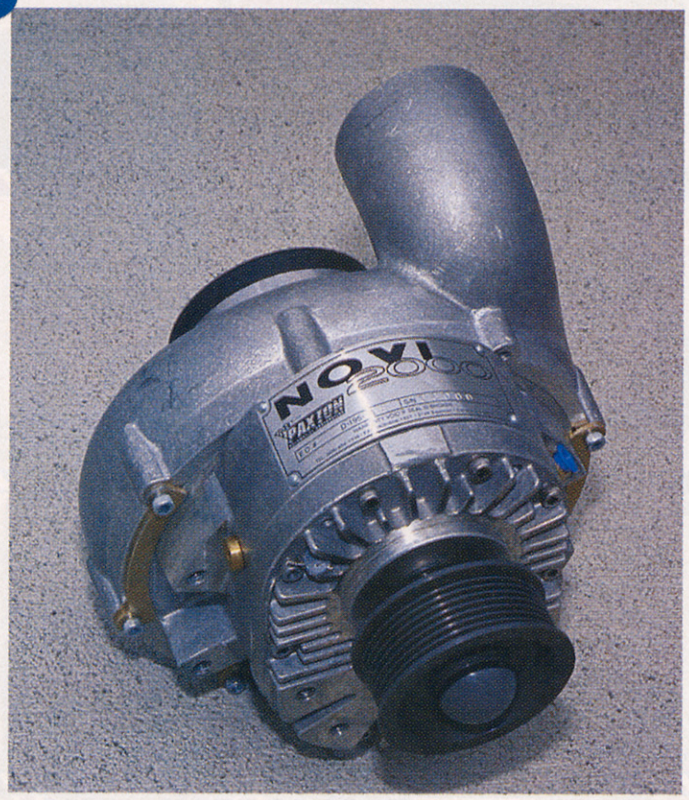
Mega Air for the Magnum Motor

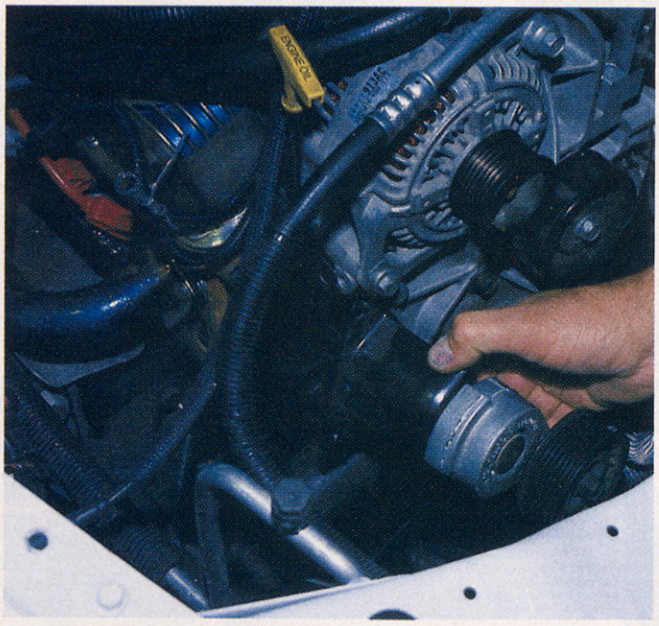
by Don Emmons | PHOTOGRAPHY: DON EMMONS

Have you been looking for more horsepower for your Dakota or Durango R/T? Are you tired of adding bolt-ons that provide only a little more response? Or perhaps you're looking for even more than what installing a larger throttle body, chip, and headers can provide? If you are in this situation, it may be time to check out a supercharger kit offered by Paxton Automotive for late-model Dodge V-8 motors.

