FINALLY, A SATELLITE CONTROLLER SYSTEM AT A DOWN-TO-EARTH PRICE.
Simple, dependable, foolproof.

Based on two of the industry’s most reliable controllers ever—the Rain Bird RC-1230 and RC-1260—our new Miser system combines flexibility and economy like never before. The best of both worlds.

It starts with three Turf Irrigation Start Clocks, with seven-day calendars and 1/2 hour starts. Add an RC-1260 type controller module that provides syringe times of 0 to 10 minutes. Next, up to 75—that’s right, 75—satellites, each one capable of handling up to 12 separate stations from greens to fairways to roughs.

The Miser system doesn’t stop there, though. You’ll also find plenty of Rain Bird extras to help make your job just a little bit easier. Extras like a digital clock that shows time of day. A flashing, loss-of-power display. Satellite pump starts. Manual override switches for each of three satellite groups. Pedestal mount flexibility.

It’s a satellite controller system that gets the job done fast, effectively. And more good news—it doesn’t take an astronaut to operate it.
Miser MC-3S Master Controller
- Three Turf Irrigation Start Clocks with 7-day calendars and ½-hour starts.
- RC-1260 type controller module with 0 to 10-minute syringe timing.
- Individual cancel and manual irrigate switches for each group of satellites.
- Flashing, loss-of-power display.
- Digital time-of-day clock.

Miser SC-1230/1260 Satellite Controller
- "OFF-AUTO" slide switch lets satellite operate independently of Master Controller.
- 14-day, one hour start interval clock.
- 0 to 60-minute timing on SC-1260 and 3 to 30-minute timing on SC-1230.
- Pump start standard.

Station Capacity per Satellite Unit
- 4 solenoid valves/station (max.)
- 1 T-H valve/station (max.)
- 4 VIH-E valve-in-head sprinklers/station (max.)

Satellite Capacity of Master Unit
- 25 satellites (max.) on each of 3 irrigation clocks
- 75 satellites (max.) on system

Electrical Characteristics
MC-3S Master Unit
- Input: 120 volt A.C. power - 60 HZ
- Output: 120 volt A.C. - 60 HZ
- Circuit breaker: 2.1 AMP (holding); 3.0 AMP (break)
- Max. current draw: 1.9 AMP

SC-1230 or 1260 Satellite Unit
- Input: 120 volt A.C. power - 60 HZ
- Output: 26.5 volt A.C. - 60 HZ, 1.5 AMP
- Circuit breaker: 2.1 AMP (holding); 3.0 AMP (break)
- Master valve circuit: 26.5 VAC, 60 HZ
- Max. current draw: (120 volt A.C.)
  - 1 solenoid/station: 0.34 AMP
  - 2 solenoid/station: 0.41 AMP
  - 3 solenoid/station: 0.48 AMP
  - 4 solenoid/station: 0.55 AMP
  - 1 TH valve/station: 0.49 AMP

Signal wires
- Syringe — max. current draw: 0.46 AMP
- Start — max. current draw: 0.21 AMP
- Common — max. current draw: 0.88 AMP

Dimensions:
- MC-3S Master Unit - 16⅛" wide x 18½" high x 7⅜" deep
- SC-1230/1260 Satellite Unit - 11⅛" wide x 9¾" high x 6⅜" deep

Weights:
- MC-3S Master Unit - 45 lbs.
- SC-1230/1260 Satellite Unit - 12 lbs.

Accessories:
- SC-1230/1260 Satellite Unit:
  - PD-7K pedestal mounting kit
  - PED (RC-7A) pedestal and adapter mounting kit

Write 168 on free information card
Penncross greens are known around the world for their consistent, high quality putting surface. Penncross has genetic diversity assuring disease resistance . . . germinates fast, establishes quicker . . . superbly consistent, less grain for true putts . . . greens up earlier, holds summer color better . . . great for overseeding winter greens in south.

