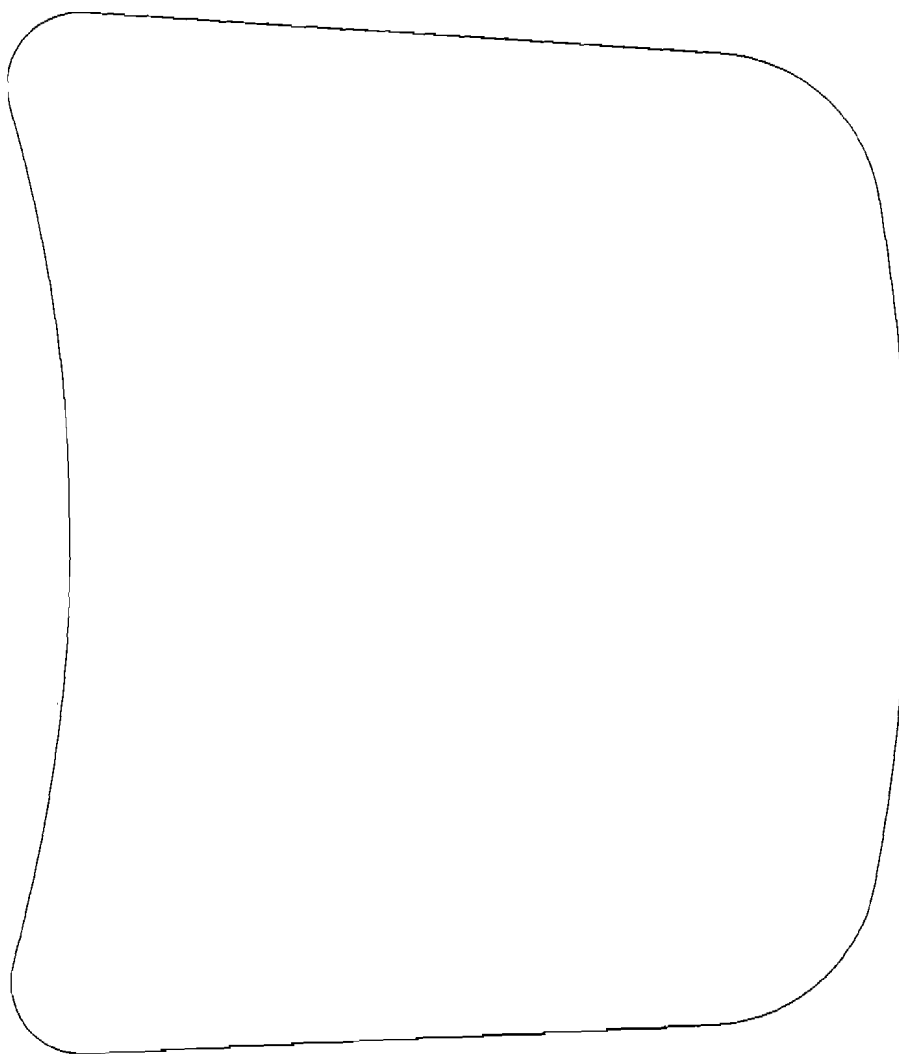
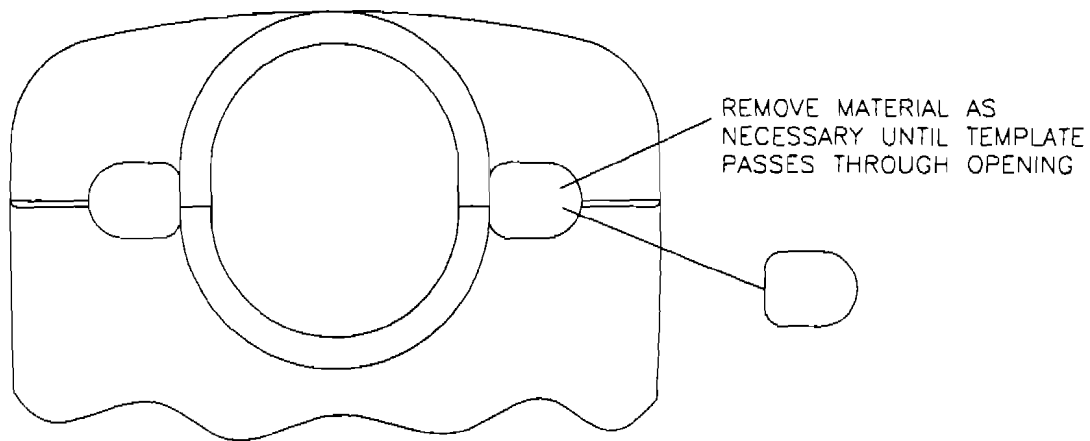


RANS S-7S
UPPER COWLING DRILL FIGURE 06-18



MD4394

RANS S-7S
OIL CHECK DOOR TEMPLATE
FIGURE 06-19

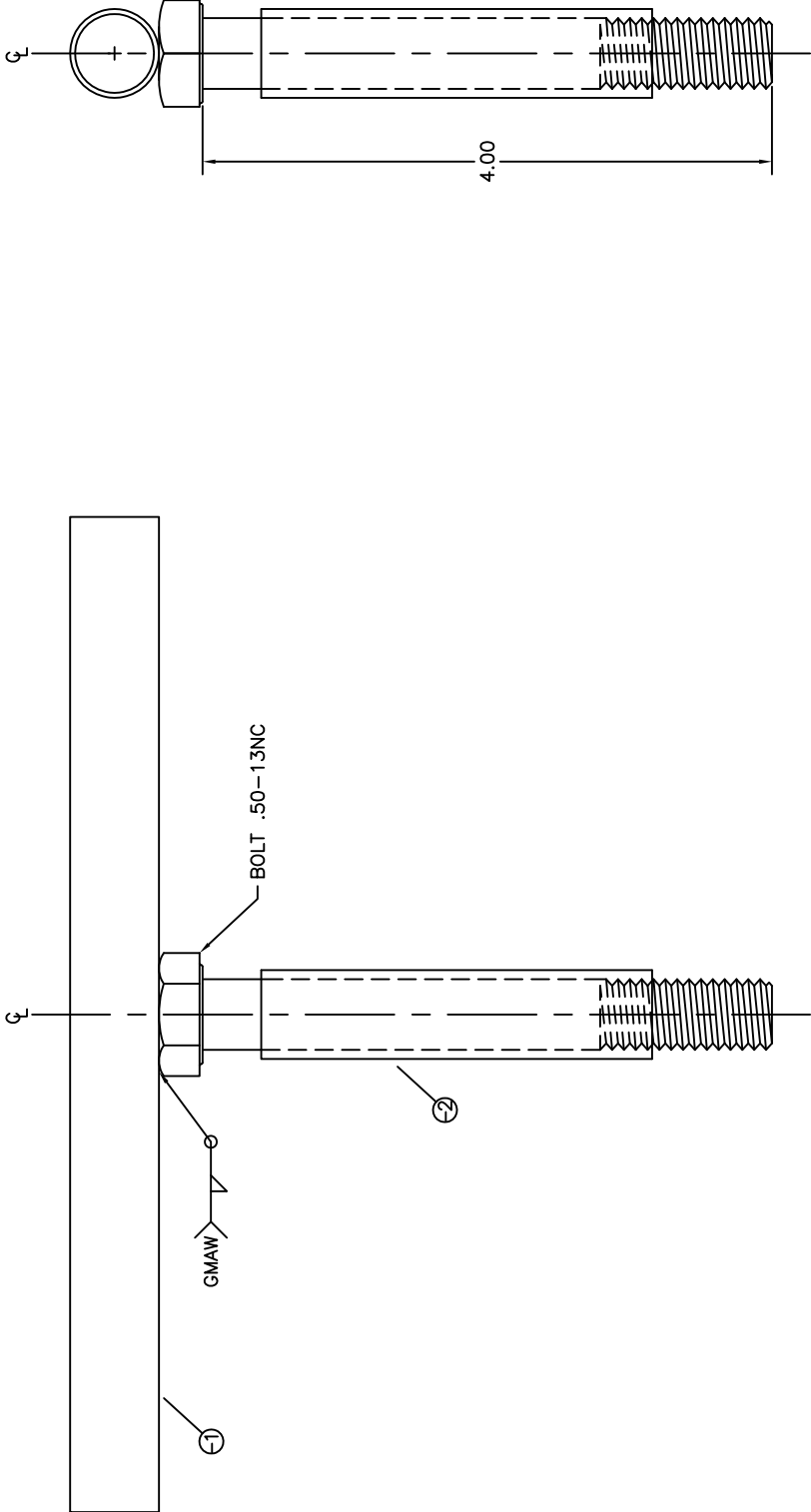


1 TO 1 TEMPLATE

RANS S-7S
AIR INTAKE TEMPLATE FIGURE 06-20

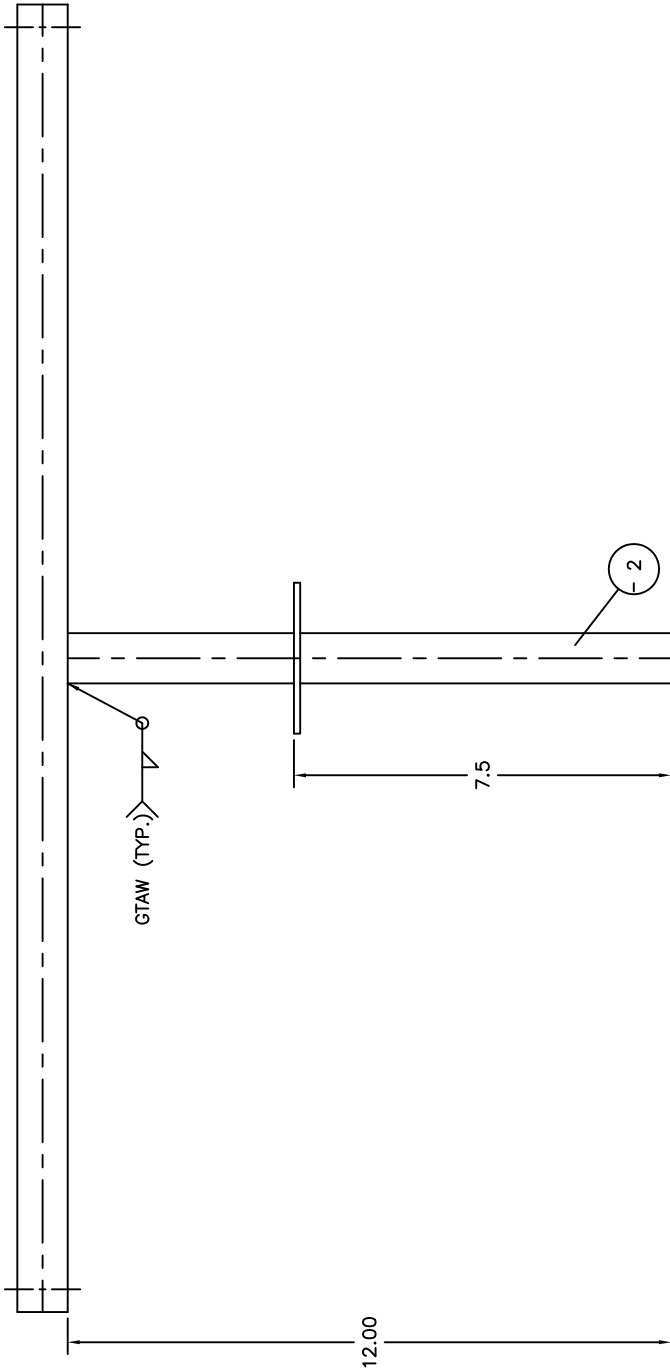
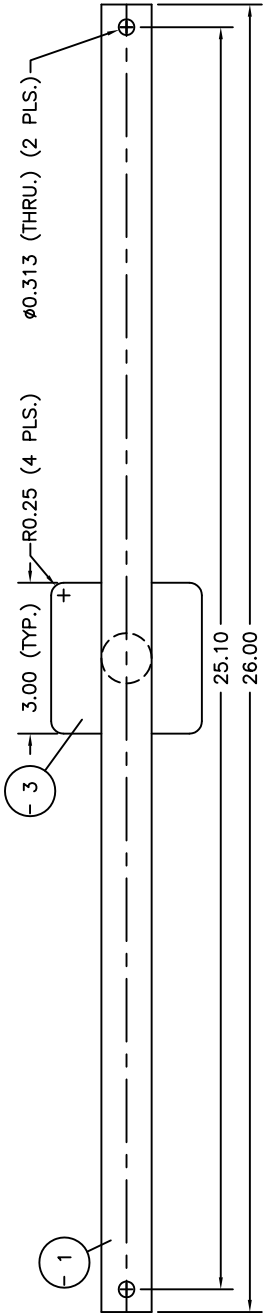
MD4395

REVISONS		
LTR.	DESCRIPTION	DATE



UNLESS OTHERWISE SPECIFIED:
 - ALL CORNER FILLETS AND SHARP EDGES .005/ .015 R.
 ① .625 DIA. X .035 X 7.00 TUBING
 ② .625 DIA. X .058 X 2.75 TUBING

MATERIAL: MILD STEEL AS NOTED		FINISH: POWDER COAT PAINT PER R-101		RRANS 4600 Highway 183 Altamonte, Hoya, KS. 67601 USA / Phone (785) 625-6346	
PROD. TIME: X	RAW MATL.: AS NOTED	DRAWN: R. HAFNER	DATE 11.20.93	TITLE "T" LOCK HANDLE	4600 Highway 183 Altamonte, Hoya, KS. 67601 USA / Phone (785) 625-6346
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES		CHECKED:		CERTIFIED DWG. NO.	
DECIMALS X ± .1		CHECKED:		SIZE N/A	
.XX ± .05		CHECKED:		KIT DWG. NO.	
.XXX ± .010		APPROVED:		KP-107	
ANGULAR ± 1°		APPROVED:		SCALE 1 = 1	
DO NOT SCALE DRAWING		APPLICATION		SHEET 1 OF 1	
NEXT ASSY.	USED ON	QTY.		REV. N/A	



-3	1	.125 SHT.	9.00 IN ²	4130 STEEL	MIL-S-18729C	-
-2	1	1.000 DIA. X .95 TUBING	12.00 IN.	4130 STEEL	AMS-T-6736A	-
-1	1	1.000 SQ X .065 TUBING	26.00 IN.	4130 STEEL	AMS-T-6736A	-
ITEM NO.	REV.	DESCRIPTION	CUT LENGTH	MATERIAL	MISC. NOTES	
S/N:		FINISH: NONE				
SUPERSEDES: N/A		DRAWN: T. BUTLER	DATE: 01.09.04			
SUPERSEDED BY: N/A		CHECKED:				
DO NOT SCALE DRAWING						
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES DECIMALS ANGULAR						
.XX ± .1						
.XX ± .05						
.XX ± .010						
APPROVED: X						
DATE: XX.XX.XX						
SCALE: 1 = 2						
WEIGHT: X						
SHEET: 1						
OF: 1						
REV: N/A						

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MANUFACTURER:
CONTRACTED BY: N/A

NOTES:
NEXT ASSY. USED ON QTY.
S-7S 1
APPLICATION

RRANS
4600 Highway 183 Altamonte, Hoya, KS. 67601 USA / Phone (785) 625-6346

TITLE
PAINT STAND FWD
ATTACH FUSELAGE

SIZE
C

DWG. NO.
KP-111

SCALE
1 = 2

WEIGHT
X

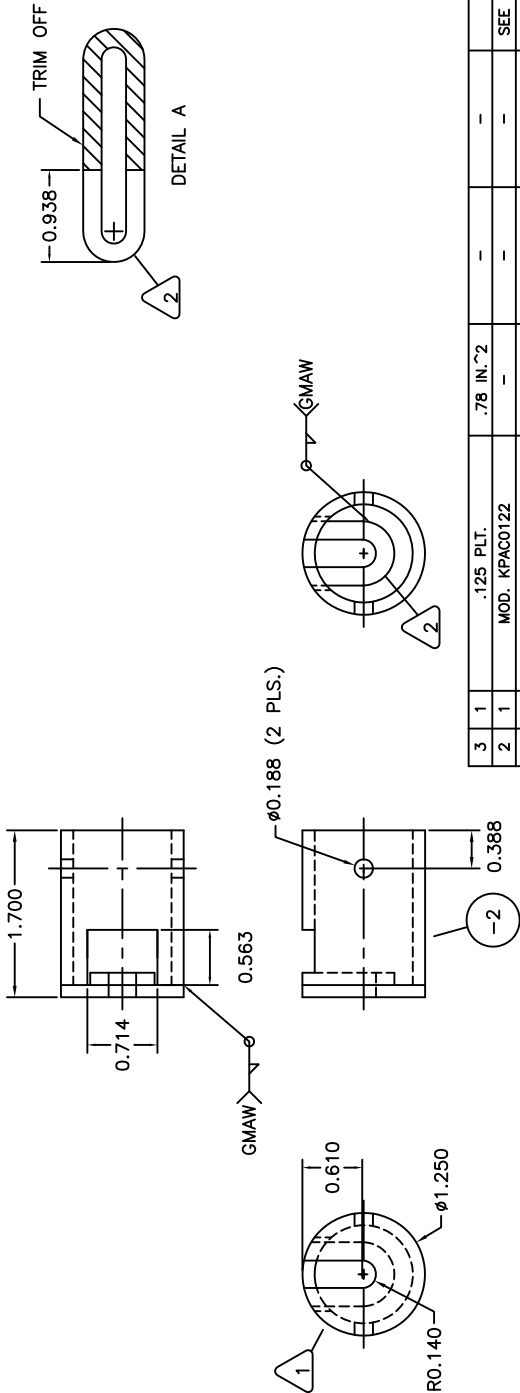
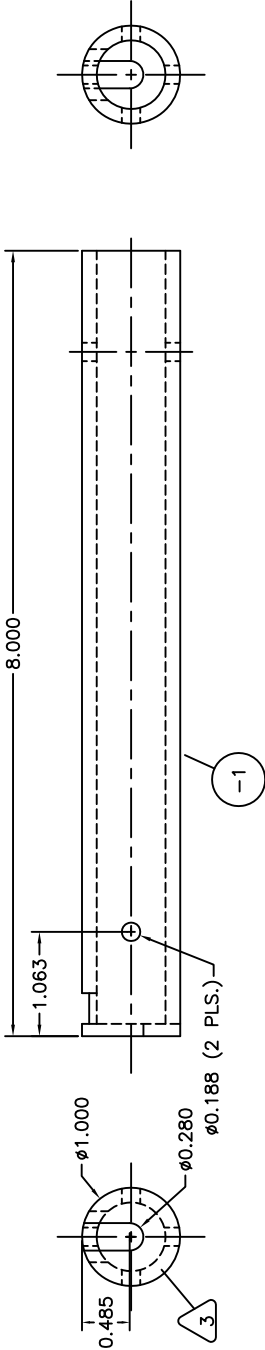
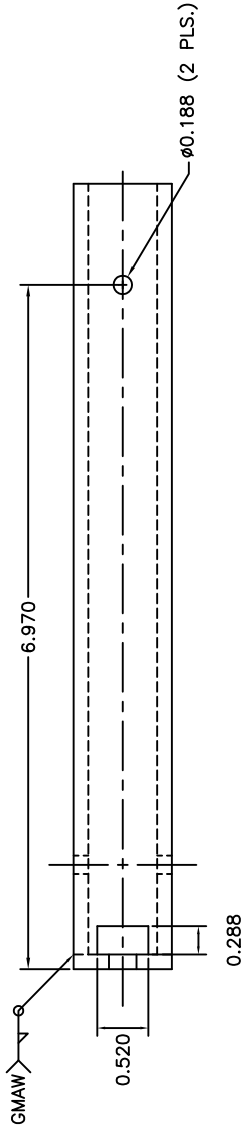
SHEET
1

OF
1

REV
N/A

- ALL CUT LENGTHS ARE REFERENCE ONLY
- REMOVE ALL BURRS AND SHARP EDGES
UNLESS OTHERWISE SPECIFIED:

REVISIONS	LTR.	DESCRIPTION	DATE



ITEM	NO.	DESCRIPTION	CUT LENGTH	TYPE	MATERIAL	SPEC.	MISC. NOTES
3	1	.125 PLT.	.78 IN.~2	-	-	-	-
2	1	MOD. KPAC0122	-	-	-	-	SEE DETAIL A
1	1	.125 PLT.	1.25 IN.~2	-	-	-	-
-2	1	1.25 DIA. X .120 TUBE	1.45 IN.	-	-	-	-
-1	1	1.00 DIA. X .15 TUBE	8.00 IN.	-	-	-	-

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MANUFACTURER:

CONTRACTED BY: N/A

FINISH:

DATE: 7.14.14

DRAWN: A.MCELWAIN

CHECKED:

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED: DIMENSIONS IN INCHES

DECIMALS: .XX ± .05

ANGULAR: ± 1°

XXX ± .010

SUPPERSEDES: N/A

SUPERSEDED BY: N/A

DO NOT SCALE DRAWING

UNLESS OTHERWISE SPECIFIED: DIMENSIONS IN INCHES

DECIMALS: .XX ± .05

ANGULAR: ± 1°

XXX ± .010

APPROVED:

SCALE: 1 = 1

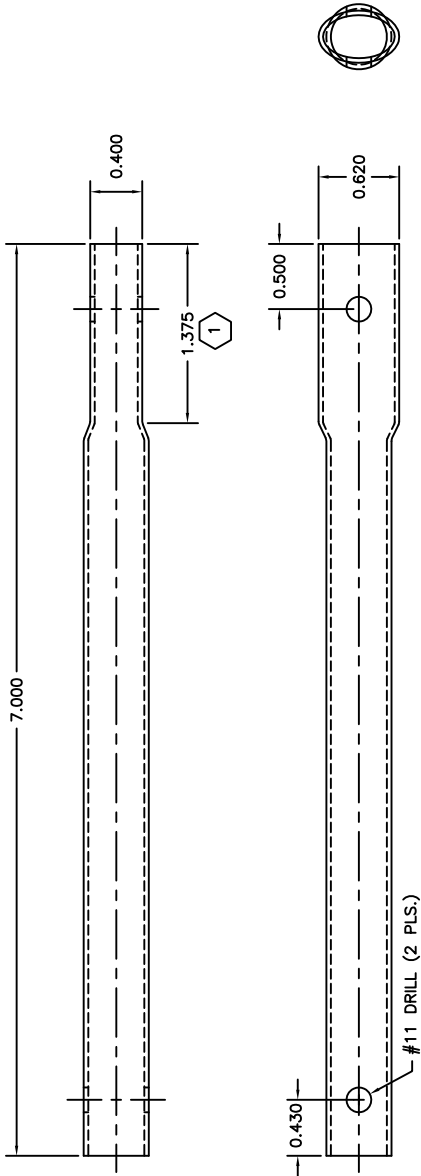
WEIGHT: .XX lb.

SHEET: 1 OF 1

REV: N/A

- REMOVE ALL BURRS AND SHARP EDGES
UNLESS OTHERWISE SPECIFIED:

REVISIONS		
LTR.	DESCRIPTION	DATE

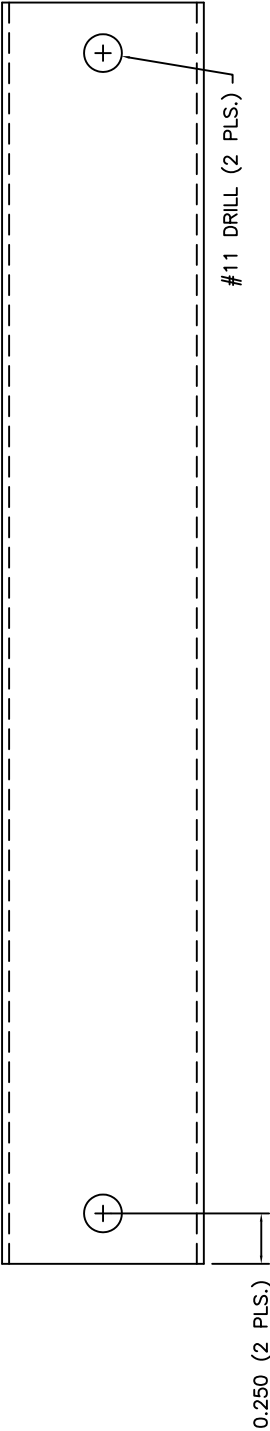
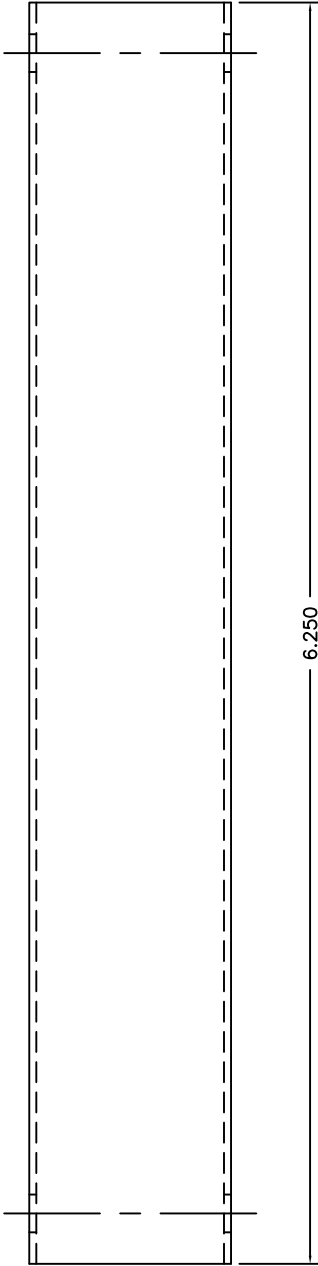


1 SMASH END FROM DIMENSION
 - ALL CORNER FILLETS AND SHARP EDGES .005/.015 R.
 UNLESS OTHERWISE SPECIFIED:

-1	1	.50 DIA. X .035 TUBING	7.00 IN	4130 STEEL	AMS-T-6736A	-			
ITEM NO.	REQ'D.	DESCRIPTION	CUT LENGTH	MATERIAL		MISC. NOTES			
				TYPE	SPEC.				
S/N:		FINISH:		RRR					
SUPERSEDES: N/A		DRAWN: A.MCELWAIN	DATE: 7.29.14		4600 Highway 183 Alternate, Hays, KS. 67601 USA / Phone (913) 625-6346				
SUPERSEDED BY: N/A		CHECKED:							
DO NOT SCALE DRAWING		CHECKED:					TITLE: PAINT STAND - AILERON ATTACH		
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES		CHECKED:					SIZE: B		
TOLERANCES				DWG. NO. KP-118					
DECIMALS				SCALE: 1 = 1	WEIGHT X		SHEET 1 OF 1	REV. N/A	
.XX ± .01									
.XX ± .05									
.XXX ± .005									

NEXT ASSY.	USED ON	QTY.
APPLICATION		

REVISIONS		
LTR.	DESCRIPTION	DATE



- REMOVE ALL BURRS AND SHARP EDGES
UNLESS OTHERWISE SPECIFIED:

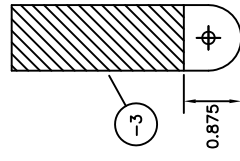
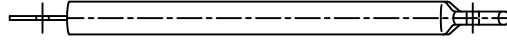
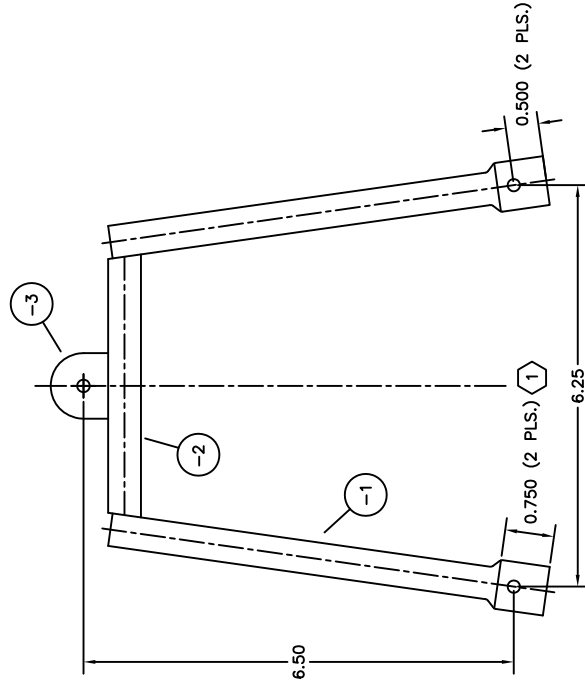
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ANY USE IN ANY WAY OR FOR COMMERCIAL
PURPOSES IS FORBIDDEN. ALL RIGHTS ON THIS
MATERIAL ARE RESERVED.

