

## THE AMERICAN INDUSTRY . . .

fairly godfather of the US amateur construction movement. His single and two-seat Playboy, Sky-Coupe and Flut-R-Bug designs are basically such good safe flying machines that "do-it-yourself" pilots can and do introduce individual modifications and refinements, under Experimental Aircraft Association supervision, without hazard. Stits Aircraft supply only blueprints and raw materials for these aircraft.

**Superior Aircraft Co** (Division of the Priestley Hunt Aircraft Corp), 5673 Selmaraine Drive, Culver City, California. After taking over the assets of the former Culver Aircraft Corp. in 1956, Superior built the prototype of an improved version of the Culver Model V two-seat cabin monoplane. Known as the Satellite, this aircraft flew for the first time in December 1957, with a 90 b.h.p. Continental C90 engine. Superior claim that demand for it is so great that a 25 per cent enlargement of their works became necessary in 1958.

**Temco Electronics & Missiles Co** (Subsidiary of Ling-Temco Electronics), PO Box 6191, Dallas 22, Texas. Unfortunately for Temco the US services have been less ready to accept the idea of all-through jet training than has the Royal Air Force. Its little TT-1 Pinto tandem two-seat primary trainer, with 920lb Continental J69 turbojet, did so well in US Navy evaluation trials that 14 were ordered "to determine the feasibility of beginning a student pilot's flight training in jet-propelled aircraft." The first class of 14 naval cadets began training on production TT-1s at Pensacola in January 1959, but the evaluation is still continuing and no further orders have materialized.

A recent major blow to Temco was cancellation of its Corvus air-to-surface missile, despite a completely successful first guided flight of a test version in March. Most important work of the Missiles and Aircraft Division now consists of subcontracts for components like the 58ft rear fuselage of the Boeing B-52H Stratofortress, the first of which has just been delivered to Wichita.

**Thiokol Chemical Corp**, Bristol, Pennsylvania. Rocket engines produced by Thiokol and its Reaction Motors division power the North American X-15 research aircraft and a high proportion of US missiles. The 57,000lb XLR99 Pioneer lox/ammonia engine for the X-15 is the most powerful ever fitted to a manned aircraft. The 450,000lb boost motor being developed for the Nike-Zeus is the most powerful solid-propellant unit yet fired.

Other Thiokol solid-propellant motors are used in the Minuteman ICBM (1st stage), Pershing (both stages), Sergeant, Nike-Hercules, Lacrosse, Falcon and Subroc, and as boosters for the IM-99B Bomarc, Matador and Mace. Reaction Motors Guardian storable liquid-propellant rockets power Sparrow III and Bullpup.

In addition, Thiokol have supplied off-the-shelf for US research more than 1,000 Cajun rocket units and large numbers of Recruit, Apache, Cherokee and Yardbird engines.

**Trans-Florida Aviation Inc**, Sarasota, Florida. Trans-Florida produces what is claimed to be the fastest certificated non-transport aircraft in the world in the shape of the 457 m.p.h. Executive Mustang. This is a modification of the F-51D, with Packard Merlin engine. Two seats are mounted in tandem in a soundproofed, heated and ventilated cabin, and 96 US gal tip-tanks offer a range of over 2,000 miles without any loss of performance or aerobatic ability.

**Transland Aircraft** (Division of Hi-Shear Rivet Tool Co), Torrance Municipal Airport, Torrance, California. Transland's Ag-2 agricultural monoplane represents one of the most advanced designs ever produced in this category. Powered by a 600 b.h.p. Pratt & Whitney R-1340 radial, it has a payload capacity of 3,500lb and has proved very successful in field tests. Present manufacturing plans envisage deliveries in 1961-62. Meanwhile Transland's main business continues to be the supply of aerial applying equipment.

**Trecker Aircraft Corp**, General Mitchell Field, Milwaukee 7, Wisconsin. Trecker Aircraft Corp was founded to market in the United States the Italian Piaggio P.136 twin-engined five-seat light amphibian, under the name of Trecker Gull. It is now distributing also the 6/8-seat Piaggio P.166 landplane executive transport. In each case the wings and fuselage

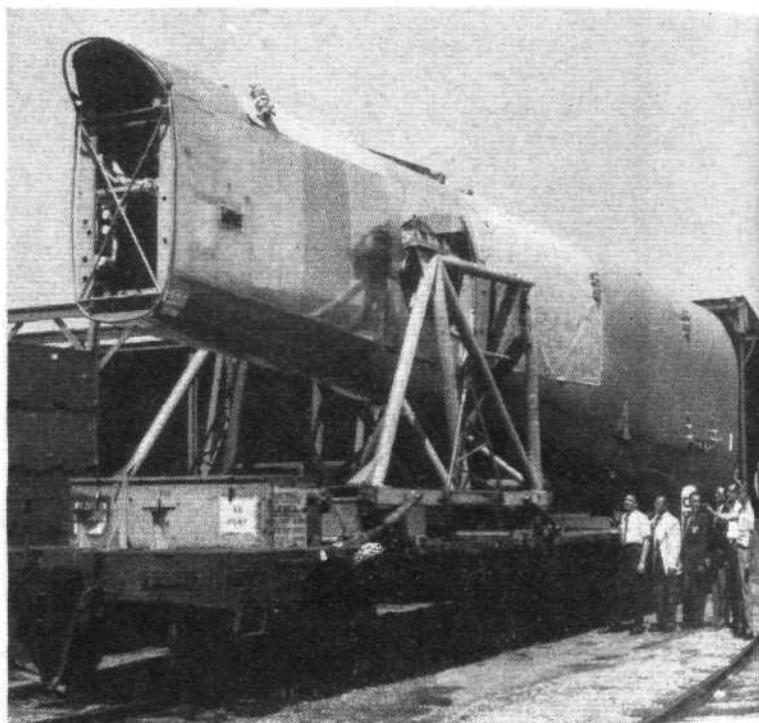
are shipped complete from Italy and assembled at Milwaukee with US equipment, including the Lycoming engines.

