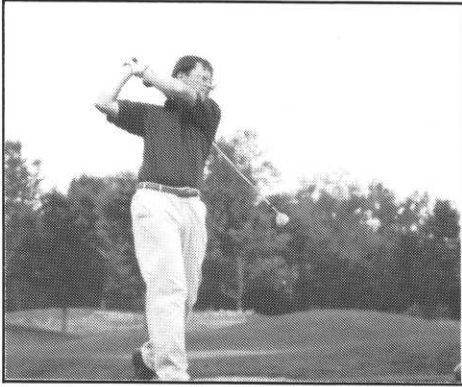
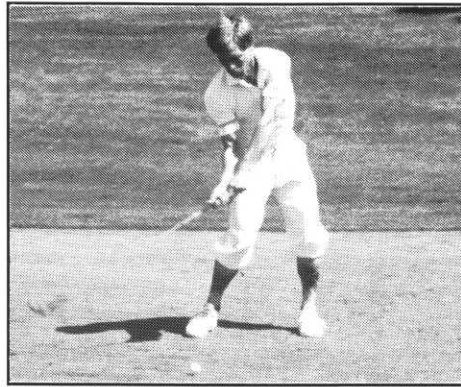


# ***OK, Hazeltine! Here We Come!***

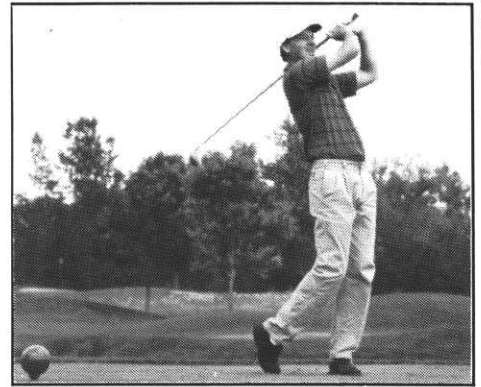
PHOTOS BY DALE WYSOCKI



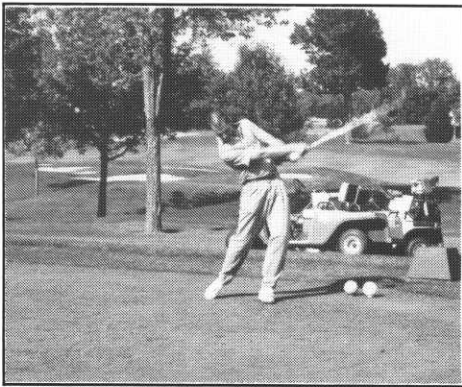
Shane Andrews, Hudson



John Harris, Lafayette



Jon Varty, Elk River



Bruce Ellingson, Brooktree



Scott Hoffman, Madden's

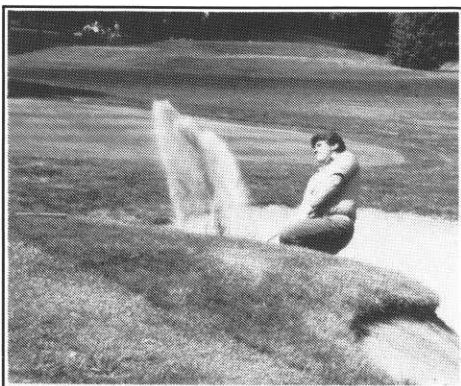


Paul Diegnau, River Falls

# ***Hazeltine 6, Challengers 0 — Or Maybe 5-1***



Norma O'Leary, Silver Bay



Scott Weltzin, Pheasant Run



Mike Redmond, Scott's



John Nylund, Braemar



Butch Greeninger, MTI



Keith Scott, Oak Ridge



*Technician checks for contamination on the final scoop from 12 feet below ground level.*

