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DeLorean Club of Oregon News & Information



Feb. 11, 1998

Winter Hiatus

by Knut Grimsrud

After a long winter hiatus spent worrying about completely unrelated topics, it's time to get back in the swing of things in time for the prime summer DeLorean season. I am happy to report that despite heavy use and perhaps a little abuse, I have nothing new to write on the DeLorean repair front. However, I have done a little research and a lot of learning about some DeLorean history and technology. I have also put the finishing touches on the DeLorean Parts Cross Reference Database software which is seeing pretty good circulation.

On the personal front, I have over the last few months purchased 10 acres of land covered with brambles, poison oak, thorns of every kind and crooked trees. After having cleared the

land, designed a new house, completed all kinds of paperwork, and borrowed enough money to put me securely in debt for the rest of my life, I am anxiously awaiting the start of construction which has been held up by the county planning office in issuing the building permit and inclement weather. This effort has not only inflicted me with six solid weeks of the most horrible rash I have ever experienced but has also left me with somewhat constrained hobby resources. Once the permit is issued and construction starts, I'm anticipating that I will have a little more time to devote to my favorite hobby as the contractor and his cronies do their part in tapping the construction loan at a breakneck rate.

With this issue, please find an invitation to a national DeLorean event in Cincinnati being sponsored by a host of clubs. This event is not

the traditional annual DeLorean Expo sponsored by the DeLorean Owners Association, but is being put on at the initiative of enthusiasts in and around Ohio. The event is handled "at cost" and promises to provide an excellent opportunity to meet other interesting enthusiasts and personalities. Steven Wynne of DeLorean Motor Company (Houston) is hosting another of his KAPAC warehouse tours, and seminars by



DMC-12 at the construction site checking the new road with tender feet

knowledgeable DMC service centers as well as historical figures should prove valuable and insightful.

The DeLorean Parts Cross Reference Database is being distributed on the DeLorean Mailing List at www.dmcnews.com where over a hundred copies have been downloaded. If you would like a copy and you have a Win95 or WinNT system and do not have access to the internet, please give me a call and I will send you a copy of the software on floppy diskettes. I am working with various organizations and parts suppliers to provide additional data for inclusion with the software and it will hopefully grow into a valuable resource for owners and service centers alike. The current release contains a very comprehensive reference list for nearly all the Bosch components in the car as well as a host of other useful cross references provided by the German DeLorean Club. I have a couple other lists as well that will be included shortly after they have been completely screened for accuracy. For those who do not have access to a suitable computer, cross reference data will be included in future releases of this newsletter.

This issue features a contributed article on engine replacement and with the next issue a new series of articles on the Bosch lambda closed-loop mixture control will start. Over the next few issues a module for monitoring and electronically controlling the engine air/fuel mixture will be designed and constructed and the Bosch engine control system will be explored.



Historical DMC Prices

by Knut Grimsrud

One of the most common questions I am asked about my DMC (right after being asked about the "flux capacitor" and whether it's difficult to find parts) is what the car is worth. As many know, this is an area where predictions and personal opinion abound, so rather than muddy

the waters with more personal opinion, I decided to approach the issue from a historical perspective by obtaining some hard data on historical prices for the DMC-12. Since I am no better at predicting the future than most witches, mediums, and fortune tellers, I will concentrate on the past price history for the car and leave the fortune telling up to the reader.

