

ICD

Floyd Clymer's Motor

# Cycle

September

1965

50 cents

IN CANADA 60c

"world's largest monthly motorcycle circulation"

## GYRONAUT X-1:



### AN ALL-OUT TRIUMPH FOR BONNEVILLE!

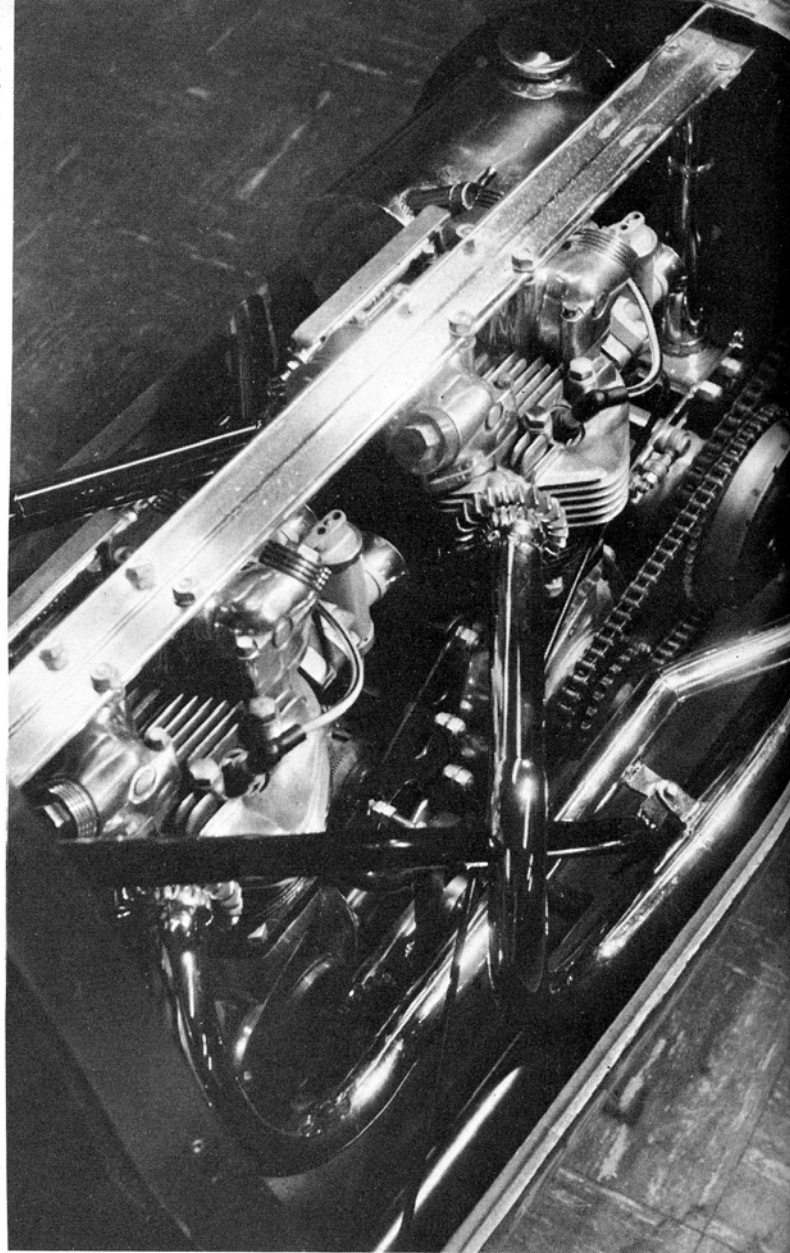


**Competition:**

**EXCITING ISLE OF MAN, WATKINS GLEN  
AND LACONIA ROAD RACES**

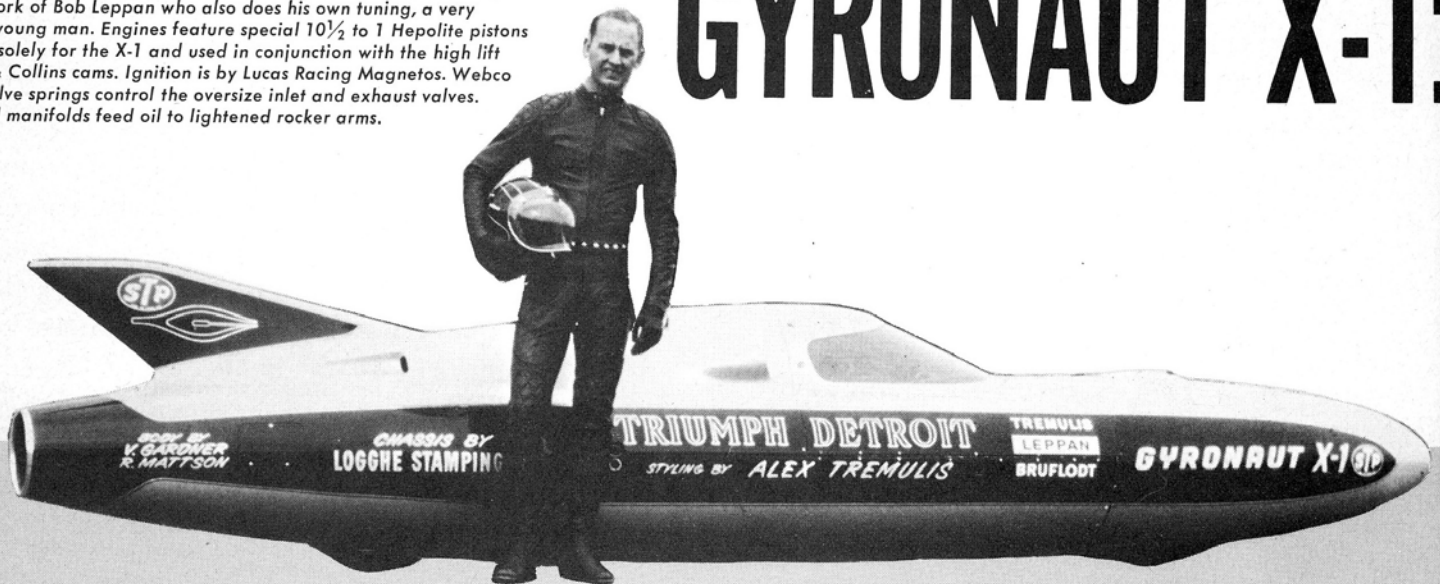
**Cycle Tests: TRIUMPH TIGER T100SC 3 MB LIGHTWEIGHTS  
GILERA 124cc TESTI 50 & 90**

LEFT SIDE OF engine compartment shows drive train. Primary drive is by  $\frac{1}{2} \times \frac{5}{16}$  Reynolds Racing Chain. Front primary chain adjustment is by needle bearing idler sprocket. Rear primary chain adjustment is standard Triumph construction with movable gearbox. Alloy T section crossing center of photo is torque stay to top of engines. Engines themselves are bolted into a slightly modified Triumph frame and the package unit is then fastened to chassis. The single round oil tank visible serves both engines. Gas tanks are removed to reveal details.



ENGINE COMPARTMENT, right side; X-1 has two Triumph Trophy 650cc engines placed in tandem. Producing 120 HP at 7500 RPMs on gasoline, engines use four  $1\frac{1}{8}$ " 289 Amal carburetors with four Amal 510 Grand Prix float bowls. Note unusual tuned exhaust system. The engines are the work of Bob Leppan who also does his own tuning, a very versatile young man. Engines feature special  $10\frac{1}{2}$  to 1 Hepolite pistons designed solely for the X-1 and used in conjunction with the high lift Harman & Collins cams. Ignition is by Lucas Racing Magnetos. Webco S & W Valve springs control the oversize inlet and exhaust valves. Webco oil manifolds feed oil to lightened rocker arms.

