SEE NOTE A ON R.H. SIDE OF DWG

A Ref No.	B Part No.	C Size	D Part No.	E Size	F Dwg No.
1	103-104	12 x 75	127-128	12.0 x .56	7-0174-10 Sym
	103-104	5.5 x 5.8			2.87
	127-128	13 x .060			7-0174-11 9
	131-132	15.36 x .84			6
	133-134	15.36 x .84			5
	133-135	15.84 x .84			4
	137-138	12.5 x .87			7-0174-12 4
	131-132	15.5 x .87			4
	135-136	15.5 x .90			3
	145-146	17.4 x .90			3
	137-138	25.5 x .84			7-0174-13 2
	141-142	26.5 x .83			2
	133-134	15.5 x .86			1
	133-135	15.5 x .86			1
2	237-238	10.5 x .15	127-128	14.0 x .56	7-0174-10 Sym
	235-236	20 x 4.5			2.87
	231-232	15.5 x .86			7-0174-11 6
	233-234	3 x .50			
	227-228	22 x .86			
	221-222	18.8 x 0.0			
	223-224	18.5 x .87			
	225-226	16.3 x .87			
	212-214	27.0 x 1.0			7-0174-12 4
	215-216	17.0 x .87			
	217-218	17.0 x .87			3
	201-206	27.0 x 1.0			
	207-208	5.0 x .90			
	211-212	19.0 x .90			
	127-128	23.0 x 1.0			7-0174-13 2
	201-202	25.0 x .90			
	203-204	28.0 x .90			
	131-132	15.3 x .83			
	133-134	15.3 x .90			
	135-136	15.3 x .90			
	171-172	12 x 1.75			
	173-174	11 x 1.75			
	175-176	8.5 x 1.75			7-0174-12
	177-178	8.5 x 1.75			
	181-182	14.0 x 1.5			7-0174-11
	183-184	5.5 x 1.4			
	185-186	3.0 x 1.2			7-0174-10
	187-188	19.0 x 1.1			
	333-334	6.0 x 1.0			
3	7	.08 x .30	5	12.0 x .06	7-0162-10/11 Sym
	8		6		
4	9		11		7-0162-10/11 Sym
			12		
5	INSIDE DOUBLER	1.5 x	341-342	17.0 x	7-0164-39
	401-402 SKIN	12.0 x 3.0			7-0164-41
	37 SKIN SKIN	3.0 x 3.0			7-0164-39
6	303-304	7.5 x 4.5	303-304	17.0 x	7-0164-40
	311 (2 req)	3.0 x 5.0			
	457-458	4.5 x 1.5			
	403-404	1.0 x 1.5			7-0164-41
	485-486	3.0 x 4.7			7-0164-42
	405-406	8.0 x 4.0			7-0164-46
	423-424	8.0 x 4.3			
	461-462	0.8 x 8.5			
	7A (2) SKIN				
	8A (2) SKIN				
7	45	3.0 x 2.40	73-74	SKIN	12.25 x 2.7 7-0162-7/12
	45B	1.8 x 1.7			
	3A73 (2) DOUBLER	12.5 x 1.04			
8	73	1.0 x 2.40	73-74	SKIN	1.80 x 2.40 7-0162-7/12
	3A (2) DOUBLER	6.0 x 1.00			
	3A37 DBLR	12.0 x 1.04			
	4A13 DBLR	1.8 x 1.7			
9	373 UPPER SKIN	2.1 x 2.8	349	DOUBLER	2.8 x 1.46 7-0165-9/A
	3A73 (2) UPPER SKIN				
	1371 LOWER SKIN	1.0 x 4.5			
11	1481 UPPER SKIN	3.5 x 7.5	1467-1468	SKIN	19.5 x 10.0 7-0165-42
	1475 EXT	4.0 x 10.0			
	1476 EXT				
	1471 (2 REQ) EXT	4.2 x 10.5			
12	7 - 8 DBLR	1.0 x 2.0	5 - 6	SKIN	.86 x 4.8 7-0164-27
13	347	2.0 x 2.0 x 1.5	193	SKIN	2.8 x 2.5 x 2.2 7-0164-23 Sym
	355-356	2.2 x 6.0			(Sym 355)
14	259	7.0 x 1.70	256		7.1 x 2.4 x 4.5 3
15	328	3.3 x 4.1 x 1.60	181		7.0 x 2.7 x 4.5 4
	349	3.5 x 2.4 x 1.60			
	251-252	0.8 x 1.50			
16	315	3.5 x 3.3 x 1.42	182		2.3 x 3.3 x 4.1 3
17	331	3.5 x 3.0 x 1.3	183		46
	333	3.5 x 3.8 x 1.3			
	351-352	2.5 x 1.60			
18	374	7.4 x 3.3 x 1.6	318		7.0 x 3.3 x 3.6 7
19	357	3.5 x 3.6 x 1.60	184		2.3 x 3.3 x 3.6 8
	358	3.0 x 3.0 x 1.3			
	355-356	2.8 x 1.60			
20	319	26.0 x 2.0	185		7.0 x 27 x 3.0 12
21	327	27.0 x 1.0 x 1.0	329		12.7 x 2.5 x 2.3 10
	363	27.0 x 1.0 x 1.0			
	361-362	1.5 x 1.60			
22	324	10.0 x 2.7 x 2.5	323		12.0 x 2.7 x 2.3 11
23	325	2.7 x 2.2 x 1.3	234		7.5 x 2.7 x 2.5 12
	345-346	1.0 x 1.60			
24	137-138		111-112	SKIN	78.7 x 1.5 x 7.5 7-0165-2 Sym
	141-142				
	133-134				
	135-136				
	143-144				
	145-146				
24A	125 LH SKIN		4A-4E (2)		1.4 x 7.5 7-0165-2
25	133-134		113-114	SKIN	63.0 x 1.5 7-0165-2/3
	137-138				
	133-134				
	131-132				
26	163-164		115-116	SKIN	47.7 x 2.5 7-0165-3
	165-166				
	167-168				
	171-172				
	135-136				
	137-138				
27	203-204		201-202	SKIN	15.0 x 3.7 x 1.0 7-0164
	205-206				
	303-304				
	303-306				

