

AMC Eagle Factory Authorized Variants

AMC Eagle Turbo Diesel

By Doug Shepard

The rarest of all AMC Eagles and also one of the rarest of all AMC models is the Turbo Diesel Eagle Wagon. This factory authorized conversion was completed on an estimated five to eight 1980 Eagle Wagons. Some sources say there may have been as many as 20, however the 5 - 8 range is the most commonly accepted number. One would think that nearly 30 years after so few cars being built that none would have survived. Fortunately, this is not the case. One member of the AMC Eagle Nest acquired an Eagle Turbo Diesel wagon in 2007 which is presently undergoing restoration. And, early in 2008 one and perhaps two more have been reported but at time of printing this has not been verified.

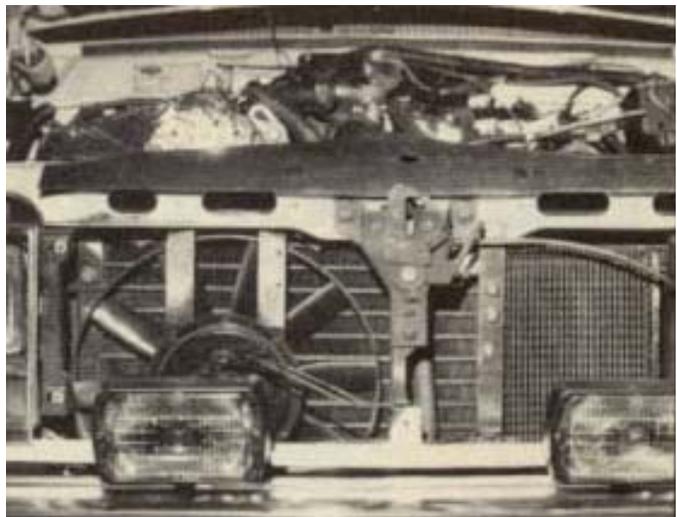
In early 1980 AMC contracted with San Fernando, California based Specialized Automotive Engineering (SAE) to retrofit for sale thru dealers 1980 Eagle wagons with diesel engines. The engine chose by SAE and AMC was the Italian built Stabilimenti Meccanichi VM . The specific engine model was the HR 692 HT; a four-stroke, in-line, 6 cylinder, turbo charged diesel engine with a 219 cubic inch displacement. This engine produced 150 HP at 4200 rpm and 219 foot pounds of torque at 2400 RPM. This was 35 more HP than the Eagle's standard 258 CID gasoline engine . Torque values were similar with the diesel pulling 14 foot pounds more, but at a higher RPM than the gasoline version.

The down-side is the diesel engine weighed nearly 230 pounds more than the gas version and once installed added nearly 450 pounds to the cars total weight; which negated some of the HP and torque gains. On the up-side, despite the weight penalty the diesel versions did do better in the fuel economy contest, with the diesel averaging 20 MPG while the gasoline version averaged 16 MPG. And, the turbo diesel was a bit quicker than the gas engine in accelerating from 0 - 60 MPH and in passing when accelerating from 50 to 70 MPH.

If you purchased the turbo diesel primarily for fuel economy and savings (diesel was much cheaper than gas in 1980) then you may have been in for a surprise. The diesel Eagle wagon retailed for \$19,500 while a comparably equipped gasoline powered Eagle wagon listed for \$10,500 (the turbo diesel was a fully loaded Limited model). A \$9000 difference! The average prices in 1980 for number 2 diesel was 82 cents while unleaded regular gas retailed for \$1.25 per gallon. Using the 1980 prices you would have had to

drive the diesel wagon just over 243,000 miles to begin to see a fuel cost savings! From an economic standpoint little was to be gained from a diesel equipped AMC Eagle wagon. What you got was a bit more horse power, some coolness and something most AMC owners desired, uniqueness!

So what was involved in transforming a stock AMC Eagle wagon into a turbo diesel AMC Eagle Wagon? The AMC wagon itself is a fully loaded Limited and was delivered to SAE fully intact. The replacement diesel engines were fully assembled when shipped from the manufacturer. The diesel engine was not a "plug and play" modification. The front mounting cross member had to be modified for oil pan clearance; new motor mounts had to be fabricated; a special Flexolite fan had to be mounted on the right side front of the radiator to cool the turbo-charger area; a thermostatically controlled oil cooler was mounted to the left side rear of the radiator to maintain engine oil temperature; and of course the electrical and fuel line modifications needed to operate the engine. The Eagle's standard TF 998 3-speed transmission was retained thru the use of an adapter. The drive train, suspension and spring rates remained as they came from the factory; though one wonders if the front springs were really up to the task, given the added weight of the conversion?