Penneagle was developed through 18 years of research and 5 years of testing. This new variety of creeping bentgrass has these selected attributes of a great all-purpose grass for the entire course. Penneagle has a broad genetic base for greater climatic adaptability . . . is not overly aggressive, but competitive with Poa annua . . . has tight, more upright growth characteristics . . . is finer leafed than most bents . . . has excellent putting and playing qualities . . . was bred for disease resistance.

For more information about Penncross or Penneagle write:
Penncross Bentgrass Growers Assn.
1349 Capitol N.E., Salem, Oregon 97303
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Single copy price $1.25 for current and back issues. Foreign $1.50. Subscription in the U.S. and Canada are $12.00 per year, $15.00 in other countries. Foreign air mail optional at an additional $24 per year. Controlled circulation postage paid at Cleveland, Ohio 44101. Postmaster: send form 3579.
COUNT THE WAYS CUSHMAN CAN HELP CUT YOUR LABOR COSTS.

With inflation driving up your labor costs, you've got to find new ways to get more work done in less time. That's what the Cushman Turf-Care System is all about.

At the heart of our system is the Cushman 3- or 4-wheel Turf-Truckster vehicle. With a rugged 18-hp engine, and a transmission designed to allow the optional PTO to attach directly to it, the Turf-Truckster moves people, tools and equipment quickly and economically.

But the real beauty of the Turf-Truckster is that it also helps your crew finish most turf jobs fast, thanks to a full line of optional Cushman attachments.

Each attachment secures to your Turf-Truckster's chassis in minutes, through Cushman's pin-disconnect system. You don't bolt or hitch, but just put the attachment in place, snap-in two or three pull pins and you're ready to hit the turf.

And every optional Cushman Turf-Care attachment is engineered to get its job done neatly and in as little time as possible.

1. GREENSAVER® AERATOR.
The Greensaver lets you aerate greens, tees or other turf areas up to 10 times faster than walk-type units.

   - coring tines, 3/8" coring tines or slicing tines—they are all interchangeable. What's more, both coring drums collect cores as you aerate. Or remove the side plates and return the cores to the turf to be broken up as top dressing.

   - Each attachment securely to your Turf-Truckster's chassis in minutes, through Cushman's pin-disconnect system. You don't bolt or hitch, but just put the attachment in place.

2. SHORT BOX & FLATBED/BOX.
Your Turf-Truckster becomes a flatbed hauler with just two pull pins in place. Bolt on the optional side panels and tailgate to the flatbed, and you've got a 1,000-lb. capacity* box that can be dumped manually or hydraulically.

   - It attaches easily to either the 3- or 4-wheel Turf-Truckster. Choose the drum best suited for your turf: ½"
3. SPRAYER.
It's a 100-gallon polyethylene tank that holds liquids for spraying greens, trees, bushes or roughs quickly and accurately. Team it with the Turf-Truckster equipped with a standard 2 to 1 auxiliary transmission, optional PTO and ground speed governor for properly controlled spraying.

6. QUICK AERATOR.
We call it the Quick Aerator because its 46" wide swath lets you finish big aeration jobs fast. It can also move from job to job fast, because it can be hydraulically lifted by controls from the driver's seat for ground transport (optional hydraulic system and dump set required). Three tine styles are available for different soil conditions: slicing, coring (2 sizes) and open spoon.

4. TOP DRESSER.
Compared to self-powered or walk-type top dressers, this unit pays for itself in the hours it can save your crew. A rubber fabric moving bed and rotating brush are regulated by the vehicle's ground speed to maintain an even spreading pattern over a 31½" swath. And the hopper holds up to 1,000 lbs. of material from rock salt to powdered fertilizer.

7. GRADER/SCARIFIER.
Now you can groom non-turf areas with your Cushman Turf-Care System. Attach the new Grader/Scarifier to your Turf-Truckster and you're ready to break up compacted dirt on ball diamond infields or golf car pathways. As a professional grading tool, it will keep your grounds even, or create new surfaces. There's a built-on dragmat holder, driver-operated controls and an optional scarifier replacement bar with extra-close 1½" tooth spacing.

