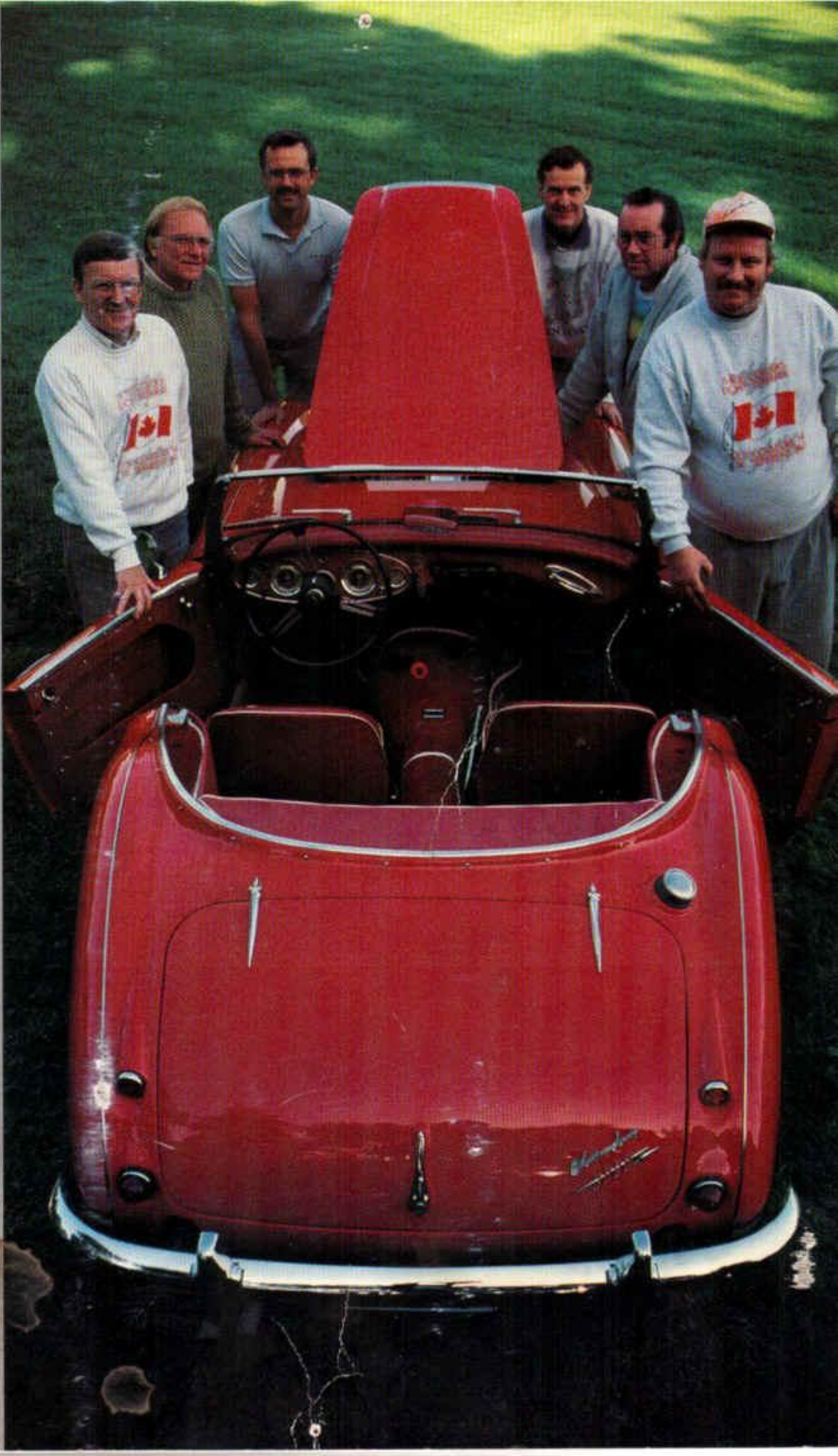


CHALLENGER

THE AUSTIN HEALEY CLUB OF AMERICA, INC.

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How to Rebuild a Healey - in Thirty Easy Lessons

It sounded too good to be true...a restoration shop offering a course on how to restore a big Healey. It all started in late October of 1991. The course was scheduled for 3 hours every Saturday for 26 weeks. We would disassemble, repair, reassemble, fit, finish, and



Don Roberts
Southern Ontario

finally drive the car.

The "student body" for this course included Scott Morris, Russ Bamsey, Ross Campbell, Phil Anderson, and Don Roberts with the instructor being Martin Jansen of Jule Enterprises in Milton Ontario.