## **AT FARIBAULT GOLF & COUNTRY CLUB**

# **Some Difficult Decisions Had to Be Made Regarding Underground Storage Tanks**

**By DALE WYSOCKI  
Golf Course Superintendent  
Faribault Golf & Country Club**

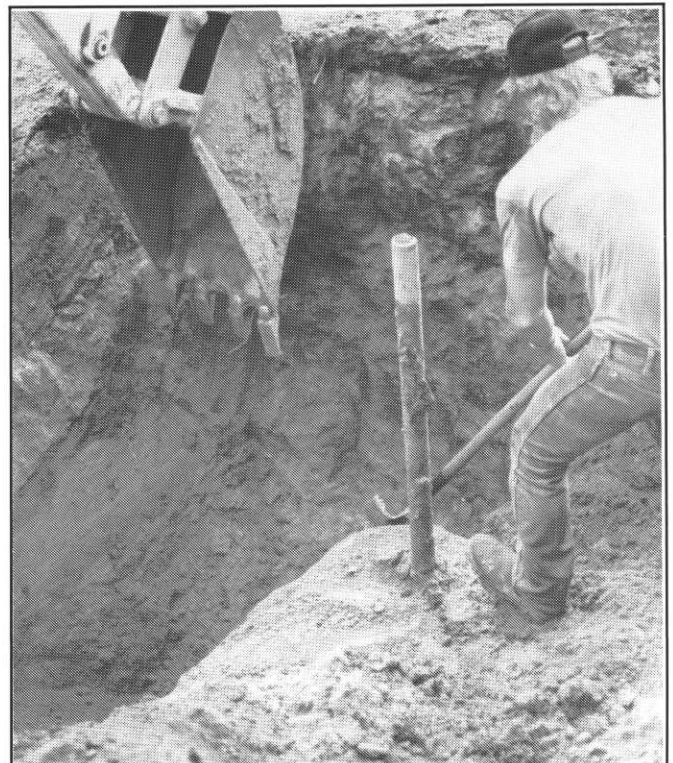
With all the new regulations facing USTs (underground storage tanks), the Faribault Golf & Country Club was faced with some very difficult decisions.

First, cost would be a major consideration. We were able to find out that our tank was installed sometime in 1970. The board decided that it would be in the club's best interests to remove the tank. After all, records kept since 1984 showed that inventory had been right on the money. Unfortunately, there are no records from 1970 to 1983.

On June 9, 1990, I contacted Witte Bros., an excavating contractor; Nancy Hunt of the MPCA and Byron Reed, Faribault fire marshal. We were required to give the MPCA a minimum of 10 days' notice, and I had contracted Twin City Testing (TCT) as our environmental consultant. TCT has the responsibility of reporting to the MPCA in the event of a spill or a leak and also does the chemistry on the contaminated soil or non-contaminated soil. The day reported to the MPCA for tank excavation was June 29, 1990. Everything was ready.

**The time had come to remove the tank.** As soon as the concrete pad had been broken and removed, and the back-hoe had removed about three feet of sand backfill, a strange, varnish-type aroma was noticed by the operator of the backhoe, his assistant and myself. I felt this was a normal reaction and no cause for alarm—yet!!

By this time TCT's project manager, Peter Sandberg, had arrived. He started checking around the excavated soil with a photoionization detector to check for hydrocarbons in the soil.



*The underground storage tank is located.*





Peter Sandberg of Twin City Testing uses a photoionization detector in the stockpile of contaminated soil.

Not more than 10 minutes later, the tank was out and it still looked like new. This was good. However, Pete Sandberg had come to inform me that he had found substantial amounts of hydrocarbon pollution. This was not good.

**Immediately Pete had started to say "Think Petro-Fund."** We had been standing next to a 20 cubic-yard stockpile of contaminated soil, finding all types of hydrocarbon contamination. Now we had the backhoe operator take the backhoe down as far as it would go—12 feet. Again, when the soil sam-

ple was brought up, hydrocarbon pollution was showing up in the clay soil.

TCT technicians went about their tasks collecting soil samples as per the MPCA's requirements. I went to notify the club president and green chairman that we had a problem. Next step was to notify the MPCA that the tank was intact, but over the past 20 years a spill had occurred. Hydrocarbons will remain in the soil for 30 to 50 years.

**The next concern is to find out the extent of the pollution,** and to see if there is any contamination of the ground water. This will be very expensive. Environmental consultants will determine what has to be done. A remedial investigation will be prepared and sent to the club and to the MPCA for its approval to clean up the spillage. When we clean up the contamination, according to the terms and specification set by the MPCA, we will then go to the Department of Commerce and apply to the Petro-Fund for a reimbursement of the monies spent for the clean-up. The Petro-Fund will reimburse the company up to 90% of the costs associated with an UST clean-up.

