INCLUDING SUPPLEMENTARY PAPERS

FEBRUARY 1973

THE aeronautical JOURNAL

THE ROYAL AERONAUTICAL SOCIETY

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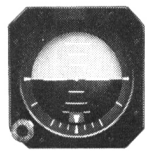
Advanced equipment for today's aircraft.

Airborne Battery Chargers

With designs based on our T.R.U. and static invertor technology we can provide accurately controlled airborne battery chargers for the latest aircraft batteries

ARTIFICIAL HORIZONS

Ferranti has supplied a main or standby artificial horizon for nearly every British service aircraft since the early 1950's and similar instruments are used by many foreign Air Forces. Our standby horizons are also widely used in civil aircraft. They are fitted to Vanguards, VC.10s, Tridents, BAC.1-11s, DC.8s and Boeing 707s. They are currently available in 4½ SAE, 3½ SAE and 3 ATI case sizes and a new 2⅜ inch horizon is entering production. We have built over 16,000 artificial horizons, of which a large percentage had output pick-offs in pitch and roll.

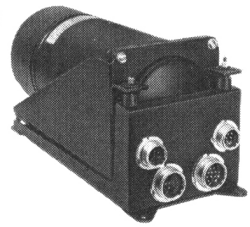


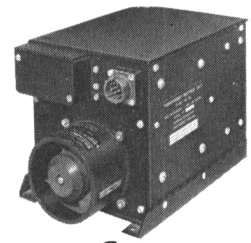
Vertical Signalling Gyros

in different types to suit your needs.

The FS.16 series of gyro units give outputs of pitch and roll proportional to the aircraft's attitude, using 3-line synchros and precision potentiometers.

Many designers incorporate them to provide datum references for instrument and avionic systems, auto-pilots and attitude indicators.





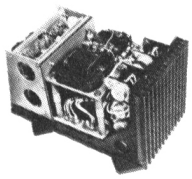
Transformer Rectifier Units

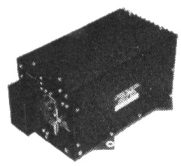
Convection, blower or force cooled. Ferranti T.R.Us have over six million unit flying hours to their credit in both military and civil aircraft. The Transformers used are from the Ferranti 'Hi-temp' range designed to run at high temperatures for long periods. High stability silicon diodes are used for the rectifier units. Four basic designs are available in different current ratings.

We've been making STATIC INVERTORS for years

During 14 years of continuous activity, Ferranti has produced thousands of static invertors.

Today we make standard units both for specific operational requirements and for multi-purpose operation, as well as static power supply equipment specially designed to customers' individual requirements.





Aircraft heading accurately indicated by Ferranti Azimuth Gyro

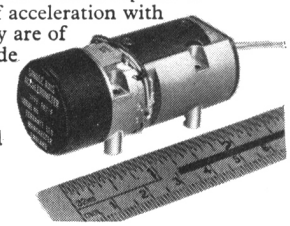
The directional gyro is used mainly with a direction indicator to provide a standby source of heading information in advanced military aircraft. Both units are light in weight and are designed such that they can be used in compass systems as well.

Current and Voltage Sensors

Applications include the monitoring of a.c. or d.c. busbar voltages, of currents in de-icing circuits or of the output of T.R.Us etc., the output signal being used, for example, to switch contactor coils, warning lamps or failure indicators.

Catch up with these ACCELEROMETERS

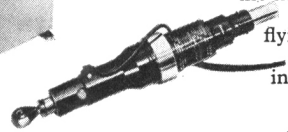
Ferranti single axis accelerometers are force-feed-back pendulous devices capable of sensing a wide range of acceleration with extreme accuracy. They are of inertial quality, are made in three sizes and with different damping characteristics. These accelerometers are used in Ferranti and other inertial navigation systems for the R.A.F.



