If one control grip per pilot is suitable for the R.A.F. (who have accepted it for the Vulcan) it should be satisfactory for pilots of civil aircraft, who are less likely to receive injuries to their hands. To avoid cramping the control-column mechanism by the converging lines of the fuselage, and to keep the instrument panel clear, the stick could be offset by about 3 in relative to the 12 o'clock radial of the column centre-line. In an emergency, this would bring it within reach of the other hand.

Whether the arc of movement of the pilot's left wrist would be acceptable could be determined only by extensive flight testing. As shown in an accompanying diagram, the pilot's left hand would hold what is, in effect, the "right-hand" grip of an offset W-shaped wheel—which would be rather like trying to ride a bicycle with crossed hands.

Because this scheme limits normal manual control of the aircraft to the outboard hand of either pilot, it would be necessary to make a careful examination of the other controls and selectors which would have to be operated by that hand. The nosewheel tiller, for example, could remain outboard so that transition to the stick during take-off could be easily accomplished; but controls which might have to be used during conditions of flight where the pilot must use his outboard hand to fly the aircraft must then be located within reach of his other hand.

The question arises whether the control grip should be a straight push-pull device or whether it should move on an arc, the fulcrum of which is at the level of the pilot's foot. Like other details, this too might best be resolved by test and by determining what pilots can get used to. Until recently, the push-pull control seemed to be the accepted method of elevator actuation, but the Lockheed Electra has reverted (if that is the word) to the old-fashioned pole hinged on the floor.

Getting the control column or grip clear of the centre part of the principal instrument panel will be of even greater value when it is necessary to provide pilots with pictorial presentation of navigational information. It will also provide additional space for storm-warning radar. At present both these items have to take their chance on whatever part of the flight-deck surface remains unoccupied by other equipment.

**MAJOR** photo-reconnaissance mapping survey in Somalia, East Africa, was recently begun by three aircraft of Spartan Air Services (Eastern) Ltd., Nairobi, an associate of the Canadian Spartan Company. The survey is being carried out for Frobisher, Ltd., Toronto, a major mining firm which has acquired oil exploration licences for 70,000 sq miles in the south of Somalia and 8,000 sq miles in the north of Kenya. The aircraft are based at Mandera, Kenya, and processing of the results is at Nairobi.

**HEATED MOMENTS**

TESTS have been carried out at the U.S.A.F. Aero Medical Laboratory at Wright Patterson A.F.B. to determine human ability to withstand extreme heat for brief periods, such as during re-entry of a manned space vehicle. One of the research specialists, Dr. Paul Webb, was one of six volunteers who underwent exposure to extreme temperatures first naked, then lightly clothed and finally heavily clothed. The peak temperatures lasted for less than a minute and a naked subject was able to stand a slow heat-pulse reaching a peak at about 350 to 400 deg F. A lightly clothed man stood about 450 deg while a heavily clothed man only felt the heat until 500 deg was reached.

**MAKING LESS NOISE**

TWO symposia dealing with the problem of noise and vibration are being sponsored by the acoustics group of the Physical Society. The first, under the title *Recent Studies of Noise Problems,* is to survey recent work on the measurement and effects of noise. There will be contributions on certain aspects of aircraft and automobile noise and the meeting is open to all without formality. It is being held on Tuesday, March 24, in the Physics Department, Imperial College, London, S.W.7, starting at 2.15 p.m. The second symposium is a joint meeting with the Institute of Physics, on *New Techniques in the Analysis of Noise and Vibration,* to be held in the Physics Department of Southampton University on April 7. It will include contributions from both practical and theoretical aspects on the use of correlation techniques, of digital computers for data processing and analysis, and on general applications of statistical communication theory. Further details may be obtained from D. M. A. Mercer, Physics Department, Southampton University.

**DISCUSSING SUPersonic TRANSPORTS**

A REGIONAL meeting of the Institute of the Aeronautical Sciences, on the subject of supersonic transports, is being sponsored by the San Diego section and will be held there from May 26 to 28. The tentative agenda includes economic aspects of supersonic transports, design philosophies, systems design, operational problems and propulsion development. One or more sessions will be security-classified.

The meeting's general chairman is C. L. Blake, staff engineer for Convair, and abstracts of proposed papers or suggestions should be sent to him by March 1 at the following address: I.A.S. Supersonic Transport Meeting, 3380 North Harbor Drive, San Diego 1, California.

**AERomedical BIBliography**

A COMPREHENSIVE annotated bibliography of aviation medical literature for 1953 is due to be published this month by the American Aero Medical Association, in co-operation with the Library of Congress, which two years ago published a similar record of 1952 aeromedical literature. This new volume (*Aviation Medicine: An Annotated Bibliography. Vol. II*) includes titles of Russian work on the subject for the first time; it contains 1,386 references and abstracts from nearly 200 U.S. and foreign journals. Subsequent volumes will contain reports from the relevant literature of 1954 and onwards. The present bibliography is available from the publication office of the Aero Medical Association, 2642 University Avenue, St. Paul, 14, Minnesota. The price is $5, including postage in the U.S. and Canada.

STILL GOING STRONG: Two elderly piston-engined aeroplanes which are still giving good service in the U.S.A. At left is a modified Curtiss SB2C-5 used at Moffett Field, California, probably for evaluation of equipment intended for very high-speed aircraft; the rear cockpit is raised and has a periscope. The twin-engined airliner is a Boeing 247D with clipped wings and BT-13 (Wasp Junior) powerplants. Both photographs are by Warren M. Bodie.