MANUFACTURER:

CONTRACTED BY: N/A

NOTES:

-1	1	1.0 X 1.0 X .035 SQ. TUBE	6.25 IN.	4130 STEEL	AMS-T-6736A	-
ITEM	NO.	DESCRIPTION	CUT LENGTH	TYPE	MATERIAL	MISC. NOTES
S/N:		FINISH:	RRANS 4600 Highway 183 Alternate. Hays, KS. 67601 USA / Phone (913) 625-6346			
SUPERSEDES: N/A		DRAWN:	DATE	TITLE		
SUPERSEDED BY: N/A		A.MCELWAIN	8.04.14	UPPER RUDDER SUPPORT TUBE		
DO NOT SCALE DRAWING		CHECKED:		SIZE	DWG. NO.	
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES		CHECKED:		A	KP-121	
TOLERANCES ANGULAR ± 1°		APPROVED:		SCALE	1 = 1	WEIGHT .XX lb.
DECIMALS .X ± .1 .XX ± .05 .XXX ± .010				SHEET 1	OF 1	REV. N/A



DETAIL A
1X SCALE

REVISIONS		
LTR.	DESCRIPTION	DATE

ITEM	NO.	DESCRIPTION	CUT LENGTH	TYPE	SPEC.	MISC. NOTES
-3	1	MOD. CS-SP	-	-	-	SEE DETAIL A
-2	1	.50 DIA. X .035 TUBE	4.00 IN.	4130 STEEL	AMS-T-6736A	-
-1	2	.50 DIA. X .035 TUBE	6.70 IN.	4130 STEEL	AMS-T-6736A	-

QTY	REV	DATE	DESCRIPTION	MATERIAL	UNIT	PRICE
	S/N:		FINISH:	 4600 Highway 183 Alternate, Hays, KS. 67601 USA / Phone (785) 625-6346		

SUPERSEDES: N/A		DRAWN: A.MCELWAIN	DATE: 8.05.14	TITLE LOWER RUDDER SUPPORT
SUPERSEDED BY: N/A		CHECKED:		
DO NOT SCALE DRAWING				

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES	CHECKED:	SIZE	DWG. NO.
		B	KP-122
DO NOT SCALE DRAWING			

[illegible]

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	MANUFACTURER:		

CONTRACTED BY: N/A			

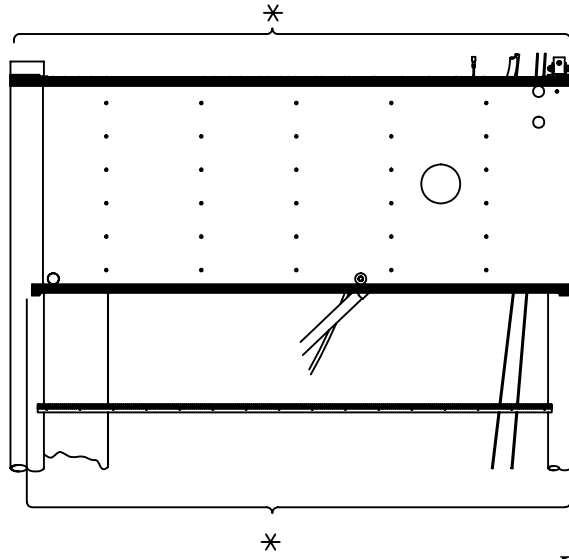
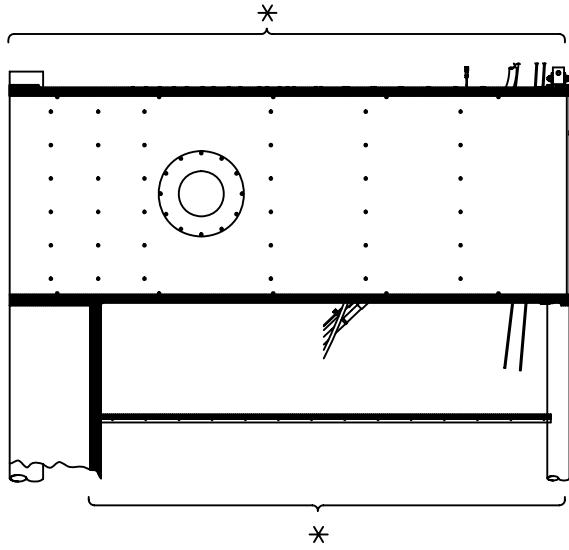
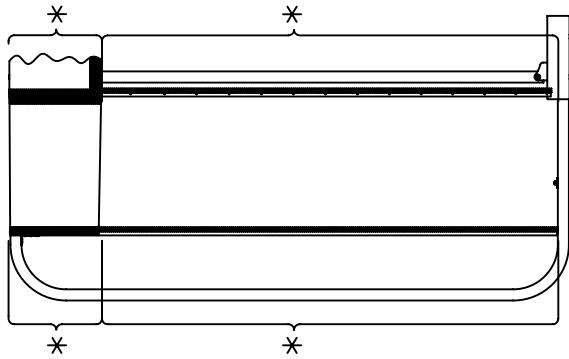
NOTES:

NEXT ASSY.	USED ON	QTY.
APPLICATION		

1 SMASH END

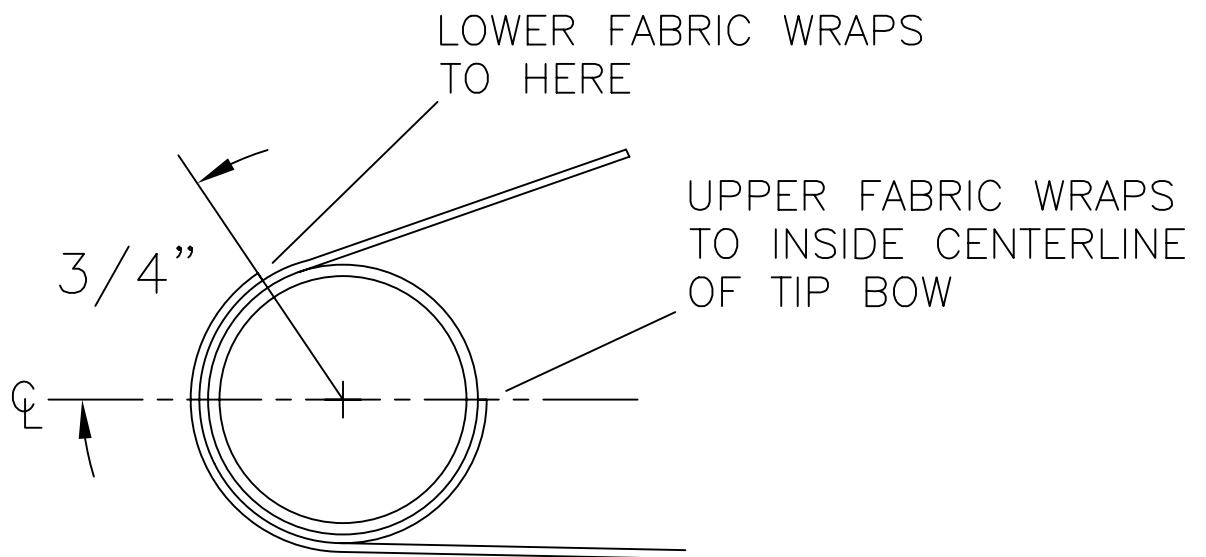
- REMOVE ALL BURRS AND SHARP EDGES

REMOVE ALL CORNERS AND CHAMFER EDGES
UNLESS OTHERWISE SPECIFIED:

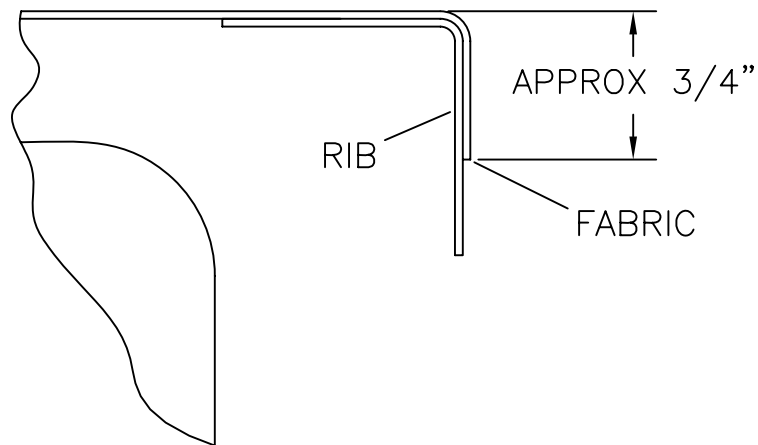


* APPLY ANTI-CHAFE TAPE
(3/4" MASKING TAPE) BEFORE COVERING
ALL SHARP METAL EDGES MUST RECEIVE
ANTI-CHAFE TAPE

RRM S-7S
WING COVERING - ANTI-CHAFE TAPE
FIGURE 07A-04



WING TIP BOW DETAIL

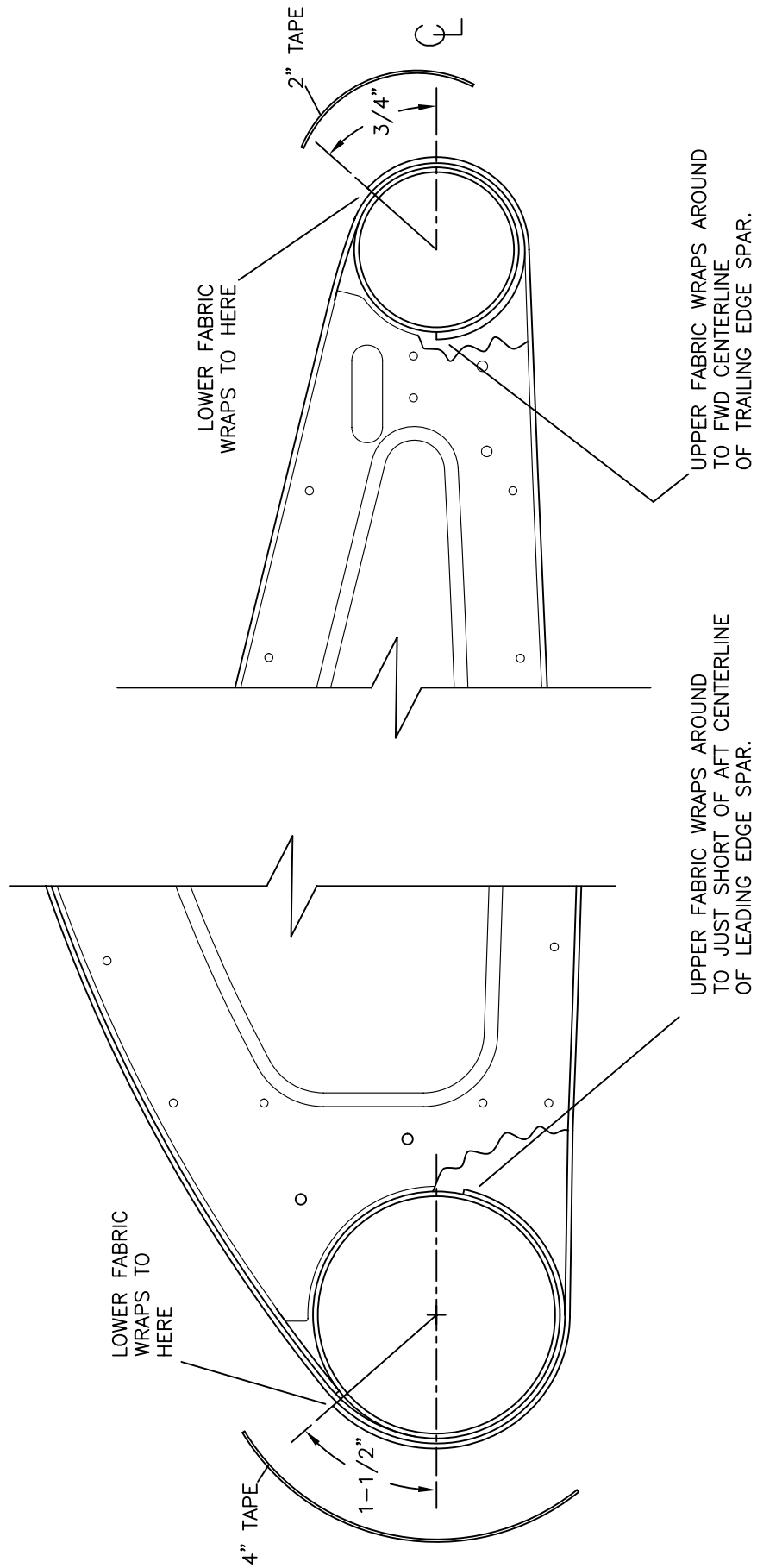


ROOT RIB DETAIL

MD4340

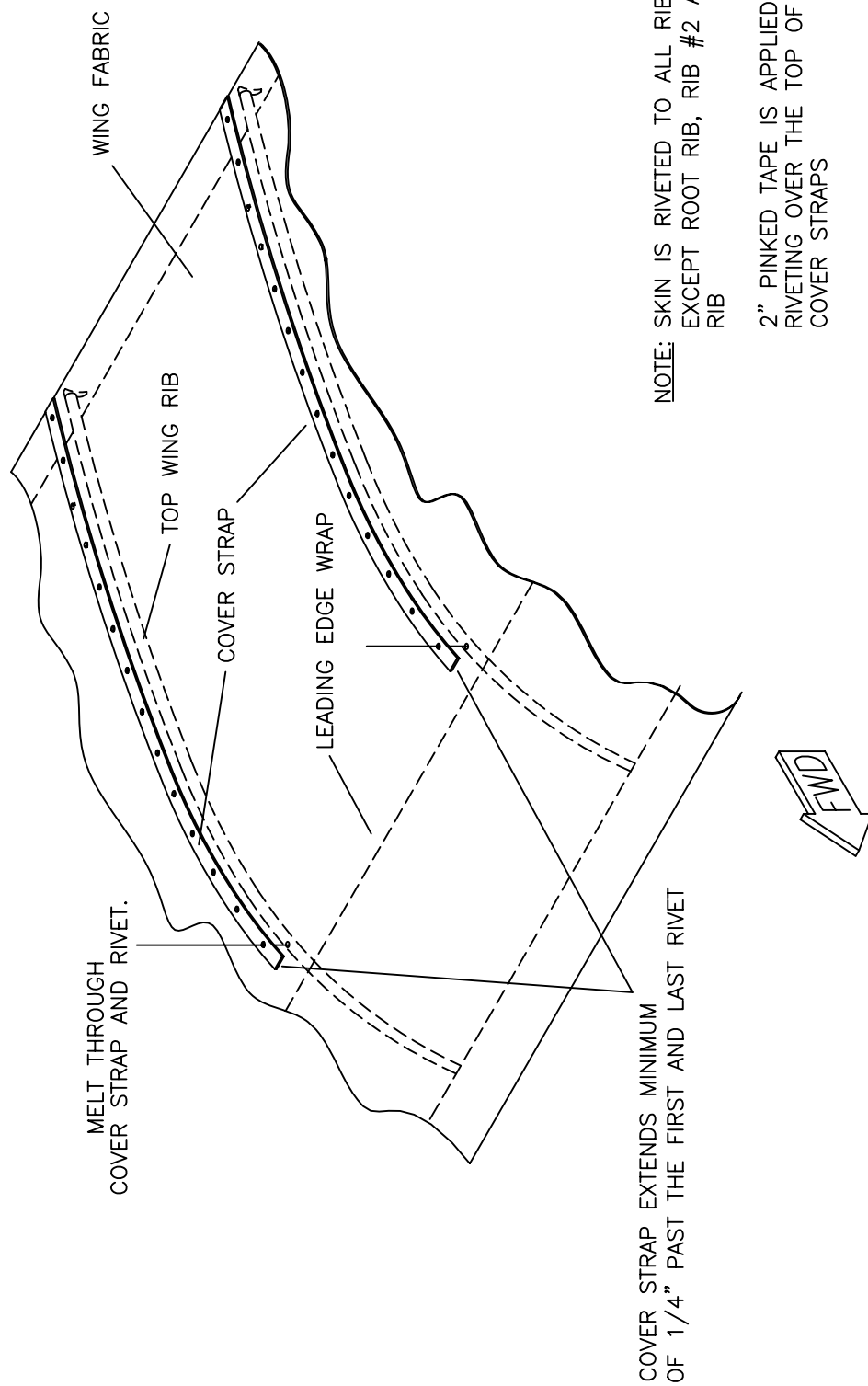
RAANS S-7S
WING COVERING - FABRIC
OVERLAP ON TIP AND ROOT
FIGURE 07A-17

06/15/2011



MD4341

S-7S
WING COVERING - FABRIC OVERLAP ON LEADING EDGE AND TRAILING EDGE SPAR
FIGURE 07A-17A

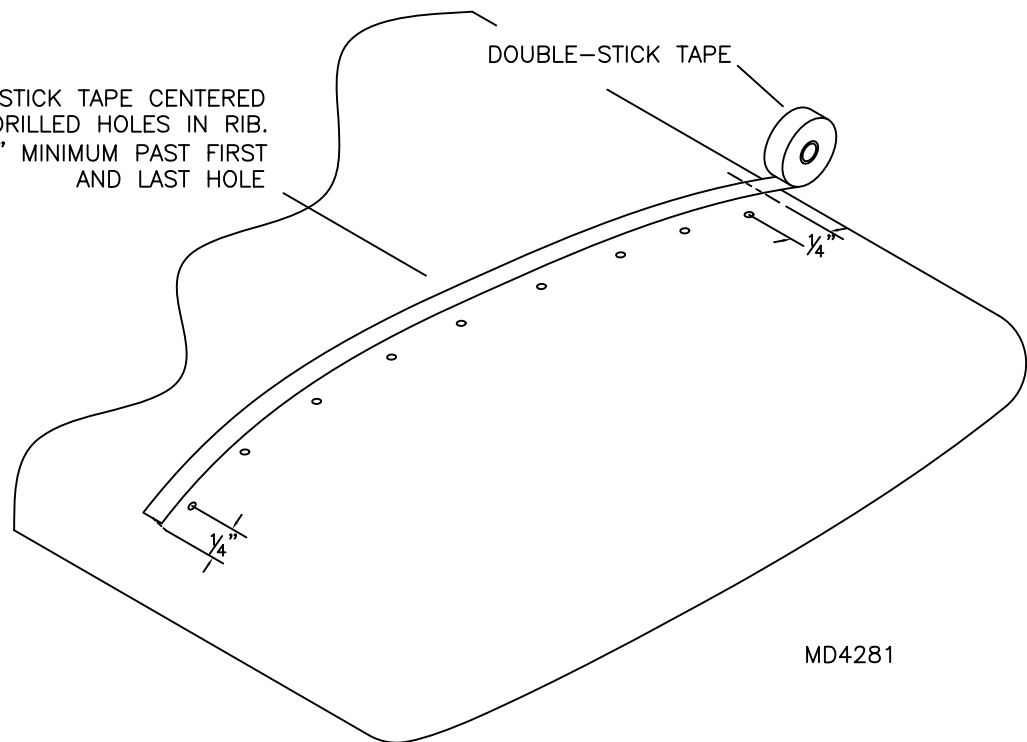


MD4337

RFA S-7S **WING COVERING RIVETING** **FIGURE 07A-26**

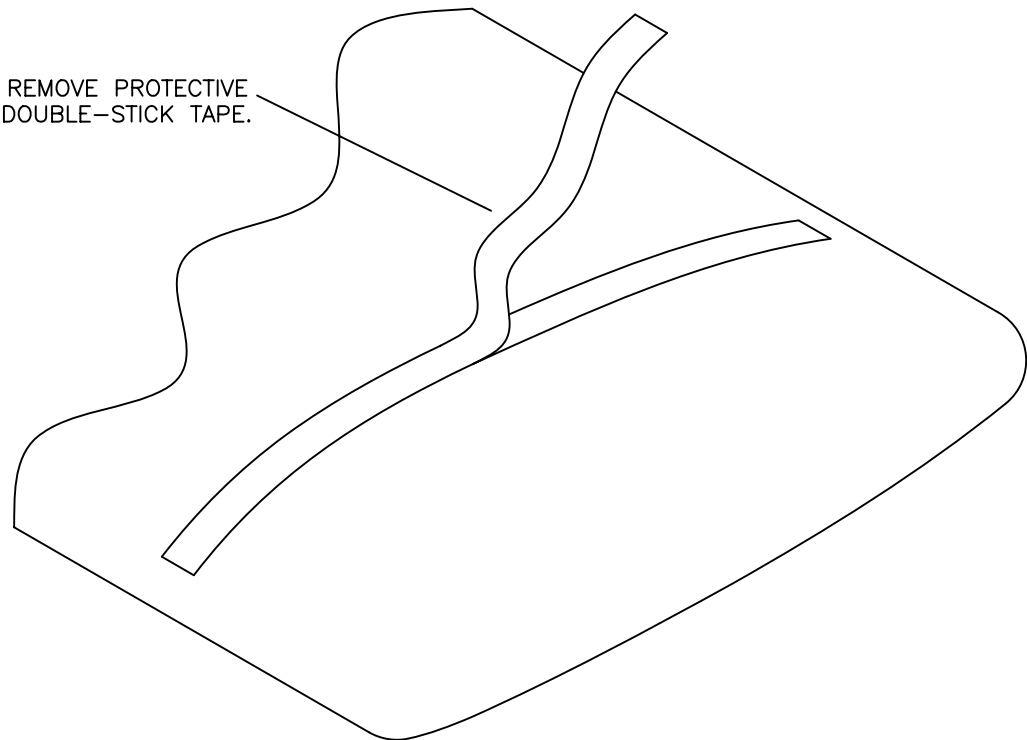
STEP 1:

APPLY DOUBLE-STICK TAPE CENTERED
ON PRE-DRILLED HOLES IN RIB.
EXTEND 1/4" MINIMUM PAST FIRST
AND LAST HOLE



STEP 2:

REMOVE PROTECTIVE
PAPER FROM DOUBLE-STICK TAPE.



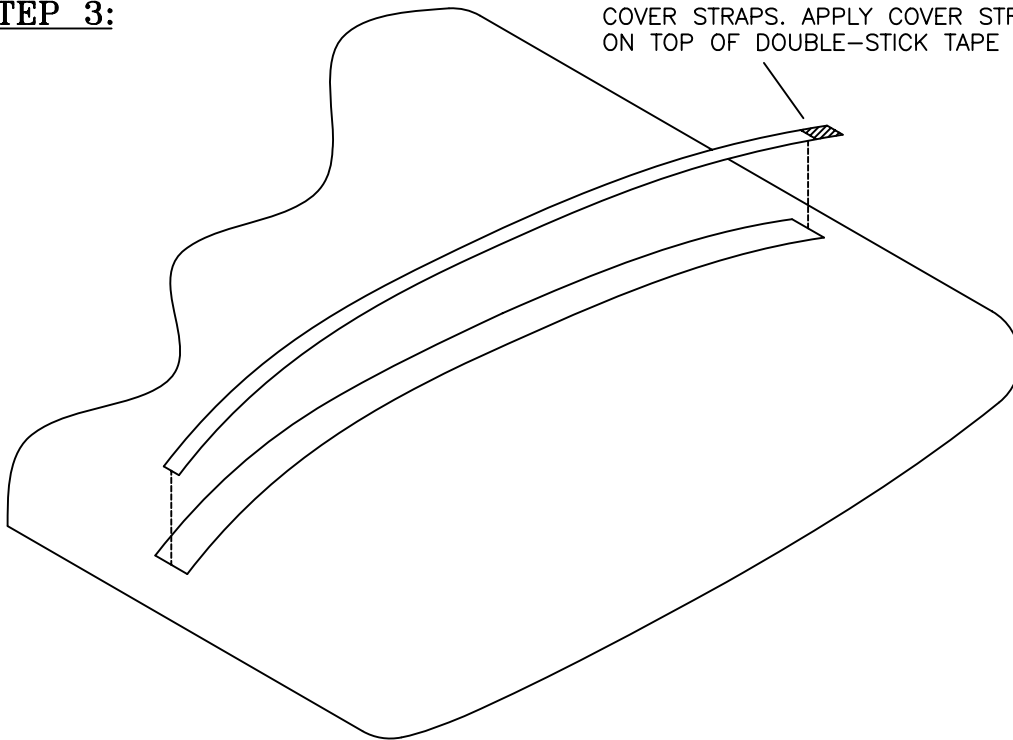
MD4281

RANS S-7S
FABRIC RIVETING
FIGURE 07A-26A

06/15/2011

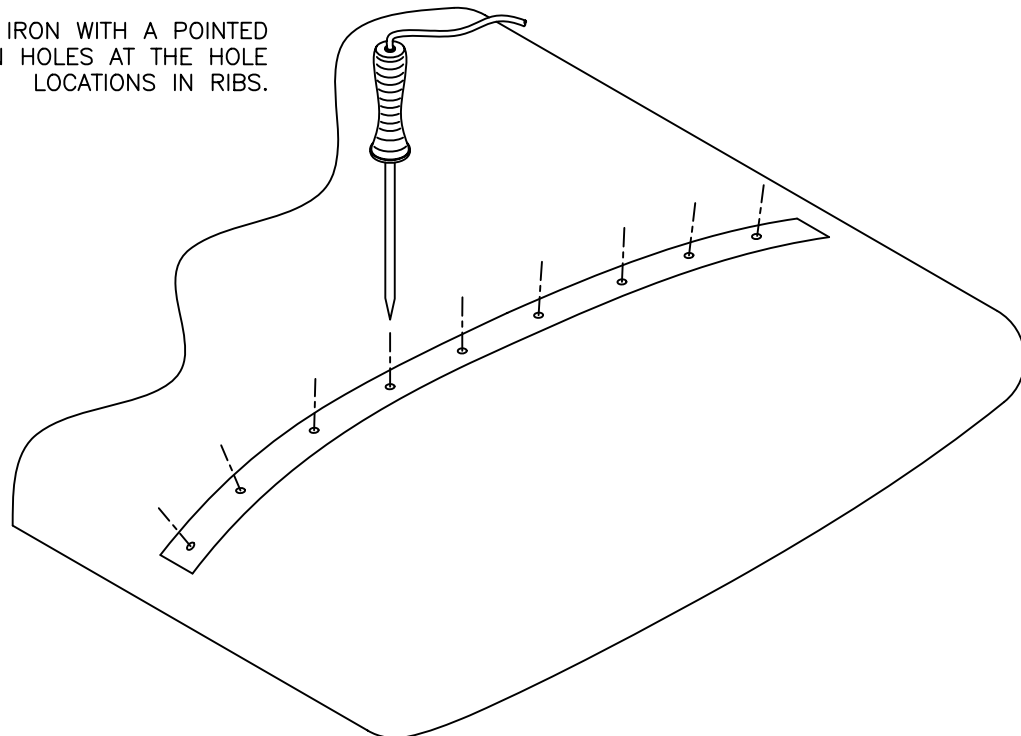
STEP 3:

REMOVE PROTECTIVE PLASTIC FROM BOTH SIDES OF COVER STRAPS. APPLY COVER STRAP CENTERED ON TOP OF DOUBLE-STICK TAPE AND CUT OFF EXCESS.



STEP 4:

USE A HOT IRON WITH A POINTED TIP TO BURN HOLES AT THE HOLE LOCATIONS IN RIBS.



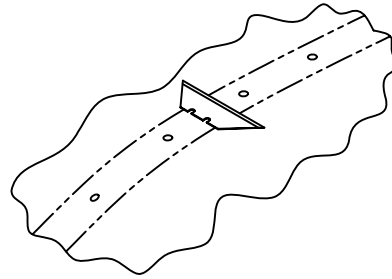
MD4281

RANS S-7S
FABRIC RIVETING
FIGURE 07A-26B

06/15/2011

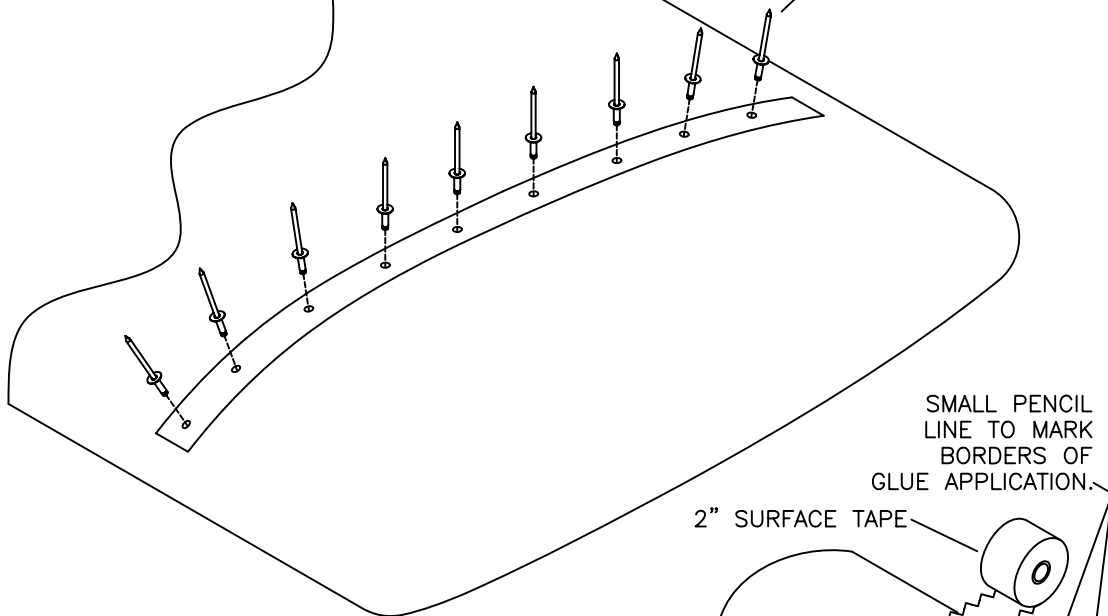
STEP 5:

USE A SHARP BLADE TO CUT OFF
MELTED BUILD UP ON TOP OF COVER STRAP.



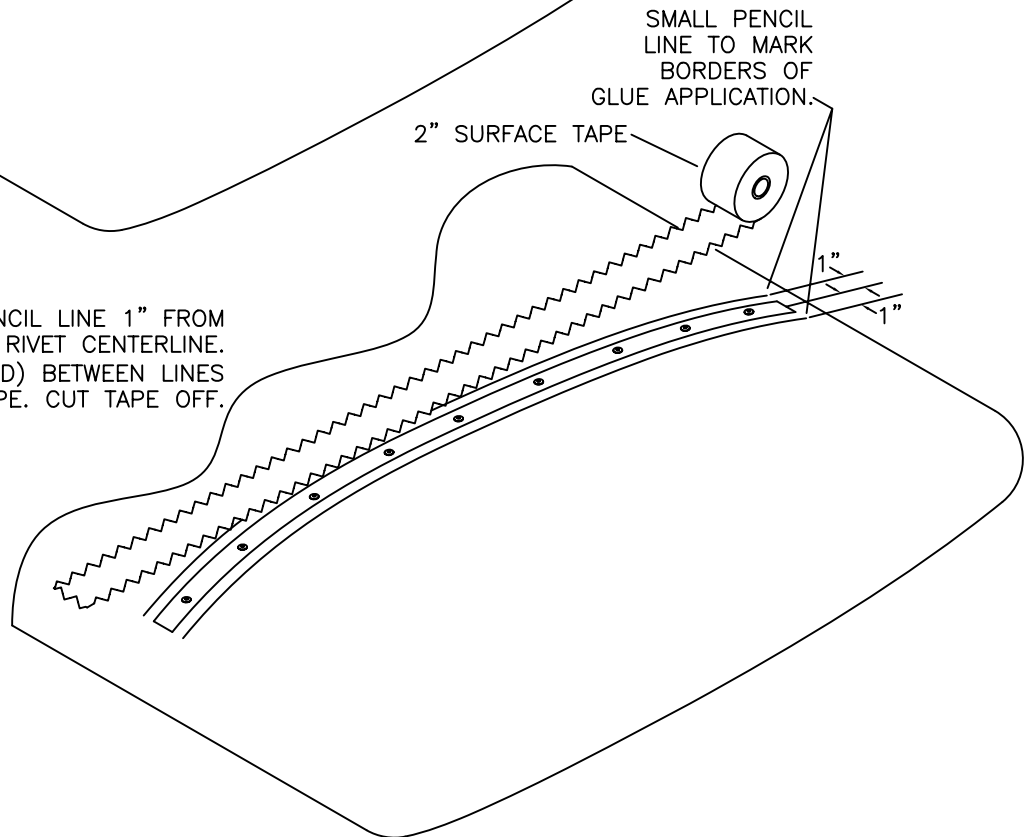
STEP 6:

INSERT RIVET (AVEX)
IN EACH HOLE, AND RIVET.



STEP 7:

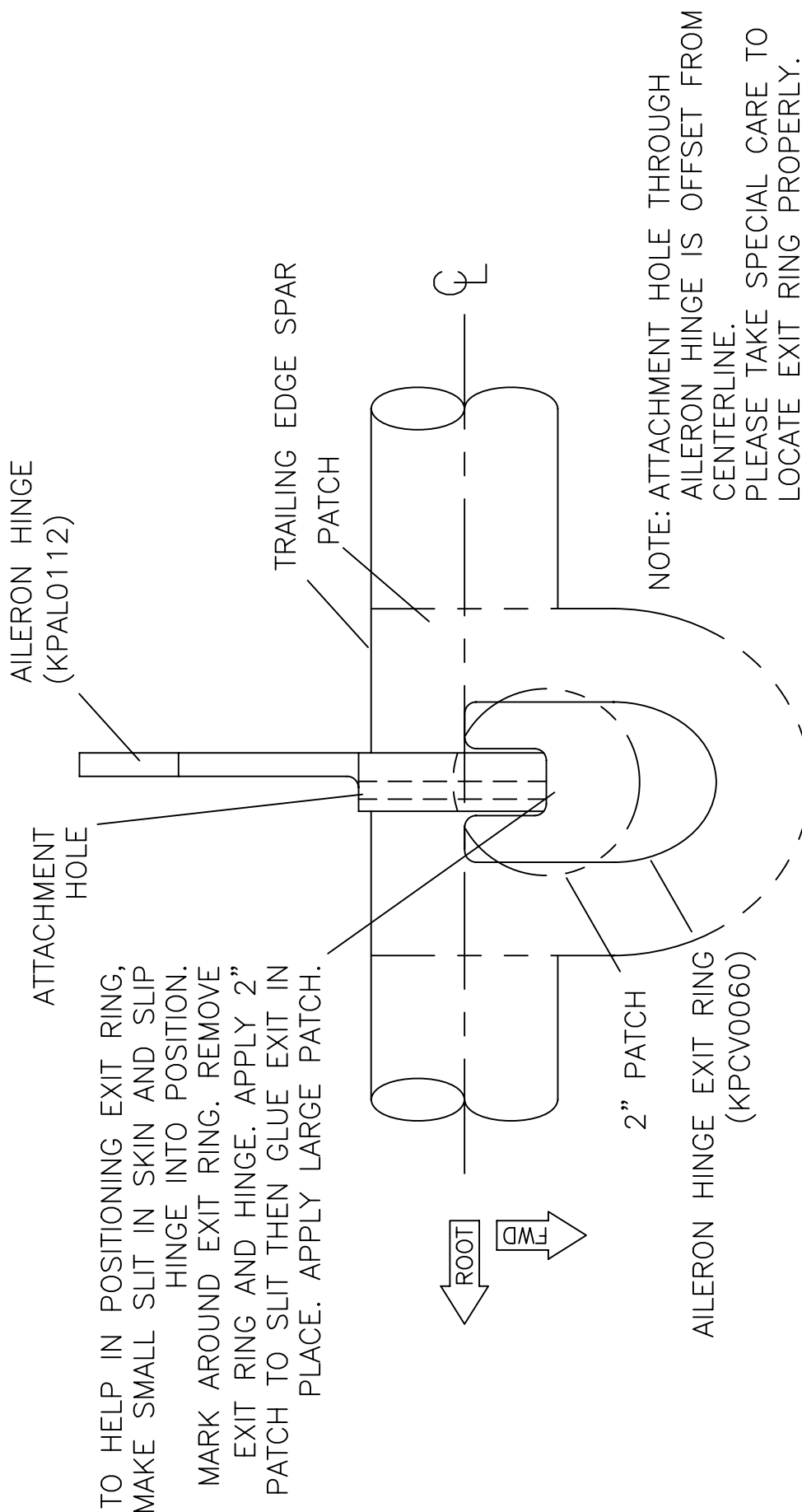
DRAW SMALL PENCIL LINE 1" FROM
EACH SIDE OF THE RIVET CENTERLINE.
APPLY GLUE (THINNED) BETWEEN LINES
AND APPLY TAPE. CUT TAPE OFF.



