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Daihatsu has its small car, commercial and 4WD future well planned, and like a bright-eyed new kid on the block, it is full of enthusiasm. Phil Scott reports on Japan's mystery car maker

Daihatsu WHO?

AS I RECALL, it was one of Toyota's chief management men who let the cat out the bag; a man of vice-presidential stature, no less.

His statement was delivered, off the cuff, during a visit to Toyota City in 1983. The question which prompted it was simple enough: "Why doesn't Toyota market a mini-car?"

The answer was rather more complex: ". . . because we leave that end of the market to our small-car company, Daihatsu."

The message was unmistakable. Daihatsu is *our* small-car manufacturing arm. Full stop. End of story. Next question please.

Almost a year later, it is spring in the northern hemisphere and we are sitting in a conference room in Ikeda City, just outside Osaka. It is a big conference room, filled with an oval table of black perspex, inlaid with teak.

Seated in the 26 chairs are Daihatsu's tall poppies, surrounded by the besuited, bespectacled worker bees of the commercial department, a couple of engineers in brown coats and nine bemused Australian motoring journalists.

We have just come from a factory — indeed, *the* factory — where the Toyota Tarago is produced and where Toyota four-wheel drive vehicles flow off the production line.

Yet it is definitely a Daihatsu factory.

We are pondering this matter as we sit in the conference room, listening to Executive Vice-President Yasumura asking for our "warm patronage", so that Daihatsu may reach its Australian sales target of 10,000 vehicles in 1983.

Daihatsu Australia's livewire director and general manager Les Rollings, the man upon whose shoulders that target rests, retorts with a very audible . . . "horseshit!". The Japanese are accustomed to such blunt terminology from Lollings-san, a man they refer to as "the guided missile"; he has a knack of calling a spade a spade, which the Japanese find odd.

But repartee aside, what has emerged this morning appears to be clear confirmation that Daihatsu, the most mysterious of all Japan's car makers, is indeed a Toyota subsidiary. Or is it?

"We don't think we are Toyota's small-car manufacturer," says a grinning Executive Vice-President Yasumura, in response to the obvious question. "Daihatsu is independent. Only in the field of technology exchange and contract assembly is there co-operation with Toyota. In terms of shareholding, Toyota has 14.7 percent of Daihatsu stock — which is not sufficient to be the controlling interest."

What about the Tarago and those Toyota-badged versions of the 4WD Rocky?

"The Tarago is a contract assembly job; the Toyota Blizzard (nee Rocky) is produced for them because Toyota does not have a vehicle like this in the domestic market. So for Japan only, we have made a contract to sell it to Toyota. Similarly, we are selling their products — Taragos, for example — as Daihatsu vehicles, in Japan. This is the extent of our so-called tie-up."

But isn't Toyota by far the biggest single shareholder in Daihatsu?

"Yes."

Does Daihatsu see this as a good thing?

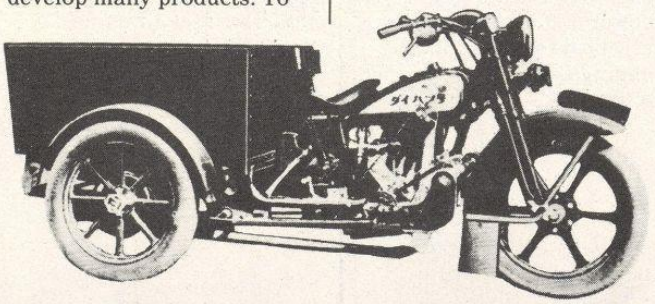
"To meet consumer demand it is necessary to develop many products. To do that requires many kinds of information. As Toyota is number one, they have much information about the world, the markets and the technology we need. Therefore, we don't have any intention to finish this relationship with Toyota. We want to continue this tie-up so we can get more advantages."

Yet despite the close ties, Executive Vice-President Yasumura, a spry, greying man with a good working knowledge of Australian slang, doesn't necessarily view it as a desirable long-term strategy.

