



the **PHILCO SERVICEMAN**

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**SWAP OR SELL WITH YOUR
FELLOW PFSS MEMBERS!**
See Page 7 Classified Ads.

"SERVICE AFTER THE SALE"

**SINCE
1920**

Yes—that's the rear end of a service truck you're looking at above! We thought an unusual way of presenting this headline would give you a preview of the unusual and interesting service story you are to read. After all, "service after the sale since 1920" covers a very large chunk of service history behind it.

Russ Morton, owner of the truck and of Morton's Television, 219 East Broadway, Salem, New Jersey, got off to an early start in this passing electronics parade. We consider him one of the handful of pioneers whose experiences and efforts have helped build a gigantic industry out of service.

An old hand in electricity (he had his first ham license issued in 1912), Russ was ideally suited for his World War I Navy assignment as a Morse operator aboard ship. And it was during this hitch that he told us about one of his most thrilling experiences. It took place at Brest Harbor in France in 1918 when he first heard a human voice come in over the ships' communications system. To a lot of us youngsters who only vaguely remember early radio, this 1918

experience really comes under the heading of something to remember!

At war's end Russ just naturally gravitated toward a service career. After a brief fling at the photographic supplies business, he settled down in earnest to selling and servicing early style radio kits and the first factory made models to come out for public use. That's service pioneering!

It is now over 33 years since Morton's first opened its doors. Since 1920 the town of Salem has grown considerably and along with it a steadily increasing list of customers—including a second generation—who buy and naturally get their service from Morton's. It has become as much a part of the town as Salem's great oak tree, one of the oldest in the country.

The association between Morton's and Philco had its start back when the "Baby Grand" first made its appearance to a radio conscious public. That puts Russ Morton in the select ranks of some of the oldest single line dealers around. Along with his exclusive stock of Philco products, he has consistently offered efficient service on every-

(Continued on page 3)



Russ Morton, at left, stands with M. C. Bartlett, TV Service Manager of Philco Distributors, Philadelphia, in front of his popular, well stocked store in Salem, N. J.

TRAINING A TV TECHNICIAN... IDAHO STYLE



When Strevell-Paterson Hardware Company of Boise, Idaho recently held another special two-week Philco TV course (the third in their territory) at Idaho Falls, 20 eager and willing students showed up, rarin' to go.

They knew it was going to be a tough grind—morning, noon and night for two solid weeks—where

they would do nothing but eat, sleep and drink television. But they also knew that this Philco TV course has proven to be the most effective foundation for TV servicing available anywhere.

First there was the theory end of the course. The countless questions on fundamentals that had to be answered. Learning how to

read schematics, how to translate wiring diagrams on paper into the complex arrangement of circuitry that makes up the modern television receiver.

Then digging into an actual chassis. Taking it apart to see what makes it tick and how. Putting it back together again, with

(Continued on page 5)

SALES AID DELUXE

It is not often that any businessman can have at his disposal a form that does not only one, or two, or three—BUT actually *four* separate and necessary jobs.

Most PFSS members who have used Philco Shop Repair Tags (PR-1750) for many years will agree that they are a sure method of keeping all repair work data right at your fingertips.

All essential information pertaining to the customer, the unit, the

complaint, warranty information and delivery dates is listed. On the back ample space is provided for material and labor notations, and handily attached is a perforated claim check for the customer's use in reclaiming his product.

With Shop Repair Tags you can't lose track of important information and you can't miss up on delivery dates. It's the sensible and approved way to keep work flowing through your shop without a hitch.

As an extra added attraction, these tags perform an all important advertising function that makes them invaluable for this feature alone. Shop Repair Tags take your specific business message right into the home—create a positive identi-

fication with PFSS—and help to implant your name, address and particular service specialties in the customer's mind for future reference . . . and future business!

Don't take the chance of getting into a hassle with a customer by the use of make-shift forms—it's bad business. Too many service shops try to get by without forms of any kind and everything goes along fine until they wind up with a claim against them and all sorts of bad publicity.

Play it safe with the whole line up of Philco Factory-Supervised Service sales aids, all created to operate as an efficient member of your own business. And designed specifically as an aid to better business!

SERVICE AFTER THE SALE *(Continued from page 1)*

thing sold and this has been solidly backed by RMS, Philco Service and now Philco Factory-Supervised Service.

