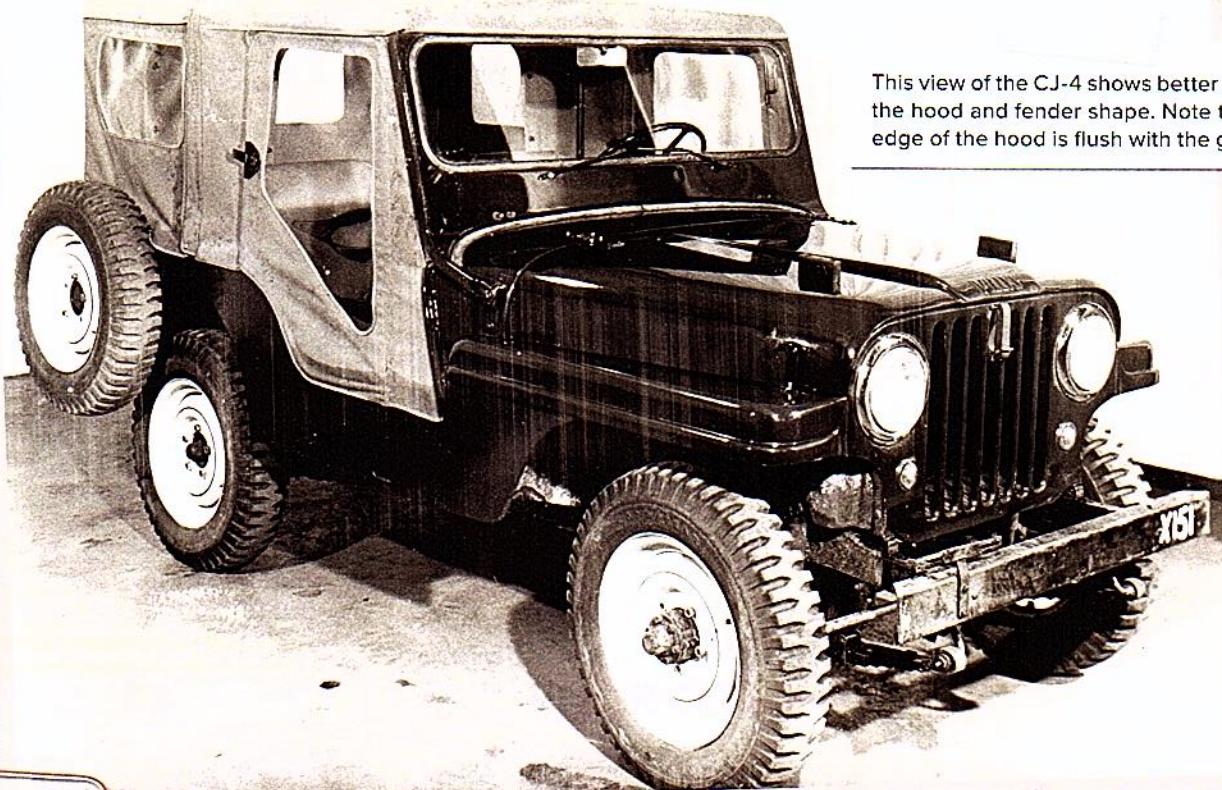


Missing Link

What happened to the Jeep CJ-4? *By Patrick Foster*



This view of the CJ-4 shows better detail of the hood and fender shape. Note the front edge of the hood is flush with the grille.

