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http://mustangaero.com/downloads/Mustang_Revisions

Mustang II Service Letter

Date: Feb 19, 2020

Subject: Canopy Frame Inspections

A recent Mustang II canopy failure that resulted in the loss of the aircraft and 2 occupants is a tragic reminder that the canopy is an important part of the annual inspection. Owners should verify that the Canopy Frame Revision from 1984 has been installed and that the rear canopy frame is structurally sound. The canopy latch should also be inspected for function and integrity. The canopy does experience lifting loads that can be fairly substantial.

The rear cross brace p/n 280.350 should be formed in 1 piece per the plans and not made with a miter cut and butt welded as this would greatly weaken the part. Any such cut of the tube would need to be properly reinforced.

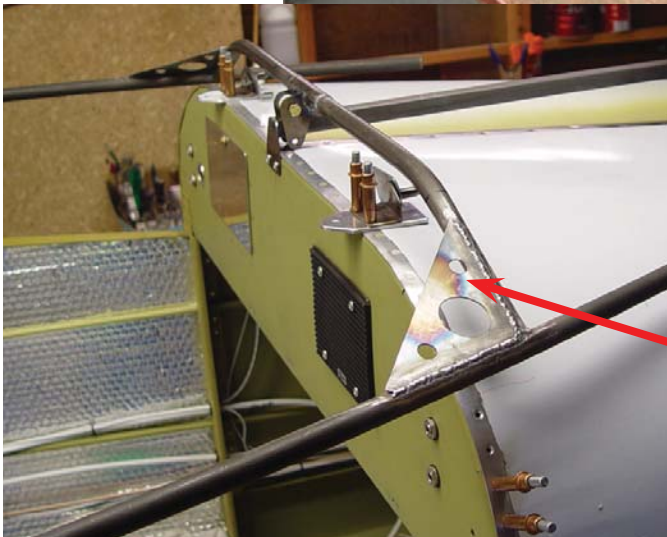
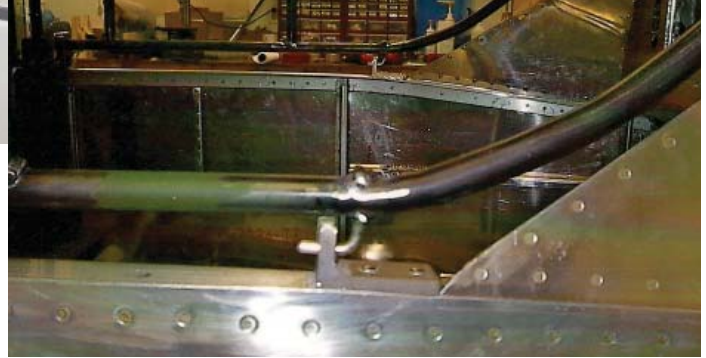
A Cut and Butt Welded Cross Brace is NOT Acceptable

(possible examples)





Aft Side Retaining Pins
(p/n 280.386 & 387)



Canopy Frame Gussets
(p/n 280.388)

