

THE NEW BODY STYLE



9/15/01

In 1994, S-10 Truck got redesigned, and in 1995, the S-10 Blazer also got the new body style. While the body and interior were completely changed, much of the chassis and frame remains the same as the earlier models.

The frame on the newer trucks is more fully boxed to improve torsional rigidity and bending stiffness, and the frame has notches to provide crumple zones to improve crash worthiness. However, the same V8 mounts that work on the 1982-1993 trucks also work on the 1994-1997 trucks.

The 1995 S-10 2WD, 2-door Blazer shown above has a 1996 Corvette LT4 engine/4L60-E transmission. The photograph was taken at the General Motors Desert Proving Grounds near Phoenix, Arizona on a 104° F day. Scott Leon and other talented employees at the Proving Grounds built this truck using various parts from the General Motors parts bin. The tires and wheels are from an S-10 with the ZQ8 sport suspension package. The Blazer was lowered two inches with the ZQ8 springs and shocks.

The ZQ8 suspension is optional on the S10 trucks, but not the Blazer. The ZQ8 package includes 16x8 rims with 235/55-16 Goodyear Eagle GA tires. Slightly softer springs that lower the truck two inches, firmer shocks, a large diameter (1-5/16") front sway bar and a 7/8" rear sway bar. Also included on the ZQ8 package is a Power Hop Shock (horizontal rear shock absorber to reduce axle hop, see page 12-4), and a quick-ratio steering box with 2-3/4 turns lock-to-lock. The ZQ8 suspension also includes special urethane bumpstops front and rear, which offer a more progressive action when the lowered suspension contacts the bumpstops. The ZQ8 is a \$700 option, which is a bargain because it costs a lot more to buy piece-by-piece. The nice thing about the ZQ8 pieces is that they can be added to older style 2wd S-10 Trucks and Blazers.

The ZQ8 pieces added to the above Blazer make it handle better and look better. The ride is firmer than the stock suspension, but it handles bumpy roads with no floating or bottoming. On corners, the Blazer leans less and grips better. Overall, the ZQ8 suspension is a great performance package.

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1995 S-10 BLAZER WITH 1996 LT4/4L60-E

The engine was installed with minimal modifications to the vehicle: no frame mods, no body mods, and mostly factory parts. It's a beautiful swap.

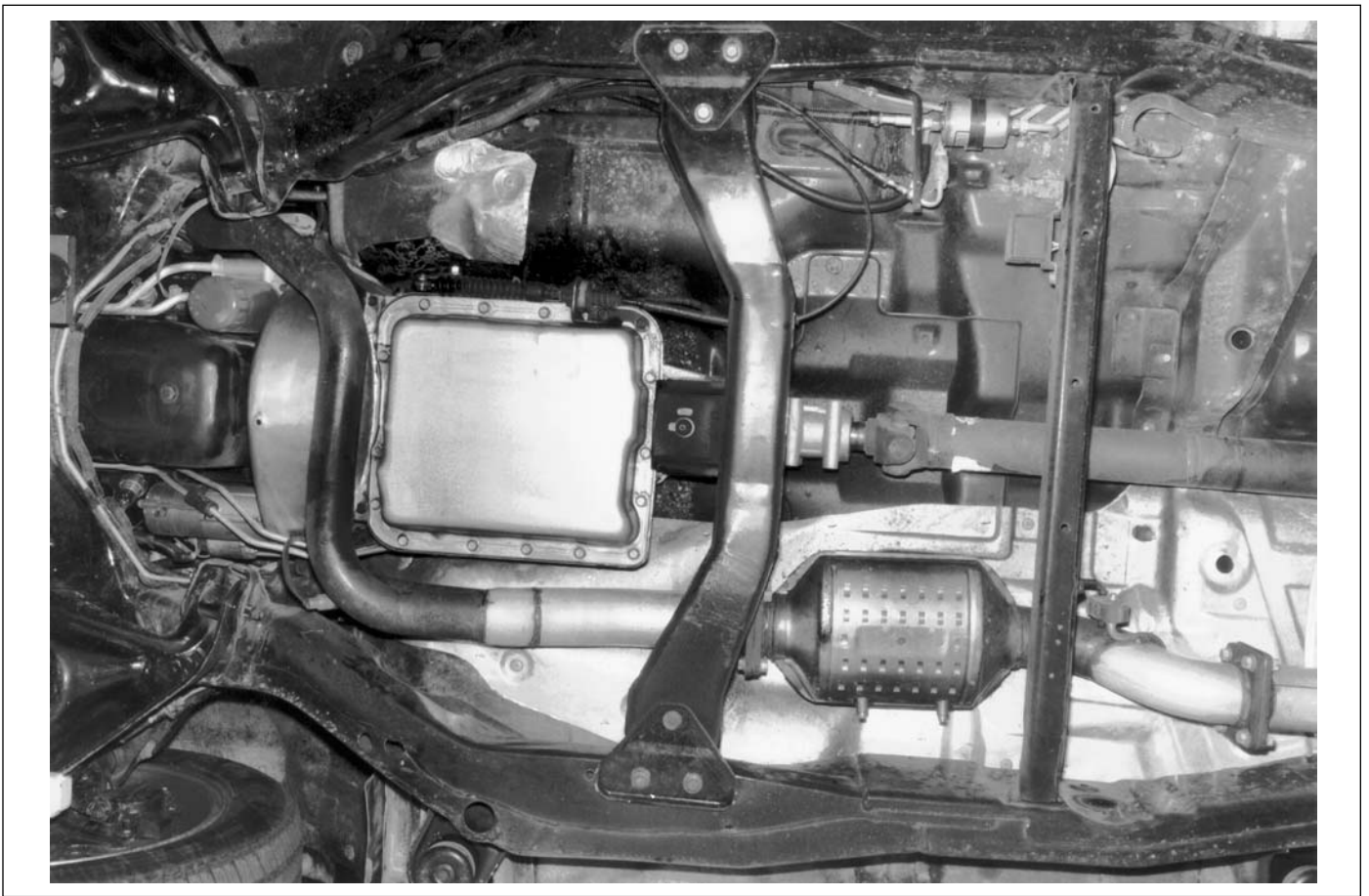
Basically, the 330 horsepower LT4 engine is a souped-up LT1 engine, and only came in 1996 Corvettes with the manual transmission. The transmission is from a 1996 Camaro and the computer was reprogrammed for the automatic transmission and the 4-wheel anti-lock brakes. Compared to the LT1, the LT4 has bigger valves, stiffer valve springs, bigger cam, roller rocker arms, better flowing cylinder heads, and higher compression pistons. For high rpm durability, premium timing gears and chain are installed, and a dual-mass harmonic balancer is also used.