MD4281

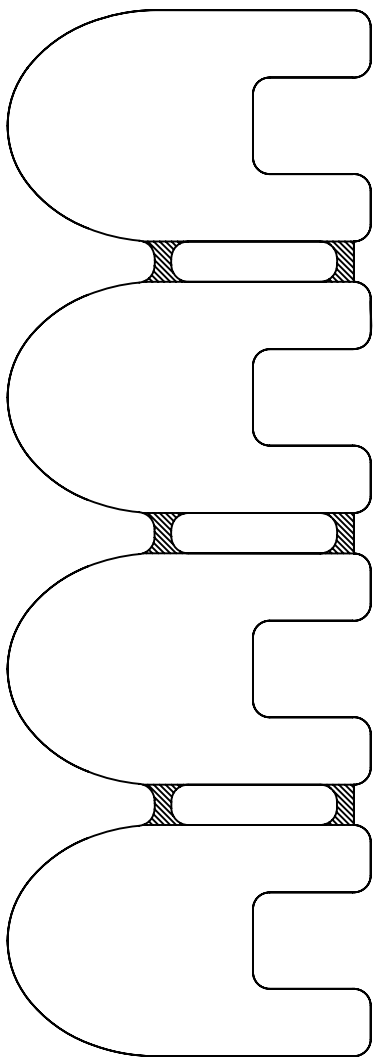
RANS S-7S **FABRIC RIVETING** **FIGURE 07A-26C**

06/15/2011



RAMS S-7S
AILERON HINGE EXIT RING PLACEMENT
FIGURE 07A-33A

MD5561

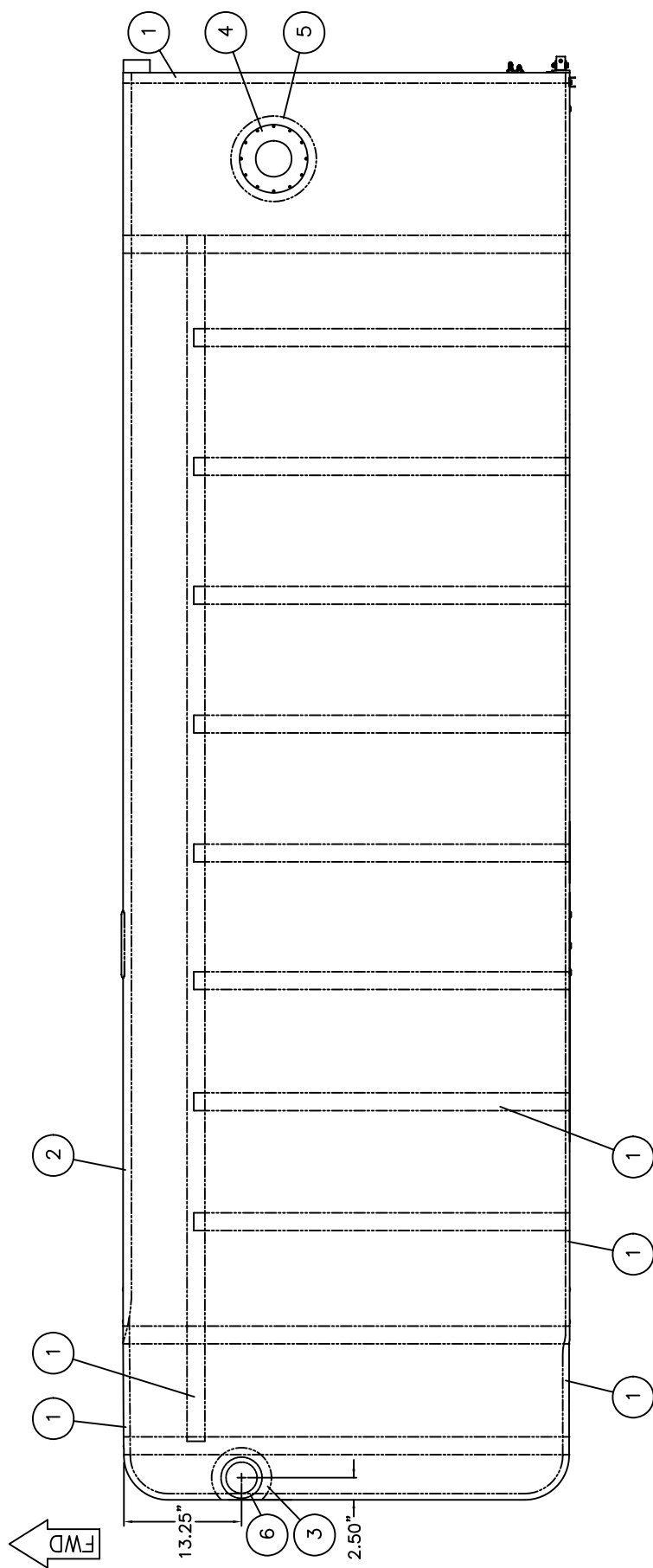


EXIT RING
AILERON HINGE – WING
(KPCV0060)

REMOVE HATCHED AREAS

MD5549

RRF S-7S
AILERON HINGE EXIT RING MODIFICATION
FIGURE 07A-33B



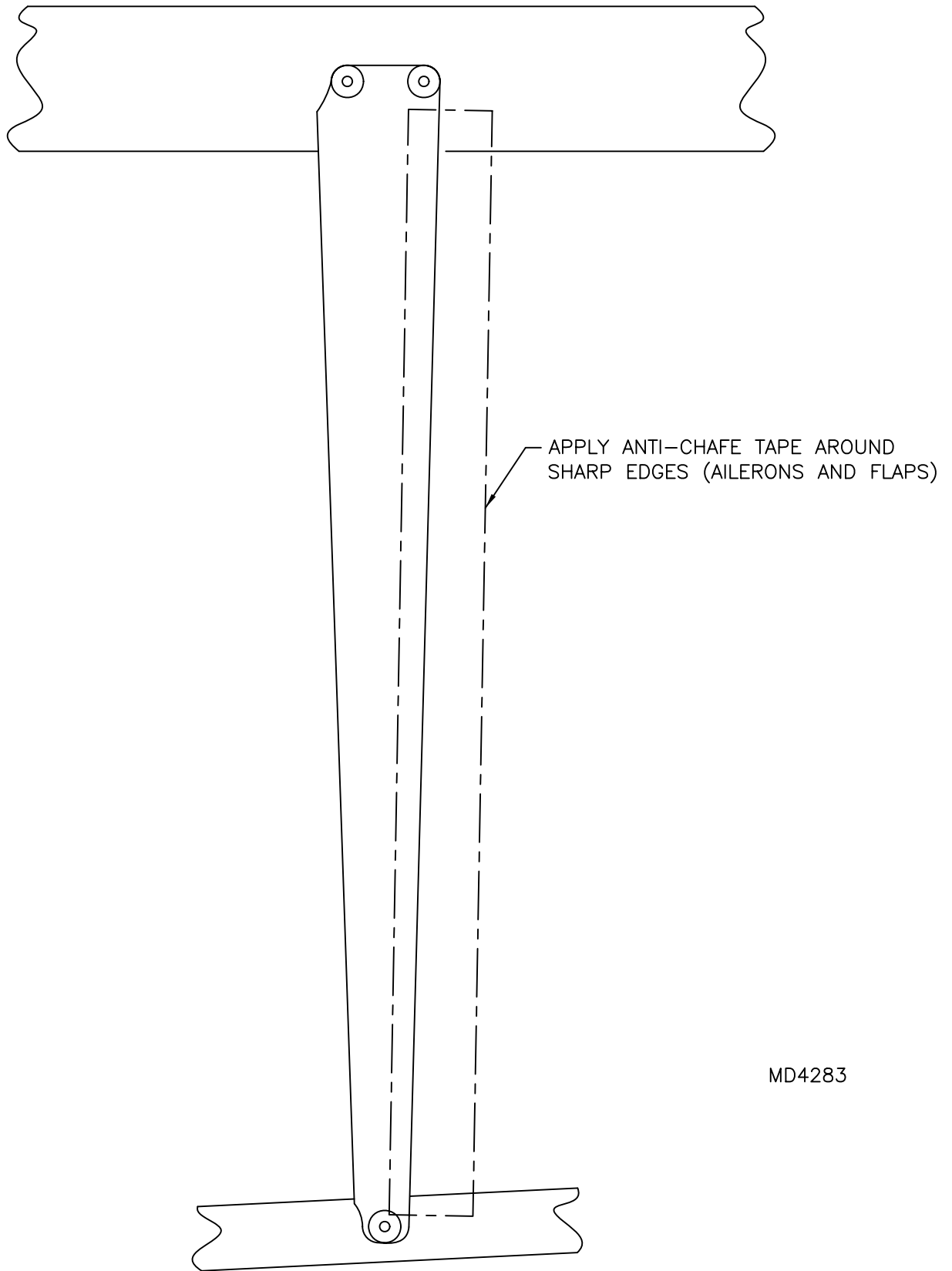
- ① 2" PINKED TAPE
- ② 4" PINKED TAPE
- ③ 6.5" DIA. ROUND PATCH**
- ④ COVER RING*
- ⑤ 9 5/8" DIA. ROUND PATCH
- ⑥ INSPECTION RING**

* INSTALL COVER RING AFTER COVERING
AND PRIOR TO PRIMING

** INSTALL FOR OPTIONAL STROBES

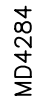
MD4338

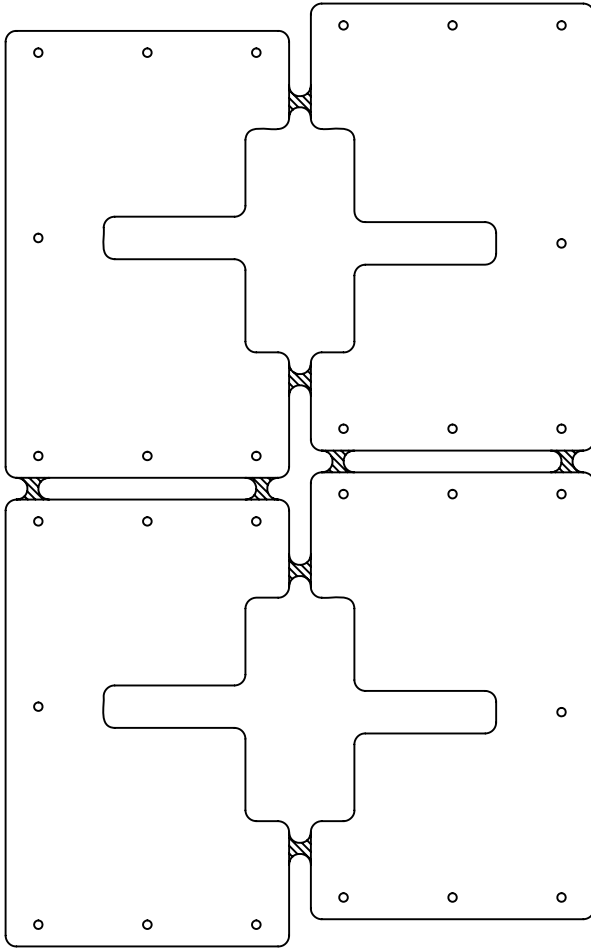
RFA S-7S **WING TOP COVERING** **FIGURE 07A-37**



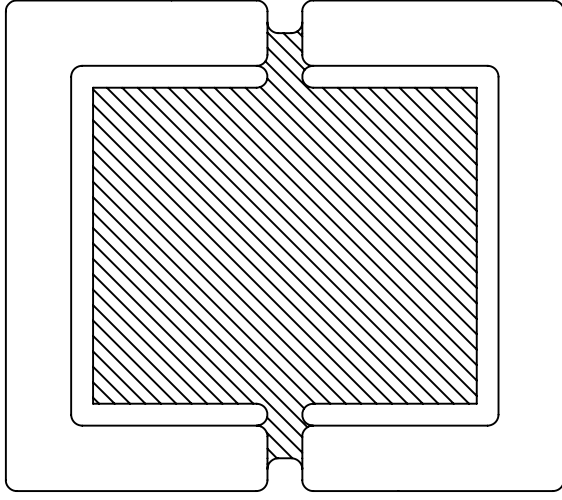
MD4283

RAAS S-7S
ANTI-CHAFE TAPE APPLICATION FOR AILERONS AND FLAPS
FIGURE 07B-03





EXIT COVER
AILERON HINGE – AILERON
(KPCV0059)

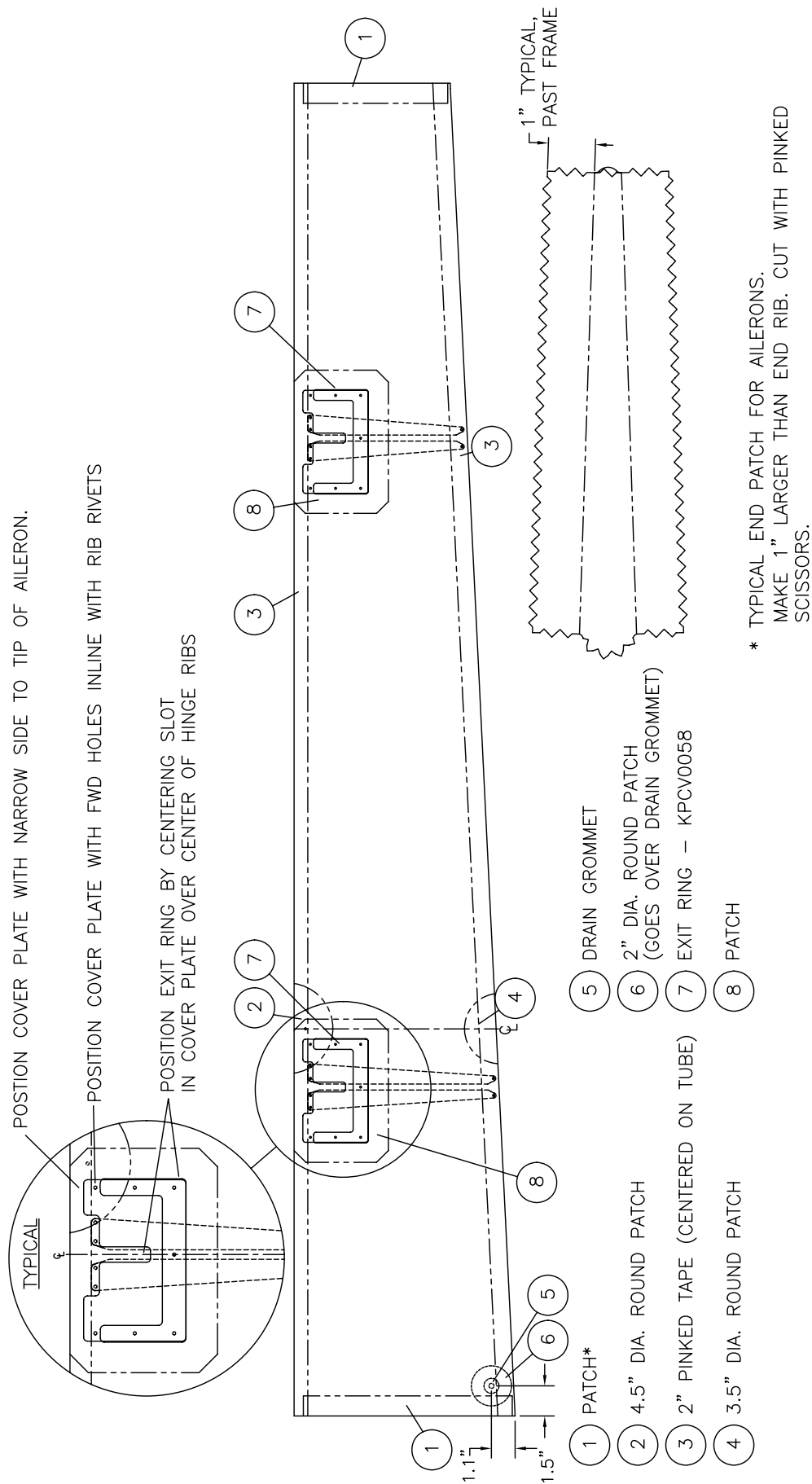


EXIT RING
AILERON HINGE – AILERON
(KPCV0058)

REMOVE HATCHED AREAS

MD5549

RRR S-7S
AILERON HINGE COVER AND RING MODIFICATION
FIGURE 07B-12

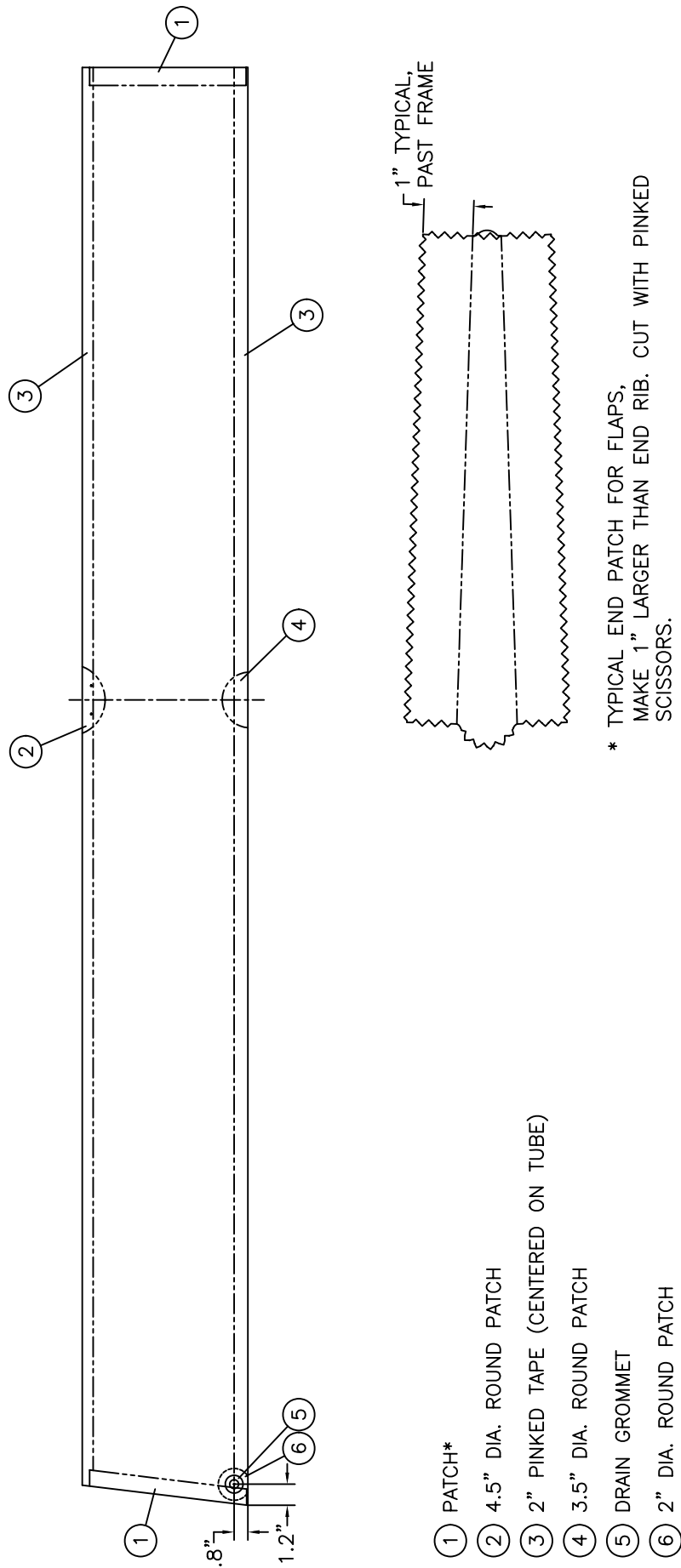


MD5538

LOWER SIDE OF LEFT HAND
AILERON SHOWN

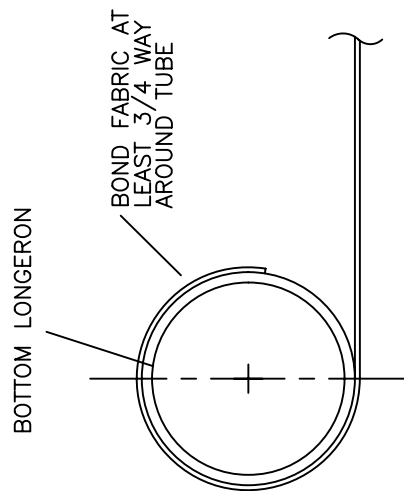
S-7S AILERON COVERING FIGURE 07B-13

NOTE: DRAIN GROMMETS LOCATED AT THE LOWER
INBOARD SIDE OF THE FLAPS
MAKE LEFT AND RIGHT

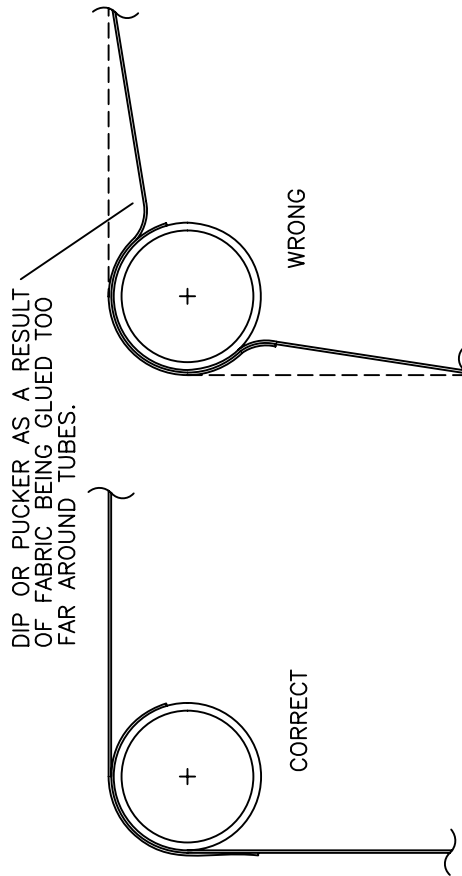


MD4279

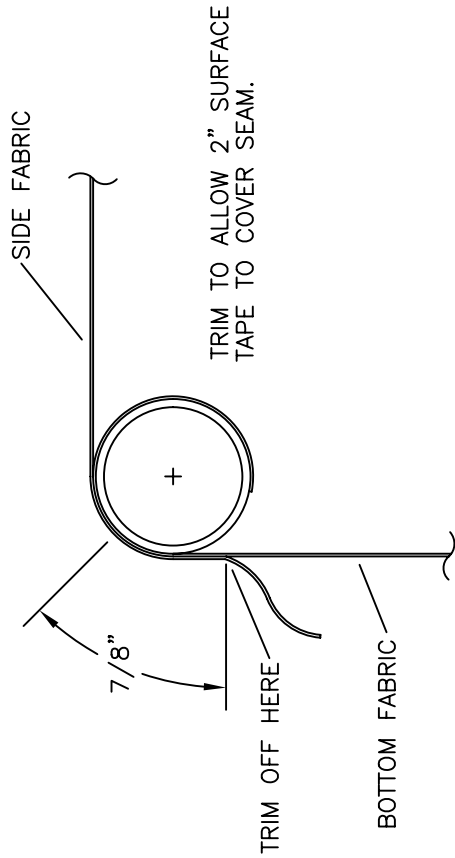
RRM S-7S COURIER FLAP COVERING FIGURE 07B-14



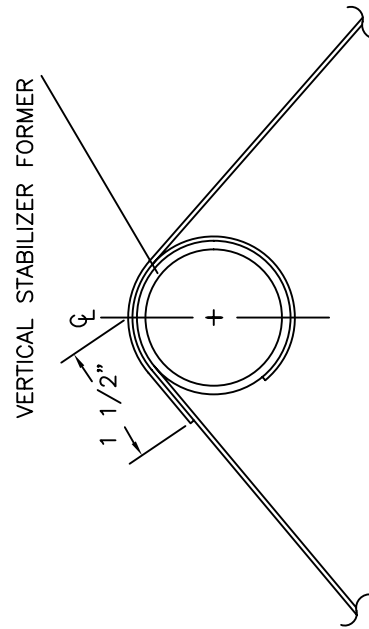
FABRIC ATTACH TO BOTTOM LONGERONS



GENERAL INFORMATION



FABRIC OVERLAP (SIDE AND BOTTOM FABRIC)



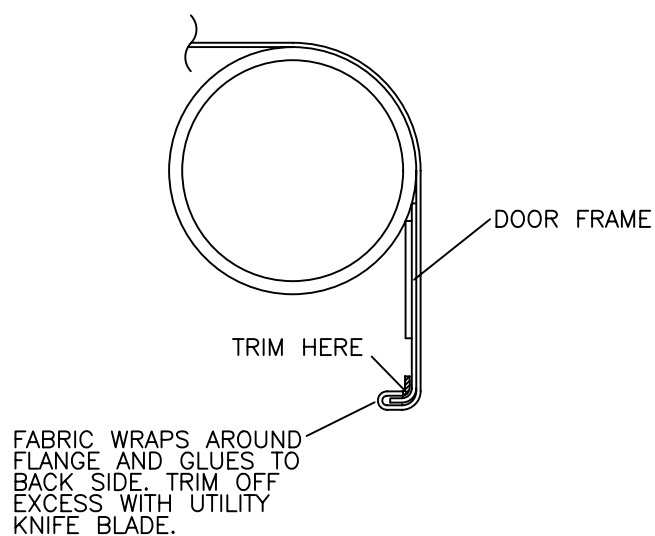
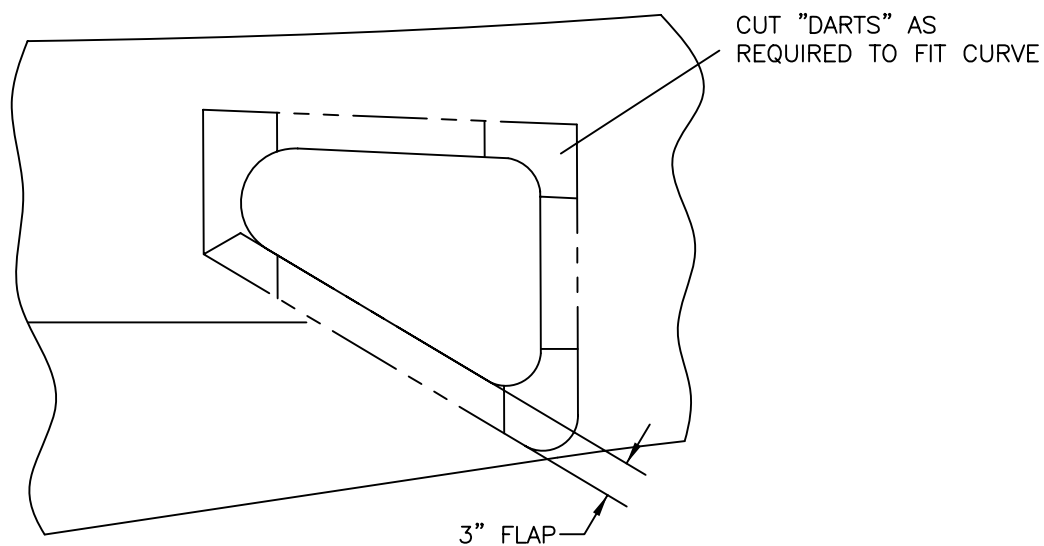
FABRIC OVERLAP (TOP OF FUSELAGE)

RRF S-7S

FUSELAGE COVERING DETAILS

FIGURE 07C-07

MD4334

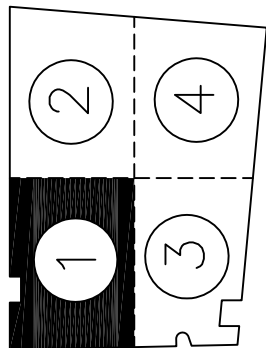


MD4333

RANS S-7S
FUSELAGE COVERING DETAIL -
BATTERY ACCESS DOOR
FIGURE 07C-18

VERTICAL STABILIZER TRAILING EDGE
(LINE UP WITH OUTSIDE OF SPAR)

INCHES
3
2
1
0



SLIDE OVER REAR HORIZONTAL
STABILIZER ATTACH BUSHING

ELEVATOR YOKE EXIT TEMPLATE,
AFT TOP

PLOT 1:1
(NO SCALING)

0 1 2 3
INCHES

AFT EDGE OF ELEVATOR
YOKE EXIT RING

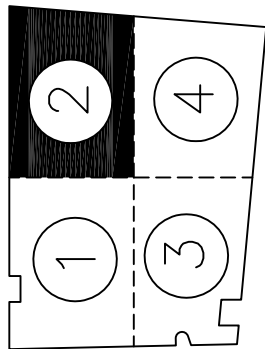
1

INSIDE OF ELEVATOR
YOKE EXIT RING

RAMS S-7S COURIER
ELEVATOR YOKE EXIT TEMPLATE

FIGURE 07C-32

MD4335



ELEVATOR YOKE EXIT TEMPLATE,
FWD TOP

INCHES
0 1 2 3

PLOT 1:1
(NO SCALING)

