



AM Sports Coupe

Engine swapping still continues to be the number one subject matter in the mail received from our readers and with the ever increasing number of overhead valve engines being built today, the interest in swapping should stay high for quite a while yet. The latest of these engines to hit the market is American Motors' V8 put into production in 1956 for Nash Statesman and Hudson Hornet Special cars. In its first application, AM's 190 horsepower V8 had a displacement of 250 cubic inches but was designed for a far greater displacement. For 1957, the engine size was increased considerably to 327 inches, the horsepower to 255 and it immediately started to attract some attention among those do-it-yourself mechanics contemplating engine swaps. This basic engine

is the same as that used in the Rambler Rebel we tested this month—see page 16.

A long time Nash enthusiast from Torrance, California, Pierce Venable, started taking measurements on the three Nash chassis he owned after viewing the 255 horsepower engine; a 1923 Nash touring sedan, a 1954 Ambassador and a 1954 Nash-Healey coupe. Venable discovered that he could make the AM V8 fit in all three cars but decided to concentrate first on his Nash-Healey. The problems encountered and the solutions discovered by Venable will apply to all Nash-Healey cars from 1951 to 1954 since all use the same chassis.

Adapting the new V8 to the Healey's stick shift transmission with overdrive was easily accomplished by using a

1956 Statesman V8 bell housing number 3145020. This housing will adapt the V8 engine to all pre-'57 Nash transmissions as far back as 1935. The new engine was next lowered into the Healey chassis and a trial fit made to check clearances. A piece of firewall channel had to be notched to clear the right cylinder head and a notch was also necessary in the top of the right frame box to get starter motor clearance. This notch was boxed in and arc-welded to insure frame strength.

The exhaust system presented no problem on the right side where there was plenty of clearance. Venable used the well designed exhaust manifold on the right side but could not use the left manifold because of the closeness of the steering gear box. A tubing header was fabricated

for the left bank after the steering gear box was moved. The steering on the Healey is of the drag link variety and mounts on the outside of the frame rail so it was easily moved outboard for engine clearance by cutting a piece of 2¼ inch aluminum plate with a band saw to match the gear box bolt pattern and then using longer bolts into the frame. This movement at the frame necessitated a slot in the floor panel for the column and the dash panel bracket was left stock so that the steering wheel was swung to the right one inch. The steering geometry was unchanged and the wheel movement actually gave more clearance between the wheel and the door for better driver control.

Two '57 Nash rear engine mount brackets were welded to the Healey frame rails and matched the front insulators on the '57 engine perfectly. These new engine mounts are 11 inches farther back than those originally used for the six cylinder engine. With the V8 engine 15 pounds lighter than the six and the weight concentrated farther to the rear, the engine swap was sure to give a better weight distribution front and rear. Rear mounts were 1957 Nash, part number 3150303, but were shortened to keep the transmission low enough so that there was plenty of floor pan clearance.

The remainder of the swap included such items as blocking off one of the two Nash-Healey upper radiator connections, moving the battery for clearance and switching to a 12 volt battery, taking a 6 volt tap from the center of the battery

Fine Italian lines, a British sports chassis and American V8 horsepower team up to make a versatile coupe

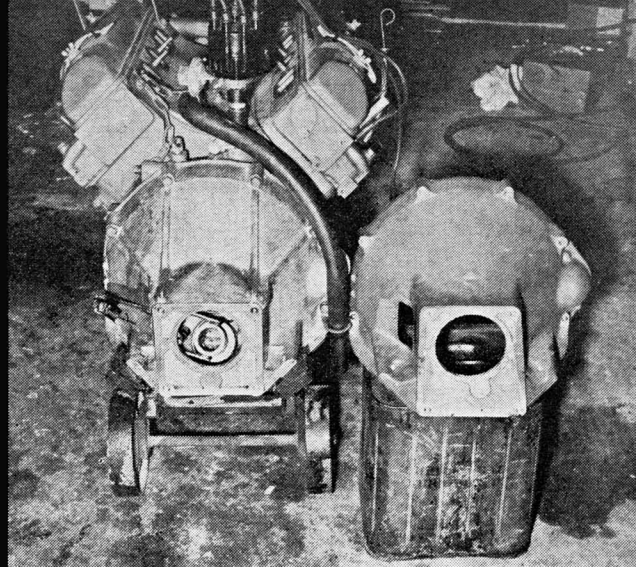
Photos by Colin Creitz

to operate all instruments and ignition. A "steady rod" was installed at the front of the engine to prevent clutch chatter, and the by-pass oil filter was lowered slightly on its bracket to get hood clearance.

