JABIRU AIRCRAFT PTY LTD

PROPELLER INSTRUCTION MANUAL

1. Approved Installations

The following combinations are approved.

Airframe	Engine	Propeller	Dia x Pitch	Remarks/Limits
Jabiru LSA 55/2K	KFM 112M	4046092	1372 x 906	Not above 3300 RPM
Jabiru LSA 55/2J	Jabiru 1600	4120232	1372 x 965	Not above 3300 RPM
Jabiru ST	Jabiru 1600	4120232	1372 x 965	Not above 3300 RPM
Corby CJ1 Starlet	Jabiru 1600	C000242	1422 x 1040	Not above 3075 RPM
Corby CJ1 Starlet	Jabiru 2200	C000242	1422 x 1040	Not above 3050 RPM
Jabiru LSA 55/3J	Jabiru 2200	C000242	1422 x 1040	Not above 3050 RPM
Jabiru ST3	Jabiru 2200	C000242	1422 x 1040	Not above 3050 RPM

2. Identification Stampings

Each propeller is marked with the particulars indicated below:

a) The Propeller Drawing No.
b) The diameter and pitches in metres, proceeded by the letters "D" and "P" respectively.
c) The type of engine for which the propeller has been designed.
d) Manufacturing Serial No.

Example:

DWG 4120232
D 1372 P 965
JABIRU 1600C
J J 4 0001 L C

Jabiru Prop.	Jabiru Engine	4 stroke	Serial No.	Leading Edge Protection	Composite Sheath

3. Description

The Propellers are constructed from 3 laminations of approved species timber and are manufactured in accordance with the relevant approved Drawing. They are single piece 2 blade propellers with either a 50mm wide abrasive resistant tape (JABIRU Part No. PP0029N) or an inlaid leading edge (composite or urethane), or both.

The propeller finish is a composite sheath, and clear epoxy paint (JABIRU Part No. PP0039N).

IMPORTANT

The JABIRU Model LSA 55/2J, LSA 55/3J and Jabiru ST and ST3 aircraft are Type Certified by the Australian Civil Aviation Authority or with the Australian Ultralight Federation Ltd. In countries other than Australia, different registration requirements will apply. It is the owner's responsibility to become fully aware of the particular maintenance requirements and limitations applicable to the appropriate registration.

WARNING

ENSURE IGNITION SYSTEM IS "OFF" BEFORE COMMENCING ANY WORK ON PROPELLER.

DO NOT RUN ENGINE WITH PROPELLER DISCONNECTED OR ENGINE DAMAGE WILL RESULT.

4. Installation

The Propeller is bolted to the Propeller Drive Flange with 6 x AN4-34A aircraft grade bolts attaching to Propeller Fixing Nuts. There are 2 Belleville Washers between the Aluminium Propeller Flange and each bolt head. These Belleville washers must be fitted as shown in the attached drawing, i.e. domed side out on each washer.

Bolts should be torqued to 12 nm (108 inch/lbs) in accordance with the torque sequence shown in the attached drawing.

IMPORTANT

The Spinner is an important and integral part of the propeller Assembly. It is essential to ensure adequate engine cooling. The aircraft must not be flown with the Spinner removed.

5. To Remove Existing Propeller

1. Remove Machine Screws (4) and Fibre Washers (3) from Spinner (1).
2. Remove Spinner.
3. Unbolt Propeller Bolts (7) - 6 off.
4. Remove Bolts, Spinner Flange (2), Aluminium Propeller Flange (10), Belleville Washers (8) - 2 per Bolt, and Propeller (5).

