

Nose Jobs For Jets

Genaire Expands Operations

By STEVE ARCHER
Standard Reporter

When a Canadian Armed Forces Voodoo jet needs a nose job from now on, an aeronautics firm at Niagara District Airport will be the surgeon.

Genaire (1961) Ltd. has won a government contract to repair the radar-enclosing blisters and snouts of CAF aircraft.

Work has been going on at the company's airport plant for more than a month now. But bigger operations are in store once a pair of two-storey structures — under construction at the rear of the plant — are completed.

The buildings — about 150 feet apart and open to the elements on one side — will house radar testing and calibration equipment. They will have cost the company around \$65,000 when completed and in operation within another two months.

THE AIRCRAFT radar enclosures Genaire will be repairing are commonly known as radomes. They vary in shape and size, depending on the shape and size of the aircraft to which they are attached.

Voodoo jet interceptor radomes are shaped like artillery shells. They're dwarfed by the rounded, blister-like radome of an Argus sub-hunter or a Hercules transport.

Radomes look simple but are complicated in construction. A honeycomb of plastic or aluminum about an inch or less thick is the base, with fibreglass and plastic resin providing the smooth finishing coat.

The radomes get damaged: Struck by other vehicles on the ground, by birds or lightning in the air. Once breached, the radome skin

will leak in wet weather and at high aircraft speeds water will shower through onto the sensitive radar gear inside even though the hole or crack is minute.

GENAIRE PRESIDENT and chief engineer Harry B. Picken explained there are two types of repair. A Class 1 repair involves little work, perhaps just filling a small scrape or dent in the plastic skin. The company is doing such repair work now.

But Class 2 repairs are more serious. They generally involve damage to the honeycomb structure of the radome and therefore massive reconstruction of whole sections.

The massive repair jobs are the ones that make the radar testing buildings necessary.

Since radar signals and echoes must pass through the radome, any change in the structure of the radome will affect radar performance.

That could be disastrous. CAF aircraft use radar to sight their weapons, detect other aircraft, detect enemy submarines, spot weather systems.

SO THE RADOME must be returned as near as possible to its original condition. Operating specifications are provided for each unit by CAF and Genaire — after making a repair — will test and recalibrate it.

To do it, mended radomes will be hoisted about 22 feet into one of the two buildings and mounted on a pedestal base designed for it. A radar signal will be beamed from a sending unit in the other building and instruments will show the manner in which the radome receiver is getting it.

The testing device has to be up in the air so the radar signal will not bounce off objects on the ground and interfere with the results.

The two-tower system is called a radar range. It's the

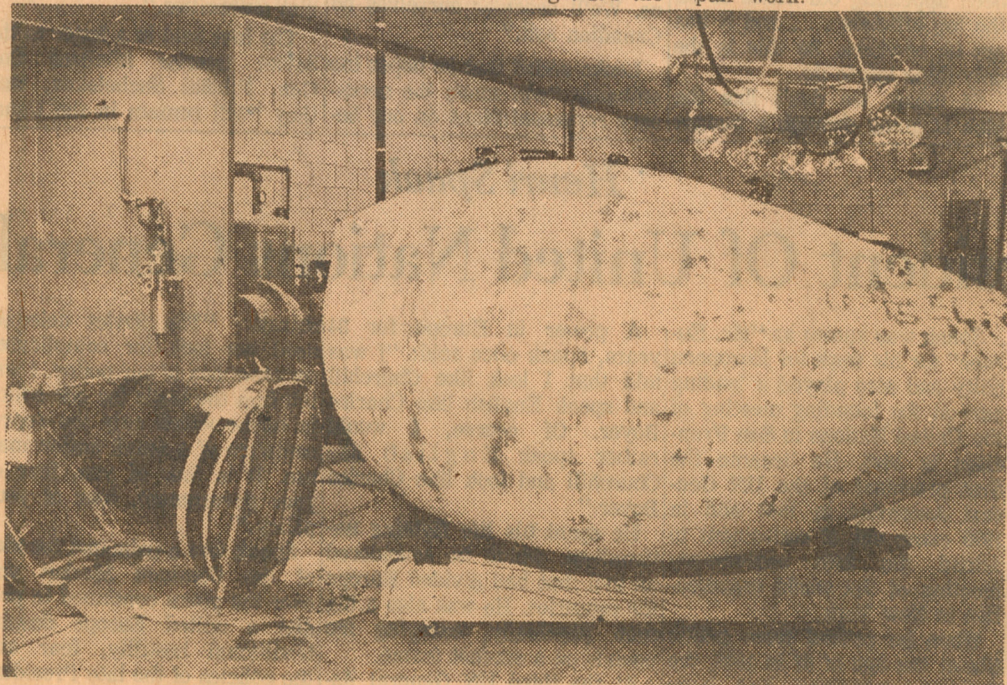
only one of its type in Canada and Genaire executives feel they stand a good chance of getting a lot of civilian aircraft radome business as well as all the military work.

"WITH THIS equipment we feel confident we'll be able to handle almost anything in the way of radome repairs," Mr. Picken said.

So far, the new operation has seen the hiring of "six or seven" additional workers, all of them specialists in either plastics or electronics, Mr. Picken said.

Rebuilding the radomes is somewhat similar to doing auto body work with fibreglass and plastic. All work is done in a one-storey annex at the rear of the main hangar, one rebuilt by the company following a fire last year.

Genaire will have plenty of testing to do once the range is completed. Crates are stacked outside the plant, all of them bearing radomes awaiting repair work.



Voodoo Jet Radar Dome Dwarfed By Gigantic Argus Dome

—Staff photos

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