At the time I write this article, we are still waiting for another bid from another environmental consultant, and I had to convince some very skeptical members that this spill had been happening for the past 20 years, since there was just a sand/gravel road and no concrete pad for filling golf carts, tractors or turf equipment. Anytime a ½ gallon or a gallon of gasoline is spilled, it goes into the soil. Laws of gravity do apply here.

If you happen to think a spill is limited to a super tanker or to a fuel oil barge, it's time to think again. For information you can call Nancy Hunt, MPCA (tank removal 612-296-6300). To report a spill call 1-612-296-8100. More information on the Petroleum Tank Release clean-up fund (PetroFund), call Robin Hanson, Department of Commerce, 612-297-4017.

## Turfgrass Foundation Creates Endowment

The Michigan Turfgrass Foundation (MTF) has pledged \$1 million to Michigan State University's turf program, creating an endowment to fund faculty and graduate student research.

The gift supports MSU's first university-wide capital campaign, MSU 2000: Access to Opportunity, a five-year effort launched in May 1988.

"This gift continues a longstanding partnership between the university and the state's turf industry," said MSU President John DiBiaggio. "We are extremely grateful to the Michigan Turfgrass Foundation for this gift and for the support of its members over the past 60 years."

The foundation's gift—its largest ever to MSU—will establish the Michigan Turfgrass Research Endowment Fund. Annual income from the new endowment will enable MSU to attract more graduate students.

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# Pesticide-Contaminated Clothing Requires Special Attention

By Tom Akins  
GCSAA Government Relations Manager

Applicator safety is a key component of any superintendent's overall management plan. In properly educating and training employees, turf managers invariably stress the need for pesticide applicators to handle the chemicals they work with in a safe and professional manner.

GCSAA, through educational offerings and service on the Environmental Protection Agency's Pesticide Packaging Committee, has taken a leadership role in continually reminding the turf industry and its professionals of the necessity for safe container design and handling.

At the beginning of every work day, while you are still fresh, it's easy to remember the basic rules of applicator safety. However, at the end of a long and tiring day spent maintaining acres of valuable turf, it's easy to forget that the clothing you've worn while applying turf chemicals demands special attention.

While many courses now have disposable coveralls, it's important to keep in mind these basic tips, supplied by Cornell University's Cooperative Extension Service, when laundering pesticide contaminated clothing:

- Don't wash your work clothing at home with your family clothes. Chemicals in your clothing can easily migrate to other clothes in the same washload. Consider providing a washing machine on-site, specifically dedicated to the washing of pesticide-contaminated clothing. (For some operations, an outside laundry service may be the best answer.)
- When pre-rinsing, use one of three methods: hose off the garment outdoors, rinse in a separate tub or pail, or agitate in an automatic washer. For garments that are heavily contaminated, be sure to use a concentrated strength liquid.

- Wash garments that are contaminated with the same pesticide together.

- Wash only a few garments at once. Resist the temptations to load the washer as full as possible or to save up clothing for one big load.

- Be sure that you use a full water level and that you use HOT water, preferably 140 degrees or higher.

- Be sure to use the normal, full 12 minutes of your wash cycle.

- Use heavy-duty detergent in the amount recommended on the package. If your clothes are heavily soiled or if you have hard water, increase the amount of detergent.

- Use two full rinse cycles.

- Line dry your clothing to avoid any possible contamination of your dryer.

- After the wash cycle has finished and you have emptied your clothes, run your washer through a complete, but empty cycle. Use hot water and detergent during this empty cycle.

- Wear waterproof gloves when handling highly contaminated clothing. Dispose of these gloves periodically.

- Remove contaminated clothing, if possible, outdoors or in a specially-designated area. Be sure to empty your pockets and cuffs.

- Save clothing that you wear while handling or applying chemicals for that use only.

- Wash contaminated clothing after each use. When applying pesticides daily, wash clothing daily.