Paxton Supercharger Kits for Dodge R/Ts



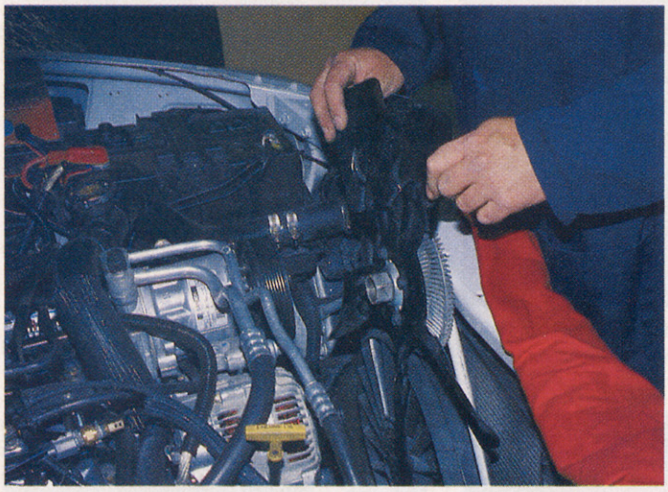
▶ **1.** The supercharger used by Paxton for '99-'02 5.2L/5.9L V-8s for Dakotas and Durangos is the 2000 Novi. It is a gear-driven unit that uses an angle-cut gear for quiet running. The unit has a 3.5 step-up ratio and is capable of producing as much as 25 psi of boost. Boost is controlled by blower speed. For this application, it will be running at about 8-9 psi. This unit is oil-cooled, requiring the installation of oil lines.



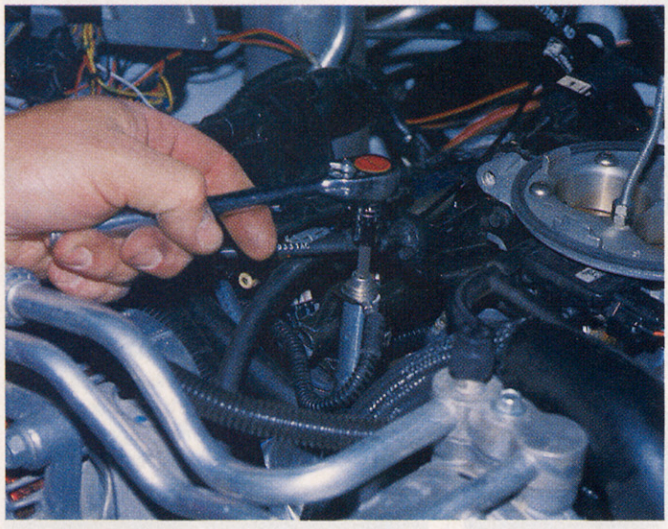
2. We disassembled the accessory belt, coil, and belt tensioner after the airbox and fan shroud had been removed.

Paxton offers two different kits that provide a serious increase in horsepower for the Dakota and Durango. One kit is for the owner of a stock vehicle who wants more power when pulling out to pass another vehicle, or to help pull a trailer. The other is for an owner who wants to turn his vehicle into a serious drag-racing machine, an owner who has already done some work on the bottom end and maybe added a set of new Mopar heads. The Paxton tuner kit is what that owner is looking for. This supercharger will produce as much as 25 pounds of boost, or as little as 9. Boost is controlled by the speed of the blower. The tuner kit is for the very serious racer.

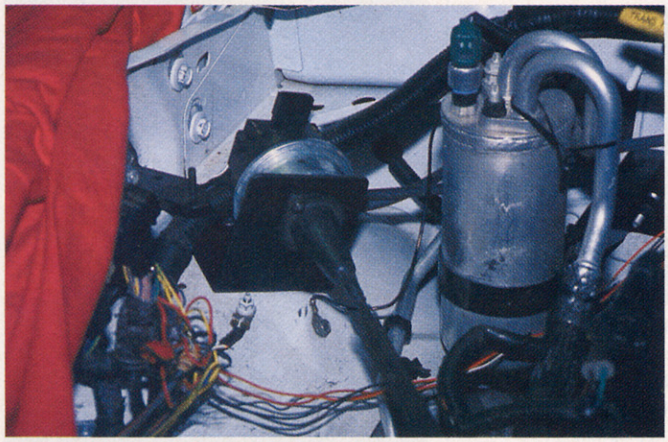
Installing either of these kits requires the mechanical skills and tools to be able to do automotive engine repair work. Paxton supplies a very complete instruction manual with a step-by-step guide and photos. This is a two-day job for a knowledgeable person, but it's well worth the time spent. ***TR***