"It is the international trend that some engines, transmissions or other components are commonly used among some manufacturers — the Toyota engine in the Rocky, for example. But too much common engineering is a very short-term arrangement; it cannot be part of a long lasting product philosophy. Each maker should have its own product, its own design, its own identity."

For Daihatsu, that identity, blurred though it is by the contradictory presence of Toyota, was established in 1907, when the learned Professors Yoshiaki and Turumi of Osaka University decided it was time Japan produced internal combustion engines.

They raised money from interested businessmen in textiles, railways and shipping and copied a European 3.8 kW, gas-fired,



Daihatsu's first vehicle was this 1930/31 350 cm³ three-wheeler

stationary engine.

With the university school of engineering on the job, the professorial duo soon had a working replica and a new company — Hatsudoki Seizo Co Ltd — on their hands.

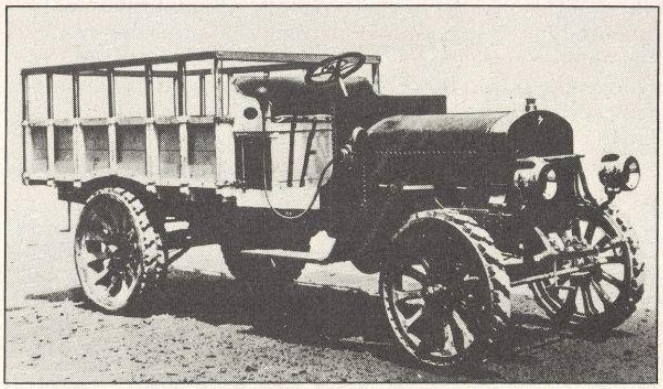
Their aim wasn't so much to make big money, although the new enterprise had to be profitable, but to establish an engine building industry in Japan. The first major customers of the fledgling Osaka Engine Co (as the name translates into English) were the three major financial backers of the project.

Osaka Engines was soon big news in the spinning business, which at that time was the biggest industry in the distinctly rural environment of Osaka in the early 1900s.

Soon enough, the local engine found a bit more power and became widely accepted for irrigation, mining and as a power source for fishing boats.

Daihatsu's official history is very sketchy post-1907. In fact, there is a 23 year blank until 1930, the year the Osaka Engine Co officially got involved in wheeled transport with a 350 cm³ engine, which it supplied to small volume assemblers of motorised trikes.

But that wasn't the company's first involvement in the car and truck business. In 1919, it had built two prototype troop trucks, from the ground up, for the Japanese Government. Nobody seems sure what happened, but the troop trucks disappeared without trace and the Osaka Engine Co got on with its specialty: making engines.

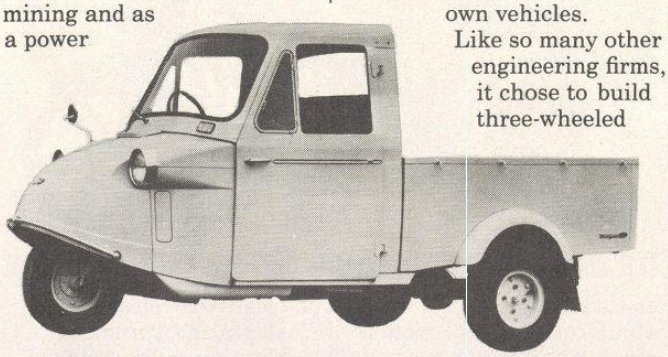


First wheeled vehicle was this 1919 truck. Two were made

In 1920 it produced a 186 kW stationary gas engine and a 52 kW marine unit. These weren't copies of European designs.

In 1930, with a new offshoot making components for diesel locomotive brake systems and sales of the new 350 cm³ trike motor going well, the Osaka Engine Co decided to manufacture its own vehicles.

Like so many other engineering firms, it chose to build three-wheeled motorcycles, a vehicular phenomenon seemingly unique to Japan in the 1930s. Of the 150 or so trike builders of that era, only two have survived — Daihatsu and Mazda.



Midget of 1957 was a three-wheel commercial with 540 cm³

The 350 cm³ three-wheeler soon gave birth to big-bore versions — 500 cm³, 670 cm³ and 750 cm³ — during the mid-'30s. These sold strongly enough to encourage the next step in Daihatsu's development — a prototype car, in 1935.