Thermostatically controlled engine oil cooler (right) and auxiliary fan to cool turbo charger area (left).

Engine Comparisons

	<u>Gasoline Engine</u>	<u>Diesel Engine</u>
Displacement	258 CID 4.2L	219 CID 3.6L
Cylinders	In-line 6, cast en bloc	In-line 6, cast en bloc
Bore & Stroke	3.75 X 3.89	3.62 X 3.54
Cylinder Head	1, single unit	6, one per cylinder
Compression Ratio	8.3:1	22.0:1
Horse Power	115 @ 3200 RPM	150 @ 4200 RPM
Torque (foot pounds)	205 @ 1800 RPM	219 @ 2400 RPM
Main Bearings	7	7
Fuel Delivery	2 barrel carburetor	Rotary fuel injection, turbo-charger
Engine Weight	395 pounds	628 pounds
Transmission	3-speed automatic	3-speed automatic
Est. MPG	16	20
Vehicle Weight	3447 pounds	3920 pounds
MSRP	\$10,500	\$19,500
Acceleration		
0 - 30 MPH	5.51 seconds	5.90 seconds
0 - 60 MPH	17.50 seconds	16.24 seconds
Passing		
50 - 70 MPH	14.53 seconds	13.02 seconds



Stabilimenti Meccanichi VM HR 692 HT Turbo Charged Diesel Engine in a 1980 AMC Eagle Wagon

AMERICAN EAGLE TURBO-DIESEL



THE ROUGHEST, TOUGHEST LUXURY CAR IN THE WORLD!

Got places to go in a hurry? Up hill and down? Through rain, sleet, and snow? Looking for power, safety, economy and handling ease all in one package? But you still want the comfort and luxury of a finely built automobile? Then meet the American Eagle Turbo-Diesel, the world's first and only 4-wheel drive, diesel-powered luxury car!

4-WHEEL DRIVE

The spectacular American Eagle Turbo-Diesel 4 x 4 is the first luxury sport machine that doesn't always need a road. Supurb traction keeps you in control as all 4 wheels, not just two, power you over good roads and bad, through all kinds of weather. This new Turbo-Diesel Eagle out-corners Trans Am in soft sand, out-accelerates Mustang Turbo in loose dirt, outbrakes the MGB on dry pavement. And that's only the beginning.

TURBO-DIESEL POWER PACKAGE

Here's the diesel power plant you've been dreaming about! 150 horses of turbocharged power in the world's lightest weight automotive diesel ever made. Here are just a few of the many outstanding features of this ultimate in diesel power plants.

- 50,000 mile engine warranty.
- The first retrofit diesel to meet both California and Federal emission requirements.
- The first diesel with 92mm bore instead of 88mm bore.
- High performance . . . yields 0-60 acceleration in 13 seconds.
- Extremely reliable; simple design virtually eliminates need for maintenance or repairs.
- Economical to operate; 24-30 mpg without overdrive; 24-35 mpg with overdrive.
- Simple, automatic start and operation; no special controls required.
- Service is available through local dealer; you also have a toll-free service/information number (800-325-6000 Operator N1015) to call 7 days a week, 24 hours a day.
- Comes complete with all manuals and operating instructions.

LUXURY FEATURES

You'll know the Eagle Turbo-Diesel 4 x 4 is all luxury the moment you step inside. Take a look at this package of standard features and you'll see why!

- Leather Upholstery
- Air Conditioning
- Power Steering and Brakes
- Tilt Steering
- Reclining Seats
- Automatic Transmission
- Heavy-duty Suspension
- Electric Doors and Windows
- Tinted Glass All Around
- Remote Controlled Mirrors
- Cruise Control
- Quartz Digital Clock
- Rear Window Washer/Wiper/Defroster
- Driving Lights
- Roof Rack

CONVENIENCE OPTIONS

- Overdrive for increased mileage (24-35 mpg).
- Larger fuel tank for increased range (up to 1500 miles)
- AM/FM Radio/Cassette Player/CB Radio

HOW TO GET YOUR AMERICAN EAGLE TURBO-DIESEL 4 x 4

Think the roughest, toughest luxury car in the world is just what you've been looking for? Like to know more about it? Take it for a test drive? Then give us a call at (213) 897-1205 and let's talk. Or call toll-free (800-325-6000 Operator N1015) and leave your name and number and we'll get back to you.