6. To Assemble and Replace Propeller Assembly

1. Ensure that Propeller Fixing Nuts (9) - 6 off, are in place in the Crankshaft Propeller Flange.
2. Preassemble Propeller Bolts - 6 off, Belleville Washers - 12 off: 2 per Bolt: dome out on each washer, Aluminium Propeller Flange, Spinner Flange and Propeller.
3. Locate preassembled parts on Crankshaft Propeller flange and commence to engage bolts. Progressively tighten bolts ensuring equal distribution of load and in accordance with t he torque pattern illustrated in Figure 1. Using Torque Wrench, tighten Bolts to 8 nm (72 inch/lbs) as per sequence in the attached drawing.
4. Check tracking of Propeller by locating a fixed object on a flat floor so that it just clears the Propeller tips when rotating the Propeller by hand. Check that each blade clears the object by the same amount. If the Propeller is outside the approved tolerance, refer to JABIRU Aircraft Pty Ltd or a JABIRU Approved Service Centre.
   Maximum Tracking Error Tolerance is +/- 1mm.
5. Locate Spinner on Spinner Flange and fix with Machine Screws through Fibre Washers (3).
6. Check Spinner for balance by locating a fixed object on a flat floor to just clear the lower edge of the front dome of the Spinner. Rotate the propeller by hand and check that the Spinner runs true.
   Correct any imbalance by loosening and retightening Machine Screws.

7. Servicing and Repairs

Any service or repair must take account of the risk of subsequent Propeller failure. Therefore repairs are limited to the filling of small nicks in the Propeller. Maximum size of nicks approved for repair is:

Those in Leading Edge: 4mm deep x 20mm long
Those across the drive Face (flat sides) : 2mm deep x 6mm diameter or scratches not more than 0.5mm deep.

Repairs must also take account of the changes to balance of the Propeller and therefore the Propeller should be removed in accordance with the procedure described in Paragraph 5 above. It must be checked for balance (see Paragraph 8) prior to refitting (see Paragraph 6), checked for tracking after reassembly (see Paragraph 6.4) and the Spinner checked for balance after reassembly (see Paragraph 6.7).

Only nicks within the size tolerances described above may be repaired. All propellers with cracks or splits (or any delamination of the composite sheath in the case of sheathed Propellers) must be either Rejected as unserviceable or returned to JABIRU Aircraft Pty Ltd for assessment and possible repair.

In composite leading edges, nicks of a size described above may be repaired by filling with epoxy resin and Fibreflock using the procedure outlined below (Propeller Repair Kit is available from JABIRU as Part No. PP0049N):

1. Remove Propeller as per Paragraph 5.
2. Sand nick with abrasive paper to remove any fractured particles.
3. Mix resin carefully and thoroughly (equal parts resin and hardener) and thicken with Fibreflock to form a paste.
4. Apply paste to sanded nick and allow to cure in low moisture environment for 24 hours.
5. Lightly and carefully sand excess cured resin to a smooth surface matching exactly the previous aerofoil.
6. Refurbish with clear Epoxy paint (JABIRU Part No. PP0069N).
7. Rebalance Propeller (see Paragraph 8).
8. Reassemble and replace Propeller and Spinner (see Paragraph 6).
9. Check Propeller tracking and Spinner balance (see Paragraph 6).

