

# dune buggies and hot VWs

*Dan Lemmon*



DECEMBER 1970 / SEVENTY-FIVE CENTS  
ICD



## *BRUTE IV*

MIMS MOTOR MART  
930 SO. OXNARD BLVD.  
OXNARD, CALIF. PH. 486-3916



## *CONQUERS BAJA 1000*

FASTEST TIME EVER FOR 4-WHEEL VEHICLES, 600 C.C. OR UNDER.  
29 HRS. 27 MIN. NO MECHANICAL FAILURES AT ALL.  
NO TIRE CHANGES AT ALL.



**I** LOOKED UP at the guy in the VW Bus next to me. Vroom, vroom, my Zuke said. He looked down at me. Arrogantly. Vroom, vroom, his Bus said. The light went green and I zapped him with some hot gear work. For 40 feet. Then he zapped me. And disappeared, pushrods and tappets clattering away in the distance.

"Satisfaction. There's nothing like provoking someone into a lot of wasted effort. Perverse it is, but there's more to this little yellow bugger than sheer horsepower. A strange sense of leisure settles in as Suzuki's miniature version of a Jeep tops out at 45 mph. I really felt I was going somewhere, and could go anywhere that I wanted, all in good time, out there in the weather, humming along. It must harken back to the days of open Lizzies, leather caps, and dusters and goggles. After I'd blasted through some deep sand, floating lightly on the optional, oversized tires, and then up and down some incredible hills,

I really knew I had something. The Suzuki isn't a toy at all, but solid and reliable. In some circumstances, because it's light, and not nose-heavy from a gargantuan powerplant up front, it seems to be able to outdo the usual 4-wheel-drive vehicle."

One of the nicest features of the Suzuki 360 LJ10—dubbed with the imposing name of Brute IV in the States, is that it sells for a basic price of \$2195 (knock \$200 off that, if you can do without all the street-legal gear)—at least \$1000 less than the usual 4WD. For that price, you get a beautifully engineered all-terrain vehicle with full synchromesh transmission and a secondary gearbox, yielding eight speeds forward in 4WD, plus a 2WD lockout.

The Brute's slow top speed is easily explained—it's powered by a 359cc engine, similar in design to, and barely larger than, the 2-cylinder, 2-stroke used in one of Suzuki's popular, medium-displacement motorcycles. Pushing its stan-

dard 6.00-16, 6-ply cleated tires, the Brute will do close to 60 mph, but the big off-road tires and wheels fitted to our Suzuki's hubs slowed it drastically. These sand tires, incidentally, were taken directly off an American 4WD, as the Brute's 5-bolt hub pattern is the same as the Jeep. Supporting only 1320 lb. of Brute, these tires gave it marvelous flotation in the sand.

Taking the diminutive engine into account, the mini-jeep was quite surprising—especially when it scratched and clawed its way up and across any slope or terrain a full-sized 4WD machine was capable of traversing. But then, the Suzuki Brute is lighter than most dune buggies. You don't need much horsepower with such low weight and a double-range transmission available.

In the Brute, there's a basic 4-speed gearbox, shifting in the conventional H-pattern, with a VW-style jog into reverse. The synchromesh in all speeds is faultless, and backshifts are accom-

# SUZUKI's BRUTE IV

Careful, You Big-Inch  
4-Wheelers — Little  
Brother's Watching You!



Photos by Dan Hunt



plished with no graunching, even at inappropriate speeds, and require no double-clutching. A second, shorter gear lever, behind the primary lever, operates a secondary gearbox and provides a low 4WD range for rough terrain, a high 4WD range for faster low-traction terrain, and a high 2-wheel-drive for highway cruising. You may shift from low to high range while moving, but it's advisable to bring the little machine to a halt while shifting back to low range. Roughly speaking, high range gives speeds of 12, 20, 33, and 45 mph with the big sand tires. Low range yields about 6, 10, 17, and 22 mph.

