

MONITORING THE FIELD

October, 1971

Issued by Field Engineering
Johnson Service Co., Milwaukee, Wis.

Vol. 15, No. 10

NESBITT FAN-COIL UNITS

Nesbitt Roommate IV fan-coil units are now being manufactured by the Airtherm Manufacturing Company, St. Louis, Missouri. This change became effective September 21, 1971.

All Johnson control equipment which is to be factory mounted must be coordinated through the Field Engineering Dept., in Milwaukee.

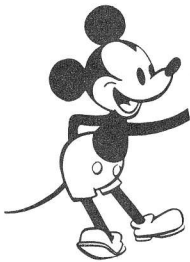
Airtherm requires that one sample of each different piece of control equipment for each job be sent to their engineering offices for a prototype unit. The address is 700 South Spring Avenue, St. Louis, Missouri, 63110. The remainder of the controls are to be shipped to the Airtherm factory at:

Airtherm Products, Inc.
3333 N. Washington St.
Forest City, Arkansas 72335

This is a temporary arrangement and we are attempting to work up standard piping arrangements with Airtherm.

* * *

ATTENTION FLORIDA VACATIONERS



Just in time for winter vacations we announce the expansion of the California Disneyland Magic Kingdom Club to include the new Walt Disney World opening in Orlando, Florida.

All Johnson Service Company employees are eligible for Disney World discount cards which offer a half-price savings. The discount covers admission, use of the transportation system for one day (monorails, water craft and trams) and any 7 attractions of your choice.

If you are interested, contact the Editor, *Monitoring The Field*, Milwaukee, 14-340. Indicate your departure date and allow enough time so that you receive your coupons **before you leave** on vacation.

Employee discounts to various California tourist attractions are also still available. Follow the instructions in the June, 1971 issue of M.T.F.

* * *

Congratulations to **Mr. William P. Chapman**, Vice President of Operations, Johnson Service Company, who has been elected *national* Treasurer of ASHRAE.

FACTORY CALIBRATED

Have you noticed the new stamp on all T-4000 series controllers? The words "factory calibrated" appear on all T-4000's manufactured after 8-16-71. All mechanics and customers should be made aware of the fact that, if handled carefully as instructed, the instruments do not require recalibration. Recalibration should never be performed in the field unless absolutely necessary, and then of just the few instruments at fault.

* * *

QUESTIONS OF THE MONTH:

The T-9000 is an exceptionally reliable instrument so we are quite concerned when one is returned as being defective. Occasionally a system problem has been interpreted as a faulty T-9000. Overadjustment of the regulator can cause harm to the instrument. So that we might better analyze instruments returned on MRA's we ask that you pay particular attention to the following:

1. How long was the T-9000 in operation?
2. How long **after installation** did the T-9000 become defective?
3. Was the defect noted during **initial setup** or during **recalibration** after it had been operating satisfactorily for a time?

To merely return a T-9000 labeled "defective, installed ____" is not sufficient. MRA Form 1040 has a space reserved for your comments. Use it! We must be able to determine whether the instrument was at fault or whether there are other system problems.

(We are in the process of working on a new dial arrangement which should eliminate the major sources of trouble, i.e., slipped dials and over-adjusted regulators.)

* * *

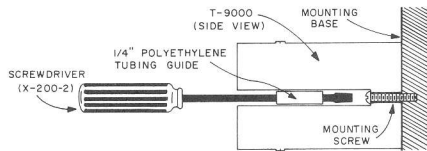
*** FOR SALE ***

Our Appleton Branch Office has several Loyola SCR electric heat controllers in stock and they are offering them at a tremendous savings to any branch which can use them. Controllers available are:

- (Three) BPAC-30-480-62 (75 amps)... \$225.00 Each
- (Three) BPAC-30-480-165 (200 amps)... 500.00 Each
- (One) BPAC-30-480-24 (30 amps)... 175.00 Each
- (One) BPAC-10-208-10 (50 amps)... 100.00 Each
- (One) BPAC-30-208-3 (10 amps)... 100.00 Each

Any branches having need for any of these controllers should contact John Halverson in Field Engineering, Milwaukee.

