



Shu-Pak®

The only one-man curbside collection system.

Refuse Collection & Disposal

Phoenix initiates one-man refuse collection service

By June 30, 1973, Phoenix, Ariz., will have 44 one-man refuse collection trucks in service. The Maxon Industries' *Shu-Pak* trucks can be driven from either side. During collection the driver operates it from the right-hand side, by remote control, and loads refuse from the same side. Each truck has a capacity of 33.3 cu. yds. and costs approximately \$30,000.

Four of the new trucks will replace three conventional

collection vehicles now operating with three-man crews. However, the new trucks will make only one trip to the landfill each day instead of the usual two or three. Manpower requirements will also be reduced.

Only volunteers are being transferred to the *Shu-Paks*, and they will receive a 5% increase in salary. No employees will lose their job as a result of the change. Manpower reduction afforded by the change will be made by normal attrition.

Those trucks replaced by the one-man units that are still usable will be kept as standbys — something the sanitation department has not previously had. ◀◀

Reprinted from the December, 1972 Issue of The American City Magazine



Phoenix Mayor, John Driggs, tries out one of the city's new Maxon Shu-Paks.

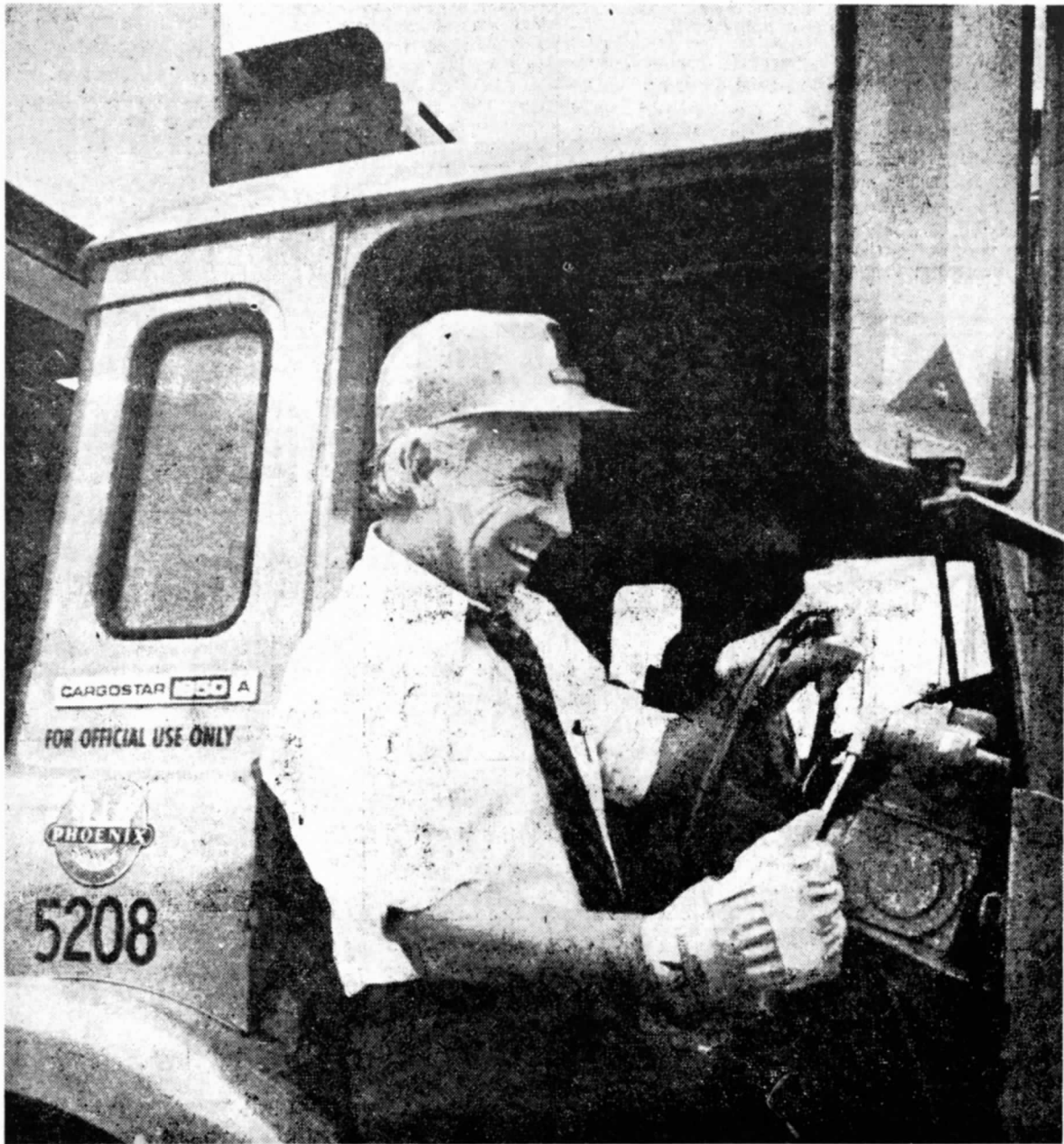
MAXON INDUSTRIES, INC. 1960 East Slauson Ave., Huntington Park, California 90255 (213) 589-7321