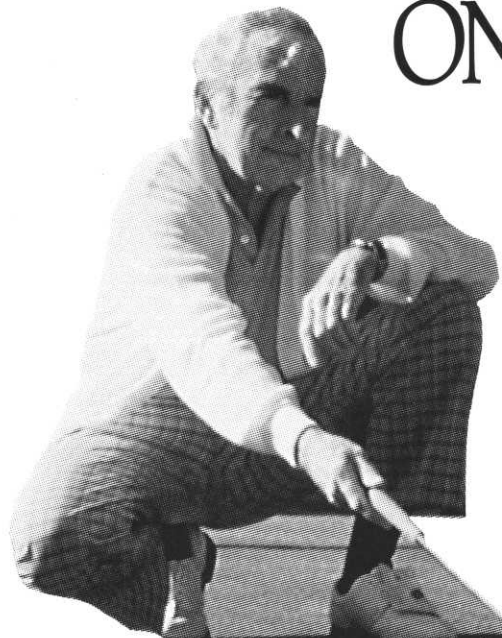
Make these recommendations part of your applicator safety training to help ensure that your workers stay safe, healthy and on the job.

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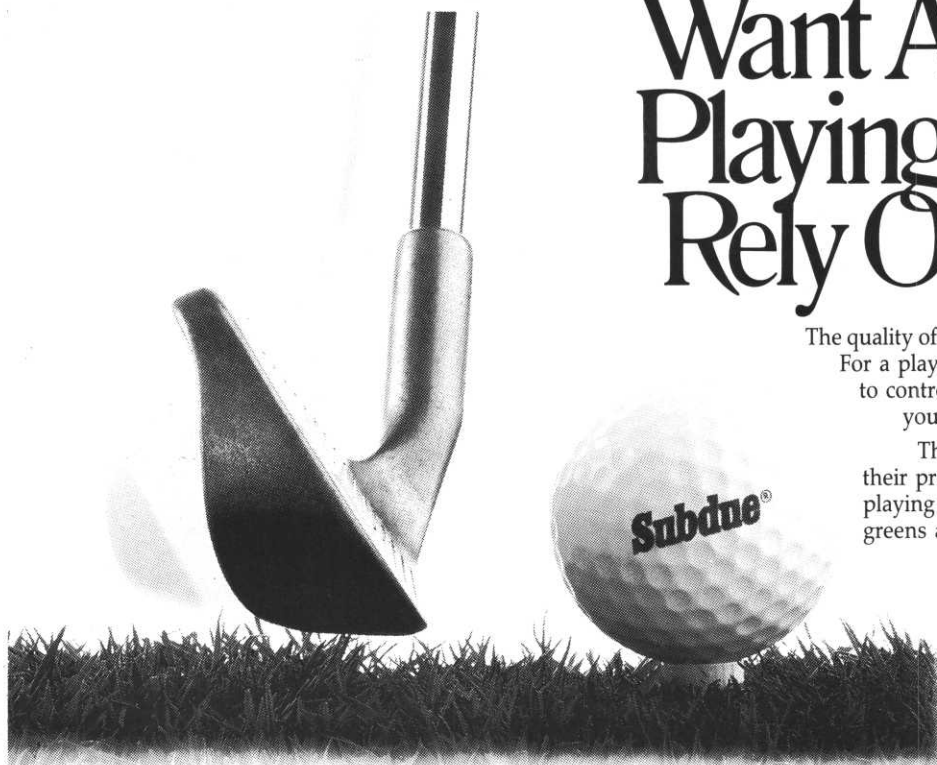
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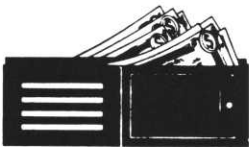


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# GCSAA Announces New Legacy Awards Program

The Golf Course Superintendents Association of America has announced a new member benefit: the Legacy Awards Program. The program offers educational aid to the children and grandchildren of current GCSAA members through GCSAA Scholarship & Research, Inc. for the 1991-92 academic year. Awards may range from \$500 to \$5,000 for one academic year, depending on financial need of the student.

Eligibility requirements for the GCSAA Legacy Award are:

1. One or more of the applicant's parents or grandparents must be an active class A, B, C, EA, EB, or AA member of GCSAA for five or more consecutive years. Children or grandchildren of deceased members are also eligible if the member was currently active at the time of his or her death.
2. The student must be studying or planning to study in a field unrelated to golf course management (i.e., a field outside the scope of the regular GCSAA turfgrass management scholarship process).

