

Heathkit of the Month:
by Bob Eckweiler, AF6C



The Heath GH-17 Soldering Iron Family.

Introduction:

One tool found in most ham shacks is the soldering iron. There are many different models of irons that have become available over the years. Many just plug in and you adjust the heat by using different elements that screw into the handle. Tips are usually interchangeable too. Newer soldering "stations" allow you to adjust the heat and some even use closed-loop temperature feedback to keep the tip temperature constant.

Heathkit, over a period of about seventeen years (1965 to 1981), produced a series of three simple soldering "stations" that had switch selectable temperatures. These soldering irons were based on a 6-volt 25-watt General Electric soldering handle that took screw-in elements with integral tips.



GH-52 Soldering Iron:

The first soldering iron kit was the GH-52; it appeared in early 1965. The GH-52 has a five-position temperature switch on the front panel with positions marked as **OFF - STBY - LOW**

- **MED - HIGH**. The front panel also has a neon power light to indicate when the iron is on. I was unable to find a schematic of the GH-52, but I expect the **STBY** position switched a diode into the circuit to drop the iron duty cycle in half. The March 1965 Heathkit catalog gave the following information for the GH-52:

"...Features 6-volt, 25-watt GE midget-type industrial soldering iron with an iron-clad tip...". "Provides selection of 8 ranges...". "Includes transformer-operated power supply & protective metal cage."

The GH-52 kit cost \$14.95 in the March 1965 Heathkit catalog.

I was unable to find a schematic or manual for the GH-52 so I can't say how the additional four temperatures were selected. If anyone has a manual or schematic, I'd be interested in talking with you or getting a scan of the schematic.

GH-17 Soldering Iron:

Heathkit sold the GH-52 for about a year-and-a-quarter before it was replaced by the GH-17. The GH-17 looks closely like the GH-52 except that it has three heat ranges with no **STBY** position on the switch. The neon ON light has moved from above the switch to the lower right corner of the front panel. Also, the soldering tip holder bracket within the cage now allows the iron to be placed under the bracket with the handle held in a cutout and the tip projecting beyond the rear of the cage. This allows "handsfree" soldering; that is you can use both hands for soldering and not holding the iron. This can be useful when soldering connectors on cables.

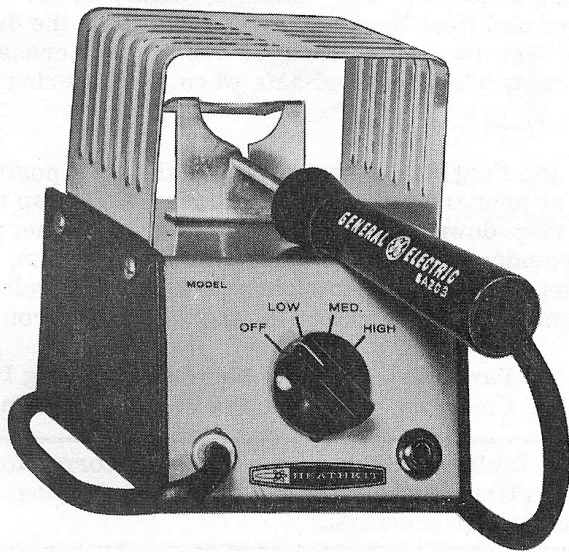
Electrically, the GH-17 uses a transformer with a tapped primary to adjust the secondary voltage that powers the iron. The primary taps provide approximately 4.5, 5.5 or 6.5 volts to the heating element in the three switch settings, corresponding to about 12, 18, or 25 watts. The neon power lamp is across the full primary winding and thus will glow at a differ-

ent intensity for each switch setting, being brightest when on high. A figure shows the schematic of the GH-17.

Three tips were available for the GD-17 these tips also fit the GH-52. These tips included the heating element. They are listed in the back of the GH-17 manual and cost \$3.99 each in 1967:

SOLDERING IRON

Model GH-17



Heath # Description

- GDP-317 1/4" Chisel (Beveled) Tip (GE Part # 6A211 - Provided)
- GDP-327 3/16" Pyramid Tip (available accessory)
- GDP-337 3/16" Chisel Tip (available accessory)

GH-17A Soldering Iron:

Sometime before late 1973 the GH-17 was replaced with the GH-17A. The GH-17A looks identical to the GH-17 except for one change. It now has a three wire power cord that results in the grounding of the soldering iron cabinet. This was done for safety reasons and UL codes. The price increased to \$15.95. The cost of additional tips also went up to \$5.45 for the standard tip and \$5.75 for the accessory tips.

