

APPROACH ATTITUDES

is still the same. An aircraft leaving the ground tail-down will neither climb nor gain speed as quickly as one with its tail well up, and, because of its greater drag, the former's run may even be longer, though it will fly, prematurely, at a slightly lower air speed—and practically guarantee a stall if the engine so much as coughs!

Well, there it is, and I am more than happy to pass the problem on to those who are better able to explain exactly

what is actually happening. One of these days I shall go in for the good old-fashioned system of gumming tufts of wool all over the wing and watching them while making approaches at different throttle-openings and attitudes. Maybe, after seeing the tufts all sitting bolt upright at a speed some 20 m.p.h. in excess of the stall, I shall realise that it is not a good thing to know too much about what is actually going on. It is a never-ending source of amazement to me that an aircraft will stay in the sky with no visible means of support, while the spirit of the Wright Brothers wrestles with that of our old friend Isaac Newton.

"INDICATOR."

Reverse Lend-Lease

IN his fifteenth report on Lend-Lease, President Roosevelt gives an account of the reciprocal aid which the U.S. has received from Great Britain and makes handsome acknowledgment of the fact that even the high monetary value of actual material supplies does not represent the full extent of aid given. He points out that the achievements of the British fighting man, and the information based on war experience and passed on to them are forms of aid which cannot be, and are not, given a financial value.

A great proportion of the purely material aid has been to the Eighth and Ninth Air Forces; the text of this part of the report is as follows:—

"By the first of this year the dollar value of goods, services, and facilities provided by the United Kingdom to army, navy and air forces and to our merchant marine totalled \$1,526,170,000. These figures do not reflect the value of the vital information on military equipment freely turned over to us by the British, who had over two years of battle experience before we entered the war. No financial valuation can be placed on this type of aid.

"Not counting construction materials, reverse Lend-Lease supplies provided on the spot in Britain already amounted to about 3,000,000 ship-tons by January 1, 1944.

"One-third of all the supplies and equipment currently required for our very great forces in the United Kingdom are provided by the United Kingdom and are provided as reverse Lend-Lease, without payment by us. The cost of this aid to the United Kingdom, including shipping, averaged about \$90,000,000 a month in the last three months of 1943. The 8th and 9th Air Forces have received reverse Lend-Lease aid particularly vital to the success of their operations. Following is a list of a few of the many

thousands of different types of reverse Lend-Lease supplies, equipment, and services, as reported by our Air Forces up to the end of 1943 which gives some indication of the extent and variety of this aid:

"Bomber and fighter airfields and air bases; advanced airports, combat crew replacement centres, barracks, repair depots, warehouses and storage facilities, etc., which cost the British \$355,000,000 to the end of 1943 to build and equip for the U.S. Ten thousand civilian employees with an annual pay roll of \$12,000,000 have been employed on the construction programme for forces, principally on airfields and air bases. 452,000 tons of equipment and supplies have been furnished.

"Included among the items of aid are the following:—1,100 Spitfires and other aircraft, 1,357,000 sq. ft. of steel and light alloy sheets for repair and adaptations needs in our aircraft depots, 235,000 synthetic rubber shock absorbers, 32,000 bombs of various sizes, 7,000 sets of armour plant for heavy bombers, 5,000 collapsible rubber dinghies, 10,600 aircraft tyres, 35,000 108-gallon belly tanks for fighter aircraft, 9,600 pieces of protective body armour, 9,300 bullet-proof glass panels for aircraft, 43,000 easily jettisoned lightweight gas tanks for long-range fighters, 43,000 electrically heated muffs for gunners, 2,000 parachutes, 1,750,000 pairs of socks, 1,500,000 pairs of knitted woollen gloves and substantial quantities of other types of clothing, 44,500,000 yards of Sommerfeld track, 60,000 aircraft, warship and armed vehicle recognition devices, all requirements for aircraft engine spark plugs, twelve factories working solely on production of transformers for U.S. Air Forces, 50 mobile repair shops for the repair of American bombers forced to make crash landings in the United Kingdom, 625 British type fighter gun sights, special photographic equipment (for one out of each three aircraft in bomber squadrons to take pictures of the target during the bomb run), large quantities of specially heated winter flying clothing, and various types of specialised radio equipment."



ATLANTIC RECORD BREAKER: The Canadian-built D.H. Mosquito, which recently made a coast-to-coast transatlantic record in 5 hr. 40 min., on show at one of the De Havilland plants in Britain. Piloted by Wing Cdr. John Wooldridge and navigated by F/O C. J. Bown, the 2,200 miles from take-off to landing was covered in 6 hr. 40 min.