

From the Allied Landings to the Land Cruiser: Jeeps and the Postwar Revival of the Japanese Automotive Industry

(Reading Copy)

Introduction

This paper based on archival research in the GHQ / SCAP and Toyota archives looks at the largely unexamined, but pivotal, role the jeep played in the revitalisation of the Japanese automotive industry during the Allied Occupation of Japan (1945-1952). The paper examines the psychological and cultural impact made by the arrival of the Jeep in Japan, the use of the Willy's jeep by the Allied Occupation forces; the conditions in which the Japanese automotive industry found itself in 1945; the psychological impact of jeeps on postwar Japan; the impact of the Korean War and the increasing demand for indigenously produced four wheel drive vehicles; and the competition process between Toyota, Honda and Mitsubishi to supply vehicles to the newly created Japanese National Police Reserve. The aftermath of this competition for Japanese government orders and the commercial models it produced as by-products will also be discussed, including the Nissan *Patrol*, Mitsubishi *Jeep*, and highly successful Toyota *Land Cruiser*.

In sum, the paper provides a hitherto absent insight into the origins of the growth and success of three of the giants of the Japanese automotive sector. The paper also examines the emergence of key trends in Japanese government procurement, the connections between Japan's steps towards remilitarisation in the 1950s and the revival of its automotive industry, and the process of technology transfer from the US to Japan in the immediate post war years. These topics will be covered in the

following sections: The Japanese motor industry to 1945, Jeeps and the Occupation of Japan, The Japanese Car Industry: 1945 -1950, The Korean War and the revival of the Japanese motor industry, and Japanese Jeeps: Toyota Land Cruiser and its rivals.

The Japanese Motor Industry to 1945

From humble beginnings in the first years of the twentieth century by the early 1930s the fledgling Japanese automotive industry was relatively advanced and was producing, alongside trucks and buses, a number of civilian cars, albeit largely models built under licence from, or with the assistance of – American or European carmakers. With Japan's increasing protectionism and desire to promote the domestic production of vehicles for its war in China, the Japanese state began to restrict the import of foreign vehicles and heavily assist domestic manufacturers. These changes drastically altered the automotive industry in Japan. Ford and General Motors, the major foreign manufacturers operating in the country, and which had in 1936 produced around 75% of all vehicles in Japan, were quickly forced about of business, with both firms pulling out of Japan within three years. Japanese firms stepped in to fill the vacuum, including the newly created Toyota automotive, a spin-off of the Toyoda family's power-loom business.

Alongside Nissan, Toyota went on to produce tens of thousands of trucks for Japanese military and civilian use until 1945. Although buses and cars were still produced until 1941 and 1944, respectively, the Japanese automotive industry focused more on more on the production of standardised two and four ton military specification trucks as the economy was reconfigured for total war. Despite peaking

in 1942 with the production of 55,000 trucks, the industry went into rapid decline thereafter, slumping to only 1,035 trucks finished between April and August 1945. Several factors contributed to this collapse in production, although interestingly Allied air raids were not directly responsible, with the automotive industry being a low priority target and Toyota's main factory only being attacked once and superficially damaged on the penultimate day of the war. Poor planning by Japan's military authorities who failed to understand the value of trucks outside the military sphere played a role, as did the haphazard and botched attempts at the dispersement of industry in 1944-45, and the general disorder and chaotic conditions of 1945. However, the principal cause was the shortage of raw materials in general, and in those assigned to the industry, in particular. Alongside the destruction of around 80% of Japan's merchant marine, and with it the possibility of the import of essential materials such as rubber, the automotive industry was always at a disadvantage in its ability to access resources such as steel needed more urgently elsewhere. The lowering in priority of the industry became even more pronounced when it became obvious that the Pacific, as opposed to China, would be the decisive theatre, hence spurring the reassignment of the limited supplies of raw materials away from land transport to ships and planes.