The accessories on the engine are from a 1993-97 Camaro LT1. The nice thing about using the Camaro LT1 accessories (alternator, air conditioning compressor, power steering pump, and associated bracketry) is that the 1993-1997 Camaro LT1 engines are readily available at the wrecking yards. Corvette accessories (which are required in the 4x4 S-10 V8 swap), are difficult to find in the wrecking yards, and they are expensive to purchase new.

The exhaust manifolds are from a 1988-1992 Camaro TBI V8, and are restrictive for the LT4 engine, but they were used because they required no modifications to the frame or firewall.

If we were to do this swap, we would probably do a few things differently so as to accommodate the LT1 exhaust manifolds. Naturally, this would require cutting, hammering, and other butchery that JTR is often accused of. But, we feel it would offer a significant power improvement over the TBI manifolds. Using the LT1 manifolds would also simplify the EGR hook-up, and the AIR pump plumbing, because it would all remain stock.

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UNDERCARRIAGE OF 1995 S-10 BLAZER WITH LT4/4L60-E

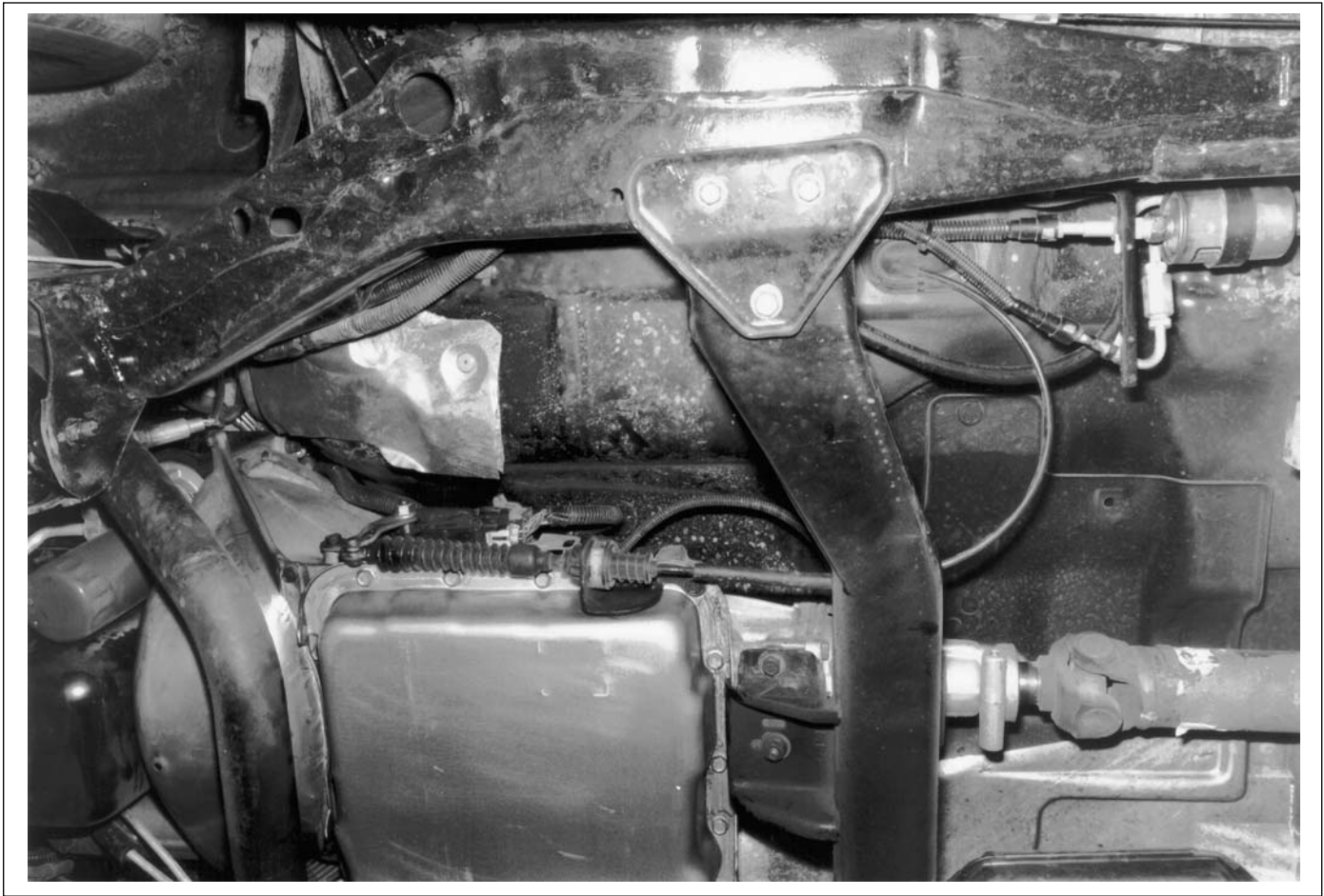
The undercarriage of the V8 Blazer looks stock because it is mostly stock. The exhaust system is custom, with 2-1/4" headpipes joining into a 3" exhaust and a 1995 big-block truck catalytic converter (1996-1997 big-block trucks use dual catalytic converters).