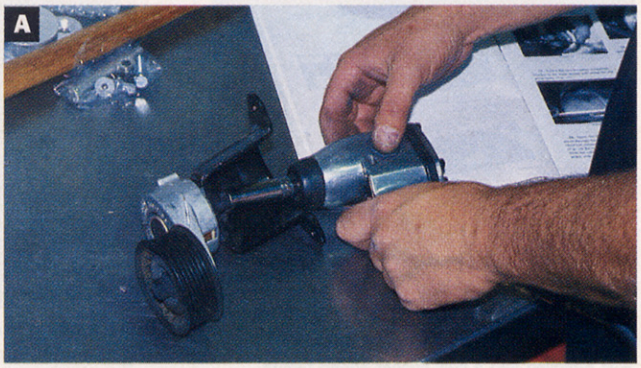
3. The cooling fan must be removed, since a spacer will be placed behind it. This spacer is added to make room for the crank pulley for the supercharger's drive.

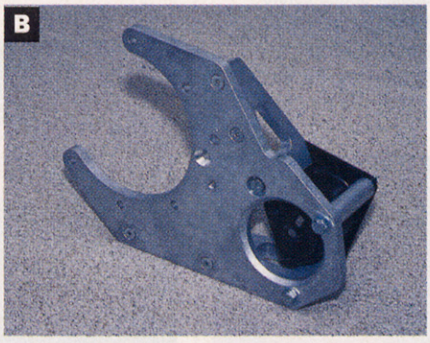


4. The ground wire that was attached to the stock idler bracket bolt has been relocated to the top of this truck's intake manifold. It was relocated as shown on this aftermarket setup.

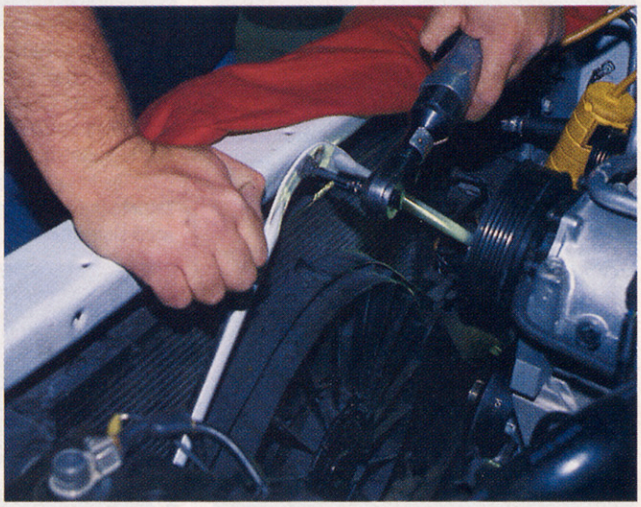


5. The speed-control servo must be relocated up near the firewall on the inner fenderwell. A new mounting bracket comes with the kit. The servo unit must be removed from the stock mounting bracket and installed in the new one that has been bolted to the fenderwell, with bolts provided in the kit. We lengthened the servo's electrical wire, cut off the connector, leaving about two inches of wire extending from the connector, then spliced in a new section of the same gauge wire.