From the radio line of the early thirties, Morton's has branched out to the complete range of Philco electronic and appliance products. A staff of three service experts, who double in brass as salesmen, are now contributing heavily to the Morton reputation in and around Salem.

These three top-notch technicians are prime examples of what good training and interest can produce. There's Paul Frederick, former captain in the Army Signal Corps, a ham of long standing and graduate of Philadelphia's prominent Temple University TV Course; Jim Paras, an ex-Coast Guardsman (5 years), another long time radio amateur, also a Temple grad; and John Chaplin who is of the new breed of service technician—entirely trained through PFSS in all phases of television.

This trio, along with the old master himself, has established an efficient service set-up that is remarkable when you realize that all four are responsible for sales as well as service. Yet, despite dual roles, a customer's call as late as 4 o'clock gets him service the very same day!

Russ Morton is especially proud of his test equipment—to such an extent that although the shop is located in the rear, it is an open faced affair that allows customers to see clear through from the sales floor (see photograph). Russ feels that this setup gives the customer a psychological lift and makes them service conscious. He feels that it is reassuring to walk into a store and be able to actually see the intricacies and activities of an operating service shop. Whenever a new piece of test equipment is needed, there's no hesitation or doubt in anyone's mind about asking for it . . . and getting it. If it can do a job better and faster, Morton's wants it!

Service is more than part of a business to Morton, it is part of his way of life, over 33 years of it. His own words tell more effectively



what is meant in this respect: "Service is the 'bread and butter' end of this business. To sell most effectively you've got to offer service. To keep your customers sold after the purchase, you've got to offer service. And most important, *to bring them back*, you've got to offer service. I don't see how any man can be in the appliance business and not have service."

That in a nutshell explains the three foundations you must build a service business on—the sale, the "after" sale and the second sale. Russ Morton feels that the secret of success in this never ending cycle is service, the only sure way of selling, keeping them sold and re-selling them.

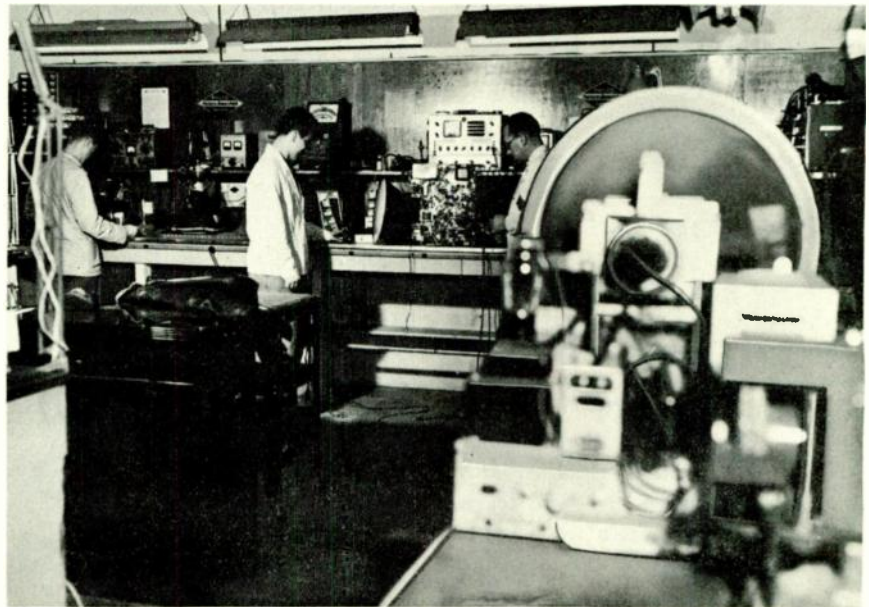
Russ is completely outspoken about the tremendous lift television has given his business. In fact, you may be wondering what the photograph of that beautiful cabin cruiser is doing in a story about servicing. Well, that is Russ Morton's own "TEE-VEE V." When asked about the odd name, he grinned and said: "I named it for what actually paid for it . . . TV!"

Even with the heavy new volume of business and its accompanying complications that television has created for him, Morton has continued to string along with an old standby in recording business transactions—that is the Shop Repair Tag. His files are jam packed with the middle portion of these tags, and when you consider the wealth of information that can be transferred to them, it is clearly an efficient and inexpensive method of filing important customer, sales and service information.

Morton's consistently promotes both sales and service through newspaper and telephone directory mediums and large sized billboards cover three approaches to Salem while colorfully advertising Morton's and the wide variety of Philco products he sells and services.