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The Phoenix Gazette

Wednesday, October 18, 1972



HIS HONOR AT THE WHEEL

Gazette Staff Photo by Ed Gray

Phoenix Mayor John Driggs appears to be enjoying "dry run" as first of 44 new city garbage trucks are put on display. His Honor took the controls today for trial run of the "Shu-Pak" truck, on parking lot at First Congregational

Church, 1407 N. Second St. The Shu-Pak will replace three three-man crews with four one-man operations. Much of the old fleet will be used as stand-by equipment.

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Maxon Industries, Inc. 1960 EAST SLAUSON AVE., HUNTINGTON PARK, CA. 90255 ☎ 213/589-7321



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THE DAILY TRIBUNE

FORTY-FOUR PAGES—THREE SECTIONS

Wednesday, March 17, 1971

SIXTY-NINTH YEAR, NO. 44

Price: 10 CENTS A COPY 50 CENTS A WEEK DELIVERED

210 EAST THIRD ST. ROYAL OAK, MICH.

HW Getting State's 1st One-Man Rubbish Truck

Huntington Woods City Commission okayed the purchase of a one-man rubbish truck Tuesday night and when the \$24,000 machine is delivered in approximately 120 days, the city will be the first in the state to own one.

"We'll be the seventh or eighth city east of the Mississippi with one of them," said City Manager David Wilfong.

The California made truck is driven and loaded on the right side. City commissioners and DPW officials and workers feel that it will cut costs and speed up service.

A demonstrator truck was used in Birmingham some time ago.

Officials said there would not be a cut back in the number of DPW men because of the new truck.

"I believe that we're really establishing a pattern here," said Wilfong.

DPW Chief Robert O. Knapp said that cities which adopt the new truck will be able to cut the manpower needed on the trucks and these men can be used on other jobs.

4-B—THE DETROIT NEWS—Wednesday, March 17, 1971 N

Huntington Woods first city to buy 1-man refuse truck

By DOUGLAS ILKA
News Staff Writer

Huntington Woods has become the first city in Michigan to purchase a one-man operated, side-loading garbage truck.

The city commission voted unanimously last night to approve the purchase of the new truck from Maxon Industries of Los Angeles for \$24,623.38.

"I BELIEVE this will set a pattern in not only Oakland County but throughout Michigan," City Manager David Wilfong said.

Wilfong said the truck will greatly reduce the cost of refuse collection services.

"In February we reduced our collection operations from three-man operations to two men with the old rear loading packers," Wilfong said.

"Now we are able to provide the same service with a more economical method for the residents."

WILFONG SAID Maxon offered the only bid for the city's approval.

"The one-man truck is a new conception which other cities are beginning to experiment with, but we are convinced of the savings it can provide," Wilfong said.

He said the truck will be delivered within 120 days.

Commissioner Uyv al C. Jones asked Wilfong how the separate collection of newspapers was affecting the operation of the Southeast Oakland County Incinerator Authority.

Wilfong recently originated the idea of collecting newspapers separately from the refuse.

Wilfong said the cut in burnable tonnage has had little effect on the authority's incinerator operations. The authority handles waste disposal for 14 Oakland County communities.

"The authority's incinerator capacity was designed for 800 tons per day, but now they are

handling 900 tons and expect to handle even more in the future," Wilfong said.

WILFONG SAID the authority handled an average 1.73 pounds of refuse daily for each person from member communities in 1960. He said the figure for 1970 rose to 3.62 pounds daily for each person.

"These figures exclude population growth and show that people are simply producing more refuse," said Wilfong.

He said the increase was caused by a greater amount of prepackaged and throw-away products on the market today.

In other action, the commissioners:

- Approved an odd-year election ordinance to comply with state law.