Selection Criteria:

1. The student must be enrolled full-time at an accredited institution of higher learning or, in the case of high school seniors, be accepted at such an institution for the next academic year (verification required).
2. The student must have a cumulative GPA of 3.0 or higher on 4.0 scale (verification required).
3. The student must demonstrate a broad base of in-

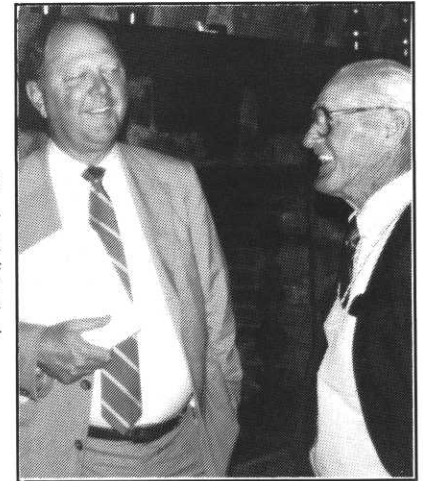
terests, including involvement, volunteer activities and outside employment.

4. The student must complete a short (500 words) essay on his/her parent or grandparent's involvement with GCSAA.

Selection Committee:

Applications for the scholarship shall be reviewed by an outside committee of three educators and/or collegiate administrators. An independent assessment of financial need (College Scholarship Service) shall be forwarded to the committee who shall review them and make the final determination. All decisions of the committee shall be final.

Interested parents or students should contact the GCSAA Scholarship and Research Office for more information or additional applications.



**CHATTING** at the August 13 banquet following the Championship at Hazeltine are Reed Mackenzie, left, chairman of the 1991 U.S. Open, and Carl Anderson, retired superintendent at Woodhill.

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# Entomology Research Update

By MARK E. ASCERNO  
Department of Entomology

## Mauget Injections for Control of the Spring Cankerworm, *Paleacrita vernata* (Peck) on Mature American Elm.

Mauget B (Bidrin) was injected into elms on May 18, 1989, when cankerworm egg hatch was complete and second instar larvae were just beginning. Leaves were at least half expanded and feeding was noticeable. All study elms were injected with 2 ml capsules. The number of capsules used per tree was based on diameter at breast height.

Leaf samples were collected on May 23, (five days post-treatment) and June 1, (14 days post-treatment) frozen, and sent to an independent testing lab for residue analysis. Samples were collected from east and west quadrants at three crown levels within each tree (lower, middle, upper one-third). Defoliation was estimated in the same locations as residue analysis on June 8, 1989, using a 0-4 rating scale where: 0 = 1-24; 2 = 25-30; 3 = 51-75; and 4 = 76-100% defoliation.

Mauget B significantly reduced defoliation compared to the untreated check. However, large within tree variation was apparent. Leaves in one area showed little damage while other areas of the same tree were completely defoliated.

Residue analysis also showed within tree variation, suggesting that Mauget injection did not result in uniform distribution

of Bidrin in mature American elms. Overall, residues diminished by 80.0% between 5 and 14 days post-treatment. Residue levels did not appear to be strongly correlated with defoliation.

Cambial necrosis and wood defects were observed in sectioned trees two months after treatment. This damage typically extended at least one foot above and one foot below all injection sites examined.

Preliminary observations suggest Mauget B treatment of mature American elms did not result in satisfactory control of the spring canker worm. In addition, extensive wood and cambial damage associated with injection sites may make this method of application unsuitable for successive treatments.

### Ash Flower Gall Studies

Robert Wawrzynski completed his Masters Degree in March 1989. His thesis is titled: Ash Flower Gall: Within Tree Distribution, Chemical Management and Effect on Tree Vitality. Two papers have been submitted based on his research. They are: Wawrzynski, Robert P. and Mark E. Ascerno. 1989. Ash Flower Gall: Within Tree Distribution and Chemical Management, J. Arboriculture. 15(9).