As with most extremely successful operations, Morton's is

(Continued on page 4)



Interior view of Morton's exceptionally efficient service area with John Chaplin, Jim Paras and Paul Frederick hard at work on TV repairs.



Customers standing on the sales floor can look right into the Morton service workshop. What they see is an impressive, well-lit bank of test equipment staffed by the best technicians in town.

SERVICE AFTER THE SALE (Continued from page 3)

strictly a list price store, the kind that doesn't cut prices or give deals. Straight selling and honest service policies are the order of the day that Salem residents have accepted for over three decades. Only one black mark threatened to mar a long record of complaint-free service by Morton's to the community and that was due to a misunderstanding which was eventually cleared up to the customer's satisfaction.

Through the years, the challenge of service had been one Russ Morton never ignored. While he didn't say he liked 'em better when they're rough, we sort of think he gets a big kick out of rolling up his sleeves and digging into a real tough fix. Working for a boss like Russ, who knows his service from the ground up keeps Paul, Jim and John on their toes all the time. When PFSS mail time comes around the Morton crew makes a bee line for it. With each man practically a complete service in his own right, they manage to digest a lot of technical data about a lot of different products that comes in handy on the job.

On the light side, Russ has gotten quite a kick out of selling appliances in a rural section. Besides the friendly atmosphere of small

town living, he remembers many humorous incidents such as the time he tried to sell one of the outlying farmers a radio while said farmer was plowing his field. Russ finally sold him but remembers most of all the fact that the farmer got quite a bit of plowing in before the sale took place!

On the way out of town, we stopped and talked to two of Russ Morton's customers, Mrs. Harry Skinner, 55 Market Street, and Mrs. Charles Perry, RD 2, both of Salem. It was a real experience to hear these people praise Russ, not only as a businessman, but as a fine gentleman. Of course, both were completely satisfied with their products and the service on them. But they felt that the personal interest shown to them by everyone at Morton's accounted as much for its popularity as any other factor.

As we left Morton's Television a customer had just walked in. We didn't wait to see if he sold her or not, but we'll bet you on one point, if she wasn't sold then she'll be back again. They always seem to come back to Russ Morton because he's offered SERVICE AFTER THE SALE SINCE 1920.



The staff of Morton's Television line-up for roll call. Left to right, John Chaplin, Russ Morton, Jim Paras and Paul Frederick.

TRAINING A TV TECHNICIAN . . . IDAHO STYLE

(Continued from page 2)

every one of the countless components, big and small, each in exactly the right place. Sweating over an unfamiliar symptom, troubleshooting, probing, checking—and then doing it all over again.

The beginner is learning an entirely new language; the radio technician is revising his way of talking and thinking to cope with this new technique. "Snow," "dipole," "Yagi," "a.f.c.," "CRT"—the boys catch on fast. Pretty soon you'd think they'd been in television servicing right from the beginning!

And, throughout the entire course, always available to give a helping hand or pull somebody out of a tight spot—the expert TV engineer from Strevell-Paterson and his counter-part from the Philco factory. Explaining to each student what they're doing wrong, how to do it right and why to do it *this* way.

A special added attraction for these Strevell-Paterson students. The inside story from a couple of experts on television station operation, including camera work, transmission, etc.

Finally, graduation. A long, tough pull, but 20 minds are bursting at the seams with a practical working knowledge of Television servicing, complete from the insides of a giant CRT right down to the values of the smallest resistor.

Then, a grand dinner and a big sendoff into the servicing world. The job is over; it's time for the feedbag, a few beers and a couple of jokes. Tomorrow means getting down to the serious business of servicing TV receivers without anybody's help but the knowledge gained through the most scientifically planned training course ever developed for the servicing profession.

Congratulations to Strevell-Paterson for a wonderful effort in bringing TV service training to the men of Idaho and Utah through their incomparable facilities. And to the graduates, too; we're sure it has been a good investment for the time and splendid attention given.



This "back to school" group from central Nebraska sits for a graduation portrait after completing the Philco Television refresher course. Seated left to right: Ralph Emery, Cozad; Don Thomsen, Minden; Don Secrist, Red Cloud; Bob Betke, Ravenna; Bill Sheen, Kearney; standing: Joe Fajman, Ord; Vic Kral, Lexington; Wayne Stewart, Broken Bow; Carl Wilson, Burwell; Mal Hemje, Hildreth; Sal Slominski, Loup City; and instructor Jack Mattingly, Philco SDR.