 **AMERICAN TURBO-DIESEL INC.**

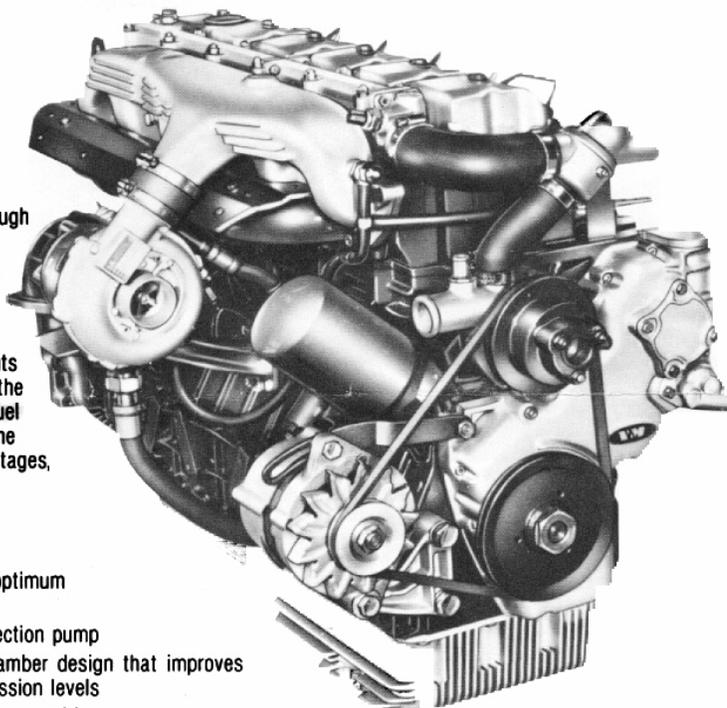
AMERICAN TURBO-DIESEL

Turbocharged HR-692-HTA

TOMORROW'S DIESEL TODAY!

The VM Turbocharged 6 cylinder, in-line diesel engine represents a major breakthrough in diesel design technology. It is the first diesel ever that can be directly substituted for the gasoline engine in weight, size, performance and quietness. It is also the first retrofit passenger car diesel engine ever to meet EPA requirements without emission control devices, while at the same time proving to be one of the most fuel efficient automotive diesels in the world. The turbocharged diesel offers numerous advantages, including such features as:

- Exclusive design to operate with a.. exhaust-drive turbocharger
- Individual head design to allow for optimum engine performance
- Advanced distributor-type rotary injection pump
- Ricardo Comet V precombustion chamber design that improves combustion efficiency and lower emission levels
- Exclusive 92mm bore instead of the usual 88mm bore



TECHNICAL SPECIFICATIONS

ENGINE MODEL:	HR-692-HTA
ENGINE TYPE:	Turbocharged, 6 cylinder - In line
CYCLE:	Diesel 4 Stroke
COMBUSTION SYSTEM:	Indirect Injection
COOLING SYSTEM:	Water Cooled
BORE X STROKE:	3.62 x 3.54 in. 92 x 90 mm
DISPLACEMENT:	219 cu. in. 3.59 ltr.
AUTOMOTIVE HP RATING (Din. 70020):	150 hp @ 4200 rpm
MINIMUM IDLE SPEED:	750 rpm
MAXIMUM TORQUE RATING:	224.2 ft/lbs (31 kpm) @ 2400 rpm

COMPRESSION RATIO:	22:1
INTAKE AIR SYSTEM REQUIREMENT:	Flow - 346 cu. ft./min. Pressure Drop - 6 in. of water maximum (clean filter)

MAXIMUM EXHAUST BACK PRESSURE ALLOWABLE:	40 in. of water
MINIMUM FUEL LINE DIAMETER:	5/16" I.D.
MINIMUM EXHAUST PIPE DIAMETER:	2 1/2" O.D.
MINIMUM BATTERY REQUIREMENTS	12 volt - 110 Ampere - hour
OIL TYPE:	Diesel - HD-C or CD/SE
DRY WEIGHT LESS ELECTRICAL SYSTEM AND REAR ADAPTATION (Approx.):	635 lbs. 288 kg.

