# mainair sports

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AIRWORTHINESS BULLETIN NO. 15.

Fuji Robin 440 Dual Seaters

Propeller Bolts

We have been experiencing a spate of fatigue failures of the propeller bolts immediatley at the end of the shank caused we think, by manufacturing faults in the thread cutting. Some bolts have been tested and found to be about 10% below the minimum designated strength. As a result we are recommending that all units be up-graded from ¼"dia bolts to 5/16"dia since it is obvious that the higher flying speeds and harder work most machines are doing these days have shown up a very low safety factor which does not cater for a large enough manufacturing tolerance.

Action

If you have experienced a failure contact us immediatley. If you have not had a failure but wish to change please send in an order and cheque for the basic cost of £4.50 and we will dispatch a replacement set of 4 x 5/16" dia by return of post.

Shaft type reduction drives

Fatigue and 1981 design is catching up with the old style shaft reduction drive units. The screw jacking studs can fracture through vibration and age and we now recommend that they be changed at a maximum of 100 hours and not 200 as stated in the manual. In addition, like every other manufacturer we too have had reports of shaft failures, loose bearings and a general reluctance of some units to stand up to the work associated with tuition, joint ownership and similar situations where a large number of flying hours are accrued.

Action

If you are operating a machine in such circumstances we suggest you change your re-drive system to the casting and hub type as quickly as possible. In any event, frequent inspection of the jacking studs and shaft assembly is essential and you should remember that the slightest imbalance of a propeller will magnify the vibration and subsequent likelihood of failure dramatically.

Propeller Hub

Since the report in bulletin No.14 of March, we have had one more report of hub cracking and we suspect that the 3 faulty ones reported were isolated examples in one particular batch supplied to us.

As soon as the problem was reported, we took immediate steps to identify our current production and stamped each propeller flange with the number "25 TF" after heat treatment and machining. These pulleys are all correct.

There may be others in the field developing a crack which so far has occurred on the failed pulleys immediately behind the propeller flange on the hub shank. Inspect your machine carefully and any suspect hubs should be returned to the factory for inspection.

John Hudson

John A.Hudson (Director)

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