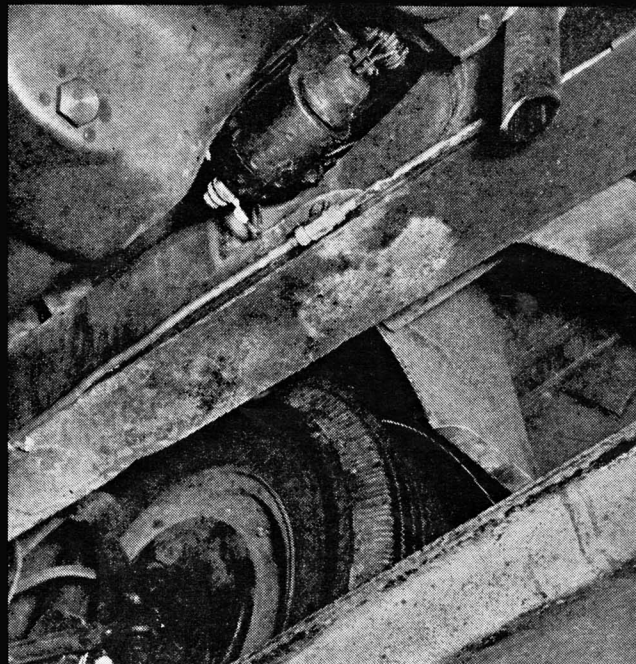
The completed project is a joy to drive and not only out-handles but out-accelerates most U.S. production sports cars according to Venable. The 255 horses perform equally well at low or high rpm's and Venable is so pleased with American Motors' V8 that he has sold the idea to several more Nash-Healey owners. After driving the car, we think that American Motors could build a dandy sports car if they tried. The Nash-Healey suspension and the AM V8 go together perfectly.

(Continued next page)

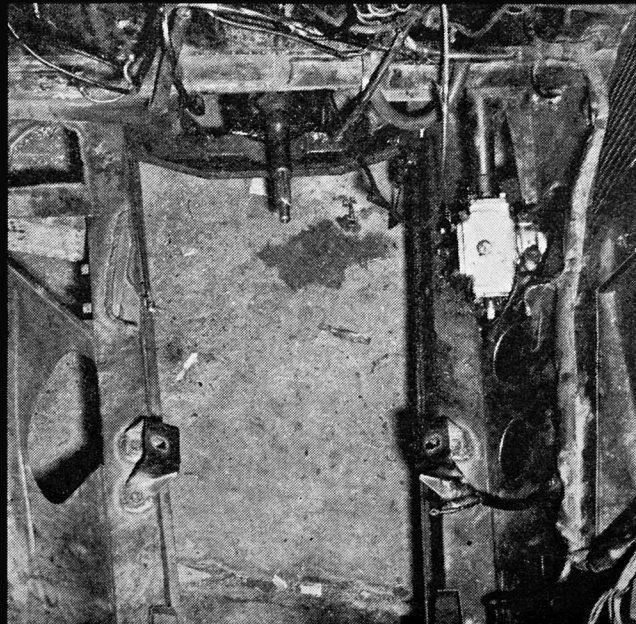
Bell housing at the right of this photo came with the '57 AM V8 but could not be used with the early transmission, due to a wider spread of the bolt pattern. Housing on engine is from '56 Nash Statesman and will adapt the V8 to any early Nash transmission.



A small notch was cut in the top of the Nash-Healey frame rail to clear the starter solenoid on the V8 engine. ¼th-inch steel plate was then formed to fit the cut and welded in place to insure maximum frame strength.

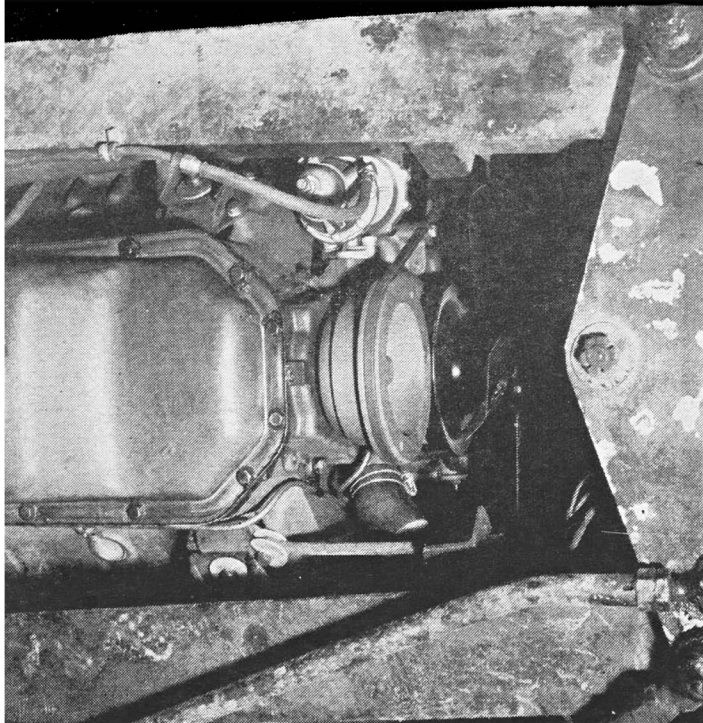


Two '57 Nash rear mounting brackets were welded in an inverted position to the Healey frame and gave just the right angle and hole location to match with the stock insulators on the 327-inch American Motors V8 engine. Holes were elongated slightly.



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continued



There was no steering linkage problem with this swap as in many installations since the Healey uses a drag link type with no cross links. Note the steady rod installed between engine and old mount for stability.



To get clearance between the left side of the engine and the steering gear box, a 2 1/4-inch thick piece of aluminum was cut out with a band saw to match the mounting flange and box moved outboard that amount.

The only spot where any tight quarters existed was on the left side but this was solved by moving the steering gear box as shown above right, then fabricating tubing headers. Exhaust manifold was used on right.

Twelve volt battery was moved into a new position behind wheel well and a 6-volt tap taken from the center of the battery to supply all instruments, the ignition and overdrive switches. Healey radiator cools V8 well.