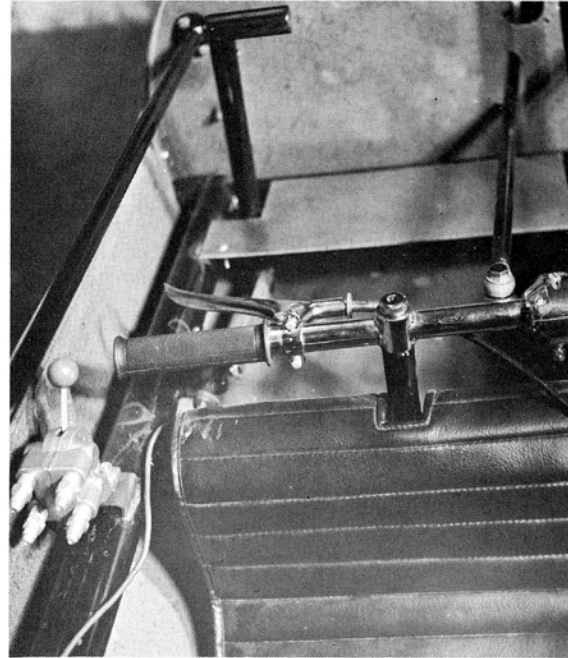
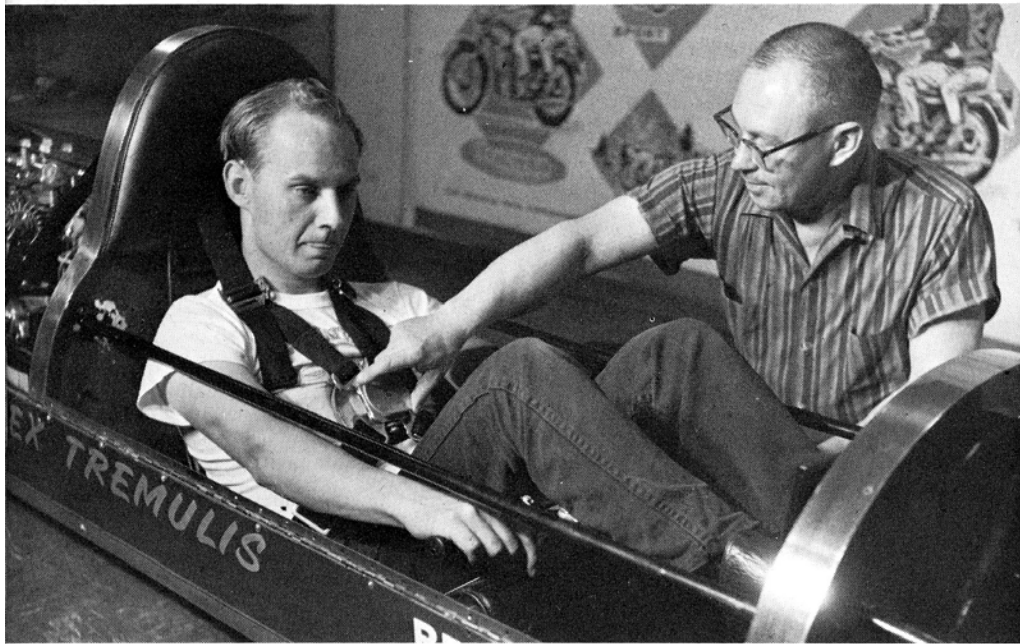
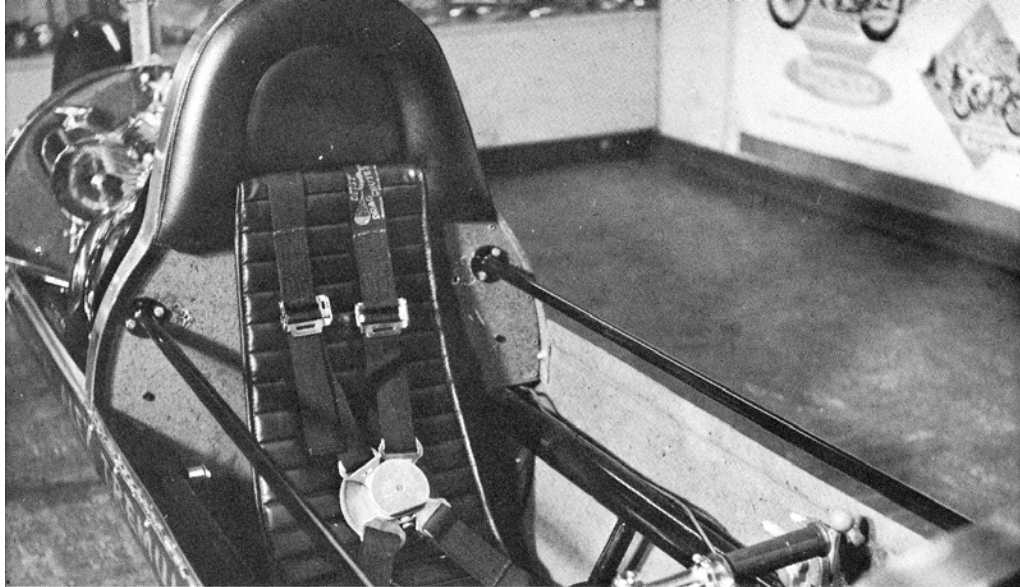
# GYRONAUT X-1:



COCKPIT features comfortable seating by L & M Auto Glass and Trim of Detroit and safety harness by Deist of California. Safety chute is also by Deist. All chassis tubes are chrome-moly steel.

BELOW LEFT — BOB LEPPAN, driver, shown in unusual sitting position. Legs are placed over handlebars, feet by control pedals. Jim Brufflodt is working quick release buckle on Deist safety harness.

BELOW — GYRONAUT controls follow conventional motorcycle practice. Right hand twist control for throttle and left hand clutch lever to Triumph five plate clutch. Drag link at right leads to center point steering control lever. Master brake cylinder at right center. Barnett alloy clutch plates are used with Triumph T741 racing clutch springs.



## Professional speed venture from the "Motor City"

How do you like your competition? The wonderful world of motorcycling offers to its enthusiasts a fascinating choice from slow racing at field meets to the fantastic speeds of Bonneville record attempts.

We may choose to master rough terrain in trials, scrambles, or motocross or we may choose to beat the clock in road runs or enduros. Some may choose the dangerous thrills of the dirt track or the TT course. For the pavement rider there is road racing or drag racing. For those few who choose the ultimate in speed, the salt flats of Bonneville, Utah beckons once a year in late summer when the Bonneville National Speed Trials are held.

Motorcycle manufacturers the world over have catered to the competition-minded throughout the years, producing and selling to individuals the specialized machines best suited to these various contests of speed and skill.