**Umbaugh Aircraft Corp**, Ocala, Florida. Under chief engineer Gilbert DeVore, Umbaugh developed their very neat Model 18 two-seat personal autogyro. Powered by a 180 b.h.p. Lycoming engine, it has a top speed of around 126 m.p.h. and is claimed to be exceptionally stable and easy to fly. Production has been entrusted to Fairchild.

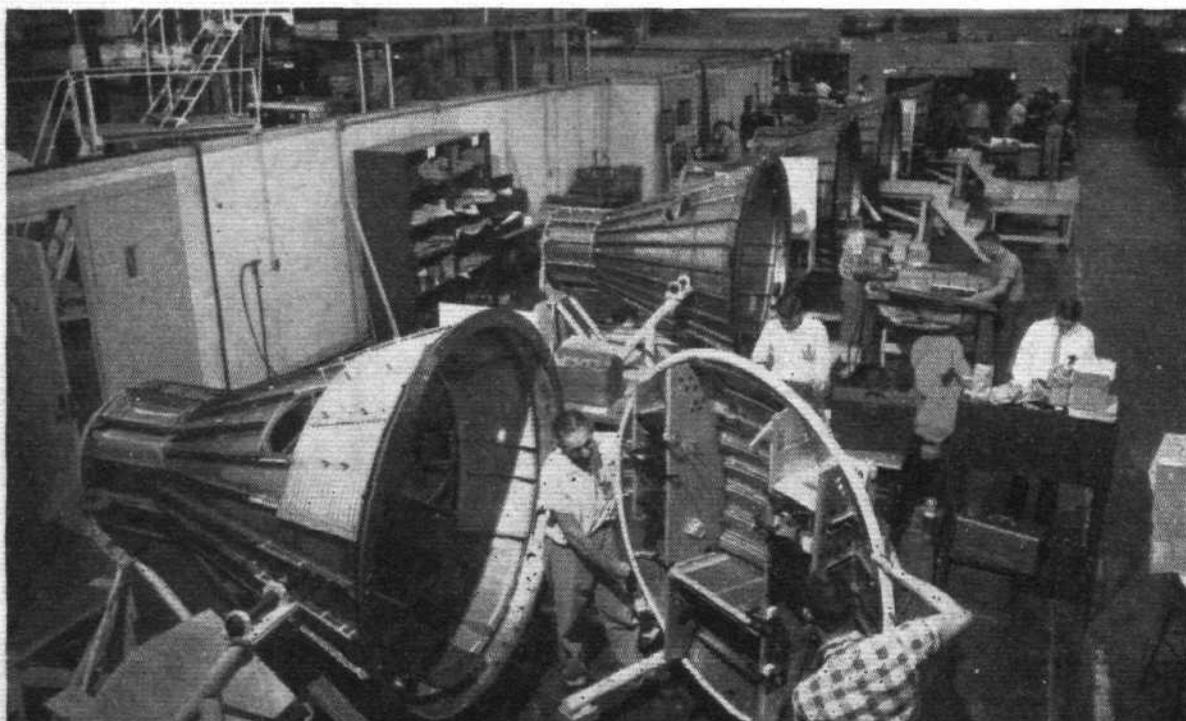
**Western Electric Company Inc**, 195 Broadway, New York 7, NY. Western Electric are prime contractors for the entire Nike family of anti-aircraft and anti-missile guided weapons. The major production model at present is Nike-Hercules, but immense efforts are being put into the development of Nike-Zeus as the only foreseeable protection against an ICBM attack. Promising results have been achieved with early test rounds and it is significant that a Nike-Hercules demonstrated its ability to intercept and destroy a Corporal ballistic missile on June 10 this year. In all cases Western Electric manufacture the guidance and control equipment, while Douglas build the airframes and launching components.

**Westinghouse Electric Corp**, PO Box 868, Pittsburgh 30, Pennsylvania. Several divisions of Westinghouse are engaged on aircraft or missile work. For example, the Air Arm Division is responsible for the highly-efficient terminal homing systems of the IM-99A and IM-99B Bomarc missiles, and the Sunnyvale Plant, California, supplies launching equipment for the Polaris. Little information is available about Westinghouse's own missile, the Astor anti-submarine torpedo produced by its Ordnance Department at Baltimore. Externally it looks a fairly ordinary torpedo, nearly 20ft long; but it is reported to have a range of 11 miles and to employ some form of rocket propulsion.

The Westinghouse Aviation Gas Turbine Division at Kansas City is producing the 3,400lb J34-WE-48 turbojet to power the North American T2J Buckeye basic trainer. This is a much-improved development of the original J34, with single-stage turbine, and will probably be the last aero-engine built by the company.



Subcontractor for the rear fuselage of the B-52H is Temco Electronics and Missiles Co at Dallas. Above is seen the first 58ft component leaving the Texas plant last month for Boeing's assembly line at Wichita, Kansas



Nowhere else in the Western World can one see a production line of manned spacecraft; the photograph on the left was taken in the St Louis plant of McDonnell Aircraft, who are delivering an initial batch of 20 Mercury capsules to NASA, the first of which was fired late last month