

## **Ferrari 328 Heater Core Removal & Repair**

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March 2003*

Having removed the cowl cover to inspect the RH heater duct control motor, I noticed at some undetermined point in the past (? rationale) the LH heater had been completely bypassed. Inflow and outflow hoses were neatly connected together with aluminum splice. In restoring to proper condition disassembly & repair process as follows:

*(Example is late-88 car but all 328s are identical)*

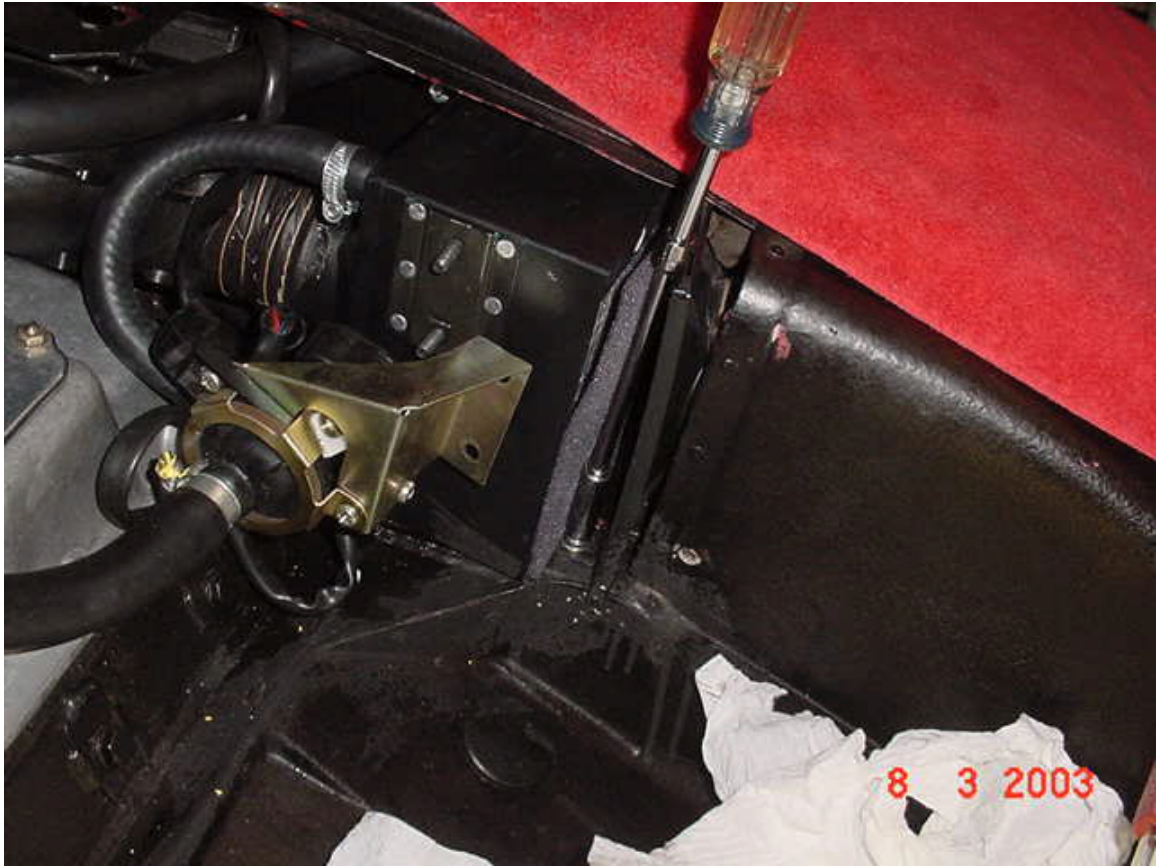
### Tools required:

7mm & 10mm 6pt 1/4" drive sockets  
1/4" drive nut driver  
10mm combination wrench  
Small Phillips screwdriver  
Towels or paper towels  
Mity-Vac vacuum pump set  
Vacuum gauge  
Vise-grips (1-2 sets medium size)  
Masking tape  
JB-Weld or Super Glue (possibly)  
Bin to store screws & nuts

First open the front hood & put soft towels down to protect each fender. Remove spare wheel/tools & set aside. The upper fiberglass cowl cover is held in place by small black Phillips screws. Two longer screws & flat washers attach front lower corners to inner fender well. Carefully lift panel off (corners are brittle & chip easily):



The heater cores are located in the square black boxes on either side. Remove the small 10mm cad-plated nut holding the lower inner corner of the box (wiggle heater core to relieve pressure of bracket on threads & readily unscrews with fingers):



Remove heater control valve bracket nuts from medially side studs on box. Without disengaging from fabric inlet hose from fender, push “cover” towards front of car to separate from box. A thin grey foam filter (visible in previous picture) protects core, but may have disintegrated. Put towels in spare tire well. I clamped a Vise-Grip (with tape over jaws) to compress hose from heater valve before disconnecting (thus spill minimal coolant). Undo hose clamp with 7mm socket driver and gently disengage from inflow tube. Remember antifreeze can mar paint.