The 1995 and newer S-10 Blazers are substantially more refined than the older models. Part of the improvement is from boxing the frame rails to improve rigidity. Notice the crossmember behind the catalytic converter. This improves the frame stiffness, and provides protection in side impacts by distributing crash forces into both frame rails. This crossmember was not used on the older style Blazer. Also, the floor pan is reinforced with doubler panels in critical locations to improve quietness and safety.

Notice the substantial amount of heat insulation above the exhaust system. This keeps the vehicle cooler inside, as well as quieter.

The added refinement and safety do add weight to the vehicle. This 2wd 2-door S-10 Blazer with the V8 weighs about 3800 lbs, but it is an extremely nice driving and good performing vehicle.

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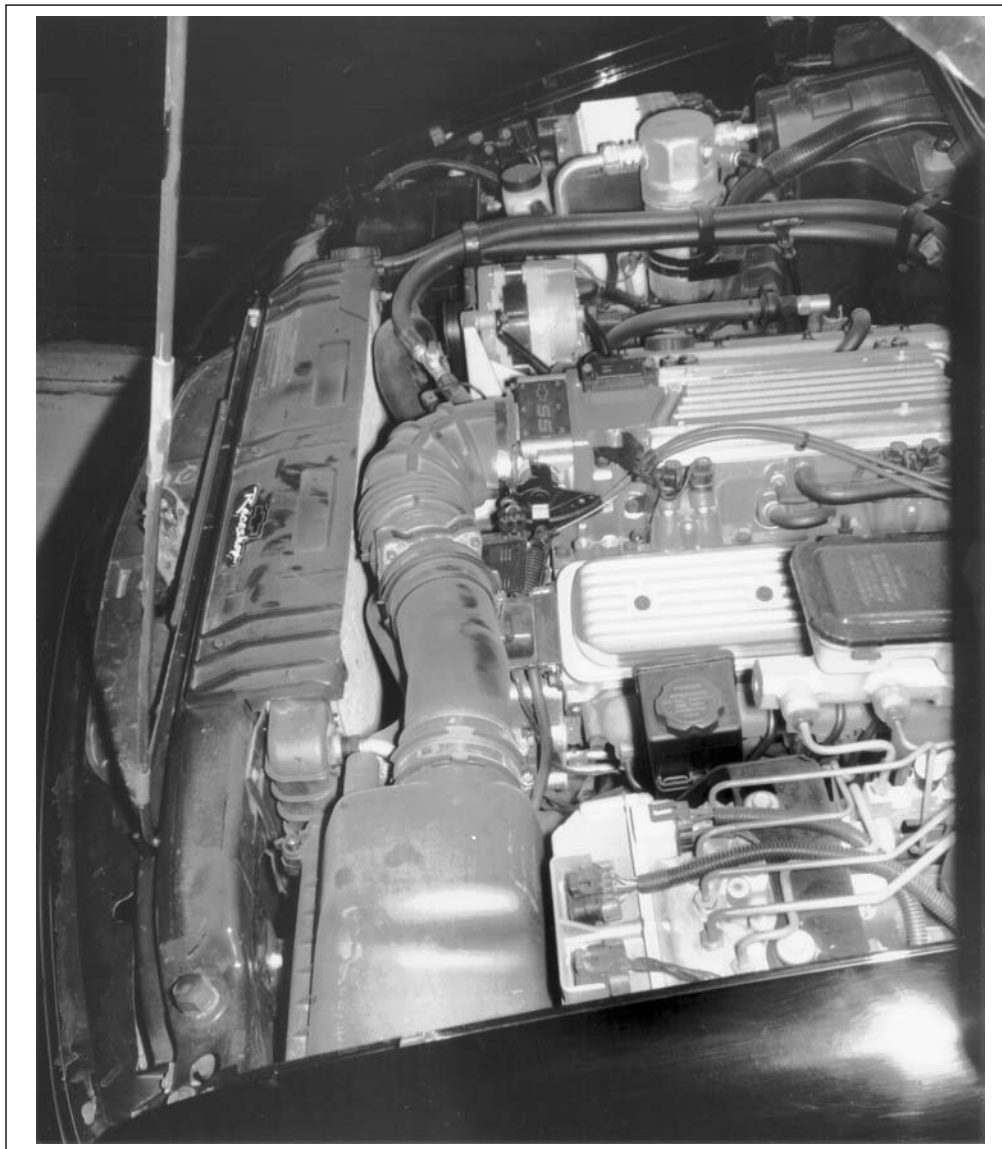
AUOMATIC TRANSMISSION SHIFT LINKAGE