The ordinance provides for November election of city officials on a staggered schedule with the mayor and two city commissioners coming up for election this November and two commissioners and a municipal judge in November, 1973. Terms of office are for four years.

- Approved purchase of 60 trees to replace those destroyed by Dutch Elm disease. Maple and locust trees will be purchased from Cottage Gardens Inc. and George Young Nursery.

One Man Refuse Trucks Reduce Costs and Increase Service

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One Man Refuse Trucks Reduce Costs and Increase Service

ROBERT L. JEWELL
Administrative Assistant To The City Manager
Miamisburg, Ohio

AS ALL cities, Miamisburg must stretch the tax dollar as far as possible. One area of critical concern in Miamisburg has been refuse collection operations. In 1970, the budget for refuse collection was \$84,932.35; last year over \$123,000.00 was spent to provide the same level of service.

The increase was due, for the most part, to the use of the Montgomery County Incinerator. The Incinerators, opened in 1969 represented a dramatic and important step for air quality improvement in Montgomery County, but also signaled the start of an equally dramatic increase in the expense to incinerator participants of operating solid waste collection systems. In 1968 the cost of solid waste disposal by landfilling was \$8,000.00 to serve 13,000 people. Last year to serve 16,000 people, the cost of solid waste disposal via incineration was over \$45,000.00.

INITIAL STEPS TOWARD COST REDUCTION

Traditionally, labor has been the major expense of refuse collection. But Miamisburg found itself paying more for disposal than for wages! Controlling tonnage collected was attempted by requiring the use of plastic bags or tightly sealed containers for storage of refuse. An analysis of loaded Packer weights revealed that by keeping refuse dry, the added expense of incinerating large amounts of water contained in wet refuse had been substantially reduced.

While we believed our refuse collection operations to be basically sound and efficient and were gratified with the results of the changes that had been instituted, the results were not dramatic enough to offset the basic problem underlying rising costs.

Since disposal costs and equipment costs are relatively fixed on a unit basis, labor remained the only cost element subject to management control. Miamisburg has always provided refuse collection as a tax supported service to its residents, and the charging of a fee was considered as absolutely the last alternative.

INITIAL IMPRESSIONS OF THE ONE-MAN SYSTEM

In mid-August, 1971, I contacted the Carnegie Body Company in Cleveland to arrange a demonstration of the Maxon Shu-Pak, a one-man refuse truck. The literature I had seen on the truck was hard to believe. Miamisburg used a typical rear-loading, three-man system, one driver and two loaders; it was hard to imagine that one man could do the work of three. We joked about solving all of our

problems if only we could find a gorilla that could drive a truck.

The truck arrived on August 23. One of the drivers, a man well under six feet tall and weighing less than 150 pounds, volunteered to drive the truck. We instructed him to report back after he had filled the truck and returned from the Incinerator. To our surprise, he liked the truck. Other drivers who tried the truck felt similarly; those who had not personally used the truck remained apprehensive.

Even after the demonstration, doubts persisted. No one man had used the truck for a full eight hour day. Would the work load be too much for one man? The purchase price of the equipment, while not excessive, was more than a standard packer. Could this additional cost be justified?



Now in use in Miamisburg, this vehicle is helping to reduce the cost of collection.

STUDYING THE SYSTEM

Our study proceeded slowly. The truck had originally been invented on the West Coast. The principle was simple: stand-up, right-hand drive with the loading area directly behind the cab, thus combining the function of driver and loader. This system was virtually untried in the mid-west.

Inglewood, California, the first municipality to use such a vehicle in 1960, was contacted. My correspondence with Inglewood was to last several months. I also contacted Huntington Woods, Michigan, which had one side load vehicle. City Manager Dave Wilfong pronounced the truck an unqualified success. Still the doubts nagged at us.

After the demonstration in August, Council had been informed about the one-man truck. Despite an interest in the truck's potential benefits, Council found them equally hard to believe. When Council approved the annual budget in December, they approved \$56,000.00 for the purchase of two needed replacement trucks. Packer type, however, was not specified — a decision on the one-man system continued to allude us.

In January, 1972, we came off dead center. The Street and Waste Collection Superintendent, Glen Moyer, and I attended a two day seminar/demonstration of the one-man truck. For the first time we realized how far our loaders walked simply because the truck was spotted in the center of the street and the men walked to the curb to collect the refuse. Each loader walked an average of one mile every 50 stops, considerably less if all bags were used at most of the stops on a route. At the conference, it was suggested that only one man be placed at the rear of the truck, and that only one side of the street be collected at a time. To us it seemed a fair test. If one man could collect all of the stops using a rear load truck, then one man could operate a combination driver/loader truck.

