

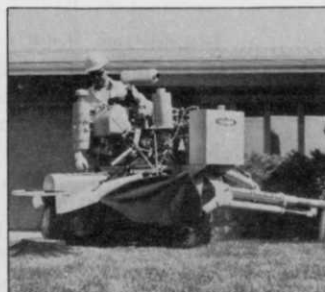
Talk About Stump Removal And You Automatically Think Vermeer

. . . because every one of The Diggin' Dutchman's seven patented Stump Cutter models is automatic. Each unit saves you thousands of dollars every year, because one man can remove the largest stump in minutes. Out-performs, out-maneuvers, out-lasts a whole crew of laborers . . . because it operates on a tankful of gas, not a handful of expensive pay-checks. Chews 'em out with a hydraulically-controlled, high-speed cutting wheel . . . faster, easier, cleaner. Write The Diggin' Dutchman for information or, better yet, call him (515/628-3141) NOW for a FREE demonstration of any Stump Cutter model. Vermeer Manufacturing Company, 7212 New Sharon Road, Pella, Iowa 50219.



THE DIGGIN' DUTCHMAN

VERMEER TREE EQUIPMENT DIVISION



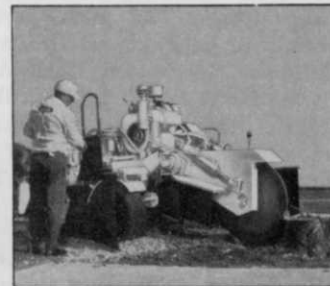
630 Stump Cutter . . . 30 hp model.



Model 10 Stump Cutter . . . 37 hp unit.



1560 Stump Cutter . . . 65 hp unit.



2460A Stump Cutter . . . 65 hp unit.

For More Details Circle (121) on Reply Card

THE METRIC SYSTEM

(from page 14)

days. This is now known as the Celsius scale. It is identical to the old Centigrade scale; it has simply been renamed to honor the scientist who originated the idea. Zero on the Celsius scale is the freezing point. 100 degrees Celsius is the boiling point of water.

After you have checked the temperature on this morning 20 years from now, you shower and shave and sit down to breakfast. Instead of taking a quart of milk from the refrigerator, you take a liter of milk — just a fraction more than a quart. If you have a bowl of cereal, the box gives the net weight in grams, not in ounces.

After you finish breakfast, you kiss your "perfect 91" good-by and hop into the car for the drive to your office. The office is no longer 10 miles away but, instead, 16 kilometers away. And you don't drive 60 miles an hour. You drive 96 kilometers an hour.

On the way you stop for gas and tell the attendant to "fill it up." He puts in 60 liters — about 16 gallons. At today's gasoline prices, the attendant would charge you between 10 and 12 cents a liter. I have a suspicion the price may be higher by that time!

So far, except for the Celsius temperature scale, the metric terms we have used are familiar — liter, gram, kilometer. But if you ask the gas station attendant to check your tires, he won't inflate them to 30 pounds per square inch but, rather,

to 200 kilopascals. The "Pascal" is a unit of pressure, and to most of us it is a new term that we will learn to use when we convert to the metric system.

In our daily life, we will use the metric system in many other ways. When we mow our lawns, we will set the mower for 5 centimeters, not 2 inches. When we buy a belt, it will be so many centimeters long. When we order lumber, we won't order 2 by 4's. And when we step on the bathroom scale, it won't read 200 pounds. It will read 91 kilograms.

We and our parents and grandparents have been happy with our Fahrenheit thermometers, our 12-inch rulers, and our quarts of milk. Why should we change to the metric system?

One, it is a better system than our English system. It is simpler, more coherent, more logical, and easier to work with.

Two, we have no choice. *The entire world is going metric.* Even England, where our system of weights and measures originated, has adopted the metric system and, over a period of 12 years, is phasing out the old system of inches, feet, and yards; ounces, pounds, and tons; pints, quarts, and gallons. Mexico is metric. Canada has committed itself to going metric.

We are almost alone in the world in sticking to the English system. There are only 11 other countries that haven't taken steps to go metric, Trinidad, Barbados, Jamaica, Guyana, Gambia, Sierra Leone, Southern Yemen, Muscat, and Oman and Burma. In addition to these, there

are two small island countries in the Pacific, Tonga and Nauru, which have still not committed themselves to the metric system.

