Heater Valve Fix, Revisited

By Mike Michels

In the September/October Tiger Tales I wrote about ways to prevent heater valve failures in the Mk 1A and Mk 2 push/pull valves. Sadly, these techniques have not been effective and your author has finally given up on trying to make the stock design work. As noted in the article, the diaphragm around the valve's pushrod is prone to rupturing no matter how carefully it's treated. It's no exaggeration to say it has a 100% failure rate and completely without warning.

An alternative is the rotary type found in Mk 1 Tigers, but the hot/cold directions are reversed from the Mk 1A / Mk 2 dash control. It also seems vulnerable to failure as it has a similar diaphragm. I started looking for universal heater valves online and found most of those were linear, with inflow on the same axis as outflow. There was one that matched the 90 degree angle needed for the Tiger. Four Seasons part number 74648. It seems readily available from a number of sources and I found it on Amazon for $36. The very positive reviews also revealed that this valve is popular with Triumph owners, and even included a link to a how-to for a TR-4, although Triumph dash controls share the same hot/cold orientation with Mk 1 Tigers.

It has no diaphragm and works like a simple ball valve found in domestic plumbing. Even better, it uses a rotary motion that is smooth and requires minimum force. There are a couple of minor drawbacks. Inflow and outflow are for 5/8 inch hose, requiring adapter barbs. And on/off directions are reversed from the dash control. If that doesn't bother you, it's a very simple installation. There's a clamp for the heater cable's jacket that's right in line with the stock location

Being a persnickety type, I just couldn't live with reversed hot and cold. Fortunately, the rotary lever has an arm 180 degrees opposite that travels the correct way. All it needs is a mirror image pin for the ring connector to slip on to it. Drilling for a pin would require bending the arm and potentially damaging the bearing and seal. Instead, I made an auxiliary arm with a # 10 machine screw

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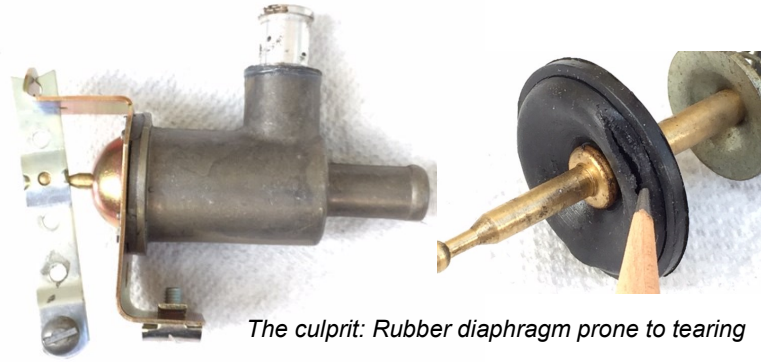
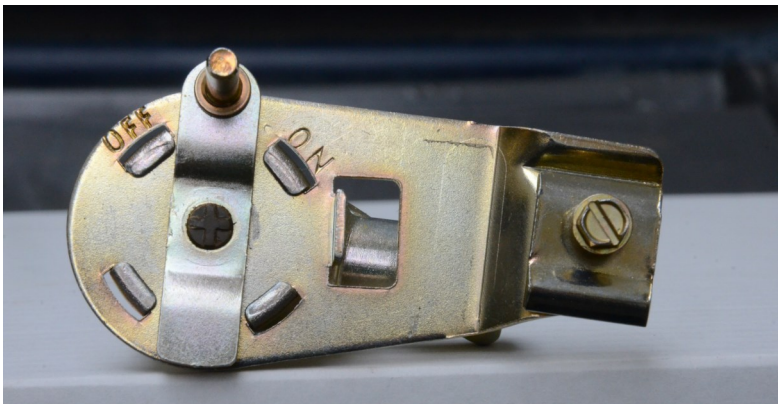
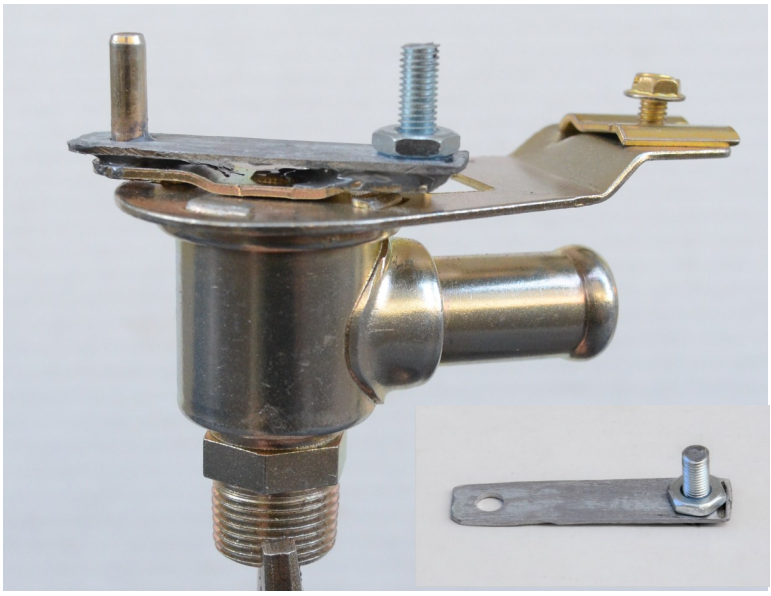