5. SPREADER/SEEDER.
Mounted on the optional Short Box or Flatbed/Box, its cyclone action spreads up to 300 pounds of seed, sand, salt or fertilizer over areas up to 40' wide. The Spreader/Seeder is powered by the Turf-Truckster's optional PTO with extension shaft. And since all controls are operated from the driver's seat, one man can get the job done.

8. POWER CONVERTER.
The Cushman Power Converter turns your Turf-Truckster into a mobile power plant for electric tools, floodlights... anything with a universal motor that draws up to 120 volts DC. So, instead of bringing every repair job back to the shop, your crew can handle them in the field. The Power Converter is inexpensive, easy to install and makes your Cushman System even more versatile.

9. CUSHMAN RUNABOUT.
If you need a vehicle for moving people and equipment efficiently, consider the Cushman Runabout. Either the two-man 18-hp Runabout, or the one-man 12-hp model. Both give you maneuverability and feature a big pick-up box, and 3-speed transmission. And both Runabout models let your crew get to the job without tying up a golf car that could be on the course earning a profit.
Sometimes there is no logical explanation for victory when the odds are so immensely stacked against it. All the experts look at individual factors and make a prediction of future events, "Climbing vs. Bucket Lifts: Pre-conditioning for victory when the odds are so immensely stacked against it. Can we forego selfish interests to help the entire team and thereby help everyone?"

The United States Hockey team, and the Winter Olympics in general, may have reminded us that as a country united under one cause there is little reason why we can't deprive the experts of a severe recession. Can 230 million citizens act as a team? They have during wartime, why not during peacetime? Can we forego selfish interests to help the entire team and thereby help everyone?

On my way to the GCSAA Show in St. Louis, I read a book by Howard Ruff titled How to Prosper During the Coming Bad Years. This is a textbook on economic selfishness, total lack of faith in a country, and how to beat the odds to save your family from possible economic suffering. Forget the rest of the country, look for number one only. His type of attitude is the surest one to drive us into severe economic problems.

The growth of the City of Eugene's arboriculture program has been reduced to a "line clearing" operation. Mr. Halsted's personal knowledge of the City of Eugene's program and commitment to arboriculture as a profession would have to be limited, since he left the City just 2 months short of 13 years ago.

To begin with, our selection process stresses total arboricultural knowledge, safety, climbing skill, abilities, and aerial lift abilities, in that order. Candidates for a position with our crew are put through a physical test to determine their climbing skills and aerial lift use. Our contention is, if the person cannot effectively climb, they would be of little use to us.

The article in your February, 1980 issue, "Climbing vs. Bucket Lifts: Preferences in Tree Trimming" was a valuable, informative article. Opinions of professional arborists encounter specious and general problems are what make up the continuing advancement of arboriculture as a profession and voicing those opinions is a must if we are to improve the quality of the profession nation wide.

That Mr. Halsted is one of the leading arborists in the area is undisputed. I do, however, take strong exception to his statement that the City of Eugene's arboriculture program has been reduced to a "line clearing" operation. Mr. Halsted's personal knowledge of the City of Eugene's program and commitment to arboriculture as a profession would have to be limited, since he left the City just 2 months short of 13 years ago.

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H.R. Patterson, Physical Plant Director
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Weather-matic helps you get the job done in many ways! We provide turf professionals all over the world with the right kind of equipment, specifically designed to water every type of grass, plant or shrub.

Our equipment is built to the industries' highest standards and operationally tested to make sure it's right before ever leaving the factory. So when you specify Weather-matic, you can depend on quality, cost-effectiveness and factory service that insures years of satisfaction.

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Six great gas-power-tough trimmers:

**MODEL 1900**
High-quality economy trimmer.

Here is famous Green Machine quality and performance built into a new, low-priced 14.9 cc gas-trimmer. Unlike many low-end gas trimmers, The Green Machine Model 1900 has plenty of power—so much power that it comes equipped with two heavy-gauge long-wearing .080 Green Line cutting strings.

Coupled with great engine performance is a simple but effective 2-string, manual-feed cutting head. A TFC™ automatic-feed head is available as an option, as well as a new flexible rubber blade for fast trimming of weeds. Other features of the 1900 include a flexible, enclosed drive shaft, light overall weight for ease of operation, multi-position molded handle.