INCHES
0 1 2 3

MD4335

RAMMS S-7S COURIER
ELEVATOR YOKE EXIT TEMPLATE

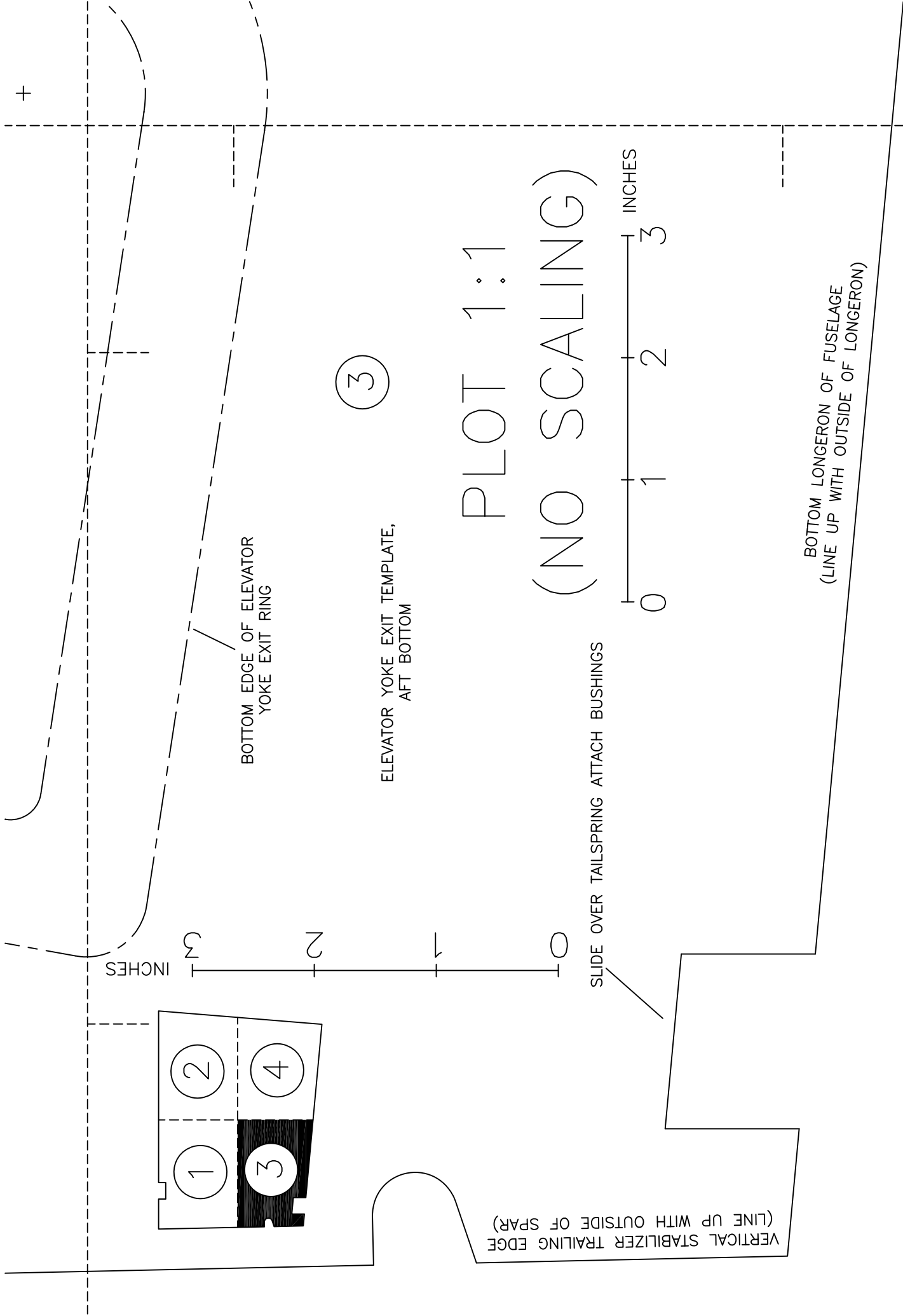
FIGURE 07C-32A

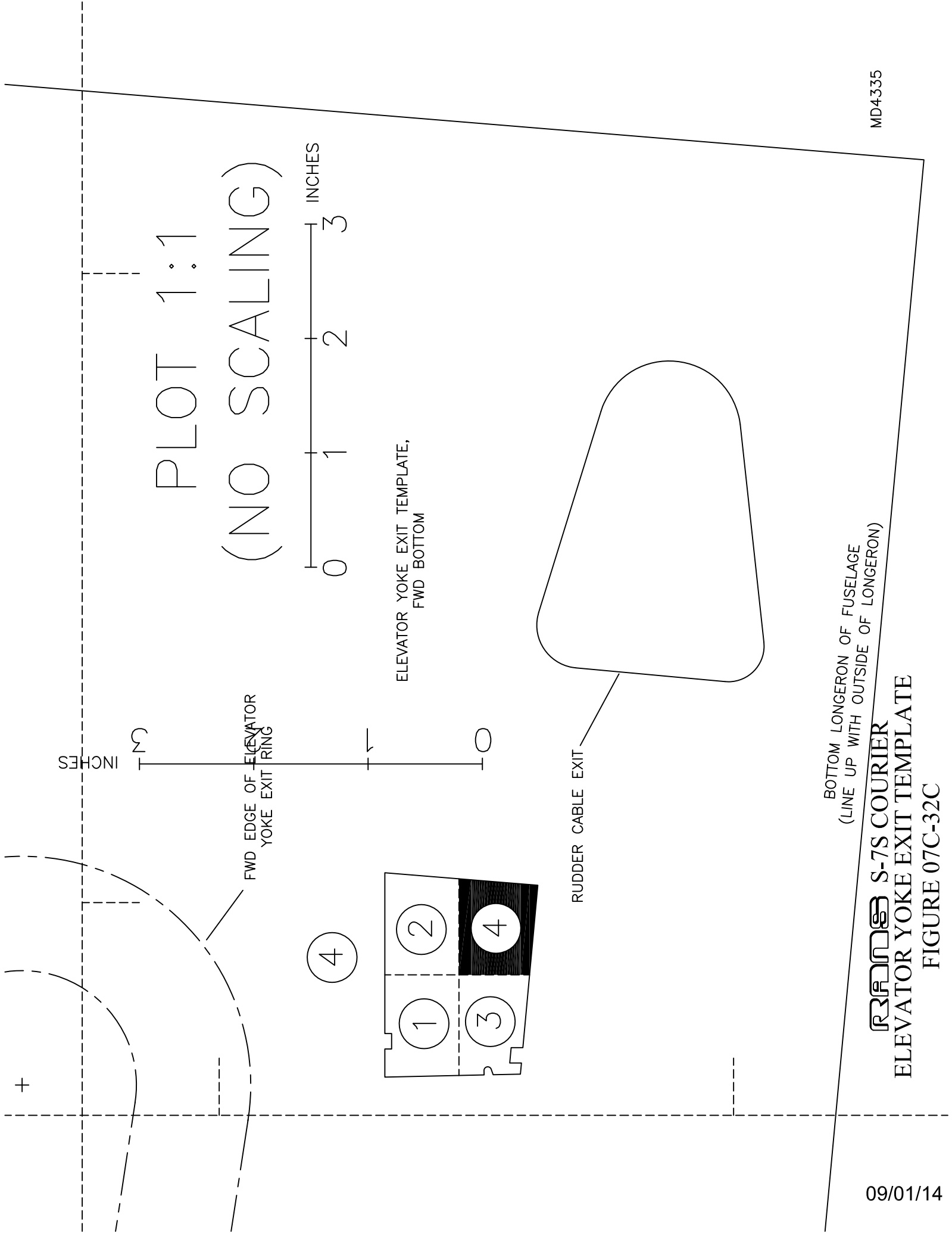
2

FWD EDGE OF ELEVATOR
YOKE EXIT RING

INSIDE OF
ELEVATOR YOKE
EXIT RING
+

RAMS S-7S COURIER
ELEVATOR YOKE EXIT TEMPLATE
FIGURE 07C-32B





PLOT 1:1
(NO SCALING)

0 1 2 3
INCHES

ELEVATOR YOKE EXIT TEMPLATE,
FWD BOTTOM

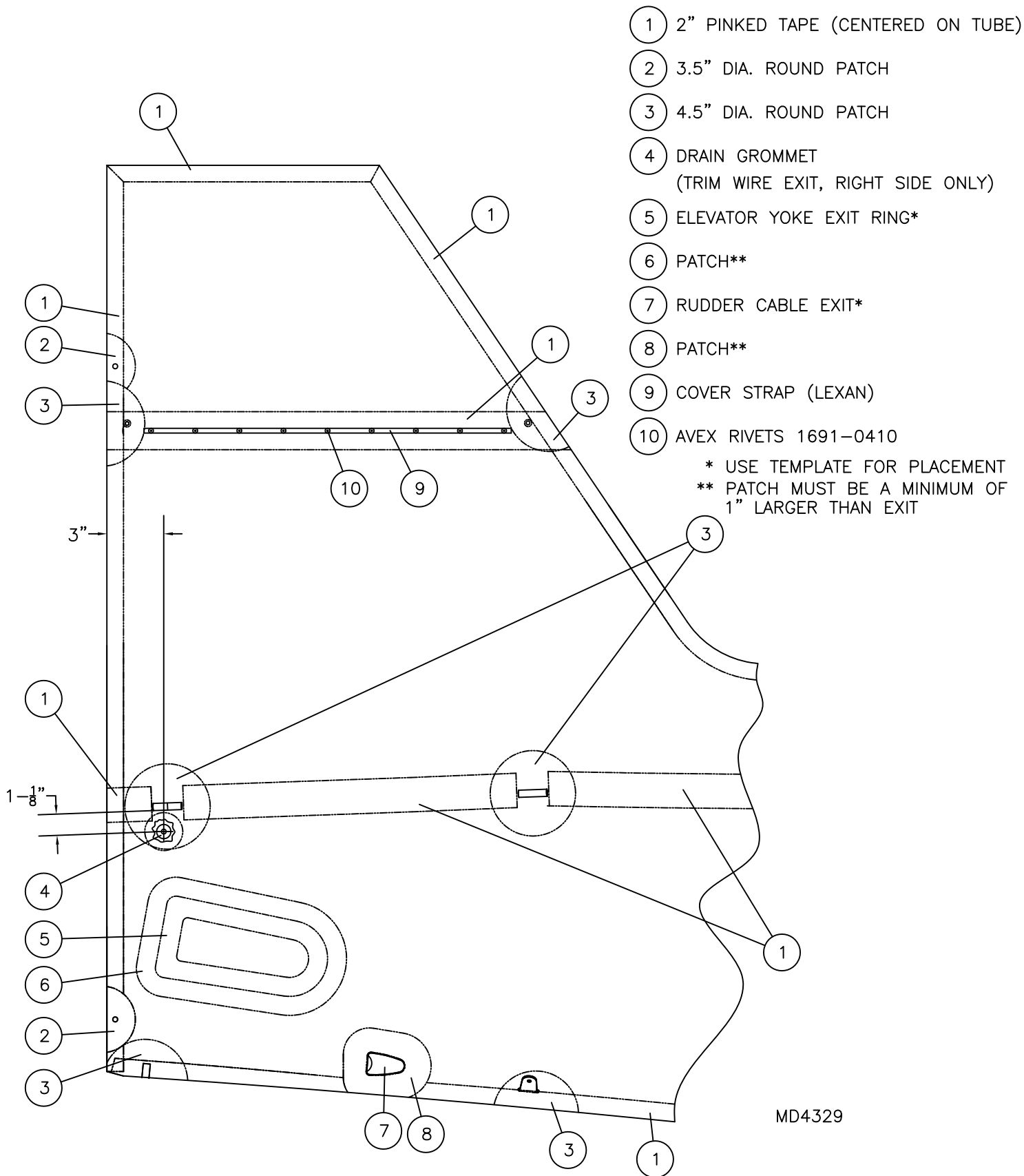
RUDDER CABLE EXIT

BOTTOM LONGERON OF FUSELAGE
(LINE UP WITH OUTSIDE OF LONGERON)

S-7S COURIER
ELEVATOR YOKE EXIT TEMPLATE
FIGURE 07C-32C

MD4335

09/01/14



RANS S-7S
VERTICAL STABILIZER AND REAR
FUSELAGE COVERING
FIGURE 07C-34

① 3.5" DIA. ROUND PATCH (CENTERED OVER TAB)

② 4.5" DIA. ROUND PATCH

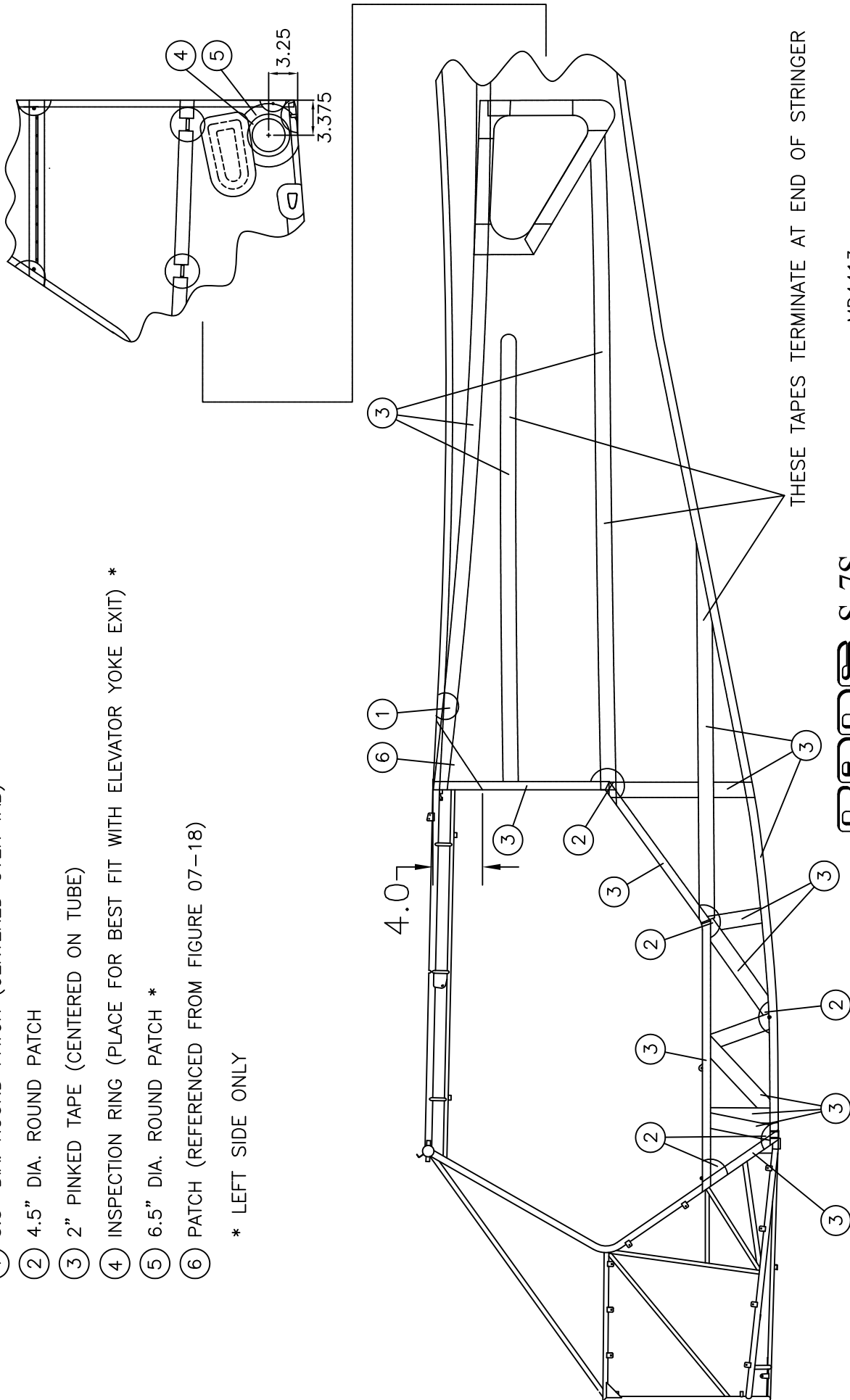
③ 2" PINKED TAPE (CENTERED ON TUBE)

④ INSPECTION RING (PLACE FOR BEST FIT WITH ELEVATOR YOKE EXIT) *

⑤ 6.5" DIA. ROUND PATCH *

⑥ PATCH (REFERENCED FROM FIGURE 07-18)

* LEFT SIDE ONLY



RRR S-7S

FUSELAGE SIDE COVERING

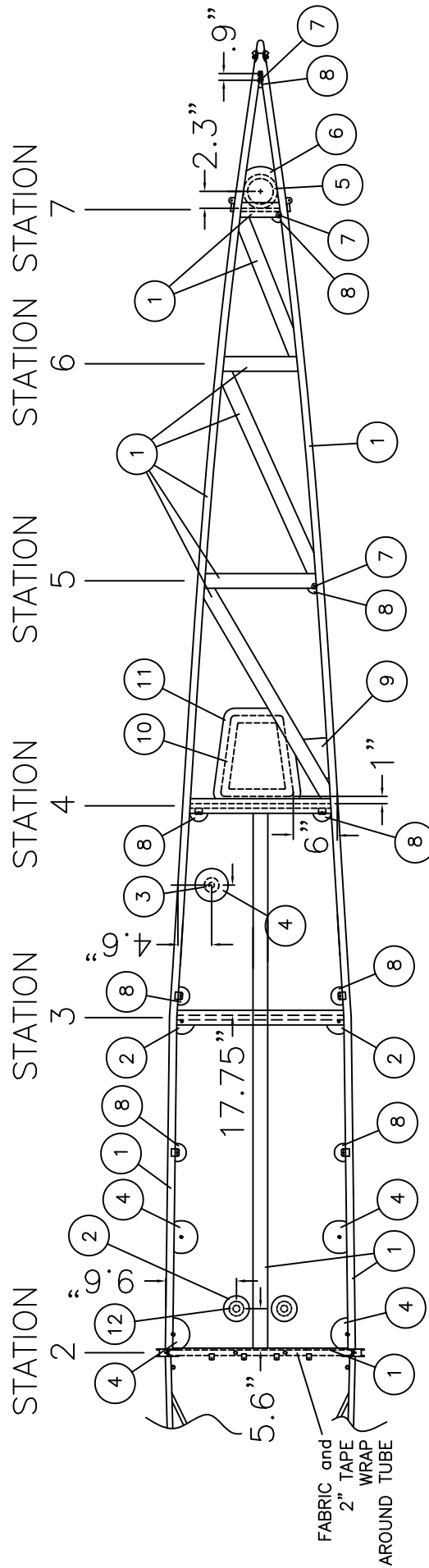
FIGURE 07C-35

MD4413

09/01/2014

- ① 2" PINKED TAPE (CENTERED ON TUBE)
- ② 3.5" DIA. ROUND PATCH
- ③ 2" DIA. RING LEXAN *
- ④ 4.5" DIA. ROUND PATCH
- ⑤ INSPECTION RING (CV-IR)
- ⑥ 6.5" DIA. ROUND PATCH

- ⑦ DRAIN GROMMET **
- ⑧ 2" DIA. ROUND PATCH
- ⑨ PATCH (CENTERED ON COMM ANTENNA MOUNT PLATE) ***
- ⑩ ACCESS PANEL RING
- ⑪ PATCH - ACCESS PANEL RING ****
- ⑫ BRAKE LINE EXIT RING



* APPROXIMATE LOCATION OF 2" RING.
LOCATE OVER DRAIN IN HEADER TANK.

** BURN 1/8" DRAIN HOLE AFTER PAINTING.

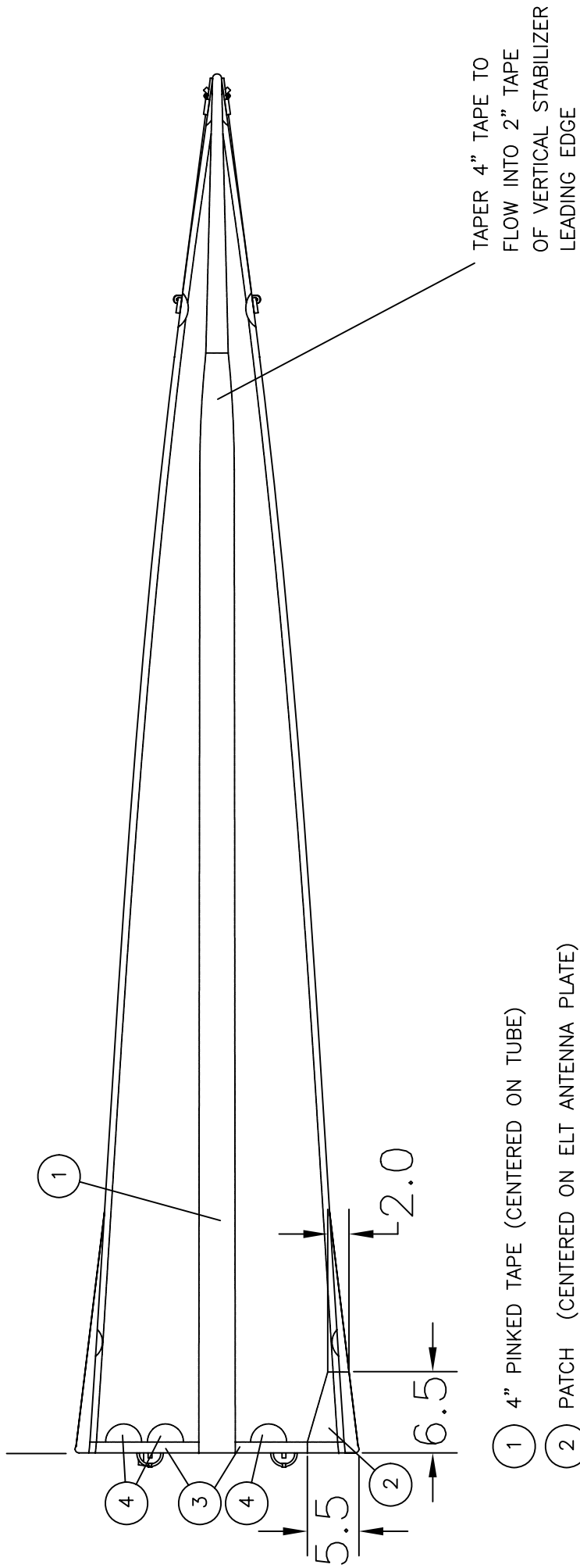
*** PATCH MUST BE A MINIMUM OF
1" LARGER THAN MOUNT PLATE

**** PATCH MUST BE A MINIMUM OF
1" LARGER THAN ACCESS RING

ALL VIEWS FROM BOTTOM OF FUSELAGE

RAMS S-7S FUSELAGE BOTTOM COVERING FIGURE 07C-35A

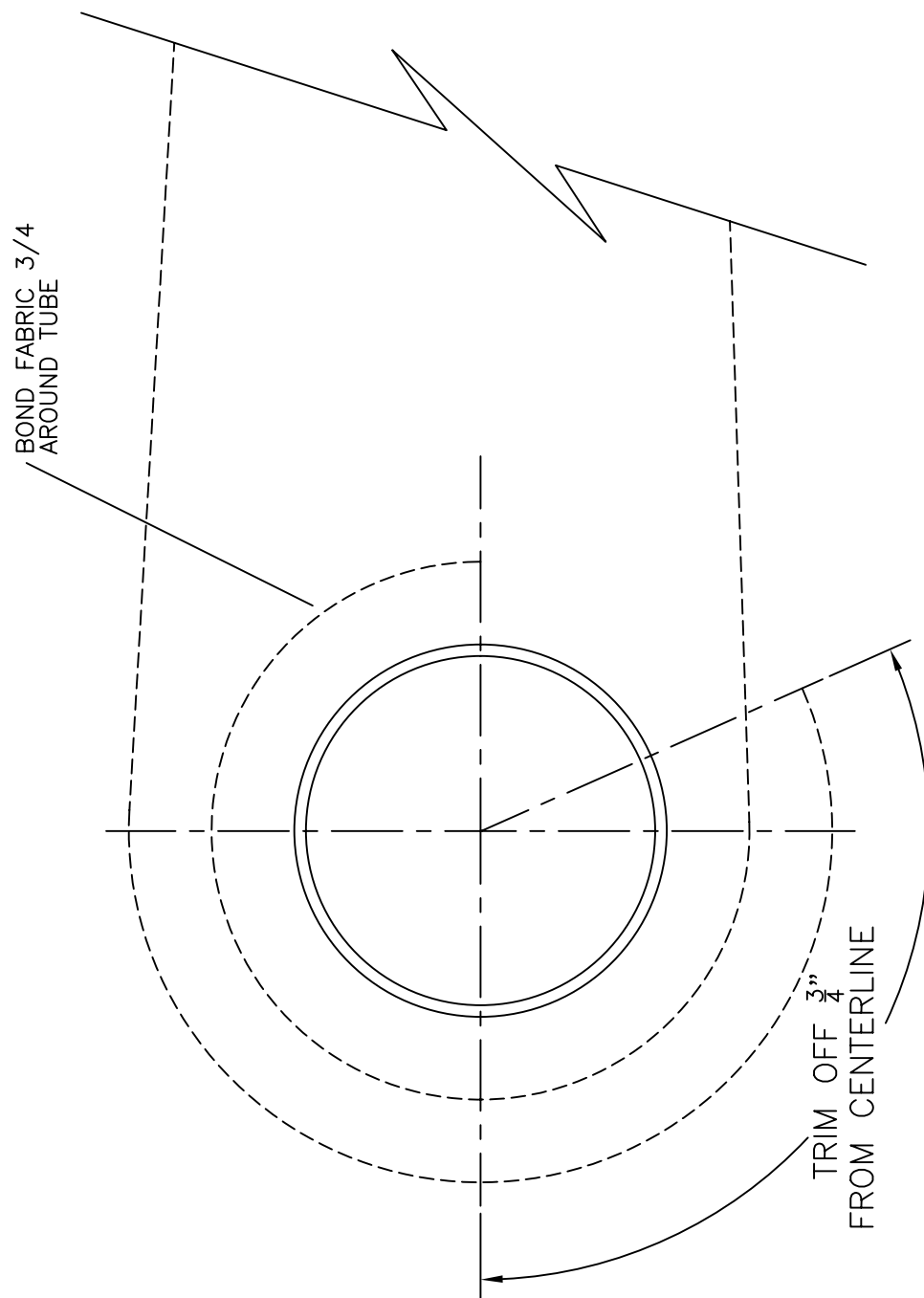
STATION 3



- ① 4" PINKED TAPE (CENTERED ON TUBE)
- ② PATCH (CENTERED ON ELT ANTENNA PLATE)
- ③ 2" PINKED TAPE (CENTERED ON TUBE)
- ④ 3.5" DIA. ROUND PATCH (CENTERED OVER TABS)

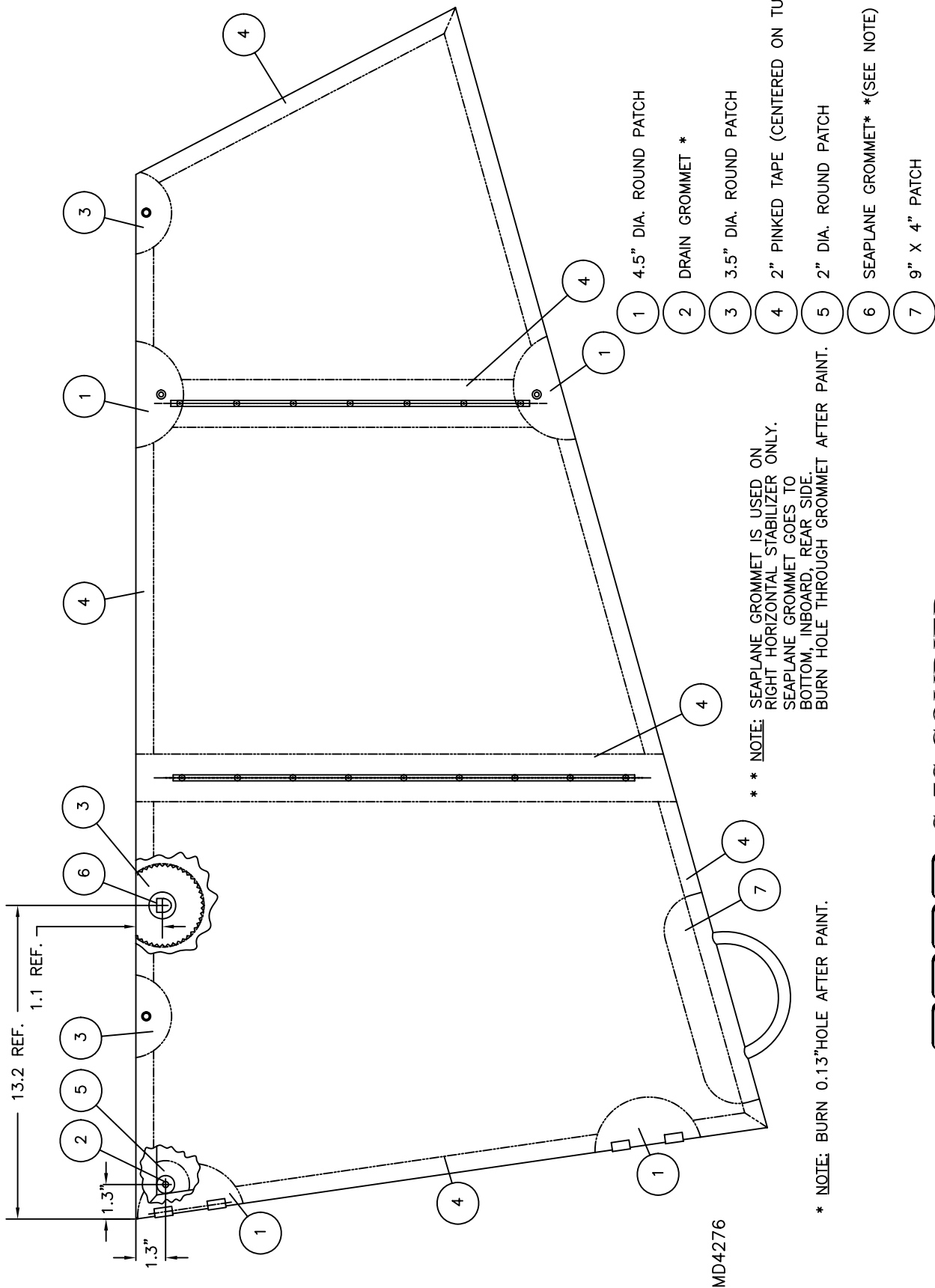
RRR S-7S
FUSELAGE TOP COVERING
FIGURE 07C-36

MD4327



MD4326

RRR S-7S
FABRIC OVERLAP TYPICAL FOR TAIL SURFACES
FIGURE 07D-06



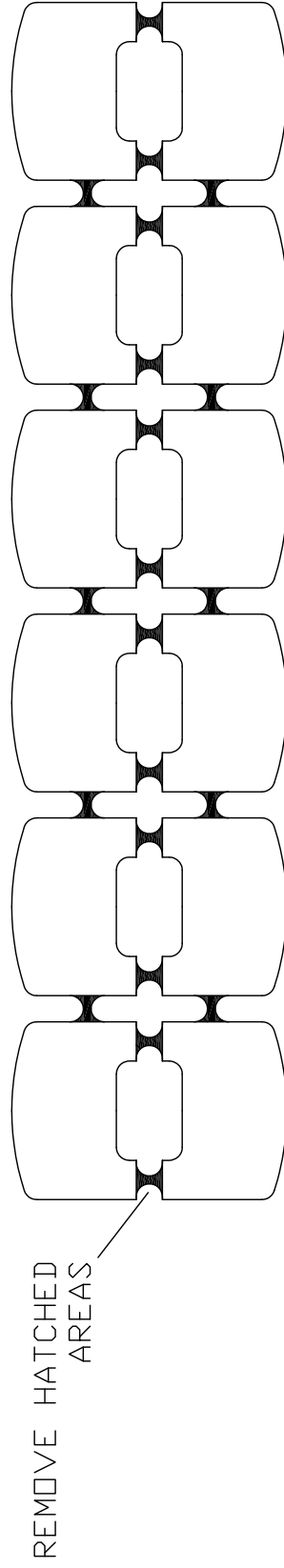
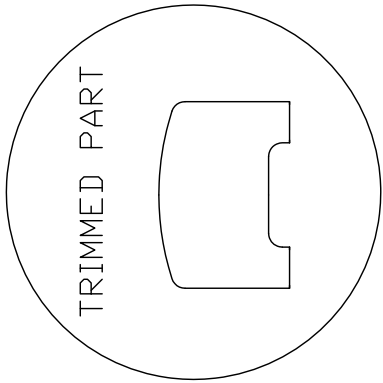
MD4276

** NOTE: SEAPLANE GROMMET IS USED ON
 RIGHT HORIZONTAL STABILIZER ONLY.
 SEAPLANE GROMMET GOES TO
 BOTTOM, INBOARD, REAR SIDE.
 BURN HOLE THROUGH GROMMET AFTER PAINT.

