College Station, Texas Thursday, August 17, 1961

THE BATTALION

Is Solid Or Liquid Rocket Fuel Best?

Associated Press

Page 4

ter, says the Russians use liquid extent."

free world's largest space vehicle, rockets. also uses a liquid system.

bined, and some vehicles might and an oxidizer. use nuclear and electronic propul-sion systems as well. Getting a giant booster off the ground without it blowing up is Thrust Is a Factor The advantage of solid rockets "In my opinion, there will be not like shooting a firecracker. for military use is obvious. They

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Thur. - Fri. - Sat. August 17 - 18 - 19

By JACK STILLMAN ______ in the foreseeable future important, One scientist said that should a are ready to go at a moment's the fuel is stored in tanks at mod places in the science of rocketry rocket the size of the Saturn notice. HUNTSVILLE, Ala. — Which for both liquid and solid boosters," booster blow up, it would wreak But solid propellants are unable fuel into the high pressure com-

HONTSVILLE, Ala. — whitch
method of propelling a rocket is
better, with liquid or solid fuel?For both hiquid and solid boosters,
untoid havoc for many miles.But solid propellants are unable
to produce the thrust that liquid
propellants produce. The power
of a propellant is determined by
its "specific impulse." A pound
on what your rocket is supposed
to do.Inter futor the high pressure com-
botster blow up, it would wreak
solid propellants, which look
something like hard rubber, have
built-in oxidizers and are ready
to go at the touch of a spark.But solid propellants are unable
to produce the thrust that liquid
propellants is determined by
its "specific impulse." A pound
of solid propellant would produce o do. Dr. Wernher von Braun, director of these areas and intend to use them frankly admit they would not the thrust obtained from the same sary to control the flow of the of the Marshall Space Flight Cen- each to the maximum practicable relish working with such a booster amount of liquid propellant.

filled with solid fuel. propulsion in their biggest space The solid propellant rockets are "If it went off accidentally, you missions—including the recent descendants of ancient Chinese wouldn't have a chance," said one. man-in-space flights. The Saturn rockets. When Francis Scott Key "But that goes for a liquid motor, space booster, the 1½-million- wrote about the rockets' red glare, too, although the chances of a pressure of the combustion champound thrust vehicle that is the he was writing about solid-fuel liquid engine exploding are considerably less."

Rocket men refer to propellants The solid rocket comes already But in space vehicles of the as fuel is a general sense, since loaded, since the solid fuel first future, says von Braun, liquid and all chemical propellants are com- is liquified and then must be solid systems likely will be com- posed of two constituents-a fuel cooked to its hardened state. This give a higher thrust; they are mean a lighter rocket, since the must be done at the factory.

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fuel rocket is subjected to the full are high. ber. This is because the flame the casing.

There are several arguments in heated in a reactor rather than favor of liquid propellants. They burned in the nozzle. This would safer; they are easier to control fuel tanks or solid-fuel casings during flight, and they are easier would not be needed.

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In a liquid propellant rocket, have a higher specific impulse.

est pressure. Pumps force the

liquid. If they all work properly, The second major drawback is that's one thing. But when one that the entire casing of a solid goes wrong, chances of a failure

Looking To the Future

A nuclear rocket would be sim burns inside the entire length of lar to conventional chemical rockets except that the fuel would be

The nuclear rocket also would

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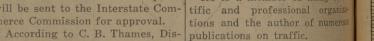
Cleveland is assistant research civil engineering, Yale Universit engineer, highway design and 1959. He is also the holder traffic engineering section, Texas a certificate in highway tra Transportation Institute, Texas studies, Bureau of Highway Tra A&M. He will present the paper fic, Yale University. at the 31st annual meeting of the Cleveland came to A&M in 19

Railroads Consent fic, Yale University, 1950-51, To Combine Tracks School, Fort Belvoir, Va., 1951 traffic engineer (lieutenant), **For Underpass**