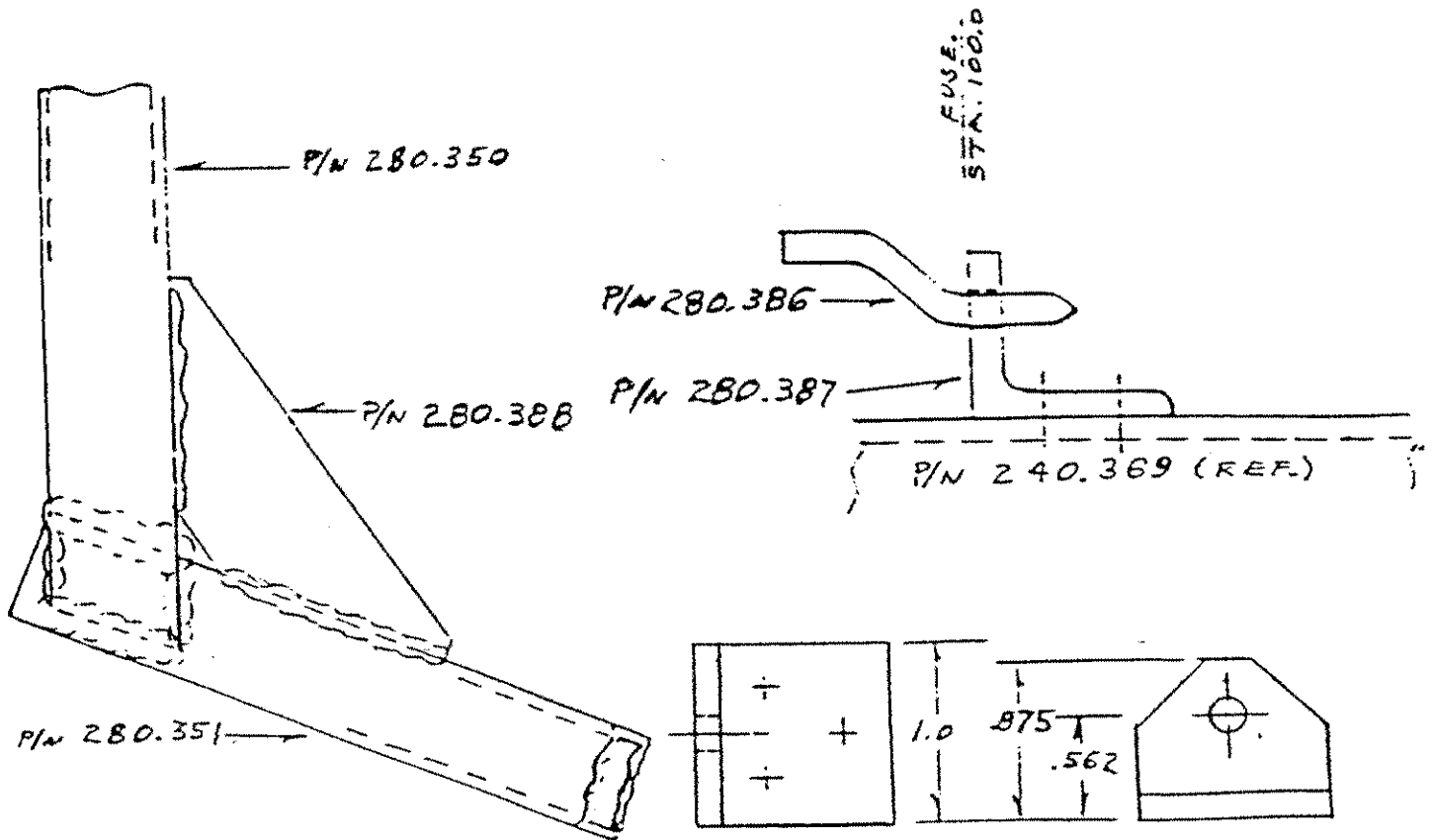
{ This page was omitted from some drawing sets shipped before fall '95 }

Mustang II Canopy Frame Revision - 11/1/84

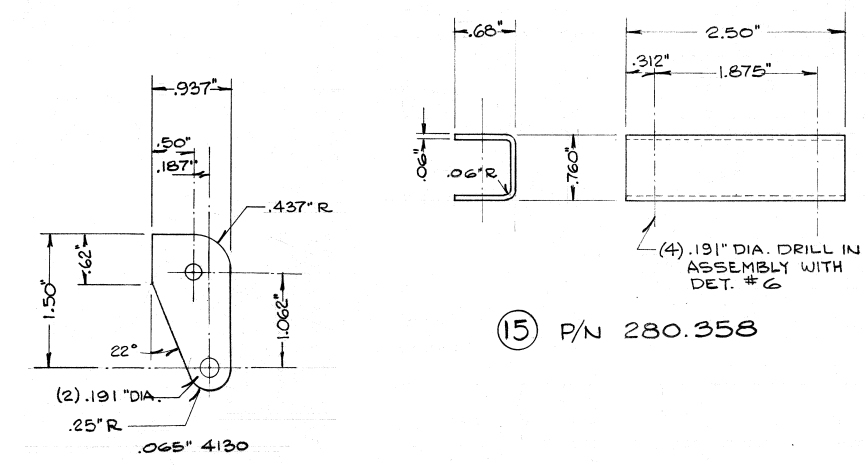
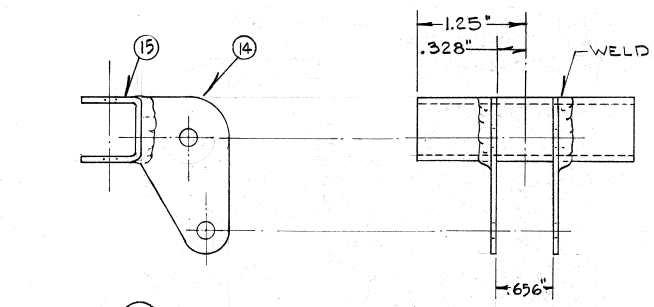
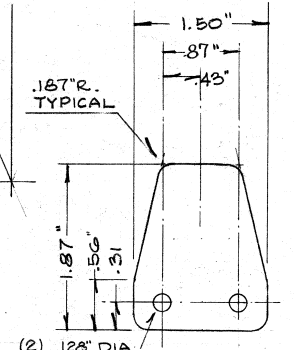
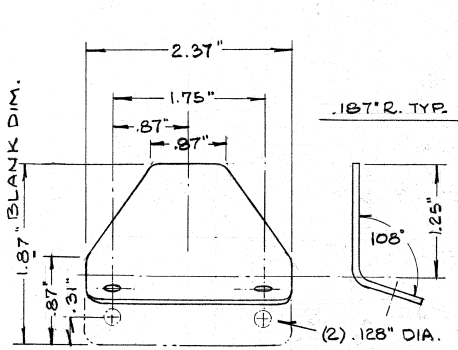
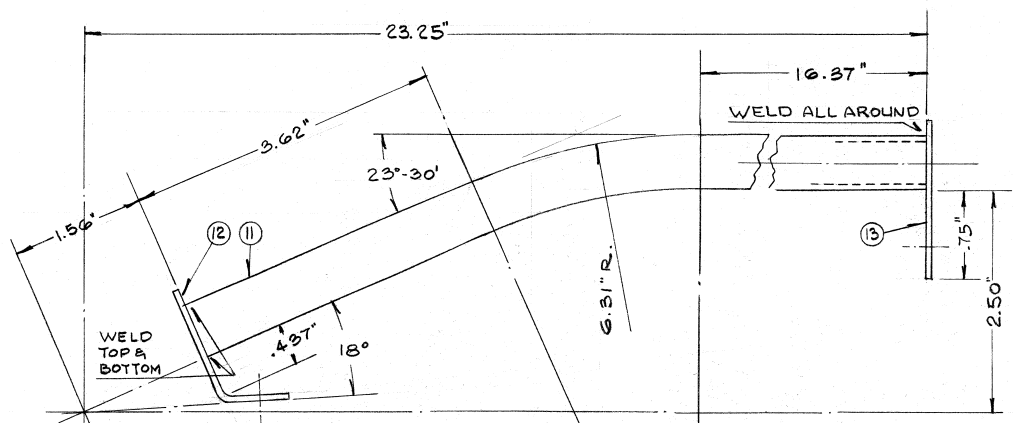
Service experience has indicated a need to strengthen the canopy framework at the aft corner junction of p/n 280.350 with p/n 280.351 & 351-1. This is to be accomplished by installation of gusset p/n 280.388 (2 required). The gusset is fabricated of .050 4130 steel per the following sketch.