Curiously, this 730 cm³ air-cooled twin-cylinder with its tiny 1850 mm wheelbase and all-up weight of 600 kg, doesn't rate a mention in the official chronology. Nor indeed does another vehicle, a prototype, which gives some insight into the company's strong engineering philosophy.

This one was a 1.2 litre with a three-speed transmission and a top speed of 70 km/h. It was an open-topped sports car, despite its limited terminal velocity. It also featured four-wheel drive. In 1938.

But trikes were all the go as Japan geared up for World War Two and Daihatsu opened its first plant, in Ikeda City, in 1939.

Compagno Berlina Sports of 1963 had 797 cm³ four-cylinder

As with many Japanese company histories, there is a pregnant pause between 1939 and 1945. During this period the company made "transport equipment".

In 1951, with the war and its aftermath behind them, the men at Hatsudoki Seizo Co Ltd changed the company name to Daihatsu and went back to making economical three-wheelers.

This time, though, they weren't motorcycles, but enclosed tri-wheel cars not unlike the Messerschmitt designs of the mid-1950s.

There were three of these Daihatsu flying triangles running concurrently during the '50s — the Bee in 1952, a cargo carrying van version in 1953 and a slightly more salubrious model, the Midget, in 1957.

Each was powered by a rear mounted 540 cm³ overhead valve air cooled twin. Many of the four-door Bees were used as taxis.

In 1963, just a year before the Tokyo Olympics, Daihatsu made its first real car. It was called (wait for it) the Compagno Berlina.

The Compagno range comprised sedan, wagon and sports car models all powered by a common 797 cm³ four-cylinder engine. By 1966, a fuel-injected 998 cm³ version with front discs and 48 kW was launched to cash in on the success of the P3 race car which won its class in both the Japanese and Macau Grands Prix and, surprisingly, has never been seen nor heard from since.

The same year, 1966, Daihatsu became the first Japanese car imported into Britain. Sixty-bloody-six . . . This is where the company's story gets interesting.

Daihatsu's official thumbnail history of the year 1967: "Daihatsu began co-operative activities with the Toyota Motor Co Ltd and Toyota Motor Sales Co Ltd."

Bill Emery, in G.N. Georgano's respected *Encyclopedia of the Motorcar*, is somewhat more pointed: "Toyota absorbed Daihatsu and their subsequent four-cylinder models followed Toyota practice . . ."

Maybe "absorbed" is too strong a word, for while Toyota appears to exert a strong influence, it doesn't seem to be the dominant partner. Yet Daihatsu did take a leaf out of Big

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Brother (or just Fairy Godmother?) Toyota's book in 1968, modelling its corporate structure along the same lines and creating a separate sales arm.

Compagno Berlina of 1966 had 958 cm³ injected four and discs

By 1972, Daihatsu production had reached the three million mark and the number of new products launched since "co-operative activities" with Toyota commenced, had shown a consummate jump.

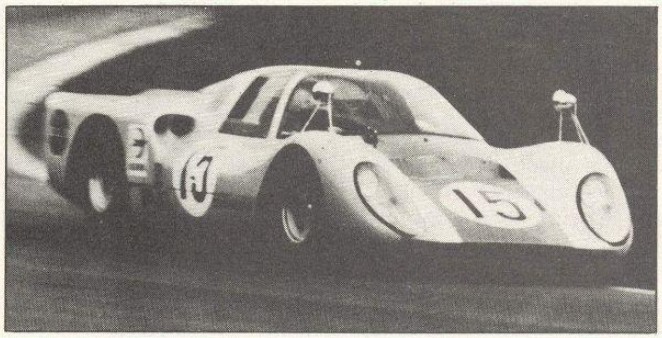
The '70s was a decade of unprecedented growth for Daihatsu with the company's original 4WD range launched in 1974 along with the Charmant sedan and wagon (which closely resembled the Corolla). The flyweight light commercial market saw a string of Daihatsu releases, most powered by half-litre four strokes. Functional they might have been, but these city-based runabouts didn't set any new standards for . . . well, anything. But they were cheap and reliable.