The test worked. One man could collect the routes, and the men seemed to enjoy working on their own. We were convinced that one-man trucks were needed in our system. In our presentation of our recommendations to City Council, I prepared the following comparison:

Old System: One driver and two loaders per truck

6 men per day = 48 man hours per day or 240 man hours per week.

Plus, 3 men two days per week for Commercial Container Service = 48 man hours per week.

TOTAL: 288 man hours per week for refuse collection.

Current System: One driver and one loader per truck.

4 men per day = 32 man hours per day or 160 man hours per week.

Plus, 2 men two days per week for Commercial Container Service; 32 man hours per week.

TOTAL: 192 man hours per week for refuse collection.

Proposed System: One combination loader-driver per truck.

2 men per day = 16 man hours per day or 80 man hours per week.

Plus, 2 men two days per week for Commercial Container Service = 32 man hours per week.

TOTAL: 112 man hours per week for refuse collection.

Compared to the system in use in January, 1972, we could save 176 man hours per week with the new trucks. At an average wage of \$3.50 per hour, we could save over \$32,000.00 per year in salaries. Council gave permission to buy the trucks.

MANAGEMENT — EMPLOYEE RELATIONS DURING THE WAITING PERIOD

We started to prepare for the new system. Most important to the program was acceptance by refuse collection personnel. Throughout the men were assured that none would lose his job if the trucks were purchased.

According to our previous experience, natural attrition, retirements and resignations, would reduce the work force by three positions within two years: the fourth replaced position would be retained to compensate for increased manpower needs due to population growth.

Independently the City of Fairborn had also decided to purchase a one-man refuse collection truck. To maximize savings during the bidding process, the cities of Miamisburg and Fairborn jointly wrote specifications for the cab and chassis and packer bodies, and a joint bid opening was held.

Some changes were necessary in our operations to convert to the one-man system. First, some residents still received refuse service from the alley, and because the trucks are bigger than previous trucks used (thus not fitting in the alley), about 20 homes had to be switched from alley to street pickup. Secondly, Miamis-

This sequence of photos shows a typical stop with the one man operation.



burg offers Commercial Container Rentals, and these containers are collected with rear loading trucks. To maximize efficiency of our container operations, collection days were changed to Monday and Thursday only. Finally, the proper personnel had to be selected to operate the trucks.

All refuse collection personnel were given an opportunity to apply for the jobs. Knowing that manpower in the department was to be cut back, some men took the opportunity to transfer to other departments. Considered to be the most important criteria for selection of the proper personnel was the individuals attendance record. The men on the new trucks had to be reliable and willing to accept more responsibility than refuse collectors or drivers are normally given. Equally important was the selection of the men to operate the rear loading container truck. Two days per week these men would collect commercial containers; they would also fill in should one of the regular men be sick or on vacation.

The two permanent men were given a new pay classification that paid 37¢ more per hour than their previous classification. When filling in, the alternates are paid from the new classification at the appropriate step.

Table I

| | 1970 | 1971 | 1972 | Projected 1973 |
|--------------------|--------------------|---------------------|---------------------|---------------------|
| Salaries | \$49,721.20 | \$ 57,679.55 | \$ 48,000.00 | \$ 28,000.00 |
| County Incinerator | \$17,888.41 | \$ 45,430.01 | \$ 54,000.00 | \$ 58,000.00 |
| Other | \$17,322.74 | \$ 20,342.43 | \$ 18,190.00 | \$ 19,000.00 |
| TOTAL | \$84,932.25 | \$123,451.99 | \$120,190.00 | \$105,000.00 |

On September 14th, we flew John Milburn and Bill Rucker, the two truck operators, to Cleveland to see the final stages of assembly. After completion of the truck, our own men drove the trucks back to Miamisburg. In a sense, the men had picked up their own property; they were responsible for its safe delivery and for light maintenance. The trucks arrived in Miamisburg on September 15th.

THE SYSTEM IN OPERATION

To demonstrate the impact of these vehicles on our operations, the first three weeks' operation reveals the following examples:

- 1) On Friday, September 22nd, Bill Rucker between 7:30 A.M. and 12:00 P.M. collected 300 stops and made a trip to the Incinerator (approximately 45 minutes);
- 2) On Thursday, September 28th, James Alcorn, a replacement driver who had never used the truck before, collected 478 stops between 8:00 A.M. and 2:30 P.M., plus making one trip to the Incinerator and taking one

hour for lunch.