The GH-17 manual gives the following specifications for the kit:

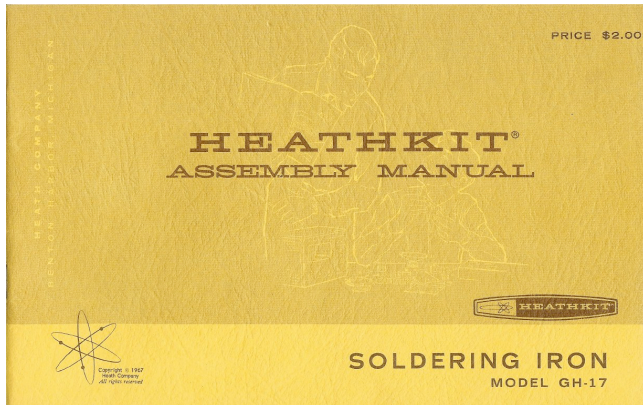
- Iron Type: 6-volt, 25-watt element (nom.) with 1/4" beveled, iron-clad tip.
- Heat ranges: Three different heat ranges are available.
- Switch: Heat Range Switch with OFF, LOW, MED, and HIGH positions.
- Transformer: The transformer has tapped primary windings.
- Power Rqmts.: 105 to 130 VAC 50/60 Hz.
- Iron Dimen.: 8" long with 6 foot heavy cord.
- Case Dimen.: 5-1/8" H x 3-5/8" W x 5-1/2" D.
- Net Weight: 3 lbs.

The GH-17A stayed a viable Heathkit until the early eighties. At that time Heath started selling a Weller soldering station (assembled) in their catalog. The GH-17A went through numerous price changes, selling for \$22.95 in 1976, \$24.95 in 1977 and \$39.95 in the Christmas 1981 Catalog. The kit no longer appeared in the Christmas 1983 catalog.

Using the GH-17

The Heathkit iron was a pleasure to use. It was light weight and easy to handle. The heavy six-foot cord didn't kink easily and the wooden handle (also a GE product) was light and easy to grasp. The fact that the heating element was out at the tip and about 2 inches from the handle kept the handle cool unlike many earlier soldering irons. The iron's three temperatures were handy. **LOW** was for working on printed circuit boards and small heat sensitive parts. The low setting was also used for standby if you had a few other tasks to accomplish before resuming soldering. **MED**(ium) was best for

point-to-point wiring and soldering to those terminal lug strips Heathkit used in many of their products. The setting also provided a little extra heat when soldering to a printed circuit ground-plane. **HIGH** was for the heavy soldering tasks such as electrolytic can ground terminals, direct connections to the chassis, those heavy filament transformer leads, etc.



The GH-17 was used for building many products over the years, and mine still works well. Unfortunately, the tip is well worn and replacement tips are no longer available that I could find. Every once and a while one does show up on eBay. In hindsight it would have been smart to buy some extra tips while they were available. The two smaller accessory tips would still be quite useable in today's transistorized world.

Summary:

The Heathkit GH-17 and its cousins were one of those simple inexpensive one-evening kits that were fun to put together and became very useful. The kit was easy to assemble and the one flaw with the kit was that you needed a soldering iron to put it together! To assemble the soldering iron I used a soldering iron that was on its last legs and died shortly after creating its replacement. Shortly after the iron was assembled it was borrowed by a fellow ham who ended up using it to build his own GH-17. Now, one would think that a flaw with the kit was that you needed a soldering iron to put it together. However, Heath has instructions for assembling the kit using the kit itself to do the job!

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A Request:

As a longtime Heathkit fan I'm enjoying writing these articles. Sometimes it's difficult to give prices and dates because of my limited Heathkit catalog resources. If you have any old Heathkit catalogs you are throwing out please send them my way. If you have some catalogs that you don't want to depart with that's fine too. Let me know the ones you have and I'll contact you if I need information out of it for a specific kit. Generally, this means whether the kit existed in the catalog and what the cost was. Occasionally, if I can't find more information elsewhere I'll ask if you for the description. The same goes for Heathkit manuals. I'll try to include in a future article a list of catalogs I have so you can contact me if I can be of assistance.

If there is a Heathkit you'd like to see featured in this column, please let me know and I'll consider it if I can find enough information.

73, from AF6C



Remember if you come across any old Heathkit Manuals or Catalogs that you do not need, please pass them along to me.

Thanks - AF6C

This article originally appeared in the June 2008 issue of RF, the newsletter of the Orange County Amateur Radio Club - W6ZE.