STRUCTURAL FEATURES

ENGINE BLOCK:	Cast Iron Tunnel Type
LINERS:	Removable Wet Cylinder Liners
HEAD:	Aluminum Alloy Heads With Inserted Valve Seats
PISTONS:	Light Weight Alloy Pistons
CRANKSHAFT:	Forged Steel, Surface Hardened
CAMSHAFT:	Tempered Forged Steel
CRANKSHAFT BEARING	Number: 7

TECHNICAL FEATURES

POWER/WEIGHT RATIO	3.57 Lbs/hp
INDIVIDUAL HEADS	
LOW NOISE LEVELS	
HIGH SPEED:	4200 rpm
SMALL PROFILE	
LOW SMOKE OPACITY:	2.96%

STANDARD EQUIPMENT

Bosch "VE" Rotary Injection System
Pulley provisions for Power Steering Pump and the Air Conditioning Compressor
KKK Exhaust Driven Turbocharger
Cold Weather Starting Aids:
Glow plugs
Injection Timing Advance
Electrical Engine Shut-off
Full Flow Spin-on Oil Filter
Fuel Boost Pump
12-Volt Electrical System

Your Representative Is:



AMERICAN TURBO-DIESEL INC.

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AMC Eagle Sundancer

By Frank Swygert

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Dale Webster's **Eagle** *Sundancer* *by Frank Swygert*



In 1981 an interesting model appeared in a select few AMC dealerships. This was the first convertible [from] AMC since the 1968 Rebel (the last American Ambassador convertible were built in 1967). Very little is known about the car, mainly because it wasn't produced directly by AMC.

The Sundancer was sold as a special order car only. When one was ordered, AMC would send an Eagle or Concord two door sedan over to the Griffith Company shop, The folks at Griffith worked the car over into a convertible.

So how do you make a convertible out of a sedan? Well the first thing you have to do is obvious -- cut the top off. What isn't so obvious is what that does to the car, especially a unit-body car. The roof of any car, unitized or full frame, adds a great deal of rigidity to the body itself, especially from front to rear. The roof also helps resist twisting forces. And what about roll-over protection? If you've ever seen a car that did roll over you're well aware that the roof does crush some, but the windshield frame alone won't support much weight. That's one thing that led to the demise of the convertible after the early '70s -- insurance premiums were extremely high because of no roll-over protection and the fact that it was easy to be ejected from the

vehicle in all but the most minor accident. Seat belt laws helped the convertible return in the later 80s.

Griffith had answers to the problems associated with removing the roof. For starters the Sundancer was [not] a true convertible. The design was dubbed a "targa convertible". The B pillars were retained and a fiberglass targa band concealed a 2.5" wide by 1" thick square tubing roll bar, which also linked the B pillars. This helped with some rigidity, but its main purpose was roll-over protection. A 2" X 4" rectangular steel tubing cross braced frame was welded underneath the car to provide the structural rigidity lost when the roof was removed. The frame tucked neatly out of site between the rocker panels. The rear roof and window area was made of a polyvinyl fabric with a more conventional looking convertible top structure.

The Griffith Company was started by Jack Griffith, who had made a great deal of money with TVR of Great Britain. He started conversion shops in Florida and California to supply custom convertibles since the insurance companies had shut down factory convertible production in the early 70s. California and Florida are obvious choices for convertibles.

The Griffith Company peddled their idea of a convertible to Toyota as well as [to] AMC. The Toyota Celica received the torch from Griffith in 1979. The Toyota models, called "Sunchaser", were continued through 1981. Information on the Sunchaser is as hard to come by as the Sundancer. Most authorities agree that under 2000 ST and GT models were produced. Griffith also produced the Corolla "Sunrunner" for the 1982-83 [model years], but it was a conventional convertible.

Sunchasers were assembled from components built by various subcontractors. This was a cost efficient method, but for some reason the company

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decided to do more in house. The most likely reason is better quality control, but some of their subcontractors had decided they could get into the conversion business as well. No subcontractors reduced lost business.

The deal with AMC came about because Griffith wanted to expand their market share and size of the company. Rather than handle the conversions at their existing facilities, the deal with AMC called for a production facility near the AMC plant in Kenosha. AMC would handle all marketing and ordering chores while Griffith would handle all conversion engineering and modification chores. Griffith took on all the overhead and financial risk of the venture. All AMC had to do was book orders and transport cars to and from the Griffith shop. In the end, slow sales depleted Griffith so much that it didn't last much longer.