In 1995, the S-10 Trucks and Blazers got a new steering column that uses a cable shifter. This makes the V8 swap easier because the routing of the shift cable eliminates the need to modify the firewall for shift linkage clearance as required on earlier models.

The 1995 and newer S-10 Trucks and Blazers have the park/neutral-reverse switch mounted on the transmission. The 1994 and earlier transmissions may not have the mounting bosses for the park/neutral-reverse switch. Stealth Conversions has a bracket (not shown) for mounting the park/neutral-reverse switch onto older 4L60-E and 700-R4 transmissions (Stealth Conversions part #4L60-101, cost \$36).

1994 S-10 Trucks use the old style steering column with a shift rod that runs along the firewall. They do not use a cable shifter.

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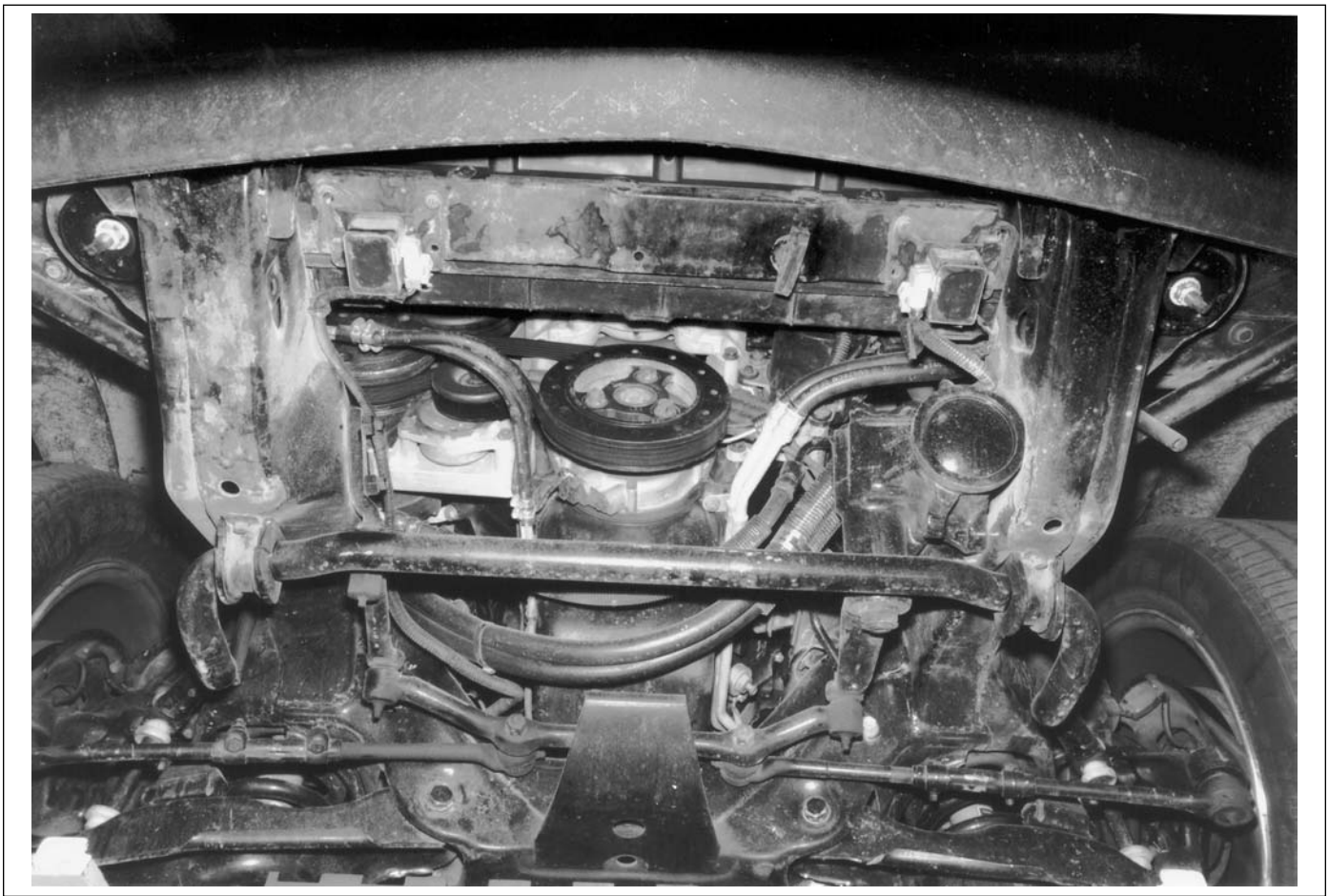


This shows how tight it is between the engine and radiator. The air cleaner ducting is extremely close to the radiator, even though the 90° rubber elbow attached to the throttle-body (from a 94-97 Camaro LT1) was trimmed to gain about 3/4" clearance. The air cleaner box is from a 1994-1996 Caprice.

