

TINKER TOY



Making a go-fast YJ

By Harry Wagner
Photography Cory Wong
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When the Jeep Wrangler YJ first appeared on the market, many thought that

it spelled the end for Jeep, and it was easy to see why. The same smog-choked carbureted 258 carried over from the CJ line, but it was backed with a crappy Peugeot transmission, lackluster NP207 transfer case, Dana 35 rear axle, and a front Dana 30 with an axle disconnect. Could you ask for a worse drivetrain?

The good news is YJs can be picked up for dirt cheap and serve as a blank canvas for creative owners. Richard Johnson is one such resourceful individual, although his YJ project took a decidedly different turn than most: He used a burnt-up, salvaged Wrangler as the foundation for a drag racing vehicle. Richard is an auto

shop teacher at W.J. Moaut High School in Abbotsford, British Columbia. He helped form the British Columbia Secondary School Motorsport Association in 1992. Since that time he has been teaching students to build vehicles to drive on the drag strip.

Chassis

Turning fast times at the track requires not only a healthy engine, but the ability to put it to the ground. In order to accomplish that the rear frame horns were removed at the middle of the chassis and moved inboard to keep the 32x14 Goodyear slicks bead-screwed to 15x14 Weld Draglite rims under the sheetmetal. The narrowed frame works in conjunction with a generous amount of box tubing to act as a foundation for the Art Morrison rear four-link suspension and Competition Engineering

coilovers. Unlike rockcrawling suspensions, this four-link uses relatively short control arms with geometry optimized for putting power to the ground, rather than provide maximum ground clearance or articulation. When the rear suspension is not enough to keep the tires planted, a set of Art Morrison Pro Stock wheelie bars keep the front tires from getting too far from terra firma. The setup is a proven performer, producing 1.7 g's when leaving the starting line.

Up front, a shackle reversal was performed in order to keep the Wrangler tracking straight at speed. The front leaf springs still run under the 2WD front beam axle that was sourced from a Jeep Comanche truck. The axletube uses standard Dana 30 knuckles and brakes with a 5x4.5 bolt pattern. Skinny 15x3.5 Weld Draglite rims are bolted up to the front axle and capped with 165R15 Kelly

HARD FACTS

Vehicle: '92 Wrangler

Engine: AMC 401 V-8

Transmission: AMC TH400

Transfer Case: Long gone

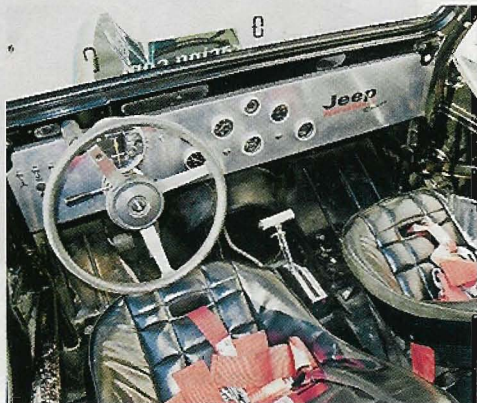
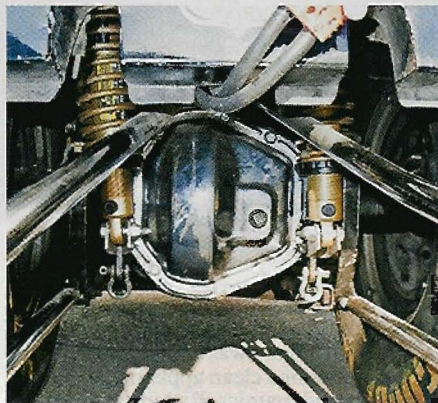
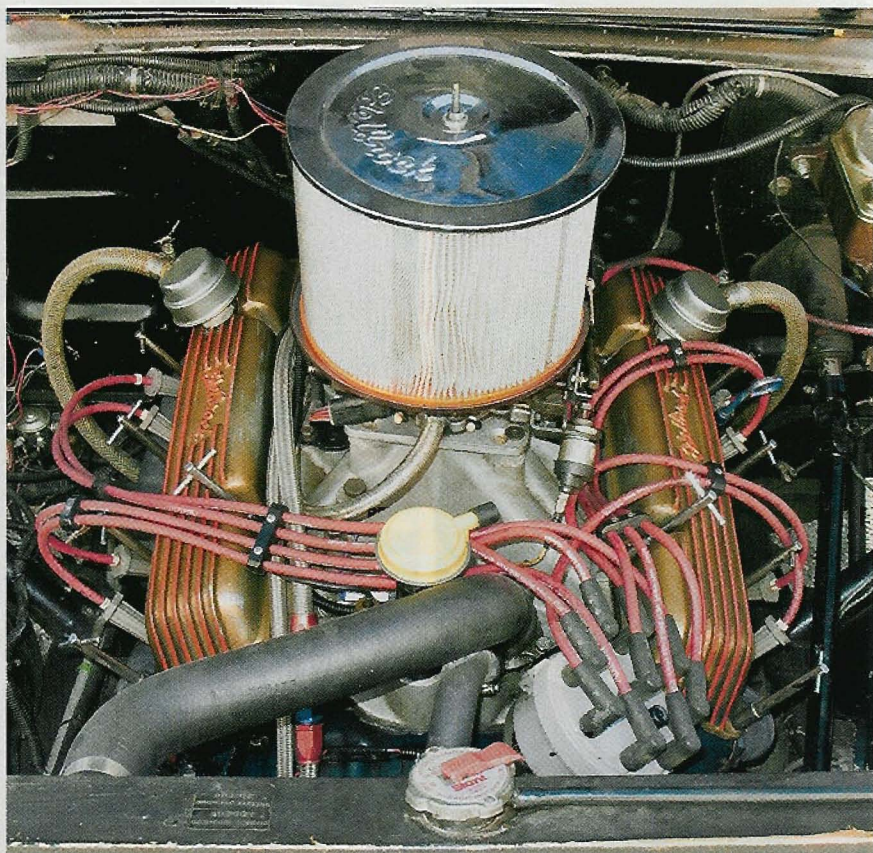
Suspension: Leaf springs (front),
four-link (rear)