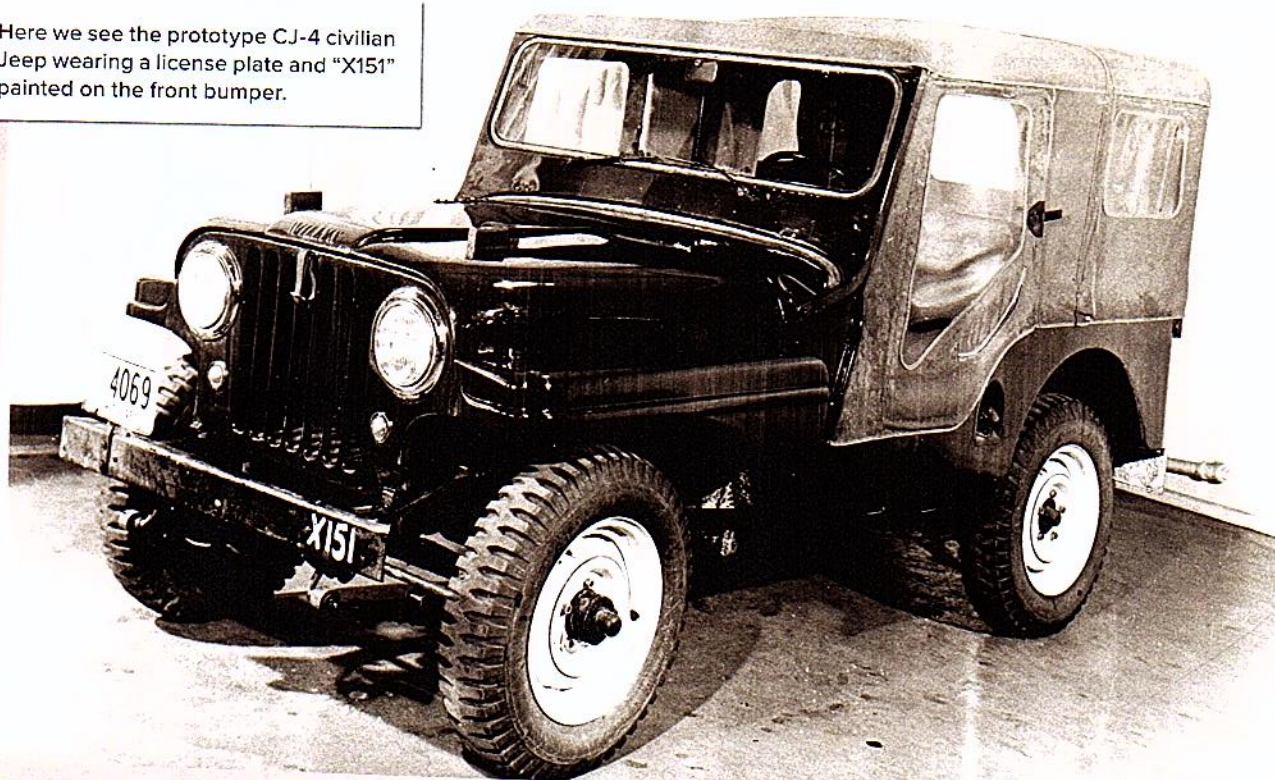
FOR YEARS, JEEP FANS have wondered about one thing in particular: what caused the number gap in the early civilian Jeep vehicle line? The CJ-series was so-named because the trucks are “Civilian Jeeps” or, as some people prefer, “Commercial Jeeps.” The different models were numbered CJ-2, CJ-3, CJ-5, CJ-6, CJ-7, and CJ-8. You notice what’s missing, right? There is no CJ-4. Why did they leave it out? Why would they want to confuse people?

Willys-Overland Motors planned to produce a Jeep CJ-4, and the company even built a single vehicle for testing, but not a lot was known about the project, even after the prototype resurfaced some years ago. Details about the program remained cloudy because most of the people involved had passed on by the time the outside world heard of the CJ-4.

Parts of the story are still vague, but at least one helpful addition to history has popped up: the original Willys-Overland Motors engineering file. I will not reveal how I came to own the original documentation, because that is a trade secret, but I will share the information it contains.

By the late 1940s, W-O management and engineers were aware that civilians were expecting more power from their cars and trucks. Larger 6-cylinder engines and V-8s were the new standard for the industry, and Willys was in danger of being left behind. The bigger Jeep vehicles—the Willys Pick-up, Panel Truck, and Station Wagon—already struggled to keep up with traffic, and only numerically high axle ratios, combined with overdrive transmissions, allowed them to take to the highways. In an environment of high-powered vehicles, the hoary little

Here we see the prototype CJ-4 civilian Jeep wearing a license plate and "X151" painted on the front bumper.



63hp L134 "Go-Devil" 4-cylinder—a flathead that dated back to the 1926 Whippet—would not meet the public's needs. Customers were complaining that the Jeep CJ-3A needed more horsepower. From its earliest incarnation as the CJ-2A through the CJ-6, the CJ line was marketed as the "Universal Jeep." Being labeled "underpowered" would certainly hurt the brand's reputation for versatility. Willys needed more grunt, plain and simple.

