

## Air Test . . .

occurred, without any particular tendency for a wing to drop, at 43 kts. (80 km.p.h.). Again recovery was normal.

Circuits and landings are made easier than usual by the good outlook from the pilot's seat, and lack of trim change. There are three items of importance to remember: to switch the fuel booster pump "On", fuel to the front tank, and carburettor air to "Hot". After this, flaps may be lowered as soon as speed falls below 80 kts. (150 km.p.h.) and there is then little more to do but drive in and land. In practice, it is most comfortable to slow down to about 70 kts. (130 km.p.h.) and lower half flap during the downwind leg. During the final approach, full flap can be lowered if desired and speed reduced to whatever is appropriate for the prevailing conditions.

In a wind of 15 kts., with a good deal of turbulence, a speed over the boundary of about 65 kts. (120 km.p.h.) gave plenty of control, and there was little to choose between half and full flap. In a stronger wind, half flap would probably be preferable, otherwise excessive power would be needed to avoid an over-steep angle of approach. In still air, full flap and a speed over the hedge of 62 kts. (115 km.p.h.) are recommended by the makers. Actual touch-down presents no problems, and the air-

craft stays down and runs straight after landing.

The Super Emeraude is imported into Britain by the Tricolore Trading Company of 15 Westhall Park, Warmingham, Surrey, who offer it for £2,895 in basic trim, plus 14 per cent duty, and whatever extra import charges are in force at the time. The price at Biggin Hill, duty paid, would therefore be £3,300 including the standard 14 per cent import charge. To this should be added the cost of any special instrumentation or radio required by the customer.

Operating costs depend so much on the way the aircraft is used and maintained that they can vary widely. Insurance at 5 per cent would amount to £165 a year; fuel consumption could be expected to average 5 gall. per hour in normal use; hangarage could vary from very little for the owner who is able to keep his own landing strip and perhaps use an existing building to £100 or more at an expensive airfield. For the club which is already operating elderly aircraft, as so many are, the Super Emeraude seems to offer the chance of a really attractive aircraft at no greater cost than existing equipment. It combines this attractiveness with a solidity and comfort very different from some of the earlier imported wooden aircraft, and should be well worth investigation.

G-ASNI is actually the privately oper-

ated aircraft of Mr. Couesnon and Mr. Morgan, two of the directors of Tricolore Trading. When *Air Pictorial* was invited to do this air test, they merely said "Here's the aircraft; here's the handbooks; help yourself". This in itself is an excellent recommendation for any aircraft, and shows the confidence felt in it by its sponsors. The Super Emeraude proved a delightful aircraft to fly, and when looking out from the warm, comfortable cockpit at the beautiful Spitfire-shaped wing, it was impossible not to forget minor criticisms such as the brakes, and instead to give oneself over entirely to enjoying flying it. The Super Emeraude encourages this. Thank you very much, Mr. Couesnon!

### Specification

Span . . . . .	27.06 ft.
Length . . . . .	21.44 ft.
Height . . . . .	7.19 ft.
Weight empty . . . . .	915 lb.
Weight loaded (max.) . . . . .	1,553 lb.
Max. speed at S/L . . . . .	124 kts.
Cruise,	
75% power at S/L . . . . .	114 kts.
75% power at 6,500 ft. . . . .	119 kts.
Climb at S/L . . . . .	728 ft./min.
Service ceiling . . . . .	13,000 ft.
Range at 114 kts. . . . .	540 naut. miles
Take-off to clear 50 ft. . . . .	1,200 ft.
Landing run . . . . .	755 ft.

## Sonic Bangs

by K. C. Reavell

R.A.F. UPWOOD on 21st April was the setting for "Exercise Westminster", a demonstration to M.P.s and other interested persons of the probable effects of the sonic bangs that will be caused by supersonic transports in the future. Lightnings from Wattisham created sonic bangs, explosive charges were set off on the airfield, and the Ministry of Aviation's Comet 4C, XS235, made "jet overflights". These noises were made at about 3-minute intervals and were repeated in the afternoon so that they could be heard indoors;

### Results from Upwood demonstration

Event	Type	Intensity (bangs in lb./sq. ft.) (jet flyovers in PNdB)	
		Morning	Afternoon
A	Explosive bang	0.9	1.0
B	Sonic bang	2.2	1.3
C	Explosive bang	2.2	2.0
D	Sonic bang	2.0	1.3
E	Jet flyover	110	111
F	Explosive bang	1.4	1.8
G	Sonic bang	1.0	1.3
H	Explosive bang	1.9	2.1
J	Sonic bang	1.9	1.3
K	Jet flyover	110	111
L	Explosive bang	2.5	2.1

however, the bangs were not of the same intensity in both programmes.

Lightnings simulated the likely bang of the much larger Concorde by flying at about half the latter's cruising altitude.

It was stated that the likely intensity of the Concorde bang when it was fully loaded with fuel (such as for the non-stop North Atlantic crossing) would be somewhat over 2 lb. per sq. ft. at the start of supersonic flight (*i.e.*, about eighty miles from take-off). For shorter distances (such as trans-continental operations in the U.S.A.) where less fuel would be carried, it was anticipated that the boom would be about 1½ lb. per sq. ft. initially. At the end of a flight the bang should not be greater than 1½ lb. per sq. ft.

If the 2 + lb. per sq. ft bang proved unacceptable, then for flights leaving London, the transonic acceleration could be delayed for some miles and the route diverted a little to the south so that bangs would not be created until the Bristol Channel area was reached, thus freeing the Cotswolds, South Wales and Southern Ireland from any possible disturbance.

However, in the case of flights from those parts of continental Europe where the U.K. would have to be crossed (*e.g.*, from Brussels and Amsterdam) non-stop to North America, it would probably not be operationally possible to delay transonic acceleration until after passing over the U.K.; diversion by way of the English Channel would not prove practicable either.

It was stated that for these flights, crossings of Britain would be routed along a

number of "upper airways" such that the number of bangs heard in any one area would be restricted. But there was no evidence presented to show the assumption that "ten bangs a day is any less annoying than twenty" is correct. In fact if one is subjected to bangs only very rarely, then they might be quite annoying because of their "surprise" content, whereas if they occur fairly frequently, then people may get used to them.

The total number of complaints received from both the actual demonstration and the rehearsal was nineteen, six of which alleged damage (three broken windows, two fallen ceilings and one "broken eggs"). We were told that to break well-mounted windows a bang of about 30 lb./sq. ft. was necessary and that for badly mounted ones this might be reduced to about 8-10 lb. per sq. ft. Similarly the only damage that could be done to ceilings was that a fall, which was imminent anyway, might be triggered off by one of the bigger bangs. As the maximum focusing effect ever observed in practice has not exceeded 3:1, the official attitude to the validity of these claims of damage was sceptical.

My own subjective opinion was that I could quite easily put up with the bangs. If they were unexpected however, they might be a little more annoying because of their surprise effect. However, certain sick people, those of a very nervous nature, light sleepers, and those who are troubled by such things as thunderstorms, etc. (especially old people and children), and some pets and farm animals might be unreasonably disturbed.