This is a ridiculous situation for the United States. We are in step with 11 countries which have a combined population less than the state of Texas and a combined area just slightly larger than the state of Texas. We are out of step with the rest of the world.

Obviously, the United States has to go metric. Is it a big step? Of course it is. But it isn't as big as we might think.

There will be a period of transition. You and I have a period of years in which to learn to use the metric system.

Secondly, that transition period has already begun.

In our daily life, we are accustomed to buying 8 mm, 16 mm, and 35 mm film for our cameras. Your druggist measures your prescription in grams and milligrams. Many of our packages today are expressed in weight by both ounces and grams.

Some of us may be counting calories. Others perhaps should be. A calorie is the amount of heat required to increase the temperature of one gram of water one degree Celsius, and is therefore a metric unit. So keep on counting calories. They won't change.

In our business life, that transition period has begun also. The real effort and the actual dollar costs of converting to the metric system fall most heavily on business and in-

(continued on page 86)

Impact of excellence



The major effect of building a better product is the increased capability of the user of that product to do a better job. Excellence begets excellence!

The Moody Impact Pop-Up Sprinkler for large area sprinkling provides the extra measure of efficiency for grounds maintenance men. Special features include: built-in surge protector to prevent head damage . . . exclusive high flow stainless steel spindle . . . exclusive long wearing Turcite and Turcon thrust bearing washers . . . parts standardization, with parts for full and part circle heads completely interchangeable . . . positive reversing mechanism . . . retracting spring to insure positive pop-down when water is turned off . . . outer sweep and inner sweep nozzles set at dissimilar angles to prevent stream interference . . . completely removable internal assembly from above ground for easy field maintenance.

It is a product of excellence; ergo, it does an excellent job!

Write for
our catalog.

MOODY

"Rainmaster"

**MOODY SPRINKLER
CO., INC.**

3020 Pullman Street
Costa Mesa, Calif. 92626
714/556-8730

For More Details Circle (151) on Reply Card

THE METRIC SYSTEM

(from page 30)

dustry, yet the advantages of getting in step with the rest of the world are so great that business and industry are converting rapidly — already!

About 30 percent of Ford Motor Co.'s production worldwide is metric. Ford has opened a new plant at Lima, Ohio, and now is building a completely metric engine there for the Mustang II. The engines being used in the Ford Pinto, Plymouth Cricket, Dodge Colt, and Chevy LUV are already metric.

At General Motors, all new development now will be metric from the start.

John Deere is producing metrically dimensioned tractor engines here and in Europe.

IBM initiated a 10-year conversion program in 1971.

At its Hough plant at Libertyville, Illinois, International Harvester is designing and manufacturing all new products in metric measurement units.

Manufacturers of small engines will follow suit. You can expect that new designs soon will be metric.

These actions are being taken even though there has been no legislation yet. Perhaps it's better that way. With the present active participation of the United States in refining metric standards, and a gradual changeover by manufacturers at their convenience, perhaps the total cost and disruption can be minimized.

Total conversion to the metric system in the United States, according to one estimate, would cost 100 billion dollars. The cost to small engine central and service distributors and dealers will be an infinitesimal part of that. The real burden falls on manufacturers.

An estimated 10 percent of the total 100 billion dollar cost will be in what is called "soft" conversion — simply expressing measurements of our present products in metric equivalents — on drawings, on literature, on labels, on packaging, in books, in records. We would also change road signs, gasoline pump meters, and innumerable other familiar items now bearing nonmetric language.

The remaining 90 percent of the cost of going metric is in what is called "hard" conversion. "Hard" conversion means complete redesigning of products to metric measurements. That means redesigning every component in a Kohler engine. Every component in conveyor systems and lift trucks. Every gauge.



E. L. Fisher is director of service, electric plant and engine division, Kohler Co. He is a graduate engineer and has served as director of service since 1970.

Every measuring device.

When the heating system in a Kohler factory is replaced, when the wiring is replaced, when the building itself is replaced, all components will be metric, from bricks and 2 by 4's to boiler pipes and light fixtures.