Unfortunately, there was no easy answer to W-O's CJ problem.

W-O was a small automaker, and its tight-fisted management was loath to spend a lot of money on a new engine for the littlest Jeep. Developing a new 4-cylinder engine from scratch in this postwar environment was a waste of time, but a new 6-cylinder would be too long to fit under the CJ's current hood. What to do?

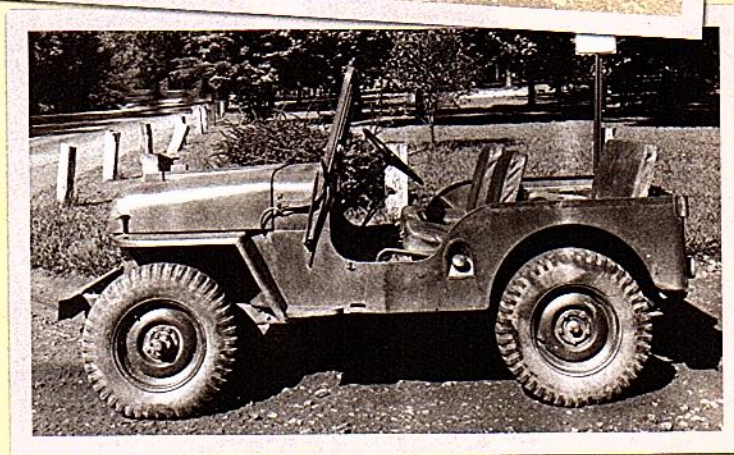
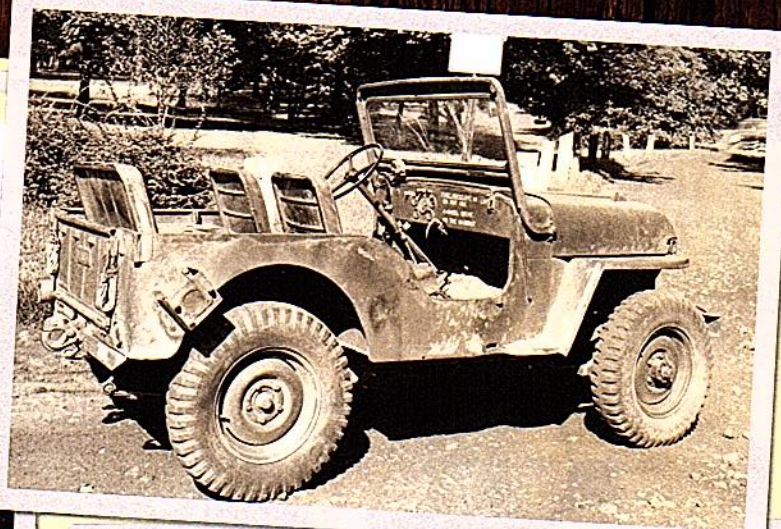
As Jeep enthusiasts know, Willys solved the problem in its larger Jeep vehicles when company engineers converted the flathead Go-Devil 4-cylinder into a new F-head engine dubbed the "Hurricane." The transformation required sealing off the intake valve inlets in

the block and installing a new overhead-valve cylinder head fitted with intake valves only. This move permitted larger intake valves, which improved breathing and boosted output to 75 horsepower—a solid 20 percent gain over the Go-Devil. The new Hurricane was introduced in facelifted trucks and wagons in mid-1950.

The Hurricane engine would seem to be an ideal upgrade for the CJ-3A, but the overhead-valve F-head design made it too tall to fit under the hood. Management authorized a program to design a new Universal Jeep with enough room under the hood for the more potent engine. Known as Project 5707, it almost became the new CJ.

The project began in June 1951 with a built-up Jeep prototype dubbed the CJ-4, which was fitted with the 4-cylinder F-head engine and a station wagon-type vacuum advance distributor. It was tested against an L-head CJ-3A Jeep (Engineering Dept. Test Vehicle X-79, a right-hand-drive CJ-3A converted to left-hand drive) for acceleration, deceleration, and fuel economy at various speeds.