HELICOPTER COLUMN

SAS MEANS STABILITY AUGMENT-ATION SYSTEM

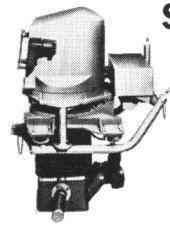
and that means comfortable flying even in bad weather



Here is a proven autostabiliser that takes the hard work out of bad weather flying, extends the amount of instrument flying that is possible and enables operators to maximise the use of their helicoptors. It's simple, light in weight, low in cost and can be installed in most helicopters. Certificated for passenger flying in Wessex Mk. 60 and Jet Ranger helicopters—trials and certification proceeding in other types.

Keep the target in view, no matter what—with the

AVIMO-FERRANTI STABILISED SIGHTING SYSTEM



This is a well established and highly successful sight used with helicopter missiles and for surveillance. It stabilizes the field of view against all movements and corrects horizon tilt. A feature is a choice of two degrees of magnification with a flip change. In service with the British Army.

For more information about any of these products contact:

FERRANTI

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4 Hamilton Place,
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Cover picture:
When Secor Browne, Chairman of the US Civil Aeronautics Board, delivered the 61st Wilbur and Orville Wright Memorial Lecture to the Society last December, he emphasised that the new wide-bodied aircraft are tailor-made for the mass market. With air transport available to more people than ever before neither the scheduled nor charter carriers should resist the trend but take full advantage of it. Mr. Browne's paper "Adrift on the air ocean — the future of air commerce" is reproduced in this issue. One of the new wide-bodied aircraft to which he refers is the Lockheed TriStar seen here in Court Line livery at Manchester Airport during a demonstration tour in the UK.

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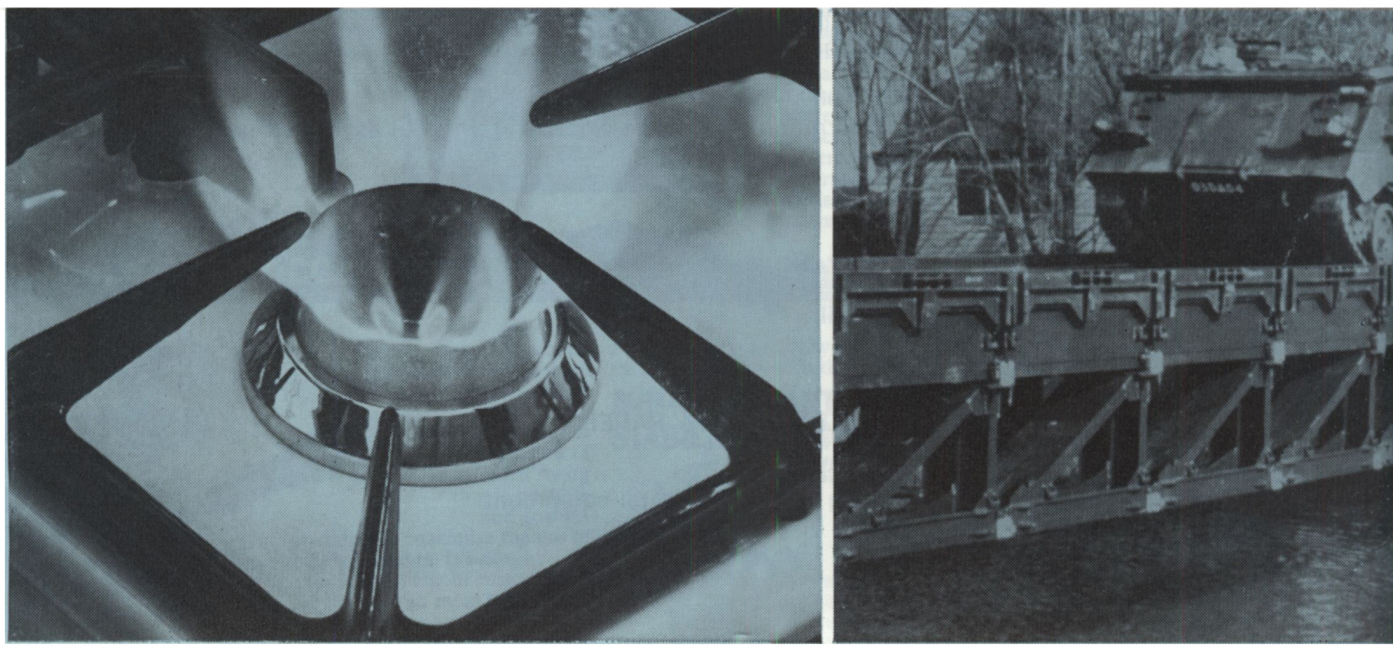
H.D.A.....modern