There we stood on that first Saturday morning staring at that red hulk. Supposedly it was a 1960 BT7. For the last 22 years it sat in a garden in Scarborough Ontario. The six lights strategically placed inside the great gapping holes that were slashed in the front fenders clearly told us that this Healey had lived a cruel life. Wooden floor boards seemed to indicate that a previous owner had attempted to convert the car to a Morgan. None of us had restored a Healey before, but we all knew this car was in

rough shape. To most of us it didn't qualify as a decent parts car.

By this time we were all very sceptical that the car would ever see the road again or that the restoration class would be completed successfully. Our scepticism grew as we introduced ourselves. There was an accountant, a teacher, a salesman, a swimming pool contractor, and a machinist. Perhaps one of the five of us had a profession that was remotely applicable to automotive restoration.

We talked briefly about why we signed up for the restoration class. Russ had repaired several cars and restored a Model T but before he really got deep into his next project, a BJ7, he decided to gain some insight through the class. Ross was in big trouble. He had the bulkheads off his BN7 MK I and things were not going together as



easily as they came apart. Phil and Don both had BJ8s that had sat around for a long time and this class seemed to be exactly what they needed to take that big step, to start restoring their cars. Scott owned a BT7 tri-carb and he wanted to understand what made the car tick (especially the smoke coming out of

the trunk).

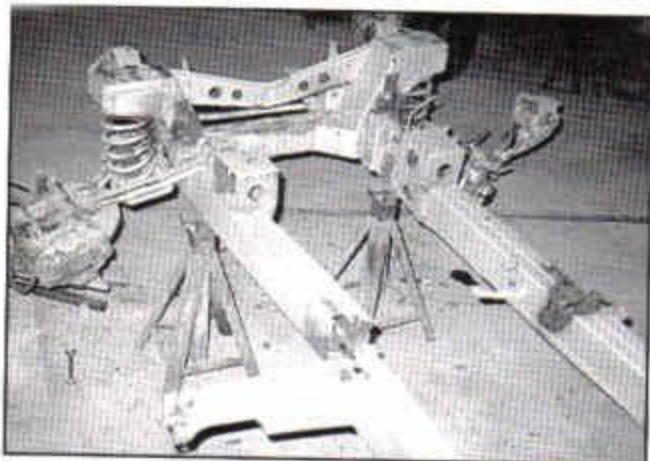
Finally it was time to get started. Our instructor, Martin Jansen, confirmed this was a hands-on course. Then to our surprise he fired up the engine (the points had been replaced). We started to change our mind. Perhaps there was hope for this old Healey after all.

Martin explained each step including helpful tips on how to remove parts that are difficult to remove... without damaging them. We eagerly started to take the car apart piece by piece. As the interior (what there was of it), fenders, and shrouds were removed, the real condition of the car could be seen. A lot of the sub-structure wasn't rusty... it just wasn't there! Finally with the wiring harness, engine, and transmission removed, the car was ready to be sent out for sandblasting.

The sub-structure we got back was certainly nice and shiny but there were a lot of holes. Before we got going again it was time for a side lesson on how to use the torches. That done we started to cut the bulkheads off the chassis and finally the suspension and steering gear were

Top: Don starts to take the hood off. Once the body is off, Bruce (one of the part-time students) and Ross look at the rusted hulk.
Bottom: Ross and Russ start to remove carbs and other engine parts that will be rebuilt.



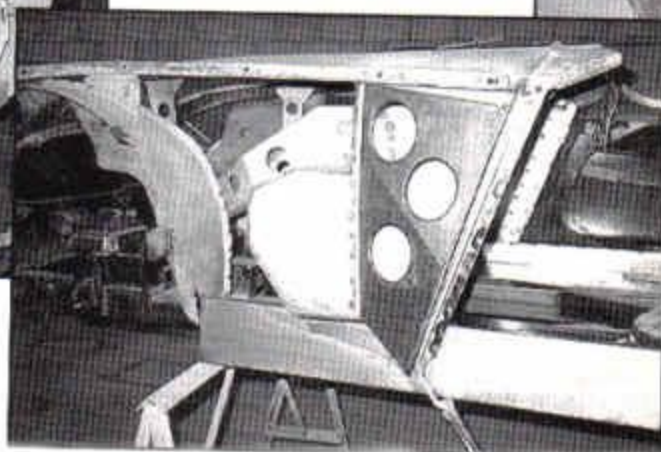


removed.