The Concord was much more of an optimally designed unit body than the Celica. When the Griffith team removed the roof from the prototype Sundancer it was discovered the windshield pillars would need a LOT of reinforcing to replace the structural loads formerly carried by the roof. Custom formed steel tube inserts were installed in the A pillars and across the top of the windshield to adequately stiffen the windshield frame. Then the rectangular steel tubing subframe was installed under the floor to stiffen the car. Even then, the car wasn't quite as rigid as its original unit body form.

No one knows for sure just how many Concorde and Eagles were converted by Griffith. The Griffith company did not survive past the late 1980's, and there are no known records. 600 conversions were planned for the first year, but who knows how many were actually produced? Estimates range from as few as 300 to as high as 500 total. Judging from the survivors, anywhere from 60-80% of production was Eagle models. Few Concord models ever show up, most survivors are Eagles.

There seems to be some confusion as to what year Sundancers are. All obtainable factory information indicates that the Sundancer was only offered for the 1981 model year. Many are offered for sale stating that they were 1982 models. I'm not sure if this is a mistake or if there were some 1982 models converted in the calendar year 1981. The latter is likely, since 1982 model production started in mid 1981.

The photos of the car in this article are reprinted with permission of the car's owner, Dale Webster. It's a great example of an extremely rare and desirable AMC!



These interior shots show that the Sundancer was a nicely appointed car indeed! All received Limited trim with sport options such as the full gauge package. The conversion added several thousand dollars to the cost, so the car may as well be loaded!



Text from an AMC Sundancer brochure:

Eagle Sundancer Convertible

America's only four-wheel drive convertible.

The Eagle 2-Door sedan convertible comes with the same fine quality Griffith coachwork. You get open-air summer fun and buttoned-up winter practicality, all in one great looking design.

Standard Convertible Features:

- Welded Targa bar of heavy gauge rolled steel, support gussets welded to steel door pillar for passenger compartment protection. Entire superstructure encased in laminated fiberglass.
 - Rugged 14-piece welded steel undercarriage structural frame strengthens the chassis.
 - Lightweight fiberglass removable hatch top with rich vinyl outer surface and contour-padded vinyl inner top liner. Top stows in protective vinyl pouch.
 - Fold down convertible soft top of grained polyvinyl.
 - Convertible top boot protects top in folded down position.
 - All parts and labor relating to the conversion are covered for 12 months or 12,000 miles by Griffith's limited warranty.
- Available At Your Local AMC Dealer.

Concord Sundancer Convertible

The new Concord Convertible is here.

It's a slick, stylish conversion by Griffith. And it transforms a Concord 2-Door into a sport landau, into a sporty convertible.

And it's like having a car and a half.

The Concord Convertible is a fresh concept in transportation that was designed for you. It makes weekdays more like weekends.

You get comfort, convenience and versatility. All in one great-looking design.

If you're having trouble deciding between open-air summer fun and buttoned-up winter practicality, why not get the best of both?

The Concord Convertible makes being under the weather a pleasure. The snug-fitting fiberglass roof panel lifts off quickly to let the sunshine in and stows away neatly in the trunk.

And, all you have to do with the folding polyvinyl convertible top is unlatch it, drop it and forget it.

The boot covers it all.

Inside this ingenious car, you've got the extra plush and extra hush of a richly padded soft vinyl headlining.

And you're completely surrounded by the finishing touches of fine quality coachwork.

The Concord Convertible: A car that's as comfortable to ride in as it is to drive in.

Get away in a genuine alternative to conventional cars. The new Concord Convertible conversion by Griffith.

RIGHT: From the front the Sundancer looked just about like any other Eagle with sport options like the Marchal fog lights.



LEFT: With the hatch removed and the rear top down the car takes on a totally different look. The vinyl trim around the folding top and on the windshield pillars gives a professionally finished look.

COVER PHOTO: A Concord Sundancer.



Concord Convertible



Eagle Convertible

The Concord Convertible Opens up all kinds of possibilities.

The new Concord Convertible is here. It's a slick, stylish conversion by Griffith. And it transforms a Concord 2-Door into a sport landau, into a sporty convertible.

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Available At Your Local AMC Dealer.

The Griffith Company, 3213 North Ocean Boulevard, Ft. Lauderdale, FL 33308/(305) 564-4866

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