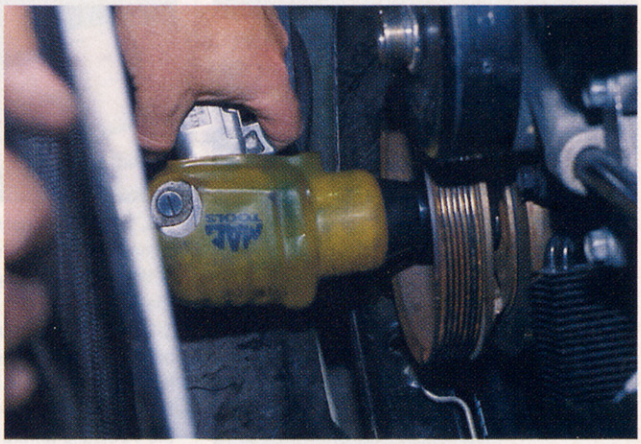




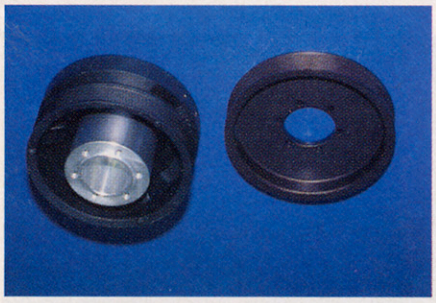
6. A&B
The stock belt tensioner bracket had to be removed. We installed the bracket on the new supercharger bracket.



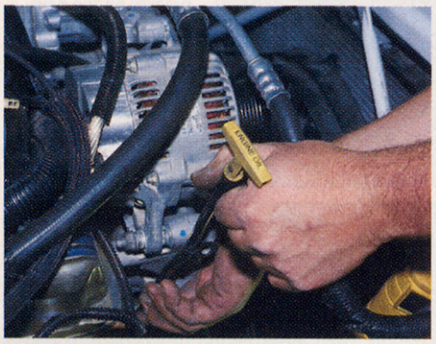
7. The V-bracket mounting of the electric fan had to be removed to allow for removal of the crank damper pulley.



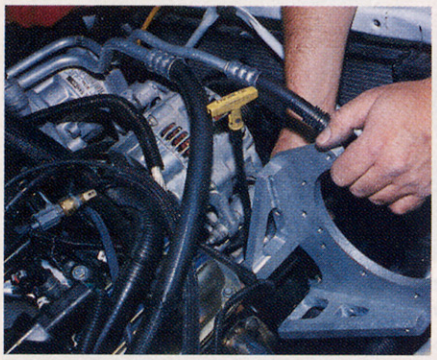
8. A 1-1/4-inch socket and an impact wrench are needed to remove the bolt that holds the harmonic balancer pulley. A three-jaw puller was used to remove the balancer.



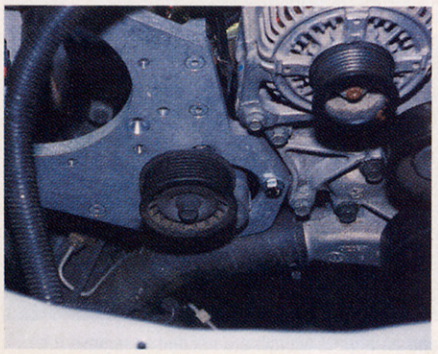
9. The kit comes with a new modified harmonic balancer, spacer, and pulley. The new balancer was installed using the stock bolt, but then it was removed and a new spacer added before the balancer was torqued down to factory specs. After that, the supercharger pulley was installed with the six bolts that were provided. We applied a small amount of blue Loctite onto the threads of each bolt.



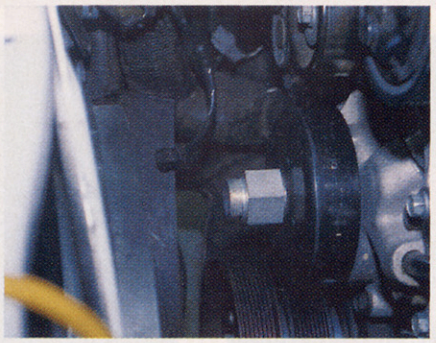
10. We bent the oil dipstick a little for clearance before installing the supercharger mounting bracket.



11. After the supercharger bracket had been set into place, it was simple to determine how the dipstick tube should be reshaped.