All the students were surprised at the condition of the old chassis. There were stress cracks at the engine mount towers. One main rail was broken through at the firewall and lace thin toward the engine compartment. The two main rails were approximately two inches closer to each other than when it left the factory. They certainly had acquired lots of distortion over the years. On the class car we would be using a Jule chassis. But before we got to that point there was a lot of discussion about the pros and cons of a replacement chassis. We all felt that Martin was very objective at this point and presented both sides of the story. As part of the discussion, we cut the old chassis in half on the good rail at a point where it seemed very solid. Contrary to what we had all been led to believe, it was very obvious that Healey chassis do rust from the inside out!

Before we could start the repair it was time for another side lesson, this one on the use of the MIG welder. That under our belts the pieces of the new chassis were put into the jig and it was welded together. Once the chassis was out of the jig, the door sills were positioned and welded in place.

Next we learned how to manufacture some of the basic panels such as toe boards. This included measuring, making the patterns, cutting



and bending. After the panels were made it was time to cut the old panels from the bulkheads and fit and weld in the new. New front door pillars were manufactured and the complete bulkhead corner replaced. It's unbelievable how many times those doors had to be taken on and off to get the front pillars fitted correctly.

With the bulkheads repaired, the next step was to graft them onto the chassis. Since our chassis was known to be straight, true, and dimensionally correct, it was a simple matter to clamp the bulkheads in place, check the measurements to ensure the position was correct, and weld them in place.

Now that the frame was back together, it was on to the body panels. The shrouds were



sent out to a local shop that specializes in aluminum work. Our job was to repair the steel panels. This included hammering out some dents (we all need more practice on that skill!) plus manufacturing new skins to replace the rotten portions of the panels. The fender and door skins were cut off just below the crease line and the newly manufactured pieces welded into place. New rear door pillars and rocker panels were purchased and installed. Again, there was a lot of assembly and disassembly to ensure these were welded in the correct position. The shrouds and body panels were fitted with minor

Top left: the frame was in bad shape with stress cracks and one of the rails rusted through. Above: Phil, Russ, Don and Martin stand between two cars that are under restoration while they discuss the next steps on the class car (bottom left).



Far left: view of the primed substructure. Center left: many of the panels including the complete door pillar assembly were made and replaced. Above: the door panels were cut off just below the crease line and new panels manufactured the welded in place.



adjustments being made.

The sub-structure and inner side of the panels were painted (not by the students). New brake lines, gas lines, and wiring harnesses were installed. Under the hood electrics, instrument panel, and suspension

components were checked, repaired, and put back onto the car and the connections made.

The engine, transmission, and overdrive were put on a test stand and checked out. The transmission was torn down and rebuilt. There were lots of interesting pieces in there! The engine tested good so it wasn't torn apart. However, we did remove and rebuild the distributor and carbs. Finally the engine transmission and overdrive were installed and the rolling chassis was complete.

All the body panels were bolted on one last time and the car sent out for painting. When we

Above: new wiring harness was installed and all then connections made. Right: as we install the interior, Martin checks out some of our progress. Below: when we arrived the next Saturday morning we were all amazed at the car we had rebuilt!

far exceeded our expectations. WE had built the best driving Healey any of us had ever been in. This was an extremely solid, well-finished car. Russ exclaimed this is one of the nicest Healeys in Southern Ontario. We all agreed, although we are a little biased.

As we reflect back, each of us had a lot of fun and learned a lot. We know some of the things we did are not 100% original, but we know why we modified those items such as stainless steel calliper pistons, throttle linkage mounts, and chassis. As we restore our cars we will be in a position to make informed decisions on any



modifications we do. We also realize how much work Martin did between classes. All the grunt work of cleaning, sanding, and preparing so that the course ran smoothly and the student time focused on learning and applying new skills. Thanks from all of us.

And what's happening to each of the students' cars? Russ is still building a garage for his restoration to take place in. Ross has completed the chassis graft and now has a rolling chassis and is into the panel work. Phil has little pieces all over the barn and is getting ready to try the chassis graft. Don has pieces all over the place and by the time this article is published should have the rolling chassis complete. Scott is still driving his car...but next time the flames come out of the trunk - let it burn, we know we can rebuild it!

arrived the next Saturday morning we all stood in amazement at the car we had rebuilt. We had come a long way, but there was still more to do.

Back to work we went, installing the trim and lights. Then came the interior including carpets, seats, and the various trim pieces. We were so proud of our work we installed a brass plaque, with all our names on it in the trunk.

Finally it was done, Phil's camcorder and Scott's camera could be put away, the class was completed and the restoration well documented. Admittedly it took four weeks longer than planned, but it was still a major accomplishment. We had restored our first Healey and the result



"A STUDENT'S VIEW"