IDEA OF THE MONTH T-9000 Mounting



To eliminate searching for the slot in the screw when mounting a T-9000 to the base, **George Nowell**, mechanic in **Fort Wayne, Indiana**, discovered that a short piece of 1/4" polyethylene tubing works perfectly. George slides the tubing over the blade (onto the shank) of a 3/16" screwdriver tip. (The O.D. of the tubing is approximately the same size as the I.D. of the T-9000 mounting hole.)

FROZEN COILS

Now that the heating season has begun, it is time to check the following items which could contribute to the possibility of frozen coils:

1. Dampers not closing due to obstructions.
2. Low temperature sensing elements improperly located.
3. Low temperature thermostats improperly wired; i.e., by placing the unit control switch in the hand or manual position, the low temperature thermostat is bypassed, and therefore, ineffective.
4. Control lines mixed up in the installation, so that the thermostat operates the wrong valve or coil.
5. Controls not set up properly or are incorrectly adjusted.

With a little extra care on the part of the installation mechanic and/or supervisory personnel, these problems can be overcome. The effort will save time and money for Johnson, our insurance company and the customer, not to mention the inconvenience to all concerned. This extra care is especially important during the heating season!

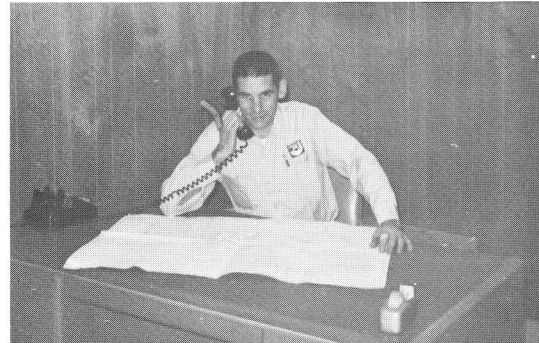
SAFETY FIRST!



**NEAR ACCIDENTS
ARE WARNINGS...**

WEAR A HARD HAT!

SPOTLIGHT ON CONSTRUCTION



Raymond Keener, Jr.
Construction Superintendent
Charleston Office

As Construction Superintendent in the Charleston, West Virginia Office, Ray Keener coordinates all installation activities, as well as maintaining a direct line of communication between the office and the field.

Because of Ray's training efforts, his pipefitters and electricians are capable of performing all installation assignments including system checkout. Ray also keeps the office engineering department informed of information required by the mechanics to help effect greater installation efficiencies of Johnson systems and at a savings to the company.

Charleston Branch Manager Bryant Edwards credits Ray for placing his branch office in the position of being able to negotiate or receive jobs at a slight preference due to the fact that they can always point with pride to existing jobs. Charleston area contractors are accustomed to the high quality of workmanship of the typical Johnson installation.

Ray is a 22 year veteran of Johnson Service Company. He was first employed by Johnson in 1949 as an installation mechanic. In 1952 he took time out to serve two years in the U.S. Marine Corps. He was appointed Construction Superintendent in 1967. Ray holds membership in Pipefitters Local 625 in Charleston.

Camping and fishing expeditions are enjoyed by the Keener family, which includes Ray, his wife and six children. Ray is also a Boy Scout leader and a supporter of Little League Baseball.

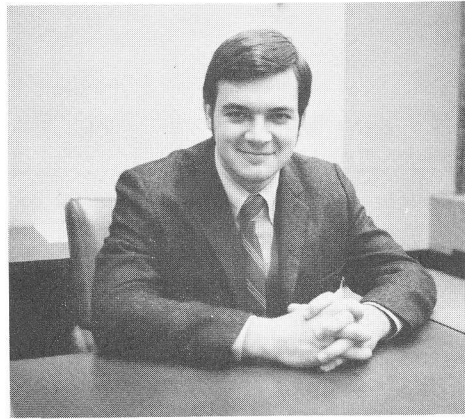
WHO'S WHO ON FACTORY ROW

Dennis E. Totzke joined the Field Engineering staff in September of 1969.

In Field Engineering Dennis is the resident author of competitive equipment reports. He sifted through volumes of data and came up with the new ER-481 series of reports which contain a wealth of information. He also revised the damper operator section of the Engineering Data Book, and his next endeavor will be a new damper manual.