This latter range proved great fun, while giving an impromptu demonstration to a pair of California Highway Patrol officers, who invited us (and were we ever unwilling!) in for a spot safety check at one of their omnipresent traps. After a drag race in which we went through all four gears in 40 feet, they were suitably mirthful, and passed the

little yellow fellow with flying colors, except for the headlight beams. These were angled off to the left, ideal for the drive-to-the-left-side Japanese (the Brute's a right-hand drive car). The LJ10 has been in use in its homeland of Japan for a couple of years, and no one had thought to re-aim the headlights when the car was brought in.

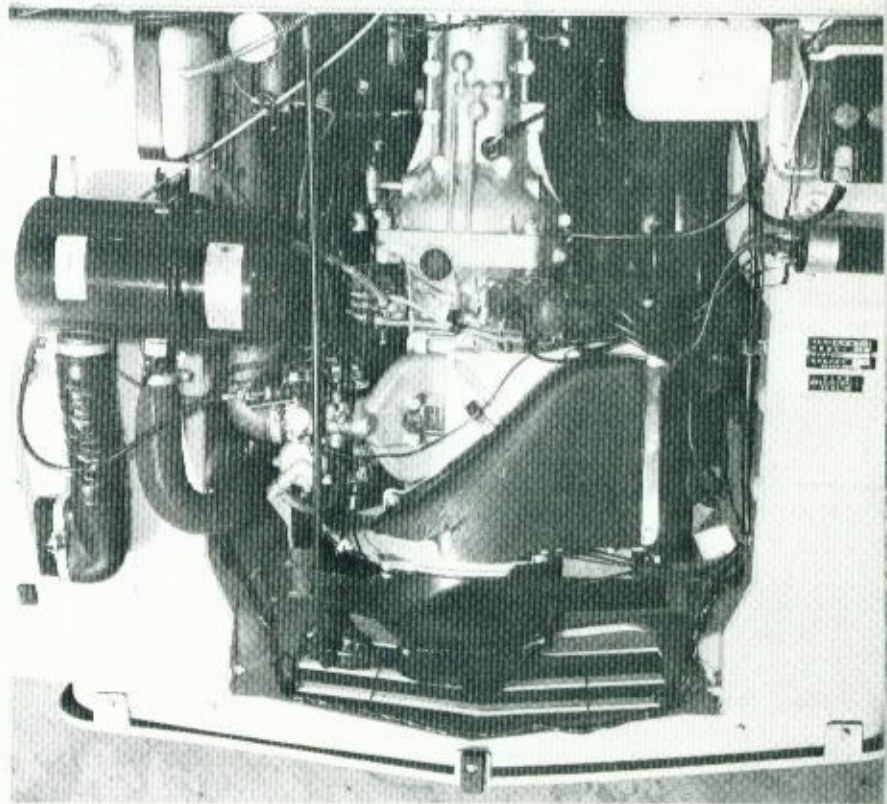
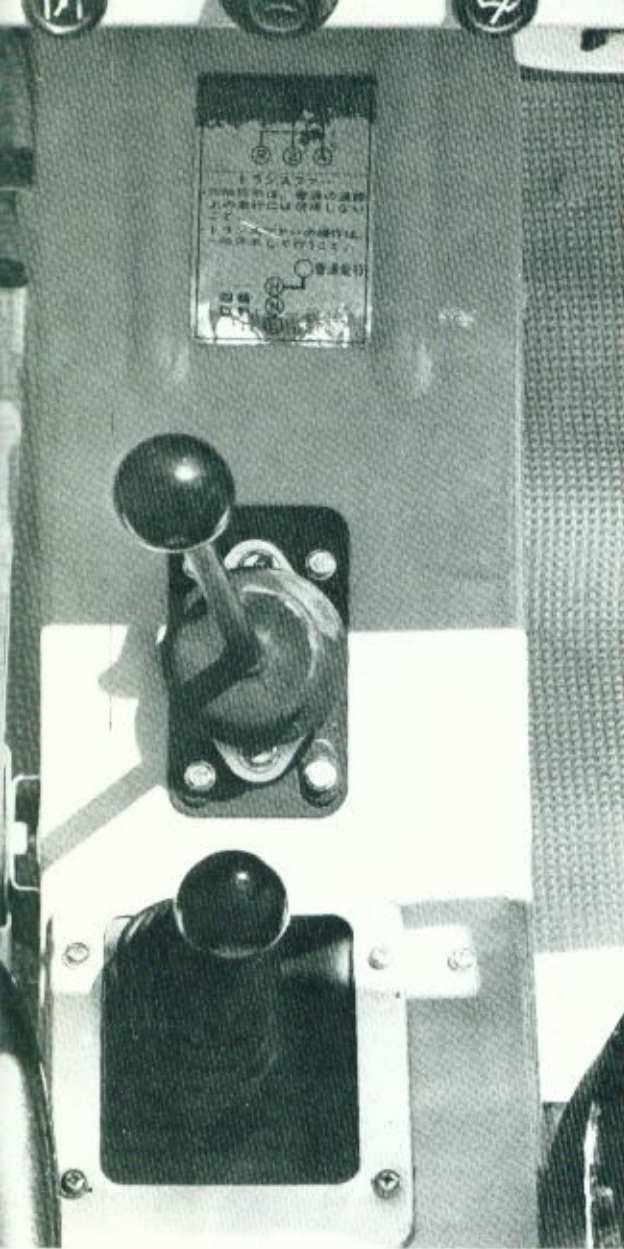
The Brute's engine is a parallel Twin 2-stroke, alternate firing, with 180-degree opposed crank throws, and 61mm x 61.5mm bore/stroke dimensions. Rated at 25 bhp at 6000 rpm (an optional, bolt-on power kit, including a street-legal expansion chamber, will boost that to 31 bhp), the engine is set up to be "torquer," with an extremely flat power band. Port timing is relatively mild. Reed valves, which automatically seal the separate crankcase chambers when they begin to pressurize, reduce power-robbing "overlap" at low rpm, common to more conventional piston-port 2-strokes. The engine is air-cooled,