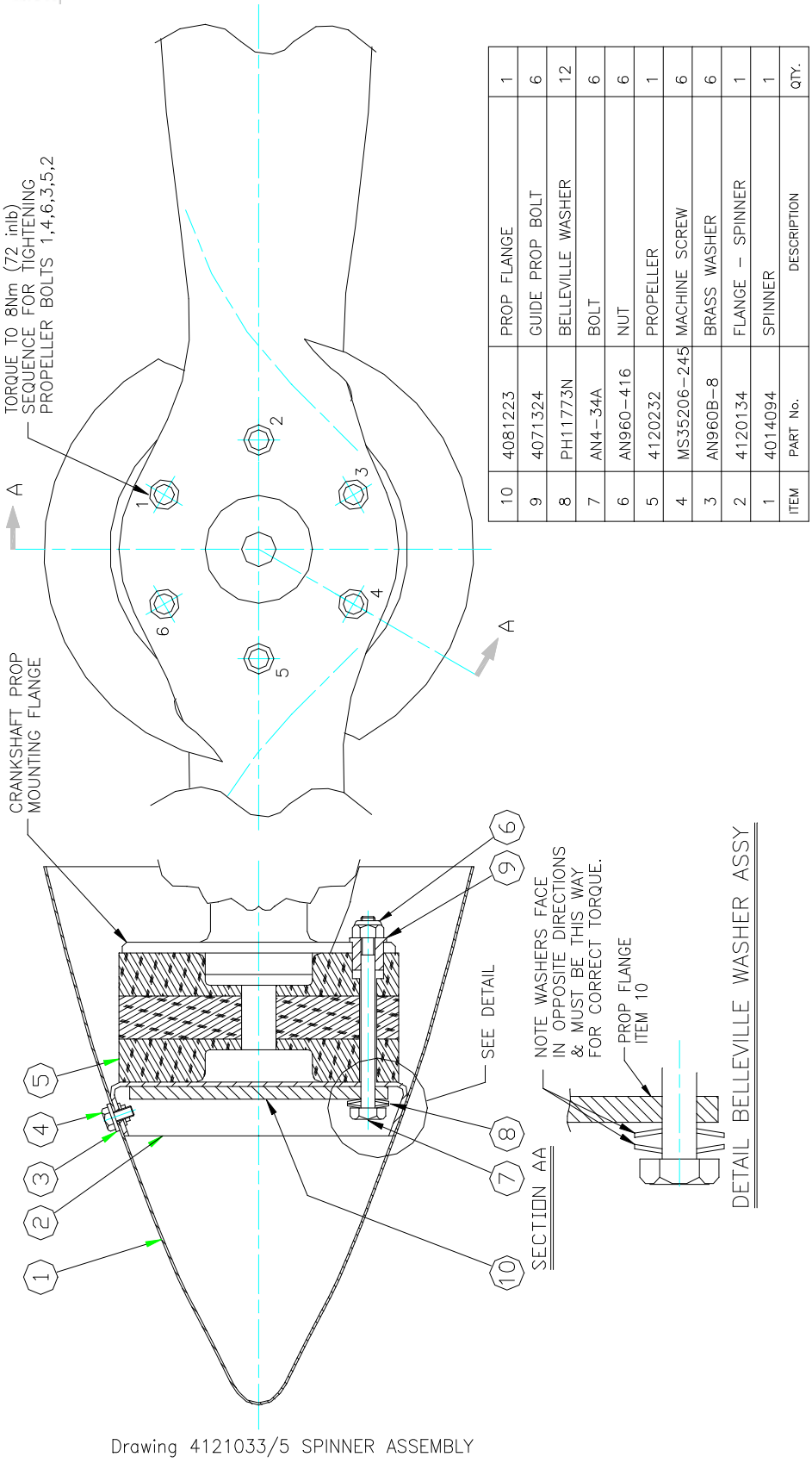
Damaged urethane leading edges should be referred to Jabiru Aircraft Pty Ltd for repair.

8. Propeller Balancing Procedure

Propeller balance should be checked by locating a 16mm tube to firmly fit the centre mounting hole of the Propeller and balancing on "knife edges".
Tolerances: Imbalance shall not exceed the following limit whatever the position of the Propeller in the plane of rotation: 750 mm-gms (approximately 1 gm at the tip).
The balance may only be corrected by the application of epoxy paint. Any other method of securing balance is PROHIBITED.
Propellers outside these limits should be rejected as unserviceable or returned to JABIRU for assessment and possible repair.

