



Anatomy of a **Restoration**

STORY: **KAREN DUNLOP** WITH **DON MCLELLAN**

Not all automotive restorations involve turning barn finds showing significant decay into shiny automotive jewels; many begin with cars that, to the naked eye, look just fine but are, in fact, not quite “period-correct.” To many collectors and restorers, that correctness represents the ultimate achievement in a concours-level restoration.

Recently, RM Auto Restoration completed one such restoration — a 1933 Duesenberg Model SJ Beverly, chassis SJ512, that was beautiful when owners Judge Joseph Cassini III and Margie Cassini purchased it but not entirely correct. The following before and after pictures show an informative glimpse into the subtle art of creating automotive perfection.



Shown here prior to the restoration, the only obvious incorrect features on SJ512 are the fenders, wheels and interior.

DISASSEMBLY & MECHANICAL



Every last nut, washer, bolt and screw must be meticulously documented upon disassembly of the automobile. Each component is cleaned and then diligently assessed for reliability and function prior to being restored to the highest standards.



Seen here, the weather-front (radiator shutters) was incorrectly finished, as it was painted instead of chromed.



The iconic Duesenberg front end now shows the radiator shutters correctly chromed post-restoration.



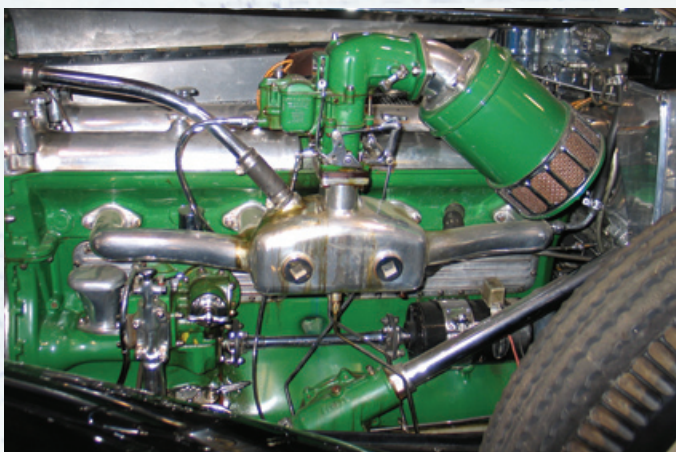
Careful inspection showed that the drivetrain was complete, pictured here during disassembly, and every component was rebuilt and refurbished.



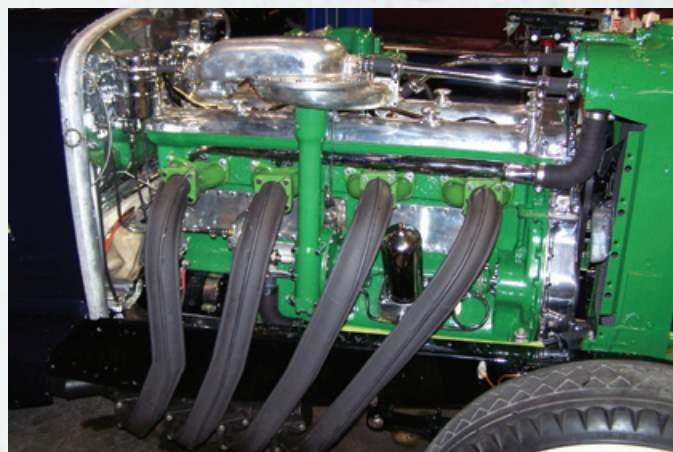
The disassembled Duesenberg Model J cylinder head with four valves per cylinder and dual overhead camshafts. This was the design responsible for the record-breaking, 265 hp output in standard form, 320 hp in supercharged form as found in SJ512.