The projected budgetary impact of this kind of system performance may be seen in table I.

As can be seen by the above figures, it is anticipated that \$18,000.00 can be saved as compared to the 1971 budget, even after a \$13,000.00 increase in incineration expenditures!

This article is not intended to sell a particular product, or even recommend a particular system. Growing costs and increased environmental awareness have stimulated much recent innovation in solid waste management. This article attempts to point out that with an open mind and a willingness to study solid waste collection (and a willingness to assume a certain amount of risk-taking), refuse collection services can be improved and costs reduced. Miamisburg's refuse collection system is certainly not perfect, but we believe the increased responsibility given to our refuse collection personnel gives the citizen more personalized and reliable service at lower cost.



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Reprinted From FORD MARKETING NEWS



Ford 172-powered, Shu-Pak compactor-equipped truck can be operated by one man in a right-hand, stand-up cab moving from load to load

Refuse Trucks Need Only One Man—and Ford Power

Many communities are switching to the Ford-powered Maxon Shu-Pak refuse compactor

by Bob Collin

THAT TRUCK YOU SEE creeping down the street collecting your trash and garbage may soon be a rig that can be operated by only one man, instead of the familiar rear-loading vehicle requiring a driver and three or four collectors. In fact, nearly 200 communities in the United States already have switched over totally or partially to the new one-man trucks.

Maxon Industries, Inc., Huntington Park, Calif., is the builder of this type of truck. Ford 172 CID gas and diesel engines are used as auxiliary power on 90 percent of the compactors.

"The one-man refuse truck is a development that has quickly caught on all over the nation for a number of reasons," said Murray Lugash, executive vice president of Maxon. "First of all, it is infinitely more economical . . . one man can pick up trash from 500 homes a day—the same work load handled by

a rear loader with a three-man crew. With a right-hand stand-up cab and our Shu-Pak compactor-equipped truck, he just moves from load to load.

"Secondly, studies have shown the one-man refuse truck to be safer—men on a crew sometimes get in each other's way, causing accidents. This doesn't happen with the one-man truck.

"And third, less maintenance is required on the truck. Being simpler to operate, less goes wrong. The operator is better able to control the use of the equipment."

Why Ford was chosen

Ford was selected as the standard power source for Maxon's one-man refuse trucks for a number of reasons. "Customers asked for a power source that is dependable, yet familiar to mechanics should it need servicing," said Maxon engineer George Morrison.

Because of the prolonged use of the equipment, eight hours a day, five days a week for municipal operation and 10 to 12 hours a day, six days a week for private operators, the firm also needs a power source that is durable and dependable.

"Easy starting and ease of maintenance also were qualities we desired in the engine powering the compactor—and the Ford 172 seems to have all this," said Morrison.

Approximately half of Maxon's one-man refuse truck production (about 500 a year) goes to private contractors while the other half goes to municipalities. Officials in San Fernando, Calif., gave the following testimonial:

"Previously, the task of making 5,100 refuse pickups for the 17,000 residents of the city had been done by three rear-end loading refuse vehicles with three-man crews," said Bob James, city administrator. "While drivers moved to each stop, collectors could only walk or ride along. On trips to the dump, the crew would only go for the ride — wasting man hours."

Saved \$3,300 a month

"The city changed over to the Shu-Pak one-man drive and pitch units. After nine months, records indicated a \$30,000 actual cost reduction — \$3,300 per month. Even the drivers prefer the one-man rigs, setting their own pace and getting a greater feeling of responsibility."

In addition to the residential one-man Shu-Pak units, Maxon Industries builds commercial Full-Pak and Half-Pak front loader units, refuse trucks that handle the containerized trash from restaurants, hotels, shops, gas stations, etc. In these units, the Ford engines, in addition to powering the compactor, power the hydraulic arms that lift and empty the containers into the compactor mechanism.

Maxon Industries, Inc., and its predecessor Huntington Park company, Western Body & Hoist, have been OEM customers of Power House Ford Engines, Inc., of Costa Mesa, Calif., since 1964. According to McKee Thompson, president of Power House, their first Ford engine was purchased in March 1964, and seven Ford units in all went into service that year. In 1972, over 150 units have been ordered for Maxon through the southern California Ford Industrial Power Products distributor.