9. Parts List

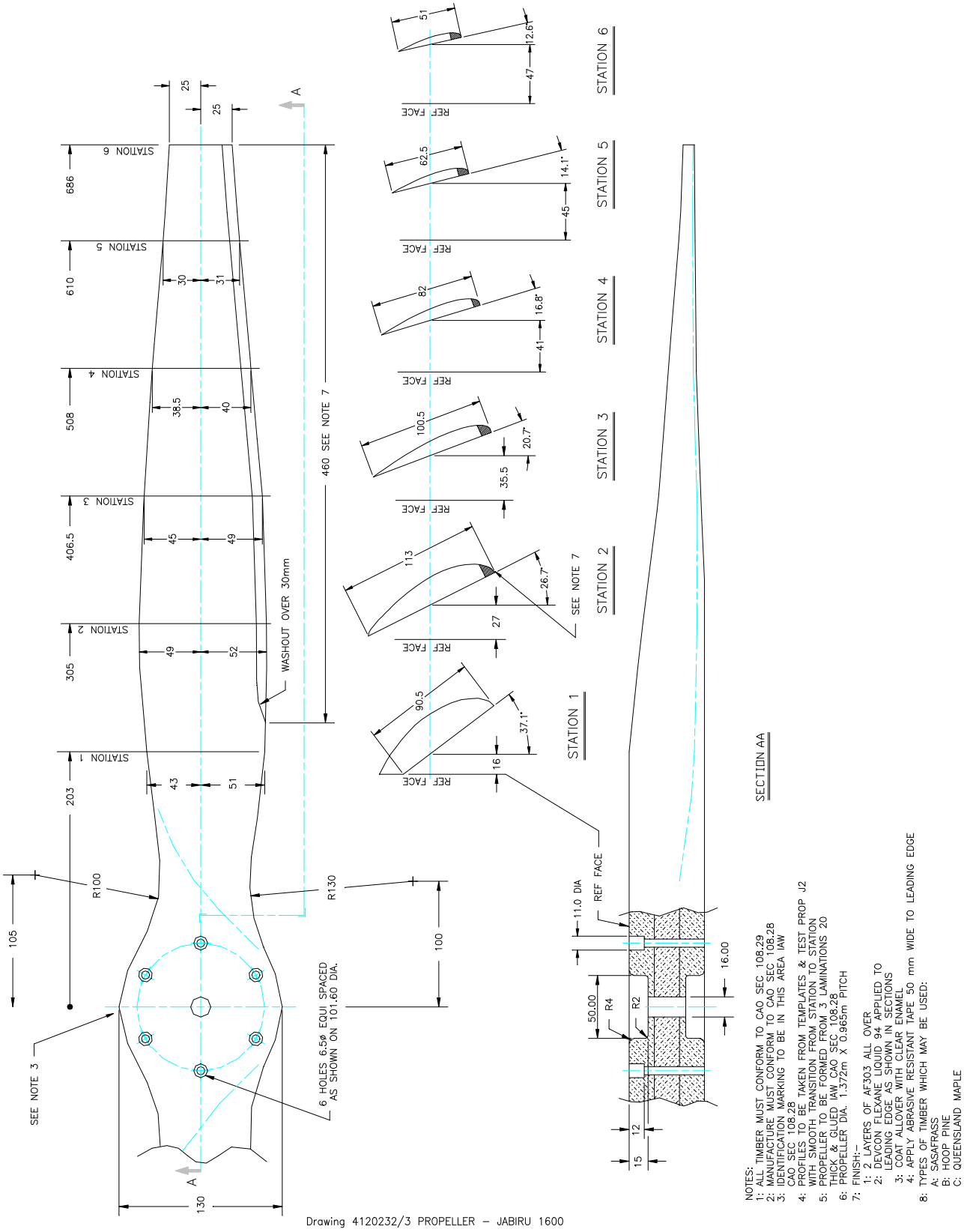
Part No.	Dwg Ref.	Description	Qty
As Appropriate	5	Propeller	1
4071324	9	Guide Prop Bolt	6
AN4-34A	7	Bolt	6
PH11773N	8	Belleville Washer	12
AN960-416	6	Nut	6
4081223	10	Aluminium Propeller Flange	1
4120134	2	Spinner Flange	1
4014094	1	Spinner	1
PH0389N	3	Fibre Washer	6
MS35206-245	4	Machine Screw	6
PP0029N	-	Leading Edge Tape (2 blades)	1
PP0039N	-	Epoxy Paint - Clear 250 ml	1
PP0049N	-	Propeller Repair Kit (Composite Edge)	1



ITEM	PART No.	DESCRIPTION	QTY.
10	4081223	PROP FLANGE	1
9	4071324	GUIDE PROP BOLT	6
8	PH11773N	BELLEVILLE WASHER	12
7	AN4-34A	BOLT	6
6	AN960-416	NUT	6
5	4120232	PROPELLER	1
4	MS35206-245	MACHINE SCREW	6
3	AN960B-8	BRASS WASHER	6
2	4120134	FLANGE - SPINNER	1
1	4014094	SPINNER	1

