

## Spark Plugs Fouled By Unleaded Fuel

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Many owners of older tractors with engines designed to run on leaded fuel experience problems with spark plug fouling. This problem has coincided with the petroleum industry's movement toward marketing unleaded fuel without tetraethyl lead in it.

By now, most owners of older equipment realize that there were two reasons tetraethyl lead was added to gasoline. The main reason was to increase the octane rating of the fuel, enhancing the combustion characteristics of the fuel within the cylinder. The second reason was to provide lead oxide and lead halide by-products of combustion, which acted as a solid lubricant between the valves and the valve seats, preventing the hard valves from grinding their way through the softer seats.

One thing owners had not realized until recently is that unleaded fuel tends to run richer than leaded fuel. As a result, the spark plugs tend to foul with carbon, which makes the plugs misfire. This creates more carbon, compounding the problem. The result is spark plugs that fail to perform as desired after as few as 10 to 20 minutes of operation.

Fortunately, plug fouling

appears to be isolated to tractors built before the mid-'70s, according to Jim Garthe, Penn State agricultural engineer. Tractors built during the late '40s and throughout the '50s seem to be particularly vulnerable, probably because of the 6-volt ignition system, which lacks adequate voltage to help burn off or through the carbon deposits.

Garthe says increasing spark plug heat range will not solve the problem, nor will changing the brand name or plug gap. The best solution is to lean out the fuel:air mixture slightly and to assure the timing advance is correct by using a timing light or dwell tachometer.

If these recommendations fail to give both you and your engine renewed vitality, you should consider probing deeper. Check the compression of all cylinders and make sure they meet specifications. Monitor oil consumption and exhaust smoke to see if it is time for new piston rings or valve guide oil seals. Lastly, inspect valve clearances routinely to make sure that valve recession is not occurring due to the unleaded fuel.

### Conservation Reserve Program Sign-Up

The tenth Conservation Reserve Program (CRP) sign-up will be March 4 through March 15. Basically, highly erodible land that was cropped in two of the last

five years (1986-1990) could qualify. However, under new CRP program provisions, bids on eligible land will be accepted based on environmental benefits obtained per dollar of cost to USDA's Commodity Credit Corporation. Producers should not rely on bid amounts which have been accepted in previous years when making their bids.

Land eligibility requirements will be expanding from past sign-ups to include not only highly-erodible land, but also other cropland acres that might impair water quality.

CRP bids will be received only for contracts beginning in 1991 and bid acceptance determinations will be made after a nationwide review and evaluation.

Fifty percent cost share assistance will continue to be available to establish needed permanent vegetative cover, including trees, on the accepted acres. Annual rental payments for ten years also will be paid to CRP participants based upon their bid.

Contact the Agricultural Stabilization and Conservation Service Office for more information at 215-395-4161.

### Agricultural Conservation Easement Deadline

Friday, March 15 is the deadline for submitting an application to the Lehigh County Agricultural Land Preservation Board for the first 1991 funding round of the Lehigh County Agricultural Conservation Easement Program.

In this farmland preservation program, Lehigh County farmland owners who are in an agricultural security area can apply to sell their development rights to the county and the Commonwealth of Pennsylvania.

Five Lehigh County applicants have accepted purchase offers for agricultural conservation easements from the county board. If the State Agricultural Land Preservation Board approves all five of these purchases, Lehigh County will soon have more than 650 acres of permanently preserved farmland.

Easement values are determined by appraisal. To date, appraised agricultural conservation easement values in Lehigh County have ranged from \$625 per acre to \$3,400 per acre.

For more information on the program and the application pro-

cess, call Jeff Zehr at (215) 391-9583 or stop by the Lehigh County Agricultural Center, Suite 105, 4184 Dorney Park Road, Allentown (South Whitehall Township).

### More Opportunities To Learn

Phone (215) 391-9840 for more information about the following events:

- Pennsylvania's Agricultural Economy - Trends, Issues and Prospects. A conference for farmers, managers of ag-related businesses, members of the agricultural press, and representatives of government agencies and interested environmental and consumer groups. Wednesday and Thursday, March 20 and 21, J. O. Keller Conference Center, University Park. Registration fee: \$75.

- Practicing Stewardship and Living a Land Ethic. A conference for natural resource managers and other professionals who work with forests, forest resources, and the public. Tuesday and Wednesday, March 26 and 27, Harrisburg Marriott, Harrisburg. Registration fee: \$65.

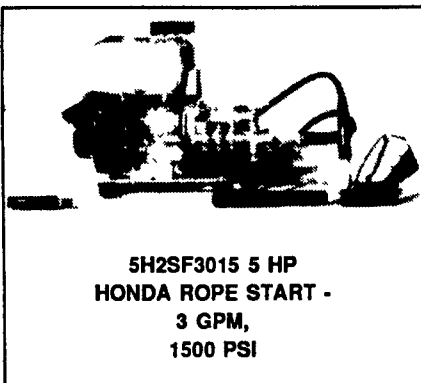
- Pennsylvania Beef Expo. This

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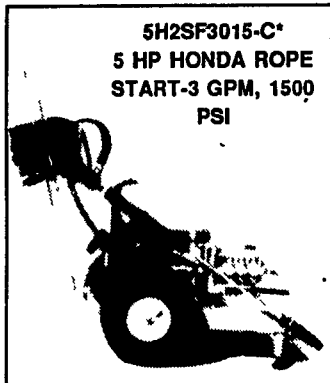
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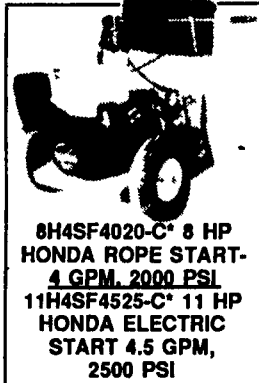
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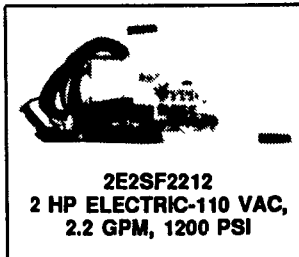
5H2SF3015 5 HP  
HONDA ROPE START -  
3 GPM,  
1500 PSI



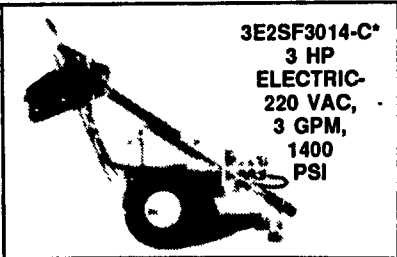
5H2SF3015-C\*  
5 HP HONDA ROPE  
START-3 GPM, 1500  
PSI



8H4SF4020-C\* 8 HP  
HONDA ROPE START-  
4 GPM, 2000 PSI  
11H4SF4525-C\* 11 HP  
HONDA ELECTRIC  
START 4.5 GPM,  
2500 PSI



2E2SF2212  
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2.2 GPM, 1200 PSI



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