H.D.A. make modern metals remarkably versatile.

We forge, cast and extrude components for practically every industry, from the homely gas cooker to the sophisticated Concorde.

In most of the advanced developments where metal is used, you will find that the technical skills and metallurgical expertise of H.D.A. have been applied.

H.D.A. aluminium alloy gravity and pressure die castings are used in the engine of the Vauxhall Viva.



The burners on this new gas cooker are pressure die cast in an H.D.A. aluminium alloy.

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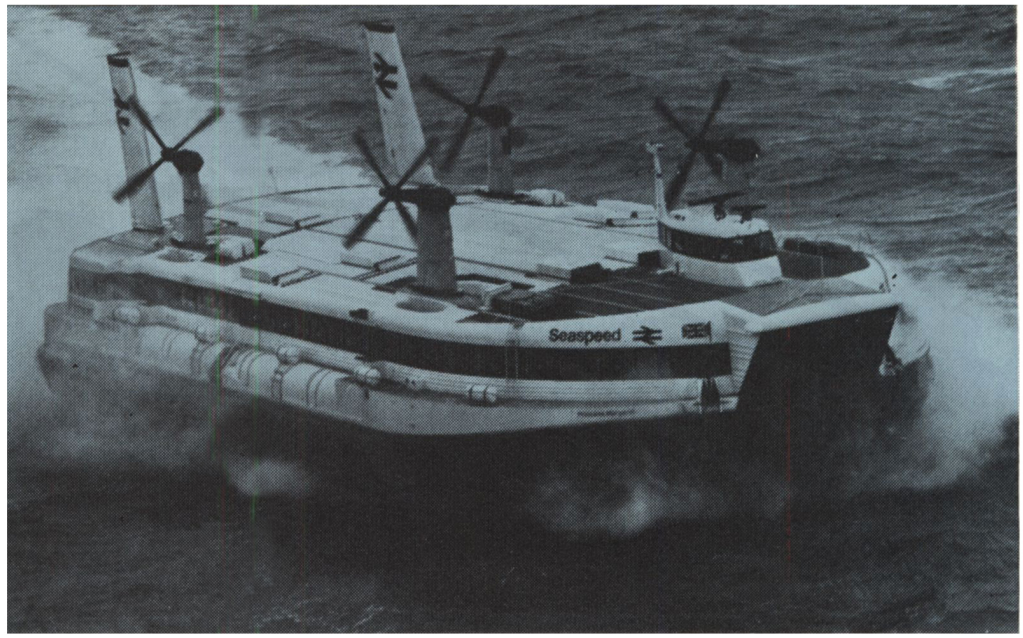
metals for industry

All this experience can be working for you—advising on design, the correct metal and, above all, the most economical use of our processes for your particular application.