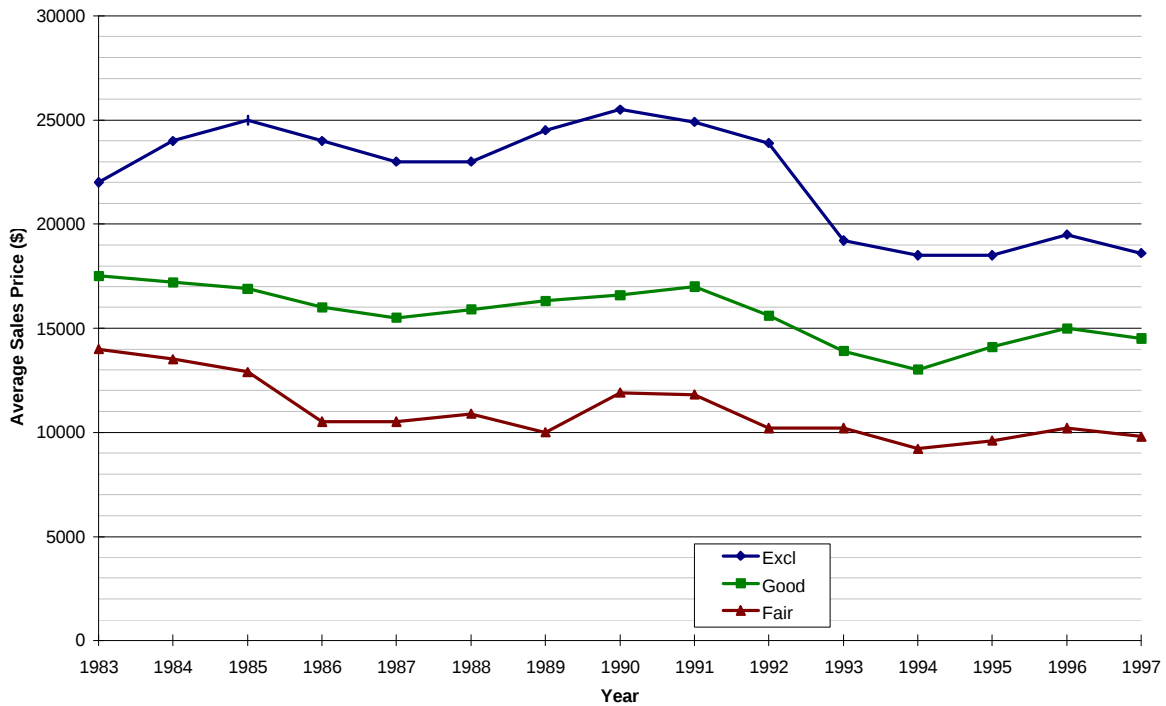
This article looks at the historical prices of DeLoreans since 1983. The information presented was obtained from Cars of Particular Interest (CPI). CPI is published quarterly and is the premier value guide for collectible cars and special interest vehicles often not encompassed by traditional "Blue Book" value guides. Figures cited by CPI are often used by financial institutions and government offices in establishing baseline vehicle values for the purposes of financing and taxation. CPI can be reached at:

P.O. Box 3190
Laurel, MD 20709
(301) 317-4228
cpi4values@aol.com

The first graph presents the historical price information for the DMC-12 since 1983 as tracked by CPI (see the sidebar for explanations on the source of the data and the interpretation of the various value classes). The figures shown are in unadjusted dollars.

Several interesting observations can be made about the plotted figures. My immediate observation was that the figures cited by CPI are generally much lower than the asking prices often seen on the WEB and local papers. This would be indicative of a disconnect in the perceived value of the cars by those selling them versus those buying them, and that the final sales price often comes in much lower than the asking prices. Anecdotal observations support this – when being asked what my car is worth, I answer truthfully and return the question "Why, do you want one?" I would have thought that after revealing the good value of the car, that the curious onlooker would be