*Abstract:* Ash flower gall (AFG) distribution within green ash (*Fraxinus pennsylvanica* 'Marsh'), and the chemical control of *Eriophyes fraxiniflora* Felt, which causes AFG, are discussed. Gall density was found to be significantly different among crown levels in the trees studied. Percentages were approximately 62, 25, and 13 for the top, middle, and bottom crown levels, respectively. This distribution may vary from tree to tree, and is, therefore, most useful in large scale sampling programs. Chemical controls were erratic, with carbaryl (Sevin) 80S providing the best control. Dicofol (Kelthane) 35WP and fluvalinate (Mavrik Aquaflow) treated trees had higher gall numbers.

Wawrzynski, Robert P. and Mark E. Ascerno. In review. Evaluating The Effects of Ash Flower Gall Induced by *Eriophyes fraxiniflora* Felt (Acarina: Eriophyidae) on tree vitality. J. Arboriculture.

*Abstract:* The effect of ash flower gall (AFG) on green ash (*Fraxinus pennsylvanica* 'Marsh') vitality was assessed using root starch, diameter at breast height (DBH) and Shigometry techniques. A chi-square analysis for root starch content versus gall density, indicated that root starch storage is independent of tree gall numbers. Percent change in DBH for the growing season was not affected by gall density ( $P=.261$ ). In addition, percent change in electrical resistance and average electrical resistance over the growing season, were found to be independent of tree gall density ( $P=.054$ ,  $P=.807$ , respectively) in multiple regression analyses. Assuming the methods used are reliable vitality indicators, AFG has no significant affect on tree health. These results can be used in public education programs to better inform persons about AFG, which may reduce the demand for control measures for this problem.

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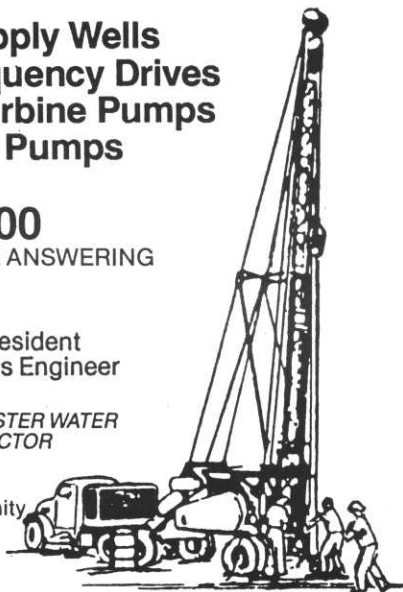
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## *Dale Wysocki's Camera at Northfield*



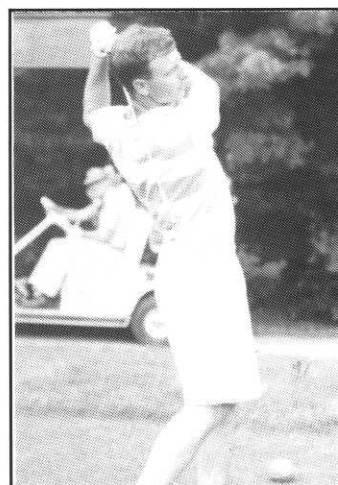
**STARTING PLAY** are host Bill Whitworth, with shotgun, and assistant Dave Palen.



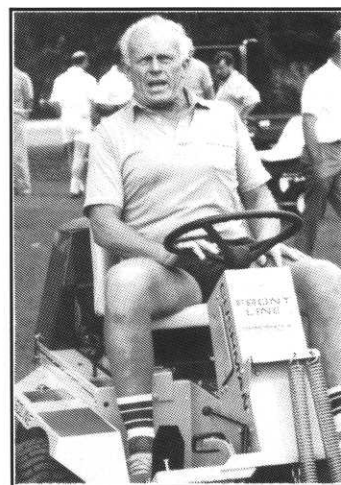
**PAUSING BEFORE PLAYING** are Randy Nelson, left, Owatonna CC, and Jim Nicol, Bunker Hills.



**PREPARING TO PUTT** is Jerry Bibbey, Goodrich.



**TEEING OFF** is Jeff Anderson, Rochester.



**RELAXING** is Boots Fuller, Mankato CC.



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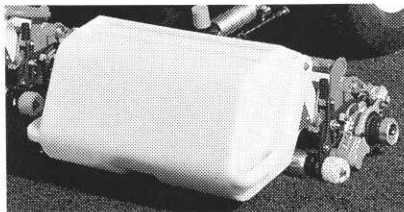
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