and an impeller fan drives air through shrouding around the finned cylinder barrels, to make sure both cylinders are cooled evenly.

Unlike old-style ring-dings, there's no need to mix the oil with the gas before fueling the 6.9-gal. tank. Suzuki's "Posi-force" automatic lubrication system takes care of that for you. Oil is metered from a separate, 3.7-qt. supply, in proportion to the throttle opening, and is directed through two lines to the crankcase, where it lubricates the roller-bearing crankshaft. Two more lines direct part of the oil supply to the cylinder walls. The oil mists with the gasoline in the crank chamber, and lubricates the needle bearings at both ends of the connecting rods, and then passes through the transfer ports to the combustion chamber, where it's burned as part of the fuel charge.

Brute IV's distributor on the West Coast (Intercontinental Equipment Corporation, Dept. DB, 5385 Overland, San

# SUZUKI's BRUTE IV



Diego, Calif.) aptly notes that this sort of lubrication prevents sanded engines by flushing cylinder walls with a continually fresh supply of oil.

All this adds up to an extremely well-behaved 2-stroke that starts easily, smokes only on initial warmup, and doesn't even threaten to seize up in wide-open running. We recorded excellent gas mileage figures, even before the machine was thoroughly run in (it had 13.5 miles on it when we received it); a combination of street driving, slogging around in sand and hills, and general hell-raising yielded an average of 28 mpg.