If we were to do the swap, we would move the engine rearward to improve clearance, and also to improve cooling slightly because air flowing through the radiator would not be blocked as much by the engine and the accessories.

It should be noted that this truck does not overheat, even in 104° F weather with the air conditioning turned on. The new body style has more room between the radiator and the grill than the older style, and this allows installing bigger and more powerful pusher fans in front of the radiator and air conditioning condenser than with the older body style.

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UNDERNEATH THE 95 S-10 2WD V8 BLAZER

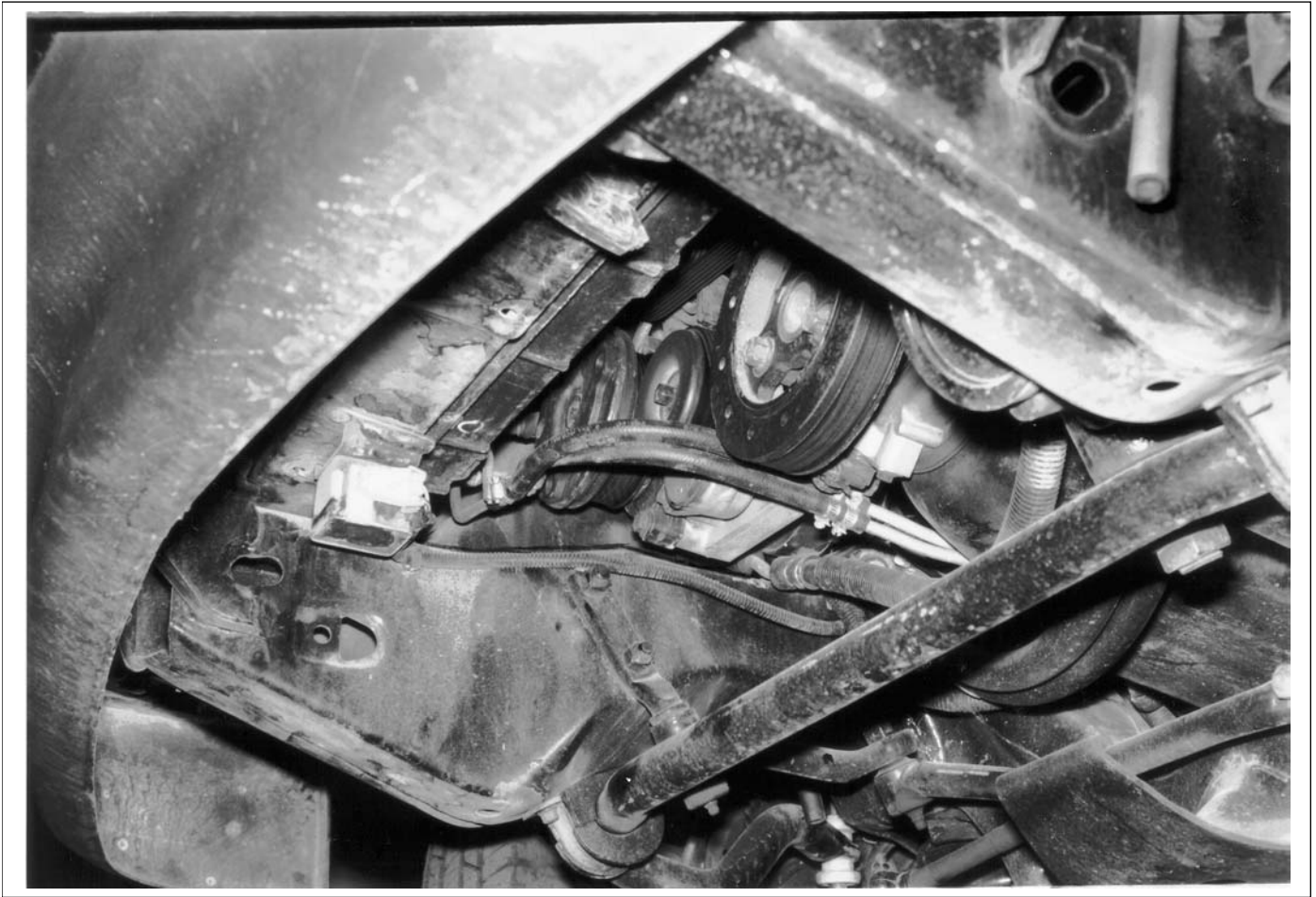
This shows the underside of the LT1/LT4 V8 swap. The engine accessories are from a 1993-1997 Camaro LT1. This is a two-wheel-drive truck—the 4x4 S-10 Trucks must use the Corvette accessories when using the LT1 because of the different front suspension, and the different frame.