Hail Columbia! Jim Semmons (center) owner of Semmons Furniture Co., Columbia, Missouri, receives Philco Service Achievement Award from Bud Demsky, Sales Promotion Manager of Artophone Corp., Philco Distributor in St. Louis, as Ward Sneed also of Artophone beams alongside.



SHOP TALK CORNER

I have run across one of the oddest service troubles that I have ever encountered. The original trouble had been No Brightness. The set had been in use for a year.

When I arrived at the house I cleaned the picture tube and brightness was restored but the picture was not at full width. A check of the tube revealed that the Selenium Rectifier was at fault. Sync was also unstable.

Not having a selenium rectifier with me, I adjusted the horizontal hold centering control, stability improved. However, rotating the horizontal control caused one field to be displaced to the left but the picture would not fall out of sync, only the even numbered lines would move to the left producing two displaced images not unlike 3D motion pictures (without the glasses). Replacing the selenium rectifier cured the trouble.

I would like to know what caused this phenomenon.

JOHN E. GRABOWSKI
Littleton, Colorado

The failure of the selenium rectifier in the receiver caused a drop in 'B' plus voltage and a corresponding drop in plate voltage on the horizontal oscillator tube, which accounts for the loss in width. The general low 'B' plus may also introduce some sync clipping which of course, would cause unstable sync. Readjustment of the horizontal hold control changed the operating bias of the oscillator stage which in conjunction with the lower plate voltage gave the hold control a wider range. This, of course, is an undesirable condition since normal drift of the oscillator may cause it to go beyond the hold control range.

As we all know from experience, the customer on the average will usually gripe about our price whether it be our Service Call charge or a shop price. We have to make a living. They will tell you that So and So's TV Service will come out for a dollar or so

cheaper than us. They figure our shop charge and say that it is entirely out of line. The dishonest guy can cut his labor charge and pad the bill with parts and probably get far less complaints than the honest fellow who is charging a fair price and being honest about it all. People are sure hard to please.

My point is, why should the TV man be the guy to get it in the neck? If we could weed out the "shoemakers" in this trade we would be better off. If a guy knows his business he is entitled to get his price and can make a decent living by doing so. But is usually the part-time "screw driver mechanic" who advertises for less, to get started, and usually gets more in the end because he makes a sucker of the customer for his inexperience which naturally takes him longer than an experienced man.

Why can a carpenter, a plumber or any other tradesman come out and offer a job for a price and get it without any trouble. His competition will charge the same figure. After all we probably have more schooling, more expensive equipment and tools and a lot more money in stock than any other tradesman in business. How about it fellow TV repairmen. What have you to say on this subject?

BILL DENISON
Bill's Radio & TV Service
Chicago, Illinois

I am just a beginner in Radio and TV servicing. I have been a PFSS member for two years and I don't think there is another service organization in the world that tries to help the serviceman on their products as Philco does. But this is what I would like to see developed by some concern: a spade type connected filter condenser. It would be very helpful on small and portable radios where the condensers are hard to get to. I have never changed one as yet, but when there is some burning of the in-

sulation on the wiring, if spade lugs were used, even if they had to be soldered, you could heat the lug and all the wiring would come off together. This would also speed up service work.

Well, this is my first letter, maybe I shouldn't have written it, but I still think it is a good idea. Thank you for all the help and service information you have sent to me.

L. D. EVANS
Mardick Tire & Appliance Co.
Joplin, Mo.

We can appreciate your suggestion from the Service Technician's viewpoint with regard to a spade type connected filter condenser.

From a production standpoint, however, it has been impractical in relation to manufacturing time, labor and ultimate cost.

When the 94 and J4 chassis first came out there was no reference anywhere in the service manual on how to operate the TV independent of the radio. That dummy plug we had to figure out from the schematic, long before it appeared in the "service notes" on the back of the last page. No suggestion has yet been offered on how the radio operates without the TV. That also will be our baby to solve. Now comes the R194 D194 chassis! Still no mention of a dummy plug. Fortunately, the old dummy plug from the 94 and J4 works! But —what about the audio? That one we also had to dope out. We had to use a dummy in the radio tuner audio socket.

You folks dwell so much on alignment, which is great, but how about the practical everyday side of service?

What sort of breakdown can you offer on the new model numbers? We will not be able to tell the year of production; although we seldom need to refer to model numbers, there comes a time when it is necessary.

