Looking down on the Sun

INTERNATIONAL

Weekending 23 May, 1981
Number 3789 Volume 119
ISSN 0015-3710
Published In association with Aeroplane Monthly and Airports International by IPC Transport Press Ltd, Quadrant House The Quadrant, Sutton, Surrey SM2 5AS, England.
World's first and only comolete aeronautical weekly
© Copyright IPC Business Press 1981
Founded 1909
Second-class postage paid at New York, NY, and additional entries.
Editor David Mason
Assistant Editor Tom Hamtll
Defence Editor Graham Warwick BSc
Defence editorial Mike Gaines

Production.Editor Philip Jarreit
Sub-editor Graham Cowell
Technics! Editor David Velupillai BSc
Technical editorial Richard Whltaker BSc
Air Transport editorial David Learmount
General Aviation Cliff Barnett, Ian Parker BSc
News Ian Goold, Julian Moxon BSc
Art Editor Colin Paine

Layout/Sub-editor Dennis Baldry
Technical Artists Frank Munger, John Marsden
Keeper of Records Chris Kjelgaard BSc
Pictures Stephen Piercey
U S Publishing Consultant Warren H. Goodman, Spring Valley Road. Ossinlng, New York 10562. Telephone: (914) 941-0605.

Publishing Director Martin Morgan
Editor in Chief J. M. Ramsden

Advertisement Representative Michael Elmes
Advertisement Production Howard Mason
Overseas advertisement representatives: at back of this issue Telephone: 01-661 3320 (Advertisement Sales)
01-661 3267 (Advertisement Production)
01-661 3321 (Editorial)
Telegram/Telex 892084 BISPRS G
U S Advertisement Sales Managor Herb Salazar, IPC Business Press, US Advertising Sales, 205 East 42nd Street, New York 10017. Telephone: (212) 867-2080. Telex: 238327. Subscriptions Manager A. Walden
Telephone: England (0444) 59188 (UK and overseas subscrip-tion rates can be found in this issue)
Selling price in Eire subject to currency exchange fluctu-ations and VAT.
L*P-J International Business Press Associates
[ABCI Member of the Audit Bureau of Circulation

NEXT WEEK

ISIiKliliBj^ljf J

• Our annual World Missile Survey pro-vides comprehensive facts and figures on the latest guided weaponry. • J. M. Ramsden enumerates and expands upon the ten commandments vital to flight safety and especially applicable to operators of fast-growing airlines.

E

UROPE and Nasa are in the middle of a struggle to save
the International Solar Polar Mission (ISPM)—a plan to observe the Sun's polar regions from outside the plane in which most planets lie. If they are suc-cessful, we will learn more about the Sun and how it affects us on Earth. But if they fail, it may be a serious blow to future co-oper-ation.

The space agencies gave the go-ahead to ISPM in March 1979, each agreeing to develop and build a spacecraft, but with Nasa also providing a Space Shuttle launch, an interplanetary boost stage, radio-thermal generators, American experiments, tracking and data analysis. Launch was scheduled for 1983, with the craft using Jupiter's gravity as a slingshot to take them out of the ecliptic plane. The probes would have arrived above each of the Sun's poles several years later, at about the same distance from them as we are on Earth.

But earlier this year Nasa was forced to make cuts in its budget for 1982, and reluctantly chose ISPM as one of its targets. Nasa estimated the total cost of ISPM at around $300 million, and planned to save roughly $200 million by not developing its spacecraft. The remaining $100 million would be used to honour its commitments to ESA — American experiments aboard the European craft, tracking and so on. The Shuttle launch had slipped several years by then, but would still be given to Europe under separate funding.

Nasa's unilateral decision to cancel the American craft came as a severe disappointment to Europe, which had already spent about $70 million at 1980 prices on its craft and a further $30 million on experiments. Europe was particularly worried by the reduced scientific benefits of a single-craft ISPM — the original mission called for one probe to pass over the Sun's north pole while the other flew over the south pole. Two craft could thus detect whether a change in the Sun's behaviour was a local

phenomenon or an overall varia-tion. ESA member states pro-tested against Nasa's action through their embassies in Wash-ington DC, and have since re-ceived a sympathetic hearing from the US Congress and State Department.
There are now only two ways in which a two-craft ISPM can go ahead. ESA's proposal is that Nasa buys a craft similar to the European one being built by prime contractor Dornier. This would cost Nasa roughly $45 million, and is probably the cheaper option. The other option is for America to develop a much simpler craft than that originally planned. TRW was prime con-tractor for Nasa's ISPM craft and could probably produce a cheaper version for around $100 million. Both options lose the solar coronagraph experiment, but that is not critical.

All things being equal, Nasa would prefer to buy American rather than European, so as to get a better industrial return for its money. But with the Euro-pean option apparently much cheaper, the question is really whether Nasa will buy from Europe. Nasa will be guided by the US Government's Office of Management and Budget on which course it should adopt, and the new top management at Nasa will have to become in-volved. Hopefully, one of the two - craft options will be accepted. D.V.

IN THIS ISSUE

World News
Air Transport
Defence
General Aviation
Business
Private
Spaceflight
Avionics
Industry International
Propulsion
COMPOSITE S IN AIRCRAF T
CONSTRUCTIO N
CAE: CANADA' S SIMULATO R
GIAN T

Letters and Rogerword

1524
1527
1532

1537
1538
1543
1546
1547
1548

1551

1556
1560

Front cover: Ten per cent of the McDonnell Douglas F-18 Hornet's structural weight is made up of carbonfibre composites. The increasing use of these new materials is the subject of a feature in this issue.