MAXON INDUSTRIES, INC. 1960 East Slauson Ave., Huntington Park, California 90255 (213) 589-7321



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City Upgrading Equipment Purchasing

**Tax dollars better spent on heavier
equipment, built to do job; preventive
maintenance prolongs life, lessens down time**



Lowest bid, minimum specs purchasing of governmental agency equipment has for many years been nurtured by the budget bound manager trying to appeal to cost-conscious elected officials who felt an obligation to soothe the conservative taxpayer. This type of false economy is rapidly being thrown out as careful studies and computer analyses prove real economy comes with purchase of equipment built heavy enough to do the job, with proper preventive maintenance.

Keeping equipment just because it still has life in it can be costly. Older equipment costs more in maintenance, down time and poorer production and should be sensibly discarded at a prescribed mileage and/or age level.

The City of Phoenix recently took an unusual step for a municipality in setting up its Equipment Management Division. This agency, has systematically set out to upgrade equipment to insure most service and value for taxpayer dollars spent.

Take, for instance, a recent purchase of White "Compact" Trucks with Shu-Pak garbage bodies. This is a low profile, highly maneuverable truck that allows one operator to work an entire route. Dual controls allow him to stand on the right side of the truck and step down from a platform little more than curb high. He deposits garbage into a loading bin about waist high. It saves manpower by doing away with two sanitation service men. It saves the man by eliminating the high step or lift which are causes of fatigue and in-

jury.

After careful preparation of specifications on a truck to transport the Maxon Shu-Pack body, bids were called. Only this time the call was not for the cheapest equipment to do the job. The city, in its specs, called for a heavy duty diesel powered truck with automatic transmission that would give long service and do the job more efficiently with proper maintenance.

Arizona White Trucks won the contract with a low bid on the White Compact Model 1564, designed especially for refuse service. Maxon installed the body in Los Angeles and final outfitting was done in Phoenix.

A total of 29 White Compacts with the Shu-Pack bodies are being delivered to the City of Phoenix Equipment Management Division for use by the Sanitation Department. This cooperative arrangement is in itself a big step forward in giving better equipment service.

The Equipment Management Division was set up in 1969-70 with responsibility for, upon instruction from the budget director, setting up proper specs, equipping and maintaining city equipment, including police and fire protection vehicles.

Under the direction of William James Wilson, the EMD aims to equalize utilization of all city vehicles, to keep mileage about the same on all vehicles of the same model year. Under this program, disposal would be on a year class basis, cutting the need to stockpile a wide variety of parts for so many

models of equipment.

Wilson foresees great savings to the city in equipment service with inauguration of three basic modifications. First, it is necessary to have clean, complete specifications covering equipment adequate for the job. Second, there is a need for maintenance training of drivers and operators. Preventive maintenance will keep the vehicle out of the shop, reduce down time and insure longer, better service.

The third modification sought by EMD is closer control of equipment. Through careful study of reports and records, the division is able to budget replacement needs well in advance.

A proposed new maintenance center will help most in improving equipment efficiency and service for the 3000 piece city fleet. Planned into the new plant will be provisions for emissions control testing.

Preventive maintenance is already part of the EMD program. Each driver inventories his vehicle daily from a checklist of safety and maintenance features. A service writer is on duty at two of the 24 hour service centers to receive reports from the drivers with equipment problems. The faulty unit is scheduled into the maintenance shop for servicing and, where possible, is back on duty next morning.

Wilson cites regular checking of tire pressure as an example of simple but effective preventive maintenance. Daily checks have cut greatly the number of tire re-

pair calls during the day.

Under the records control system, the EMD purchases all vehicles, then leases them to the departments on either a cost per mile or straight rental fee. While it may appear strictly paper transactions and added bookkeeping, the system provides performance and maintenance costs that help in setting up more comprehensive specs in the future. It also helps build up the funds for replacement purchases.

Reactions to the EMD system of computerized analysis seem to run to the affirmative. Equipment manufacturers appreciate that finally they are able to get accurate performance figures for comparing with competitive models and also for their own evaluation. City department managers, who at first resented giving up the autonomous purchasing and maintenance privileges now recognize the benefits of centralized service.

And the drivers . . . their reaction vary about as much as the personalities of the men. For the most part, they see the benefits they get from the extra record keeping. They like equipment that is comfortable and dependable. On the Shu-Pack, they like the independence it offers, allowing the operator to set his own pace to get his route completed. But the disadvantage for some is the loneliness, no one to talk to during the run. The other reaction is that "it's a hell of a job anyway, regardless of what you drive."

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