Picturebatics Tough In CF-100

Those dramatic aerial pictures on Page One today—probably the first of their kind on this continent—weren't easy to get.

Avro Canada's photographer, Hugh Mackechnie, alternated between high-level boredom and hanging upside down by his safety straps on the verge of blacking out.

The photographs, clicked at speeds up to 400 mph with the CF-100 aircraft just a wingspan apart, took experience, skill and nerve. Three Avro test pilots co-operated.

Substantial credit for the pictures goes to Jan Zurakowski, Polish air ace now on Avro's test pilot staff. He's a pioneer of the straight up-straight down type of aerial photography involved in getting these pictures.

Zurakowski laid the groundwork weeks ago. He briefed other Avro test pilots and during regular radar checks, made by jet planes in pairs, the pilots practiced flying loops in formation.

At no time was a special flight arranged for the photography. All the photos were made and the formations rehearsed in periods of up to 10 minutes when the pilots were returning from radar check flights.

TIME HANGS HEAVY

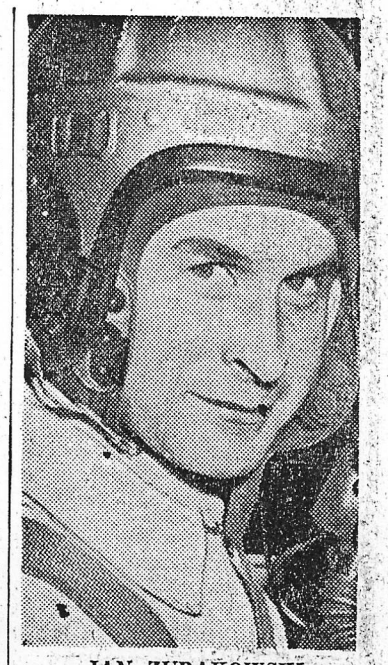
That's where the boredom came in for photographer Mackechnie. While the radar checks were being made—sometimes it took up to an hour of straight flying — time hung heavy.

"I just sat and sat and sat. Nothing to see . . . nothing to do," he said. "One time I even took a book up, but it's hard to read at that height."

Zurakowski and test pilot Chris Pike, Victoria, took turns getting Mackechnie accustomed to the rigors and discomfort of aerobatics — particularly the sickening loops. Mackechnie went along at every opportunity in the two-seat CF-100 just to get used to the flying and to figure out camera angles.

When the actual photography started recently, a third test pilot co-operated. He was Flt.-Lt. Jack Woodman, Saskatoon, an RCAF acceptance test pilot attached to Avro.

Zurakowski always assumed the difficult role of flying the photographer, since this job involved maintaining a precise position in relation to the target plane. When flying upside down, or going straight up or down, this kind of precision is not for the ordinary test pilot.



JAN ZURAKOWSKI
Expert in straight ups, downs

Pike and Woodman took turns at the controls of the target plane.

Usually the loops commenced at about 2,000 ft., at about 400 mph. No dive is required to get up speed, since the CF-100's twin Orenda jet engines produce more power than enough for loops from level flight.

At the top of the loop, the speed ranges from 150 mph to 250 and each loop is about one and one-half miles in diameter. It takes about 40 seconds to complete and in that space, the photographer can shoot not more than four pictures.

QUITE A LOAD!

To get even four pictures, the cameraman must be good, because of the effects of "G"—the flyer's measurement of forced gravity. G makes the photographer's special six-pound camera weigh as much as 24 lbs., and that's quite a load when you're hanging upside down by your safety strap.

Depending on the tightness of the loop, the photographer and the pilots are subjected to anything from two to four G. This means a pressure of up to four times the weight of a man's body. Often four G will cause a blackout.

"Try holding a camera that feels like 24 pounds under those conditions," says Mackechnie.

FLT. LT. JACK WOODMAN — TEST PILOT CHRIS PIKE — PHOTOGRAPHER H. MACKECHNIE
Aerobatics before camera's click