Position the gusset to be on the center of p/n 280.350 tube and top inboard corner radius of p/n 280.351 & 351-1 tubes. Note the "fishmouth" shaped ends of p/n 280.350 are important to obtain maximum weld strength. Refer to asy. dwg. 280.003 detail in the lower right section of the page. Weld all edges of 280.350.

Aft retaining pins and brackets are also to be incorporated. This will prevent bulging in flight and also support the canopy aft section. They consist of p/n 280.387 fabricated of 1" x 7/8" x 1/8" 6061-T6 aluminum angle that is 1" long. It is to be riveted to the fuselage to stringers p/n 240.369 by use of three 470AD4 rivets. Locate p/n 280.387 with aft surface at sta 100.0. Fabricate p/n 280.386 retaining pin from 3/16" rod or bolt. Shape per dwg. and weld to canopy frame p/n 280.351 & -1. Position for maximum engagement in retaining bracket. See part details below.



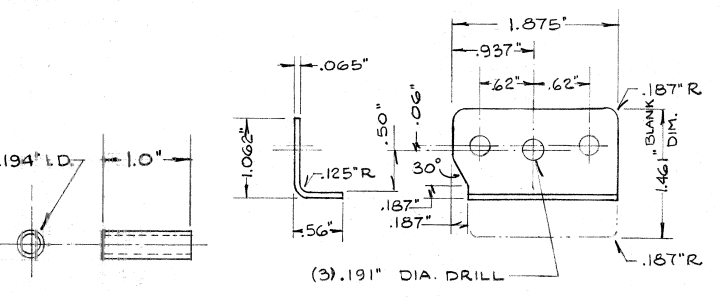
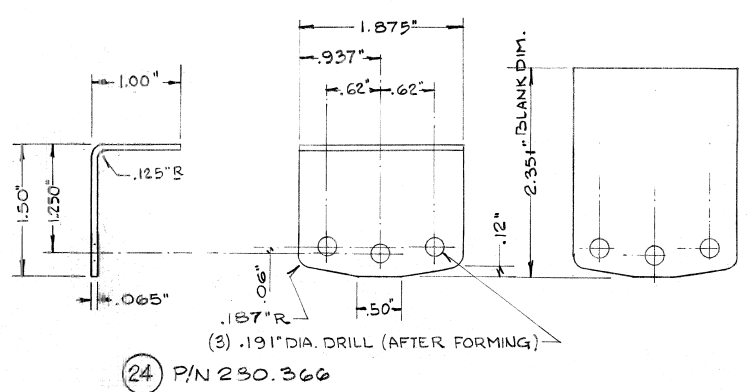
P/N 280.387 DETAILS
SCALE = FULL SIZE Canopy page 5.