Those vehicles which were produced were usually of exceeding poor quality, often supplied without gauges, proper suspension, or even rear brakes, with single headlights, and increasingly reconfigured into three-wheel layouts. Of these trucks, those which survived the war were reduced to an even sorrier state as a result of the huge wear and tear they suffered on Japan's unrepaired and still largely unpaved road network, exacerbated through the unavailability of repair or parts, bald tyres, and engines modified to run on a range of fuels of last resort, including coal gas,

wood and pine oil. Due to these factors only around 47,000 trucks remained in serviceable condition in the whole of Japan at the end of the war, a chronic level of undersupply which Cohen notes 'contributed both to the decline and the chaos in the last years of the war'.

Jeeps and the Occupation of Japan

Into the bleak conditions of Japan in late summer 1945 appeared the Occupying US forces. Alongside a small number of staff cars the US army brought tens of thousands of Willys jeeps to Japan. They rapidly became the most common form of motorised transport in the country and their small, light, fast, and functionally stylish design marked a huge contrast to the hand carts, ox carts and crude, spluttering, ponderous domestic produced trucks, which plied the streets of Japan in 1945. The sight of jeeps effortlessly and freely zipping through the streets, with Japanese police officers and officials snapping to attention as they passed (as they were required to by Occupation directive) made a significant impression on many Japanese, especially the young. As Sodei notes 'the jeep was not only a symbol of America's technology, speed and ingenuity, but also a symbol of the power of the Occupation'.

The jeep was a ubiquitous symbol and tool of the Occupation, becoming associated with all things, good and bad, which it brought. In urban areas children admired the vehicle itself and also its association with the chocolate bars and sweets its occupants almost always carried, and jeep toys became the most popular toy in the immediate postwar period. Many of Japan's first postwar generation of car owners encountered the Occupation's jeeps and it spurred a lifelong interest in automobiles in many. As Toyota itself notes 'in a sense it was the Occupation army [and its jeeps]

that aroused the Japanese interest in cars'. However the image of jeeps wasn't always positive, and in many rural areas, the jeep became associated with the collection of back taxes and rice crops by US military government teams, by force if necessary. These two programs and the resentment they provoked, even spawned new phrases like 'Jeep *kyōmai*' [jeep rice requisitions], and 'Jeep *chōzei*' [jeep tax] – for the collection of back taxes in cash or valuables. Furthermore the common image of GI's moving around in jeeps with local young women also aroused resentment and jealousy in some Japanese.

The Japanese encounter with the jeep during the Occupation thus had multiple impacts. It graphically demonstrated the technological gap which existed between the US and Japan in 1945 and the extent to which the Japanese automotive industry needed to catch up with the US. This gap in technology and the slight it, defeat and the more unpleasant uses of the jeep had dealt to some individuals' national pride, provided a key motivation for later engineers at Toyota, Mitsubishi and other firms to produce a Japanese vehicle of equal quality. Furthermore in the minds of most Japanese, their dominant image of small four wheel drive vehicles was the jeep – a name and brand which for many was a hallmark of quality and advanced technology, and which came to be adopted later by Japanese manufacturers for their own 4x4 vehicles.

The Japanese Car Industry: 1945 -1950

Despite the desire to produce such vehicles, the Japanese car industry in 1945 was barely able to continue its day to day operation, let alone contemplate new models. Toyota and Nissan teetered on the verge of bankruptcy and only reconstruction

financing fund loans in the immediate post war period and a further tranche of loans in 1947 saved them from collapse. The overall financial situation of Japan at this time was also perilous with a dearth of available raw materials, fuel, credit and capital, and with inflation soaring between 50 to 365% a year.

These were far from ideal conditions in which to try to revive the industry, but the situation was further exacerbated by Occupation policy. First of all, Japan's import restrictions were abolished, allowing foreign vehicles to be freely imported without duties or quotas. The first weeks of the Occupation also saw the industry's output severely restricted, with the 25 September *memorandum concerning manufacturing industry operations* prohibiting the production of cars and limiting the manufacture of trucks to 1,500 a month nationally, in order 'to maintain minimum industrial and economic activity'. This measure was typical of the early punitive character of some of the reforms of the first few years of the Occupation, in which measures were actively undertaken to reduce Japan's industrial capacity – including the taking of reputations and zaibastu dissolution. However, the ban on the production of cars also made sense in other dimensions: no cars were being produced, or had been produced since 1944, there was little in the way of raw materials, and less in the way of petrol available for what was considered non-essential production, and finally most of the Japanese population was struggling to survive conditions approaching famine, so there was little or no market for any car which might have been built. Thus Nissan and Toyota continued to produce the same truck models they had since the 1930s, often with minor styling adjustments, and a gradual return to late 30s quality standards as raw materials became more accessible after 1946. Nevertheless, in a testament to how poorly the industry was performing it failed to even meet the GHQ quota for truck production until 1948. This may also have had something to do with

