Tips and Jottings

for the Constructor

Shorts in Old A.C. Sets.

IN the older a.c. receivers the insulated leads from the power unit were often pressed tightly together under the chassis. The rubber insulation on these wires hardens and cracks with age, causing short circuits. Trouble originating from this source often is attributed to shorted condensers in error.

Trouble Light for Battery Sets

AN ordinary panel light and socket may be permanently mounted inside the cabinet at any convenient point where it will be found quite handy when it becomes necessary to change valves or look for trouble. Leads may be run from the A battery binding posts and a small switch placed in one side of the line, or flexible leads terminating in small spring clips will do.

Locating Trouble in Push-Pull Amplifier.

WHERE two type-245 valves are used in push-pull and one shows a blue glow, that valve may be defective, or overloaded because the other valve is defective. Both valves should be tested to determine which valve should be replaced.

Red Pencil Prevents Wiring Errors.

WHEN wiring a new circuit it is a good idea to have a red pencil handy and draw a line over each connection in the blue-print as you complete the corresponding lead in the set. In this way a constant check may be kept on the amount of work completed, and no connections will be overlooked. By adopting this scheme needless checking is avoided as well as loss through damage to valves and parts.

Drilling Bakelite.

DRILLS dull quickly when used on bakelite and similar materials, but their cutting edge will last much longer if the end of the drill is run through a cake of soap at intervals. Lubricated in this way the work is not spoiled, but the drill cuts a clean polished hole through the material. A flat piece of hardwood should be placed under the bakelite panel while drilling so that the hole will have a clean edge on the underside.

An Aid in Soldering Small Parts.

WHEN two small parts are to be soldered together, it frequently happens that, while heating one part, a previously soldered joint becomes sufficiently heated to come loose. Overheating may be controlled by using a thin sheet of copper upon which to lay the work. Sheet aluminium is also suitable for the purpose. A sheet of metal, about 1ft. square, should be employed, and a hole is drilled in one corner for hanging the sheet on a nail when it is not in use.

How to Strip Insulation From Wire.

WHEN building small coils, or wiring a circuit in busbar fashion, the experimenter sometimes requires a length of bare wire. If this is not at hand, it may be prepared by stripping the cotton insulation from the proper-size wire. To remove the insulation quickly, fasten one end of the wire to a nail and rub the insulation with a strip of medium sandpaper. Heavier wire, covered with rubber or fabric insulation, may be rolled into a coil and placed in a fire, and after the insulation has been burned off the wire is brightened with sandpaper.

Removing Film from Antenna Insulators.

WITHIN a few months' time antenna insulators will gather a film of soot that will lower their efficiency. This is true of any type of insulator, and the lowered insulating value is quickly noticed in amateur transmitting installations. The effect in standard broadcast receivers is noted by the increasing difficulty in tuning in distant stations. It is a good plan to lower the antenna at least once every six months and wash the insulators with warm water or carbon tetrachloride, after which they should be polished with a soft rag. At this time, the antenna should be inspected for bad connections, and the guy wires and lead-in checked.

Adjusting Screws.

SOME screws in a receiver do not need to be permanently locked in position; in fact, they should work easily in their threads, and it is worth while giving such screws a dressing of lubricant before screwing them in. Screw-adjusted components, for example, will work much more sweetly if you put a little graphite on the thread. If you cannot obtain the graphite as such, grind up the lead of a very soft (BBB) pencil finely. Add the smallest spot of thin oil, just enough to bind the particles together into a paste.

Smear a very little of this paste on the thread of any screw, in wood, ebonite or metal, which you may wish to use in operating or to remove again later. You can then be certain that it will not stick firmly in position. The lubricant will also save wear on fragile threads, such as those cut in ebonite or bakelite.

Security, when you wish your bolts and nuts to remain firm indefinitely, can be ensured by the application of shellac varnish after tightening up. Apply the varnish with a brush over both bolt and nut after assembling, warming the metal if possible to make the varnish run into the threads more readily. Do not touch the varnish until it has set hard.

If you should need to release the nut at any time, warm it first with a hot soldering iron, when the varnish will soften. Methylated spirit dabbed on with a brush will have a similar effect, if the nut is inaccessible for the hot iron.

Machining Aluminium Radio Panels.

A PLEASING machine finish can be given to aluminium radio panels with a round piece of wood and a drill. A piece of broom handle or dowel stock, about 3in. long, may be used. A large nail, with the head cut off so that it will fit the drill chuck, is driven into the centre at one end and a piece of fine emery paper is fastened to the other, where it is held by a rubber band. A hand drill can be used, but a small electric drill is preferable. The panel is placed on a flat table and clamped down. The emery-covered end of the tool is brought firmly against it and spun rapidly, thus removing the shiny aluminium surface in a circle as large as the end of the stick. The process is repeated until the entire panel is covered with these overlapping circles.

DO not make marks on the back of the panel with a lead pencil, as the pencil mark affords a high resistance conductive path on the ebonite surface, and impairs its insulation.

WHEN looking for a cheap cabinet or for a good method of staining a box, do not forget the possibilities of leatherette or American cloth, which, glued down carefully, is capable of giving very pleasing effects.

WHEN two equal resistances are connected in series, the total resistance is doubled. When two equal resistances are connected in parallel with each other, the total resistance is halved.

DO not drop your telephones or knock them unnecessarily, as the permanent magnets of these (or of loudspeakers) are injured by mechanical shocks.

WHEN making your own coils from a description, be very careful that the direction of winding is as indicated, or otherwise you may fail to get reaction effects.

IF for any reason it is necessary to remove the diaphragm from the telephone earpiece, it should be slid off sideways, and not pulled up from the magnets, as this is liable to bend it.

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