Axles: 2WD Comanche beam (front),
narrowed Dana 60 (rear)

Wheels: 15x3.5 Weld Draglite (front),
15x14 Weld Draglite (rear)

Tires: Kelly Springfield 165R15 (front),
32x14 Goodyear slicks (rear)

Built For: A teaching aid



Springfield tires. The axle is steered by a manual steering box that was sourced from the same Comanche as the front axle.

Drivetrain

The YJ is powered by a genuine Jeep engine. Richard had previously used a Wagoneer with a 401 for the school program. "It wasn't very fast," he admitted, "but it was consistent in bracket racing." The 401 was yanked from the Wagoneer and put into the Wrangler. "We actually have two similar engines," Richard explained. "That way the students can build one throughout the year and still go racing on the weekends." The 10.5:1 compression ensures that the AMC engine can run on readily-available pump gas.

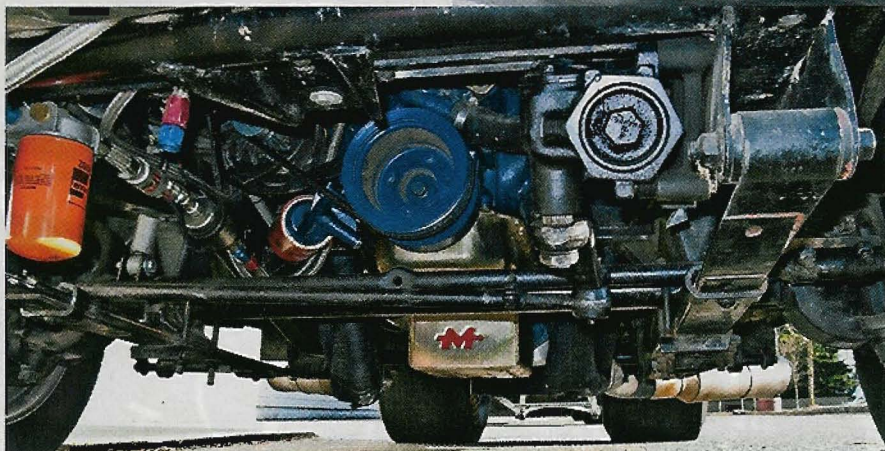
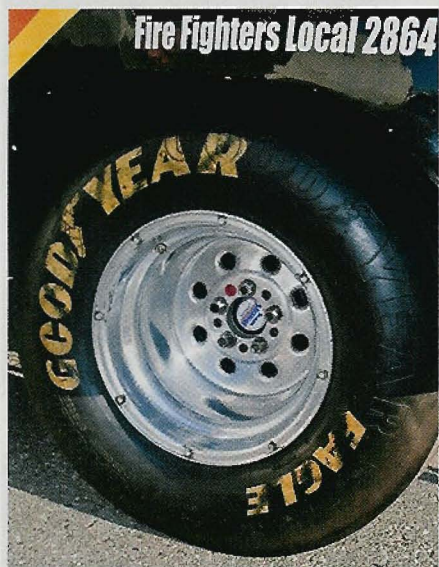
The bottom end of the 401 is filled with Sealed Power rings and TRW forged pistons attached to the stock rods and