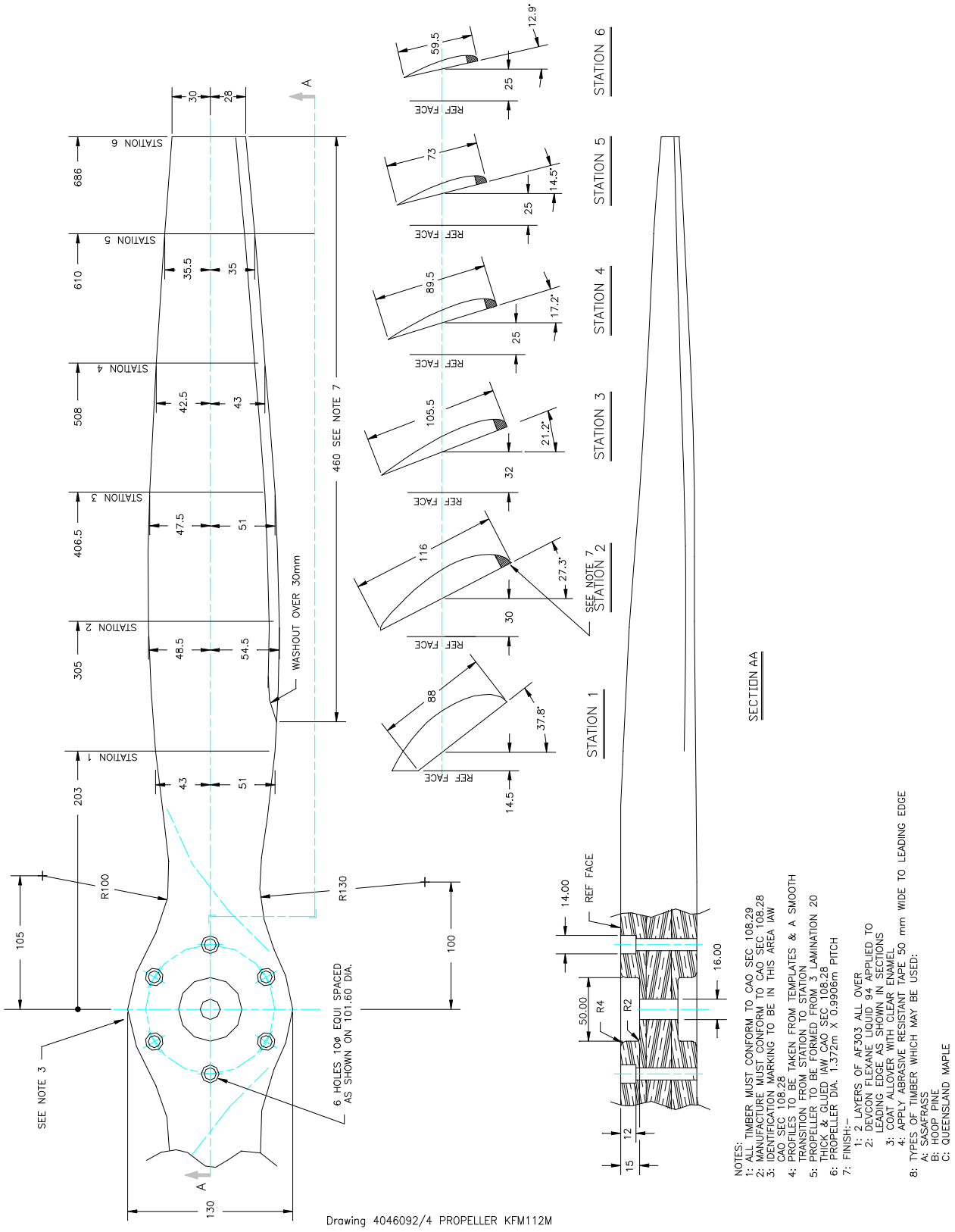
Drawing 4121033/5 SPINNER ASSEMBLY

Drawing 4121033 - Spinner Assy - Jabiru

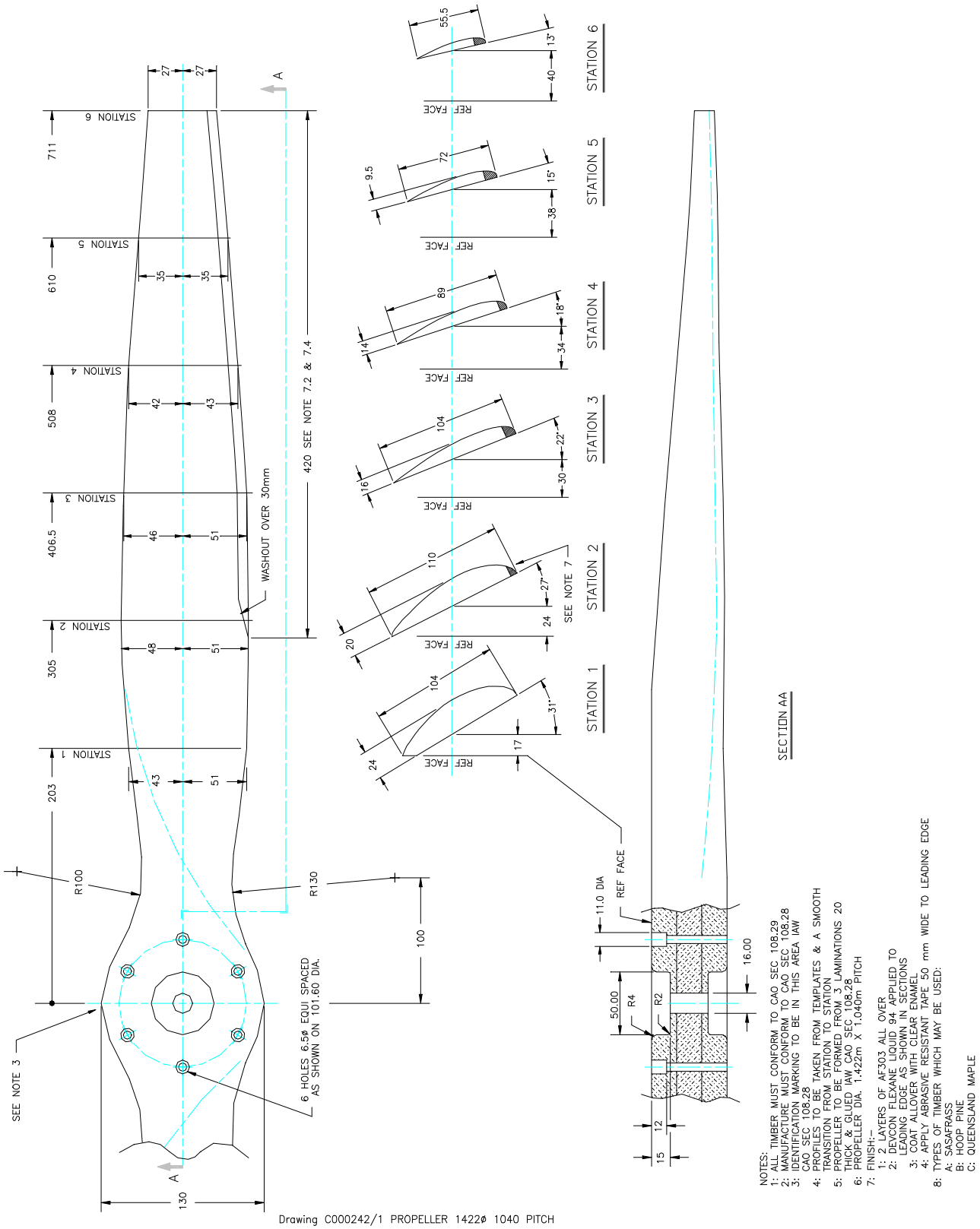


NOTES:
1: ALL TIMBER MUST CONFORM TO CAO SEC 108.29
2: MANUFACTURE MUST CONFORM TO CAO SEC 108.28
3: IDENTIFICATION MARKING TO BE IN THIS AREA IAW CAO SEC 108.28
4: PROFILES TO BE TAKEN FROM TEMPLATES & TEST PROP J2 WITH SMOOTH TRANSITION FROM STATION TO STATION
5: PROPELLER TO BE FORMED FROM 3 LAMINATIONS 20 THICK & GLUED IAW CAO SEC 108.28
6: PROPELLER DIA. 1.372m X 0.965m PITCH
7: FINISH:-
1: 2 LAYERS OF AF303 ALL OVER
2: DEVCON FLEXANE LIQUID 94 APPLIED TO LEADING EDGE AS SHOWN IN SECTIONS
3: COAT ALLOVER WITH CLEAR ENAMEL
4: APPLY ABRASIVE RESISTANT TAPE 50 mm WIDE TO LEADING EDGE
8: TYPES OF TIMBER WHICH MAY BE USED:
A: SASAFRASS
B: HOOP PINE
C: QUEENSLAND MAPLE