Please accept this as "constructive criticism."

FRANK C. GUEST
Bob Lang Appliances
Trenton, New Jersey

We can really appreciate the problem that may be encountered in providing dummy plugs to

permit operation of the radio when the television chassis is removed from a combination. We are planning therefore, to have such information incorporated into future Service Manuals covering this type receiver.

For a breakdown of the model numbers of the present line of receivers refer to PR-2520E which contains the Service Reference Chart for the Philco "B" line television receivers. On pages 2 and 3 the various models are listed. The first two digits of the model number indicate the picture tube size. You will note that every model has the letter B in place of the 3rd digit. This letter indicates the year and consequently the present models are known as the "B" line of receivers. The remaining four digits of the number indicate the specific model. In some cases a letter may follow the last four digits to specify the cabinet color or type of wood, such as "L" for light colored cabinets or "W" which would indicate walnut. Some of the models may have the letter "U" preceding the last four digits. This would indicate that the model has a UHF adaptor factory installed. Model 22BU4100L illustrates the above points.



Just a few observations here that might interest the trade:

1. Why do Vitreous enamel type wire wound resistors exhibit e.m.f. after opening? Several of these resistors recently removed from receivers have been tested with a voltmeter of a V.T.V.M. and as much as 4 volts read across this type. Raising the temperature of the resistor raises the e.m.f. The voltage has a polarity and will read as much one way as the other. When paralleled the voltage is as with any other source of e.m.f. and when put in series the e.m.f. will add. Here we have put 10 of these resistors in series and got as much as 80 volts under a heat lamp. They have been substituted for bias cells and after months show no drop in e.m.f. The leakage resistance varies from 200 to 1,000 megohms.

2. What is the magnitude supposed to be of the waveform obtained in the syncroguide type of horizontal oscillator?

We have noticed that no manufacturer gives the voltage or per-

centage difference between the rounded, the valley, and the peak portions of the ideal waveform. It has been found that the best sync is obtained when there is a large difference and that when there is very little dip in the middle there are always sync complaints. It has also been found that best sync is obtained when the peak is very slightly higher than the rounded portion of the waveform.

3. Why are parts for receivers manufactured as late as 1949 being declared obsolete? I recently ordered a power transformer for a 1941 auto radio and was told that it was obsolete. Same with an antenna for a 1948 table radio order returned marked obsolete. Horizontal output transformer for 1949 television declared obsolete. Parts obtained from other sources in all cases mentioned above and repairs made satisfactorily to the customer, but like most people, such instances linger longer in the minds of man than all other occasions where rapid parts service has been rendered. Been in this racket (customer's idea) for 18 years and can still remember when no parts were obtainable from the manufacturer. But, a 1941 auto has lots of miles left in it and the radio should be repairable as long as the auto is, and a 1948 is only a five-year old radio now. Some of the old timers still come into the shop for service. Never a week goes by but what an old 19, 60 or 89 Philco model comes in for a minor repair. Needless to say, there is no bakelite bypass left in them but there are many Philco owners happier with these old models than there are with all the newer models sold to date. With a good outside antenna any 5 tube 1930 to 1934 Philco radio will outperform the best 5 tube made today, and require much, much less repair.

Thanks for allowing me a few minutes to blow off, and keep up the good work with your PFSS program.

ROLAND N. RICHARDSON
Gabards Ltd.
Griffin, Ga.

Many thanks for your comments, Rich, and we've scouted around and come up with what we hope are complete answers to your problems. To keep them straight, we'll number them in the same order that you numbered your questions. Here goes:

1. This type wire wound resistor

has been known to exhibit such effects, usually in cases of high humidity plus high saline atmosphere, which causes the resistor to form a very low voltage battery.

2. The Philco Model 51-T1601 employs a similar type of horizontal oscillator which produces the rounded and peaked waveform. The schematic diagram of this model is given on Pages 13 and 14 of PR-1907, the service manual. The voltage of the waveform is given in the schematic as 120 volts, while on Page 4 a descriptive adjustment is given so that the peaks are equal in amplitude.

3. To the best of our knowledge such parts can be provided. It may be possible that a substitution would be made in the interest of consolidation of our inventory. For example, there are cases where the same transformer has three different part numbers due to the fact that the lead link may vary in the different custom built set applications. In such a case we would drop two numbers and carry the transformer with the longest lead. This, however, would not be considered an obsolescence because actually you would be getting a transformer of the correct value and with slight alterations it could be easily installed.

