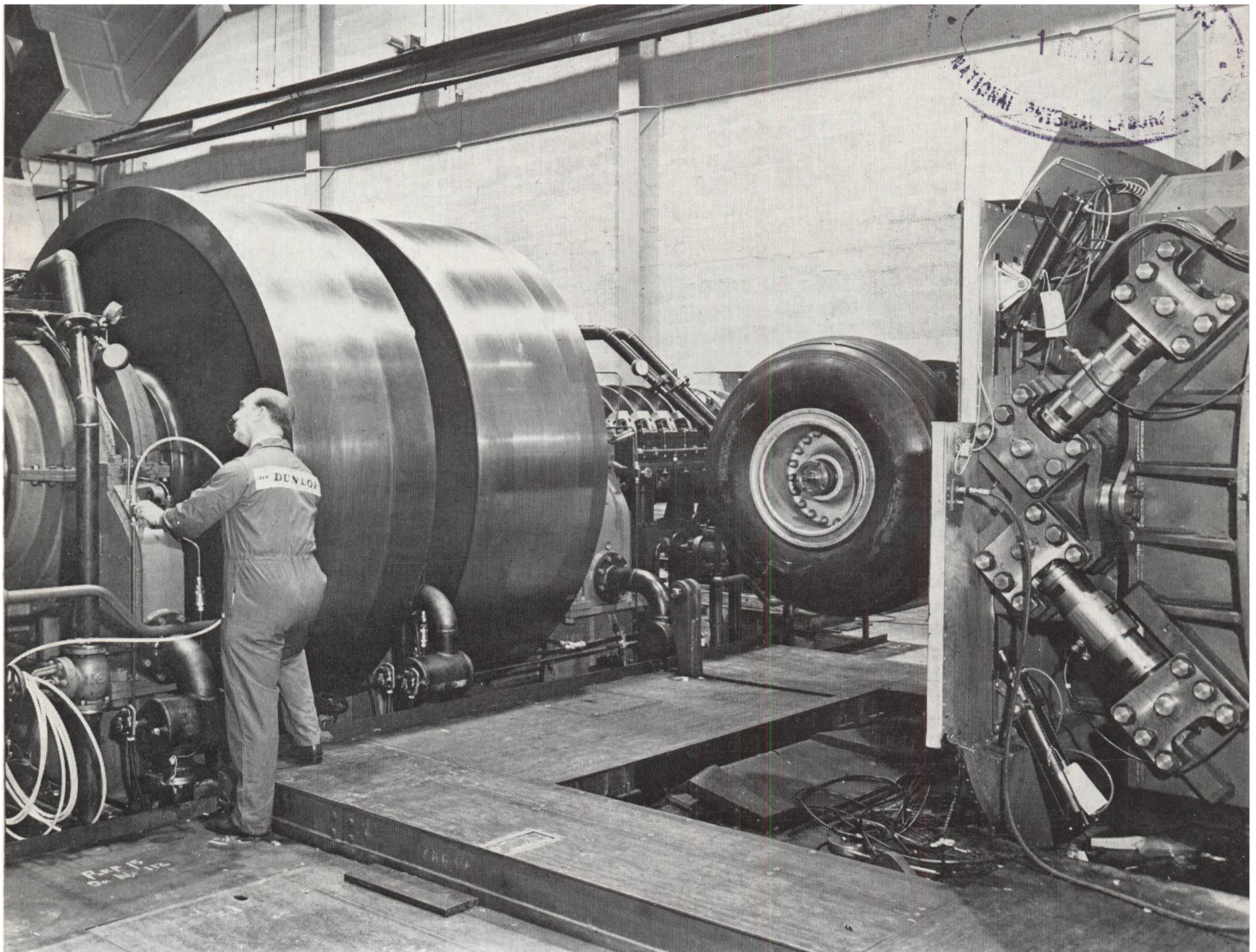




INCLUDING SUPPLEMENTARY PAPERS

APRIL 1972

THE
aeronautical
JOURNAL



THE ROYAL AERONAUTICAL SOCIETY



Buller's Albatross photo: Mr. F. Cooper - Bruce Coleman Ltd.

birdbrain?

Everything that flies needs a brain of some kind.

What kind of brain for the latest reconnaissance and strike aircraft, with their far probing sensors and variety of weapons?

It obviously needs to be pretty alert to cope with all the information flooding in and the systems to be controlled.

Computers with this sort of capability have been a bit thin on the ground up to now.

And even thinner in the air.

Now there's one that's right for the job and ready for action.