**SPECIFICATIONS:**
- **Engine Type:** Inverted 2 Cycle Air Cooled Cylinder Type: Single Alum. Alloy Chromed Plated Displacement: 14.9 cc, Bore & Stroke mm: 27 x 26
- **Compression Ratio:** 62.1
- **Max H.P. (H.P./RPM):** 65/6500
- **Carburetor:** Butterfly Type
- **All Position Ignition:** Contact Point Type
- **Clutch Housing:** Direct Coupled Lubrication
- **Fuel Capacity:** (4L) 42Qt
- **Shaft:** Flex Type
- **Reduction:** None Cutting Head (Std): 5" Dia.
- **Cutting Swath:** 17" in. Weight (with cutting head): 10 lbs (4.5kg)

**MODEL 2000**
Loaded with Power.

This model is equipped with the popular 22.5 cc Green Machine engine. There's power to spare for the toughest string trimming operations. Standard equipment includes the reliable, manual-feed head. You can also use it with the optional TFC™ Tap-For-Cord head. A light tap on the ground automatically releases fresh cutting string. The Model 2000 can also be used with the new fixed-line head (1.05 line). Other features include an all-position diaphragm-type carburetor with positive fuel shut-off. Power is transmitted through a rugged, enclosed flexible drive-shaft. As with the 1900, the mid-handle is easily adjustable to the operators height and can be quickly reversed when the unit is used for edging. It's a beautifully built unit, ideal for those that want additional power and efficiency.

**SPECIFICATIONS:**
- **Engine Type:** Upright 2-Cycle Air Cooled Cylinder Type: Single Alum. Alloy Chromed Plated Displacement: 22.5 cc, Bore & Stroke mm: 32 x 28
- **Compression Ratio:** 6.5:1
- **Max H.P. (H.P./RPM):** 1.2/6500
- **Carburetor:** Slide Type
- **All Position Ignition:** Contact Point Type
- **Clutch Housing:** Direct Coupled Lubrication
- **Fuel Capacity:** (6L) 64Qt
- **Muffler:** Spark Arrestor Shaft: Solid type 8mm Reduction: 1/26 Gear Drive
- **Cutting Head (Std):** 5" Dia. Universal TFC Cutting Swath: 18 in. Weight (with cutting head): 13 lbs (5.9kg)

**MODEL 2500**
A great string trimmer—and more.

Powered by the proven 22.5 cc engine, here is a string trimmer—that's more than a string trimmer. Model 2500 comes equipped with a new Universal TFC™ head for fast, efficient grass and weed trimming. Just switch to one of the optional quick-change metal blades and you've got a great brush cutter or tree pruner. The performance of this unit in tough brush and pruning operations has to be seen to be fully appreciated. The saw blade lets you cut through heavy brush and vines up to 3/4 inch in diameter. You can use it with a combination chopping/sawing action to slice easily through branches up to three inches in diameter. It is equipped with a straight solid-steel shaft with spiral-bevel gears. Four optional heads are available for this unit—see chart on back page.

**SPECIFICATIONS:**
- **Engine Type:** Upright 2-Cycle Air Cooled Cylinder Type: Single Alum. Alloy Chromed Plated Displacement: 22.5 cc, Bore & Stroke mm: 36 x 28
- **Compression Ratio:** 6.5:1
- **Max H.P. (H.P./RPM):** 1.2/6500
- **Carburetor:** Slide Type
- **All Position Ignition:** Contact Point Type
- **Clutch Housing:** Direct Coupled Lubrication
- **Fuel Capacity:** (6L) 64Qt
- **Muffler:** Spark Arrestor Shaft: Solid type Reduction: 1/26 Gear Drive Cutting Head (Std): 5" Dia. Universal TFC Cutting Swath: 18 in. Weight (with cutting head): 13 lbs (5.9kg)

Blades and blade guards shown in top photo are optional items
Fuel mixture ratios shown in specifications are with conventional 2-cycle oils. For convenience and long engine life we recommend ONE-MIX™, the great new multi-ratio oil p