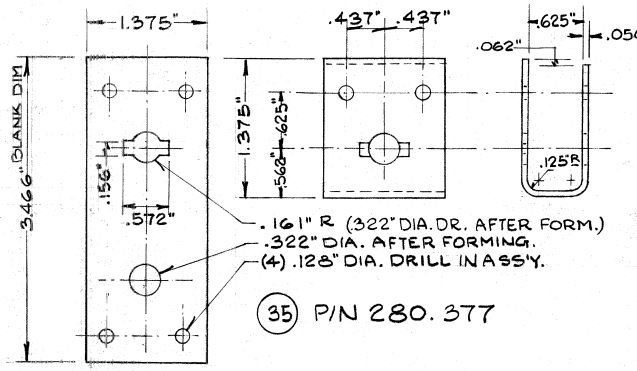
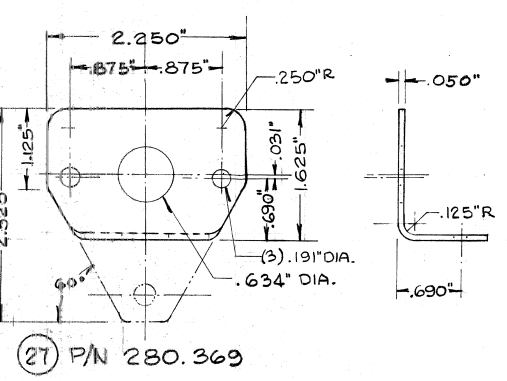
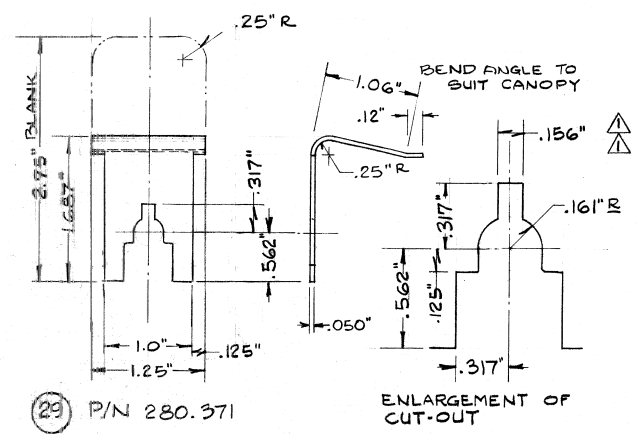
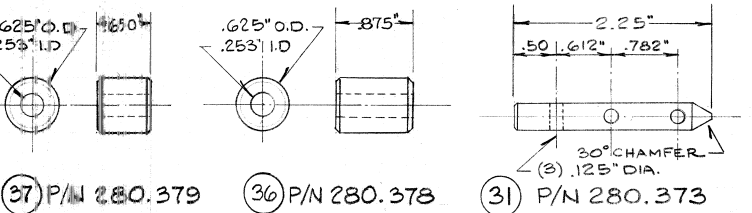
14 P/N 280.357