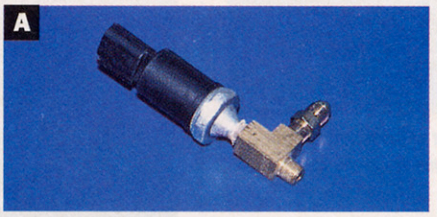


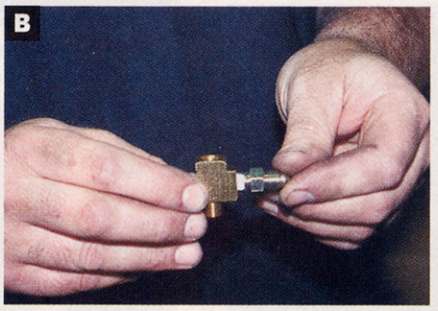
12. Next, we reinstalled the factory accessory belt tensioner and the factory drivebelts.



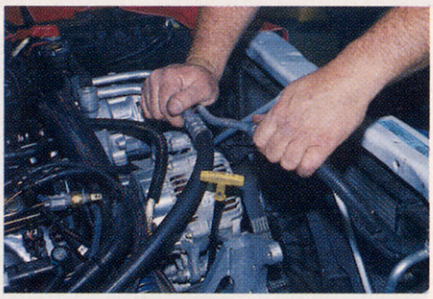
13. A fan spacer is included in the kit to provide enough clearance for the new supercharger drive pulley.

14. The Novi 2000 supercharger unit is oil-cooled and needs oil lines connected to it. The return oil line extends out of the bottom of the unit. When installing the hose onto the fitting, we had to make sure the hose curved toward the oil pan. The hose must be installed before the unit is set into the mounting bracket, since it will not be accessible afterward.

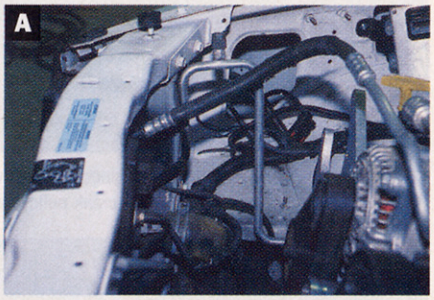


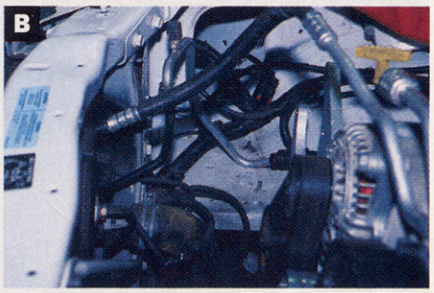


15. A&B Oil supply for the supercharger will come from the oil pressure sending unit located at the back of the engine, next to the distributor. The sending unit can be removed by using a 1-1/16-inch socket or the appropriate oil pressure sender socket. The final setup should look as shown. When installing the oil feed, we first screwed in the T-fitting, with the lower part of the T pointing toward the firewall. Then we screwed the fitting for the oil feed into the T. The sending unit is last to be installed. Don't forget to apply some sealant to the threads to prevent oil leaks.

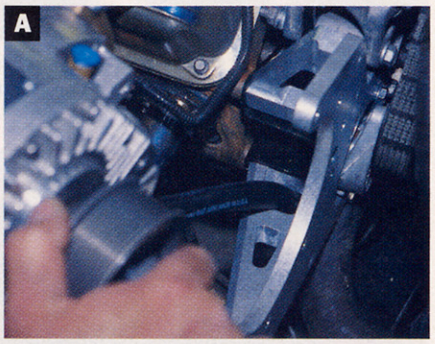


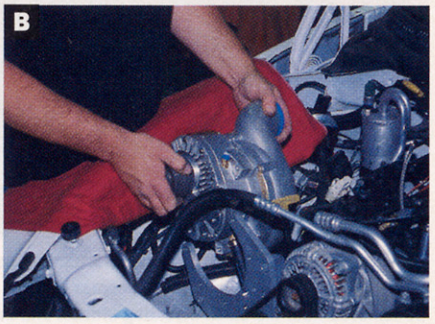
16. The A/C lines must be bent for more clearance around the supercharger.