* NOTE: BURN 0.13\"HOLE AFTER PAINT.

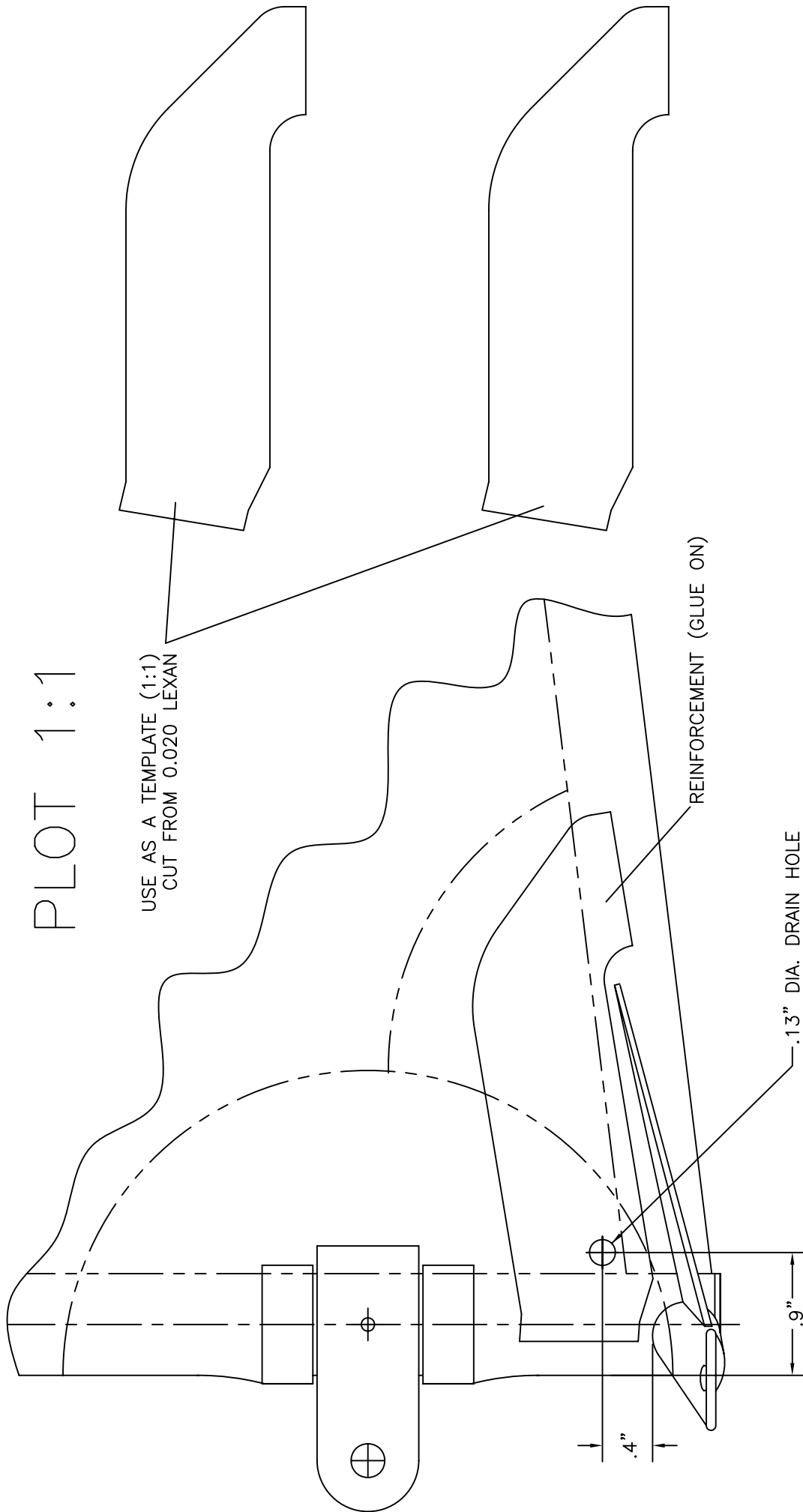
- 1 4.5\" DIA. ROUND PATCH
- 2 DRAIN GROMMET *
- 3 3.5\" DIA. ROUND PATCH
- 4 2\" PINKED TAPE (CENTERED ON TUBE)
- 5 2\" DIA. ROUND PATCH
- 6 SEAPLANE GROMMET* *(SEE NOTE)
- 7 9\" X 4\" PATCH

R3B S-7S COURIER
HORIZONTAL STABILIZER COVERING
FIGURE 07D-18



MD5647

RAFAEL S-7S COURIER
RUDDER / ELEVATOR HINGE REINFORCEMENT MODIFICATION
FIGURE 07E-10



PLOT 1:1

USE AS A TEMPLATE (1:1)
CUT FROM 0.020 LEXAN

REINFORCEMENT (GLUE ON)

.13" DIA. DRAIN HOLE

.4"

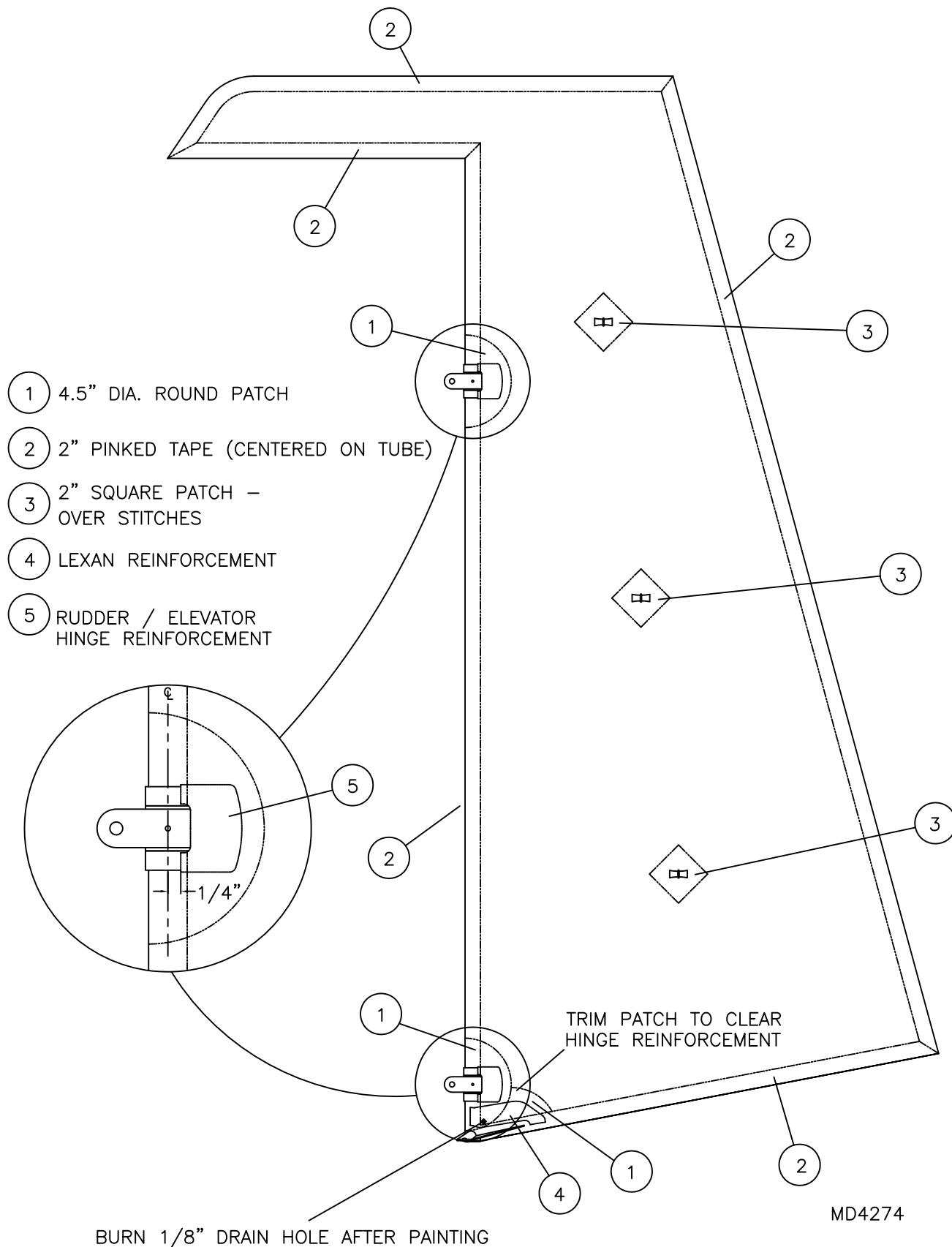
.9"

MD4275

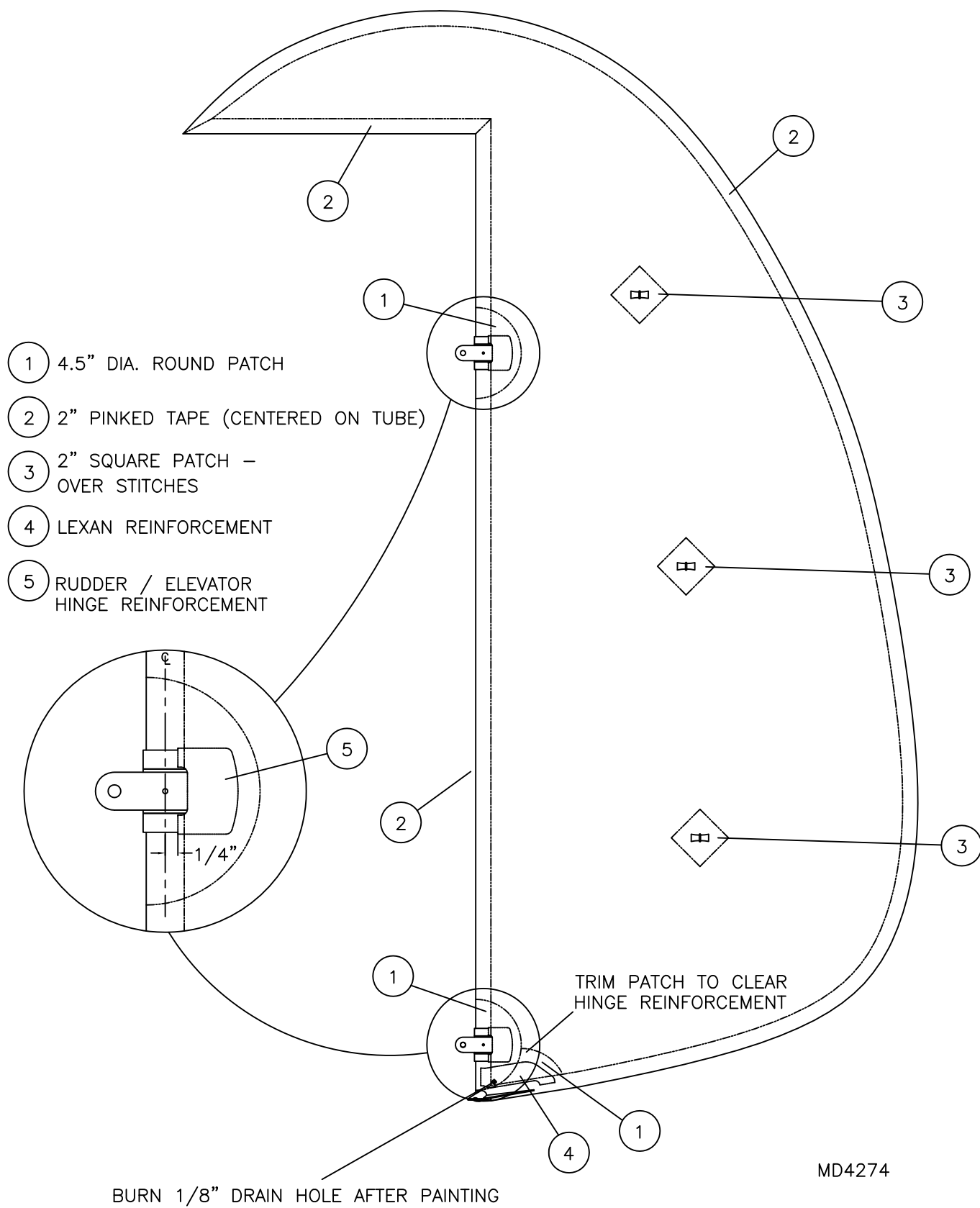
RAMS S-7S

RUDDER - FABRIC REINFORCEMENT

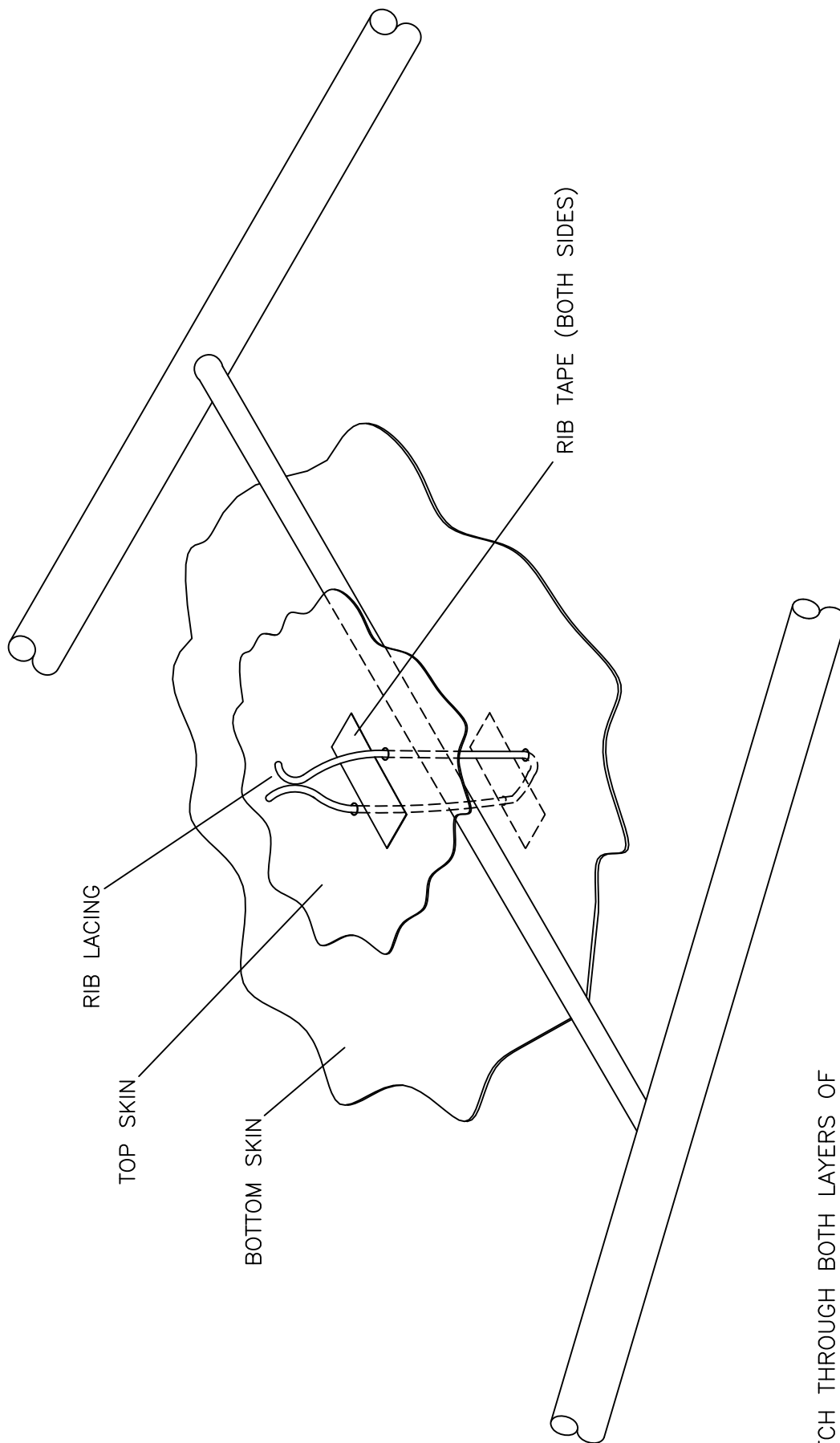
FIGURE 07E-11



RANS S-7S COURIER
RUDDER COVERING - RANS RUDDER
FIGURE 07E-12



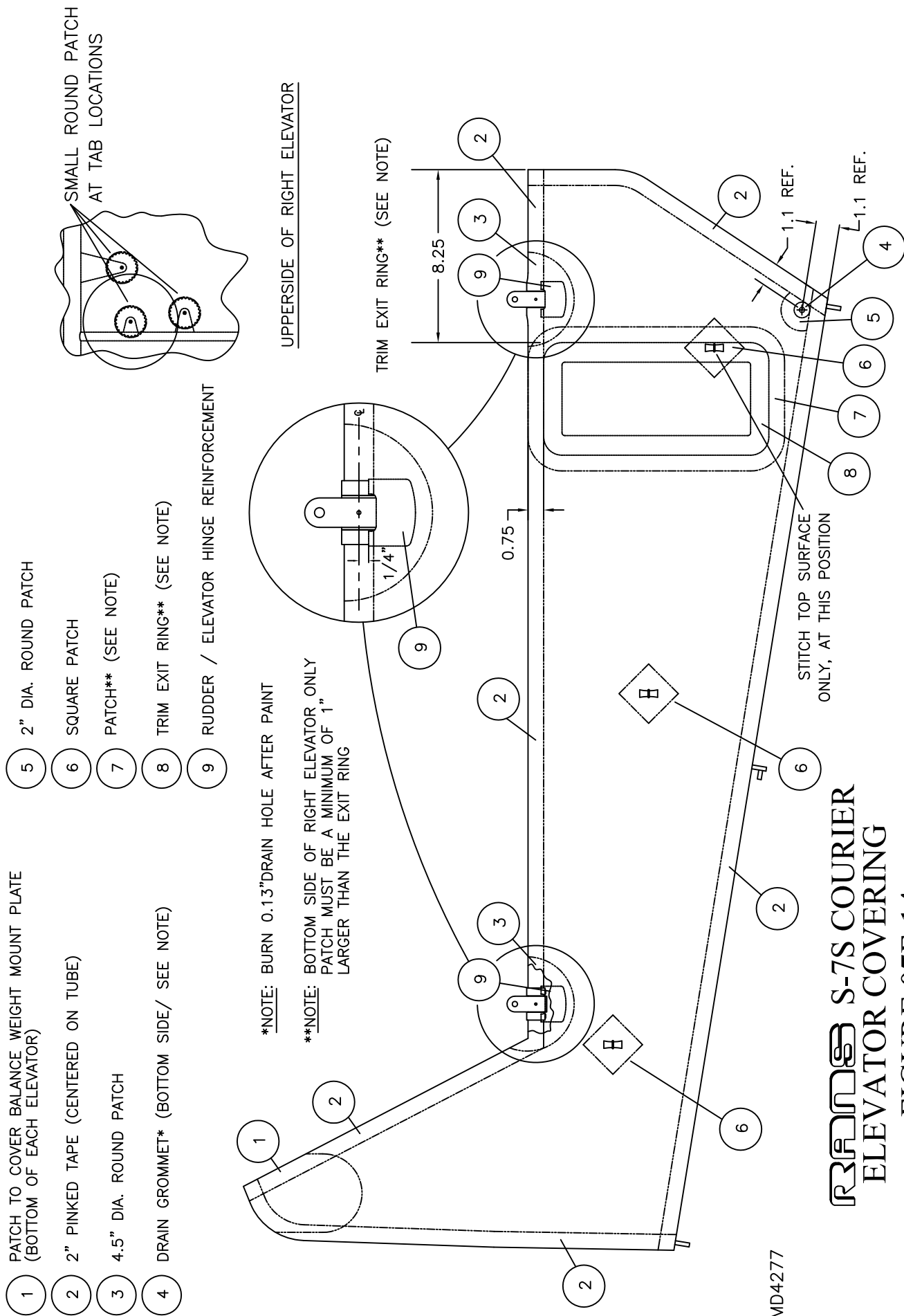
RANS S-7S COURIER
RUDDER COVERING - OPTIONAL CLASSIC RUDDER
FIGURE 07E-12A



STITCH THROUGH BOTH LAYERS OF
FABRIC COMPLETELY AROUND TUBE.
TIE A KNOT AND ROTATE THE KNOT TO
INTERIOR SIDE. PLACE A DIAMOND PATCH
OVER STITCH ON EACH SIDE.

S-7S COURIER
ELEVATOR AND RUDDER STITCHING
FIGURE 07E-12B

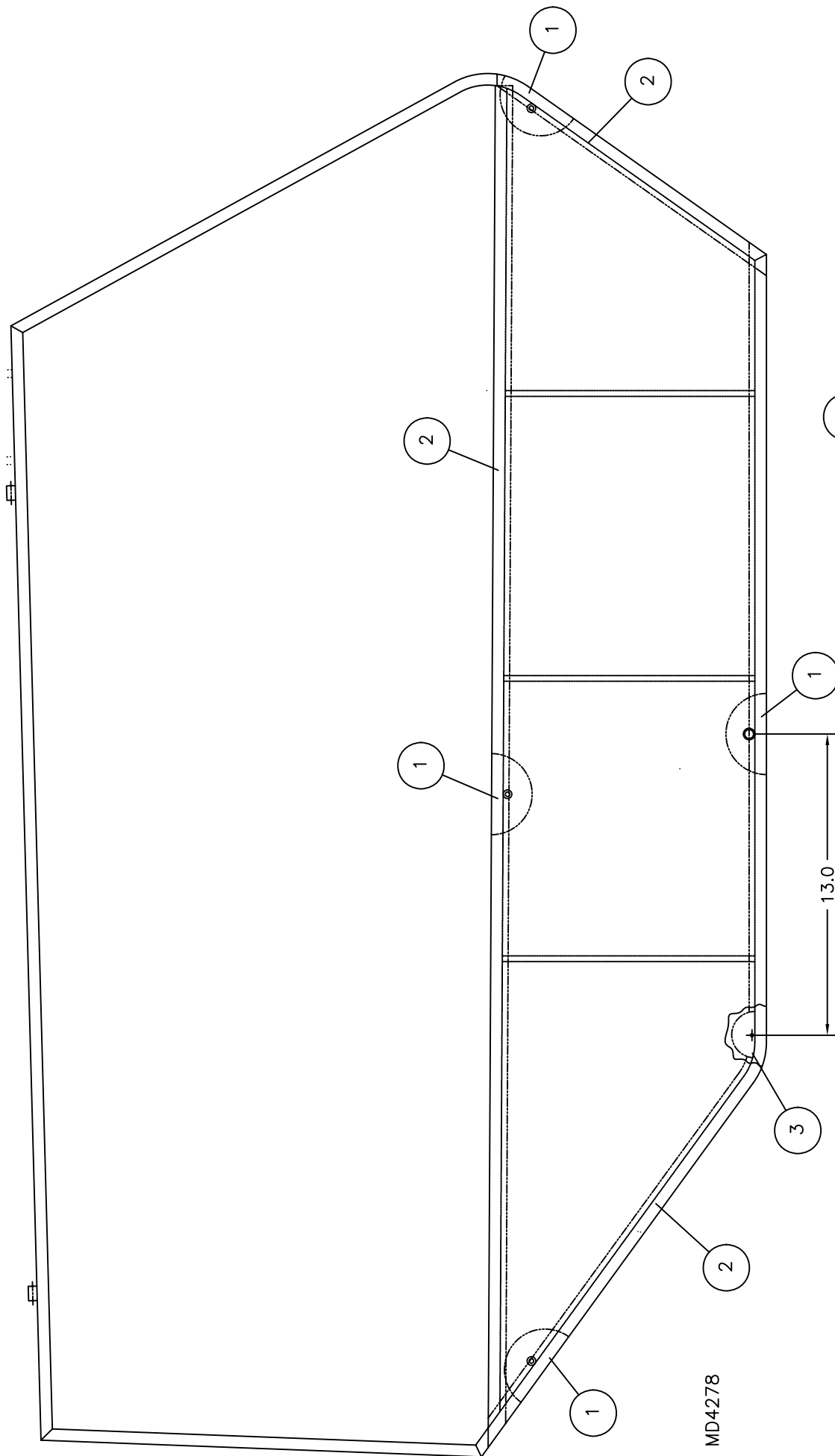
MD4273



MD4277

S-7S COURIER **ELEVATOR COVERING**

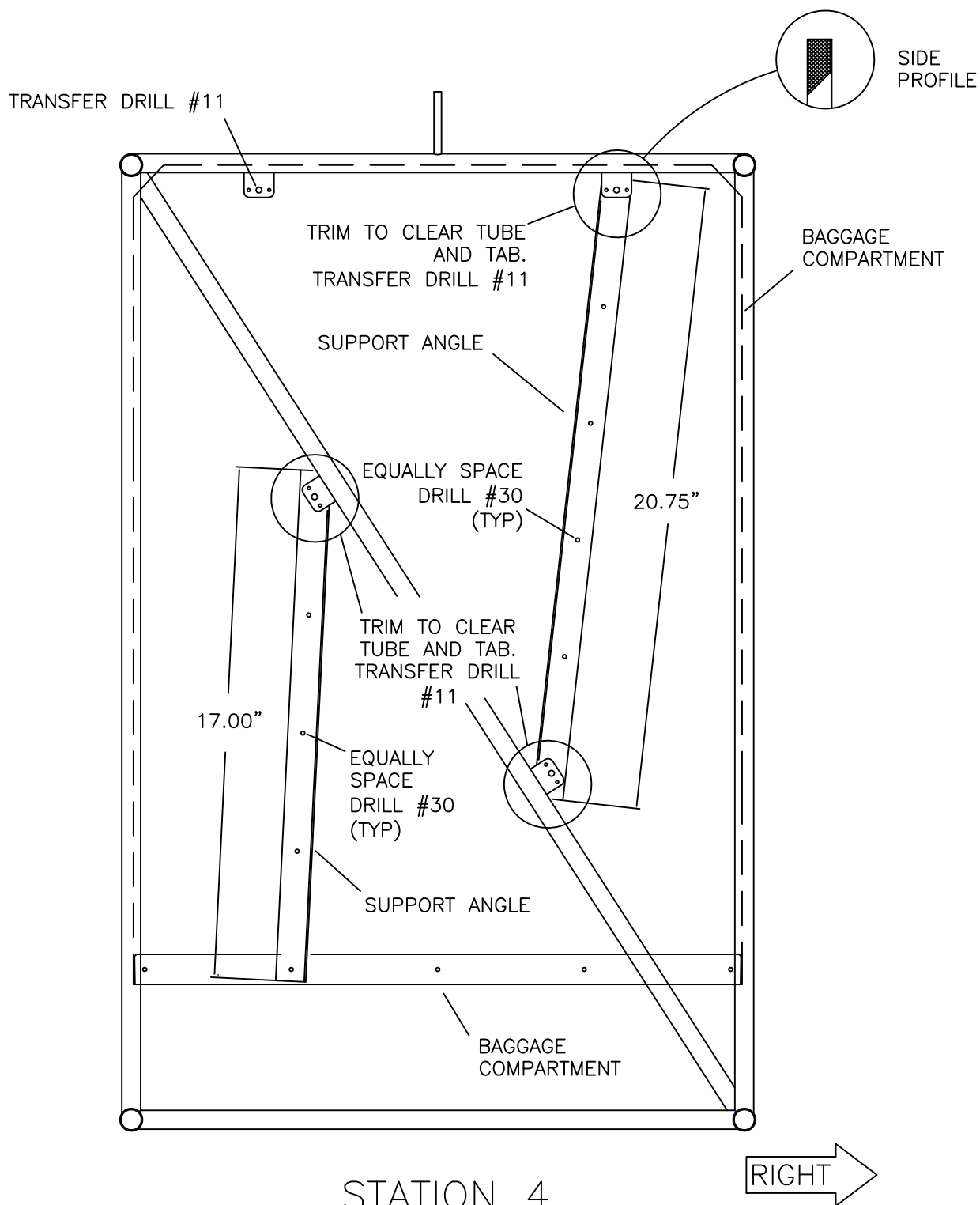
FIGURE 07F-14



- 1 3.5" DIA. ROUND PATCH
- 2 2" PINKED TAPE (CENTERED ON TUBE)
- 3 2" DIA. ROUND PATCH* (SEE NOTE)

RAM S-7S COURIER **DOOR COVERING** **FIGURE 07G-11**

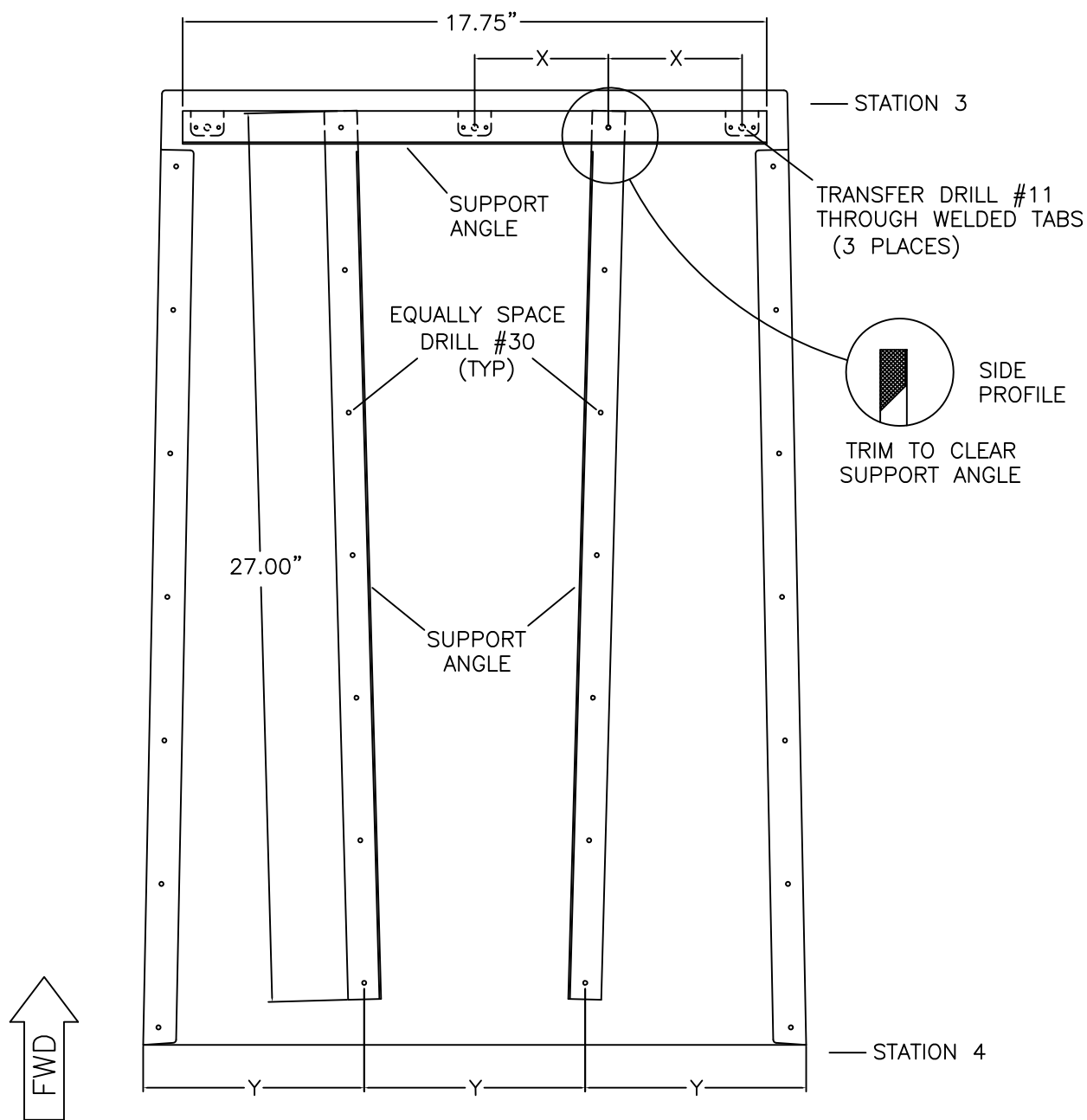
***NOTE:** APPLY PATCH ON INSIDE OF DOOR ONLY
 BURN A .13" HOLE AFTER PAINTING
 FOR DRAINING.



