

Cold Weather Tips for Tractor Drivers

By Russell Adams

The season of the year is fast approaching when the tractor driver should be excused if he is inclined to use strong language while trying to get a balky engine to start.

Hard starting in cold weather has always been a chronic disease in internal combustion engines. In the early days of the gas engine era we had superfine gasoline, but the engine were so crude that they were difficult to start anyway. To-day we have splendid engines, but our gasoline has so deteriorated that starting troubles are, if anything, more prevalent than in days gone by.

This situation has led to the invention of many devices designed to overcome this reluctance on the part of a cold engine to get up and get after the first turnover, but many of us do not have an opportunity to investigate the merits of these devices, and many times they are not adapted to the older model machines.

Having had considerable experience with many makes of gas and oil engines it is needless to say that I have had my share of trouble in getting some of them started on a cold day, or a warm day either, for that matter.

Undoubtedly one of the best methods of getting an easy start on a cold morning is to fill the cooling system with hot water, and while the hot water is taking the chill out of the cold engine it is an excellent idea to prime each cylinder with about a teaspoonful of high-test gasoline. But, if that can not be obtained, the next best thing is commercial benzine, which can be had from almost any druggist.

While operating an engine which was very bad to get started on a cold morning, I made a little discovery which may be of benefit to you some day, so I am passing it along:

I secured a small metal container—a shaving-soap box, in fact—in which I drilled six or eight three-sixteenth-inch holes. In a small wad of wet

cotton waste I placed three or four pieces of calcium carbide the size of a pea; the wet waste, with the carbide in the centre, was then put in the container and the container placed in the air intake of the engine mixer. As carbide gas is a very explosive mixture it was seldom that I failed to get shot on first turnover of crank.

I have used this method many times, and on different makes of machines, with satisfactory results. I have seen practically the same method used by other operators, the only difference being that they used ether on dry cotton waste, which was placed in metal container and the gas introduced to cylinders by the air intake. I have seen operators use a blow torch with flame directed against intake manifold until it was almost red hot; but there is a little too much danger attached to that plan to please me.

Present-day gasoline shows a marked tendency toward condensation, even after it has passed the air spray of the carburetor or mixer. Hence it is necessary to use considerable heat to minimize this fault, and it is very often the case that our troubles do not end with getting the engine started. Low-test fuels require constant heat until the gas is consumed, and in very cold weather the intake manifold may remain cool enough that condensation will continue all day long; and if this be the case much of the unburned fuel will be forced past the cylinder rings down into the lubricating oil where it can do untold damage to pistons, cylinders and crankshaft bearings.

The remedy is obvious—more heat at intake manifold. Surrounding the manifold with an asbestos or sheet-iron jacket. Many of the new models of tractors are supplied with a so-called "manifold stove," a simple contrivance made of sheet iron equipped with a damper which allows the operator to introduce cold air after the manifold is sufficiently heated.

Poultry

Small wooden tables can be made of short pieces of two by four and scrap lumber. If they are only six inches above the level of the litter they will help in keeping the litter out of the sour milk dishes. Water pails placed in wooden store boxes just a little larger than the diameter of the pails will remain upright even when the hens roost on the edge.

Mash hoppers with narrow throats often clog and it becomes a daily job to poke the mash down with a stick. This can be avoided by slightly enlarging the throat by removing the lower front board and by placing a curved piece of galvanized at the back of the hopper. The mash will slide down more easily over the smooth metal surface.

There is no time the poultry keeper cannot find work. But spring is the busiest season of all, as hatching and brooding about doubles the regular work. So it pays to build colony houses and brood coops in the fall whenever it is possible. Every hour spent on such work in the fall gives you an extra hour to do other work in the spring. And too often the equipment you need next spring that is not built this fall you will not be able to build next spring.

Laying houses should be finished as early as possible as they are somewhat damp when first completed. It is safer to keep the pullets out until dry sunny fall days have taken out a lot of the moisture. When houses are built late in the fall it is difficult to do a good job if the lumber is constantly being soaked by fall rains. If you build with wet lumber many cracks are apt to appear when the hot sun begins to dry the boards.

For Your Fuel Barrel.

This is a very good way to handle the farm fuel barrel. The barrel is always upright for easy filling by the oil man and to prevent any accidental leakage. When some fuel is wanted the barrel is easily tipped, with just enough clearance between the ground and the spigot for the average oil can.