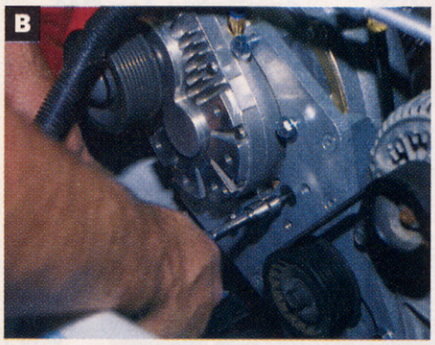


17. A&B The other A/C hard line needed to be bent for clearance – it had to lay up closer to the core support. We worked carefully so as not to kink or break the hard lines when bending them.

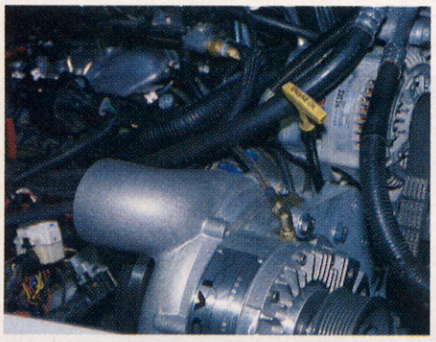




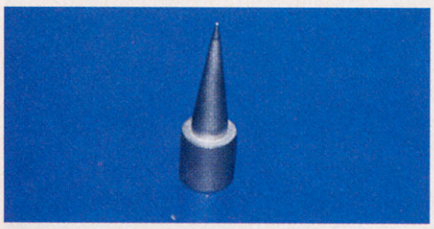
18. A&B When placing the supercharger unit into its bracket, we threaded the return oil hose down through the hole in the bottom spacer of the supercharger bracket.



19. A&B The third hole down the mounting bracket is tapered. Before installing that bolt, we applied some anti-seize to the tapered area. Paxton found that in time this bolt will not thread out without the lubricant.

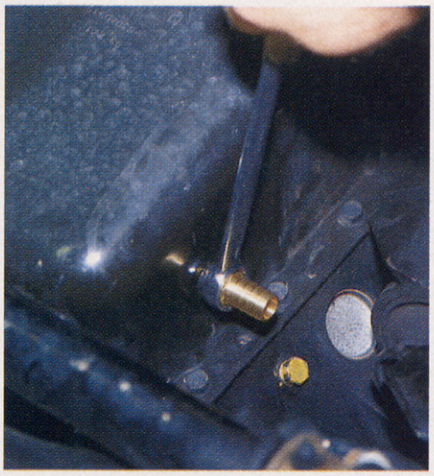


20. An oil feed line provided in the kit is a 32-inch-long braided hose that attaches to the supercharger case with a brass 90-degree fitting. We applied sealant to the non-flared end of the fitting.

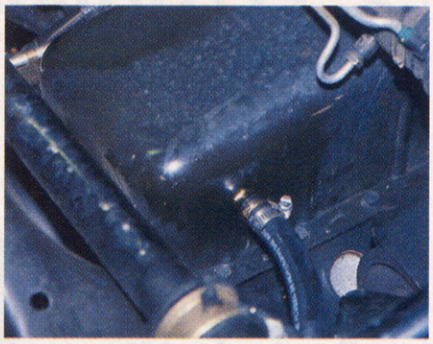


21. Before working on the oil pan, the truck has to be placed on jackstands or raised on a hoist. The oil return line of the supercharger was installed in the upper portion of the engine oil pan. Before drilling a 3/16-inch pilot hole in the side of the pan, we placed some grease on the bit to catch any chips. We pushed a piece of wire through the pilot hole to see if a rod or portion of the crank was in the way, then punched a large hole with the punch that was included in the kit. Sometimes, the engine has to be bump-started to get good clearance.