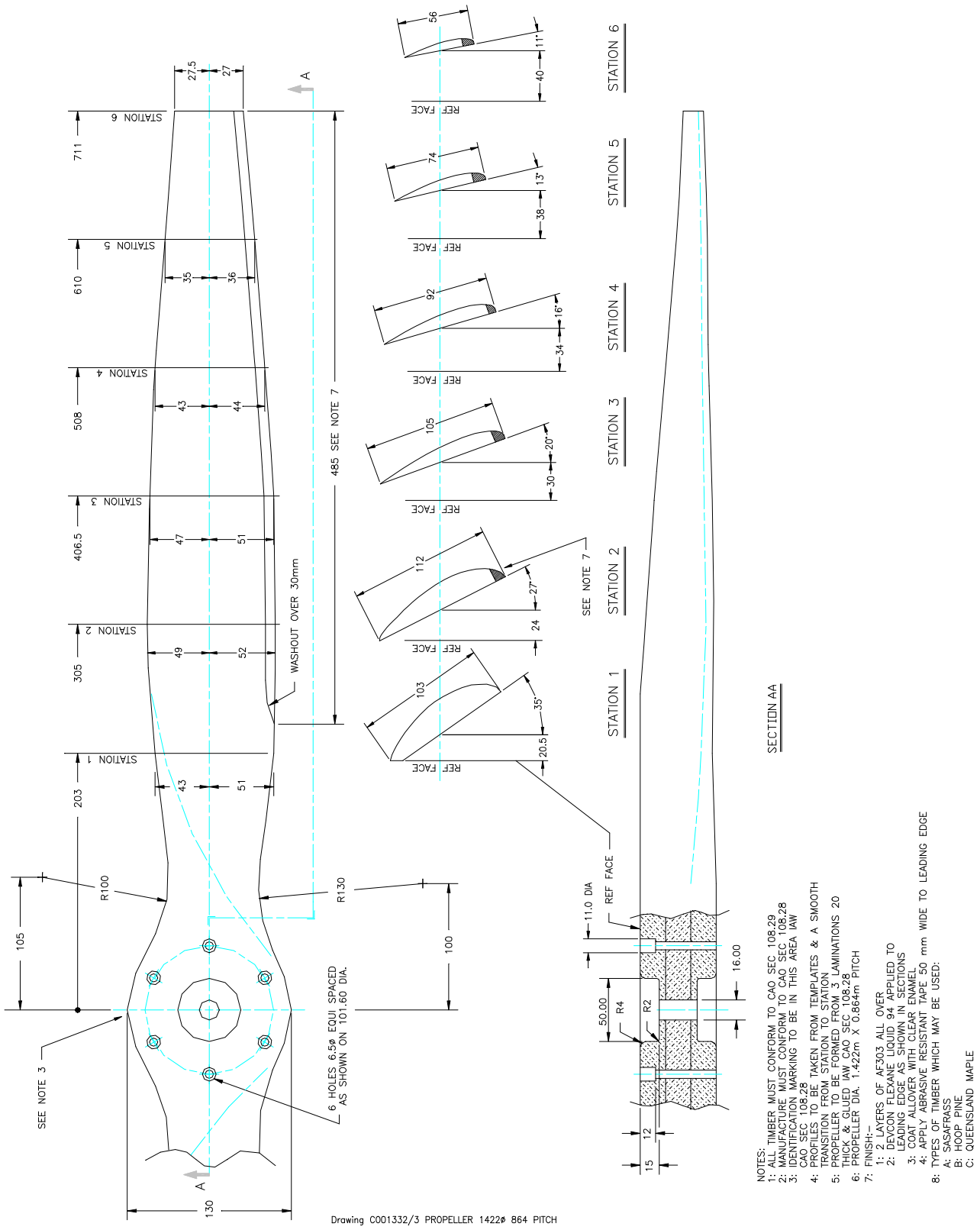
Drawing 4120232 - Propeller - Jabiru 1600A



Drawing 4046092 - Propeller - KFM112M



Drawing C000242 - Prop 1422 dia 1040 Pitch



Drawing C001332 - Prop 1473 dia 864 Pitch
(for Jabiru 2200A powered Lightwing)