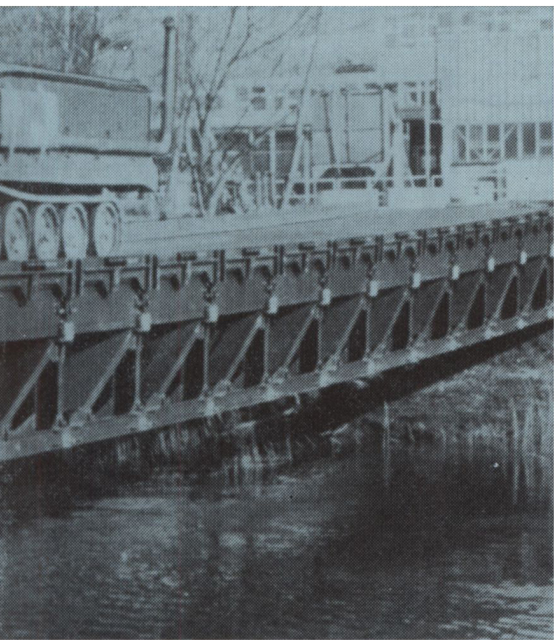
HAWKER SIDDELEY
HIGH DUTY ALLOYS LTD.
89 BUCKINGHAM AVENUE, SLOUGH, BUCKINGHAMSHIRE.

Hawker Siddeley Group supplies mechanical, electrical and aerospace equipment with world-wide sales and service.

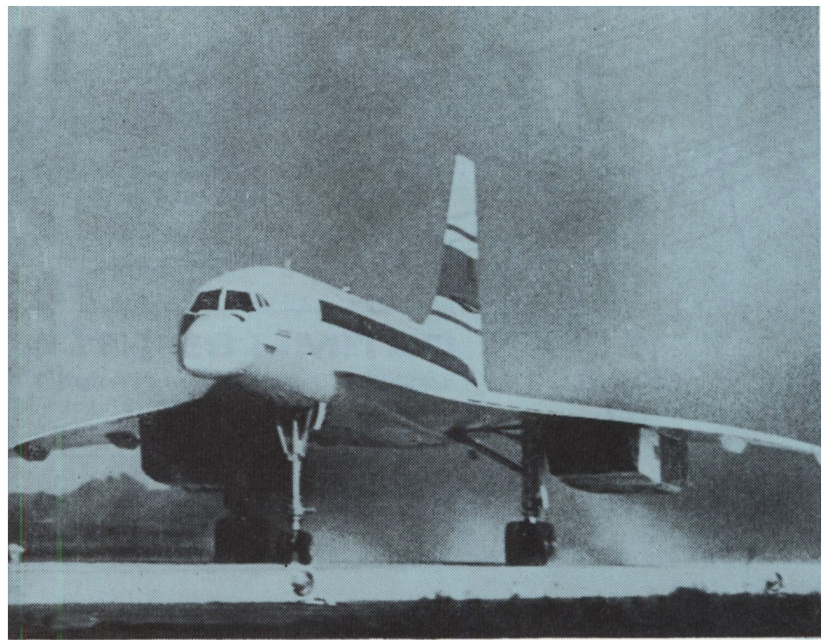
The rotor of the M.S.E. high speed centrifuge is forged by H.D.A. in a titanium alloy.



H.D.A. forgings in aluminium alloy and stainless steel are used in the construction of the SR.N4 Hovercraft.



H.D.A. are major suppliers of aluminium alloy forgings and extrusions for the military Medium Girder Bridge.



H.D.A. forgings in aluminium, titanium, steel and nickel base alloys and H.D.A. aluminium alloy extrusions are used extensively throughout Concorde.

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Smiths Industries. Your guide in the sky.

Flight deck displays from Smiths Industries mean reliability, accuracy and advanced design. We've been in the business for over 60 years – ever since the days of the pioneers. And now 435 Airlines and Airforces choose instruments and systems from Smiths Industries. When the chips are down, they know experience counts. Why not let us point you in the right direction.

Typical of our direction indicators is this Horizontal Situation Indicator which forms part of the Series 6 Flight Control System. It combines radio navigational and compass navigational information displays in a single 4 inch instrument and features various flag failure warnings, anti-reflective coated glass and integral lighting. The unit conforms to international standards and has a predicted MTBF of 4,500 hours.

Also illustrated is the Type 3B Altimeter. This 3ATI self-sensing servo-operated instrument conforms to all mandatory requirements for altitude alerting and height reporting. Features include a failure monitor, press-to-test facility, integral lighting and ability to accept P.E. correction signals.

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Our brains in the air - our feet on the ground

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