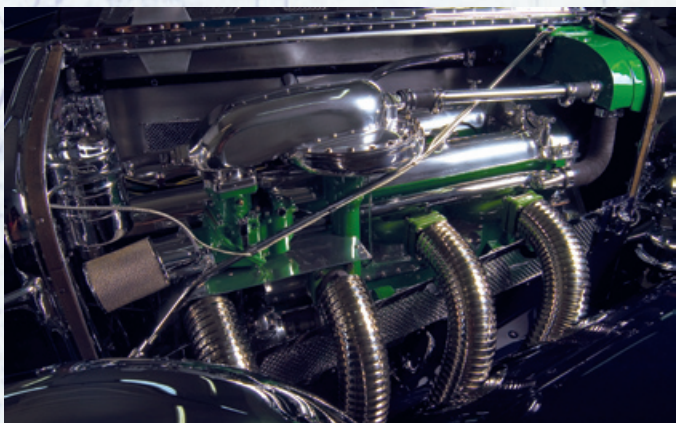
The Duesenberg Model J cylinder block, with its long stroke design and 420-cubic inch displacement, was found to be in excellent condition and only needing minor machine work, new pistons and babbited bearings.



Seen here, the engine is in its naturally aspirated form, with a standard downdraught carburetor. SJ512 originally came with a Duesenberg centrifugal supercharger that had been removed many years ago.



SJ512 fully re-built with its original blower in the test-running stage. The four chromed exhaust covers have not been fitted yet. At this point, many miles are put on the car, both on the road and on our chassis dynamometer to test for leaks, vibrations and to maximize drivability.



The blower-side of the engine polished and ready for its debut at Pebble Beach 2008.

Now complete and reunited with its original supercharger, which was purchased at auction by a previous owner of SJ512 for nearly \$300,000!



BODYWORK



Hundreds of hours were devoted by RM Auto Restoration artisans to careful metal-finishing (pictured here), in addition to block-sanding, to prepare the surfaces for painting. Careful attention is paid to panel gaps and alignment.



The body has been stripped to bare metal and epoxy-primed, giving it superior protection from the elements. Here the front door-skin has been removed to repair the wood structure that was weak on the bottom. As originally specified, seasoned ash is used to replace any rotted wood.



An example of the minimal wood replacement necessary, seen here with the aluminum door-skin removed. Also shown here is the exclusive Murphy coachwork feature of cast-aluminum door jambs, which creates a very stiff and long lasting structure. This would have been very expensive to build at the time, a process reserved for only the best hand-built cars.



In the late 1930s, the SJ512 was taken back to a body shop to have the fenders modernized with a lower skirted profile. Here we can see patterns taken to bring them back to the original configuration as delivered new by the coachbuilder.



The roof was stripped to the many wood slats, which were removed and re-glued, while the rear aluminum curved panels were stripped and metal-finished. The complete roof was then ready for the new dark blue padded leather top.

PAINTING & FINISHING



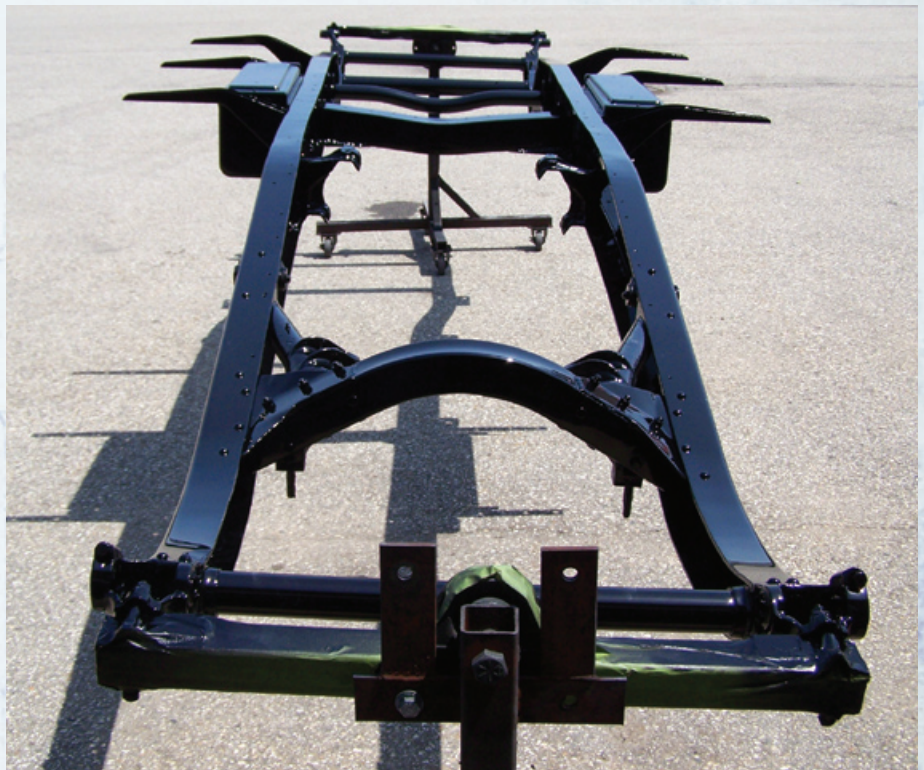
The car retained all its original bodywork, shown here in the final stages of priming and sanding. Primer is water-sanded to prepare the ultra-smooth surface needed for painting.