Here is a prototype identified as a CJ-4M (military), which has a hood and front fenders that are quite different from the civilian version. Was this a second prototype or simply a militarized version of X-151?



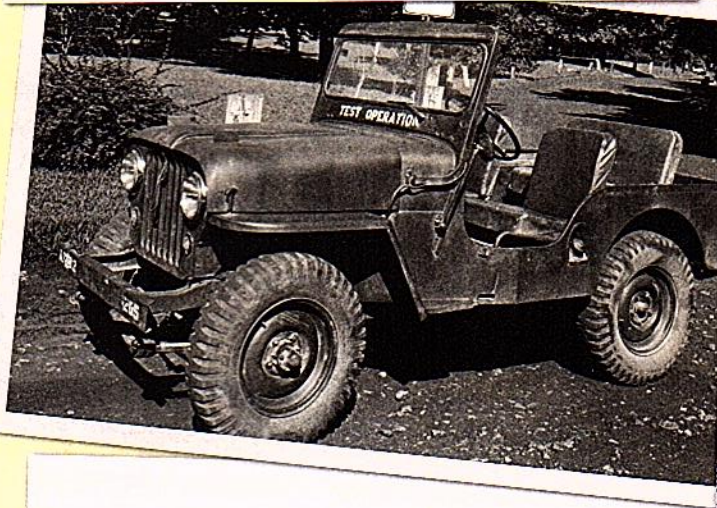
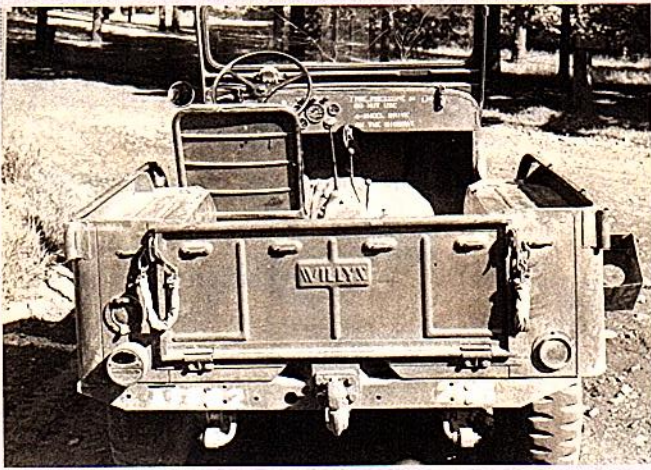
The CJ-4 prototype, serial no. 01, (aka X-151), was essentially a modified CJ-3A body tub with a raised cowl and matching hood fitted to clear the F-head's height. What was interesting about the CJ-4 was that the styling department had also worked on the vehicle, giving it nicely integrated lines that included a sharp new grille panel. Designers also rounded off the front fenders. Both treatments gave the CJ-4 front depth and style, which greatly improved the appearance of the vehicle. The transformation from L-head to F-head, along with the necessary body changes, added just 36.7 pounds to the vehicle weight. (Of that weight gain, 21.6 pounds were due to the engine; 15.1 pounds came from the body modifications.)

Not surprisingly, the F-head CJ-4 was by far the better performer. Testing full-throttle acceleration from 15 miles an hour, using only high gear and high range and carrying a 600-pound payload, the CJ-4 was able to reach a speed that was a full 10 miles per hour faster than the CJ-3.

Perhaps the biggest surprise of all was that, despite its greater horsepower and increased weight, the CJ-4 reported better over-the-road fuel economy than the CJ-3—17.5 mpg versus 15.6 mpg. In city driving, the CJ-3 was slightly better, by 0.6 mpg.

The improved performance notwithstanding, company management decided to abandon the project. The file, marked "closed," does not give a reason for this surprising action. In all likelihood, it was because the changes would have involved more tooling expense than Willys management was willing to bear.