the 27,000 surplus trucks GHQ sold in Japan between 1946 and 1949, but even beside this the Japanese industry had still not recovered to anything approaching pre-war levels. Toyota itself was still struggling to stay afloat, and began to take on GHQ vehicle repair contracts to supplement its own truck production. GHQ ended its prohibition on car production in June 1947 allowing a total of 300 small passenger cars of up to 1500cc to be produced by Japan per year, with these prohibited from public sale, being reserved for use by the police, government, hospitals, businesses, or as taxis. Following this relaxation of the ban on car production Toyota attempted to break back into the market with its first postwar car, the 1947 Toyopet SA sedan, a streamlined design very closely resembling the VW beetle. However, sales were very poor, with only 215 being sold between 1947 and 1952. As such, Toyota, despite ambitions of its founder Toyoda Kiichiro, who even in 1945 talked of producing quality domestically manufactured cars, remained essentially a truck manufacturer with a minor, unprofitable sideline in lacklustre small cars. GHQ finally lifted all restrictions on vehicle manufacturing in 1949, but the problems faced by the industry were still huge.

One such issue was technology, as mentioned above the gap between Japanese vehicles and the Willys jeep in terms of technology was a huge surprise to many Japanese, and due to wartime and Occupation prohibition of car production, the general economic malaise and a shortage of funds for research and development and new machine tools, little had been done to bridge this gap by 1949. However, Toyota and other manufacturers had made some advances in producing smaller commercial vehicles, such as one ton trucks, and in making some modest updates to their wartime models. Both these factors would play a role in the later development of the Toyota Land Cruiser and its rivals, so it could be said that the years up until

1950 were not entirely wasted in terms of improvements in Japanese car and truck design.

Further policies of the Occupation which shook up the automotive industry were the Zaibatsu dissolution and reparations programs. The Occupation sought to break up the huge oligopolistic corporations which had dominated the Japanese economy before 1945, and exact reparations from them and this had a direct impact on the car industry. With the Mitsui, Sumitomo, Mitsubishi and Fuji empires disrupted (all would later largely reform around banks forming the Keiretsu, of postwar Japan) opportunities arose for new companies, or parts of the former zaibatsu to enter vehicle manufacturing and many did so, including Isuzu, Hino, Fuji Seimitsu (later Prince motors), new Mitsubishi heavy industries, Mazda, Suzuki, Honda and Daihatsu. Many of these new entrants specialised in motorcycles and three wheelers, often using the large amount of unused aircraft parts and plant left over from the war. Toyota itself, despite having close ties to Mitsui, was not a direct subsidiary and hence was not forced to fire its senior management or lose much plant in the way of reparations, as larger firms did, but was still compelled to spin off its Toyoda power loom and Nippondenso businesses. Alongside the greater level of competition it faced, especially in the light truck market, where many of these new firms' three wheelers proved very popular, Toyota executives also felt the pinch with the Occupation forbidding senior managers salary rises, effectively impoverishing them, due to hyperinflation.

