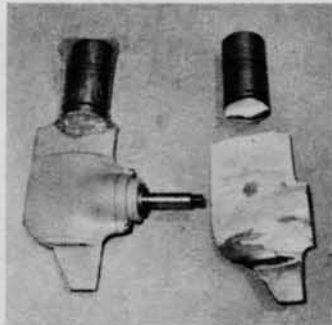


RIGHT — With turn almost completed, seating layout and large deck space become apparent. Pancake engine takes no more room than outboard with engine well.

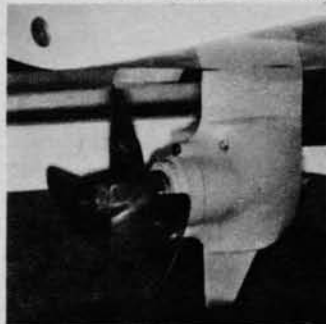
BELOW — The lower-end unit is like an O. B. Breakage is kept to a minimum.



Imagine firing up your boat while it's on the trailer, then going into a restaurant for a cup of coffee as it warms up on idle. That's just one of the advantages of having an air-cooled Corvair to power a boat . . . and there are many more

text and photos by Eric Rickman

ABOVE — The ride trimming tabs are seen at this point. They are adjustable from inside the boat. No engine tilting necessary.



ABOVE — Power prop is used, as engine low-end torque can pull large prop to good advantage. Engine cruises 3 grand on only 2 to 3 gals. per hour.



This type of quick maneuver will sometimes bury the inboard rail, so be careful. Hull seems to pivot around a point amidship, as the power unit is driving both forward, and lifting the stern at the same time. Cooling air is drawn in through side openings in the engine hatch cover. Hot air is ducted through the transom along with exhaust; engine compartment is pressurized.

CORVAIR TAKES TO WATER

Hot rodders never give up . . . even though their age begins to show with a bit of grey around the temples. Such is the case with Wayne Horning. A veteran of dry lakes racing and the track roadster era, he's the man who is recognized as being responsible for making "six-in-a-row really go." Take the Wayne GMC heads and many other pieces of 6-banger equipment carrying the Wayne label; some of it's still in use today.

And Wayne's still a Chevy six man, but now he's working with the Corvair pancake-six, and in a boat, of all places. This experienced rodder has turned his talents to the design and manufacture of a power package for boaters, one to offer a maximum of performance with a minimum of upkeep. The Corvair air-cooled engine has proven to be about the most compact and uncomplicated basic powerplant that's available. So why not in a boat!

To conserve space and for a neat installation, Wayne installs the engine on end in the stern of the boat. It took some fancy figuring to design an efficient cooling setup with this arrangement. Many methods were tried, ducting air over the cylinders, which seemed the

most logical way to go, but it just didn't result in efficient cooling. Finally, Wayne pressurized the entire engine compartment, then ducted the hot air away from the cylinders through the transom with the engine exhaust. Presto! A system so effective that the idea has been patented.

The fan is mounted on the flywheel end of the crankshaft, at the top of the engine, and turns at engine speed to do away with the fan belt and the crazy curves it travels in a stock installation. At about 4 grand the fan pressurizes the engine compartment, creating a "supercharged" effect which yields an increase in boost to offset the fan load. Theoretically, then, the cooling fan operates without a loss in power.

Wayne confines his work to the stock high-performance 95 horsepower engine. The engine's internal components, incorporating truck bearings, etc., require no modification; Wayne bolts on his angle manifold which allows the stock carbs to mount horizontally with the engine resting on end. No other changes are required, beyond a special oil sump and pressure pump of the on-end attitude.

The new oil sump mounts on the nose

of the engine and contains an oil pump which is driven from the end of the cam. The reservoir is designed to also provide the steering and load-carrying mount for the engine. The small oil tank bolts to the engine cam cover area and has a shaft housing which extends downward through the hull, to which the outboard-type lower end unit is attached.

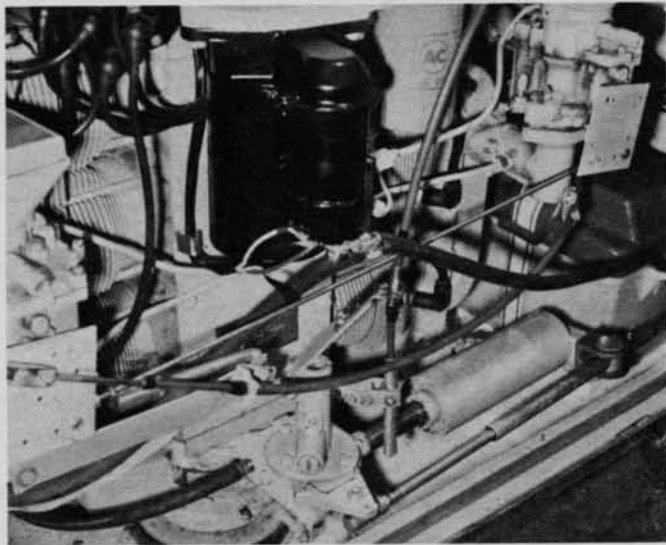
The engine mounts on a large rubber doughnut which, in turn, fits into a sheetmetal flange attached to the hull. Fiberglass hulls designed by Glaspar for this installation incorporate the metal flange molded directly into the hull when it is laminated at the factory. An upper metal washer-like flange spreads the engine load evenly over the top face of the rubber collar. The rubber, of course, absorbs all engine vibrations. With the engine resting on the collar, it needs only to have a pair of small braces run to the transom to secure it solidly.