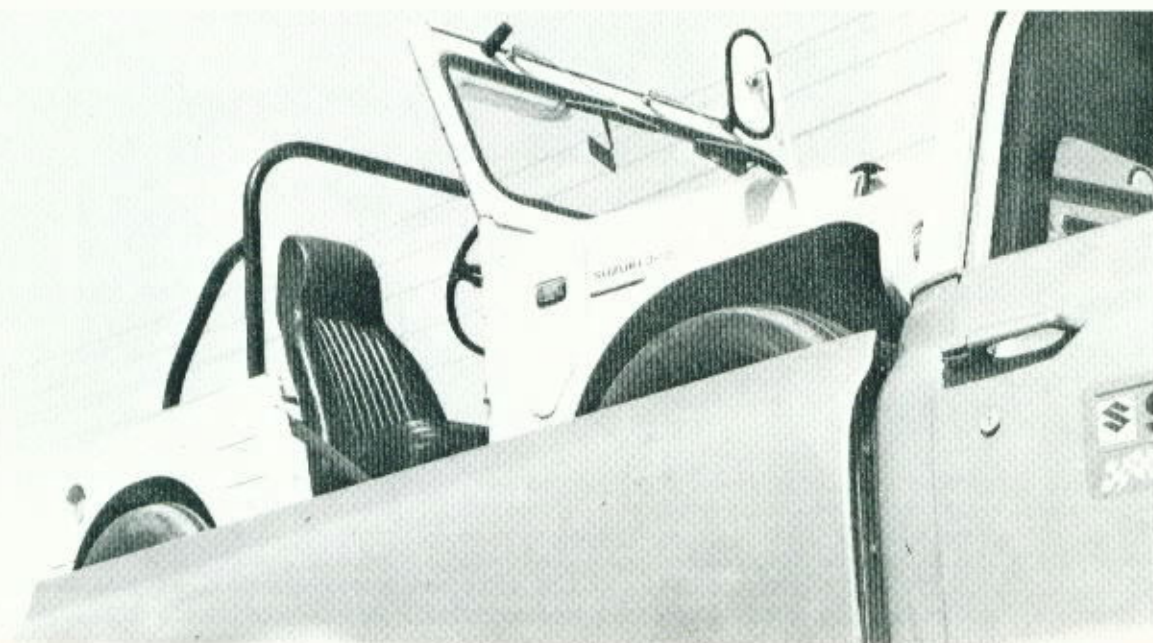
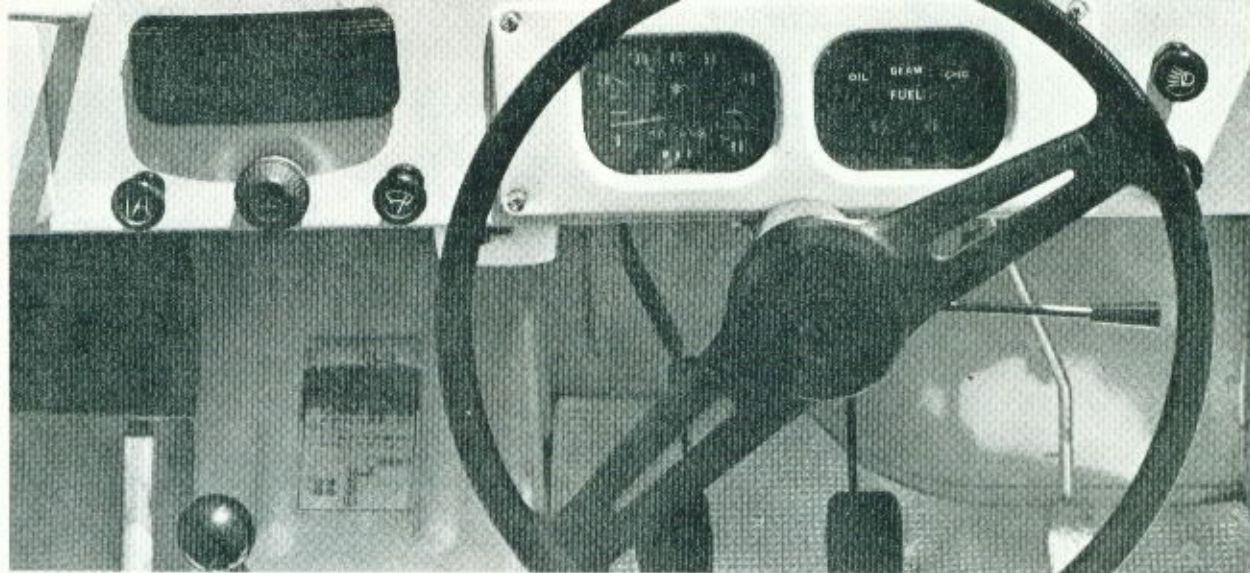
Suspension of the Brute is simple and robust. The frame is double beam, sprung by 4-leaf longitudinal springs front and rear. Very large ball joints used in the rack-and-pinion steering system would indicate that the front end is virtually bulletproof. The serious off-road driver will want to install a bash plate at the bottom of the front