Despite these issues, perhaps the greatest break acting on the Japanese car industry between 1945 and 1950 was the moribund state of the Japanese economy. Much of the country was devastated; workers were exhausted and demoralised, often having to leave their workplaces for days at a time just to search for food;

materials were in short supply; the workforce in most factories heavily 'featherbedded' with excess labour; and hyperinflation interfered with demand, purchasing and credit; and there were waves of strikes, stoppages and demonstrations from the rapidly expanding, and increasingly militant, trade union movement. The Occupation recognised the depth of the problems and sought to address them in 1949 with the 'Dodge Line' reforms instituted by Republican senator and president of the bank of Detroit, Joseph Dodge. Dodge laid out a plan of halting inflation by pegging the currency at 360 yen to the dollar, letting businesses sink or swim on their own merit, halting reparations and *Zaibatsu* dissolution, and balancing the government's budget through the shedding of hundreds of thousands of jobs. Although Dodge's reforms brought inflation under control, they caused a deep recession in Japan and further aggravated labour problems, especially in the short term. As well as reducing demand by itself the recession also impacted auto firms' previous sales as most customers bought their vehicles on credit and the recession made many unable to keep up repayments. Toyota found itself unable to pay its workers' wages and suffered from months of industrial unrest, strikes and stoppages, eventually resulting in the sacking of around 2000 employees and the resignation of the president and founder of the company, Toyoda Kiichiro.

Thus the persistent crisis which had afflicted the industry since 1945 took on a new aspect and Toyota was again pushed close to bankruptcy. There were serious doubt expressed at the time whether the firm should abandon its car business and just concentrate on trucks, or even whether the automotive arm in its entirety should be written off, with Toyota diversifying into dry cleaning and Chinaware to maintain its income. Pessimism about the industry wasn't just confined to company boardrooms, with bank of Japan governor Ichimada Hisato saying Japan should just 'depend on

America for cars' and Socialist Diet member Nishio Suehiro claiming that: 'the right policy is to go ahead and give up on making passenger cars and just depend on imports.' GHQ was also highly sceptical over both the future of industry and the economic prospects of Japan itself, with a State Department report stating that Japan 'might' attain self supporting status (i.e. not propped up by US aid) in 1954/55, and with Dodge himself doubting that this would ever be possible due to Japan's vast trade imbalances and rapid population growth.

The Korean War and the Revival of the Japanese Motor Industry

Until mid 1950 the Japanese automotive industry was therefore, still in a poor state and despite the Dodge reforms putting most companies and the larger economy onto a somewhat more sustainable footing, concerns remained over both the industry, and Japan's economic viability. However, the outbreak of the Korean War in late June 1950 dramatically reversed Japan and the industry's position. The Korean War, hailed as a 'gift from the Gods' by both Japanese Prime Minister Yoshida Shigeru, and senior figures at Toyota, proved a huge boon for the Japanese economy and, rather paradoxically for a war in a neighbouring state, greatly enhanced Japanese military security.

The most immediate and direct benefit the Japanese economy stemmed from the massive procurement program undertaken by the US inside Japan to support the UN and South Korean forces fighting in Korea. These special procurements, or *Tokuju*, placed hundreds of millions of dollars of orders with Japanese companies for uniforms, ammunition, kit and vehicles. Huge contracts for the repair and refitting of battle damaged or worn out vehicles and tanks were also handed to the Japanese

automotive industry. This massive injection of new business pulled Japan out of recession and added 2% to Japan's GNP in the second half of 1950. Tokujū totalling \$191.36 million were placed in 1950 and this figure rose to \$353.64 million in 1951, adding a further 3.6% to Japan's GNP. Tokujū totalling \$2.3 billion were won by Japanese companies between 1950 and 1953, and these alongside the already existing GHQ procurements and the manufacture of equipment for the National Police Reserve triggered a boom for Japanese industry. The Japanese auto industry was no exception – going from the verge of collapse in early 1950 to rude health in less than 6 months. Toyota returned to profitability in late 1950 and even managed to pay its first dividend for seven years in 1951. Toyota and other companies had so much work, often made up of many small batch jobs, that they needed to find ways to increase productivity and Cusumano and others attribute the innovations and automation instituted at this time at Toyota as being one of the key foundations of Toyota's later, much lauded 'lean' and 'just-in-time', production methods. A further major benefit Tokujū gave Japanese industry in the period was a huge injection of foreign currency. Tokujū contracts were paid in US dollars not yen and this broke the bottleneck the lack of such reserves had generated in Japan until 1950, greatly assisting in the import of new machine tools and raw materials.