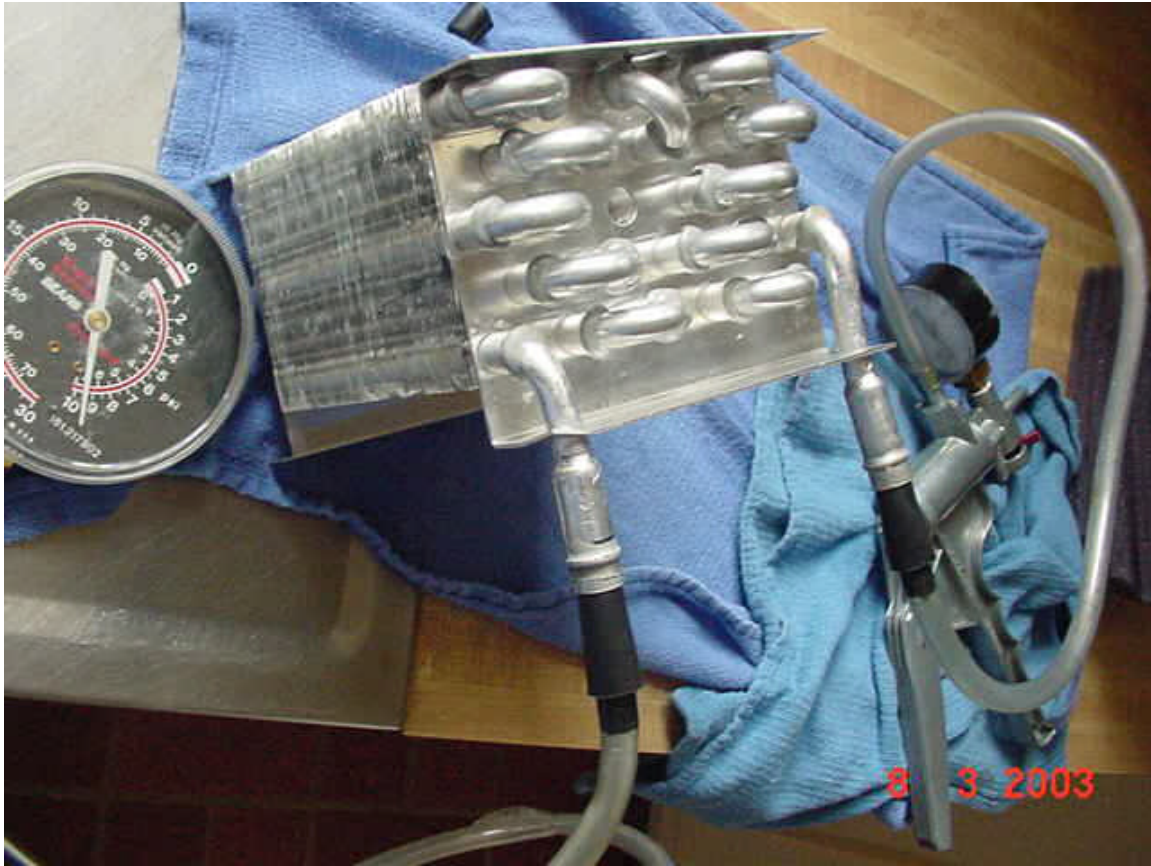


Push the heater box forward to separate from the bellows hose Y-ducting leading into the cockpit vent system. Wiggle the heater box medially to access the outflow hose. Again, compress with tape-lined Vise-Grips and remove clamp & hose. At this point heater box can be removed to bench. That small rubber wedge that falls out fits between the top of the heater box and underside of the front fender.

The heater core is delicate aluminum and as such be gentle extracting from plastic heater box:



Both inflow/outflow tubes & upper recirculation tubes are glued in place with epoxy. I used a Mity-Vac pump top pressurize outflow to 9-10 psi and attached vaccum gauge to inflow:



My core was initially intact but process of removal loosened the inflow tube (discovered by submerging in large pan of water). As the tube was only slightly loose & I wasn't sure how to remove epoxy without damaging aluminum core tubing (partially successful heating with soldering iron), I ran a bead of superglue around the tubing perimeter & let dry for 30min. Reinforcing with JB weld might also be a good choice (something similar appears to have been used in initial assembly).



Re-pressurization confirmed core was airtight. I also ran water through until outflow was clear.