The railroads through College Ramp Buildings, Corp., New Yo Station have consented to combine 1954-56; research associate, their tracks for the building of real of Highway Traffic, Ya the underpass at the junction of University, 1956-59. FM 60 and FM 2164. These plans He is a member of many scient will be sent to the Interstate Com- tific and professional organiz merce Commission for approval. tions and the author of numerous

A paper, "Driver Tension and Institute to be held August 24

Prior to that he was research sistant, Bureau of Highway Tr listed instructor, The Engin School, Fort Belvoir, Va., 1951-5 fice chief of transportation, Wa ington, D. C., 1952-53; traffic gineer and chief traffic engine



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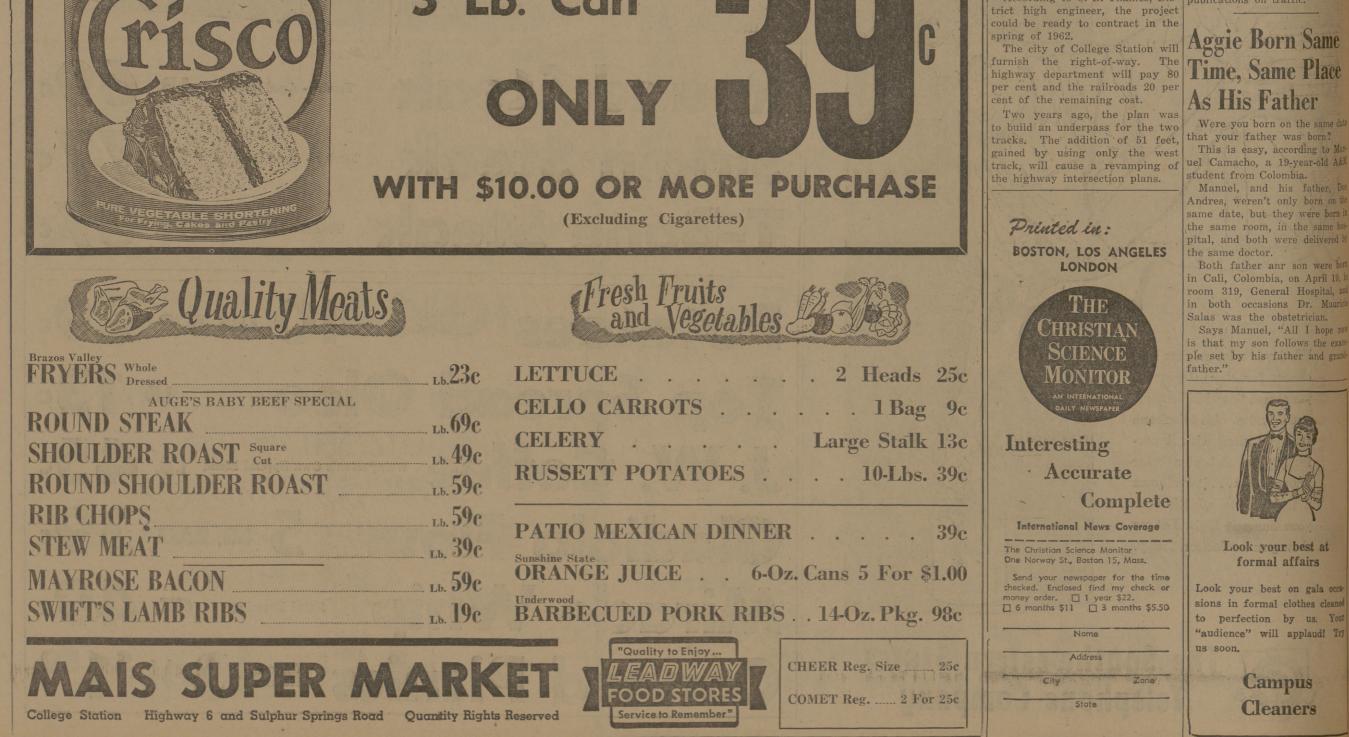
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