

# aviation intelligence

## Iroquois Progress

A series of runs in the engine propulsion tunnel at the NACA Lewis Flight Propulsion Laboratory at Cleveland has seen Orenda Engines Ltd. supersonic Iroquois turbojet break further new ground in registering: What are thought to be the highest dry thrusts ever recorded by a turbojet in North America; inlet temperatures beyond any previously encountered in the tunnel without adverse mechanical effects on the engine; normal relights at designed Mach numbers following induced flame-outs up to the 60,000 foot capability of the tunnel. Further high altitude test out of the Iroquois is to be carried out in Orenda's new facility, scheduled to come into operation this year, where performance at altitudes over 100,000 at Mach 2 can be investigated.

## Jet VTOL First Flight

Bell Aircraft's experimental X-14 has achieved the first vertical take-off and landing from a conventional horizontal position by a jet-powered aircraft. The aircraft made its first complete transition from the vertical lift plane to conventional flight and back to vertical for landing at the Niagara Falls Airport. Jet thrust from the aircraft's two Armstrong-Siddeley Viper engines is deflected downward by venetian-blind type vanes to control vertical movement or provide forward thrust as desired.

## Automatic Photo Interpretation

Development of a system for preparing maps from aerial photographs semi-automatically has been revealed by Hunting Associates Ltd. of Toronto. Described by company officials as "perhaps our most important break-through so far" in a continuing program to improve air survey techniques, the new system is known as Auscor. Key to the system is understood to be a device which automatically detects contours on air photos. System is said to greatly speed up the process of transposing photo information to maps, is expected to reduce the cost of producing maps.

## Space Flight System

An instrument-navigation system for North American Aviation's manned space probing X-15 hypersonic research aircraft has been developed by Sperry Gyroscope Co. The exceptionally advanced flight instrument system has incorporated automatic inertial flight aids and sensing devices to display precise position and navigating data visually for human judgment and selection of optional manoeuvres. The instrument system for the man-carrying research vehicle must provide reliable information even during periods of weightlessness. The first of the new Sperry systems is to be delivered by the USAF project team to NACA this summer for initial checkout in a McDonnell F-101 Voodoo flying test bed.

## Army's Anti-Tank Missile?

The Canadian Army is understood to be showing considerable interest in the ground-to-ground, anti-tank version of France's NORD Aviation S.S. 11 guided missile. The solid rocket propelled, wire-guided units were used with notable success by French ground forces during rather limited engagements of the Suez operation. Best bet appears to be that Canadian units serving with NATO ground forces in Europe may be equipped with the French-developed weapon, which is also adaptable to an air-to-air role.

## Canadian Design for T-38

Canadian Westinghouse Ltd. of Hamilton has completed design and testing of prototype regulators and controls for the instrument panel of Northrop Aircraft's new T-38 supersonic jet trainer. The U. S. company is understood to have inspected the units and there appears a good chance the production order will be placed with the Canadian firm.

## Northern Defense Projects

Any firm decisions on beefing up the joint Canada-U. S. northern defense network remain cloaked in security. However, indications are that early moves will include installation at Fort Churchill (probably primarily for further evaluation and development) of long-range radar equipment similar to that being tested at Westford, Mass., and Prince Albert, Sask. This equipment has been used successfully in detecting earth satellites. Fort Churchill, along with Frobisher, is also seen as a good bet for development as a base for United States Air Force Boeing KC-97 and KC-135 tanker-transport, the air-to-air refueling workhorses of Strategic Air Command.

## Auxiliary Re-equipment

The RCAF's six Canadair Sabre and T-33 equipped auxiliary squadrons may be expected to phase out of jet operations at the close of present summer camp commitments. For their new jack-of-all-trades transport role, the units are to be equipped with the de Havilland of Canada Otters and Bell 47 helicopters as well as the originally designated Beech Expediter. The new equipment is seen giving the auxiliary a versatile capability in emergency transport, search and rescue and civil defense.

## Thor IRBMs for U. K.

Royal Air Force personnel have begun training on the propulsion system of the Thor Intermediate Range Ballistics Missile at North American Aviation's Rocketdyne division and at Douglas Aircraft Co. The RAF crews will later make up squadrons which will be equipped with the American missile under an agreement reached earlier this year.

July 1958