bumper, where the front leaf shackles hang down—right where an unexpected rock can give them a good whack. Skid plates would also be appropriate to protect the two differentials. Otherwise, the engine and transmissions are mounted up so high that there's no way, short of destroying the car, to damage them. Ground clearance, with standard tires, is 8.5 in. at the lowest point. The Brute is short, with a wheelbase of 75 in., and it's only 53 in. wide. Even with the bigger tires, it fits comfortably into the bed of a 3/4-ton pickup truck, which is exactly how it arrived at our offices. The idea of zapping out to the desert in 70 mph, air-conditioned comfort, and then rolling this heavy-duty lightweight out of the truck's bed is quite appealing.

Although the Brute is an economy 4WD vehicle, the manufacturers haven't skimped on quality or on features that make it more useful and serviceable. The paint is heavy enamel (yellow, light

blue, or dark green), resistant to the effects of sand, moisture, and heat. The grille is of flexible plastic, less subject to damage. Undo two bolts and a few screws to fold the windshield down onto the hood—two large rubber bumpers attached to the windshield frame prevent rattling or damage to the hood while the shield is in Rat Patrol position. Pop-out rubber drains in the driver's compartment and bed allow the Brute to quickly shed accumulated water, and make it easy to flush out after an off-road run. Spring-loaded, rubber-covered doorbars snap into place after driver and passenger have settled into their bucket seats, and provide a rigidly mounted gate which doubles as a handhold and armrest—a safety feature that adds a welcome bonus in comfort.

Driving the Brute is simple—knobs and instruments are few, and include only lights (high beam's operated by the turn signal stalk), windshield wiper and washer, choke, battery charge light, fuel



gauge, speedometer, odometer, and oil indicator light.

The oil light is actually two in one, with a tiny pilot light that glows faintly at all times, as long as there's a supply of oil in the underhood reservoir. When the supply gets down to one quart, the oil light begins to glow brightly, warning the driver to replenish the supply within the next 100 miles or so. The pilot light feature is a good one, as it indicates whether the oil warning system is operating or not. If the pilot light doesn't work, wiring has come askew or a bulb needs replacement—the oil supply may be checked by direct inspection of the translucent reservoir. The feed lines are transparent, and allow additional inspection to ensure that proper lubrication is taking place.

To start the Brute, do *not* stab the gas pedal—this is almost guaranteed to cause the engine to flood or foul a plug. Instead, if the engine is cold, pull the choke out either half or all the way, and

simply twist the key starter. Even on chilly mornings, the engine will reach operating temperatures quickly, and there's no need to worry about waiting for oil pressure to build up, as there is no such thing with a 2-stroke. If the engine is already warm, merely omit the choke, twist the key, and the little ring-ding will start muttering to itself immediately.

Like most multi-cylinder 2-stroke engines, this 360 is virtually vibration free, and takes on a smooth, electric motor quality as it gains revs. Mechanical and exhaust noise are almost nil, to the point where someone standing ten feet away can't hear the engine idling.

