Diesel converted to burn ethanol alcohol fuel

CHICAGO, Ill. — There is a project going to convert a diesel engine to burn farm-grade ethanol alcohol as an alternative fuel for tractors

IH has loaned a new tractor, at 130 pto hp, plus extra engine manifolds and heads to the University of Illinois, Urbana-Champaign for the switch-over

Using the tractor and the extra manifolds and heads, U. of I officials will attempt to fine-tune the diesel engine to burn alcohol at maximum efficiency, which is essential for success, said Don Hunt, agricultural engineer.

"Our aim is to help our nation's farmers become more energy independent of petroleum-based fuels by using on-the-farm produced fuel to power their tractors," said Raymond Cragle, director of the Illinois Experiment Station.

Cragle pointed out that alcohol as an engine fuel is used mainly as a fuel extender "Mixed with gasoline as gasohol, or even in the future with diesel fuel as diesohol, this fuel still is a blend and dependent upon petroleum-based sources These sources are questionable to farmers today in terms of price and supply."

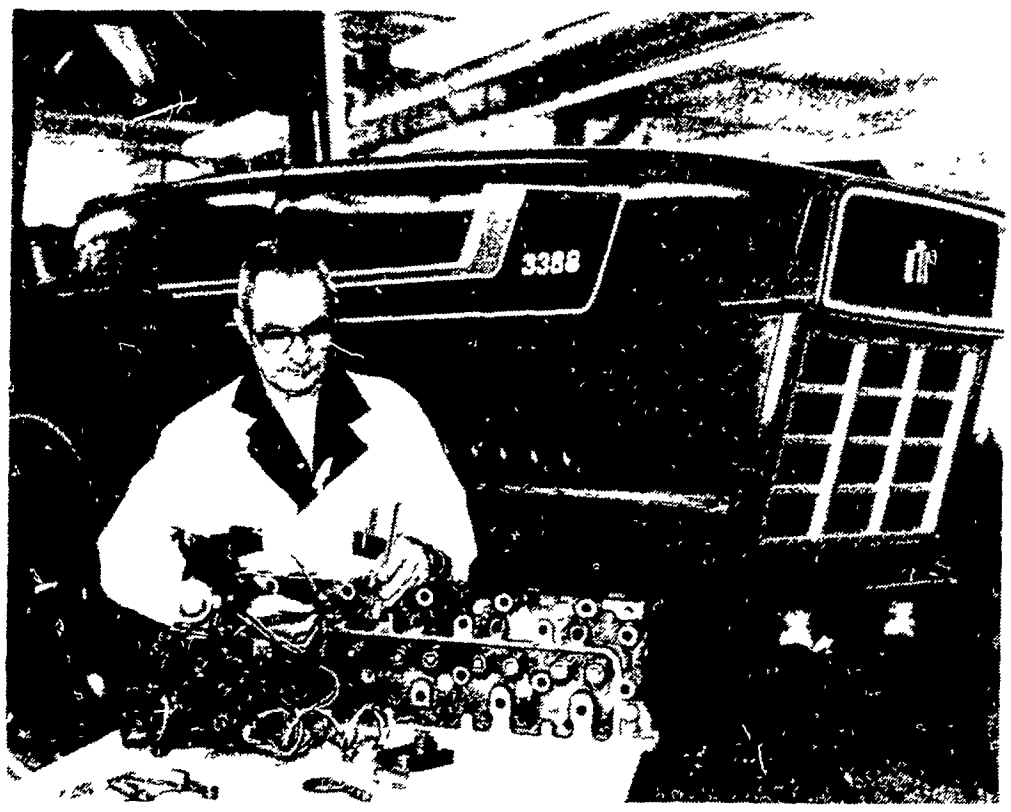
In tractors one possibility is to burn low-proof alcohol produced from grain or other agricultural materials and wastes Preliminary studies have shown that this can be successful in spark ignition tractors.

During the U of I Agronomy Field Day last fall an IH engine was converted to use straight ethanol showing that 180 proof or less alcohol produced power equivalent to that of gasoline

Using pure alcohol in diesel engines, which largely have replaced the gasoline engines in agricultural equipment, presents ignition problems Ethanol is not suited to compression ignition, therefore, the engine must be converted

The research team must first convert a spark ignition operation Fuel is introduced either by carburetion or fuel injection into the engine intake air stream

"As a leading supplier of agricultural tractors and equipment to our nation's farmers, we are committed to increasing the fuel efficiency of our products We are pleased to explore this opportunity that could lead to helping our farmers become less dependent upon petroleum-based fuels," said Stanley F. Lancaster, vice president and general manager for IH's Agricultural Equipment Group



Ag engineers are converting a diesel engine to burn farm-grade ethanol alcohol in hopes of giving farmers an alternative fuel for tractors. Working on the project is research team member Roy Brockett. IH loaned the U of I the tractor, a new Model 3388 at 130 pto hp, plus several engine manifolds and heads.