Engine service is less complicated in the boat than in a car. The entire assembly can be removed in 15 minutes since all electrical connections plug in for quick disconnect.

(Continued on following page)



ABOVE — Fantastic bottom end torque will lift three adult skiers on single sticks in 35 feet from deep water. Boat loses only 3 mph at top end. LEFT — Punching throttle with rudder 'hard over' demonstrates the outboard-like maneuverability of the 16-foot Glaspar hull with the Corvair pancake six.



CORVAIR TAKES TO WATER

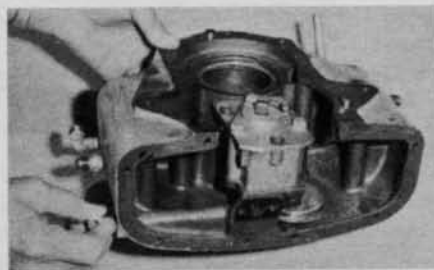
ABOVE LEFT - Long-time hot rodder Wayne Horning poses with the Wayne 100 Corvair boat installation. Quick disconnects permit complete engine removal in only 15 minutes. **CENTER** - Hydraulic cylinder linked to steering serves as torque neutralizer, utilizing engine oil pressure for steering assist when turning against engine torque. Note rubber grommet and weight distributing collar employed for through-hull engine mounting. **RIGHT** - "Crashbox" shifting is the same as outboard installations, with forward, neutral and reverse. With no rudder, exposed drive unit is only vulnerable under-hull hardware.

Another example of Wayne's hot rod ingenuity is reflected in the steering. The major problem encountered in this type installation is overcoming the engine's torque reaction in the steering control. Wayne quickly did away with the difficulty by using a variation of hydraulic power steering, identified as a torque neutralizer. The steerable prop. [mounted], lower-end unit has a hydraulic booster cylinder connected in such a manner that when the driver turns against engine torque, he activates an engine oil-pressure-demand valve which routes into the cylinder, rendering an assist in turning. Turning the wheel in the opposite direction requires no boost, since engine torque assists. It is completely smooth and effortless.

The lower end is almost identical to that of an outboard engine, with a dog clutch for forward, reverse and neutral positions. With the lower end on a free swivel, the boat maneuvers much the same as an outboard, although it doesn't have the tilt-up advantage of an outboard engine. On the other hand, however, if the lower end is wiped out, there's no fear of the strut being torn out, or the prop climbing up and sinking the boat. The prop shaft is parallel with the boat keel, and trimming the ride is accomplished with a pair of transom-mounted trim tabs that appear to be small cavitation plates.

After a trip down to the water, and looking over performance data compiled, we're convinced that this little combination, in a 16-foot Glaspar runabout hull, will show you more performance and maneuverability than anything else on the water. The Corvair engine de-

velops loads of bottom-end torque which shows up as sheer power when that throttle's mashed. On a measured course, the little engine pulled three adult skiers on single sticks from deep water in just 35 feet. As an indication of the power developed, the boat will turn just under 45 mph, wide open, taching between 46- to 47-hundred rpm. Pulling skiers, it'll do between 42 and 43 mph.



TOP - In vertical position, engine must be dry sumped, new reservoir and oil pump are necessary. Unit mounts on cam cover, oil pump driven by the cam. **BOTTOM** - New oil sump serves as lower engine mount by resting on washer atop leakproof, vibration-dampening rubber grommet fitted into hull flange.

The Corvair's low rpm range is the only limiting factor if a racing boat is desired. But in this application it is an advantage, for it results in a nice compact, maneuverable ski boat which will run all day on half the gas required for an outboard of comparable horsepower. The low-rpm feature also makes for long engine life and fewer maintenance stops. The Wayne Corvair has 144 cubes, develops 95 horses, and develops its torque at a lower rpm. The Corvair will cruise all day at 3-grand and not use more than 2 or 3 gallons of gas per hour. Wide open, with a load of skiers, consumption is about 5 gallons per hour. And, there's hot air available from the vent ducting system for the early-morning mountain lake fishermen who must brave the cold.

Engines are available stock in the 95 hp model, but the 140 is available on special order. The package can be installed in any flat-bottom-type hull, or can be ordered installed in a hull of the buyer's choice. Many features go with the package; an oil cooler mounted in the fan air stream, a heavy-duty alternator to keep the batteries up, and an electric fuel pump. (How about an 18- or 20-foot hull with a pair of these units mounted side by side in the stern for a dual-prop installation? Hmm. . .)

The price for a single unit is comparable to that of an inboard/outboard installation in the 120 hp range. More information can be obtained by writing direct to Wayne Horning at Inboard Marine Co., in Temple City, California.

Oh, it's no use, fellas; Horning does not have any more of his Wayne Chevy heads. ■ ■