Dennis has been coordinating field requests with factory capabilities regarding quality assurance and seismic test data for nuclear power station contracts. These ever-increasing nuclear contracts place unique and demanding specification requirements upon the successful controls contract bidder.

Dennis graduated from Marquette University in Milwaukee with a B.S. degree in Electrical



Dennis Totzke, Field Engineer

Engineering. Before coming to Johnson he was employed by the Aerospace Division of Honeywell, Inc. He is now working toward a master's degree in Electrical Engineering. He is a member of ASHRAE and I.S.A. In his spare time Dennis pursues the lively art of winemaking (proving that it can be done when you live in an apartment).

"\$UCCESS\$ IS"

T
O
R
I
E
S

... by and for the Johnson SERVICE Organization.

* * *

Celebration of Labor Day last September 6th highlighted the important role our Servicemen play in the Johnson SUCCESS Story. In addition to their fine technical jobs, the servicemen also play a very important selling role.

* * *

TOM SHANESY of Minneapolis attributes much success in getting, updating and replacement jobs to his servicemen. When a serviceman finds obsolete equipment, he advises the customer of the advantages to update or replace, rather than to repair. This policy has led to some very nice remodeling contracts. TOM says the key to such SUCCESS is a serviceman who realizes and believes this is the best policy.

* * *

In Fargo, the servicemen are a vital part of ED MORKEN'S SUCCESS. Fargo Servicemen include Sam Barney, Service Foreman; Doug Jessen; Kenny Johnson; Gary Bakke; Lester Stephenson; Dave Herringer, and Wayne Lish. ED reports they have done a great job in selling air dryers, replacement and standby air compressors. They also are providing leads for service contracts. On the job, they stimulate interest with the owners.

* * *

Early this summer, CHARLIE BUTCHER and Company in DENVER held a Service Sales meeting with the Servicemen, like so many of you are having.

Our service sales capabilities were discussed, with Bob Pagliasotti covering Temperature Controls, Control Centers and Contract Operation; Lee McKie covered Air Filters and Coil Cleaning;

Jim Wright, Security Systems, Standard Electric Time, Pyr-A-Larm and Penn Controls; Edward White, Startup Service, Water Treatment, Refrigeration and Total Maintenance. Fred Hume discussed Electrical Equipment, and Don Morgan, Time Clocks. We do have a lot to SELL, don't we?

A part of this session included a discussion of how this team can SELL more and:

- Expand our potential market.
- Improve our present sales approach.
- Make the service agreement approach more attractive to our customers.
- Improve our material to labor sales percentage.
- Promote the need for proper maintenance during the warrantee period.

The contributions of the Servicemen were evident in the worthwhile comments which were made by such men as Ed Hunter, Sam Parkins, Bob Lenhart, Dan Helt and Woody Petersen. It was suggested, get the word to all owners and maintenance managers on all our capabilities before a new control job is a year old. Inform the Servicemen not only on all our capabilities but also the sales points of each and the basic sales approaches that can be used. It was said no one has the owner's confidence and an "in" with him as does the competent Serviceman. Sam Parkins says, "Rarely is there a call made by a serviceman that there isn't an additional need of the customer noticed other than what the man was called for." Our Servicemen undoubtedly can be one of our most SUCCESSFUL means of promoting service sales. Let's be sure we take every advantage of our strong right arm. SUCCESS IS...

* * *

We're getting tired of telling you about the SUCCESS of just a few of our branches. How about letting us in on your SUCCESS Stories.

POLYETHYLENE TUBING: Of all the objections to polyethylene tubing, the **OLDEST** wives' tale of them all is the story about rodent damage.

OLD WIVES' TALE NO. 2:

Fiction: Rats are attracted to polyethylene tubing; they just love to eat it. It has an odor which makes them come running from miles around. And they always go for that good red tubing!

"This
Sure
Doesn't
Look
Very
Good!"



Fact: 1. Rodents will gnaw on polyethylene, as well as copper, aluminum, wood, PVC, electrical cables, telephone cables and anything else which happens to be within their reach. All rodents have the same basic need to gnaw on something — anything which will wear down their incisor teeth. If rodents do not continually wear down these teeth, the teeth will continue to grow until the rodent actually starves to death because it cannot eat with its extended incisors.

