

MIDWEST PRODUCTS, INC.

This successful Iowa company rebuilds cooling units for all popular models of RV refrigerators

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During the 1970s, Roger Gifford was a part owner of Recreation Vehicle Equipment Co. in El Monte, California, a company that repaired and serviced RVs. There was a great deal of air conditioner work, which included the hang-on models as well as roof units. Generator installation and service was also a big part of the business. Concurrently, Gifford owned and operated a trucking company, P&G Transport and another part of that company was P&G Diesel Co., an authorized Cummins Service Center. At the time, Gifford was also a distributor and service center for under-dash air conditioning units. Following the fuel crunch in the 1970s, the RV business diminished. Vehicle manufac-

turers began installing factory air so the under-dash air conditioner sales and service also faded away. Roger Gifford shifted to a full time trucking business and moved to his wife's native Iowa.

While in El Monte, Gifford had made contact with John Kelly, who is the current Senior Vice President of Midwest Products, Inc. When the two men first met, John was working for Servex Corporation. At the time, Servex was building and refurbishing metal cabinets for the bottled water industry as well as handling parts for nearly all the different appliances for the RV industry, which included furnaces and refrigerators. Servex was a remanufacturer of refrigerator cooling units and was doing warranty work for Dometic, Norcold, and Magic Chef. Gifford relates that in the 1960s and early 1970s, there



The first warehouse in Dexter, IA

were 15 to 18 refrigerator manufacturers. Now there are only two-Norcold, a US company from Sidney, Ohio, and Dometic from Sweden.

In the early 1980s Servex Corporation was also operating a warehouse in Elkhart, Indiana. When the owner of the company was killed in a boating accident, his widow subsequently closed the warehouse. Because UPS would ship only a maximum of 40 pounds in small packages, Servex sales east of the Rockies disappeared. These events in 1982 led John Kelly to call Roger Gifford in Iowa to ask him to become a distributor for the remanufactured cooling units. At first, Gifford thought the idea was a joke, but Kelly



Current Facility in Corning, IA



*Above:
Deteriorated evaporator.*

*Below:
Close-up view of damaged evaporator.
Note extensive rust damage.*



ultimately shipped seven cooling units to him along with a list of dealer names. Gifford sent out a mailer to dealers in three states-Iowa, Nebraska, and Missouri-and nearly overnight, dealers were calling to order cooling units.

The business started out in a two car garage in Dexter, Iowa. After three months the company bought a bigger building, and six months after that, moved to an even larger facility. Gifford kept up with the deluge of orders by hauling the product from the truck terminal himself instead of waiting for delivery. He then shipped out to dealers by Greyhound Bus. After about eighteen months, the company grew out of the facility at Dexter and moved to Winterset, Iowa, to a bigger building. The business continued to grow and Gifford was selling everything Servex could supply as well as

rebuilt units from LaSalle-Deitch of Elkhart, Indiana.

In the 1970s, the evaporators in the cooling units from Servex were made of galvanized pipe packed in polyurethane foam. These evaporators rarely had problems-the parts that deteriorated were the boilers. At the time,



A tube bending machine creates precise duplicates of the evaporator from straight steel pipe.

Servex was a rebuilding station for both Dometic and Norcold and Dometic supplied new boilers for the rebuilding process. Although

the galvanized units were quite reliable except for the boiler area, they were prone to malfunction if they were not kept level. Sometime between 1974 and 1976, a new style boiler was introduced, perhaps by Norcold. This was an enclosed percolation tube surrounded by liquid. Frigiking of England and Magic Chef of Germany also had enclosed boilers surrounded by liquid and there were seldom any problems with these boilers. Subsequently, Dometic bought much of the tooling from the other manufacturers, but Servex also purchased some of the tooling. In fact, Servex had all rights to Magic Chef and Astral-Frigiking. During this same time, the galvanized pipe was replaced by regular steel tubing, which was painted and encased in polyurethane foam. With a more reliable perc tube, the problems now shifted from the boiler area to the non-galvanized tubing, which is much more susceptible to rust.

Midwest Products was in Winterset for a year when it had to expand again and built an additional warehouse. By 1985, the suppliers could not keep up with the demand, so Midwest began to rebuild some of the cooling units. Gifford had ten to fifteen people rebuilding the units and the company

was still doing some RV remodeling and repairs. Soon the cooling unit part of the business was so busy, the RV repair was discontinued. Servex then changed their focus from the cooling units to home water cabinets and by 1988, they were planning to discontinue rebuilding cooling units. At this time, Gifford bought them out. At the same time, Midwest was also a distributor for new Norcold products. The company joined the Warehouse Distributors Association (WDA) and altered the policy of selling directly to dealers to selling exclusively through distributors. This was a wise business decision. Because dealers do not stock products, the business was extremely busy in the summer months and then slowed tremendously through the fall and winter. Distributors place winter orders to get ready for their summer sales. This keeps the factory busy at a more comfortable pace throughout the year. John Kelly joined Midwest Products as Vice President in 1989.

