Douglas Diversifies Local Plant, Now Employs 2,950

Diversification is the key to the continued success of the Torrance facility of the Douglas Aircraft Division. Initially designed for high-volume aircraft production, it has branched out into parts' fabrication for the Navy's A-4E Skyhawk and the DC-8 and DC-9 commercial transports, missile propulsion units, bomb-racks, special tools to help build the huge Saturn space vehicle as well as continued production in the field of plastics.

Present employment is 2,950 according to Facility Manager J. B. Gwaltney, a work force which he says should remain near this figure for the foreseeable future.

A master plan devised by the Navy-Douglas team in 1952 transformed an abandoned aluminum plant into one of the nation's most modern manufacturing facilities.

The rehabilitation of the deserted buildings on the 214-acre site was completed 12 to 14 months earlier than if a new facility had been constructed. This saved 40 per cent in construction costs.

• • •

ONLY 38 DAYS elapsed after the conversion got under way until production assemblies were rolling out.

Today, over one and a half million square feet of covered floor space is available for manufacturing military, commercial and space components.

Transforming a barren hodge-podge of buildings was no small feat. The plan was designed to provide maximum operating efficiency in view of future needs for the facility. Rehabilitation of the buildings, their relationship to overall operations, and the cost was of paramount importance.

Operational policy provides for maximum flexibility to meet changing conditions. This allows any one phase of the operation to be transferred, expanded, reduced, or eliminated with little or no effect upon other operations.

• • •

THE MODERN machine shop was laid out for mass producing precision parts. This integrated shop produces on a straight-line principle starting with the raw material and ending with the finished part, inspected and ready for assembly. It includes the finest equipment such as modern numerical control machines to produce parts cheaper and with greater reliability.

The plastics building is pressurized throughout to remove dust and other materials which might cause distortion or contamination. Constructed of insulated steel panels, the building has seventy-one thousand square feet of floor space. It has produced as many as 4,000 parts a week.

Over 6,000 parts an hour can be handled on the facility's high speed paint line. Nearly half a mile long, the electrically driven monorail system handles parts ranging in size from one inch to six feet. The variable speed line dips into five different locations to receive the parts.

• • •

AT ONE POINT, the conveyor travels underground into a 378-foot tunnel divided into chambers. The parts move through a dozen automatic phases such as washing, rinsing, drying, various chemical treatments and painting.

In August, the A-4 Skyhawk celebrates its tenth year in production. Since that time, more than 1500 of the versatile attack bombers have been produced with much of the fabrication work performed at Torrance.

Newest and most powerful member of the Navy's family of jet Skyhawk attack bombers is the A-4E.

Its greater capabilities in speed, altitude, maneuverability, flexible armament capacity and range are the results of refinements to three earlier Skyhawks — the A-4A, A-4B and A-4C—used by the Navy and Marine Corps since October, 1956.

THE A-4 PROTOTYPE was flown June 22, 1954, at Edwards Air Force Base, Muroc, Calif., only 18 months after design had begun. First production model of the versatile bomber, which can reach near-sonic speed at sea level, was airborne Aug. 14, 1954.

The Skyhawk entered service with the Navy on Oct. 26, 1956, joining the F-6A Skyray which was completely fabricated and assembled at the facility.

A-4E, newest version of the bantam-weight attack plane, was flown first on July 12, 1961. It weighs only 9,300 pounds empty, but can take off fully loaded at a gross weight of 24,500 pounds.

This nearly 3 to 1 "muscle ratio" includes a combat load of missiles, bombs, rockets, machine guns or nuclear weapons—depending on the A-4E's mission of up to 8,200 pounds.

• • •

DESIGNED FOR carrier operations, Skyhawks are less than half the size of many current jet fighters. Because of their size they can be housed comfortably in carriers without folding the wings — unlike other Navy jets.

Highly adaptable to limited war tactical missions, the A-4 is used by the Marine Corps for close air support during amphibious assaults, and additional applications are being developed to take advantage of the plane's versatility.

One such application is flying the A-4 off short landing strips on expeditionary airfields, making use of carrier-type arresting gear and catapults.

• • •

ALL MODELS of the A-4 can be refueled in flight either by a tanker or another Skyhawk. Skyhawks flown by Marine pilots have spanned the Atlantic using the "buddy system" of in-flight refueling.

On Jan. 6, 1962, two Marine pilots set a new A-4 endurance record with a cross-country hop of 2,871 nautical miles between Cherry Point, N. C., and El Toro, Calif., in 8 hours, 25 minutes.

The Skyhawks were refueled from air tankers over Muscle Shoals, Tenn., and Parker, Calif.

With its lighter, yet more powerful Pratt & Whitney Aircraft J52 turbojet engine, the A-4E can deliver the same payload as earlier models with a 27 per cent increase in range without refueling.

• • •

JET POWER for earlier Skyhawks is provided by a Wright J65 turbojet.

In addition to the new engine, the A-4E carries the Douglas-developed lightweight, rocket-catapulted ejection seat providing safe escape for a pilot at all altitudes down to ground level.