This vehicle is equipped with an engine oil cooler, which runs oil hoses from the oil filter adapter to the radiator. To simplify the swap, we would eliminate the oil cooler and hoses, and run synthetic oil, as was done on the Corvette LT1.

The power-steering-pump is mounted on the passenger's side of the engine, and the power-steering hoses run underneath the oil pan to the steering box, which is mounted on the driver's side. The Camaro LT1 high-pressure power steering hose has fittings that bolt to the S-Truck steering box but the steel ends of the hose need to be bent (tweaked) to fit the V8 swap.

One of the air-conditioning hoses runs under the oil pan. It is barely visible in this photograph because the front sway bar is blocking it from view, but you can see it better on the next page.

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LT1 CAMARO ACCESSORIES IN 2WD S-10 BLAZER

The big issue with using the Camaro LT1 accessories is that Camaro LT1 engines are more common at the wrecking yards than the Corvette engines. The Camaro accessories also offer more room between the engine and the radiator than the Corvette accessories. Also, it is much easier to connect the radiator hoses to the stock S-10 radiator when using the Camaro accessories.

The one potential problem with using the Camaro accessories is that the air-conditioning compressor interferes with the frame rail on the trucks. On the Blazer shown above, the air conditioning compressor comes close to the frame rail, but clearance is adequate. Remember, the 2wd Blazer has the motor mount pads raised about 1-1/4" higher than the 2wd truck mounts (see pages 7-2,3). With the trucks, we recommend notching the frame as shown on page 7-20, so that the driveline angles can remain close to stock.

We believe most 2WD Blazers with V8's are lowered and notching the frame allows improved driveline angles. It also reduces the amount of hammering required in the transmission tunnel when the engine is set-back (Hammering ain't a big deal to us, but some people prefer to keep hammering to a minimum).

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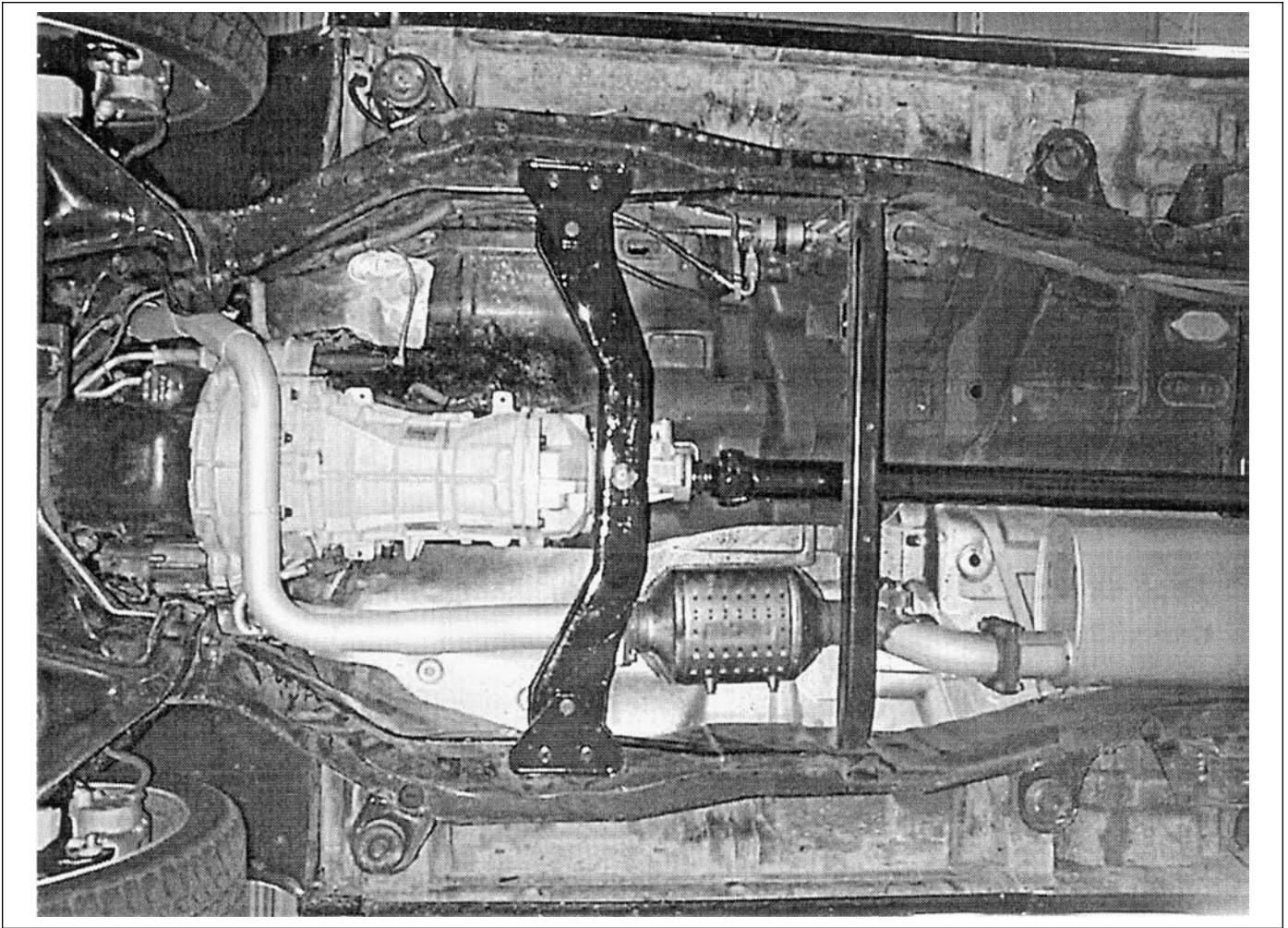