crank. A Colt Cams custom hydraulic camshaft works in conjunction with Crane roller rockers that sit in ported factory closed-chamber heads. The Edelbrock Torker intake manifold is good for high RPM power and is topped with a Holley 670 cfm TBI unit that is fed by a Holley fuel pump mounted on the frame rail. An Aurora Electronics ignition lights off the fuel and ensures that the engine is not pushed beyond the 7200 RPM rev limit. The low placement of the engine in the chassis on custom, rigid motor mounts nearly causes the Milodon 7-quart oil pan to scrape the ground.

A large, four-core radiator from the same Wagoneer that donated the 401 sits up in front of the engine. The radiator is fitted with dual Dayco 12-inch fans that keep operating temperatures at the track to around 180 degrees. A Moroso electric water pump takes less power to turn than

the stock belt-driven water pump and can be turned off during passes down the drag strip to free up even more power. Also helping to combat the heat are Cyclone headers that are both ceramic-coated and heat wrapped. The exhaust originally dumped directly out of the headers, but SuperTrapp mufflers were added to quiet down the 401 and comply with regulations enacted at some drag strips.

Power is routed through a relatively-rare TH400 case with an AMC bellhousing bolt pattern. The three-speed automatic was built by Bill Kondolay of DTT with a TransGo Stage 2 shift kit along with upgraded clutch packs and bands. The Island Torque Converter 10-inch converter produces a 3500-rpm stall speed and uses an aluminum stator with a roller spring race, a furnace-brazed pump and turbine, and steel splines. The back of the case is fitted



with a tailhousing from a Chevrolet application for 2WD operation.

The rear axle is a Dana 60 out of a J20 truck that has been narrowed to a mere 33 inches wide by Rearend Specialties and fitted with 35-spline Strange axle shafts with a 5x4.5 bolt pattern to match the front axle. The differential uses 4.56 gears and a Strange spool to put power to the ground. The combination has turned a best of 11.79 seconds at 109 mph, with an astounding 1.46-second 60-foot time. The YJ is mainly used for bracket racing though, with a dialed-in time of 12.0 seconds flat.

Body and Interior

A 3-gallon fuel tank from Jeep Thrills sits on the front bumper where it provides ballast and is easy to fill between passes. Behind the tank, the headlights were deleted from the grille to accommodate the Wagoneer radiator. Since the YJ is not driven on the streets, headlights were not deemed necessary. A huge Harwood Aero-scoop was necessary, though, in order to clear the equally-massive air filter atop the 401. The rear of the body

had to be completely tubbed to accommodate the narrow axle and drag slicks. A sheetmetal top was added prior to the body work for a clean appearance and to aid in aerodynamics. Richard laid down the paint with Mike Connor from Lordco Auto Parts using a Mopar paint scheme. "It wasn't retro when we painted it fifteen years ago," he reflected, "but I suppose it is by now."

Inside the Jeep an eight-point cage protects the occupants. The cage ties into the frame, and also goes through the firewall to tie into the engine bay. Nestled between the cage bars are a pair of RCI plastic racing buckets with Jager five-point harnesses. The B&M Z-Gate shifter rows the gears and is fitted with a Hurst Roll Control that is used for burnouts to get the tires sticky. On the dash, the stock tilt column accommodates the wide range of drivers, with a huge 5-inch Auto Meter Monster tach front and center. Auto Meter 2½-inch gauges are also mounted on the custom aluminum dash to monitor fuel pressure, oil pressure, water temperature, voltage, and vacuum. On the other side of the column,

toggle switches fire the Jeep and turn on the electric cooling fans and water pump.

Good, Bad, and What's It For

Consistent 12-second times might not seem very fast for a tubbed vehicle with a wheelie bar out back, but high school students are piloting this Jeep down the track. With more horsepower the Jeep could easily be much faster, but then it would be more dangerous as well. It's a wonder that teenagers are even allowed to drag race at school in our overly-litigious society.

Why I Featured It

It is completely unnatural to see a Wrangler go fast, with their short wheelbase, high center of gravity, and upright grille and windshield. Building a Camaro that runs 12s is easy, but easy is boring. I love that Richard Johnson chose such an unlikely platform when building a drag racer and taught his students at W.J. Mout never to judge a book by its cover. Even a YJ.

—Harry Wagner 