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## Prolonging the Life of the Tractor by Proper Care and Attention

By C. C. HERMANN

O sooner is a farm tractor purchased and placed into service than it begins to wear. Its commercial value begins to depreciate gradually until the curtain falls on the last act of its life of usefulness; if you look behind the curtain you will see the tractor in the junk pile. This, then, is the ultimate end, the scrap heap, towards which the tractor is travelling. How soon it will arrive at its journey's end depends on the operator to a considerable extent. It is just the same with the tractor as it is with human life. The doctor may prolong human life, but sooner or later death beats him out. The operator of a tractor can prolong the life of his tractor, but dust it is and to dust it must return.

In the first place the life of a tractor is numbered in days of actual use. The tractor at present may be used from thirty to ninety day a year, depending upon the universality of the machine. An exhaustive investigation conducted by the Government in Ilinois, covering 600 tractors, gave an average life of 337 days, or 7½ years of 45 days each. There is not the least doubt but that this average can be raised, resulting in a considerable saving to the farmer.

The-most prominent life saver, in speaking of tractor medicine, is lubricating oil. The tractor ailments are often traced directly to the operator's carelessness in this respect. A new tractor may or may not have, oil in all of its oil chambers. It should be the first object of the purchaser to assume that the tractor has not been oiled and then to prove the assumption right or wrong. It is the duty of the dealer or demonstrator to point out to the purchaser every oil hole, every grease cup and teach him how to fill the oil chambers, as well as to instruct him in the proper kinds of oil to use. The lesson should never be forgotten, in fact, it will not be forgotten if properly taught.

The oiling system will be gone over and over again day by day until every oil hole and every grease cup will be imbedded in the memory. The tractor may possess a system of lubrication which may employ a pump to force the oil to the various bearings in the engine construction. Such a system usually has small tubes which are apt to become clogged with dirt or other

substances. These tubes must be cleaned periodically to insure proper lubrication. Some of the bearings on the tractor may require hard oil, and these have oil cups that must be filled when empty and screwed down occasionally. Still other bearings require liquid oil applied from a regular oil can. These must be given more attention than any other, as only a few drops are applied at a time.

There are many symptoms noticeable to the operator that will give due warning of oil shortage or drying bearing. If no oil is reaching the piston, camshaft, connecting rod or main bearings the engine will labor misfire, and if not attended to at once will smoke, soon thereafter stalling. Excessive heating of the water in the radiator will sometimes indicate poor lubrication. The bearings outside of the engine, such as the transmission bearings, differential and wheels, require very little attention other than filling with the required amount of lubricant at stated intervals. manufacturers have issued instruction books which contain oiling instructions, often accompanied with charts showing just where to oil, and this should be carefully followed.

After the tractor has done a season's work it should be completely overhauled before starting on the second season. The engine should be taken apart and thoroughly cleaned, the main bearing, connecting rod bearings and camshaft bearings taken up, that is, shims removed sufficient to bring about a good running fit. cylinders should be inspected, as well as the pistons, and new rings put in if necessary. The piston rings should have equal bearing all the way around, which condition would be indicated by the wearing surface. If the cylin-