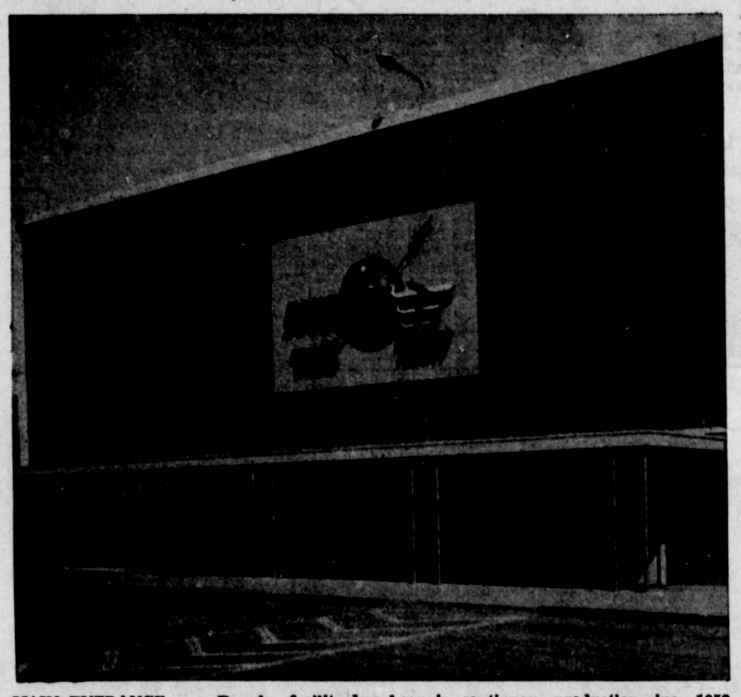
Maneuverability and speed of the A-4E allow a high rate of climb and ability to perform within a tight turning radius. Skyhawks have a low stalling speed and possess outstanding slow speed handling characteristics.

ALTHOUGH the Torrance plant is primarily a military facility, it has benefited through its affiliation with the Aircraft Division headquartered in Long Beach where the DC-8 Jetliner and the new DC-9 transport are in production.

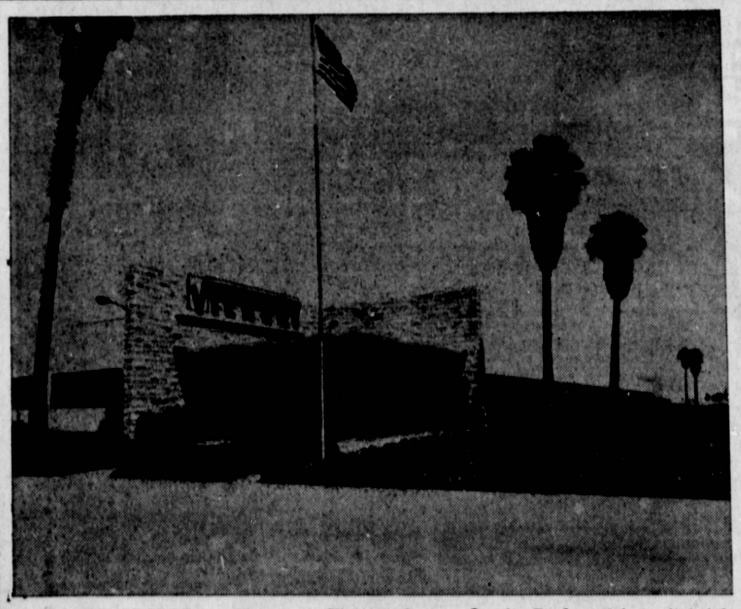
Due to the special skills and equipment available within the facility, work on commercial airlines has been assigned to it on a continuing basis.

The first twin-jet DC-9 is scheduled to be rolled out in February, 1965, making its initial flight the following month.

It is designed to operate over route segments of 100 to 1,500 miles with the same levels of speed and comfort as the larger transcontinental and intercontinental jets.



MAIN ENTRANCE . . . Douglas facility has been in continuous production since 1952 when an abandoned aluminum plant was transformed for the U.S. Navy into one of the nation's most modern manufacturing facilities.



SPACE AGE LEADER . . . Torrance's Vickers plant on Lomita Boulevard is a vital link in the nation's chain of space-age industries, supplying components for aircraft, spacecraft, and missiles. Here the imposing entrance to the modern Torrance facilities leads to the offices and facilities for engineering and manufacturing of the exotic space-age products.

Vickers Role in Nation's Space Programs Vital One

The Aerospace Division of Vickers Incorporated designs and builds everything from miniaturized components to complete power systems for aircraft, spacecraft and missiles.

Located on Lomita Boulevard just north of the Torrance airport, the Vickers Torrance plant includes complete engineering and manufacturing facilities, ultra clean rooms for the assembly of specialized equipment for missiles and spacecraft, and a large modern laboratory.

As an extension of Vickers' position as a leader in the manufacture of airborne hydraulic equipment, the company now also produces a variety of advanced types of equipment for the missile and space industry. Examples are auxiliary power units for the Minuteman missile, high temperature pneumatic components for the Polaris and Titan missiles, thrust vector (directional) control systems for missiles, and a cryogenic Hydrox (hydrogen-oxygen) engine for use on satellites and other spacecraft.

The home offices of Vickers Inc., a Division of the Sperry Rand Corp., are located in suburban Detroit, but because of the concentration of aerospace activity in this area, a permanent Western Region Operations facility was established in Torrance in 1957.