In 1995, the S-10 trucks, and the S-10 Blazers got a driver's side airbag, and a new steering column. The new steering column makes the V8 swap easier for two reasons. First, the "bell-style" joint on the steering shaft, which interfered with the exhaust manifold (see page 7-28, 29) is no longer in the engine compartment. This improves clearance between the steering shaft and the exhaust manifold by about 3/4". Secondly, with an automatic transmission, the new steering column uses a cable shifter, which means no firewall mods are required because of shifter linkage clearance problems. 1994 Trucks use the same type of steering column and automatic transmission shift linkage as the early style trucks.

In this swap, the engine was not offset towards the passenger's side and there is good clearance between the steering shaft and the Camaro TBI exhaust manifold.

If the engine was offset towards the passenger's side by about 3/4" (which is a typical amount of offset with the trucks shown in the introduction of this manual) the Camaro LT1 exhaust manifold could be used, which, with the 275-300 horsepower LT1 engine, would offer a power increase over the TBI manifold. To use the Camaro LT1 exhaust manifold on the passenger's side, the frame rail on the passenger's side would have to be notched as shown on page 7-21.

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T56 SIX-SPEED TRANSMISSION

This is the same 1995 S-10 Blazer as shown on the previous pages, but with a Borg-Warner T56 six-speed transmission from a 1994-1997 Camaro.

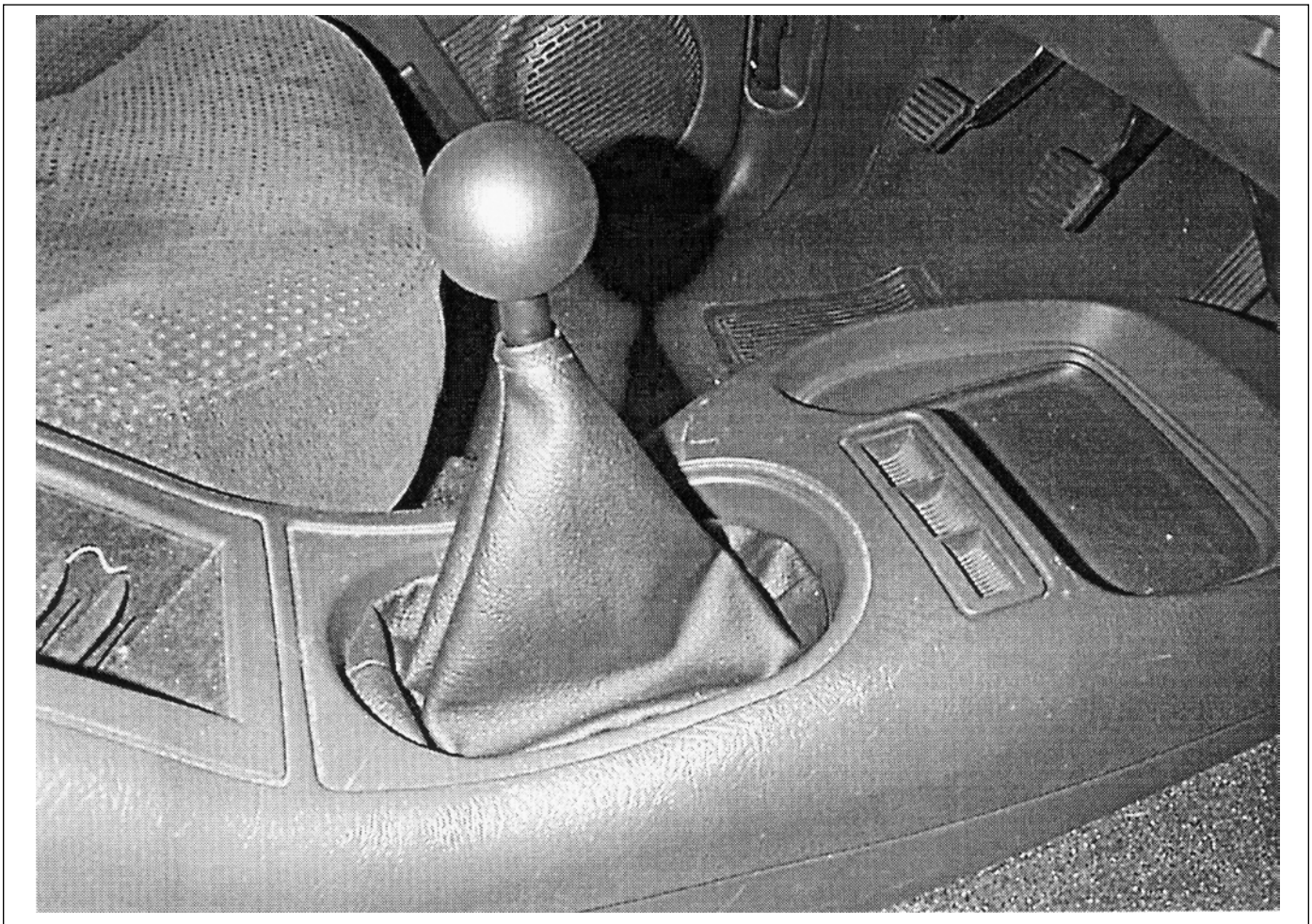
The transmission mount on the T56 is about 3.75" rearward of the 4L60 (700-R4) mount, so the crossmember was modified by removing the perch (see page 16-3), and drilling a 7/16" hole on top of the crossmember for the mounting bolt. Another larger hole was drilled on the bottom for access to tighten the nut.