Two short posts are set firmly in the ground with a distance between their tops two or three inches more than the diameter of the barrel. Enough light strap iron about four inches wide is secured to go around the barrel and be securely clamped to it by a bolt through the turned-out ends. After the clamp is made, two holes are drilled through it, spaced diametrically opposite, to admit the hanger bolts, which should be three-quarters of an inch in diameter or larger, and long enough to go through the posts in holes bored for them. When the device is assembled the barrel is clamped in and ready for service. Care should be taken to have the clamp slightly above the centre of the barrel, so that it will stay right end up when full. There is no danger of its tipping by itself at other times, as the partially filled barrel will be held upright by gravity.

Safety First for Trees.

The other day as we drove into a farmyard to replenish the water supply in Lizzie's radiator, we noticed a tree guard that was the embodiment of a rather clever idea.

The tree surrounded by the above mentioned protection stood at the corner of the drive where it turned in from the highway. The danger of damage was both imminent and constant. An old cultivator wheel of solid-iron construction was taken to the anvil and each spoke was cut in two at the hub, thus allowing the hub to fall out.

Each spoke was then bent down so that when the rim was horizontal, each spoke stood in a vertical position. This was then slipped over the tree, and the spokes driven into the ground by tapping various points on the rim with a mallet. The rim may be cut in two with a hacksaw or hammer and chisel after five or six years, at which stage the tree will be able to defend itself. Just another use for some discarded part.—D. R. V.

Winter Flowers.

If you want to brighten your windows this winter at a small expense, pot up some of your brightest annuals. You can pot petunias, verbenas, portulacae, and almost any of the free bloomers that you like, and many of them will produce flowers indoors in winter, both larger and finer in color than they produce outside. I have grown snapdragons with much finer spikes than I ever saw in the garden. Sweet alyssum seems to like house culture, for the spikes are heavier, and rose moss has larger and more double blooms. Before potting any of these, cut them back severely. Give a rich soil and large pots and keep moist, and you will be surprised at the results; not many regular house plants will be prettier. Sometimes I root cuttings rather than take up the old plants; they will bloom as well and make smaller plants.—Agnes Hile.

For Home and Country

News From the Ontario Women's Institutes.

An interesting item in the year's events of Tehkummah Institute on Manitoulin Island is that the Institute presented the twin babies born to one of their members with a pair of crib blankets, and to triplets which came to another home the Institute gave a silver cup. This Institute is taking care of the cemetery and assisting the school.

Barrie Island Institute in Manitoulin provides hot lunch supplies for the school, including milk. They gave prizes at the school fair, assisted the community church and contributed this year to the Children's Shelter, Northern Fire Relief and to the Free Hospital for Consumptives. This Institute is very much pleased with the travelling library.

Dorchester Institute has presented the school with wash-basins, paper towels and a number of good pictures. They are contributing to the London Memorial Hospital. Practically all the Institutes of Middlesex county are assisting with the London Memorial Hospital.

Vernon Institute this year raised nearly \$450 through concerts and socials. A considerable amount of this went to pay for a piano. A generous supply of clothing was sent to the

Northern Ontario fire sufferers. One of this Institute's good community ventures was to organize a community singing class last winter under the direction of a local leader. The Institute also presented the school with flowers and shrubs for the grounds and window boxes. Window shades were also given to the school.

Clifton Institute has placed a gramophone in their school. They are furnishing a room in the local hospital and are spending \$800 on the improvement of their cemetery.

Blythe Institute has introduced a hot lunch in two schools. This Institute has contributed generously to the payment for their community hall. Since the hall has been established the young people of the community have been very successful in putting on plays.

St. Helen's Institute in West Huron has provided basins and towels for the schools and a couch for the teacher's room. They are buying a piano and lamps for the community hall.

Savern Institute is building up a splendid Institute library. This Institute is carrying on a sewing class and story hour for the girls and assisting the boys' baseball teams by getting a man to coach them and by providing them with lunch occasionally.

"FIRE BLIGHT."

Bacterial Blight of Apple, Pear and Quince Trees.

"Fire Blight," a most destructive bacterial disease of apple, pear and quince trees, is very prevalent this season in many parts of Ontario, particularly in apple trees. We have received quite a number of blighted apple twigs for identification of the trouble and advice on the same, and have observed trees badly affected in many places, so says Professor D. H. Jones, Professor of Bacteriology at the Ontario Agricultural College.