MD5612

RANS S-7S COURIER
BAGGAGE COMPARTMENT - STATION 4
FIGURE 08-08

09/01/2014

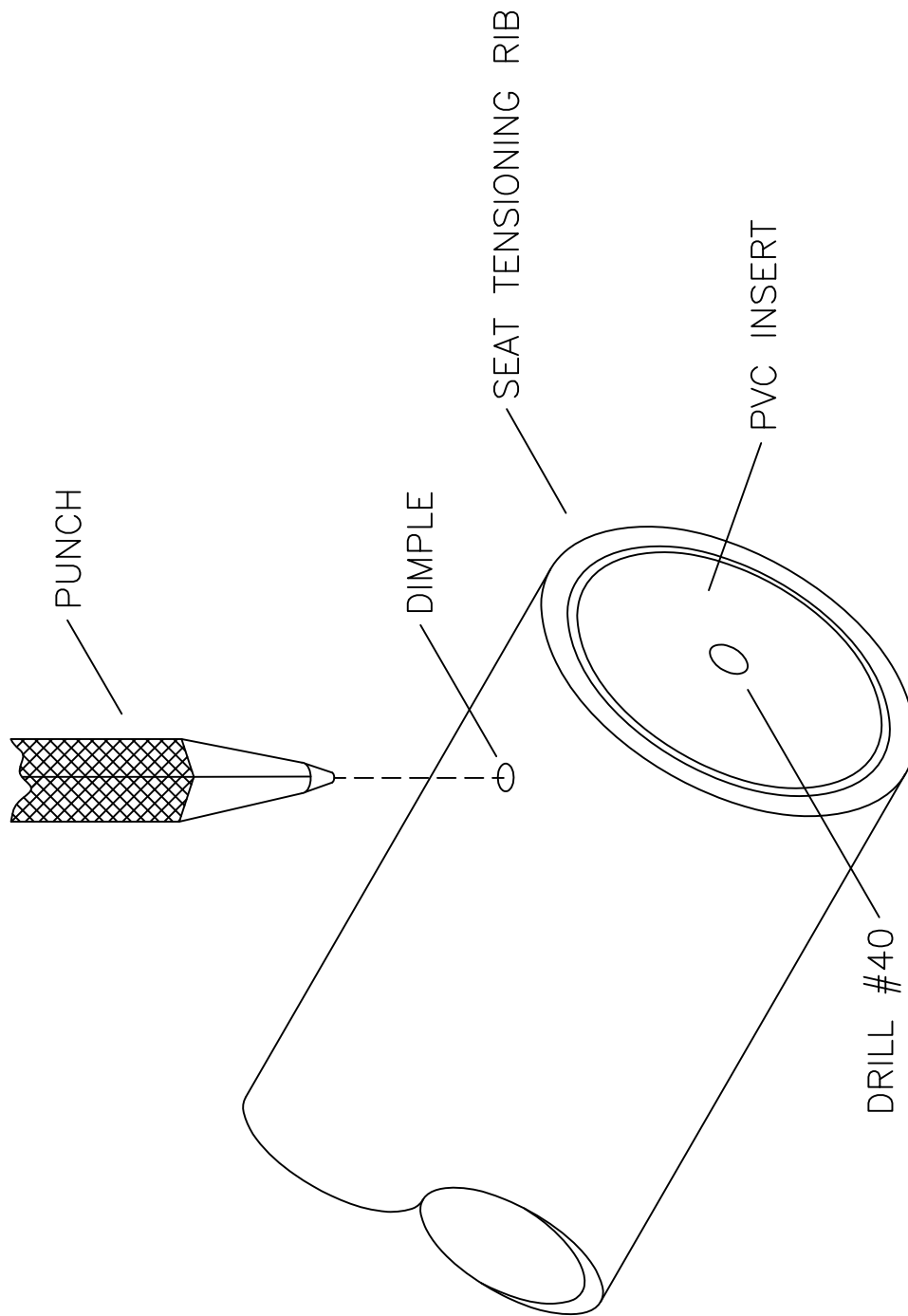


BAGGAGE COMPARTMENT — BOTTOM
(VIEWED FROM BELOW)

MD5612

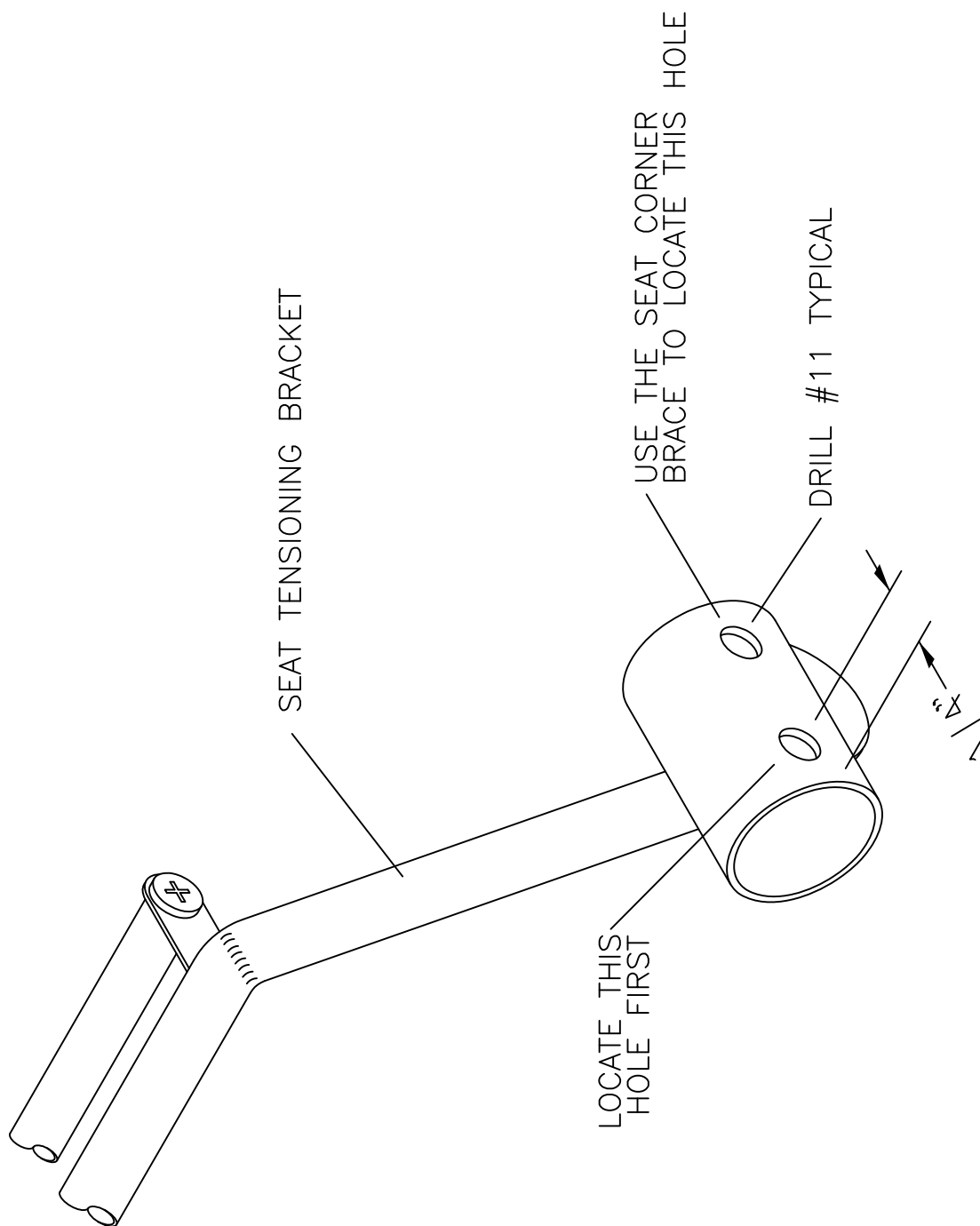
RANS S-7S COURIER
BAGGAGE COMPARTMENT - BOTTOM
FIGURE 08-08A

09/01/2014



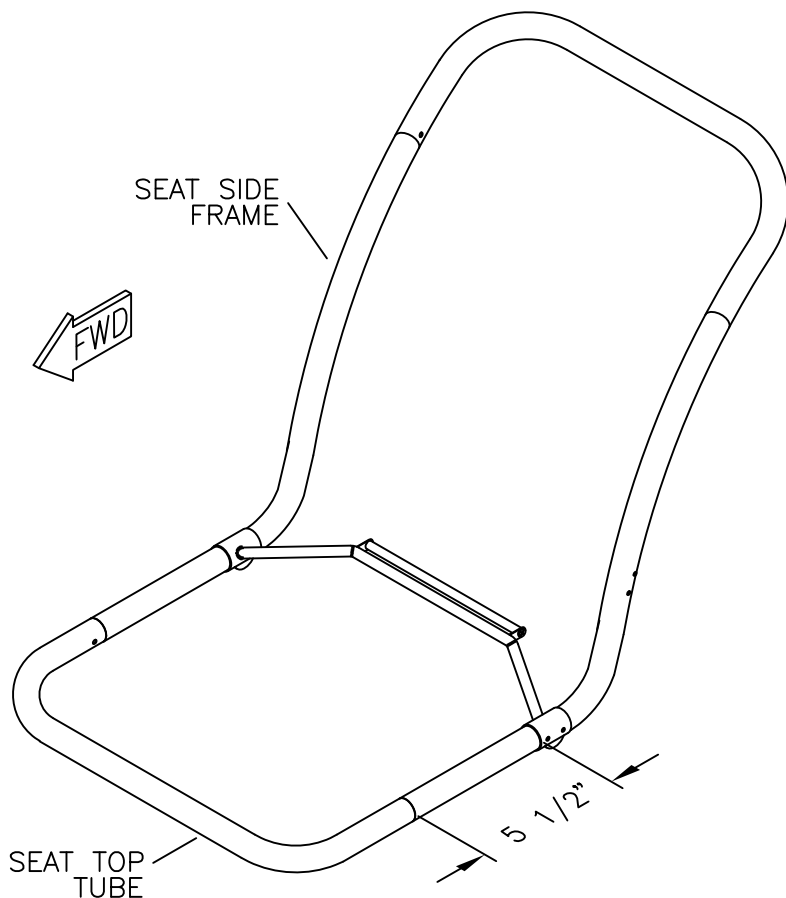
RRR S-7S COURIER
SEAT TENSIONING RIB
FIGURE 08A-02

MD4311

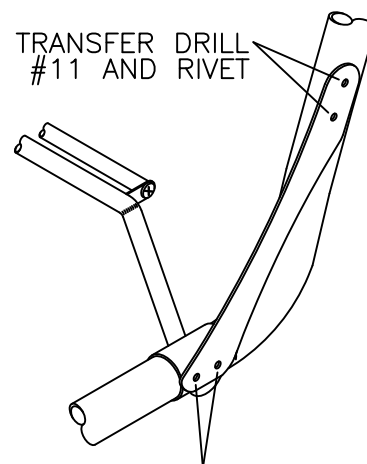


RRM S-7S COURIER
SEAT TENSIONING BRACKET
FIGURE 08A-04

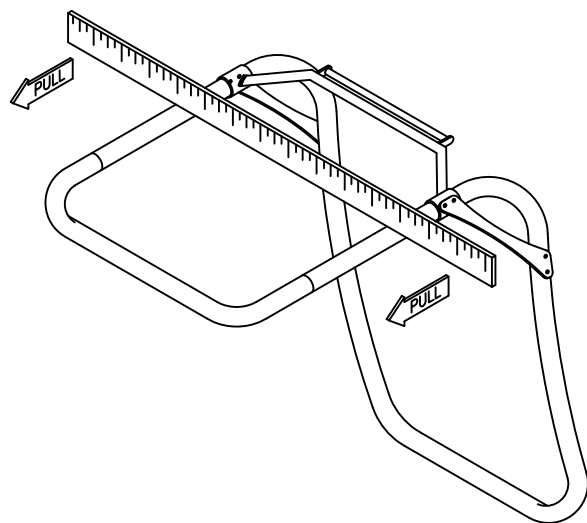
MD4310



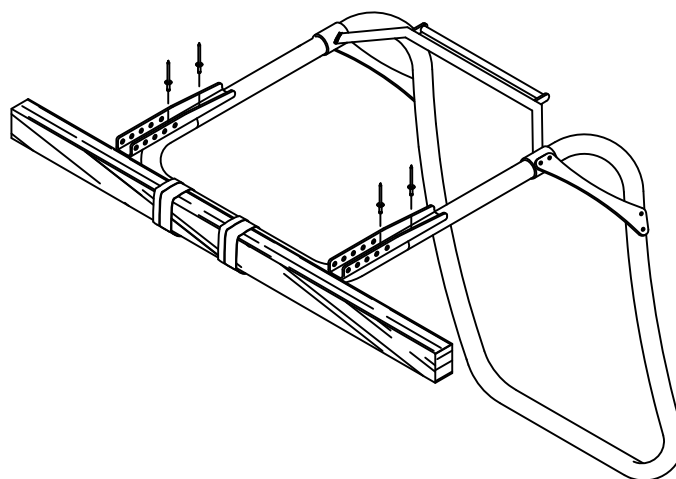
SEAT TENSIONING RIB LOCATION



RIVET IN PLACE AND LOCATE AFT HOLES
ON CENTERLINE OF TUBE



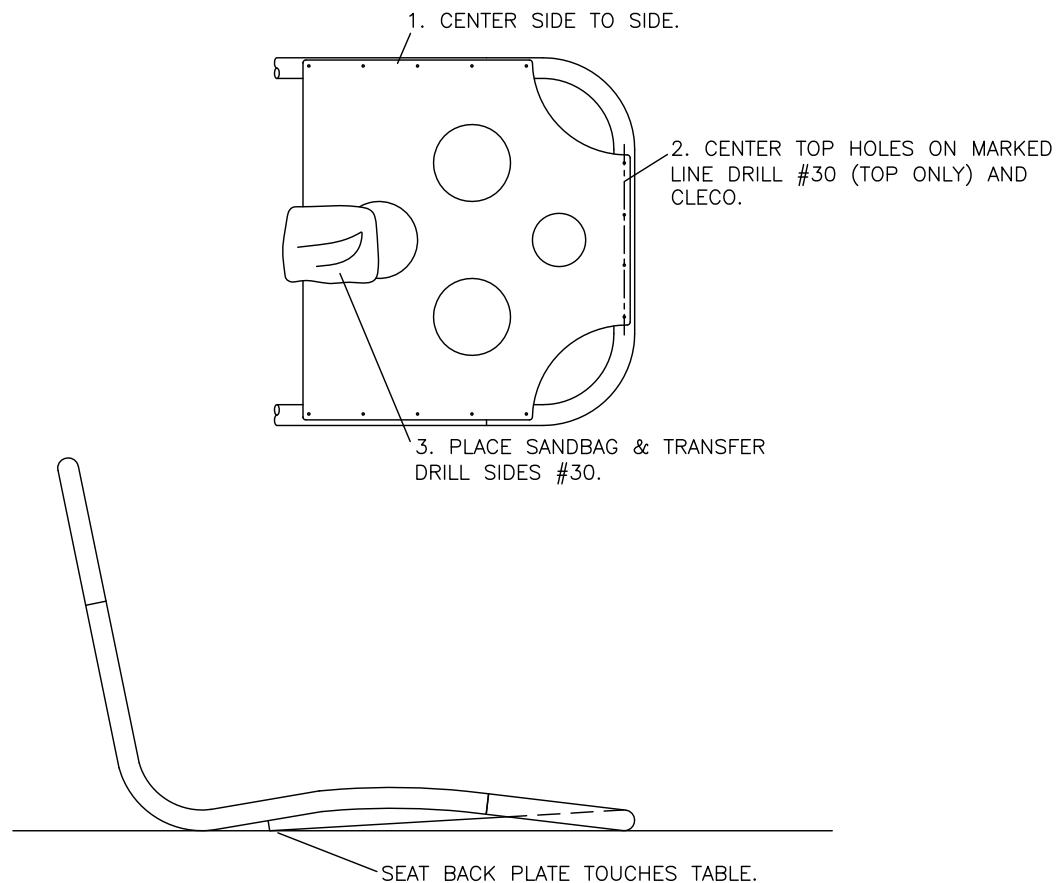
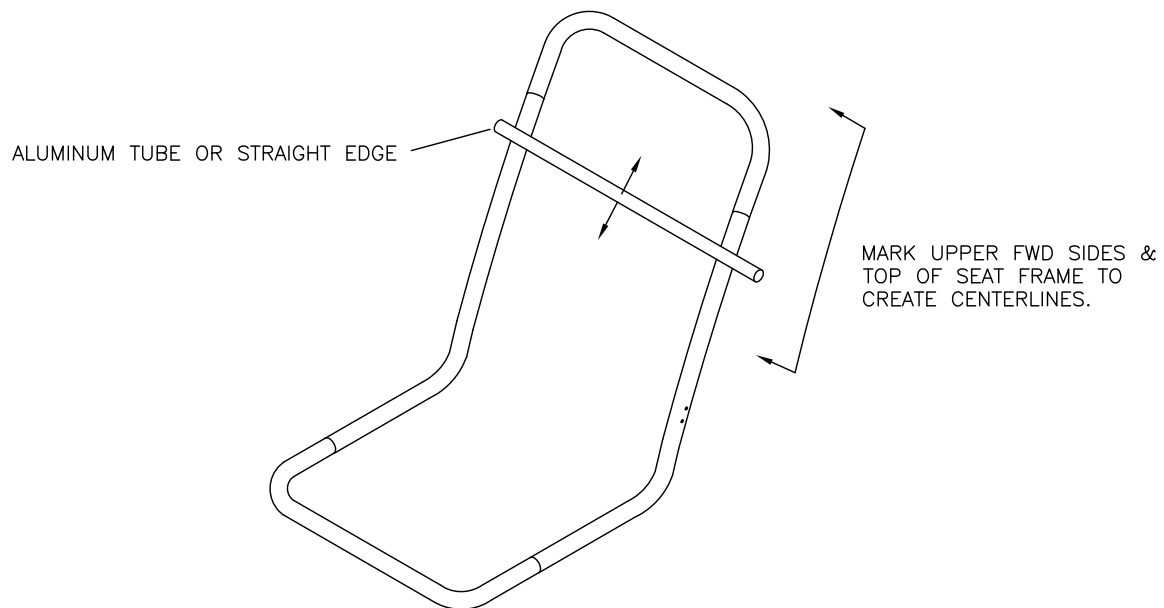
DRAG STRAIGHT EDGE LIGHTLY ALONG
FRAME TO MARK CENTERLINE.



TAPE A STRAIGHT EDGE IN POSITION
TO LOCATE SEAT CHANNELS FLUSH
WITH FRONT OF SEAT TUBE.

MD4298

RANS S-7S COURIER **SEAT FRAME ASSEMBLY** **FIGURE 08A-07**

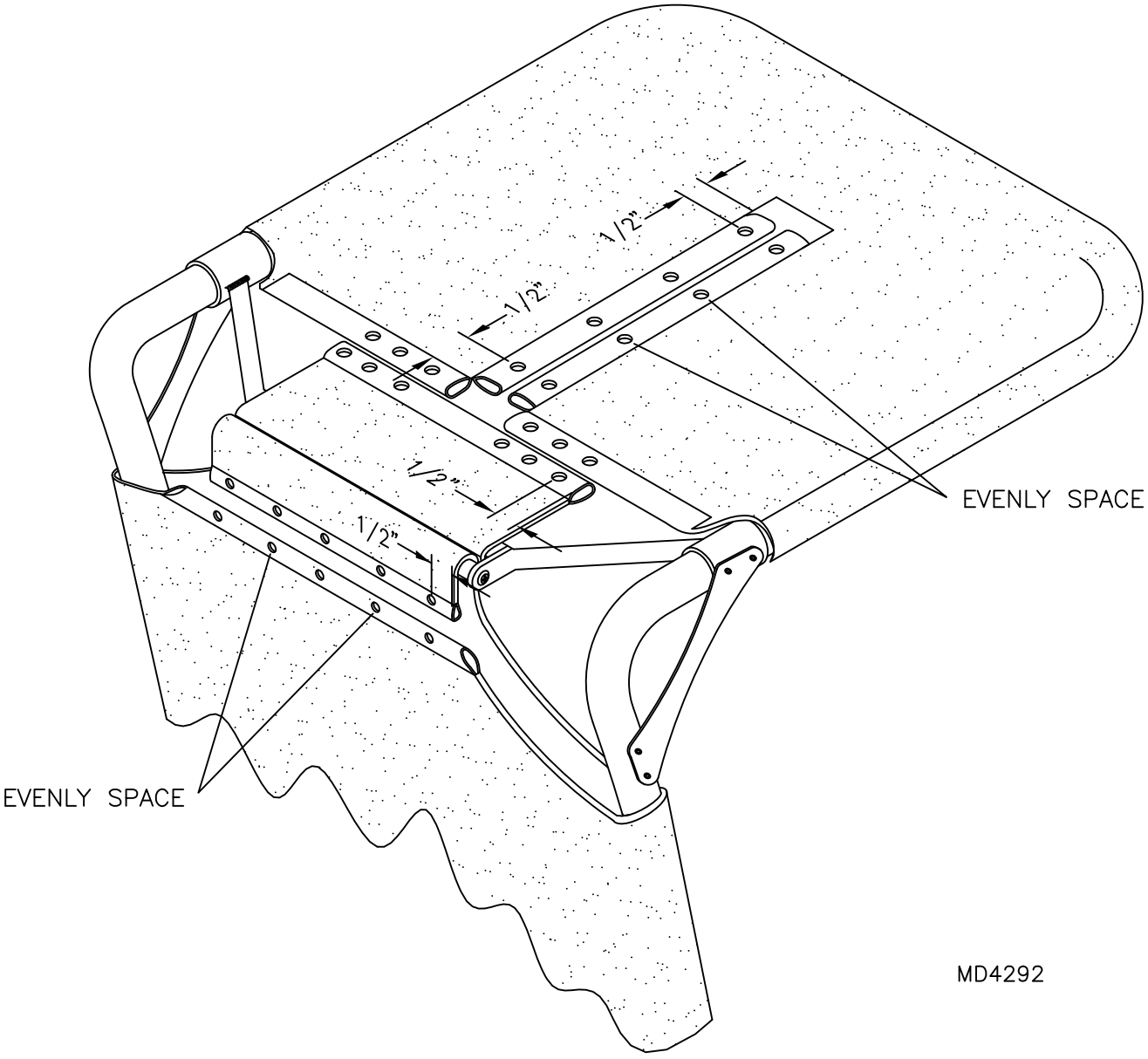
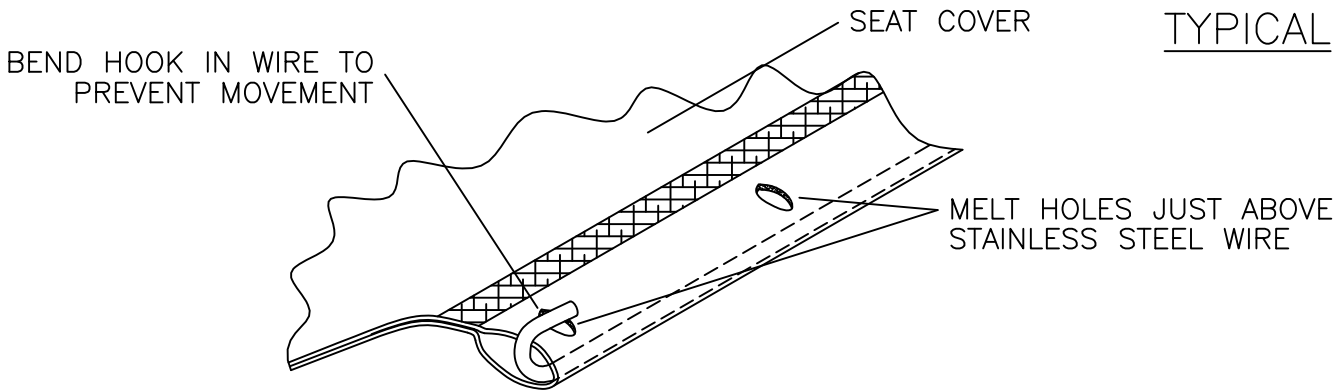


RANS S-7S COURIER
SEAT BACK PLATE INSTALLATION
FIGURE 08A-10

MD5237

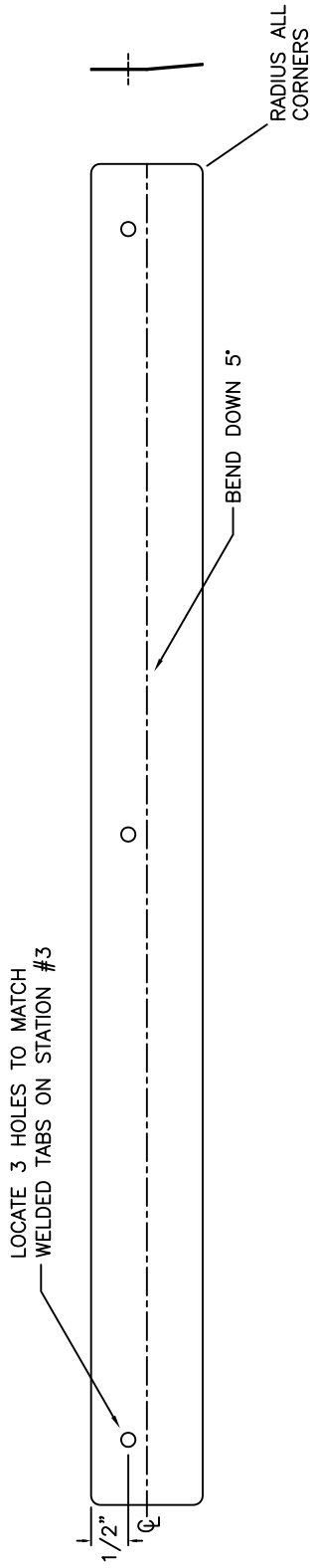
09/15/2008

TYPICAL



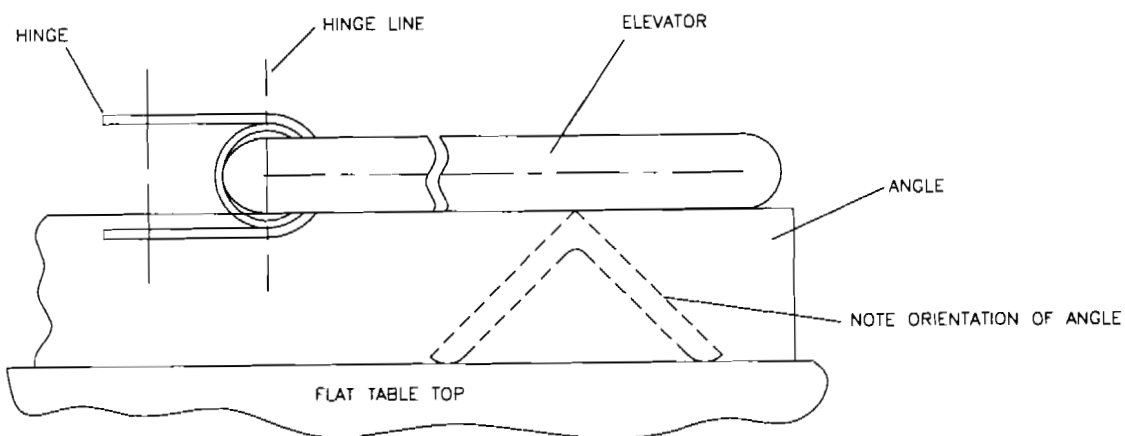
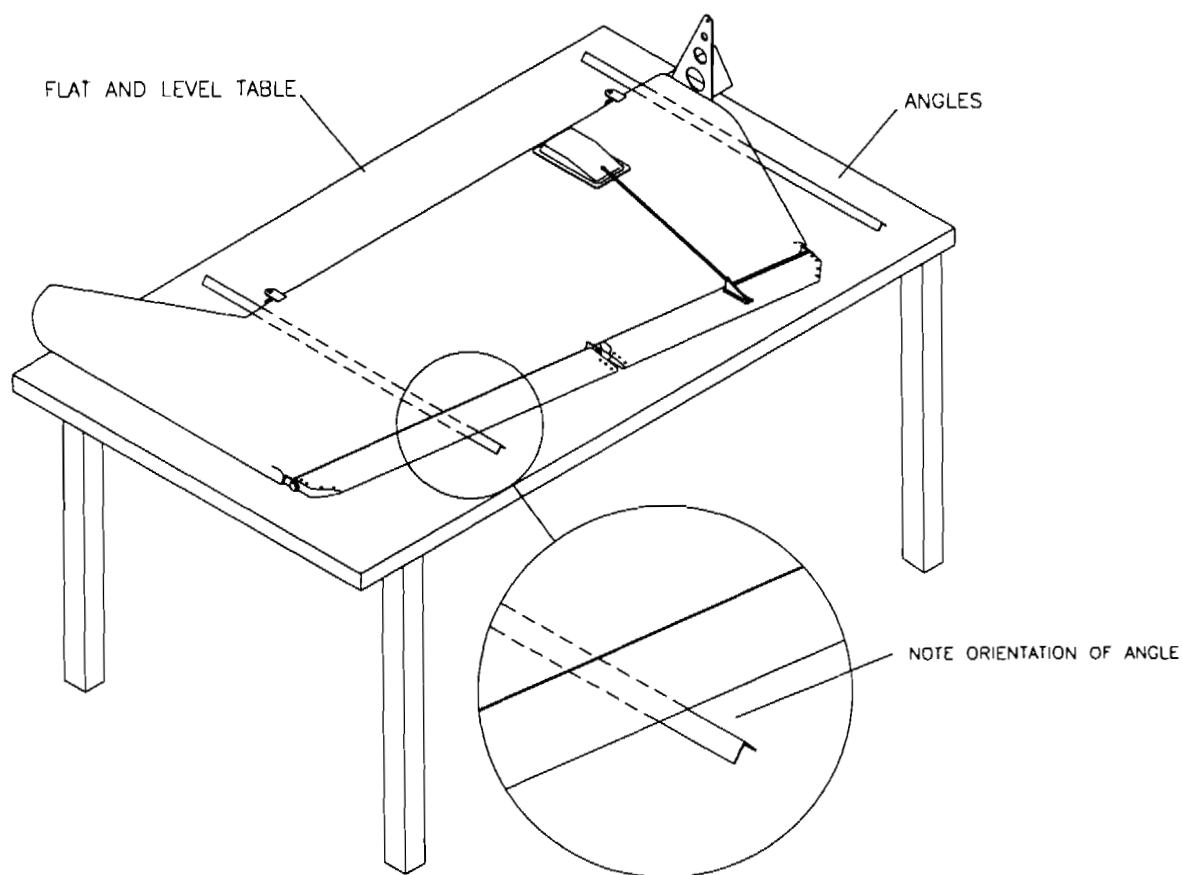
MD4292

