Casual Commentary

ideal method by which our Rapide Replacement could defeat the regulations—if these were suitably modified for certain classes of work. The replacement would still need to have a good airborne single-engined performance, but the use of over-boosted engines could at least be avoided. In larger and more complicated aircraft the rocket could, perhaps, be automatically fired when a torquemeter registered engine failure.

Inflatable Exposure Suit

Features of British "Quilted" Design

WARTIME research proved that an "exposure suit," for the protection of aircrew from exposure after ditching or bailing out over the sea, must be carried on the person. Continuous wearing of an impermeable suit was, however, undesirable, and S/L. R. E. A. Pask, O.B.E., of the Institute of Aviation Medicine, Farnborough, working in conjunction with Frankenstein and Sons, Ltd., of Manchester, developed an ingenious lightweight one-piece suit, which is the subject of the following description.

In view of the necessity to keep the weight and bulk of the suit to the minimum and maintain flexibility, a search was made for the lightest water-impermeable material. A method of spreading a continuous rubber film upon a thin cotton fabric without undue weight was developed with the co-operation of the rubber manufacturers in Manchester and experts at the Ministry of Supply Balloon Development Centre (now the Research Development Establishment, Cardington).

The next problem was to find a method of securing adhesion between the two layers of the garment by some form of hinges, links or rubber spots. Eventually, it was found possible satisfactorily to "quilt" the two layers of material by means of circular spots of rubber solution. It will be seen that the suit completely covers the wearer with the exception of his face and hands. The whole suit, including hood and feet, can easily be fully inflated with the required amount of warm air within two to three minutes.

Climbing into a standard rubber dinghy while wearing the inflated exposure suit.

The next problem was to find a method of ensuring that when one "rip" was made in the fabric which could not be repaired, the whole suit would become inoperative. In the Far East type in yellow and dark blue at the back. The yellow was to aid identification which would adequately cover the various sizes of aircrew.

The suits, as originally supplied during the war in the Far East, were made from a dyed yellow fabric at the front and a dull, dark blue at the back. The yellow was to aid identification by searching aircraft, and the dark blue colour at the back was to provide some means of protection in the event of the airman ditching in shark-infested waters.

Owing to the extreme difficulty of obtaining the required amount of crude rubber required for the manufacture of the suits, only a few were supplied during the war. Now that rubber supplies have improved, manufacture of the suits has recommenced, and arrangements have been made for trials to be carried out in home and tropical waters with a view to determining what other improvements can be effected. In the meantime, research is still proceeding to determine the most efficient type of suit which will protect the airman against exposure and hazards encountered in ditching in oceans throughout the world.