Historical DeLorean Prices



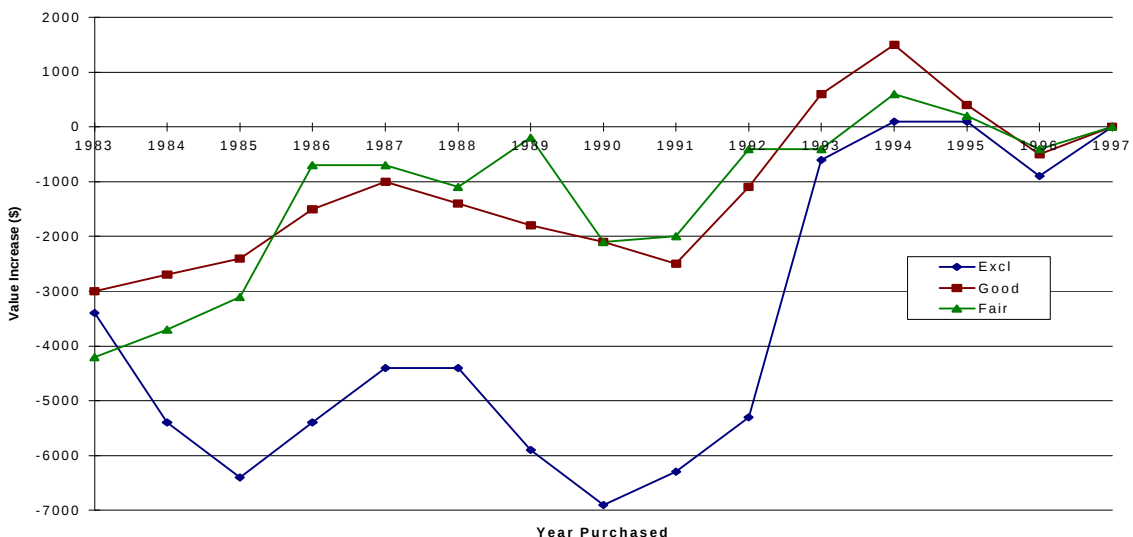
increasingly interested, but the response I get is almost unanimously “Oooh, no!”

Another observation from the figure is that the value of excellent condition DeLoreans peaked around 1990 after which this class has decreased in value on the order of \$6000. The excellent condition cars have decreased in value more than the other classifications (the other classes have essentially had constant value since about 1986).

Good and fair condition cars have maintained a relatively steady value since the late 80's, and as these cars generally represent those that are driven more frequently, this class likely represents a good value of ownership since their owners also enjoy the pleasures of driving.

The second graph represents an alternate view of the price trends over the last 15 years and represents the amount of value the cars in each classification have gained (or lost) since their

DeLorean Car Value Increase vs Purchase Year



purchase. For example, an excellent condition car purchased for market value in 1990 is worth about \$7000 less today than it was when purchased, while a good condition car purchased for the going rate in 1994 is worth about \$1500 more today than when it was purchased. For most of the period, the excellent condition car presents the worst investment, while the other classes have remained relatively stable.

When compared with the historical prices of the Porsche 911SC, a car of similar sales price against which the DMC-12 was directly compared in early reviews, it is apparent that the DeLorean has retained more of its value than the “competing” car. Pricing data for the Porsche 911SC was taken from the November ‘97 issue of Sports Car Market. SCM is an excellent source for market pricing information on collectible automobiles and features reports from various collector car auctions as well as insight into trends in the market. SCM can be reached at:

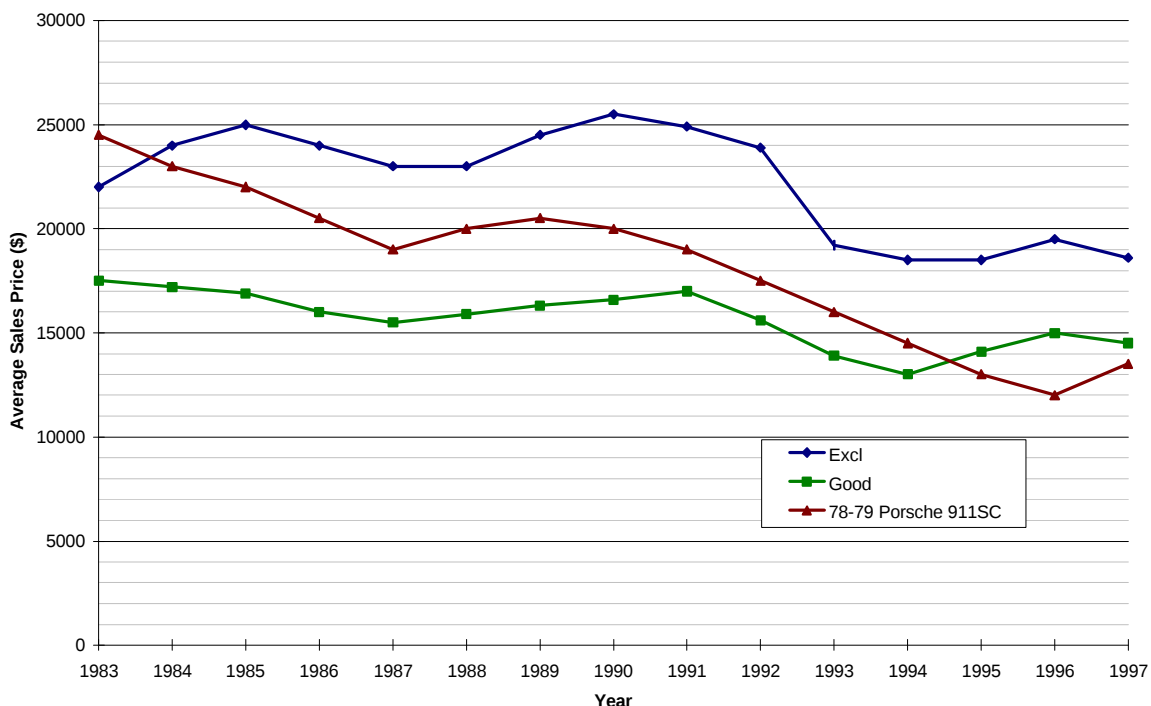
7017 SE Pine St.
Portland, OR 97215
(503) 252-5812