Around 1990 or 1991, Midwest Products began to completely re-tube the cooling units instead of just replacing damaged areas. This was a gradual process. At first, it was a trial and error procedure, bending tubing by hand for only a small percentage of the units and the foam was all mixed by hand. Ultimately, special equipment for bending the tubing, molds and mixing guns for



New evaporator



The new evaporator is welded in place

the foam was purchased to streamline the operations.

In 1996, a fire at the Winterset site forced the move to the present location in Corning, Iowa, which is a very well organized plant. When a used cooling unit arrives, it is stripped down. The boiler box, insulation, and sheet metal components are removed and the foam is sand-blasted off. Next, the unit is

cut open and flushed to remove the ammonia. The welding department cuts out the damaged area and installs a new complete evaporator. The evaporator assembly is made of hydraulic tubing with a bursting strength of 2,800 psi. A bending machine creates all the correct bends and then the tubing is placed in a jig to position plates and other small tube lines. After



Rebuilt cooling units in the paint booth

the parts are welded, the unit goes to a test area where it is pressurized to 850 psi and checked for leaks. The units are tested to the same specifications as the original manufacturer. The unit then goes to a charging area where the charging solution of ammonia, water, and chromate is introduced. This is followed

it is checked for performance, boiler temperature, and frost pattern. Following a successful test, the unit goes to the paint booth and then to the foaming department. After foaming, the units return to the boiler area where boiler pack is replaced and new insulation is added. The final step is packaging for ship-



The new evaporator is encased in polyurethane foam

by the addition of hydrogen gas and pressurization. After this, the rebuilt unit is installed on a test rack where

ment. A percentage of the daily production is retained and placed in a test room where the temperature is

varied between 90 and 110 degrees Fahrenheit. This procedure tracks the performance of the daily production.

Midwest Products is constantly growing and improving. In June of 1999, the company welcomed John Hunter, formerly a District Manager for FedEx in Colorado, as their new Vice President of Production. Midwest Products, Inc. has a wide distribution network, so a dealer in any part of the United States or Canada can usually get a unit overnight. Each unit carries a one year warranty, with freight and labor included for the first 30 days. Gifford states that if a unit is defective, it will usually be evident within the first 30 days. The company offers an extended two year warranty policy for \$50.00, which includes freight and labor. An additional \$25.00 increases the warranty to three years. The company has always been set up to handle warranty work and Gifford invites any customer who is dissatisfied to visit the plant in Corning, Iowa.

Frequently Asked Questions:

What is the expected service life of a rebuilt unit?

The expected service life of a rebuilt cooling unit is five to eight years.

Do you have any tips for a longer life?

Since freezing slows down the rusting process, an owner can increase the life of the unit by never turning it off.

Can I improve the performance of my refrigerator?

The units are designed for gravity flow. In higher ambient temperatures, maintaining the unit in a level position will allow better performance. When the unit is not level, the boiler gets hot which can crystallize potassium chromate in the boiler. Since the perc tube has a 1/8" orifice, it doesn't take much to stop the flow.

My refrigerator doesn't cool so my dealer told me to tip it upside down. Does this work?

If it is a newer refrigerator, the chemicals may separate when it is not level, so you may need to lay it down and turn it to mix the chemicals again. That is a different problem from a clogged orifice. In this case, even if tipping works, it will happen again. If the boiler is hot and the absorber coils are cold, there is no flow and the cooling unit should be replaced.

How can I tell if my cooling unit has a leak?

If there is a small hole, the hydrogen gas may leak out.

You may or may not smell ammonia, but if you listen at the access door in the back of the unit you may hear a gurgling sound. The entire unit will be warm, including the fins inside the refrigerator, and there will be insufficient cooling. With a larger leak, you may see a yellow substance at the back of the unit, which is the chromate. If there is a leak in the evaporator, you may smell ammonia inside the refrigerator or freezer compartment.

I have a very old refrigerator that still works. Why has it lived so long?

If you have a unit manufactured prior to 1977, it will have galvanized tube. If it was not used constantly it could survive for quite a long time. The weak part of these units was the perc tube and the life of the perc tube was related to use. Units with galvanized tubing may only need a new boiler.

Why don't you use galvanized tubing today?

The chemicals and noise of the manufacturing process

present environmental problems and galvanized pipe is much more expensive than the steel we use today.

How can I prevent damage to my refrigerator?

The biggest problems are associated with how the refrigerator is handled. Don't allow the doors to swing forcefully and do not put any weight on an open door. When pulling a refrigerator out, be careful not to damage the box or the cooling unit.

How long should it take to replace the cooling unit?

After the refrigerator is uninstalled and moved to the work area, a dealer can replace the cooling unit in 1-2 hours.

How much should I pay for a new cooling unit?

Although prices vary among dealers, a fair price is between \$500 and \$600 plus labor.

How can I find a dealer?

A distributor can refer you to dealers in your area. To find a distributor, contact Midwest Products, Inc.

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