The exception to this practice is in serious drag racing and record attempts which are so specialized that one-of-a-kind specials are the rule. These are hand

built by the devotees to sheer speed. Some are beautiful, a few are ugly, but all are built for the purpose of going very, very fast in a straight line.

### FROM DRAGS TO SALT

Most Bonneville contestants have served their apprenticeship at the drag strips where they may develop their special engines and their familiarity with speed on a week-to-week basis so that the most may be made of the short seven days of Speed Week in Utah.

The drag racing-Bonneville team of Bob Leppan and Jim Brufflodt, owners of Triumph-Detroit in Detroit, Michigan have joined forces with noted auto stylist and aerodynamicist, Alex Tremulis, and the famous designers and constructors of record breaking auto dragsters, Ron and Gene Logghe of Fraser, Michigan. Together they have produced the latest contender for the world's absolute solo motorcycle speed record, the Gyronaut X-1.

Leppan and Brufflodt were taking their share of "Top Eliminator of the Day" trophies against cars and bikes back in 1957

and 1958 with their 40" Triumph dragster, the Cannibal. In the winter of 1958 they built their first dual-engined dragster, the Cannibal Mk. II. Competing at the all-gas (no exotic fuel) Michigan Hot Rod Association strip in 1959, the Mk. II took fifteen Top Eliminator of the Day awards against all cars and was truly an outstanding attraction.

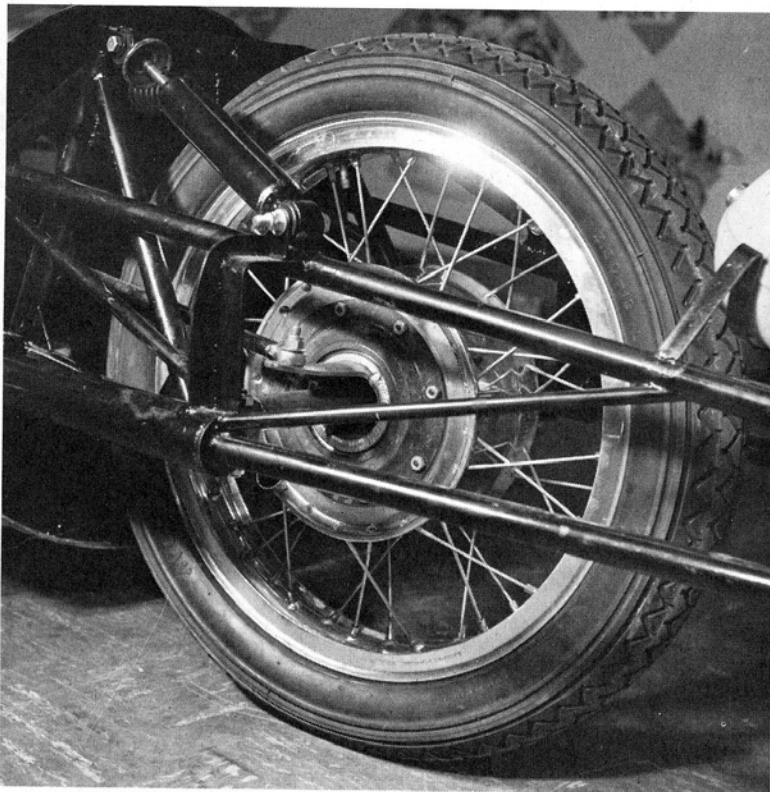
So popular was the Mk. II, it was chosen that year to be the MHRA's representative at the Invitational Meet of Champions at U.S. 30 Dragway at Gary, Indiana where each strip in the East and Middle West sent their champion, expenses paid; an unusual tribute to motorcyclists by a car association.

In 1961, the team, along with enthusiast, Mike Frankel, built a dual engined side-by-side 1300cc Triumph road machine that proved to be a sensation. That was another exercise in dual-engine installation intended to aid in future use of multiple engines in competition machines.