Summary & Editorial Comments

Although there is no telling what the future holds, there does not appear to be any historical precedence to support the assertion that excellent condition DeLoreans increase in value. Rather the opposite appears to be true as the excellent condition cars have historically lost by far more value than the other classifications. Also, in order for excellent condition cars to remain in the excellent category, these cars by definition do not reward their owners with the pleasures associated with regularly driving these fine machines.

It is not clear that the factors driving the value of the DeLorean will dramatically change over the next while. In most cases, vehicle value is not dependent solely on rarity alone, but on other factors such as historical significance, excellent performance, etc. Although the

Historical DeLorean Prices



DMC-12 is in my view a historically significant car, this significance will likely not increase dramatically in the next few years, nor will the performance perception of the car. Although I am no automobile industry analyst, it is not clear to me what market factors would support the dramatic increase in DMC value predicted frequently by various visible members of the DeLorean community.

It is my opinion, that the best value in DeLoreans are non-monetary as the cars are a joy to own and drive. I am often approached by potentially interested buyers and my advice is invariably that they should consider purchase of a DMC for the pleasure of driving and ownership, and not on it's potential investment value. At current prices, the DMC is a good buy, and if the value continues to drop, the joys of ownership have been satisfied – if the values rise or remain relatively stable, then that is an added bonus.



Message from your Coordinator

In my last issue I reported that this newsletter would be discontinued in favor of a magazine with broader distribution where the contributions of other writers could be pooled for the benefit of the readers. Alas, the intended national magazine of the DeLorean Motor Club has been a little slow getting started, so I will continue with the local newsletter until such time as a viable alternative has been established.

In supporting an active local organization that meets your needs, please consider attending this year's organization meeting (see events schedule at the end of the newsletter for details). This is the forum in which we establish the direction of the club as well as sketch out the events we will arrange for the year. Without adequate input from local DeLorean enthusiasts, it can be difficult to ensure that the club meets your needs and interests.

CPI Editor's Remarks

1. The values published by CPI reflect the retail market.
2. The values of luxury collectible cars, and most late model collectible cars, include comfort and convenience options
3. The sources of data are auctions, dealer sales reports, market letters, club newsletters, CPU make-and model-surveys by questionnaires, and other sources regarded as reliable.
4. The market data mentioned above is analyzed by CPI's editorial staff and values are projected for the next edition
5. It is recommended that CPI be used as a guide to the market, the same way similar references are employed. There will be cars bought and sold for more or less than the values range in CPI, but we believe CPI fairly represents prevailing values.
6. CPI maintains impartiality in reporting the values of cars listed in the guide. CPI does not buy or sell collectible vehicles, nor does it broker transactions.
7. CPI assumes no responsibility for errors or omissions.