It's called FM1600D.

Sounds familiar?

It has the same kind of power as our FM1600B, at the heart of action information and weapon control systems for so many of the new ships of the Royal Navy and other friendly fleets.

Specially developed for airborne use FM1600D comes with revised interfaces making for simpler systems engineering and greater integrity between system units.

And it takes future storage developments in its stride.

FM1600D provides fast 48-bit floating-point arithmetic, 24-bit fixed-point arithmetic, over 320 instructions and up to 65,536 words of ported core and/or semiconductor memory.

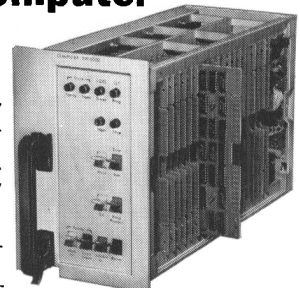
It can concentrate its power on any sensor, weapon or tactical activity as events require.

Ferranti Limited, Digital Systems Division, Bracknell, Berkshire, England, RG12 1RA

FM 1600D computer – some birdbrain!

See FM1600D at the German Aviation Show
Hanover
Stand 1011 Hall A
21st April–1st May

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contents

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Cover picture:

The new Dunlop tyre, wheel and brake dynamometer facility, due to be commissioned later this year, will be the first in the world to simulate a complete aircraft sortie from taxi-out through take-off and flight to landing and taxi-in. It will enable much further work to be done on such factors as the cornering force and self-aligning torque of aircraft tyres which are increasingly important in aircraft design. The paper by Mr. R. G. Clifton and Mr. J. L. Leonard of Dunlop Ltd in this issue includes a brief description of the new facility as a fitting conclusion to a comprehensive treatise on aircraft tyre development.

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R. G. Clifton and J. L. Leonard

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H.D.A. ...masters in

Wherever modern technology demands the best in modern metals, the answer is H.D.A.

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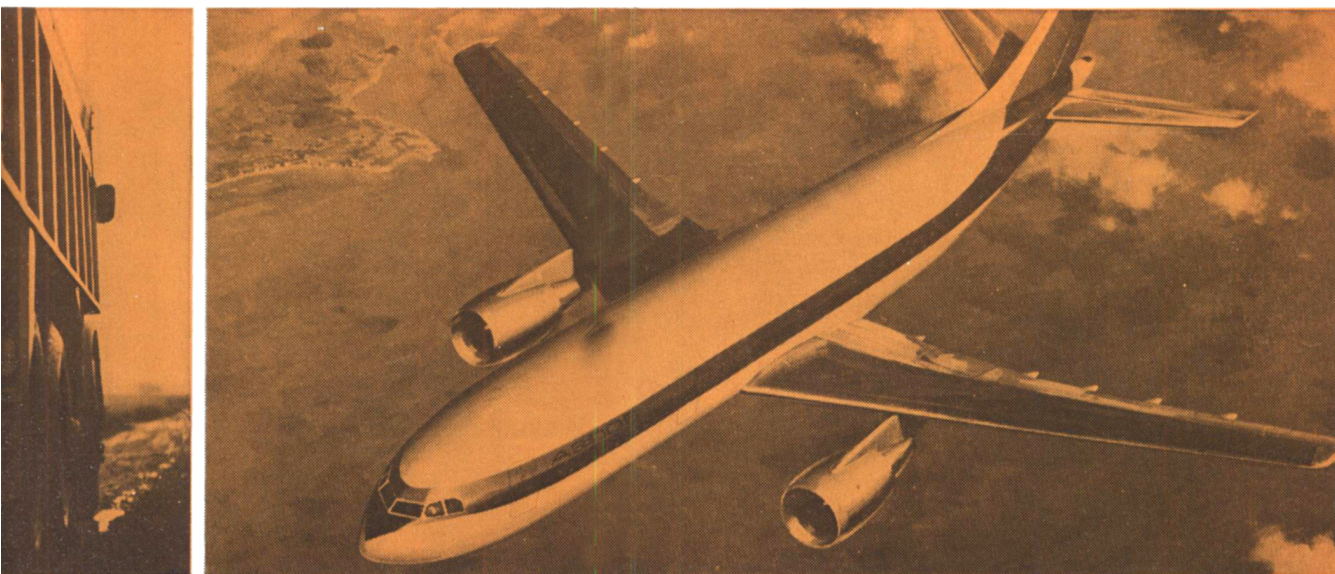
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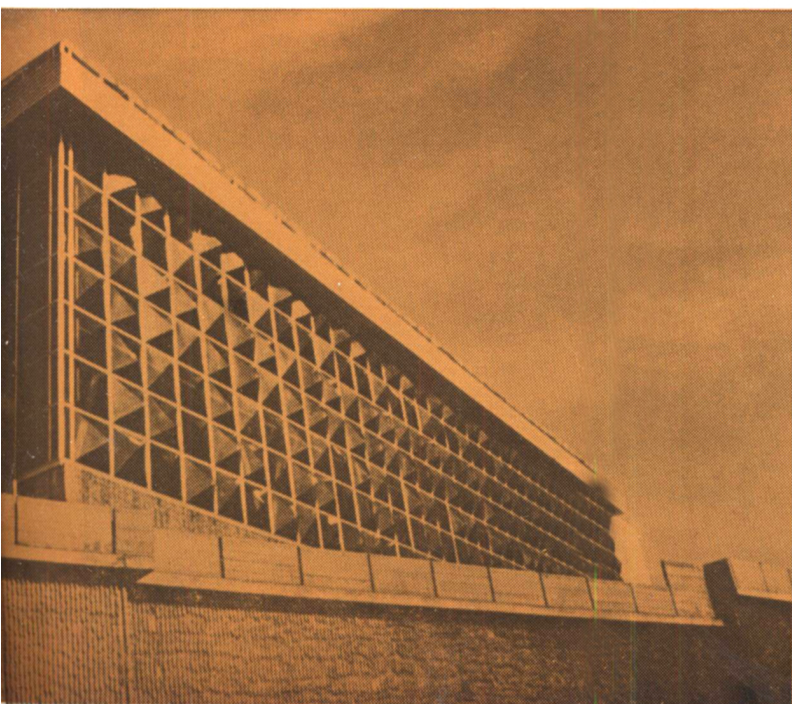
some ideas about the component.