The original Charade (the car the computer created; you must remember the TV ads) was the start of a change of image for the mystery maker from Osaka.

It was the car which introduced Australia at large to the Daihatsu nameplate — but only after a bitter quota struggle which still reflects in today's very small import entitlement of just 2900 units.

But that original Daihatsu Charade had some real engineering depth hidden away under the rough edges. Most notably, the 993 cm³ triple cylinder engine. In fact, by the time it was phased out, in 1983, the Charade Mk 1 was a reasonable unit.

The arrival of the current model, with its "cubic logic" body and revised suspension, extended the perception of Daihatsu's engineering ability still further. Sure, Daihatsu still made (makes) cheap little delivery boxes, tough but rough 4WDs and trucks . . . but here at last was a proper town car with an air of refinement about it. The Charade Turbo simply enhanced that feeling. The Rocky 4WD, even though it bears a close resemblance to Mitsubishi's Pajero (WHEELS, July), is nevertheless a big step forward when compared to the older F Series 4WD vehicles it replaces.



P3 of '66 won class in Macau and Japan GPs, then vanished

But if Daihatsu is indeed a partner rather than a subsidiary of Toyota, how does it view the future?

"Our philosophy," says Executive Vice-President Yasumura, "is based on the development of small sized cars and commercial vehicles. The design of our products is such that we provide basic transport for people on low incomes or people with small businesses . . .

"We are always seeking new technology, but we see our future in the small car area — certainly no bigger than 1.6 or 1.8 litres — strengthened, of course, by our 4WD and commercial vehicle ranges."

In fact Daihatsu is a specialist manufacturer of inexpensive products, with a model mix heavily reliant on two-seater delivery style microcars and vans.

On a straight passenger car versus commercial production ratio, the workhorses outnumber Charades and Charmants by seven to three. However, if passenger-carrying commercial vehicles are included (Duet, Handivan and Rocky) then that ratio is reversed — with 70 percent of the company's production capable of shifting people, not just parcels.

Daihatsu's view of the Japanese car industry is remarkably forthright, as expressed by Yasumura: "In the next 20 years we may be the strongest industry in the world, especially in terms of production engineering and the know-how to design small and medium sized cars and commercial vehicles. In those areas we believe Japan has already advanced beyond Europe. However, we still have a lot to learn from European technology — suspensions in particular — but we believe we are catching up.

"As for Daihatsu, with segmentation of the product range between us and Toyota, we don't think we will look in any other direction other than further strengthening our ties with Toyota."

Could a full-scale merger be a possibility?

"In the coming 10 to 20 years there may be a possibility of mergers or rearrangement of groupings because nothing is predictable at the moment. In 10 or 20 years, anything can happen."

It is time, says the man from the Commercial Department, for us to ask some technical questions of the engineers.

What emerges here, and a day later during another conference table session, is an impression that Daihatsu knows its place and has its pathway into the '90s well mapped and planned. And that route is aimed squarely at the small, even micro-car, end of the passenger market.

Turbocharged small engines — both petrol and diesel — will become a Daihatsu forte and the engineers have some very definite opinions on the way these engines should be designed and constructed.

Charmant Custom 1600 followed purchase of shares by Toyota

For instance, Mr Shibata, the project leader in the development of the Charade, and one of the men deeply involved with Daihatsu's new small-bore (993 cm³

three-cylinder) diesel has very fixed views: "The ideal displacement to correctly balance any engine — and also to ensure best combustion — is 330 cm³ per cyclinder, which means three cylinders for 1000 cm³; four cylinders for 1300 cm³ and six cylinders for 2000 cm³ . . . and so on.

"Building a small capacity engine — like our new diesel — is more difficult than dealing with a larger displacement. For example, the diesel engine took five years of basic development and a further three years to reach pilot build stage."

Daihatsu believes the 993 cm³ oiler is the smallest in the world and proudly points to the 24 patents applied for during the development phase. Of those innovations the most interesting is the DAIYA-cut fuel injection nozzle.