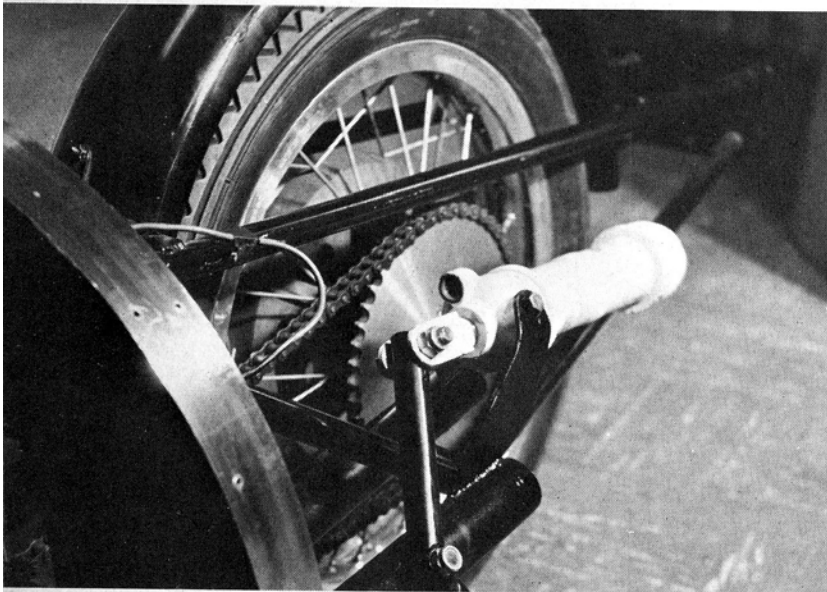
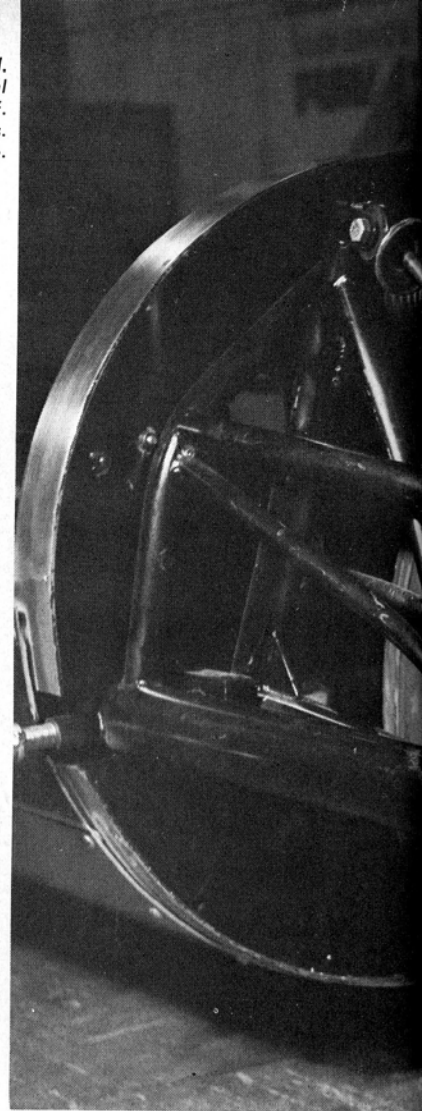
This year was also marked by the match races between the gas powered

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Center point steering replaces conventional fork on front wheel. Finger is pointing to pivot bolt on draglink to handlebar. Original center point axle assembly is work of Bill Martin of Burbank, Calif. Hub is polished aluminum alloy Triumph rear sprung hub minus springs. Rim is Italian Borrani WM3 using a special 3.50" x 19" high speed tire.