The paint was applied and baked to cure, then color-sanded and machine-polished to a concours-level finish.



Here, disassembled drivetrain and chassis components that have been re-built are prepped and ready for painting.



The mighty J chassis, shown restored with its new black finish.



More drivetrain and chassis components disassembled, re-finished and ready to be installed on the chassis. The generator and starter have been rewound and fully rebuilt.



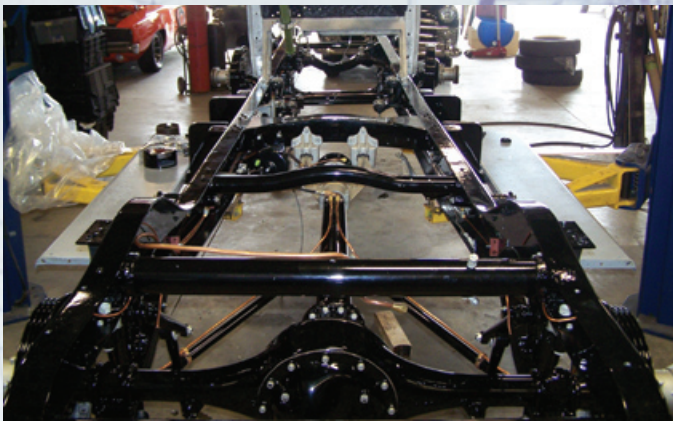
The 3-speed transmission with hand brake finished and ready to re-install. It had previously been completely disassembled and rebuilt with new bearings.



Here, our polishing department is preparing SJ512's firewall for polish. This was done in the exact same manner as it was done in 1933.



The monumental cast-aluminum firewall and instrument panel assembly is shown here re-polished and newly fitted with wiring and lines.



SJ512's chassis in the assembly bay with new brake lines and chassis lubricator lines installed. The cast-aluminum firewall and instrument panel has also been fitted.



This is a photo of the cast aluminum bell housing that carries the all-important "J number" that all Duesenbergs are known by – J512 (S was understood to be added when the cars were supercharged).

INTERIOR & ASSEMBLY



SJ512's original oak interior trim was in excellent shape and was all saved, only requiring stripping, refinishing and minor repairs. Note the subtle and original dual-tone finish on the oak.



The interior, while attractive, was not as it would have been as when SJ512 was purchased new. The seats are the correct components but the fabric choices were not.



Restoration experts worked from Murphy's original studio photography of the car's interior when new to ensure their handiwork was entirely correct, as seen here during the construction of a seat.



Distinctive Art Deco interior fittings by Murphy, fully restored and ready to install.



As the finished product comes together, easily scratched freshly painted or chromed components are covered in protective tape to prevent damage from the subsequent work. Here can be seen the new leather roof installed and fitted, waiting for edge trim.



SJ512 now shows its beautiful interior exactly as it would have appeared when purchased new over 75 years ago.



Murphy equipped this special Beverly Sedan with a full complement of instrumentation in the rear console, including speedometer, Jaeger chronometer and an altimeter, as well as a speaker and radio control head hidden behind the cabinet doors. As a final touch, the post-restoration photo here shows the plush sheep-skin rug and a Duesenberg owner's companion (manual).

POST-RESTORATION

Elegant and imposing in its design, the Murphy Beverly Sedan is a perfect fit on Duesenberg's most powerful chassis. No detail was overlooked in this meticulous restoration, and the Cassinis never wavered in their commitment to bring SJ512 back to its original glory. Historically accurate, mechanically perfect, and visually breathtaking, the results speak for themselves.