2 See Revision Sheet for additional gussets and retaining pins 11/1/1984

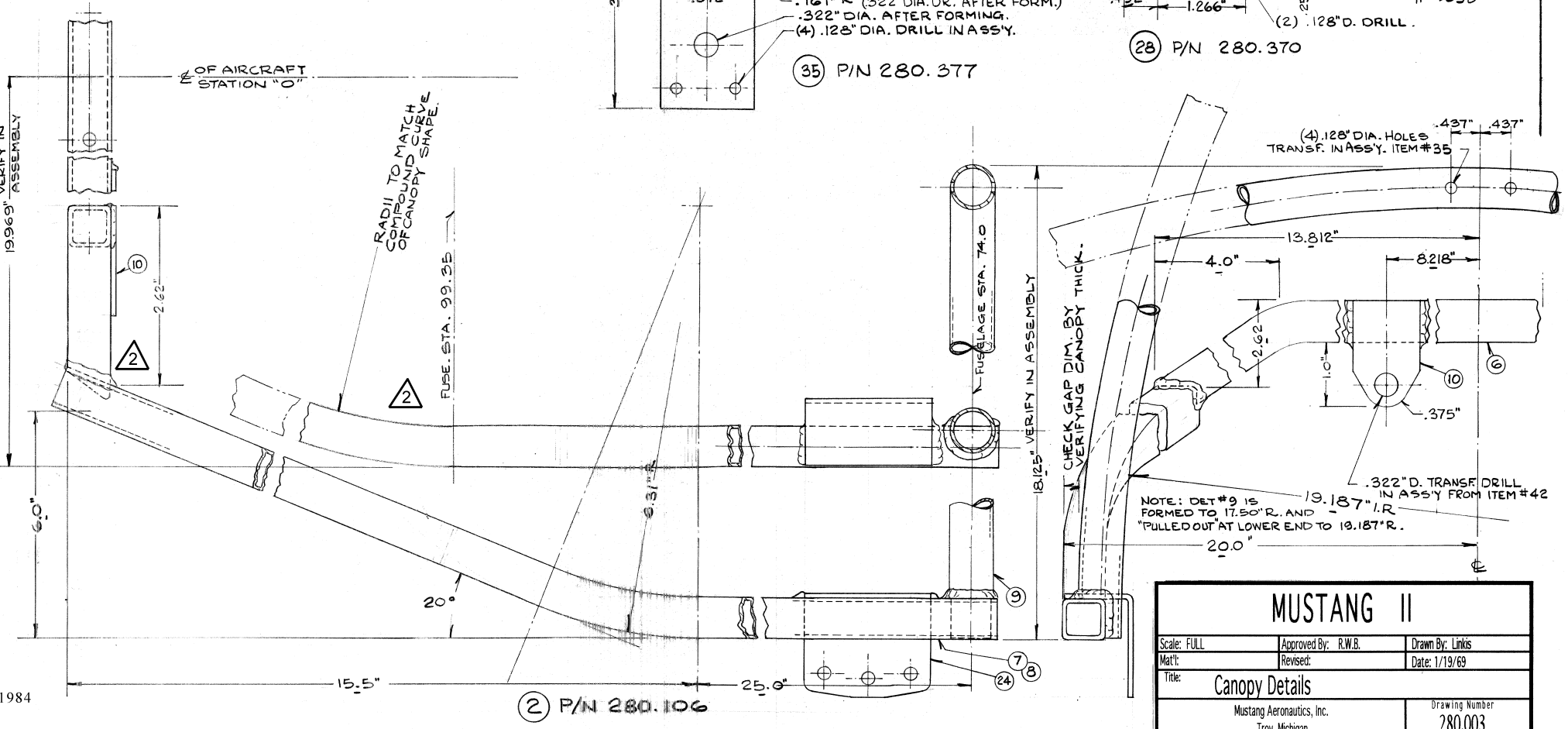
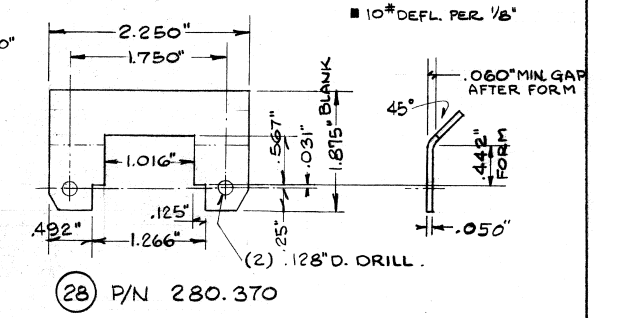
△ .050 STL. vs .065 ALUM. 11/11/79



38 P/N 280.380



ITEM	P/N	DESCRIPTION	QUAN	MAT'L.	DWG. NO.
24	280.366	.065"x1.875"x2.351"	2	4130 STL.	280.003
25	367-1	.065"x1.875"x1.461"	2	"	"
26	368	.032" X DEVELOP	2	2024-T3	.002
27	369	.050" X 2.250" X 2.525"	1	4130 STL.	.003
28	370	.050" X 2.250" X 1.875"	1	"	"
29	371	.050" X 1.250" X 2.750"	1	4130 STL.	"
30	372	HANDLE TO SUIT	1	COMM. AL.	.002
31	373	.912" D. X 2.250"	1	C.R. ROD	.003
32	374	.125" D. X .500" LG.	3	ROLL PIN	.002
33	375	1/32" I.D. X .032"	1	SPACER	"
34	376	1/32" X 1/40" D X 3/8" LG	1	SPRINGER	"
35	377	.050" X 1.375" X 3.466"	1	4130 STL.	.003
36	378	.625" D. X .875"	2	NYLON	"
37	379	.625" D. X .650"	1	"	"
38	980	.194" I.D. X 2.50" O.D X 1.0"	2	BUSH. STK	"
39	381	" X " X .656"	1	"	"
40	382	.187" D. X 1.230"	1	C.R. ROD	"
41	383	.065" X 2.00" X 1.822	2	4130 STL	.002
42	384	.312" D. X .937"	2	"	"
43	385	.253" I.D. X .50" X .032"	4	SPACER	"
44	290.453	SHOULDER HARNESS BKT.	2	.125" AL.	290.027
50	ST'D	GEN. ELECTRIC	-	SILICON RUBBER	
51	"	CHERRY RIVETS (1/8" DIA. X 1/4" UNF. HD.)	110	C.R. 163-4-B	280.002
52	"	" (1/8" DIA. X 1/4" UNF. HD.)	20	C.R. 162-4-B	"
53	"	" (1/8" DIA. X 1/8" UNF. HEAD)	88	C.R. 163-4-4	"
54	ST'D	CLEVIS BOLT	2	AN23-16	"
55	"	BOLT	4	AN3-4	"
56	"	BOLT	5	AN3-11	"
57	"	SCREW-100°CSK.	18	AN507-632-R6	"
58	"	NUT SELFLOCK	6	AN365-3	"
59	"	NUT	5	AN910-3	"
60	"	WASHER	12	AN960-3	"