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Use our experience. You'll find we have some useful suggestions.



The wings of the A300B European Airbus were designed and fabricated by Hawker Siddeley Aviation. In their constructions H.D.A. aluminium alloy precision forgings were used.



Summerland, Castle Derby, Isle of Man structure in H.D.A. extrusions.



Casing of an S.T.D. coin box made at H.D.A.'s pressure die foundry.

Why the U.S. Marines are sold on the Harrier.

With the Hawker Siddeley Harrier now on the USMC inventory and entering service, it's well worth taking a look at what persuaded the Marines to go for it.

With its Rolls-Royce Pegasus vectored thrust engine, the Harrier is the world's first fixed-wing operational V/STOL fighter. It's got the unique advantage of being independent of prepared runways. And it can operate from small clearings or any ship with a helicopter landing platform.

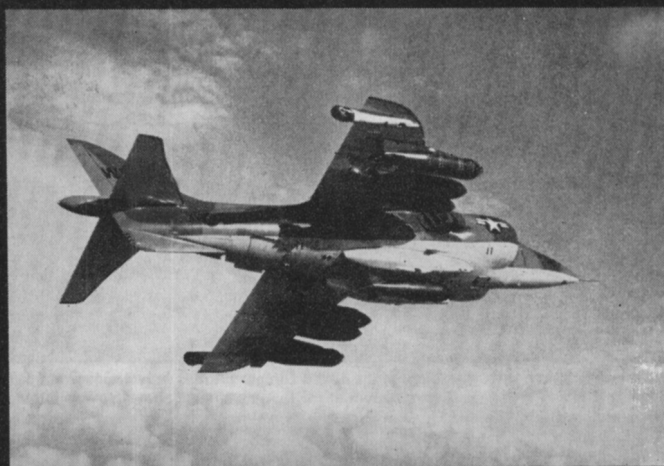
So the Marines now have a fighter ideally suited to their amphibious assault role. With its flexibility, the Harrier can provide the close air support and air defence during landing operations that proves very handy indeed. Its ability to operate from rough and difficult sites means it can be used ashore much earlier than conventional jet fighters.

By employing it closer to the battle area, the battle commander can get fuller support for his strategies. Reduce reaction time. And use it to deliver more punch, more often, because of the short flying distances.

And the Harrier's punch *is* pretty impressive. It can deliver 8,000 lb. at over 600 knots, striking at a first pass. Thanks to Ferranti FE 541 Navigation and Attack System.

This is the kind of impressive line up that prompted the Marines to take a closer look. And with all the good things the Harrier's got going for it, the next step didn't take too long.

They reached for their requisition pads. And ordered.



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