CPI Definition of Categories

Excellent: Nearly perfect condition. The vehicle has usually been professionally restored to the current highest standards, but a few exceptionally well cared for original cars may qualify. All components are original or are an exact replacement. Most "excellent" cars are not driven more than a few miles per year, if at all. There are vehicles, usually due to an interesting history or special circumstances, which will sell for more than CPI's "excellent" figure, but these are extremely rare and would require extensive documentation.

Good: Very nice condition. In fact, most casual observers would describe the vehicle as "excellent." "Good" cars show very little wear and are driven sparingly. Many are used as weekend drivers. Many older restorations fall into this category.

Fair: Presentable condition. Runs and drives and will pass a state safety inspection. May be driven on a daily basis. Generally in need of cosmetic restoration but not a "basket case." There are many cars on the road that fall below CPI's "fair" category, and will be priced accordingly. These are commonly referred to as "beaters" and are usually not worth restoring, as the restoration costs will almost certainly exceed the value of the finished vehicle.

Tech Notes

This issue's tech notes features an article contributed by Bob Brandys of the DeLorean Mailing List. If you have articles of a technical nature or of special interest to the DeLorean community, please consider contributing some material to the newsletter. Contact Knut for details. With the next issue I will start a series on electronic mixture monitoring and control starting with an overview of the closed loop mixture control used by the Bosch K-Jetronic system and culminating in an electronic mixture monitoring and control system that you can easily build.

The '97 DeLorean is Here

by Bob Brandys

I've had my DeLorean for almost 10 years. It is a 1981 5 speed with a gray interior and 33,000 miles. I really like the car, but there are so many shortcomings of the car that really annoy me. I thought, why not take a DeLorean and upgrade it, while still keeping its original design and European (British) heritage as part of the process? This upgrading should reflect how the car would have been built had DeLorean been allowed to stay in business. As we all know, the DeLorean had three major shortcomings. These include:

- Anemic horsepower
- Too small windows
- No overdrive automatic transmission

In many respects, the value of classic sports cars is directly related to their horsepower. Consequently, the lack of horsepower could be considered to be a serious shortcoming of the car. In fact, this lack of horsepower is probably responsible for the lack of significant appreciation in the cars' value. In addition, the car had a number of design and parts problems. Some of these include:

- A marginal cooling system
- Faulty alternators
- Poor wiring design for the cooling fans
- Poor switch to control the mirrors
- Upper door rubbers that do not seal well
- A glue-on upper support for the door torsion bars that comes apart over time.
- Door strut brackets that are too small
- Starter wiring that has too much of a voltage drop
- Non-greasable tie rod ends

- Air conditioning drain that dumps above the gas tank
- Too short of a high pressure hose to the condenser
- No up-front automatic transmission cooler
- Poor access to the master brake cylinder
- An R-12 air conditioning system that needs to be converted to R-143a

There are other issues such as better brakes, power seat, more storage and power steering, but I left these for a future dream DeLorean because they involve frame changes and hopefully a stainless steel frame from Bryan Pearce (see DMCNews back issues and the Pearce Design homepage for info).

If we pretended that the DeLorean Motor Company is still in business here is what the car could have been like today:

The Engine Upgrade

The DeLorean has only a 130 horsepower V-6, which for a true performance sports car borders on a joke. True performance sports cars have to have well over 250 horsepower. This has been a fact since muscle cars started in the 1960s. Certainly, DeLorean was headed in the direction of turbo charging the PRV engine, as were most car manufacturers in the early 1980s.

However, turbocharging the engine has not been the answer (it really isn't used any more since the 80s) and most sport cars have at least a V-8 engine. Real fun in driving a sports car comes from low-end torque. Simple turbocharging does not accomplish this. A turbocharged Buick Grand National with a

3000 rpm stall speed torque converter and automatic transmission can deliver low end torque, but who drives at 3000 rpm in first gear? In addition, as most turbocharged DeLorean owners know, overheating is a constant problem.