Trees affected with this disease frequently present the appearance of having been scorched by fire, hence the common name "Fire Blight." The leaves will become a reddish brown and shrivel up and the blossom on young fruit will turn brown and die and mummify. In some trees a few twigs only may be affected, in other cases practically every twig will be killed off.

Trees that are affected in this way in the early part of the season are either hold-over cases of the blight from the previous season or have been freshly inoculated through the blossom with the bacteria that cause the disease, by bees or other blossom visiting insects that have previously become contaminated by visiting trees that are hold-over cases from the previous season.

When a contaminated bee or other insect visits a blossom for nectar or pollen, it leaves behind it some of the bacteria that cause the disease, and these multiply in the nectaries and pass on down the blossom pedicel into the bark of the fruit spur where they produce a canker and kill the spur with other blossoms on it, then continue their progress within the bark of the twig, causing canker and death as they go. The leaves of the twig then shrivel up, turn brown and die, giving the characteristic fire-blighted appearance to the tree.

If the blighted twigs are allowed to stay on the tree throughout the season the disease will continue to work on down the twigs sometimes rapidly and sometimes slowly, until eventually it reaches the bark of the larger limbs, or the trunk of the tree, where it becomes apparent as a canker. In cases where the disease does not reach the bark of the thicker branches or trunk before fall there is a tendency for the disease to die out during the winter. But where it gets established as blight canker in the bark of the branches and trunk the probability is that it will live over the winter in a dormant condition and begin to extend itself the following spring when the sap flow commences. This in time brings about the death of the larger limbs and trunk as the blight canker spreads in the bark. We have known young trees to be killed out in one year with this disease, though older trees will sometimes live for years with the canker slowly developing until finally the tree either dies or has to be removed for not giving a paying crop.

During mid-season other insects as aphids, hoppers and borers are common carriers of the disease from infected twigs to healthy twigs, either on the same or neighboring trees. In this way young suckers and water-sprouts get infected, and, as in the case of the blossom-infected twig, the disease will pass on down the bark of the sucker or water-sprout until it reaches the trunk or large limb where a canker is produced leading to death of the affected part.

Where the disease is active during the growing season there is frequently

a gummy brown exudate oozing out from the cankers. This exudate contains the causal bacteria in immense numbers. During rain storms this exudate may be splashed to other parts of the tree, thus leading to fresh infections.

To control and stamp out this disease it is essential to cut out all affected portions of the tree. In doing this, care should be taken to cut well below the visibly affected portion, four to six inches, if possible, as the bacteria are usually well advanced beyond the cankered area in the bark. The saw, knife, or shears used should be swabbed after each cut with a good disinfectant, e.g., corrosive sublimate 1-1000, formalin, or five per cent. carbolic acid. If the canker is in the trunk or larger limbs the affected part should be removed by cutting well around the canker, two or three inches at least beyond the visible extent of the canker. The wound should then be swabbed with the disinfectant and then painted over.

The best time to cut out the disease is the first time it is seen, as each infection, so long as it is allowed to stay, is a centre for continued spreading of the trouble. All material cut away should be carefully gathered and burned.



Rainy Day Work.

"Oh! what can I do
This long, rainy day?"
Cried Polly, "I'm tired
Of nothing but play!"

"Come give me a drink,"
Chirped yellow-bill Dick,
Polly stared at him, laughing,
Then brought it real quick.

She looked all around
With bright, searching eyes
Then ran to rock Brodler,
Hushing his cries.

"I guess there is plenty
To do, if one wishes."
Polly nodded and ran
To help Mother with dishes.
—M. M. Garrison.

Feeding Screenings Brings Weeds.

If you buy screenings for the chickens it does not pay to feed them over a large area that may be used for gardening. The screenings may bring you the finest collection of variegated weeds that your garden has ever grown. It also pays to use precautions in the scratch feed that is scattered on the range for young stock. If the mixture contains weed seeds a lot of the weeds may be left on the range to cause future work of eradication.—G. R.

Growing Children Need Much Sleep.

Children at the age of four years need twelve hours sleep a day. At the age of five, eleven hours seems to be sufficient. From the age of eight to eleven, when children are doing active school work, they need from ten to eleven hours sleep; and at twelve to fourteen years, nine to ten hours sleep. Children grow mainly while sleeping and resting, and if they are to develop strong husky bodies they must have plenty of rest and sleep.