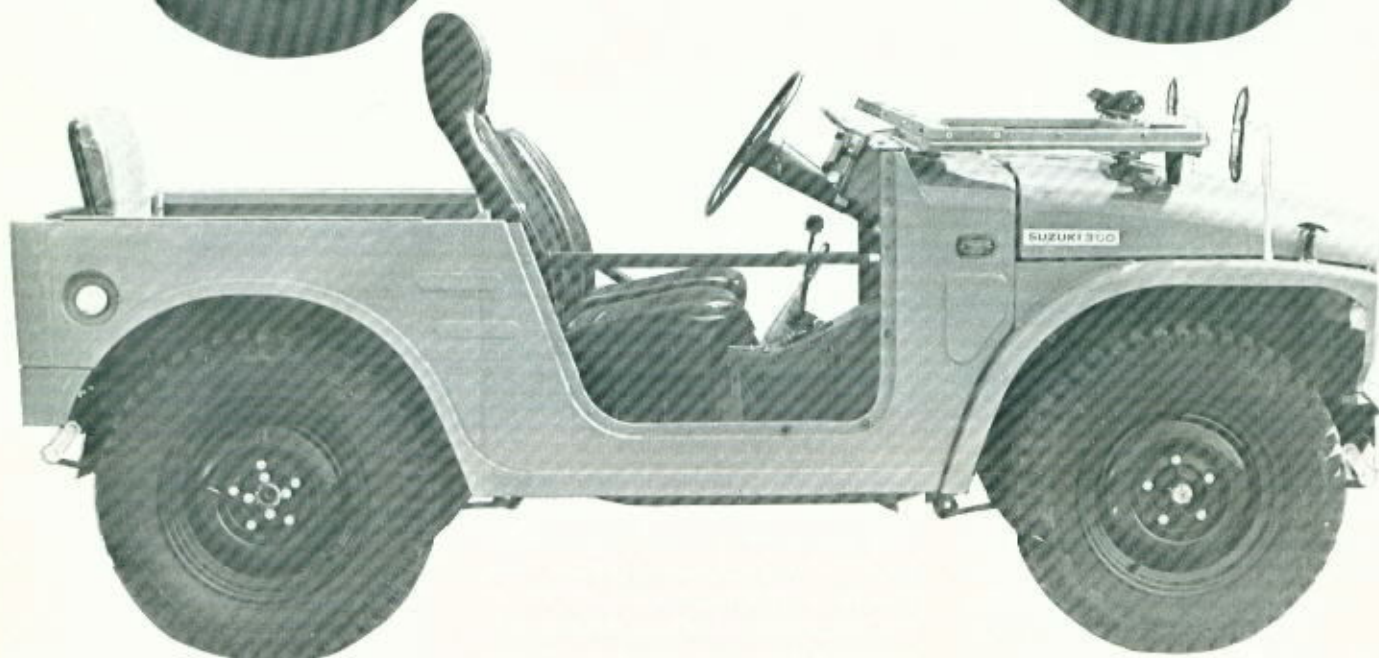
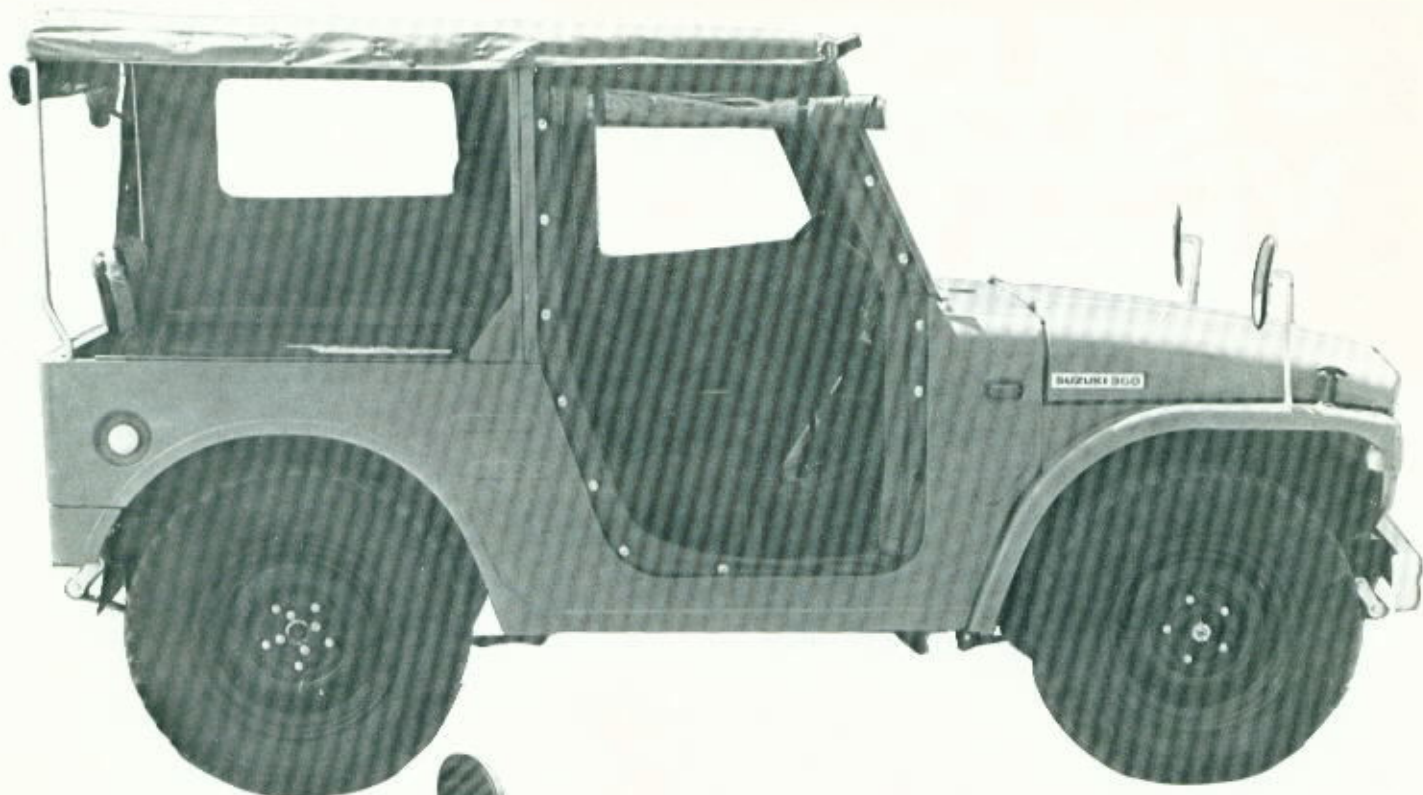
Brute IV's standard equipment includes a tire jack, tool kit, and spare tire (not shown here), which mounts behind the passenger's seat, as well as a locking glove box and a package tray.