When you look at today's sports car, automobile manufacturers have also abandoned (at least for now), turbocharging as a way to increase horsepower. They have adopted many of the old hot-rodders tricks such as; a better intake and exhaust flow, a lower rotating mass, higher compression, a roller camshaft, aluminum heads and engine block, etc.

Consequently, relying on the old hot-rodders adage: "there's no replacement for displacement" a 2.8 liter engine is just too small. Therefore, the engine would have to be a V-8 in order to achieve the desired horsepower and performance. There are both Chevy and Ford aluminum V-8s that are available, but they would not be consistent with the cars' European heritage. As all DeLorean owners know, neither Ford nor GM would have been likely candidates to supply engines to DeLorean, so neither of these engines would be considered.

What readily available aluminum V-8 would DeLorean have had access to? Was a British made aluminum V-8 available? Would parts

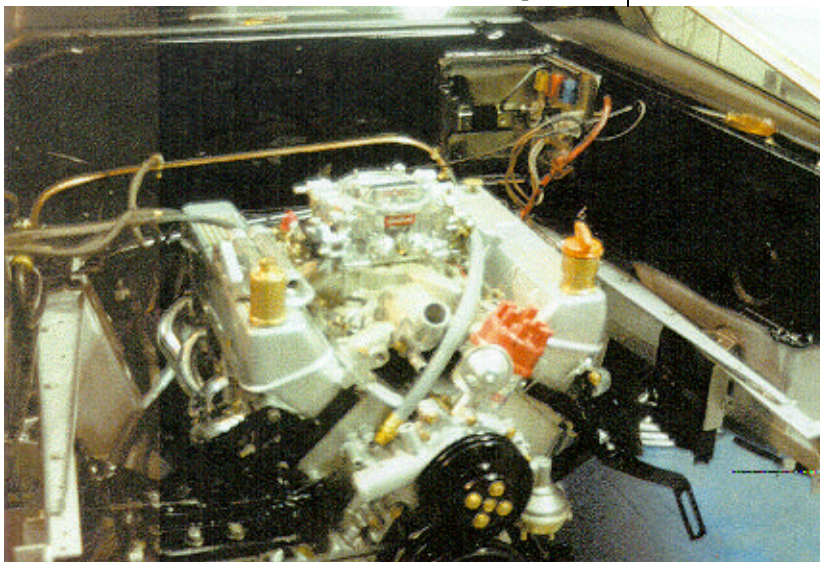
for this engine be readily available in this country? Interestingly, there is an answer to these questions, and, in fact, it follows John DeLorean's heritage. The British Land Rover contains an aluminum V-8 that used to be built by GM in the early 1960s. It was found in Buicks, Oldsmobiles and Pontiac as the 215 V-8. This engine and its equipment were sold to Rover in 1965. This aluminum V-8 has also been used in many European sports cars including Triumphs, Jensens, etc. Equipped with electronic fuel injection and dual catalytic converters, this engine also meets current US emission standards. Had DeLorean still been in business, it is very possible that he would be using this engine, just like other European car manufacturers.

This engine, in fact, is very popular among European car enthusiasts. It is also famous in the DAKAR African car race. Some of the race setups are spectacular, such as 4 two barrel Webers! There is even a number of books written on increasing performance on this engine. This engine has a good reliability reputation, and is still raced by some people in this country. And a large volume of high performance parts are readily available. This high performance parts availability is very desirable to car enthusiasts.

This engine, therefore, appears to be an excellent choice for the new DeLorean. The

most amazing fact was that this engine in full dress weights about 20 pounds less than the current DeLorean V-6. A coincidence? Maybe. Maybe a future plan? What a great engine of choice for updating this car.