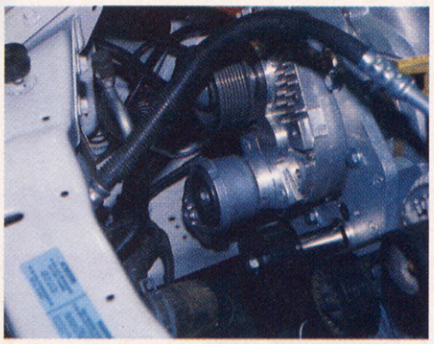
22. A&B We used an air hammer to punch the larger hole in the pan. Trying it with a regular hammer will destroy the pan. We coated the punch with anti-seize before starting, as that allows the punch to expand the hole much more easily. We used only short bursts from the air hammer to force the punch into the metal, and penetrated only as deep as the shoulder.



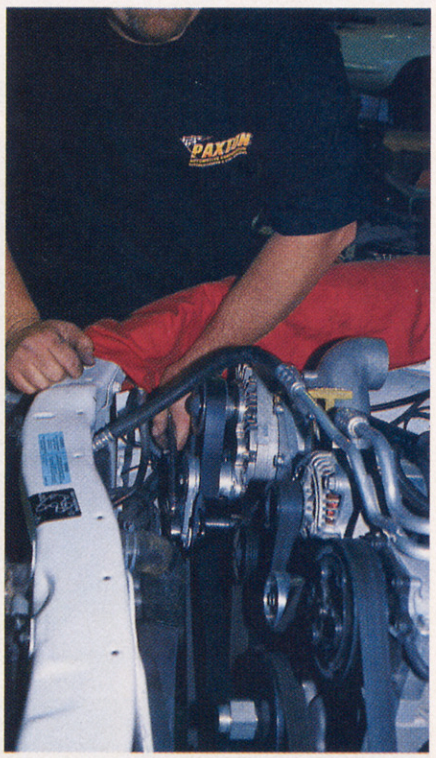
23. Now that the hole had been punched into the pan, we started threading the self-tapping fitting into the hole. We worked very carefully here to make sure that the fitting went in straight. The fitting shouldn't go quite all the way in. We brought the fitting back out and applied some sealant to the threads, then threaded it into place, making sure not to over-tighten it.



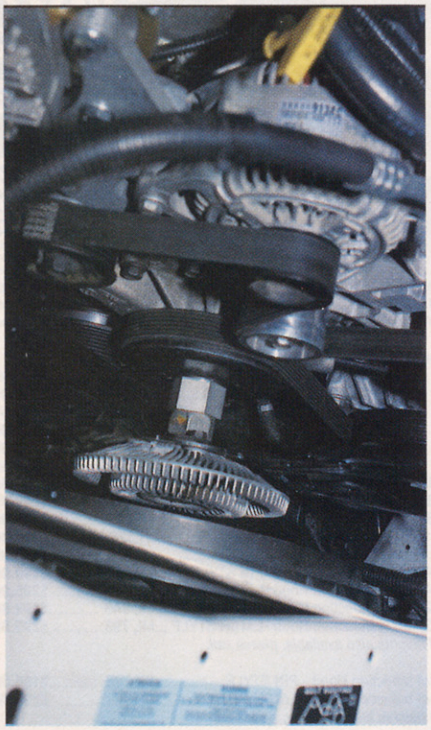
24. Once we clamped the hose to the fitting, that part of the job was finished. After the job had been completed and the engine was running, we checked the fitting for oil leaks.



25. Next, the supercharger idler pulley and stand-off were bolted to the supercharger mounting bracket and the belt tensioner was installed. The tensioner mounting bracket was installed to the front of the supercharger. Countersink bolts were to be used here, so anti-seize was applied to the countersunk part of the bolt. Then we added the tensioner.



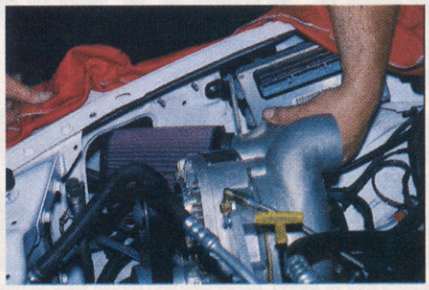
26. We held a wrench on the belt tensioner and worked the supercharger belt onto the pulleys.



