

Heathkit of the Month #28:
by Bob Eckweiler, AF6C



Heathkit GU-1810
Log Splitter.

Introduction:

This is April and even though the first has past, it is a good month to talk about one of the more esoteric kits Heathkit produced. Instead of volts and amps this one has specifications that are given in PSI, tons of force, gallons per minute and horsepower.

While not a kit that most hams would own, those living in rural wooded areas (both hams and non-hams) might find this a godsend, especially if they have a wood burning stove or fireplace. The GU-1810 splits fire wood and can help keep the rack in the backyard filled with wood, split, aged and ready to burn.

The Heathkit GU-1810 log splitter was introduced in 1981 at a price of \$549.95 + shipping. Since the shipping weight of the kit was 206 lbs., it had to be delivered Motor Freight, which added to the cost significantly. You could also purchase a GU-1810 from one of the Heathkit retail stores. In 1983 the retail store price was the same as the mail order price, which had inflated to \$629.95. The kit remained in production until the mid 80's, and surprisingly, it was listed in the "Energy Conservation" section of the Heathkit catalogs.

Description:

The GU-1810 measures 54" long by 31" in width and height, and is

claimed to fit "neatly" into a station wagon or pickup truck. The assembly has two wheels on the heavy end so it can be moved and positioned easily by lifting up the other end. The heavy end holds most of the mechanical parts and the whole unit is balanced to make the light end easy to manage. Extending from the wheeled end is a log cradle made of tubular steel pipes that end in a triple-angle steel wedge.

A 5 horsepower Tecumseh four-cycle, high torque gasoline engine powers a 4.5 gallon per minute hydraulic pump. The pump drives an hydraulic actuator that operates a ram that moves along the log cradle. A three position hydraulic hand lever controls the movement of the ram along the log cradle. The lever has three positions: Forward (non-locking), neu-



Stack wood quicker with a Heathkit Log Splitter

\$629⁹⁵

- Splits logs faster than by hand, cuts worktime by hours
- Portable and weight-balanced, wheels to any worksite
- Save money – split wood you cut or buy uncut wood

Finally you can enjoy your fireplace or woodstove and put an end to the back-breaking drudgery of splitting timber by hand. With the Heathkit Log Splitter you can split more wood in less time, and with far less physical labor!

No more wobbling logs or strenuous stooping: A three-position one-hand lever has non-locking forward, neutral and detented reverse with 24-second full cycle automatic return to ready the next log at a comfortable 15-inch work level. The GU-1810 is equipped with a five horsepower Tecumseh gas engine and a pressure relief-protected hydraulic pump. Together, they generate 1550 p.s.i. to ram up to a 21" log into the steel wedge with an irresistible *ten tons of force*. Build it all in one night, split a cord of wood the very next day! At only 31" H x 31" W x 54" L, it fits neatly into a car trunk, station wagon or pickup truck.

Kit GU-1810, Shpg. wt. 210 lbs. Motor Freight 629.95

Ad for the GU-1810 - 1983 Heathkit Christmas Catalog

tral, and reverse (with a detent allowing automatic return of the ram).

To split logs the engine is started and a log is placed lengthwise on the log cradle. The lever is then moved and held in the forward position and the ram moves, pressing against the log causing it to slide into the splitting wedge. The ram exerts about 10 tons of force and the wood splits easily into two pieces. Once the log is split the lever can be moved to reverse. If left there in the detent the ram will retract fully and automatically stop. If you let go of the lever when in the forward position the ram stops where it is. Each half piece can then be split again into a quarter log.

Hydraulics:

The splitter works on the principle of hydraulics. It is a well known fact that most fluids, water included, are not compressible to any degree. The hydraulic pump raises the pressure of the hydraulic fluid up to about 1,550 pounds per square inch (PSI) but the volume of the fluid stays basically the same. When the hydraulic lever is in the neutral position the fluid bypasses the actuator and it does not move. When the lever is moved to the forward position hydraulic fluid is let into one side of the actuator chamber. The piston has a surface area of about 13 square inches so the 1,550 PSI of hydraulic pressure slowly moves the ram with a force of about 20,000 lbs. The pump is protected from over-pressure by a relief valve that will bypass any excessive pressure from the high pressure side of the pump to the low pressure side.

Since air is highly compressible, all air must be removed to make the system perform properly. It's akin to bleeding the brakes on a car. The hydraulic fluid used in the GU-1810 is automatic transmission fluid (ATF) available almost anywhere. The fluid is not supplied by Heathkit and must be bought separately.

Specifications:

Engine: Tecumseh four-cycle, high torque gasoline engine.

Fuel Tank: One-gallon capacity. About 1 hour of operation.

Fuel: Gasoline - regular or unleaded.

Hyd. Pump: 4.5 GPM, 1550 PSI with safety pressure relief valve.

Hyd. fluid: Standard automobile automatic transmission fluid (not supplied).

Capacity: 7 quarts hydraulic fluid.

Ram force: 10 tons.

Log length: 21" max.

Size: 31" H x 31" W x 54" L

Log cradle: 15" work height.

Kit Building:

I'm the first to admit that I never got a chance to build this kit. I did see one in New England some years ago; and while the owner did show it to me, he didn't volunteer to fire it up. It was late summer and his wood supply was up to his storage limit. He did tell me he brings it out in the winter after a storm if he finds some good fallen wood. Hmm he has to cut that wood up first; did Heathkit make a chain saw?

From what I could glean, the kit was easy to assemble. It could be "built in just one evening and be ready to split wood the next day". The engine, pump and hydraulic actuator came pre-assembled. Kit building consisted of bolting together the parts and connecting some high pressure hoses.

Can you name any other gasoline based Heathkits? I know of at least three others.

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 - Bob AF6C

This article originally appeared in the April 2011 issue of RF, the newsletter of the Orange County Amateur Radio Club - W6ZE.