Carefully replace core into heater box. I purchased new 1/4" grey foam material from Grainger; dimensions are 6.5"x5" but unfortunately had to purchase 25ft roll – more than I'll ever need – drop me an email: [carlrosemd@hotmail.com](mailto:carlrosemd@hotmail.com) be happy to send you a set.

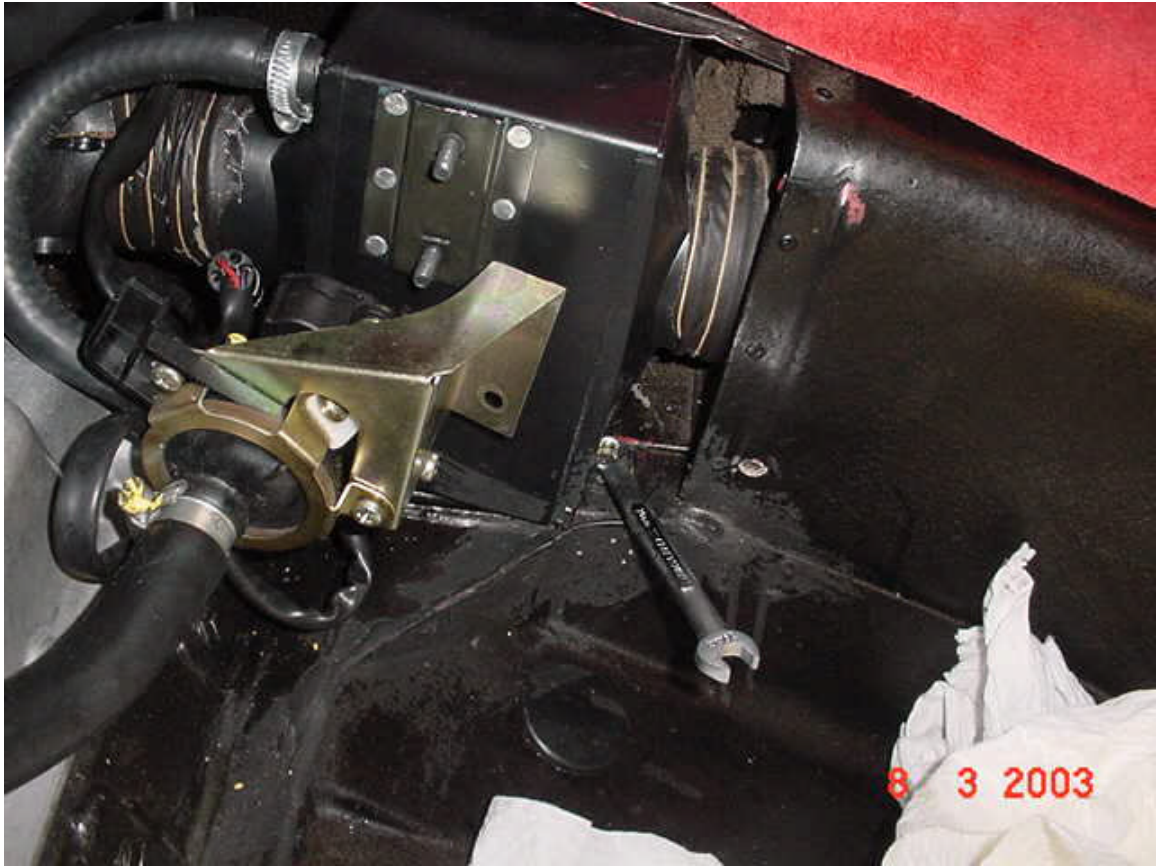


Replacement is essentially reverse of removal. I connected the outer outflow hose then used the Mity-Vac to essentially “vacuum” the coolant back through the core to expedite subsequently bleeding cooling system. Removed pump, rapidly put my finger over the tubing, then re-connected hose to heater valve.





Tighten clamps then wiggle back into place. I also found it easier to assemble the “front” to the heater box prior to re-attaching to body with 10mm bolt. The cockpit duct bellows hose can also prove a challenge to reinstall.





Prior to replacing the fiberglass cowl cover start the car. Turn both heaters to full (open valves) and bleed system. I left the radiator cap off until warm & bled the radiator valve (knurled thumbscrew at top right). I did have to add approximately 1-2 quarts distilled water to accommodate heater core in circuit. Allow engine to cool & fill reservoir tank to 6cm below filler neck. Now is also an opportune time to check brake fluid reservoir, washer coolant reservoir (RH inner fender well) and spare tire pressure. Consider also inspecting/cleaning battery terminals (under cover plate – held by two knurled nuts – in bottom of wheel well). Finish by replacing cowl cover and spare.

New heater cores listed for \$5-600. A good local radiator or air conditioning shop experienced in aluminum repair should be able to repair/recondition original if required.