However, that left Willys back at the drawing board. To solve the problem of inadequate power, management introduced the F-head to the CJ series, but this time as an alteration of the basic CJ-3A. Unwilling to spend a lot of money on styling, Willys had engineers create a simple new hood, grille, and cowl tall enough to fit the Hurricane. The rest of the vehicle's sheetmetal remained very much the same. The resulting vehicle was given the designation CJ-3B, signifying



STATE OF OHIO, COUNTY OF LUCAS
 Previous No. _____
CERTIFICATE OF TITLE No. 481 641390
 MFG. CERT. TO A MOTOR VEHICLE

This is to certify that

(Owner's First Name) MIGUEL ORDORICA (Last Name) 4-13-55
 (1940 Title Title From)

4622 HARTFORD RD., TOLEDO, OHIO

is the owner of the following described Motor Vehicle:
 YEAR 1951 NO. OF CYL 4 MOTOR NO. 4J 49624
 MAKE WILLYS Mfr's Serial No. 01
 BODY TYPE JEEP MODEL CJ-4 H. P. 15.63

having acquired title to said Motor Vehicle from:
 Previous Owner WILLYS MOTORS, INC.
TOLEDO, OHIO
 (Address of Previous Owner in Full)

on which Motor Vehicle are the following liens, mortgages or encumbrances:
 If none, state here NONE

FIRST LIEN: Nature of Lien _____ Amount \$ _____
 Held by _____
 Holder's Address in Full _____
 Date of Notation _____ Clerk's Signature _____
 Above Lien Discharged _____ Date of Cancellation _____

By _____ (Signature of Lessor) By _____ (Clerk's Signature) Deputy Clerk

SECOND LIEN: Nature of Lien _____ Amount \$ _____
 Held by _____
 Holder's Address in Full _____
 Date of Notation _____ Clerk's Signature _____
 Above Lien Discharged _____ Date of Cancellation _____

By _____ (Signature of Lessor) By _____ (Clerk's Signature) Deputy Clerk

THIRD LIEN: Nature of Lien _____ Amount \$ _____
 Held by _____
 Holder's Address in Full _____
 Date of Notation _____ Clerk's Signature _____
 Above Lien Discharged _____ Date of Cancellation _____

By _____ (Signature of Lessor) By _____ (Clerk's Signature) Deputy Clerk

Type of Safety Glass if Vehicle Mfd. after Jan. 1, 1936 _____
 If Dealer, Vendor's License No. _____ Dir's. Permit No. _____
 Delivered Purchase Price \$ 300.00 Ohio Sales or Use Tax Paid \$ 9.00
 Issued on _____ Copy _____
 (Original-Duplicate)

Witness my hand and official seal this 13TH day of APRIL 55
 (SEAL) Harold Jeffery
 By J. KRUSE Clerk of Courts
 (Notary Public)

This copy of CJ-4's Certificate of Title indicates it carries the manufacturer's serial no. 01.

it was an alteration of the CJ-3A. Willys did not call it a CJ-4 because product planners felt it was not altered enough to deserve a completely new model number. An interesting twist of history is that the CJ-4 was readied before the CJ-3B!

Introduced for 1953, the CJ-3B sold well, because the extra power could really be felt and appreciated in the small truck. However, the new Jeep soon ran into competition from within its own stable when Willys introduced the all-new CJ-5 in 1954. The CJ-5 came about because the military was demanding an all-new army Jeep and was willing to subsidize the body tooling. Jeep management eventually used the opportunity to create new military and civilian Jeeps. The military version, called the Willys MD (with the military designation M38A1), arrived in April 1952. Production of the civilian CJ-5 began in September 1954.

So, does that clear up the CJ-4 mystery? Not entirely, because there appear to be *two* CJ-4s in the photos. There is a dark-colored CJ-4 X-151 prototype

civilian vehicle and a light-colored (probably olive drab green) dubbed the CJ-4M that is obviously a military prototype. Is it the same vehicle with different paint jobs, or is it two distinct vehicles? There may even be more, as photos seen on the internet show a dark-colored military prototype with a snorkel kit, as well as a long-wheelbase, ambulance-type vehicle. Thus far, only one CJ-4 has been found, and it's the original CJ-4 serial number 01 prototype. Willys engineer Miguel Ordorica bought it for his own personal use in April 1955 for \$300. The CJ-4 still exists!

So, Jeep fans, there might still be a CJ-4 lurking out there waiting to be discovered, although it is highly unlikely after all these years. Now, what we need to do is figure out why there is not a Jeep CJ-9 tucked in between the CJ-8 and CJ-10. I am working on that story right now. 