CLASSIFIED ADS

FOR SALE:

76 sets of Howard Sam's Photo Facts with binders \$85.00, or would trade for a good 14 inch TV set or larger.

T. HOWARD SMITH
Radio Service PH649J
107 East 6th St., North
Brigham City, Utah

* * *

Slightly used Philco Model 7041 Linearity Generator. Purchased new November, 1952. What am I offered for it?

JOHN KOLANDER
Radio TV Service
Juda, Wisconsin

Philco Corporation accepts no responsibility for the contents of the classified advertisements or the goods mentioned therein. No correspondence relative to these advertisements or goods should be directed to the Philco Corporation.

Question

Please advise me on the following: In an RF 91 chassis and a J-1 deflection chassis the sync controls become critical and an overloading effect appears on the picture, under normal strength. On a weak signal, everything is normal. All tubes have been checked by substitution and are alright. What can be causing this condition?

St. Louis, Mo.

Answer

The problem that you have encountered is evidently due to trouble in the AGC circuit. We would suggest a Vacuum Tube Volt Meter check of the grids in the IF stages to which AGC voltage is applied. A negative lead from a 7.5 volt battery to the AGC plus with positive lead to chassis or ground to supply AGC voltage, then remove the AGC gate tube. Apply an oscilloscope to the AGC test jack and compare the waveform with that given in the Service Manual for this model receiver.

* * *

Question

We are having difficulty adapting Part No. 45-5033 volume control to the S-4627 radio. Is there some additional information that

you can give us to make a good installation?

STAN KOVACHS
Milwaukee, Wis.

Answer

Don't use the Part No. 45-5033 control. It was an "interim" substitute. The standard volume control for the S-4627 Part No. 33-5522 is now available from your Philco Distributor.

* * *

Question

How can I convert a Philco Model M-20 from a 50 cycle to a 60 cycle operation?

R. G. CASE
Albany, New York

Answer

Remove the turntable so as to expose the motor drive shaft. Carefully remove the three springs presently positioned on the two surfaces of the motor drive shaft and the one pulley drive shaft. These springs may be removed by using a pair of diagonal cutters, placing them so that the jaws straddle the surface under the bot-

tom of each spring and, using one of the motor mounting screws or some such convenient fulcrum point, force the spring up and off. It is also possible to grasp one end of the spring with a pair of cutters or long-nose pliers and unwind with an upward pulling motion. However, exercise care so as not to score the drive surfaces. Next place the 60 cycle spring (Part No. 56-7055-1) on the larger diameter of the motor drive shaft. This may be done by using a downward screwing motion. This spring should be positioned so that its top is flush with the stop in the drive shaft and so that its bottom does not interfere with the rubber drive belt. Replace the turntable. When replacing the turntable position the motor speed selector about one-half way between any two springs, this will cause the idler wheel to be partially retracted, so that when the turntable is replaced there will be no damage to the idler tire. This method of conversion also applies to the models M-22 and M-24.

10 DOLLAR AWARD!

Many requests have come in, through Shop Talk Corner, to see sample service bench set-ups and ideas for simplifying bench servicing in the SERVICEMAN, and this month's \$10.00 Idea is right down that alley!

It comes from Moe Schleicher of Schleicher Radio, White Plains, New York. Moe writes:

"At all three of our bench set-ups we use a small but powerful

permanent magnet for the ground connection to the chassis under test.

"The magnet connection means no more worries about where to attach the ground clip since the magnet holds on to any portion of the chassis in any position and never falls off or buckles up when turning the chassis over which happens too often with clips.

"We thought enough of this idea

to have special magnets made up with holes drilled through the center to facilitate connection to the ground wire.

"We have some made up with a female banana connection so that a ground connection can be plugged in at any point, and as short as one wishes. This is very good for alignment work where you need a short ground and it's impossible to get a clip connection on.

"Magnets salvaged from small PM speakers can be used."

And there it is, an idea proven by use to be good, a few minutes to write it down and send it in, and Moe Schleicher is \$10.00 richer!

Sure, you've got a couple of service tricks that you have been using for years—why not send them along? If you win, you'll get that \$10.00 and your idea might go a long way to help a fellow service tech out of a jam.

Send along those ideas to Philco Idea Award, Post Office Box 6738, Philadelphia 32, Pa.