Forget that you need exercise when planning the dairy barn. Cut out every step you can.

Hogs

The handiest thing we have around the hog end of our farm is a bottomless hog crate. The one we have is four feet long, thirty-two inches wide by thirty-eight inches high, has an ordinary "slip" door in one end. In making the crate let a board extend about eight inches on both sides and on each end of the crate. These make convenient handles. When mistress hog refuses to enter the crate just slip it over the top of her, and there you have the most stubborn hog in the crate without the loss of any valuable time and patience. Now, with the aid of a couple of planks you can load and unload the heaviest hog without any heavy lifting. If "piggy" does not like to walk the straight and narrow path forward, why just turn them around and, hog-fashion, they will always go backwards.

After the cattle and hogs are loaded it is well to tie the crate fast to the wagon box.—Ray R. Hudson.

A Barn Dance.

October is a good time for a joyous, rollicking barn dance, and if you have not a big, clean barn whose floor is fit to dance on, then deck the hall where you hold your dances, as you would for an old-fashioned barn dance. You can cover the walls with the gorgeous-tinted autumn foliage to make a riot of color; sheaves of wheat stacked in corners will hide bare walls; cat-tails make most effective decorations and you have the whole countryside to draw on for masses of bloom and autumn foliage.

You might send out invitations on pieces of brown wrapping paper to carry out the idea of formality and if you wish guests to come in costume, so much more fun. Serve refreshments on an improvised table of long boards set at one end of the room and let the guests help themselves to the big plates of sandwiches, doughnuts, cake. Have lemonade or cider to drink. Cover the table with yellow-crepe paper. Use hollowed-out pumpkins for serving dishes and lanterns.

Interperse the dances with old-fashioned games. For one dance you might have sparklers. They are harmless and lots of fun and you can get ten for 5 cents.

Make it a real "mixer" to get all of the young people in your community acquainted. If there are strangers at the party try this by way of breaking the ice.

Have each person write his name on a piece of paper and pin it in some conspicuous place on him during the evening. Then by way of starting festivities, have the boys and girls form separate circles; start the music, the girls whirl around in a circle inside, the boys outside. When the music stops suddenly, the boy and girl standing nearest together must talk very, very fast for a few minutes.

There are bees in some parts of the world whose honey is poisonous.

Phosphates Essential for Fall Wheat.

The Department of Chemistry, Ontario Agricultural College, during the past year carried on experiments in eight counties to show the effect of lime and phosphates on fall wheat seeded with clover.

From observation during the growing season and from yields the following points are noted:

1. Phosphates gave an increased yield in every case, averaging fifty per cent.

2. The catch of clover was wonderfully improved by the phosphates.

3. Size and quality of grain was increased, as well as yield, by phosphates.

4. The cost of 400 lbs. of acid phosphate per acre was more than covered, leaving a substantial profit in every case.

5. It is estimated that approximately half of the phosphate remains in the soil for succeeding crops.

6. Liming makes little difference to the growth and yield of fall wheat. Its effect will undoubtedly be seen on the stand of clover the following year.

The results of these experiments may be seen at the College exhibit at Toronto, London, Simcoe and Welland exhibitions, illustrated by photographs and the actual grain grown.

Farmers are well advised to apply acid phosphate (superphosphate) to their fall wheat this year at from two hundred to four hundred pounds per acre.

Horse Sense

See that your stable has—
Plenty of fresh air, but no draughts.
Good light.

No fumes from manure pit and drains clear and clean.

Stalls not boarded up, but grating in the upper part.

Drying room for wet blankets, and dry, warm blankets used for horses if wet and cold.

Stable quiet at night and on Sundays.

Blanketing the Perennials.

The other day a farmer, who is always doing things on time, was drawing straw manure upon his strawberry plants, the shrubby beds about the house and also on the flower borders.

By taking pains to use manure clean of weed seed, he has found little trouble from weeds the following year. The plants, however, respond promptly in the spring. This, he thought, was due both to the protection afforded the plants during the temperature changes of the winter and spring, and also to the addition of readily available plant food at a time when it is needed to start growth promptly.

Some men don't realize what good cake makers their wives are till they eat some cake at a church ice cream social.