Ref No.	Part No.	Size	Part No.	Size	Dwg No.
28	403-404 (2)		403-404 SKIN	14.8 x 2.5	7-0164-39
	405-406				(Sym 403)
29	1429 DBLR		2027-2028 STR	8.5 x 1.75 x 1.2	7-0162-10/11 No 8
	1431				
	1429				
30	1429		2547-2548		
	1429				
31	1429		2047-2048	8.5 x 1.75 x 1.2	7-0162-10/11 No 7
	1431				
32	1429		2715-2716		
	1431				
33	1429		617-618	17.4 x 1.5 x 1.2	7-0162-10/11 No 6
	1433				
34	1429		425-426		
	1431				
35	1429		615-616	37.4 x 1.5 x 1.2	7-0162-10/11 No 5
	1433				
36	1429		3721-3722	28.4 x 1.5 x 1.2	Sym
	1431				
36A	1429		423-424	13.4 x 1.5 x 1.2	Sym
37	1429		613-614	47.4 x 1.5 x 1.2	7-0162-10/11 No 4
	1433				
38	1429		3731-3732	60.4 x 1.5 x 1.2	Sym
	1431				
38A	1429		421-422	17.4 x 1.5 x 1.2	Sym
39	1429		611-612	85.4 x 1.5 x 1.2	7-0162-10/11 No 3
	1433				
40	1429		417-418		
	1431				
41	1429		607-608	29.4 x 1.5 x 1.2	7-0162-10/11 No 2
	1433				
42	1429		415-416		
	1431				
43	1429		605-606	15.4 x 1.5 x 1.2	7-0162-10/11 No 1
	1433				
44	1429		413-414		
	1431				
45	4A4-4B2 (2)		4087-4088 SKIN	4 x 1.8	7-0162-10 Sym
46	4071-4072		4085-4086	12 x 2	
47	4A12-4A13		4031-4032	18 x 1.5	
48	DOUBLER SKIN		DOW PHOL NO 1		
49	DOUBLE STRAP		DOW PHOL	51 x 4.25	
50	DOUBLER		CHANNEL	10 x 2 x 1	
51	FILLER		SKIN #6	33 x 2.6	
52	3853 DBLR		3047-3048 SKIN	15.3 x 1.0	7-0162-10
53	1167 PKG		671-672	15.5 x 1.0	
54	1333 PKG		1345 DBLR	11 x 1.2.5	7-0162-10 Sym
54A					7-0162-10
55	1349 PKG		1373 DBLR	6.5 x 1.5	7-0162-10
56	PKG		DBLR	7.5 x 1.2 x .37	7-0162-10/11
57	PKG		DBLR	9.7 x 1.0 x .37	
58	PKG		DBLR	5.7 x 1.2 x .37	
59	1049 PKG		1031 PKG	22.5 x 1.2.5	7-0162-10
	1049				
60	1039		1033 DBLR	35 x 1.1.5	
61	1059		1037-1038 DBLR	5.8 x 1.5	7-0162-10
62	1109		1083-1084 DBLR	27.5 x 1.0 x .37	7-0162-10/11 Sym
	1119				
	1129				
63	3349		3349-3348	3.5 x 5.4 x .37	7-0162-7/8 Sym
64	879		2037-2038 PKG	6.5 x 1.4 x .75	7-0162-10/11 Sym
65	873		2035-2036	6.2 x 1.4 x .75	
66	149		1233-1234 DBLR	7.4 x 3.5 x .31	7-0162-7/8 Sym
67	3037		3355-3356 PKG	6 x 1.4 x .75	7-0162-10/11
68	173		1711-1712 DBLR	4.4 x 1 x .31	
69	3041		3337-3338 PKG	6 x 1.4 x .75	
70	773		3033-3034	1.5 x 1.4 x .75	7-0162-10/11 Sym
	839				
71	839		3037-3038	7.5 x 1.4 x .75	
72	1203		1203-1204 DBLR	3.7 x 1.9	7-0162-10/11 Sym
73	1163		1167-1168		7-0162-10/11 Sym
74	845		3045-3046 PKG		7-0162-10/11
75	843		3047-3048		
76	1219		1237		7-0162-10/11 Sym
77	1249		1211-1212 DBLR		
78	1243		1293-1294	3.3 x 3.5	7-0162-15
79	1249		1245-1246	8.6 x 4.1 x .41	7-0162-15
80	FIT PACKING		3A-1.0	3.0 x 1.25	7-0164-27/29
	O/B PACKING				
81	AFT PACKING O/B			2.2 x 1.44	7-0164-31/33
	F/B PACKING				
	AFT PACKING O/B				
82	DOUBLER STRIP		SKIN	2.5 x .38	7-0164-8
83	DOUBLER STRIP		SKIN	1.8 x 1.41	7-0164-37
84	DOUBLER STRIP		SKIN	3.3 x 2.5	
85	DOUBLER		ACCESS DOOR	4.4 x 1.8	7-0164-37
86	871-872 DBLR		841-842 WEB	34.5 x 1.38	7-0154-13
87	3291-3292		1727-1728	38.5 x 1.6	7-0154-24
	775-776				
88	083-084		103-104	58.3 x 2.8	7-0154-25
	111-112				
89	113-114		183-184	28.5 x 1.25	7-0154-26
	131-132				
90	2167-2266		1221-1222	28.6 x 1.45	7-0154-49
91	1371-1372		1553-1554	38.5 x 1.45.5	7-0154-50
	2537-2538				
91A	1373-1374		1583-1584	30 x 1.4	
92	1253 DBLR		1367 DBLR	31.2 x 1.2	7-0157-390
93	FOLDING LH SKIN	3.5 x .6	HOG LH SKIN	5.5 x 1.4	7-0154-208
	AFT SPAR LH SKIN	1.5 x .6			
94	SPAR LH SKIN	3.0 x .256	SKIN LH SKIN	30 x .26	7-0154-208
95	BRACE R. LH SKIN	6.5 x 1.0 .5	OUTER SKIN LH SKIN	5.6 x 1.0	7-0154-75
96	EXTRUSION L.H.	3.0 x 1.1.0	OUTER SKIN	13.25 x 1.4 x .25	7-0154-48A
	EXTRUSION R.H.				
	SILL, FWD	4.0 x 1.4 x .25			
	SILL, AFT				
	FWD	1.5 x 1.4 x .25			
97	EXTRUSION L.H.	3.0 x 1.2.0	OUTER SKIN	2.9 x .25	7-0154-48
	EXTRUSION R.H.				
	SILL, FWD	3.4 x 1.7.0			
	SILL, AFT				
	FWD	1.4 x 1.5.0			