MUSTANG II

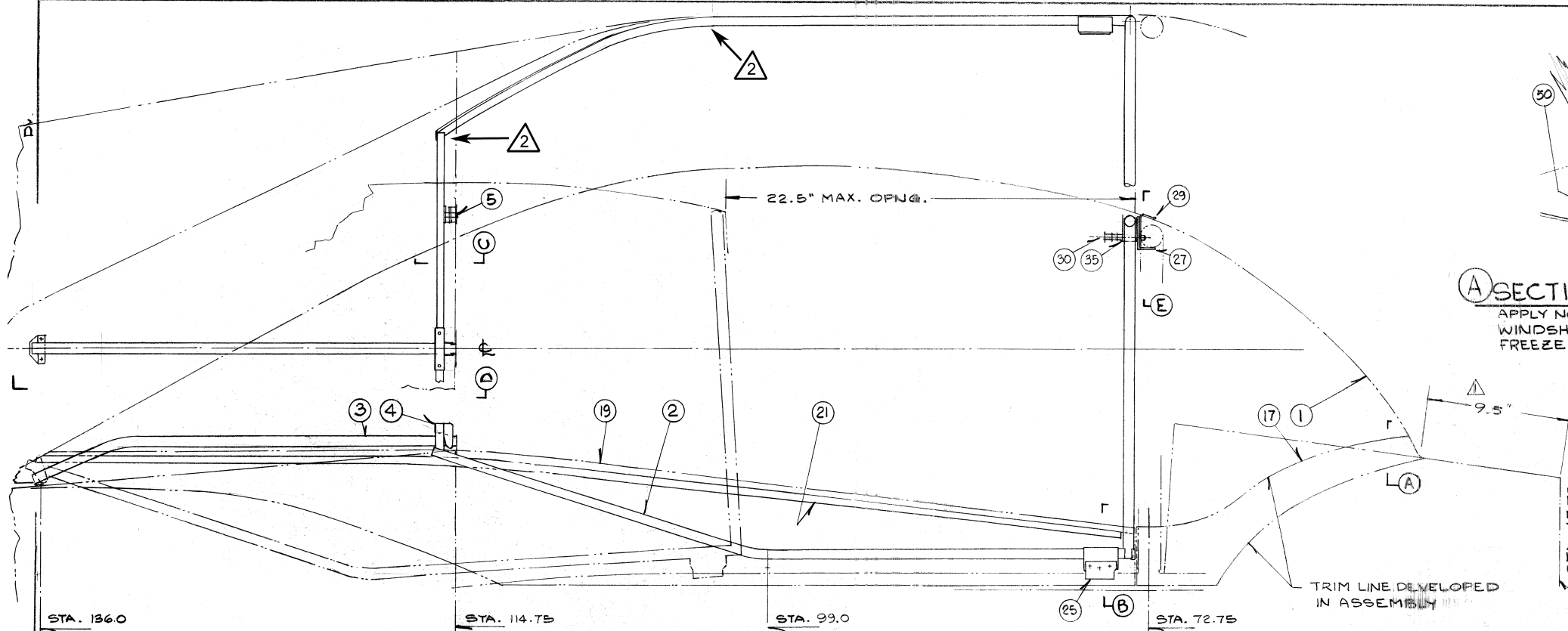
Scale: FULL Approved By: R.W.B. Drawn By: Linkis

Mat'l: Revised: Date: 1/19/69

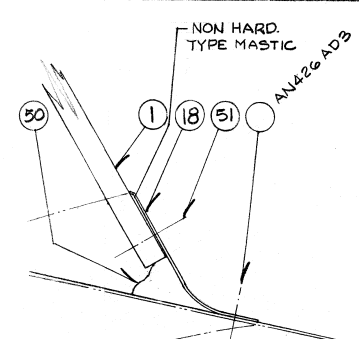
Title: **Canopy Details**

Mustang Aeronautics, Inc.
Troy, Michigan

Drawing Number
280.003

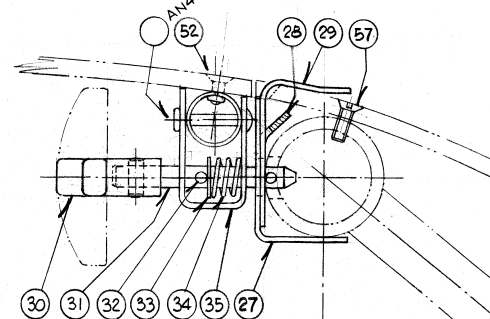


CANOPY IN OPEN & CLOSED POSITION
(SIDE & 1/2 TOP VIEW)



A SECTION THRU WINDSHIELD
APPLY NON-HARD TYPE MASTIC BETWEEN WINDSHIELD & TRIM DETAILS TO PREVENT FREEZE DAMAGE.