The T56 rear mount places the output shaft about 1-1/4" higher than with the 4L60 mount, so the crossmember was modified so that the top of the crossmember is 1-1/4" lower than stock.

It should be noted that the 1995 transmission crossmember is the easiest to use to install the T56— the crossmember on 1996 and newer trucks (and Blazers) is different.

The 17-tooth reluctor ring in the transmission was changed to a 40-tooth reluctor ring so that the speedometer and anti-lock brakes work correctly—information on the reluctor ring is in our book, Chevrolet TPI & TBI Engine Swapping.

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SIX-SPEED SHIFTER

After cutting a hole in the transmission tunnel of the Blazer, the Camaro six-speed shifter comes through the “cup-holders” of the 1995 console. The shifter boot is from a 1993-1997 Camaro.

A bracket bolted between the shifter “spud” coming out of the transmission and the shift lever shown, moved the shift lever forward about 1 inch, up about 1 inch, and it’s angled forward slightly so that it comes out in the position shown. The shifter is shown in neutral.

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97 S-10 Truck with 97 Vortec V8

We get numerous requests for information about installing V8s into the newer body style. Frankly, the types of engines that can be installed into the newer trucks, while maintaining smog laws and practicality is quite limited. With the 96 and newer trucks, the most realistic way to do the V8 swap is to start with a truck that has a 4.3 V6. The only V8 engine we can recommend for a 1996-2000 S-10 is a 350 V8 from a 1996-2000 full-size truck.

The truck above originally came with a 4.3 V6. A customer sent us these photos. It is very difficult to tell from the above photo that the truck has a V8. The 4.3 V6 is essentially a 350 V8 with two cylinders missing. 1996-2000 full-size trucks use the 4.3 V6, and the 4.3 V6 in the full-size trucks is externally identical to the V6 in the S-10 except for the exhaust manifolds, the air-cleaner ducting, and the wiring harness. The V6 and the V8 use the same accessories (air-conditioning compressor, power-steering pump, water-pump, alternator, and brackets), so a 1996-2000 Vortec 350 V8 can be installed into a 1996-2000 V6 S-10, and can use the 4.3 accessories.

The swap shown above was done by getting a 350 V8 from a 1997 full-size truck. The S-10 V6 wiring harness was installed onto the V8. Several wires had to be extended or rerouted, and several wires had to be added for an additional oxygen sensor, and for the two additional injectors. The computer from the 97 full-size truck was used, and reprogrammed with a Hyper-tech programmer to calibrate the speedometer for the axle ratio and tire size used in the S-10.

The original 4.3 V6 transmission, air-cleaner assembly, ducting, MAF sensor, and air conditioning hoses were retained. We don't exactly recommend using the 4.3 transmission and MAF sensor, but the owner of the truck told us they work fine.

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97 S-10 with 97 Vortec V8

The reason the V8 appears to fit in this S-10 so well is because the radiator support was modified so that the 1986-1988 Corvette radiator could be placed in the "forward" position. This required relocating the 4.3 V6 air-conditioning condenser in front of the radiator support. The original 4.3 V6 radiator will not easily fit into the "forward" position because it is too wide. The 4.3 V6 fan shroud was modified and trimmed to work with the radiator and modified radiator support.

The engine was set-back about 3/4" inch, it could not be moved anymore rearward because the LT1 exhaust manifold on the driver's side gets close to the upper a-arm. Also, the LT1 exhaust manifold on the passenger's side requires some hammering on the firewall to move the engine rearward.

The LT1 manifold on the passenger's side interferes with the starter used on the V8 trucks. The flywheel or flexplate should be replaced with the 153-tooth unit used in passenger cars, and a 93-97 Camaro LT1 starter should be used.

The hood clearance is a bit tight, and the hose fittings on the air-conditioning compressor contact the hood insulation. We have been involved with another 97 S-10 with a Vortec V8, and cutting the ears on the Stealth Conversions mounts (using the 2wd Blazer position) in the new body style lowers the engine 3/4" inch, and will work fine, but the corner of the oil pan sump has to be hammered in to clear the front crossmember, and the transmission oil pan ends up being as low as the frame rails on the truck. The exhaust headpipes will hang a little lower and may cause ground clearance problems.