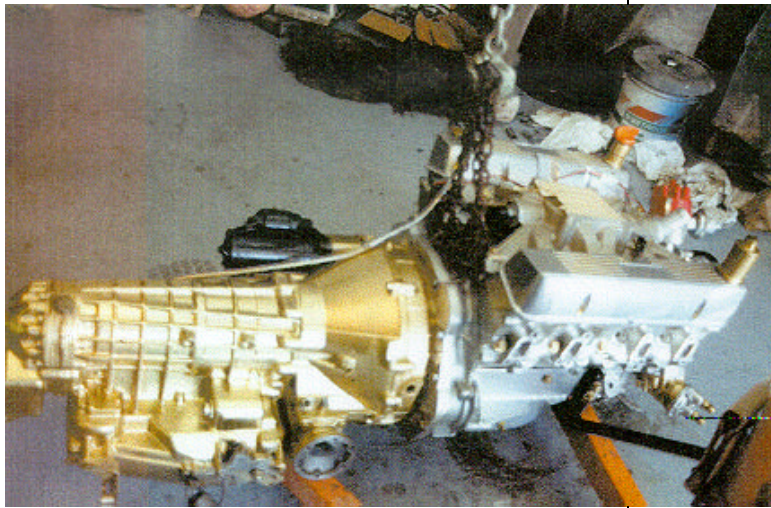
Installing this engine in the car presents some challenges. These include brackets for the power accessories, engine mounts, etc. Had DeLorean used this engine, the associated brackets would have been easy to manufacture. Other engineering difficulties



include oil pan clearance, transmission adapter plate, increase cooling capacity and a workable exhaust system with cross over pipe. With custom designed motor mounts, the existing frame requires no changes. With this engine installed there is plenty of room to maintain it. There is a lot more room than the RPV V-6 which is a definite improvement.

An Overdrive Automatic Transmission

The ZF company which made the automatic transmission for the DeLorean is still in business. Though they no longer make the specific transmission found in the DeLorean, they do make one very similar only now it has 4



or 5 speeds. In fact, the DeLorean CV joints actually bolt up to this transmission! It is also about the same size, but does not fit the DeLorean frame transmission mounts. This has to be changed and a custom mount designed.

This transmission easily handles 250 hp and is repairable as a replacement unit in this country. When investigating this transmission, we did not find a history of reliability problems. It is similar to the existing DeLorean transmission in that it is also computer controlled. Numerous computer inputs have to be connected. Linkages and other brackets need to be fabricated including a different shifter. What is so cool about this transmission is that it can be used in either the automatic or manual mode. The manual mode is a + or - to shift gears. It's

really wonderful and is just as much fun as a stick shift without dealing with a clutch pedal.

Using this transmission in a DeLorean reduces the 70-80 mph cruising engine RPM to the 3000 RPM range. This also reduces noise and increases fuel economy. Certainly, fuel economy is an issue that must be dealt with in a new car.

Real Windows

How many times have you heard that there wasn't enough room for real sized windows in the DeLorean? Well, any time I get into my DeLorean on a hot day, this question always comes to my mind. Driving in parades with the doors open is OK, but not the way the cars' sleek style lines should be displayed.

DeLorean historians know that the prototype car had sliding windows. This, in my opinion, was a better choice than the tiny windows currently in the car, but certainly not what everybody wants, *real windows*!

Well, I decided to check for myself, was it true that there was not enough room for a real window in the DeLorean door? Just getting the door apart is challenge enough. Designing and building a real window, now that's real work (actually, about 6 months of design and prototype construction). I also removed the power door lock because I heard of too many problems with these. This made designing and installing the windows a little easier.

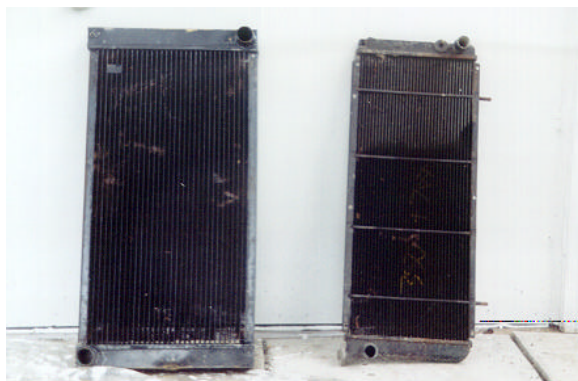


Real windows that go all the way up and all the way down are possible in the DeLorean. The window has to be divided into three sections because the door has no tracks for the window to slide up and down. In many respects the most difficult part of the design was the window tracks. But you can now leave the windows slightly open at the top to vent hot air during the summer months and cruise with the windows fully open, just like any other classic muscle car. No more of that claustrophobic DeLorean feeling!