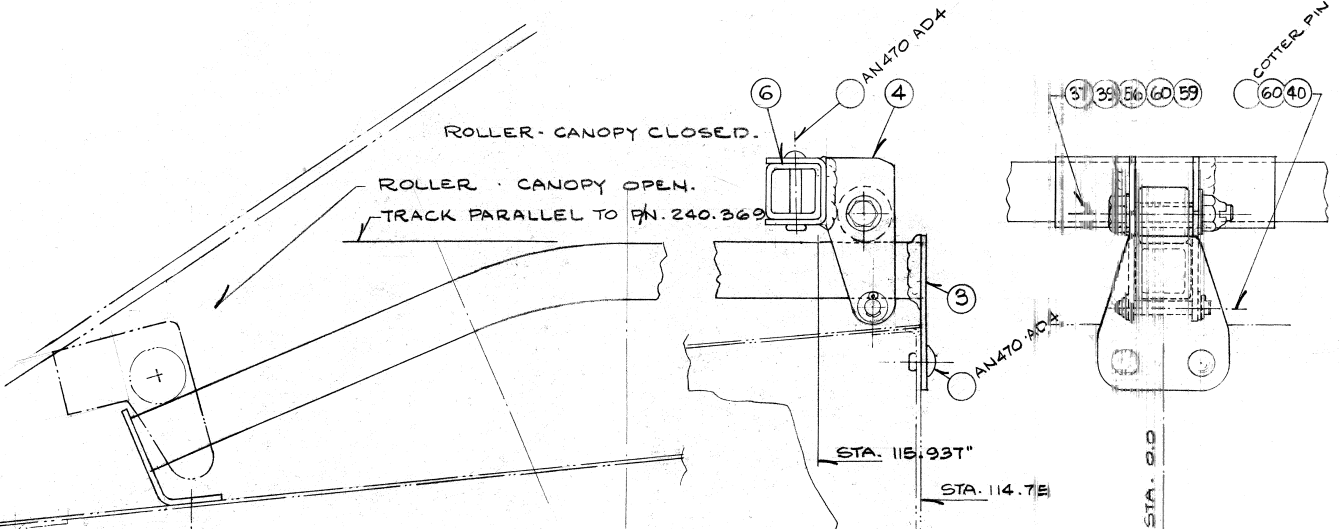
ITEM	P/N	DESCRIPTION	QUAN.	MAT'L.	DWG. NO.
1	280.105	CANOPY-WINDSHIELD	1	PLASTIC [®]	NONE
2	280.106	CANOPY FRAME	1	4130 STL.	280.003
3	280.107	TRACK ASSEMBLY	1	"	"
4	280.108	ROLLER HOUSING	1	"	"
5	280.109	REAR SECURITY	2	"	".002
6	280.350	.6250.D x .031" x 31"	1	"	".003
7	280.351	.6250.D x .031" x 46"	1	"	"
8	.351-1	.6250.D x .031" x 46"	1	"	"
9	.352	.6250.D x .031" x 63"	1	"	"
10	.353	.065" x 1.0" x 1.5"	2	"	"
11	.354	.6250.D x .031" x 33"	1	"	"
12	.355	.062" x 2.375" x 1.875"	1	"	"
13	.356	.065" x 1.50" x 1.875"	1	"	"
14	.357	.065" x .937" x 1.50"	2	"	"
15	.358	.065" x 2.062" x 2.50"	1	"	"
18	.361	.025" x DEVELOP	1	2024-T3	".002
19	.362	.025" x "	1	"	"
20	.362-1	.025" x "	1	"	"
21	.363	.031" x .750" x DEV.	2	"	"