Aside from the huge economic boost the war gave Japan, the conflict also saw the US make a concerted effort to enhance Japan's economic and military security. The US began to take a much more serious interest in the security of East Asia in this period, especially Japan. Japan, the only heavily industrialised country in Asia with its skilled, educated workforce and millions of trained former soldiers became pivotal to US Cold War strategy in the region. Japan, Asia's 'superdomino', needed to be economically secure in order to prevent it falling to communism so the Occupation

swiftly curtailed its reparations and zaibatsu dissolution programs and efforts were made to expand Japanese trade with non-communist Asia, and Southeast Asia in particular. US policy makers thought that these new economic ties between non-communist Asia and Japan would strengthen the economies of both parties and would put the Japanese economy on a more sustainable path, with the new markets in Southeast Asia offsetting those lost through the loss of Japan's Empire. These new markets again proved a huge boost for Japanese firms and carmakers in particular, with Toyota exporting vehicles, including large numbers of Land Cruisers to the region from the mid 1950s onwards.

The Korean War sped up the hitherto stuttering progress towards a peace treaty between the US and Japan, and this alongside a security treaty with the US were signed in 1951. US bases in Japan contributed to its security, and to that of the US and its allies as part of a larger chain of US bases off the Asian mainland, termed 'the great crescent' by Schaller. The Korean War also led directly to the creation of the force which would spur the creation of Japan's own jeeps and the Toyota Land Cruiser: the Japanese National Police Reserve.

Japanese Jeeps: The Toyota Land Cruiser and its Rivals

The National Police Reserve was created in the days following the start of the Korean War to provide internal security for Japan in the wake of the departure of virtually all US tactical troops to the rapidly collapsing frontline in Korea. The force was initially a paramilitary police force, being lightly armed and with arrest powers and a training regime focused on riot control and internal security. As the Korean War ebbed and flowed up and down the peninsula, when the tide turned against the

UN forces after the Chinese intervention calls in the US grew louder to convert the NPR into a military and rapidly expand it, so as to assist more in Japan's possible future defence. The proposed expansion of the NPR required the provision of huge amounts of material, equipment and vehicles, especially if the full extent of the US Army's plan for expanding the force from its original 75,000 men to 360,000 men were to go ahead. Virtually all of the NPR's original requirements had been supplied from US surplus but such an expansion at a time when all spare equipment was either being sent to Korea or Europe (in the belief that the Korean War could be the start of a broader conflict) would clearly require the acquisition of a mountain of new kit. Linking in the above mentioned US desire to use Japanese industry as far as possible to supply US and other friendly forces in the region, the decision was taken to source as much as possible of the NPR's equipment in Japan. This included a large number of new trucks and jeeps.

Mitsubishi, Nissan and Toyota all put forward bids, and new vehicles for consideration for the new small 4x4 for the NPR. Nissan had produced the Nissan patrol, a compact 4x4 very similar in design and appearance to the Willys jeep. Mitsubishi entered their version of the Willys jeep which they were assembling from imported parts through a tie-up with Willys. Toyota entered the 'BJ' standing for B engine jeep, a vehicle using Toyota's 1937 B-type gasoline powered water-cooled in-line 6-cylinder 3,386cc 4 ton truck engine, installed on a SB-type 1-ton truck chassis. The resulting vehicle had a slightly larger and chunkier body than the Willys jeep, but was superior in a number of ways. The BJ, also known as the Toyota Jeep, combined Toyota's large and small truck technology and the 4 ton truck engine provided ample power especially when climbing steep slopes, and advances made

in the late 40s in the production of small trucks were also applied to the vehicle, with it having a much more stable and comfortable ride than the Willys jeep.

Despite it performing well in trials the US army and NPR decided to adopt the Mitsubishi / Willys jeep. The decision was made for a number of reasons, including the desire to have a single small 4x4 in use by the force, concerns about quality control at Toyota, the advantages of using a vehicle already familiar to the NPR in training members in the use and maintenance of the vehicle (very important planned if the rapid expansion were to come about), and finally the importance of interoperability with US forces. Whether elements of preference for a manufacturer involved in a tie-up with an American firm influenced the US Army are unclear, but even if these did factor into the decision, it does seem that in terms of compatibility and ease of introduction, the Mitsubishi was the logical choice. Mitsubishi won the contract and supplied the first new batch of 500 jeeps, and although the US never achieved the level expansion it sought from the NPR, Mitsubishi continued to supply jeeps to the NPR and its successors, the National Safety Force and Ground Self Defence Force (GSDF), ultimately producing over 200,000 Mitsubishi jeeps in Japan for both the GSDF and the civilian market until 1995.