These windows are not glass. They are Lexan just like in race cars. Real glass windows could be made, but that would require about \$100,000. The Lexan windows are very tough and hold up well to everyday use. In fact, they are being investigated for new cars (see CE News September 97). They are also much less costly than DeLorean glass windows. If they get scratched they can be replaced. The amount of work to replace them is similar to existing DeLorean windows.

The Improved Cooling system

The original DeLorean cooling system was not designed for a V-8 engine. Hence, it needs to be improved to handle the V-8 engine. Improving a cooling system is not rocket science, but getting everything to fit the car is! The car needs a 30% larger radiator, say 16" by 27" with a macho 4 core design. The second thing it needs are larger coolant pipes and pipes with less hoses. With a few changes in the rear piping 1½" pipes will fit the car. The gas tank



cover has to be lowered about 1" but this is not a difficult job with a 1" U channel on the four sides. The pipes also have 4 fewer hoses than the original design.

Custom brackets to support the radiator need to be made by extending the original brackets to handle the larger radiator. New shrouding also has be fabricated. And of course, larger fans are need. 14" fans will fit but it is a very critical clearance issue. The overall airflow through the radiator is now 150% more than the original design.

Other Improvements

- Faulty alternators - The new engine now has a GM 95 amp alternator with internal voltage regulator. This alternator is easy to replace and inexpensive.
- No up-front automatic transmission cooler - This was installed as part of the transmission upgrade. It fit nicely under the front right fender, just like a Porsche.
- Too short of a high pressure hose to the condenser - Have you ever looked at the extremely tight bend in this hose? It is a section that will leak freon over time because of the stretch of the rubber. In addition, a longer AC hose is needed to clear the larger radiator. The longer hose eliminates this tight radius and fits much better.
- Starter wiring that has too much of a voltage drop - The main positive wire now

goes directly to the starter and a 4 gauge cable supplies the vehicle. With all the room in the engine compartment, this is easy to do.

This DeLorean is now a real pleasure to drive and is a real performance sports car. It is what I believe John DeLorean would be building today and what he hoped his car would have been in the future.

What about these other issues?

- Poor wiring design for the cooling fans
- Poor switch to control the mirrors
- Upper door rubbers that do not really seal
- The glue-on upper support for the door torsion bars that comes apart over time
- Door strut brackets that are too small
- Non-greasable lower tie rod ends
- Air condition drain that dumps above the fuel pump
- Poor access to the master brake cylinder

These are design improvements for future articles.



Editor's Note: Bob Brandys is an active participant on the DeLorean Mailing List and can be reached through the list at www.dmcnews.com

For Sale & Wanted

Advertisement of DeLorean related items is provided as a service to club members free of charge. Commercial advertisements available at negotiated rates and at my discretion.

For Free

The DeLorean parts database and cross reference software with a complete parts manual including diagrams is available at www.dmcnews.com Complimentary copies are available on diskette to club members if you don't have access to the internet – just give me a call.

Knut

Wanted

The DMC parts database is currently shipping with a parts cross reference list supplied by the German DeLorean club. For the benefit of DeLorean owners and enthusiasts, additional cross reference data to include with the software is being solicited. If you have cross reference data or parts pricing information you would like added with attribution to your organization, please contact me. I can help format your data for use by the software.

Knut

DeCO Events Calendar

Sunday March 1, '98 5:30pm - '98 Planning Meeting
Stuart Anderson's Cattle Company, Cedar Hills Blvd., Beaverton. We'll enjoy happy hour in the lounge at 5:30 and be seated for dinner at 6:00. Please consider attending to help set the direction of the club to better meet your needs and interests and to meet some interesting fellow DeLorean enthusiasts. Maybe Russ will be mistaken for John Z. again this year! Please RSVP to Knut by Friday Feb. 27 so that I can have a suitably sized table reserved at the restaurant.