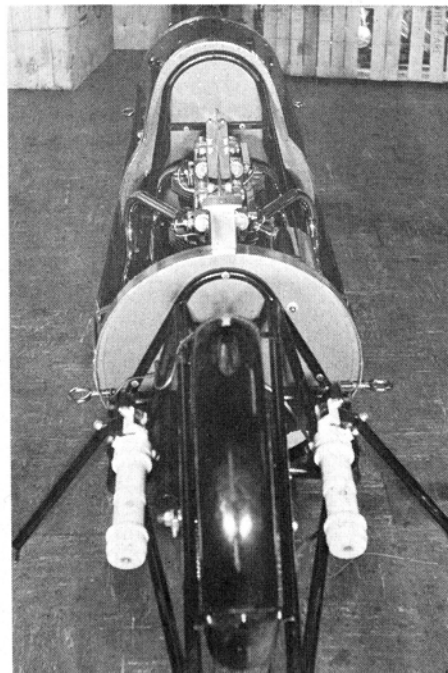
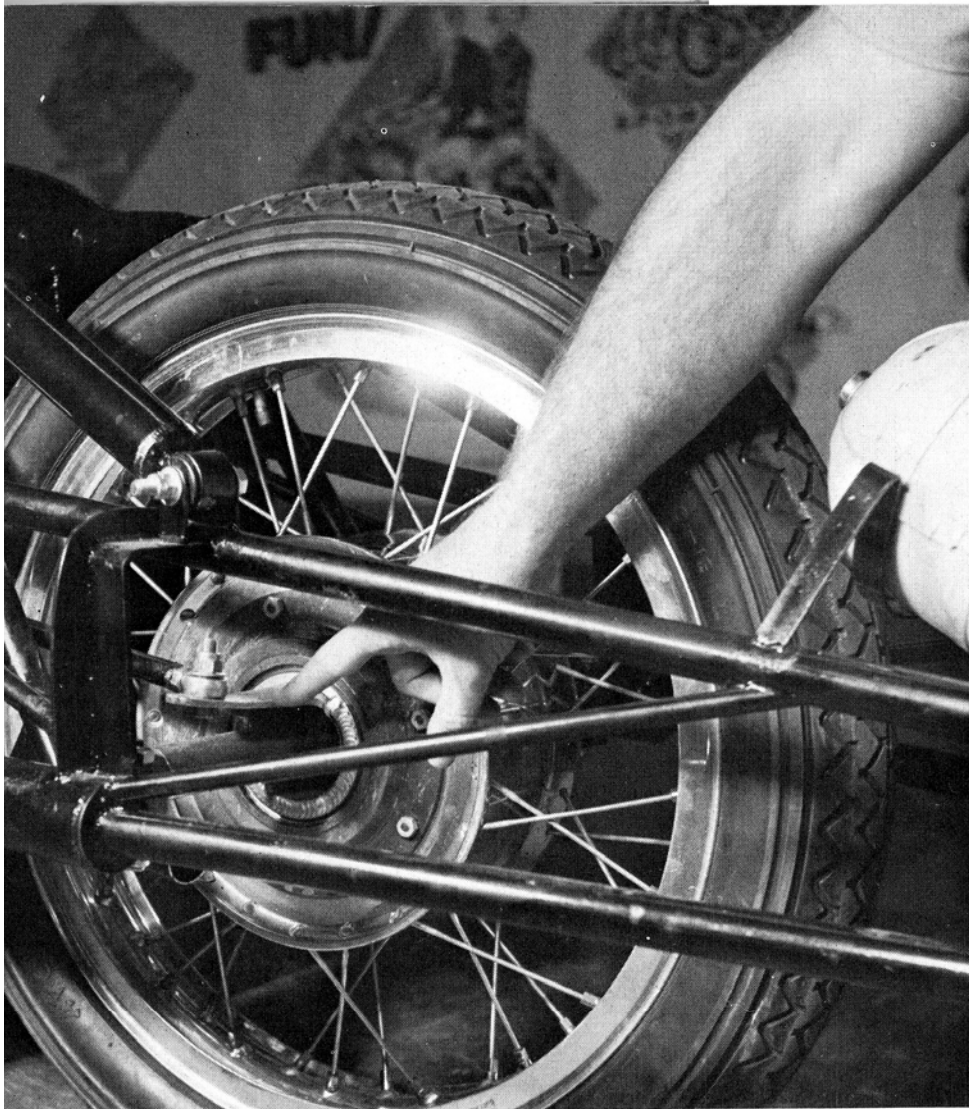
Front wheel assembly showing leading arm front suspension combined with center point steering. Rough salt conditions in recent years led to decision to suspend front wheel.



Rear drive assembly with Al Gunter alloy drive sprocket and  $\frac{5}{8}$  x  $\frac{3}{8}$  Reynolds racing chain. Wheel position is easily changed for adjustment of rear drive chain.



Rear wheel section has Al Gunter magnesium rear wheel hub with Borrani WM3-19" Alloy Rim, Airheart disc brake, hydraulically operated by pedal. Retractable skids are pneumatically actuated by two way valve for starting and stopping X-1.



Overhead view of rear wheel section and engine compartment. Note sturdy roll bar at top of picture. Projecting eyebolts aid lifting and transporting, are quickly removable for running. Fender keeps salt from engines.

Mk. II and the nitro fueled Chevrolet V-8 powered Harley-Davidson cycle, "Bloody Mary" of E. J. Potter. Held at Onondaga Dragway in October, 1961, the Mk. II defeated the monster V-8 in three out of three runs.

Overshadowed by the rapidly growing speeds of the car dragsters, the Mk. II was retired from competition.

In 1962, Leppan and Brufloft, wanting to get into the Bonneville scene, but lacking experience in this field, contacted veteran record holder, Bill Martin, of Burbank, California who they knew had a new dual engine streamliner constructed to use two unit 500cc Triumph engines. They were pleased to hear that the new streamliner was available for sale. The deal was made and the streamliner came east, minus engines!

After extensive modification, including a change of rear tire profile made on a jig bore, the streamliner was taken to Bonneville in 1963 with one 40" Triumph engine from the Mk. II. Arriving toward the end of speed week, disaster loomed when, on the first run, a special flange on the rear hub sheared putting it out of commission for that week.

Returning to Salt Lake City and aided by local Triumph dealer, Wayne Moulton, the flange was repaired and Leppan returned to the salt.

#### SPORTSMANSHIP

At that time cam manufacturer, Bus Schaller along with Stormy Mangham, whose Triumph powered machines once held the world motorcycle speed record, had the salt flats reserved for test runs of Mangham's Chevy V-8 powered cycle streamliner, Big John. In the true spirit of sportsmanship which is so prevalent at Bonneville, Bus and Stormy allowed Leppan to utilize the salt on their time.

Leppan used this opportunity to good advantage making run after run with his streamliner attaining speeds in excess of 190 M.P.H. The handling problems experienced by Bill Martin had been licked with the new rear tire profile.