When the standard air conditioning specifications published by the General Services Administration were first published to include polyethylene tubing for control jobs and GSA buildings, back in 1961, the GSA did not go into this blindly. They too had heard the old wives' tale of rats being attracted to polyethylene. Polyethylene was tested in laboratory conditions with rodents in various stages of feeding. Aluminum, copper and polyethylene were all tested. In the GSA findings, they noted that rodents would attack all three materials with the same enthusiasm and showed absolutely no preference for polyethylene. Nor would they actually attack the polyethylene for the purpose of eating it.

In the past year, one polyethylene manufacturer reports only **two** actually verified instances of rodents biting and perforating polyethylene tubing. Considering the many, many millions of feet of polyethylene tubing sold for HVAC applications, this would indicate that, even without the government reports, the rumors and stories concerning rodent attacks on polyethylene were, at the very least, blown greatly out of proportion. It is felt that this is used more likely as an excuse for not changing specifications than it is as an actual fear of tubing damage.

It is logical to assume that when a rodent attacks a piece of material to wear down its incisors, it will normally pick a material hard enough to do a good abrasive job, which polyethylene will not accomplish. This may possibly account for the complaints of rodent attack which are few and far between; however, this particular point is admittedly speculation. There is probably less than one report of rodent damage for every 25 million feet of tubing installed.

2. Polyethylene has no odor or taste to attract any type of vermin. The Food and Drug Administration rates polyethylene as completely odorless and tasteless, which is why polyethylene is chosen for applications such as water piping, soft drink dispensers, dispenser tubing, food wrap, etc.

3. Rodents have no color cones in the retinas of their eyes. Therefore, they are color blind and in laboratory tests it has been found that rodents will not favor one color over another.

All in all, it is safe to assume that the rodent problem with polyethylene control tubing is a problem which is virtually nonexistent.

EFFICIENCY IS ...

... FITTING KITS FOR TUBING

Are you using fitting kits? Fitting kits are listed in the Construction Materials Book beginning on Page CM/201. Each kit contains all the fittings usually required for a specific length of tubing. For instance, the 1/4" polyethylene tubing kit, F-1000-247, contains enough fittings and other supplies to install 1000 feet of 1/4" polyethylene tubing. Kits are available for:

Polyethylene — 1/4", 3/8", 1/2"

Aluminum — 1/4", 3/8"

Copper O.D. Sizes — 3/16", 1/4", 3/8", 1/2"

Copper Nominal Sizes — 1/2", 3/4", 1"

Page CM/208 lists a material kit which contains various quantities of 46 different fastening devices; the material in this kit is sufficient for approximately 3000 feet of tubing.

It is interesting to note that in most of our more successful branches we have found use of fitting kits has contributed to an improved construction record. However, a few of our branches have objected to using the fitting kits for two reasons:

1. Packaging method is inconvenient because all fittings are contained in one bag.
2. There are too many fittings left over.

In a never-ending effort to please, the packaging will soon be changed and the fitting kits will be supplied in a cardboard box with divided compartments. In reply to the second objection, after the kit has been used for its intended purpose, it will have already paid for itself and any items left over can be added to your general stock, either in the car, truck, or on the job for later use.

Now let's analyze **cost** and **ordering procedures**. Branch offices are, or should be, ordering material to be delivered to the job site and charged to the contract number. This eliminates extra shipping, handling and inventories.

When you have a small job, the minimum quantity of fittings listed in the Construction Materials Book will be far more than needed for the job. One alternative is to maintain a branch office stock and have the fittings ordered against stock, brought into the office and placed in bins or on shelves. Then when they are needed on a job, someone has to determine which fittings are required, package them and ship them to the job site. Obviously this requires much time and effort. Also, the person selecting the fittings must be thoroughly knowledgeable of job conditions to know which fittings are required.

When using fitting kits, a person untrained in construction techniques can order fittings by merely ordering the fitting kit for the type of tubing used on a job and charged to the project. No separate ordering, stocking, selection or shipping is required and inventory is eliminated.

Dollar-wise, if minimum quantity orders of the same fittings as contained in the 1/4" polyethylene kit were to be sent to the job or office, the combined value of these fittings would total \$64.00, whereas the smaller quantities as available through fitting kits would only total \$10.00. Please remember that fitting kits will save you money, even if all are not used on a single job.