Ref No.	Part No.	Size	Part No.	Size	Dwg No.
98	EXTRUSION L.H.	3.2 x 1.0	OUTER SKIN	14.25 x 1.2.5	7-0154-207
	EXTRUSION R.H.				
	SILL, FWD	3.4 x 1.2.5			
	SILL, AFT				
	FWD	1.0 x 1.2.5			
99	325-326 (2)	HINGE PIN OF	325-326 WEB		7-0154-76
	3325-3326 (2)	HINGE PIN OF	325-326 SKIN		
100	321-322 TOP	.38 x 4.4 x .56	317-318 F/B SKIN		7-0154-77
	319-320 BOTTOM		327-328 O/B SKIN		
101	F/B AFT STRAP	3.3 x 3.8 x .33	33-34 TOP SKIN		7-0154-77
	O/B AFT STRAP		33-34 BOT SKIN		
102	F/B AFT STRAP	3.4 x 2.4 x .33	TOP SKIN		
	O/B AFT STRAP		BOTTOM		
103	39 (2) F/B STRAP	3.8 x 2.6 x .33	41-42 TOP SKIN		
	327-328 O/B STRAP		43-44 BOT SKIN		
104	45-46 (2) F/B STRAP	3.8 x 2.6 x .33	45-46 TOP SKIN		
	F/B STRAP		45-46 BOT SKIN		
105	49-50 (2) F/B STRAP	3.8 x 2.8 x .33	51-52 TOP SKIN		
	51-52 O/B STRAP		51-52 BOT SKIN		
106	DISASSEMBLE PARTS OF THE WING TOGETHER WITH THE FOLLOWING ITEMS TO COMPLETE ASSY 106				
	311-312 F/B SPLICE	SIZE OF ASSEMBLY	3.4 x 4.8 x .033		7-0154-51
	313-314 O/B				
	F/B				7-0154-51/A
	F/B				
	51-52 TOP SKIN				7-0154-51/A
	53-54 BOT				
	TOP				
	BOT				
	53-54 TOP	(2 req)			
	53-54 BOT	(2 req)			
107	3353-3354 CHANNEL		1551-1552 PKG	7.5 x 1.2	7-0154-39
	3355-3356				
	3361-3362				
	4701-4702				
	4703-4704				
	4705-4706				
	3351-3352				
	2167-2168				
	1231-1232				
	1227-1228				
	3371-3372 FILE				
	3377-3378				
	4067-4068 CHANNEL				
	4A1-4A2				

