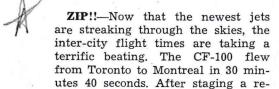


HIGH, LOW, HOT, COLD - Changing temperature, coupled with air pressure and oxygen add up to a com-

plicated problem in the detail design of a high-powered jet fighter. To begin with, the oxygen supply and pressurization have to be automatic because of the astonishingly rapid changes of altitude. S/L Waterton illustrates this point with the offhand remark that in a recent demonstration of the CF-100 he started a loop at airport level. At the top of the loop he found himself at 17,000 ft.!

On a warm day, the outside air temperature might change, in a matter of a few minutes, from 80 deg. above to 60 deg. below zero.

-The Editor



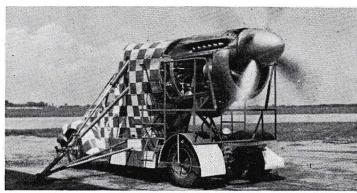
markable demonstration of speed, steep climbing and aerobatics before a group of top brass at Dorval, the Avro fighter hopped to Ottawa in a few minutes, then ferried Defense Minister Brooke Claxton from the capital to Toronto in 33 minutes.

The writer enjoyed the opportunity of riding around the Toronto-Montreal-Ottawa circuit in the RCAF Dakota "mother ship" to the CF-100. It was a pleasant flight but the pace seemed tediously pedestrian when compared with the "glamor queen."

Flying with the escort plane provides some conception of the vital details involved in flying a superspecial aircraft of the CF-100 breed. The Dak was loaded with such essential items as the 10-ft. ladder used by the pilot to mount and dismount from the cockpit. There was also the battery cart used for starting, the special platters fitted over the engine intakes after the shut-down, plus the special tools and other equipment, plus the five-man crew of mechanics to ensure that everything on and in the fighter is working to perfection.

**HO HUM ...** — Even those experienced in aviation have the notion that flying at 600 mph plus must be a pretty exciting experience, while the general public conjure up mental images composed of all the "screaming test pilot" movies they have ever seen. Actually, says Bill Waterton, the only pilot so far to fly the CF-100. the 30-minute Toronto-Montreal hop was a bit boring. About two minutes after passing over the Malton tower, at 25,000 ft., he checked Oshawa under his wing. Kingston showed up 13 minutes after that, then it was another 15 minutes before Dorval airport was below. You soon get accustomed to this accelerated map reading, however, and find yourself getting impatient for the next check point, perhaps 100 miles ahead, to show up.

## TCA TRUCK-PLANE USED AS MOBILE TEST BED





The rather weird device above might be described as a "pluck" (half plane, half truck), but the TCA personnel who operate it at Dorval airport just call it Oscar II. It is the ingenious successor to Oscar 1, a discarded Lancaster airframe with clipped wings which was used as a test bed for the airline's Merlin engine run-ups. The Lanc proved to be rather cumbersome to move. Then someone got the idea of using a truck.

A stout engine mount was built on the rear of the truck, the engine instruments and controls were installed in the cab, then anchor rings were imbedded in the concrete of the tarmac. Heavy chains attached to the anchor rings hold the truck down when the engine is run up. A tubular brace, which can be seen in the photographs. prevents the prop. torque from upsetting the truck. The truck can be run into the hangar for attachment of the engine, then driven to the test location, saving considerable time and effort.