mainair sports

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SERVICE BULLETIN NO. 31 - 21-2-89 Circulation all owners

Note: If you no longer own your microlight, please pass this bulletin on to the new owner and let us know his address.

Item 1 - Tooth belt and V belt Reduction Drives - Robin engines

We received a report of a crack in the hub unit on a Robin 440 reduction drive. This has been covered in our service bulletin No. 14 of March 1985 with a reminder in numbers 15, 18 and 22. The crack occurs in the shank behind the propeller attachment flange. All operators should examine this area very carefully under strong light whilst flexing the propeller. The crack is progressive and replacement of the part is the only solution. Frequent examination of this area is essential, since failure to detect a crack may result in loss of the propeller.

Item 2 - Incorrect assembly of Flash wings - all owners

A wing from a Pegasus Flash was returned to the factory for checking during which we found a number of faults. Many rigging bolts were tightened locking the wire thimble end. This practice leads to fatigue failure of the wire at the end of the swage. The bolts should be tightened only enough to allow the end termination to move freely in all directions. In addition, the upper rigging wires were bolted to the wrong side of the cross tube. We urge all owners to take great care when stripping down any of our aircraft to ensure correct assembly, and if in doubt do not undertake the work but return the aircraft to the factory.

Item 3 - Failed box engine mount - all engines

A 503 Gemini suffered a crack in the 20 x 20 box mount near to the seat mounting channel. This occurrence is caused by fatigue and steps have been taken to strengthen the part. Owners are reminded to inspect this area frequently and to reduce problems, ensure the propeller is kept accurately balanced and the engine does not have a too slow tick-over speed or is rough running.

Item 4 - Fuel Tank Pick-up Pipe - all owners

An owner stored his front tank for 6 months but for some reason left it upside-down. The fuel dip pipe subsequently 'set' in 'HIGH' position and during the first flight after the storage, with a half tank of fuel, the engine stopped. We had a similar problem on the rear tank on Geminis and Alphas and introduced a stainless spring to hold the pipe. We recommend that all owners store the front fuel tank the right way up with the top and filler uppermost. After a long lay-off, owners should take extreme care and carry out a thorough and detailed check of all systems - perhaps running the engine for an extended period. Storage can lead to dried out and damaged fuel lines, rodent chewed fabric and cables, and insects and bugs crawling into vent pipes, feed pipes, carburettors and similar places you would not expect to find them.

Item 5 - Wing Leech Line Retaining Rings - all wings except Alphas

The leech lines are retained by a split ring through the wire eye. If these rings become corroded they can fail. The whole lot can be replaced for less than £2 and further comment is unnecessary.

Item 6 - Alpha Front Steering

Complaints have been received about 'stiction' in the steering leading to oscillation during landing. We have traced this to the steering bush which is made from a pre-lubricated material, which seems to absorb water and hence tightens up on the fork stem. Production aircraft are now fitted with a grooved bearing and grease nipple in the steel stub.For existing aircraft we recommend frequent application of penetrating oil and perhaps stripping down and cleaning out if the problem persists. The bush can be replaced with a grooved one but to fit a grease nipple means stub replacement.

Item 7 - Alpha Rear Wheels and Tyres

The constant flexing of suspension can lead to high wear of the rear tyres when used on hard runways. Our problem with this has been exacerbated by a rubber hardness change - as outlined in our bulletin No. 29. We are now fitting a narrower profile high duty tyre with a substantial tread depth on the rear wheels as standard for 1989. This also increases the clearance in the wheel spats. These tyres are available for fitting to all Alphas and will reduce the liklihood of punctures.

Item 8 - Alpha Wheel Bearings and Rear Axles

The rear wheels are fitted with cup and cone type ball bearings which run on the hardened steel axle. If these bearings are not kept in accurate adjustment, wear of the axle shaft can result, and we have seem some alarming examples. We are now fitting a new axle shaft which allows sealed ball races to be used, which eliminates the need for maintenance and adjustment. A kit of steel axles, ball races, sleeves and full fitting instructions is now available for existing owners. A special price is offered to all new aircraft sold after 1st November 1988 which do not have the new axle/wheel bearings. The cup and cone type can be identified by a round adjustment nut with spanner flats on the outside of the wheel (inside the spat). Ball race bearings have hexagon nuts holding them in place.

Item 9 - Alpha Rear Axles

In line with the above item 8, we recommend that all owners check the rear axles for wear in the steel axle shaft. Significant wear will require replacement of the axle shaft and upgrading to the ball race assembly.

Item 10 - Alpha Rear Suspension Springs

For the past nine months we have supplied production Alphas with a stiffer grade of spring - identified by red coating. These are 30% stiffer than the white ones and 50% stiffer than the original gold ones. With the correct tooling they can be retro-fitted, and although giving a slightly harder ride, they do reduce lean and improve ground stability.