Options, besides the hop-up kit, include top and side curtains (which may be rolled up), a sturdy rollbar, and two

folding jump seats for the rear bed. Brute IVs will be right-hand drive until the American market shows sufficient volume to warrant a run of left-hand drive Suzukis. With emission control laws forcing manufacturers to adopt bulky and troublesome anti-smog devices or go to drastically small engine sizes, that time isn't far off.

The Brute is simple, tough, inexpensive. And romantic as hell. Racing freaks who find its pace too slow for their taste will find plenty of room in the engine compartment to experiment with substitutes. Among those that we would guess are possible: the 3-cylinder, 745cc 2-stroke from the Suzuki Fronte 500 car and, in the near future, Suzuki's 750cc watercooled Three. If you want a real galloping desert pogo stick, it looks like there's room in that engine bay for a Vulcan V-4 (DB&HVWs, Nov. '70), with 115 bhp!

Gasp! We can see it now...just us and Parnelli Jones!



## ENGINE

360 c.c.  
2 cylinder engine  
2-cycle reed valve type  
air cooled with posi-force lubrication  
25 HP — 6000 rpm  
roller bearing crankshaft

## TRANSMISSION

4 speed all synchromesh  
auxiliary low-range transmission  
2 wd — 4 wd standard

## GENERAL SPECIFICATIONS

12 volt electrical system  
2 speed windshield wipers  
dynamo / generator  
weight — 1,320 lbs.  
seating capacity — 2  
width — 52"  
length — 118"  
wheel base — 75"  
tires 6.00 x 16 — 6 ply rating