RANS S-7S COURIER
SEAT LACING
FIGURE 08A-14



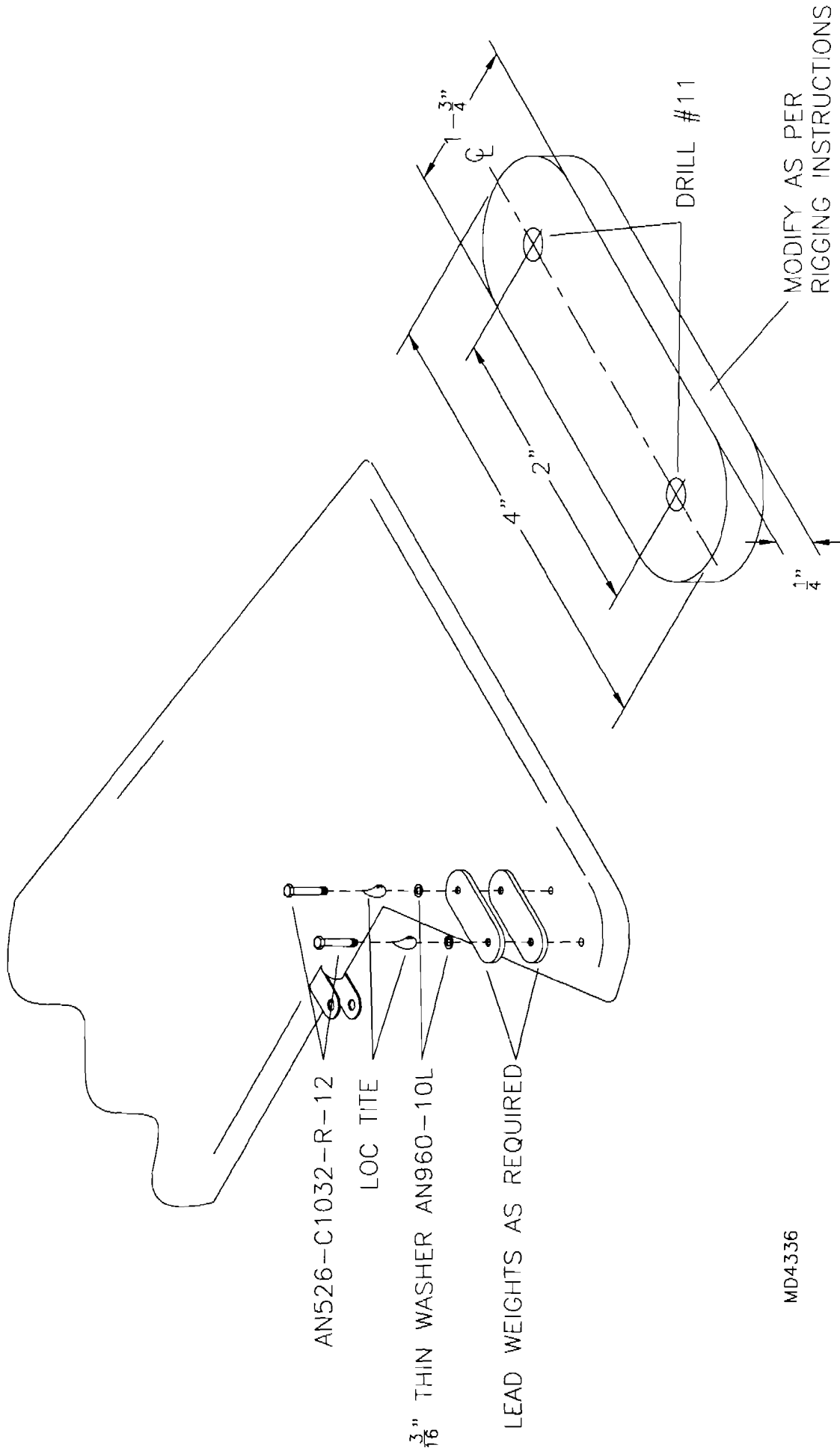
RRR S-7S COURIER
STATION 3 CLOSE OUT
HOLD DOWN STRIP MODIFICATION
FIGURE 08D-01

MD4315



MD4328

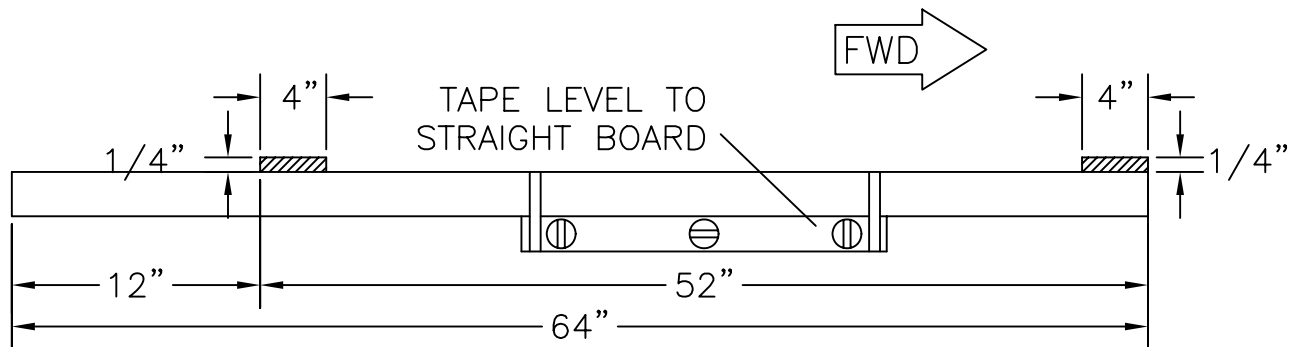
RANS S-7S
ELEVATOR MASS BALANCE
FIGURE 09-03



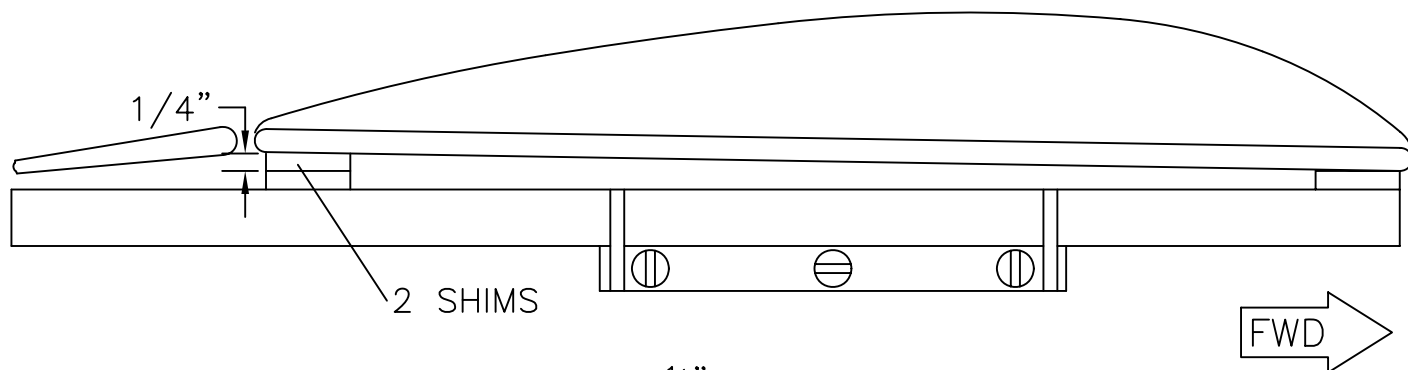
MD4336

RAM S-7S
ELEVATOR MASS BALANCE
WEIGHT AND ATTACH FIGURE 09-04

NOTE: RH ELEVATOR REQUIRES
 MORE WEIGHT THAN LH ELEVATOR



FIRST, FABRICATE RIGGING LEVEL AS SHOWN
AND USE TO LEVEL WING ROOT.

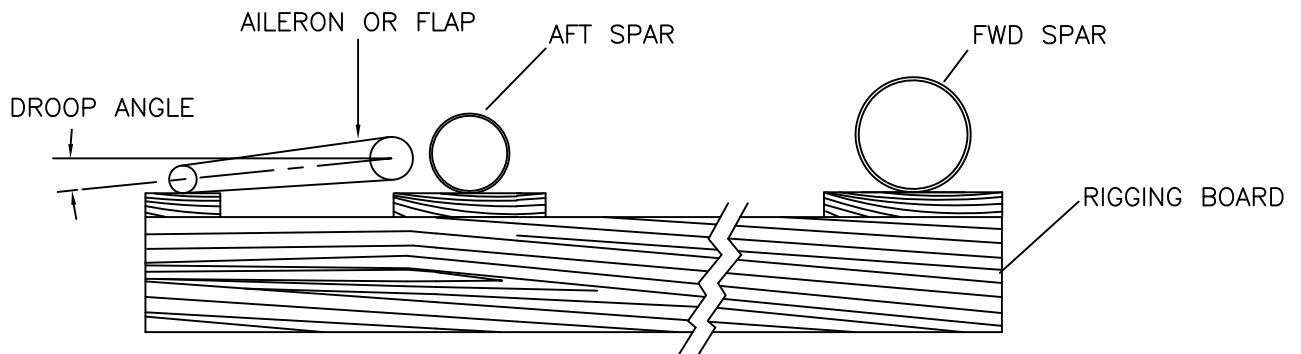


PLACE ADDITIONAL $\frac{1}{4}$ " SHIM AS SHOWN.
WITH LEVEL JUST OUTBOARD OF STRUT ATTACH POINTS,
ADJUST REAR STRUT FOR LEVEL READING.

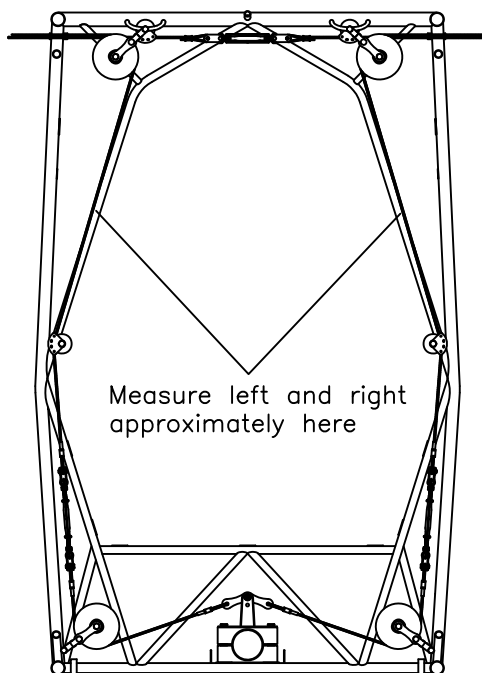
MD4426

RANS S-7S
WING WASH OUT RIGGING LEVEL
FIGURE 09A-01

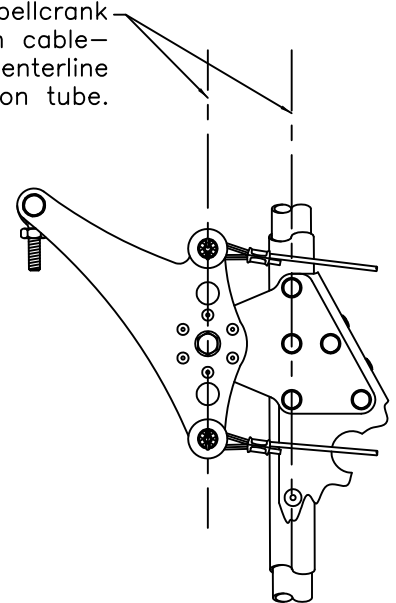
06/15/2011



CENTER FORWARD CONTROL STICK (AILERON NEUTRAL) AND FIX IN THIS POSITION.
 ADJUST AILERON CABLE LENGTH AND CABLE TENSION AND CHECK THAT BOTH AILERON
 BELL CRANKS ARE IN NEUTRAL POSITION (VISUAL INSPECTION) WITH STICK CENTERED.
 ADJUST CABLE TENSION TO 20-25 LBS. (2 PLS)



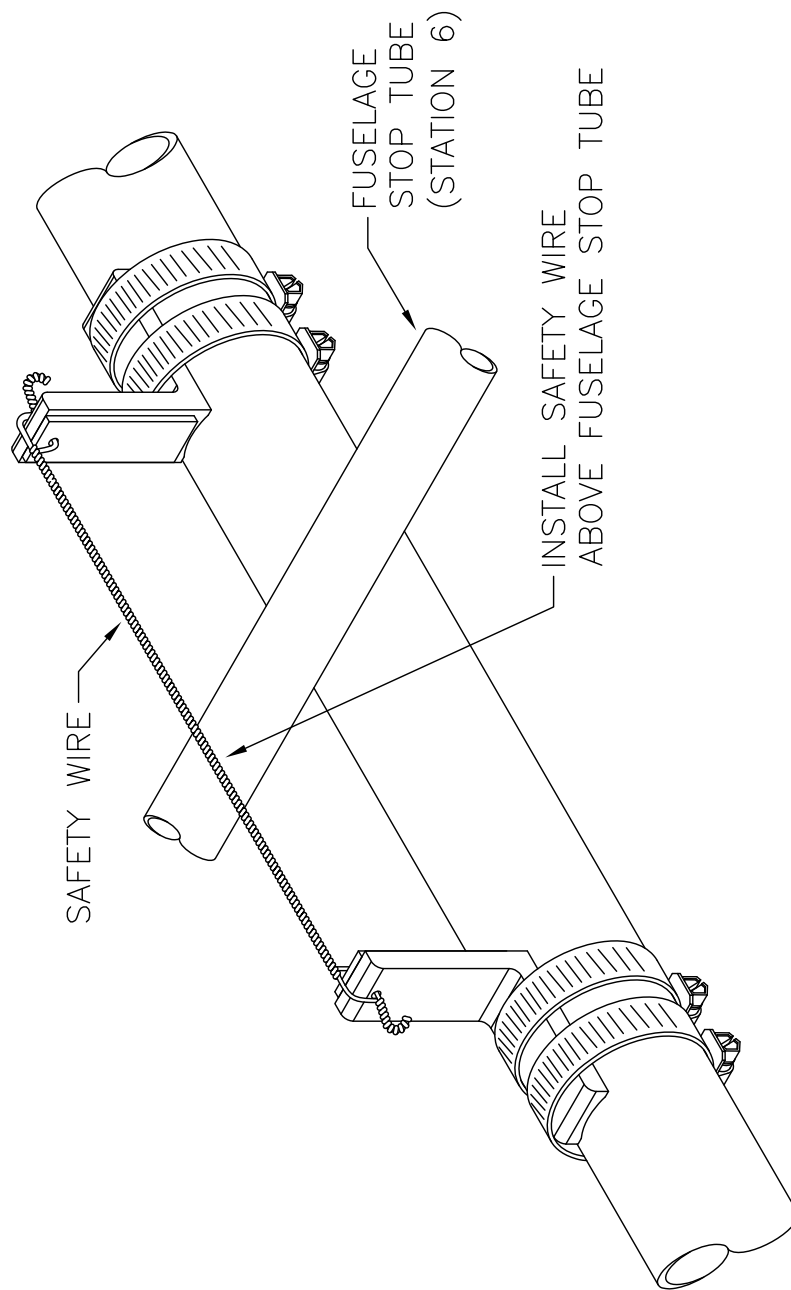
In neutral position of bellcrank
 the centerline through both cable-
 attach bolts is parallel to centerline
 of compression tube.



MD4427

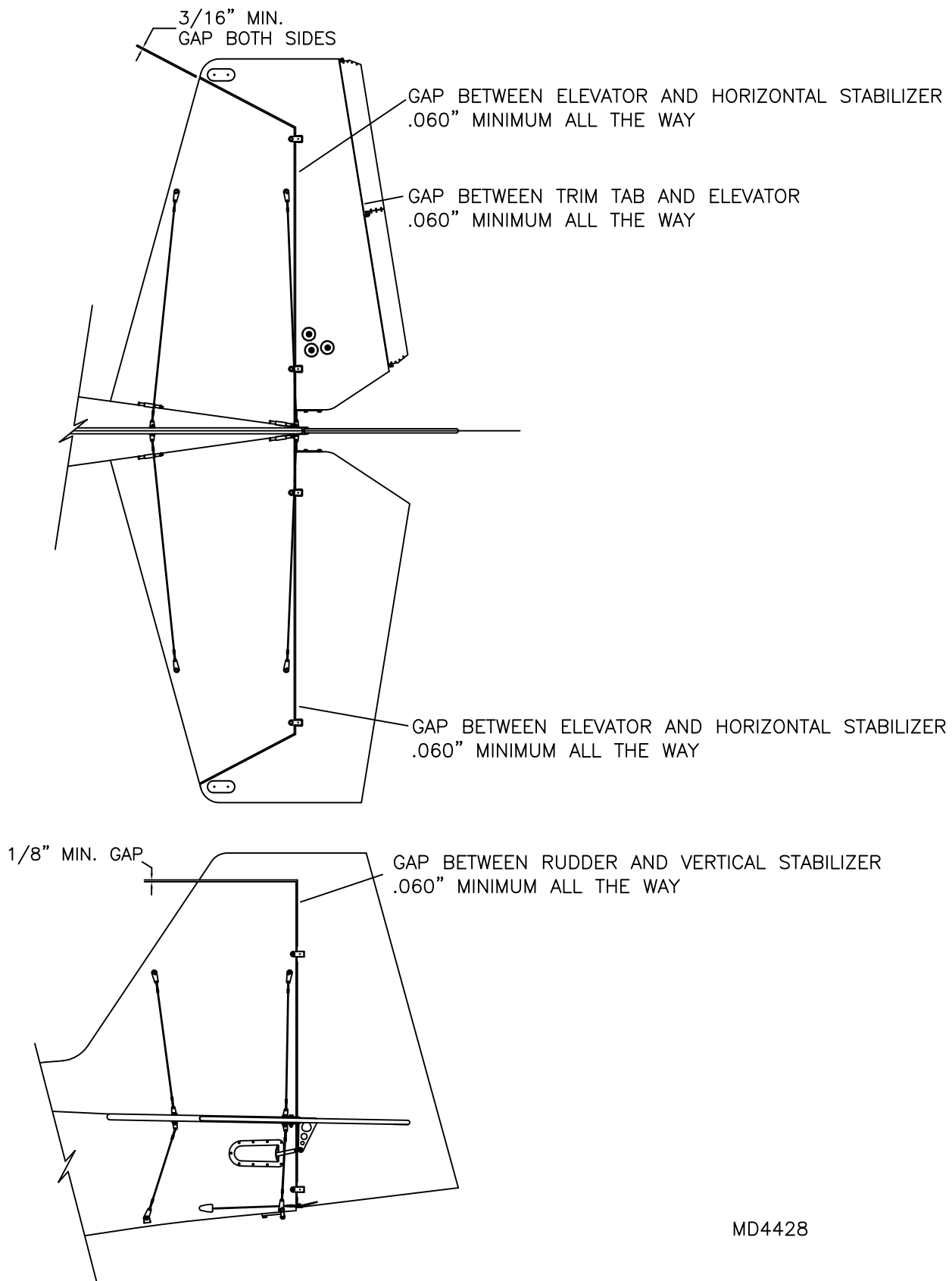
RANS S-7S **AILERON RIGGING** **FIGURE 09A-09**

06/09/2015



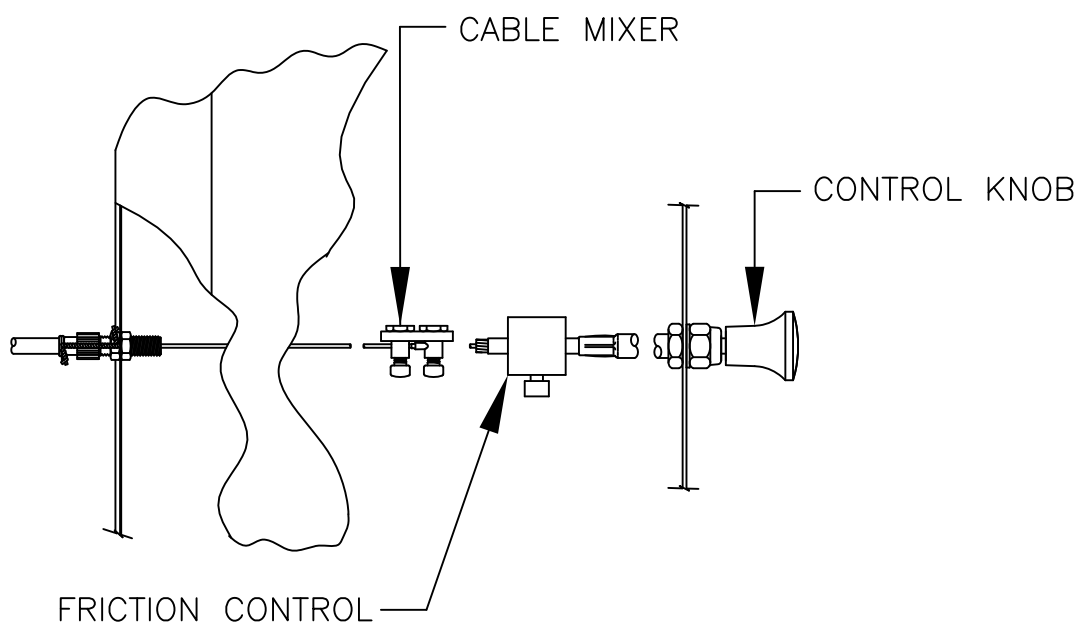
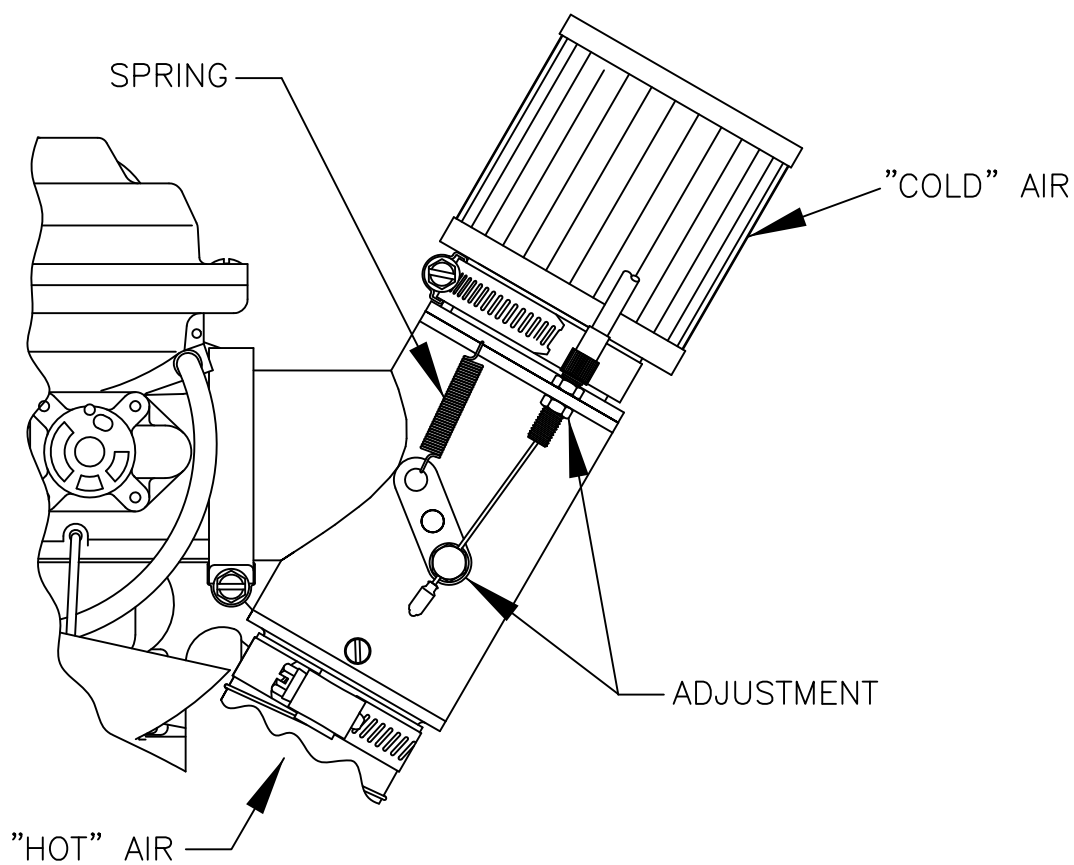
MD5622
REV. - ORIG

RAMS S-7S COURIER
ELEVATOR PITCH STOP INSTALLATION
FIGURE 09B-08



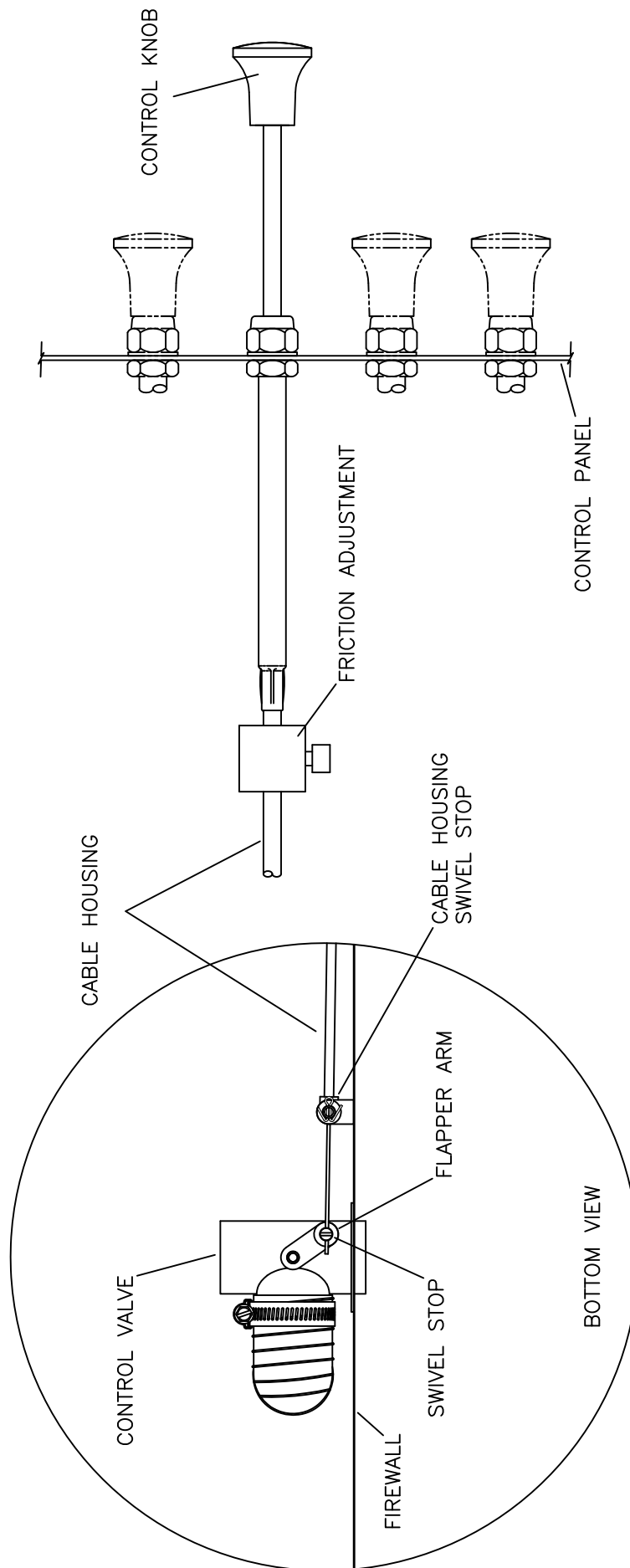
MD4428

RANS S-7S COURIER
CONTROL SURFACE RIGGING
CLEARANCES - TAIL
FIGURE 09B-09



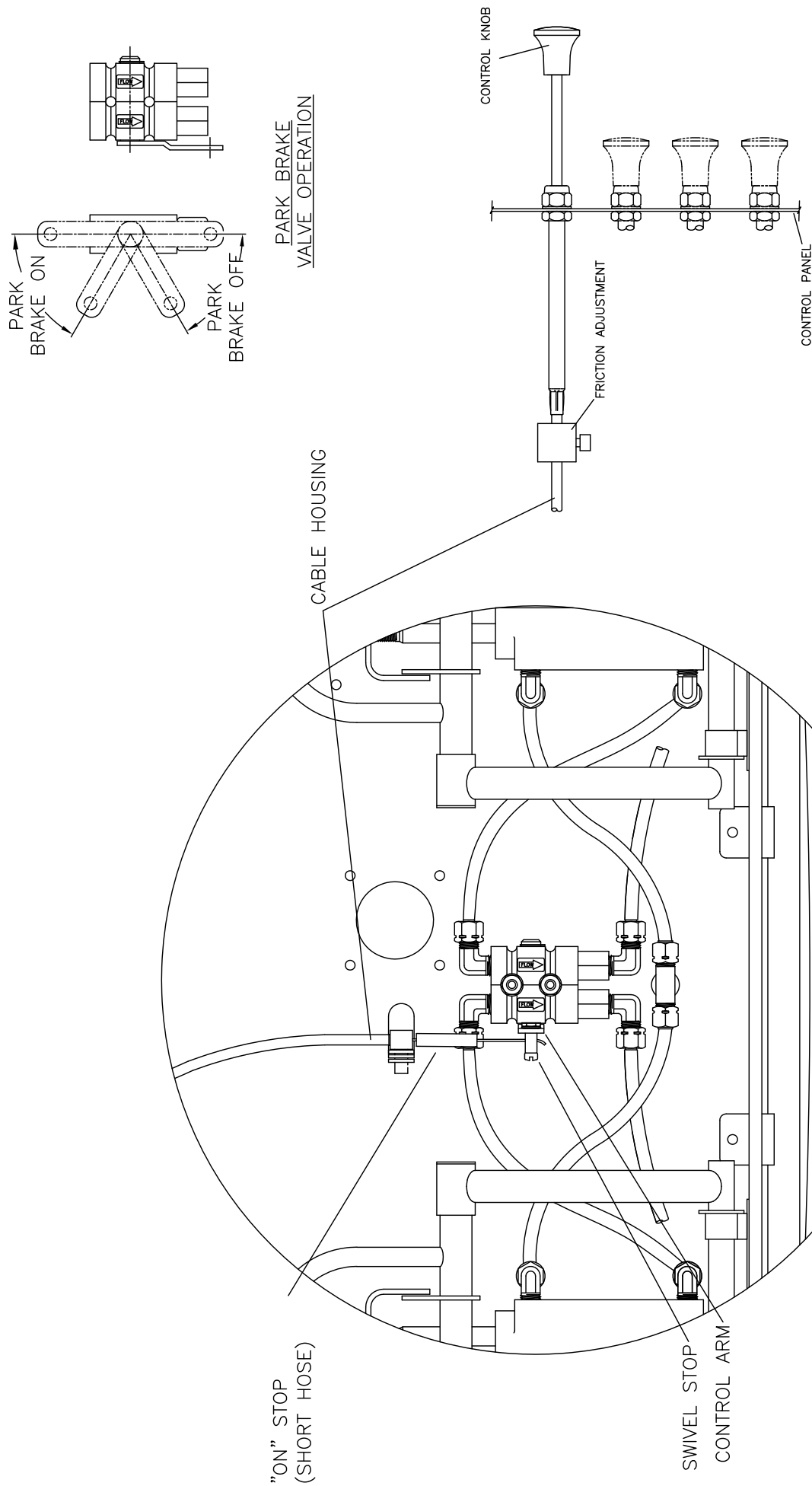
MD4429

RANS
CARBURETOR HEAT RIGGING
FIGURE 09C-07



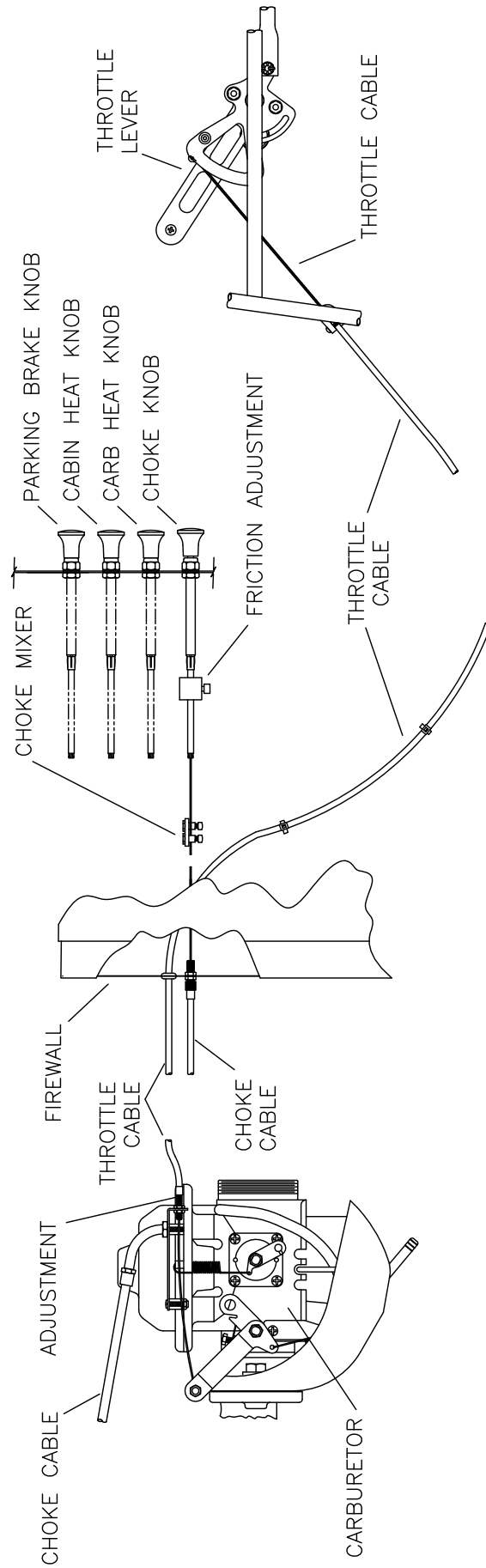
RAMMS S-7S
CABIN HEAT RIGGING
FIGURE 09D-02

MD4433



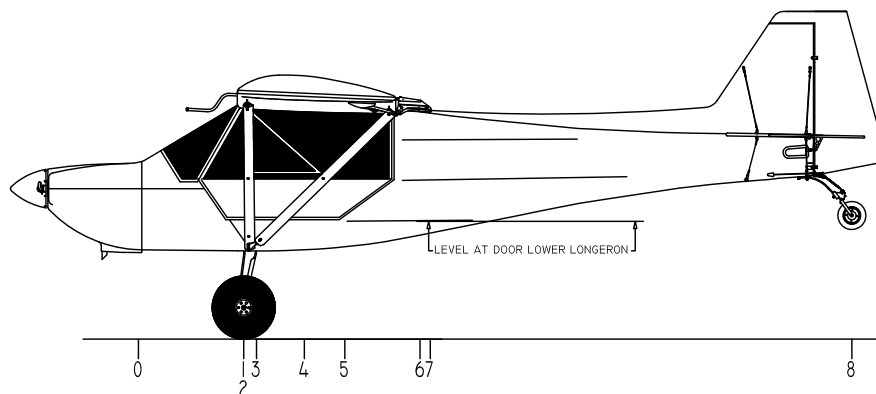
RAM S-7S
PARK BRAKE RIGGING
FIGURE 09D-04

MD4434



RRR S-7S
THROTTLE AND CHOKE RIGGING
FIGURE 09D-06

MD4435



N _____	
DATE WEIGHED	
ENGINE TYPE	ROTAX 912UL
C.G. CONDITION	
EMPTY WEIGHT	LBS.
GROSS WT.	1320 LBS.