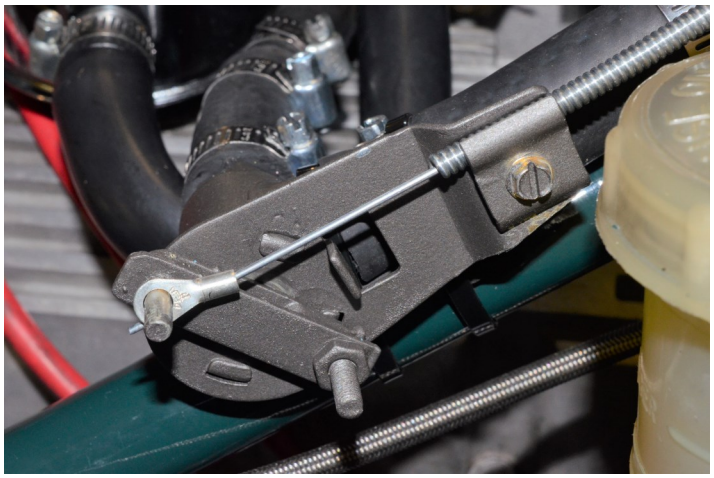
The culprit: Rubber diaphragm prone to tearing

Above and below: Universal replacement heater valve uses ball valve and is similar size and configuration to stock valve.

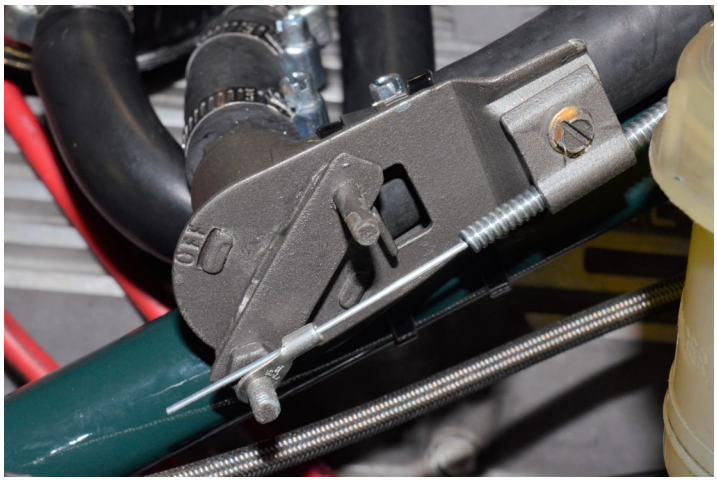




Above: Metal strip with machine screw epoxied to the rotary lever creates additional pin at 180 degrees to reverse cable push/pull directions.



The valve's standard cable pin works well, but hot and cold valve positions are reversed from dashboard markings.



Added pin 180 degrees opposite allows cable movement to match dashboard hot and cold positions

to duplicate the pin and epoxied in place with JB metal weld. The clamp for the cable outer jacket was reversed to align it with the new pin. After adjustment to assure a positive "off" position, I crimped and soldered an 18-22 gauge ring connector to the cable's inner wire and it slipped right on to the valve's operating pin. So far, so good. At least it's less expensive than replacing the stock valve every year. ●

Mystery Tool Challenge

Who hasn't had to modify or downright mutilate a perfectly good tool to work on a Tiger. Or invented a tool to get the job done and foolishly thought "I could sell these."

Tiger Tales announces the Mystery Tool Challenge. We'll post a photo or photos contributed by C.A.T. members of an implement that is not found at Harbor Freight or anywhere else, for good reasons. Guess what it's used for and you will win absolutely nothing but the benefit of another mechanic's ingenuity. We'll keep the identity of the inventors confidential. First, to eliminate any clues about that person's talents. More importantly, to protect him or her from ridicule, harassment or bribery.

Here are the first two entries. Send your guesses to catigerevents@gmail.com. They will be tabulated and published in the next issue. (I know, that's two months away, but C.A.T. members aren't known for speedy communications). Who knows, we might discover additional uses for this month's Mystery Tool. Meanwhile, feel free to send a picture of your creation with the understanding I can't use them all and it will be treated with the utmost confidentiality. — Editor

Mystery Tool A

Mystery Tool B