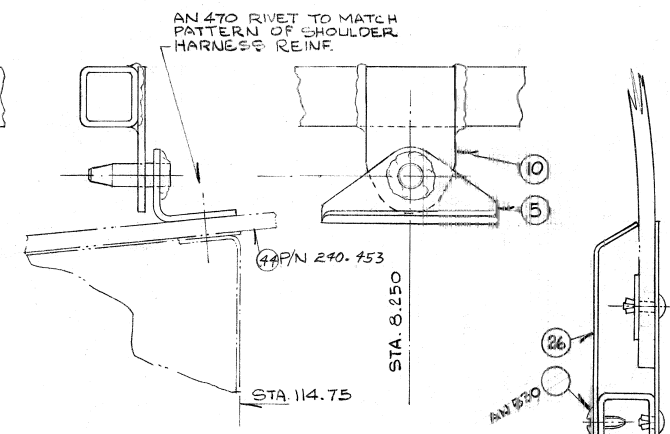
E CANOPY INSIDE LOCK
WITH OUTSIDE EMERGENCY RELEASE

ITEM # 6, 7, 8 & 9 MUST BE SEAMLESS TYPE TUBING.
*INCLUDES EXTRA LENGTH.
© AVAILABLE FROM BUSHBY

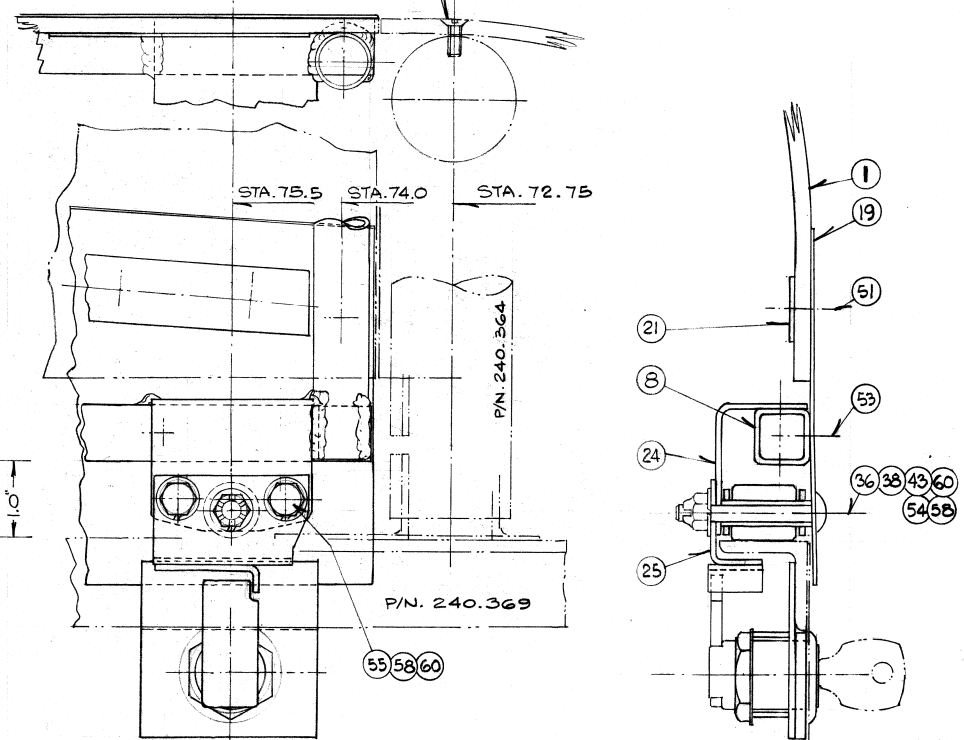
NOTE: DRILL HOLES IN PLASTIC ONE SIZE LARGER THAN REQ'D. IN BACK-UP ITEMS # 18, 19, 20 & 21 TO REDUCE RIVET EXPANSION PRESSURE UPON PLASTIC. (WINDSHIELD & CANOPY)



D CANOPY REAR ROLLER & TRACK

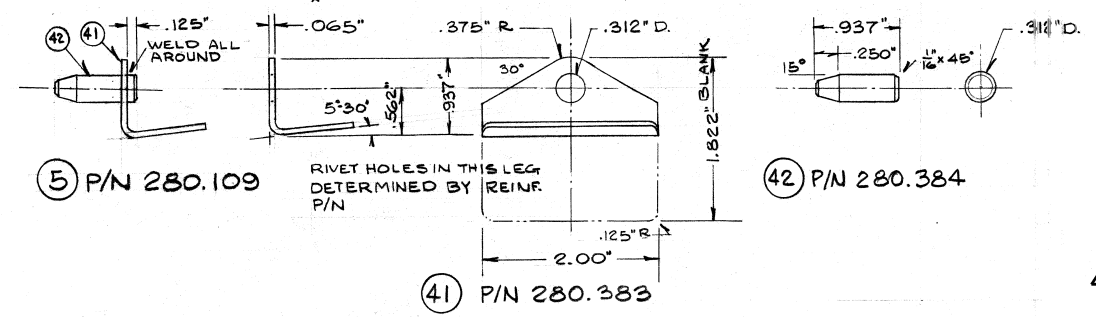


C CANOPY REAR RETAINER



B CANOPY FORWARD ROLLER & RETAINER

LOCK & KEEPER SHOWN IS OPTIONAL & NO OTHER DETAILS FURNISHED.
INSIDE TRIM SHOWN (ITEM # 26) SUGGESTED FROM STA. 713.625 TO 99.35. MODIFY AS REQ'D.



2 See Revision Sheet for additional gussets and retaining pins 11/1/1984
△ .062 x 2.375 x 1.875 vs .065 x 1.375 x 1.875, 9.0 vs 8.5 11/1/79

MUSTANG II

Scale: _____ Approved By: R.W.B. Drawn By: Linkis
Mat'l: _____ Revised: _____ Date: 1/18/69
Title: **Canopy Assembly**
Mustang Aeronautics, Inc. Drawing Number
Troy, Michigan 280.002