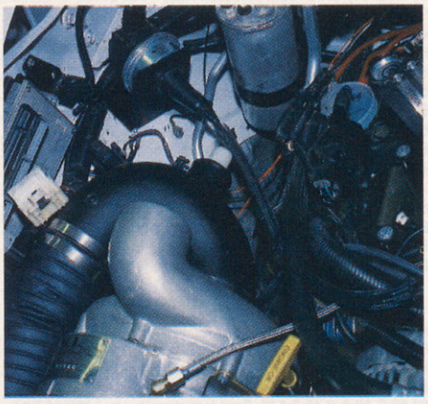
27. The kit provides a new fan spacer to bring the fan farther out in order to clear the lower crank pulley. The spacer was threaded into place earlier, and now the fan was attached.

28. The plastic fan shroud must be trimmed on the side for clearance, since the supercharger idler pulley will extend out into it. A roughly 3/4-inch relief was needed for clearance. We took care not to cut up too high, since the lower portion of the windshield washer tank sits just above this area.

29. If you do happen to get up into the washer, it can be sealed off by using a good two-part epoxy.

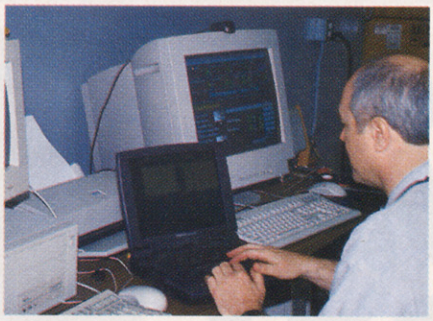


30. The air intake filter was attached to the 90-degree elbow, and they were worked into the opening in the inner fender panel and bolted up.



31. The rest of the air intake could be installed to the opening on the supercharger and clamped down.

32. The supplied tubing was clamped to the air outlet portion of the supercharger and then hooked up to the bonnet. The owner of this truck selected a cast-aluminum K&N unit.

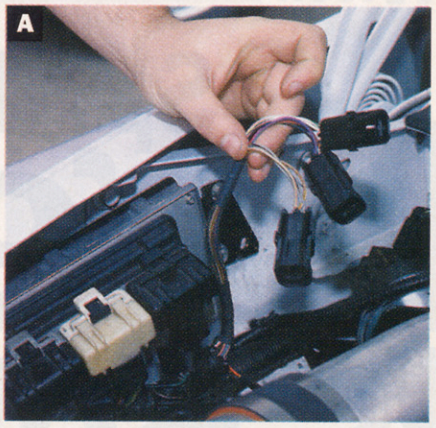


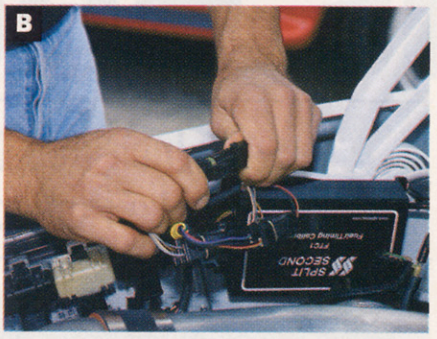
33. The Dakota was taken to Mark Amarandos at Split Second, where the company specializes in tuning late-model vehicles equipped with high-performance parts. Split Second's box works in conjunction with the stock system.

sources

- **Paxton Automotive Corporation**
  Dept. TR
  2146 Eastman Ave.
  Oxnard, CA 93030
  (805) 604-1337

- **Split Second**
  Dept. TR
  1949 E. Deere Ave.
  Santa Ana, CA 92705
  (949) 863-1359
  www.splitsec.com





34. A&B Connectors were installed on the wires to make it easier to move or change the box, if that ever becomes necessary.