

Building a Replica of a Studebaker Indy Car

For a number of years, I have stared longingly at the Studebaker Indianapolis race cars from 1931 and 1932. In particular, the green #37 car, restored by Stan Smith Sr. and Jr. and currently owned by Bob Valpey, struck me as the kind of unusual Studebaker that I wanted to own. None are available for sale – and I probably couldn't afford the market price – so I decided to build one.

At first, I thought about building it “in the style of...”, but as time went on and I gathered more information about these cars, it struck me that it will take about the same amount of work to make a near-exact copy as it would take just cobble something together. Fortunately, automotive author Ray Kuns wrote a 15-page article in 1935 about how to build a replica of the Studebaker Indy cars, and he included a fairly detailed parts list. Of course, in 1935, it was a little easier to cruise on down to your local junk yard and pull the parts from 1928-32 cars. These days, Ebay is my friend and the Internet is my lifeline!

I embarked on the journey to create the car at the beginning of 2009 and expect to spend another 2-3 years building the car. Because Bob Valpey lives only a few hours away, I've had many chances to talk with Bob about his car and he kindly allowed me to crawl over it and take critical measurements. Car #37 was built as the Hunt-Jenkins Special in 1931 and served as the prototype for four other cars constructed in 1932. I've also met with Mike Cleary, owner of the blue #18 car, and had a ride in his wonderful machine. Additionally, August Grassis, Sr. and his mechanic George Hull have shared information and photos of the white #34 car with the egg-shaped body from 1933. Interestingly, this car started life in 1932 as the gray #25 car. All three of these cars still race in vintage events. A fourth original, the maroon #22 car, got its old 1932 – style body back, and is now displayed at the Indianapolis Motor Speedway Hall of Fame Museum.

The fifth car, #46, went to South Africa where it raced for many years before being destroyed in a crash. The body was scrapped, but the engine may still exist in a 1928 limousine car somewhere in South Africa or Zaire. A replica of #46 was constructed in the 1990s and is now in Germany, but has not been seen for many years.

Equipped with Ray Kuns' article, several article from *Turning Wheels* and Richard Quinn's series in the *Antique Studebaker Review*, I started looking into building the chassis. I also received numerous photos and copies of historical articles from ASC member John Shanahan. One day, a Google search turned up a story about how Charlie Glick of Heartland Antique Auto Restoration in Paris, IL had constructed a replica of the Buick-powered Shafer 8 for Tom MacRae, one of the founders of “The Great Race” for pre-1960 cars. The original Shafer 8 had come from the same Herman Rigling shop in Indianapolis as the Studebaker cars, and Glick had copied the dimensions from the #22 Studebaker car in the museum to build the Shafer replica. I was able to arrange with Charlie for him to build a chassis for me from scratch. Over the course

of about three months, he cut, formed, and welded the pieces together to create a duplicate of the Studebaker race car chassis. When we discussed delivery, Charlie put the sections into his van and drove out to Massachusetts with his family – his wife had never seen Plymouth Rock and it's only 45 minutes from my house.

My primary departure from the original five cars will be to use a 250 cubic inch straight-8 engine, such as the factory used from 1929-1942 in Commanders and post-1933 Presidents. The factory had planned to go racing in 1934, and developed a race version of the 250 engine. With racing cancelled by budget problems following the 1933 bankruptcy, the race engines were offered for sale at \$750 each. I've never found one of those, so I have been building the parts to make one or two of them (maybe even a few more). I have a couple of blocks from 1937 cars that I'm working with. These have insert bearings in the crank and rods, and I'm hoping that this will lead to a strong, reliable engine. A number of 250 cubic inch engines powered competitive cars at Indy and other tracks during the 1930s, and it delivered as much horsepower as the 337 cubic inch engines used in the five original cars.

Working from very detailed photos of the 1934 engine, I've recreated the four cast aluminum carburetor intakes and the complex throttle linkage. [I have a few extra sets of these intakes for sale to help finance this project.] Four Stromberg 1-barrel carburetors will provide fuel. I have not been able to find a Bendix Scintilla model VAG8-D3 eight-cylinder magneto, so I may have to use a distributor. Equipped with a $\frac{3}{4}$ race cam, some good pistons and rods, I'm hoping for 180-200 hp at 4400 rpm from the finished engine. That's about what the factory got from the originals.

I'm still collecting mechanical parts. I'm looking for a Ross steering box with casting number 222994 – I know it came out of a Studebaker car from about 1930, but I don't know which model. I have a front axle from a 1929 President, a transmission, clutch, and numerous other parts. Recently, I obtained a rear axle from a 1928 model GB sedan with 3.31:1 ratio after more than a year of searching – and I found it on Ebay. Since some of the original cars have been converted to use 1963 Buick Riviera 12-inch drums, I'll also use those, but with hydraulic actuation instead of the original cable-driven brakes from the Model 53 Dictator. Adapting modern backing plates and making new hubs for wire wheels will be a real challenge. Eventually, I'll have a set of 72-spoke wire wheels made for the 18-inch tires.

The greater challenge will be to create a new aluminum body. I've considered building it myself, but Charlie Glick has a wooden body buck he used on the Shafer 8, and a company in Argentina also has tooling to make a body for me. I have a while to figure this out, as I want to get the mechanical part done before starting on the body. It will get painted metallic gray and receive #25 to complete the missing car from the 1932 fleet.

There is still a lot of work ahead, but I'm having fun meeting lots of interesting people and trying to figure out how to bring the bits together. One of these days, I'll have enough to put on

a trailer and bring it to a meet. When it's completed, the plan is to be able to quickly bolt-on enough lights, etc. to make it street legal and drive to some local shows. I'm counting on a few surprised looks from other cars as my wife and I cruise the highway in our 1932 Studebaker Indy car.

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Bob Valpey's #37 car, built in 1931 as the Hunt-Jenkins Special. This car was restored in the 1980s by Stan Smith, Sr and Stan Smith, Jr.



Bob Valpey's 337 cu in straight 8 engine



Charlie Glick assembling the chassis.



Chassis and 1929 Studebaker President axle



Studebaker 250 cu in engine block



1934 photo of 250 cu in engine in racing trim



Gary Ash's two engine blocks with reproduction aluminum intakes



Brake backing plate and drum from 1963 Buick Riviera



Gary Ash and Mike Cleary in Mike's #18 car.