Leppan's mastery of the streamliner on the salt during the learning process is very commendable; he was one of the very few who experienced no loss of control.

Disaster struck later that year however at a drag strip exhibition run where the 1/2 inch road clearance of the machine caused it to fly into the air and flip completely over upon striking a drop in the pavement at 100 M.P.H. Coming down on its canopy, the roll bar, shoulder harness and seat belt saved Leppan from any injury! The streamliner had made its last run. It was scrapped and the all-new Gyronaut X-1 went under construction.

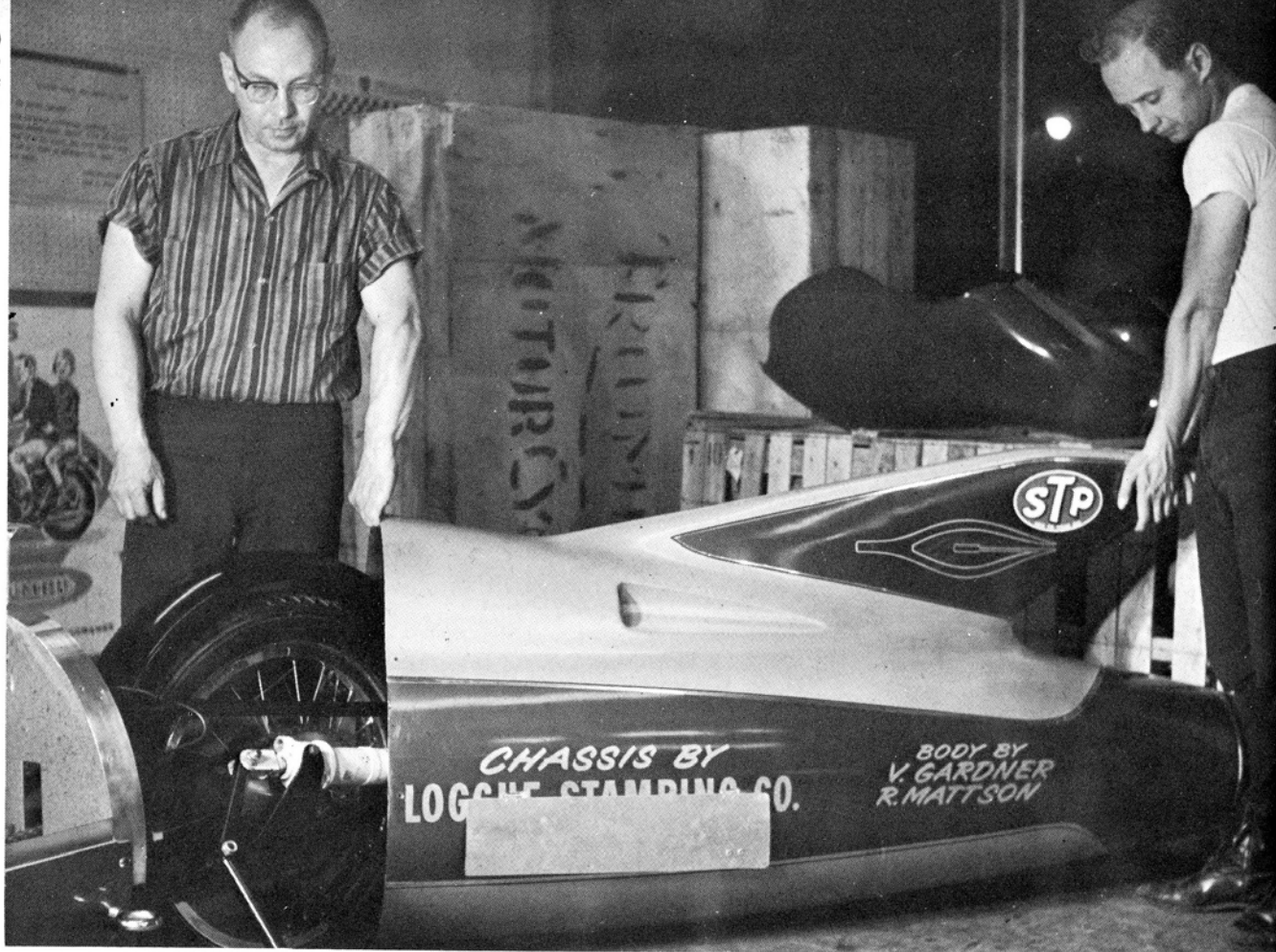
Alex Tremulis, former head of advanced styling at Ford Motor Co., had become acquainted with Bob Leppan at Bonneville in 1963. These two, along with Jim Brufloft, started to develop a two wheeled project, aided by the Ford Motor Co. to go after the land speed record of over 400 M.P.H. then held by John Cobb. The Gyronaut X-1 is one step in the project to seize the wheel driven absolute land speed record now the property of Donald Campbell of England.