Ref No.	Part No.	Size	Part No.	Size	Dwg No.

Ref No.	Part No.	Size	Part No.	Size	Dwg No.

BILL OF MATERIAL

ITEM	MATL	DESCRIPTION	MGB	PRODUCT

INDEX

A. REF. NO. - REFERS TO A PARTICULAR ASSEMBLY AS SHOWN ON SHEET 1.
B. PART NO. - INDICATES PART (OR PARTS) WHERE THERE IS L.H. AND R.H. WHICH ARE TO BE BONDED TO ITEM SHOWN IN COLUMN D.
C. SIZE - FOR A FLAT PART, THE DIMENSIONS ARE THAT OF A RECTANGULAR AREA REQUIRED TO CONTAIN THE PART. FOR A FORMED PART THE DIMENSIONS ARE THOSE OF A PRISM OR VOLUME WHICH WILL CONTAIN THE PART.
D. PART NO. - REFERS TO LARGEST ITEM IN ASSEMBLY OR TO ITEM WHICH OTHER PARTS ARE BONDED TO.
E. AS FOR C.
F. DWG NO. - REFERS TO DWG SHOWING BONDED PARTS OR TO DWG USED FOR REFERENCE.

NO.	DATE	CHANGES	DATE	BY	CHKD

AVRO AIRCRAFT LIMITED

PRODUCTION ENGINEERING DEPARTMENT
TOOL DESIGN

TOLERANCES: EXCEPT AS NOTED, FRACTIONAL ±1/64, DECIMAL ±.005, STRUCTURAL ±1/8

MATL

DESIGN R. YORKSON
DETAIL
CHECKED
APPROVED
DATE MAY 18/53

TITLE: PROPOSED ASSEMBLIES USING NARMCO 4021 METBOND TECHNIQUE

SHEET 1 OF 2
SHEET 2 OF 2

PART NO. 7-4400-C/S-PE-01

SHEET 2 OF 3