Convert all industry and all products to the metric system, and you can understand why the total cost has been estimated at 100 billion dollars. Keep in mind, however, that the conversion will be gradual and that the cost will be spread over 10, 20, or more years. Keep in mind, too, that if we don't convert to the metric system, we could lose many times 100 billion dollars in international trade in the next century; and that would affect the standard of living for all of us.

What does adopting the metric system mean to small engine central and service distributors and dealers?

I don't think that it will be a big problem. I don't think that it will be costly. Again, the transition will be gradual; and before you know it, you will be thinking in metric terms of inches, pounds, and gallons.

School systems are already starting to teach the metric system so that young people will be well prepared for the transition period.

The conversion to metric will increase the inventory of hardware items somewhat for small engine distributors and dealers, because they will have to carry replacement nuts and screws for today's nonmetric engines at the same time that they are "phasing in" metric parts. Other parts are unique to a particular engine anyway, unless you are dealing with a family of engines with some interchangeability of

parts. So I would conclude that the effect on inventory cost would be minimal.

Small engine distributors and dealers will have to double up on some tools during the transition period. They will need the non-metric tools they have now, but they will need metric tools also.

Many of our present tools will need no conversion. Others such as socket wrenches, open end wrenches, torque wrenches, pressure gauges, and micrometers must be sized or calibrated to the metric scale. The cost of equipping a dealership with metric tools is moderate.

Will we have to train dealers in the metric system? Probably not. For one thing, many of them already work with metric engines — snowmobile engines, motorcycle engines, diesel engines — and I suspect they worked into it without any special training in the metric system.

Also, dealers order replacement parts by part number, whether the parts are metric or non-metric.

Thirdly, at the risk of repetition, the transition will be gradual and dealers will learn to think metric and talk metric almost without realizing it.

Actually, this discussion can be summarized in a few words:

The United States is going metric. Legislation is imminent. Companies are already changing.

Small engine manufacturers are going metric. New designs are apt to be metric, while production continues for a while on non-metric models. Or we could say it this way — as older models are dropped from the product line, new products will be metric.

Small engine distributors and dealers are going metric. And they will do so at minimum cost, with minimum effort, and so gradually that they will be part of the metric world before they know it.

Along the way, we will forget a few things — like the "perfect 36." Or that time-honored saying, "An ounce of prevention is worth a pound of cure." And Texans will have to give up, or resize, the 10-gallon hat.

Required OSHA Poster Revised By Dept. of Labor

The U.S. Department of Labor has announced publication of a revised "Safety and Health Protection on the Job" poster.

The new poster, required by the Occupational Safety and Health Act of 1970 to be posted in most of the nation's workplaces, is a more de-

tailed copy of the original notice.

Assistant Secretary of Labor John H. Stender, head of the Occupational Safety and Health Administration (OSHA), said the new poster "summarizes the provisions of the Act in easily understandable language so that both employer and employee will understand their rights and responsibilities under the law."

The revised, two-color notice includes a summary of the general responsibilities of employers and employees for creating safe and healthful workplaces. It explains the rights of an employee during an OSHA in-

spection, and summarizes the employee complaint procedures under the Act.

The poster also describes the citation provisions of the Act and details the various penalties that can be imposed. It also describes OSHA's commitment to voluntary compliance as an integral part of its efforts.

The poster is available, without charge, at any OSHA Regional Office. These offices are located in Atlanta, Boston, Chicago, Dallas, Denver, Kansas City, New York City, Philadelphia, San Francisco, and Seattle.



Help from Hudson on any spraying job

You name the spraying job—small, medium or large. A Hudson power sprayer can tackle it.

Take our 12½-gallon Suburban™ Trail-N-Spray™. Hitch to any compact tractor. Dependable positive piston pump—2½ gpm.

Or step up to our Matador® sprayers. Choice of 3 or 5 gpm positive piston pump. Four tank sizes: 15, 30, 50, 100 gallons.

For really big jobs, choose from our Peerless™ line on wheels or skids—with tanks sizes up to 300 gallons. Can

cover turf at 10 acres an hour with 20-ft boom. Or reach up high with telescopic gun mast. Models available with rugged Ten-O-Matic® 10-gpm pump, stainless steel tank for trouble-free service.

Write for details. H. D. Hudson Manufacturing Company, 154 E. Erie St., Chicago, Illinois 60611.



HUDSON
POWER SPRAYERS

© MCMLXIX H.D.H. Mfg. Co.