Fellow mini was progenitor of first Charade. A few came here

fuel throughput, it's not a problem, but working in miniature required a new technique. Instead of fuel passing through a central bore in the injector, it flows down either side of a central, solid nozzle. The round nozzle is diamond cut on two opposite surfaces — like slicing two thin pieces off either side of an apple.

The fuel flows down the flattened outside edges and is injected into the combustion chamber. So micrometer fine are the cuts, that you need a powerful magnifier to pick them.

This oiler engine, and the similar capacity petrol unit in the Charade, will form the basis for Daihatsu's engine family (and perhaps may find their way into a Toyota or two) for the remainder of the '80s.

A turbocharged version of the diesel, which in standard trim produces 28 kW, will become available "sooner or later". One suspects it will be sooner, and when it does it will be a logical low volume supplement to the Australian Charade line-up. In fact turbos will play an increasing role in Daihatsu's engine development, with force-fed versions of the Rocky no doubt on the drawing board.

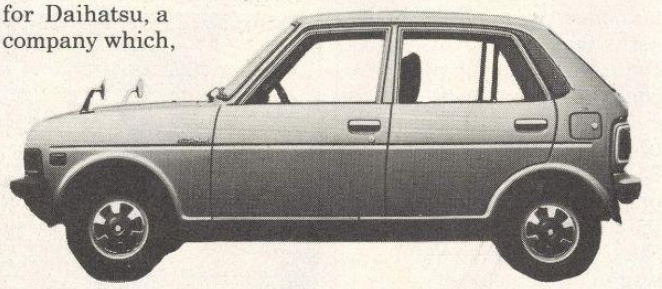
Daihatsu Sport by Vignale preceded Toyota's involvement

This microscopic diamond cut nozzle was developed to combat carbon build-up on the end of the injectors. On a bigger engine, with bigger

At present some 30 percent of Charades built are equipped with the turbo petrol engine — a very high ratio considering only 10 to 15 percent of new cars sold in Japan are turbo equipped and even fewer (eight percent) have diesels under the bonnet. But Daihatsu is confident its new 25 km/l (70 mpg) diesel (with and without turbo) will rewrite the rule book.

As for the 993 cm³ petrol engine — electronic fuel injection, maybe even twin overhead camshafts — "are being investigated".

Such high-tech allusions indicate a new maturity for Daihatsu, a company which, until very recently, was content to produce lowest common denominator transport for lowest common denominator prices.



Max 550 cm³ was typical Daihatsu city car, was cheap, reliable

It seems obvious that Toyota and Daihatsu have a tacit agreement that the small end of the market belongs to the former Osaka Engine Co. It seems equally obvious that Toyota has actively encouraged (if not with dollars, then certainly with R&D assistance) this new-found thrust into the world of high quality micro-engineered cars.

Yet there is still a disarming naiveté about Daihatsu (and yes, a few rough edges). But like a bright-eyed kid eager to impress, this small but growing outfit (sales up 13 percent worldwide last year) is busting to improve itself.

What other Japanese car company would have the front (or the naiveté) to present a group of touring journalists (indeed the first such group of foreigners to set foot in the place) with a very detailed questionnaire about its products. The others might extract the same data, but in much more subtle ways.

What other Japanese car company would then red-ink the criticism and respond by seeking a taped interview with the critic: "so our engineers can improve"?

What other Japanese company would electronically time each journalist (without telling him) on a fairly meaningless drive, on a fairly outdated high-speed test course? Lord knows why.

Or station observers in the hills, supposedly to watch the antics of the aforesaid tourists, while driving over a 4WD proving ground more than adequately handled by a 28-seater bus?

It is the Japanese Way at work — that stoic, painstaking, blindingly-detailed approach to gathering information . . . to solving problems . . . no matter how long it takes.

If sheer discipline, enthusiasm, application and attention to detail can conquer the world, then Daihatsu is well on the way.

The former Osaka Engine Co might seem a little naive by western standards, but its latest small cars and small engines indicate that there is indeed some flair, some engineering depth, emerging from this very close associate of Toyota's. □