Not winning the contract was a blow to Toyota but the company was proud of the machine they had produced and confident its quality could translate into sales. Within 6 months Toyota conducted another rigorous test run under the supervision of members of the Japanese National Rural Police. The test demonstrated the superior handling and performance of the BJ and test driver Taira Ichiro even managed to drive the car up to the 6th check point of Mount Fuji (more than 2000m above sea level), the first ever vehicle to do so, surpassing even the Willys jeep. The National Rural Police were impressed and adopted the BJ as their new patrol car, placing the

first ever order for just under three hundred units. Although this was some comfort to the senior management at Toyota, the failure to win the much larger NPR contract and the thousands of orders and large amount of spare parts and technical support it would have entailed, necessitated a change of strategy by Toyota. Linking into the US desire to economically link Japan in to the non-communist regimes of Asia, Toyota decided to try to export the Toyota jeep. First targeting Southeast Asia, South America and then later the US, Australasia, Europe and Africa, the relatively cheap, rugged, practical, reliable and easily repaired BJ and its successors sold very well, with over 12,000 units sold by the end of the decade. The vehicle also kept the Toyota brand alive in the US in late 1950s, being the only available model in North America, and certainly the only one with any popularity with customers, flowing the dismal failure and withdrawal of Toyota's passenger cars in the US market from 1960 to 1965. Although its popularity 'saved Toyota in the USA', according to the model's chief engineer Iritani Saihei, the vehicle's original name did not survive following claims of trademark violation by Willys over the name 'jeep'. Toyota Director of Technology Umehara Hanji thus renamed the Toyota jeep the 'Land Cruiser' in 1954, with the new name bearing an intentionally superior sounding connection to another of the vehicle's rivals, the Land Rover.

Conclusion

With the success of the Land Cruiser, the Willys Jeep – one of the most successful vehicles of all time - spawned a direct competitor which was arguably even more successful. The sales of the Land Cruiser proved the bedrock of Toyota's overseas success, with the model still in production to this day, the longest of any in Toyota's

stable. The BJ and its direct successor models eventually sold more than 1.5 million units until their replacement with an entirely new Land Cruiser in 1986 (also interestingly the same year that Willys stopped producing direct successors to the original Jeep in the US). Total sales of Land Cruisers had exceeded 5 million by 2006, with almost all sold outside of Japan, where the model remains relatively rare. This export orientated strategy – initially supported by the US and later by the Japanese government, helped Toyota move beyond subsistence survival through government procurement / truck manufacture and expand into new markets around the world, including the United States itself. This export of well made, reasonably priced vehicles helped Toyota to rise to be the largest car manufacturer in the world in 2011, and again in 2012, successively surpassing its British, German, and ultimately, American rivals.

As well as making a significant contribution to Toyota's rise to the top of the global car industry, the Land Cruiser also represents Japan's first achievement of technological parity with the west in the field of automotive manufacture. Being able to produce a technologically equal, and in some points, superior, machine which eventually outsold the jeep on which it was based by several million units, provided a huge psychological boost to Japanese automotive manufacturers. Indeed, Toyoda Kiichiro saw his longstanding ambition of the production of an entirely indigenous high quality, low cost and high performance vehicle, as being achieved for the first time with the Land Cruiser. The success of the Land Cruiser and domestic industry's ability to produce a jeep of its own, obscured much of the immediate postwar love / hate relationship with the jeep and Japanese made vehicles increasingly came to dominate most Japanese people's conceptions of automobiles from the mid-1950s onwards. This achievement of parity in terms of technology and the rapid growth of

car industry and car ownership came to symbolise more than almost any other trend, the Japanese high growth era from around 1955 onwards.