The new team went to the foremost specialized chassis builders in the middle west, Ron and Gene Logghe of the Logghe Stamping Co., whose 200 M.P.H. dragsters are well known from coast to coast for their lightness, fine construction, and speed.

Meanwhile noted custom body builder, Vince Gardner, aided by Alex Tremulis and

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Jim Brufflodt (left) and Bob Leppan (right) lift fiberglass rear body assembly into place. Note hinged door for retractable skids. Air outlet above is for release of engine heat, tail fin for directional stability. Fiberglass panels are Dzus fastened to aluminum bulkheads.



Bob Mattson had built the sleek fiberglass body for the X-1 modeling all segments and hand laying the glass. Thus the X-1 is a true custom-built machine throughout.

#### **GASOLINE POWER**

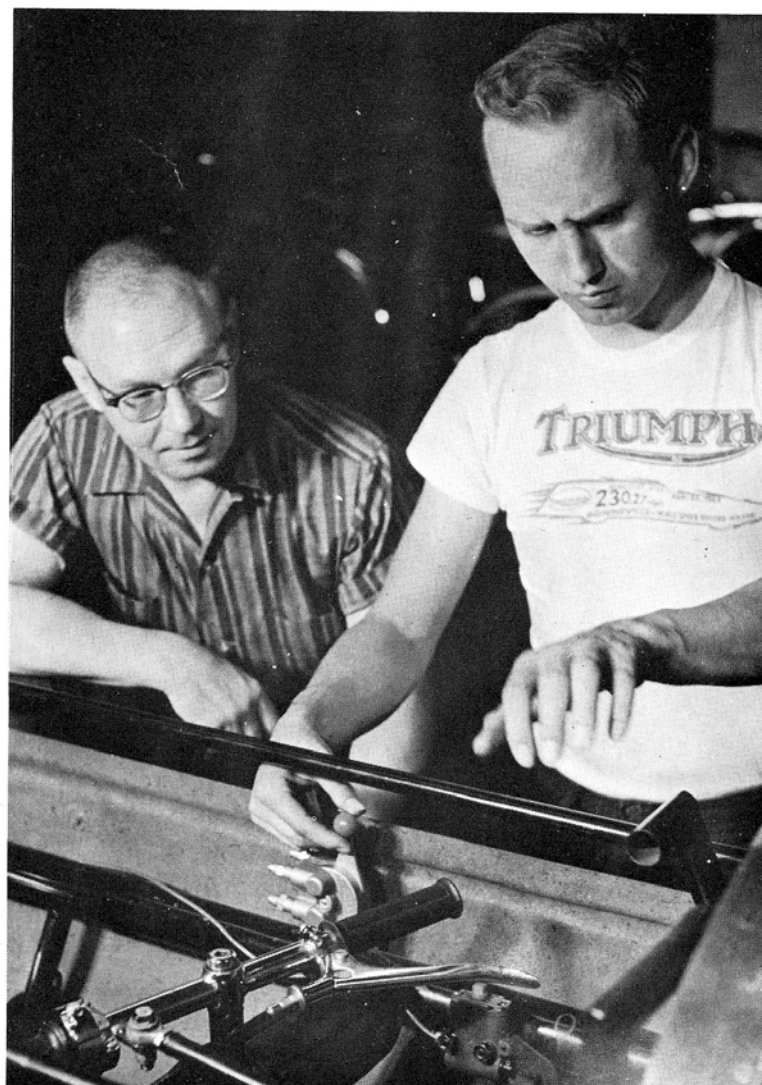
It was agreed that two of the 1963 engines would provide ample power on gasoline to raise the present record of 230.269 held by Joe Dudek and Bill Johnson substantially. These engines have proven to be extremely reliable and are already basically tuned for the unusual conditions encountered at Bonneville's high altitudes.

However in spite of herculean efforts the X-1 still lacked a few components when the 1964 speed week neared. Word of poor salt conditions led to the decision to make the real effort in 1965.

Always looking to the future, the team has constructed a new dual engine Triumph dragster with new nitro fueled engines which is being used to develop even more powerful engines for later installation in the X-1 streamliner.

The Gyronaut X-1 already has won its first victory by being presented the P.A. Sturtevant award for Engineering Achievement over some of the finest competition cars in the country at Detroit's huge 13th Annual Autorama in January of this year, another unusual accolade when hot rodders choose a two wheeler for one of the most coveted awards in American racing.

Motorcyclists around the world will be anxiously awaiting word from Wendover, Utah and CYCLE will hold some pages open for the results of the Gyronaut X-1 record attempt. ◀



Bob Leppan (right) works control lever for retractable skids while Jim Brufflodt looks on. Hydraulic brake master cylinder is below Leppan's left hand. Foot controls are at far right of picture. Left pedal works disc brake, right pedal is for shifting the four speed standard ratio Triumph gearbox.