RANS S-7S COURIER WEIGHT AND BALANCE

ACCEPTABLE C.G. 46.1" TO 50.5" FROM DATUM 0.
DATUM = FRONT OF FIREWALL; AIRCRAFT IN
LEVEL ATTITUDE. (LEVEL REFERENCE TO
DOOR LOWER LONGERON)

#	ITEM	WEIGHT	ARM	MOMENT
1	MAIN - RH	342	33.4	11,422.8
2	MAIN - LH	348	33.4	11,623.2
3	PILOT	180	37.4	6732
4	FUEL - WINGS	156	52.6	8,205.6
5	PASSENGER	150	65.4	9810
6	FUEL - HEADER TANK	16.5	88	1452
7	BAGGAGE *	0	96	0
8	TAILWHEEL	60	228	13,680
TOTAL =		1252.5	TOTAL =	62925.6

MAX. 26 GALLON

MAX. 2.75 GALLON

MAX. 50 POUNDS

$$\frac{\text{TOTAL MOMENTS}}{\text{TOTAL WEIGHT}} = \text{C.G.}$$

$$\frac{62925.6}{1252.5} = 50.24"$$

#	ITEM	WEIGHT	ARM	MOMENT
1	MAIN - RH		33.4	
2	MAIN - LH		33.4	
3	PILOT		37.4	
4	FUEL - WINGS		52.6	
5	PASSENGER		65.4	
6	FUEL - HEADER TANK		88	
7	BAGGAGE		96	
8	TAILWHEEL		228	
TOTAL =			TOTAL =	

MAX. 26 GALLON

MAX. 2.75 GALLON

MAX. 50 POUNDS

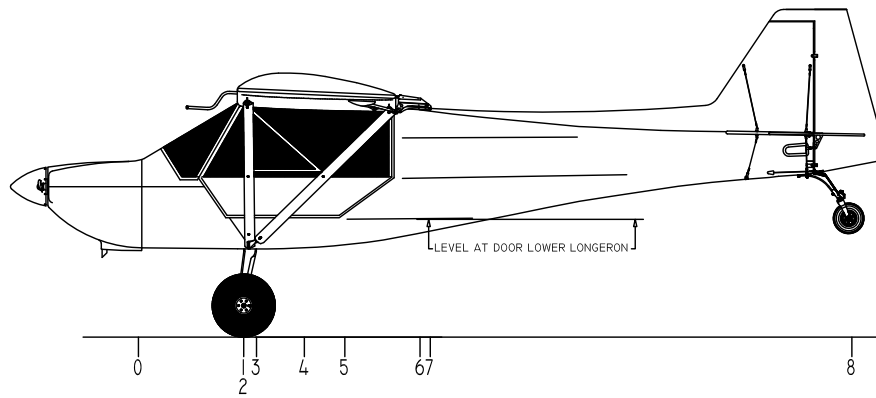
$$\frac{\text{TOTAL MOMENTS}}{\text{TOTAL WEIGHT}} = \text{C.G.}$$

$$\text{_____} = \text{_____}$$

RANS S-7S COURIER WEIGHT & BALANCE RANS 8" BUSH TAILWHEEL FIGURE 10-01

MD5550

01/26/2017



N _____	
DATE WEIGHED	
ENGINE TYPE	ROTAX 912UL
C.G. CONDITION	
EMPTY WEIGHT	LBS.
GROSS WT.	1320 LBS.

RANS S-7S COURIER WEIGHT AND BALANCE

ACCEPTABLE C.G. 46.1" TO 50.5" FROM DATUM 0.
DATUM = FRONT OF FIREWALL; AIRCRAFT IN
LEVEL ATTITUDE. (LEVEL REFERENCE TO
DOOR LOWER LONGERON)

#	ITEM	WEIGHT	ARM	MOMENT
1	MAIN - RH	342	33.4	11,422.8
2	MAIN - LH	348	33.4	11,623.2
3	PILOT	180	37.4	6732
4	FUEL - WINGS	156	52.6	8,205.6
5	PASSENGER	150	65.4	9810
6	FUEL - HEADER TANK	16.5	88	1452
7	BAGGAGE *	0	96	0
8	TAILWHEEL	60	228.4	13704
TOTAL =		1252.5	TOTAL =	62949.6

MAX. 26 GALLON

MAX. 2.75 GALLON

MAX. 50 POUNDS

$$\frac{\text{TOTAL MOMENTS}}{\text{TOTAL WEIGHT}} = \text{C.G.}$$

$$\frac{62949.6}{1252.5} = 50.26$$

#	ITEM	WEIGHT	ARM	MOMENT
1	MAIN - RH		33.4	
2	MAIN - LH		33.4	
3	PILOT		37.4	
4	FUEL - WINGS		52.6	
5	PASSENGER		65.4	
6	FUEL - HEADER TANK		90	
7	BAGGAGE		96	
8	TAILWHEEL		228.4	
TOTAL =			TOTAL =	

MAX. 26 GALLON

MAX. 2.75 GALLON

MAX. 50 POUNDS

$$\frac{\text{TOTAL MOMENTS}}{\text{TOTAL WEIGHT}} = \text{C.G.}$$

$$\text{_____} = \text{_____}$$

RANS S-7S COURIER WEIGHT & BALANCE OPTIONAL 10" TAILWHEEL FIGURE 10-01A

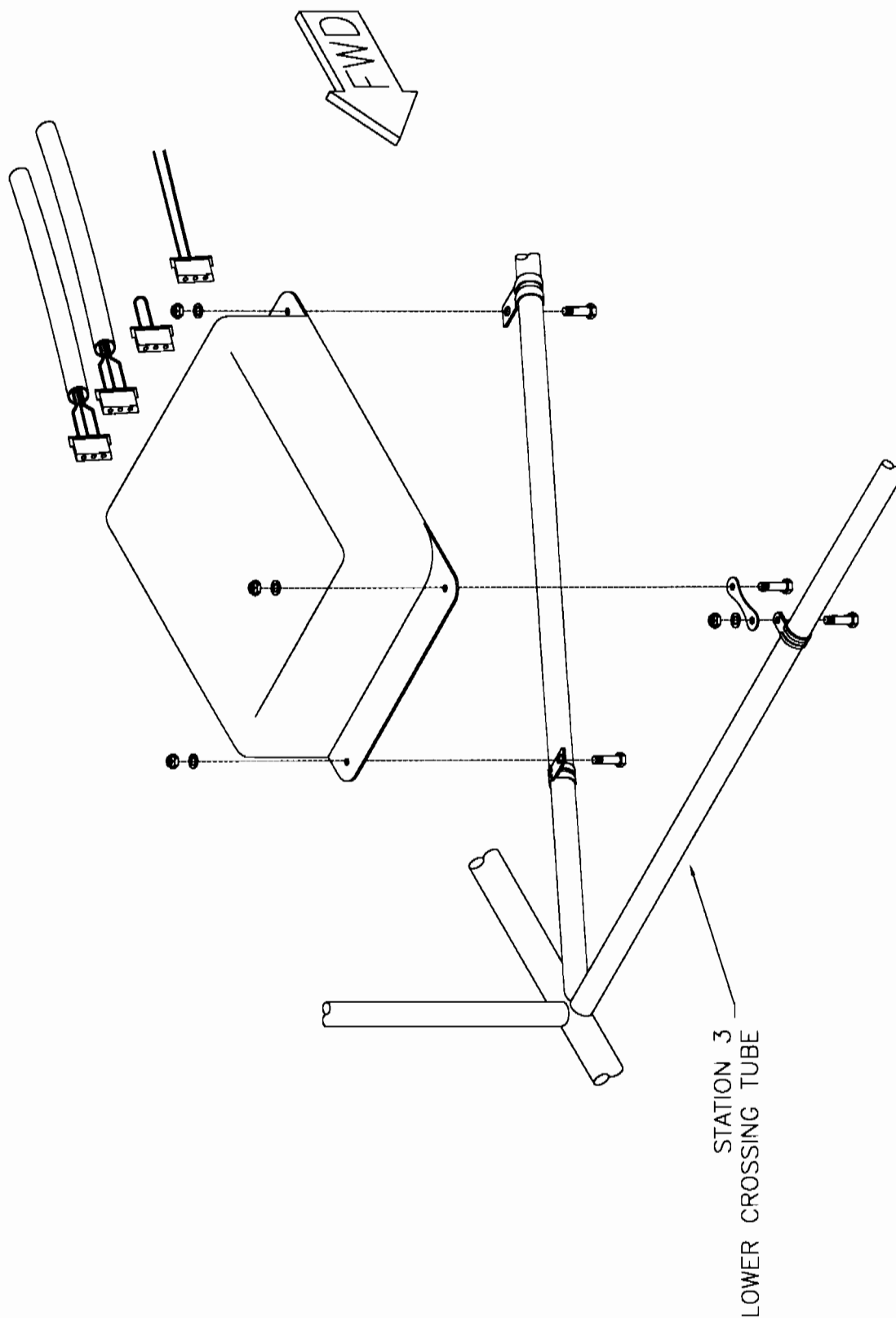
MD5550

(CONTINUOUS HISTORY OF CHANGES IN STRUCTURE OR EQUIPMENT AFFECTING WEIGHT AND BALANCE)

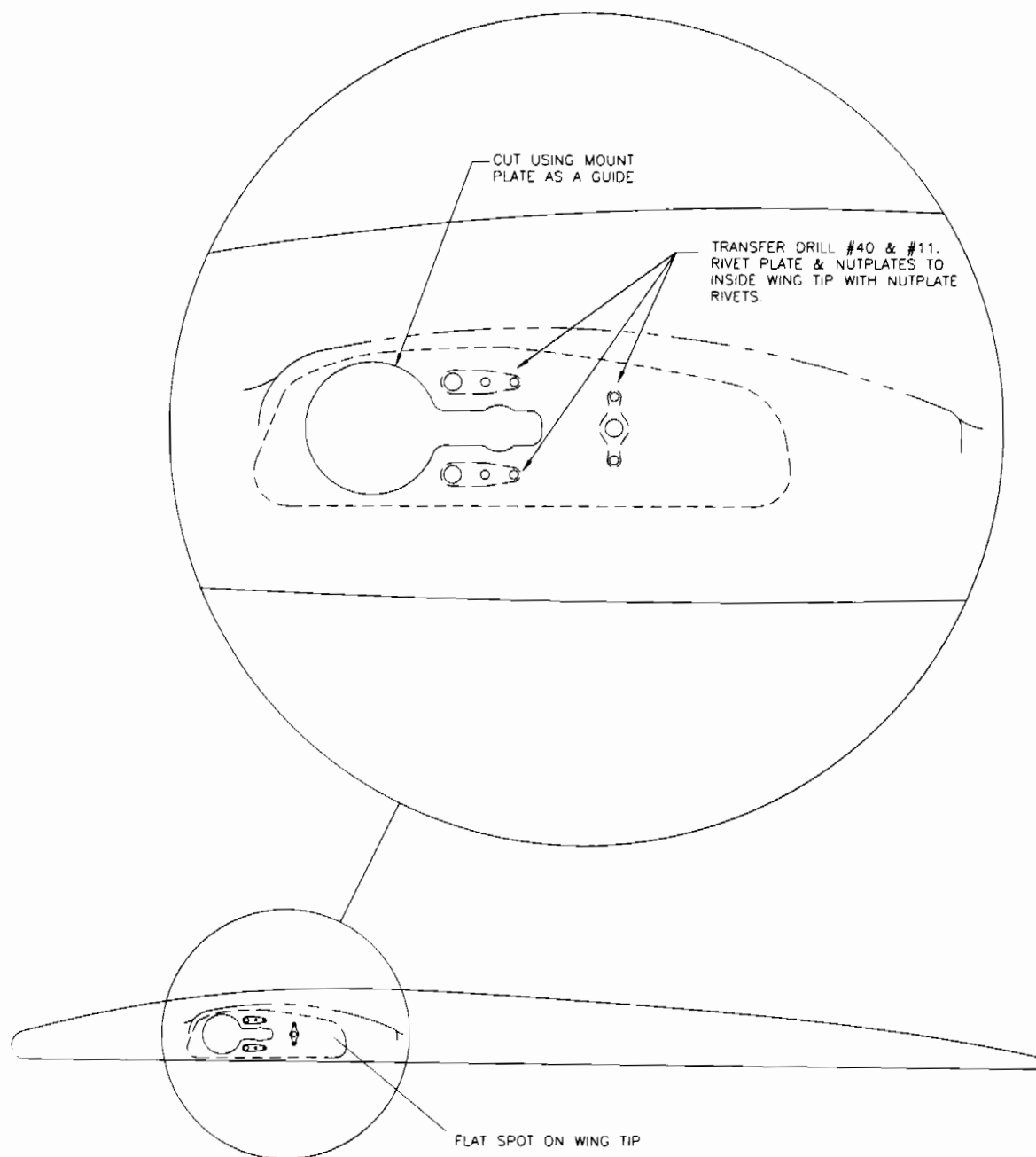
PAGE NUMBER:

**RAMS S-7S COURIER
WEIGHT & BALANCE RECORD**

FIGURE 10-02



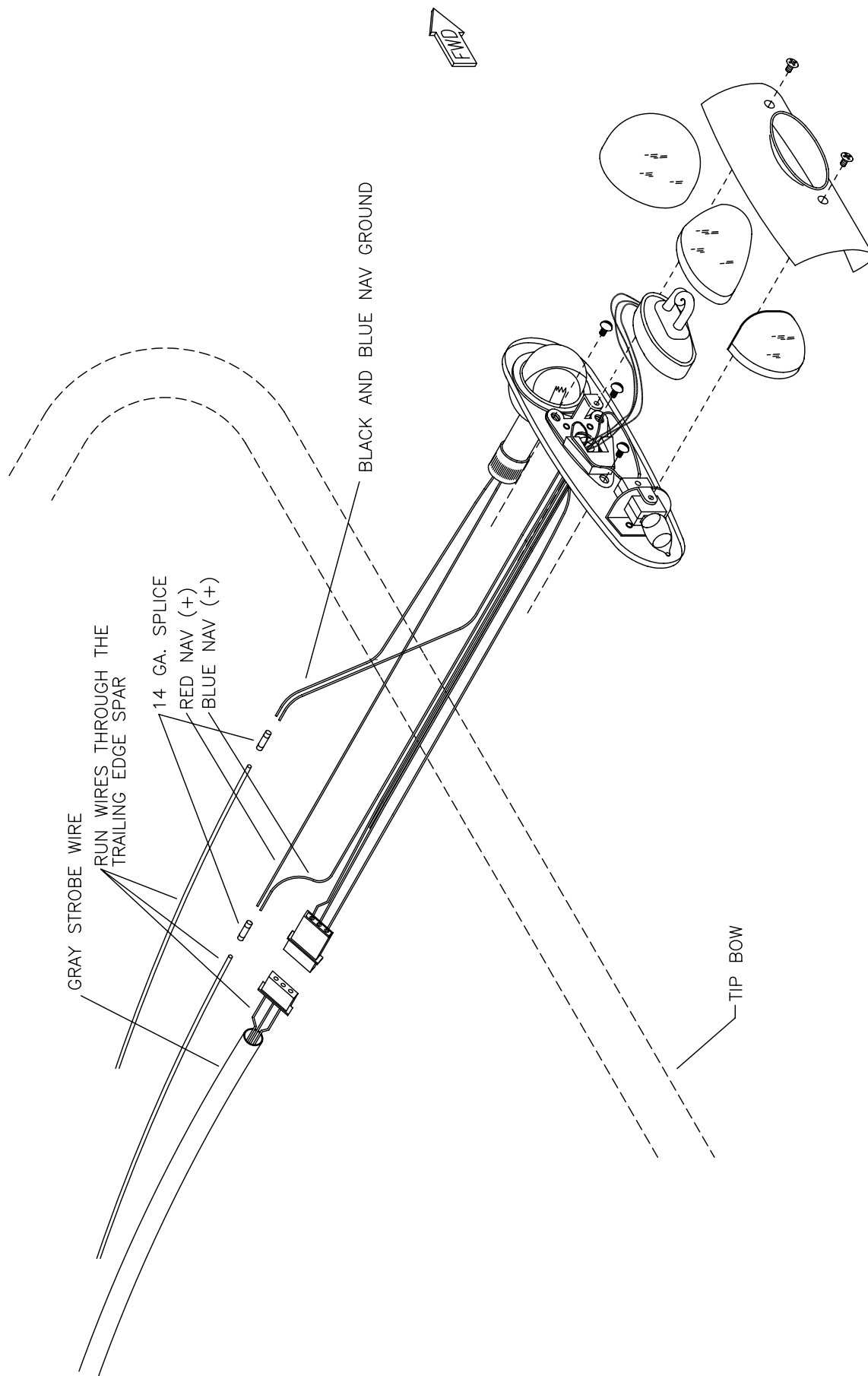
RRMS S-7S
STROBE POWER BOX INSTALLATION
FIGURE 11B-01



MD4483
REV. A

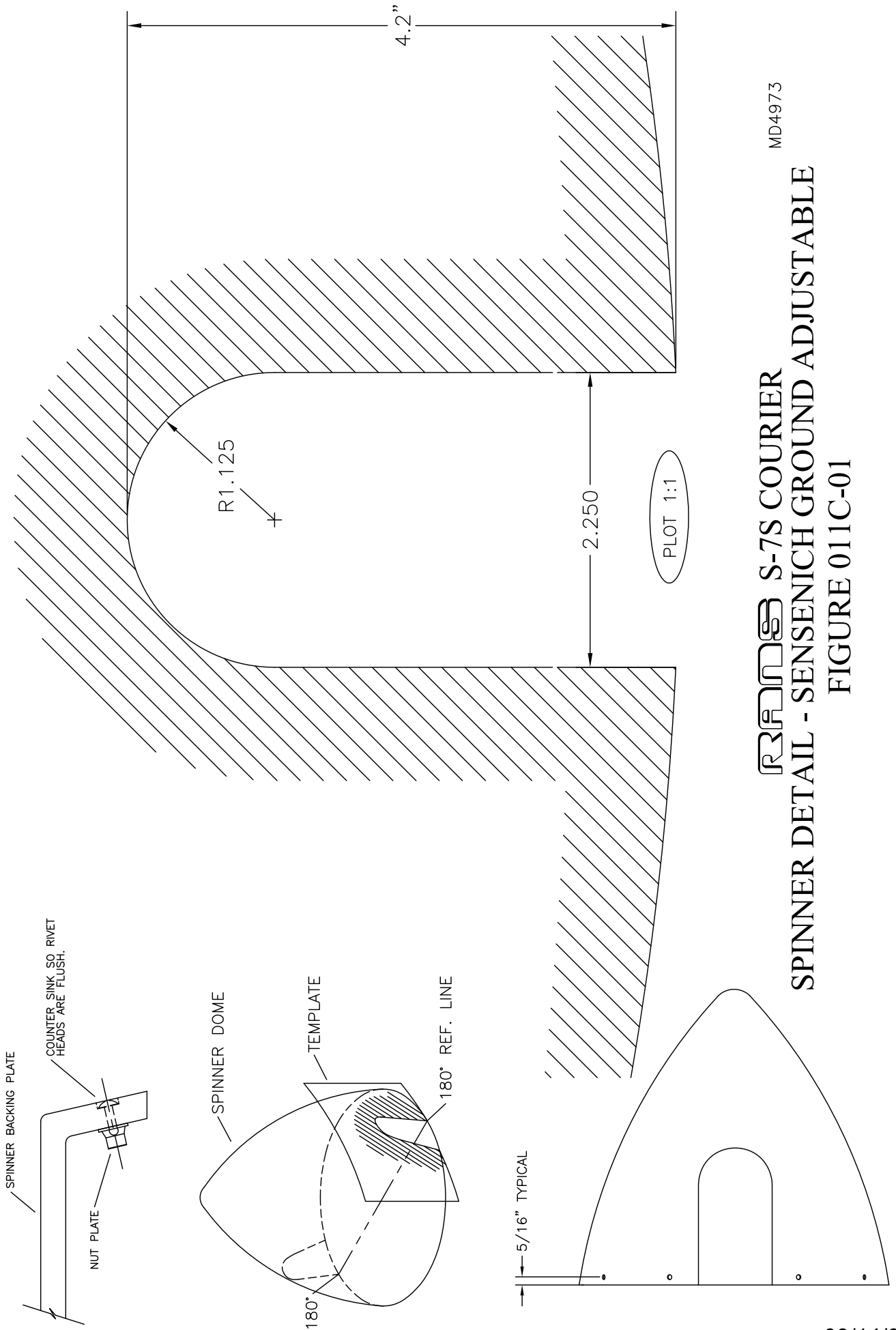
RANS S-7S
STROBE / NAV WING TIP MODIFICATION
FIGURE 11B-02

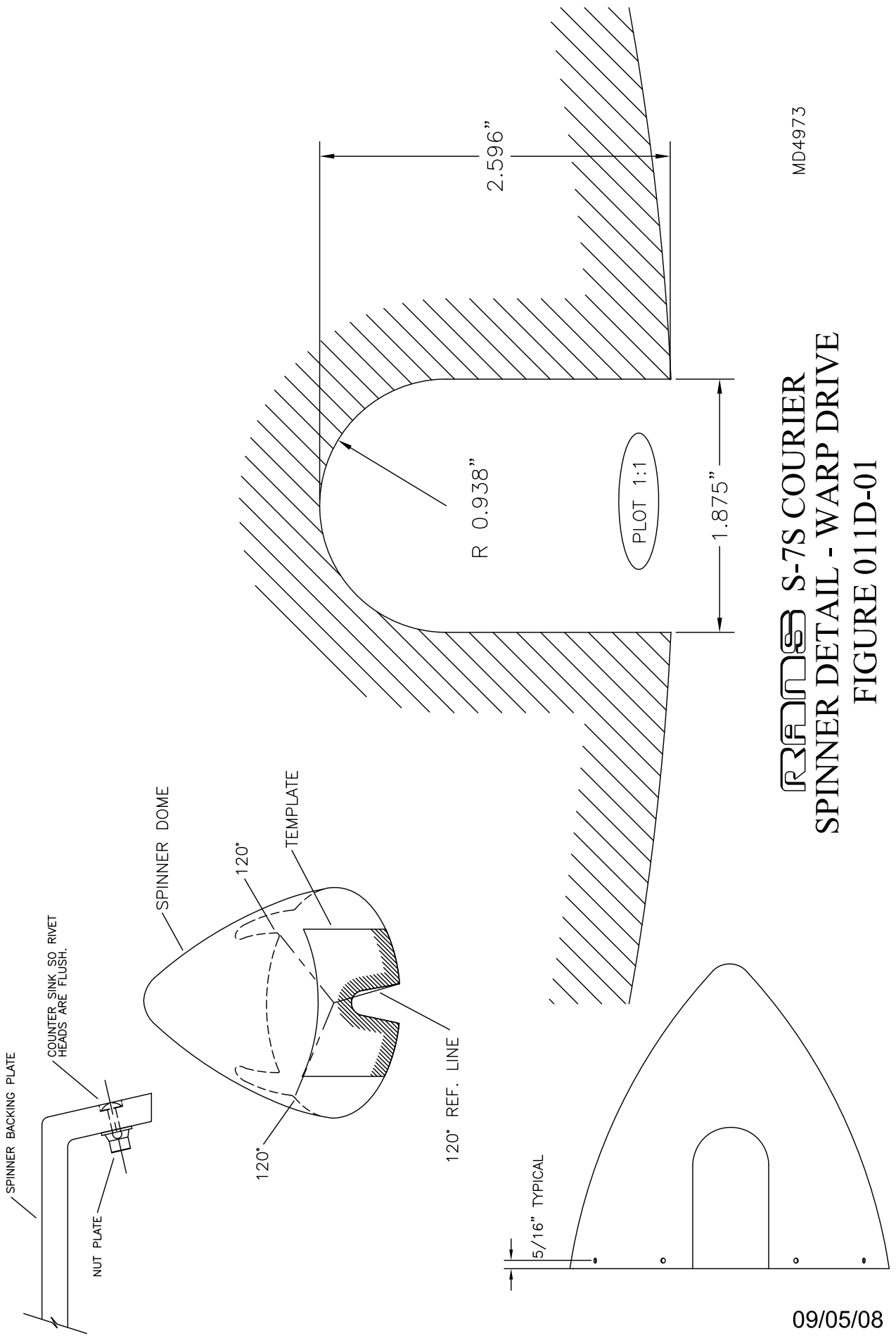
09/01/05



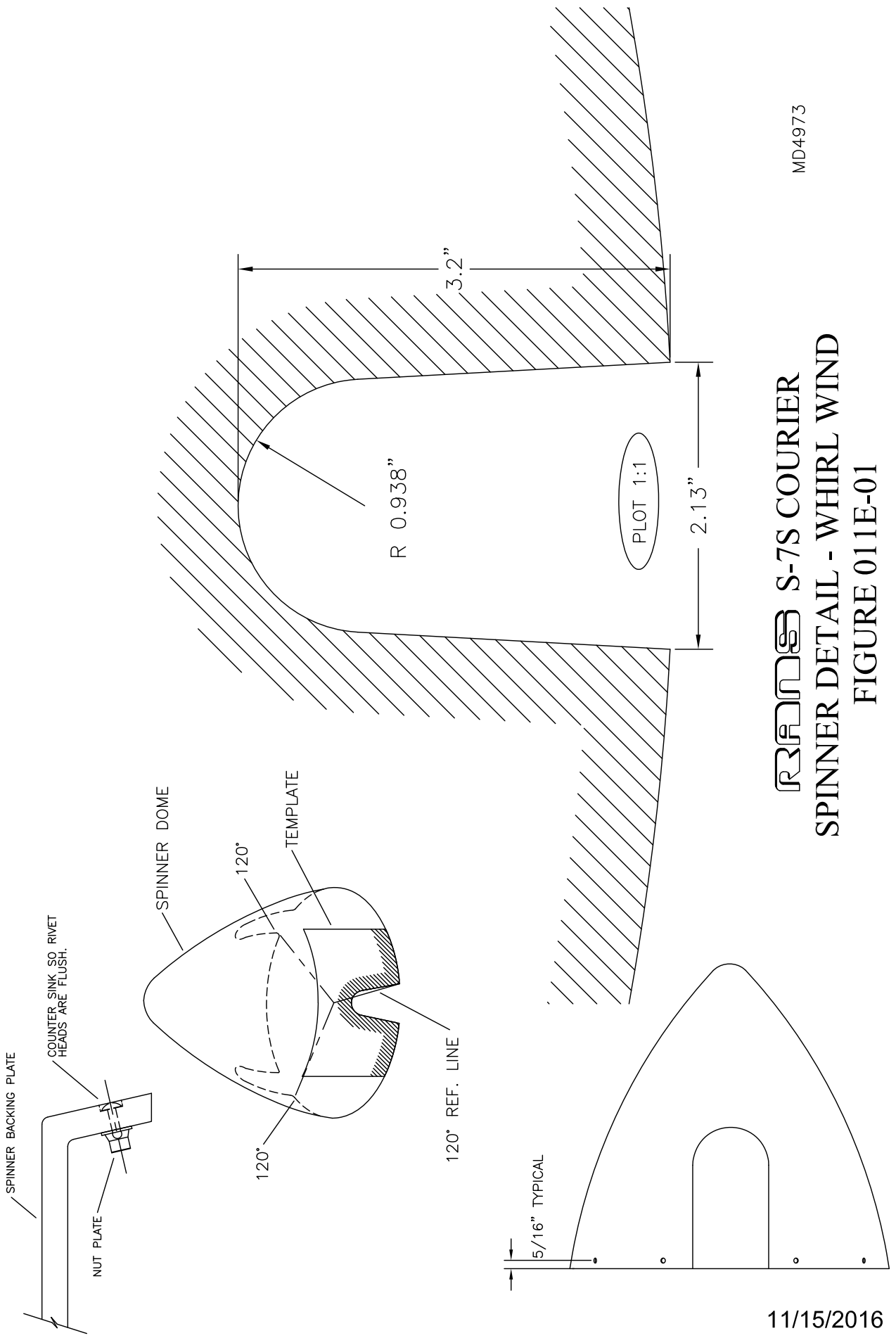
MD3719
REV. A

RAMMS S-7S
STROBE / NAV LIGHT WIRING
FIGURE 11B-03





S-7S COURIER
SPINNER DETAIL - WARP DRIVE
FIGURE 011D-01



RAMS S-7S COURIER
SPINNER DETAIL - WHIRL WIND
FIGURE 011E-01