BMC – Leyland Australia Heritage Group

ORAL HISTORY PROGRAM

INTERVIEWEE :	**Reg Fulford**	**TAPE NUMBERS :**	
INTERVIEWER :	**Jennifer Cornwall**	**BMCLA JC 9,10,11& 12**	
INTERVIEW DATES :	**11 July & 24 August 2001.**	**NUMBER OF TAPES : 4**	
RESTRICTION ON USE :	(as stated in Release Form)		

INTERVIEW TAPE LOG

These interviews took place at: Reg Fulford's home at Narraweena

on 11 July 2001 and 24 August 2001.

This log was prepared using a Philips AS 340 recorder by Kim Wilcox.

This interview is part of the Oral History Project of the BMC – Leyland Australia Heritage Group.

Tape Log

Tape : BMCLA : JC 9, Side A		
TIME	**SUBJECT**	**NAMES & KEYWORDS**
0m-0sec	Reg Fulford's personal history. b.1929 in the Dandenongs east of Melbourne. Attended local Primary School at Emerald. Father was a grocer, had store in Clematis in the Dandenongs. Moved to Melbourne at beginning of war. Last year in primary school at Richmond, Melbourne. Secondary education was 3 year general Tech course at Swinburne Tech. High School. Tertiary was 3 year Diploma of Mechanical Engineering at Swinburne Technical College. Completed course in 1946.	Reg Fulford.
2m-30s	First job was Trainee Engineer at Yallourn Power Station Gippsland for 1 year. Enrolled in 1 year Automotive Diploma Course at Melb Institute of Technology, but only aeronautical subjects were available so could not obtain Automotive certificate.	
5m-18s	Joined GMH as Technical Report Writer in Nov. 1947 (later corrected to 1948). Involved in test reports on development work on 48-215 model in Experimental Engineering. Picked as 1 of 3 to attend 2 year GM overseas training course in USA, half time at GM Institute and half at Buick car factory. Returned to GMH Exp. as Project Engineer on testing vehicles & components. Work included investigation of field failures and testing for local content program. For FJ model started on engines then rear axles, bodies and finally chassis	
12m-55s	Left GMH Aug 1957 moving to BMC September 1957. This resulted after Bill Abbott, from GMH Product Engineering moved to BMC as Chief Engineer earlier in 1957. He offered the position of Experimental Engineer to Bill Serjeantson and Test Engineer to Reg. Convenient time for Reg to move as GMH proving ground was being built at Lang-Lang in Gippsland out of Melbourne. Relocation was imminent and Reg was also about to marry.	Bill Abbott. Bill Serjeantson.
17m-0s	The then MD John Buckley realised a Product Engineering was needed as only Production people had come out from UK. Morris and Austin still operating as separate entities at time. Austin was assembling cars in Melbourne, Morris assembling cars at Zetland plant Sydney. Initially Prod Eng task was to modify UK vehicles to suit Aust. conditions. Buckley's grand vision (although out of step with UK) was to design a local Aust. car as he believed UK product would never capture Aust. market.. As a result Buckley lasted only a couple of years.	John Buckley
24m-50s	To build up Product Engineering Bill Abbott hired John Hamilton as Mechanical Engineer and Graham Hardy (from GMH) as Body Engineer. Graham Hardy hired Ian Lovegrove (from GMH) and Peter Hardy (Graham's brother) and John Llewelyn (both from Chrysler Adelaide) to set up a Body Drawing Office. Reg's first job was to set up small Garage and Test Facility.	John Hamilton Graham and Peter Hardy Ian Lovegrove John Llewelyn
31m-11s	End of Tape JC 9, Side A (continues on Side B.)	

Tape :	BMCLA : JC 9, Side B	
TIME	**SUBJECT**	**NAMES & KEYWORDS**
0m-0sec	(continued from Tape JC 9, Side A.) When John Buckley left, his replacement was Joe Graves from the UK. Bill Abbott moved up to assume responsibility of all Engineering, including Manufacturing, Works and Product, Bill Serjeantson moved up to Chief Engineer and Reg to Experimental Engineer.	Joe Graves
1m-40s	Experimental comprised two groups, Testing and Manufacture. The Manufacturing group made prototype parts, test equipment and test rigs etc. Reg Redfern was recruited from Austin in Melbourne to head the manufacturing group.	Reg Redfern.
4m-50s	BMC very modern plant with Transfer Machines. Body, Engine and Assembly plants all on one site. Plant mainly based on Longbridge plant in UK. Body Shop was based on Fisher & Ludlow in UK.	Longbridge Plant. Fisher & Ludlow.
8m-45s	Identification of modifications required to make the vehicles suitable for Aust road conditions came from two sources. Feedback from Dealer network and Pre Production Testing. The first vehicles made in the new plant were a new design from the UK, the 1101 models, Austin Lancer, Morris Major, Wolseley 1500. There were still separate Austin and Morris Dealer networks. Differences were mainly "badge" engineering. The Wolseley was the luxury version of Austin and Morris.	Austin Lancer. Morris Major. Wolseley 1500.
13m-10s	Road testing of pre production vehicles was done in two ways, copied from Holden practice. A mix of local suburban and country roads in a circuit of one day duration. Accelerated structural testing on very rough roads (covered later). The former was used to test the equivalence of locally-made parts, including the local parts of supplier's local components. Local content was to avoid high import duty, not for local Govt. content plan at this stage. It was also company philosophy to support local manufacturing (very much so by Bill Abbott). Also helped guard against interchangeability problems if overseas design was changed. Drawing modifications of hundreds per week were received from UK. Not all affected Aust, but they all needed to be checked. Also needed liaison man in UK to watch over this and give advance warning. A major part of work was keeping abreast of UK changes.	Road Testing. Local content. UK drawing changes.
22m-30s	As well as modern Transfer Machines, Engine factory had lots of old machines off-loaded by UK. Transfer Machines are so named because they incorporate automatic transfer of component between separated machining stations all set up in a straight line. Length of the Engine Transfer M/C line was about half the length of Unit Factory. Longbridge pioneered the commonisation of transfer machines, making them economical to provide. Our machines were made at same time as machines for Nissan Japan.	Transfer Machines.
27m-0s	The second type of testing, accelerated structural testing comprised about 5000 miles, all on selected extremely rough roads, carried out very quickly. Austin vehicles generally found structurally strong, but new vehicle for us was a vehicle with Morris Minor running gear but bigger body and bigger engine.	Accelerated structural testing.
30m-0s	End of Tape JC 9, Side B. (continues on Tape JC 10, Side A.)	

Tape Log

Tape : BMCLA : JC10, Side A		
TIME	**SUBJECT**	**NAMES & KEYWORDS**
0m-0sec	(continued from Tape JC 9, Side B.). In the new 1101, the original Morris Minor 1000 cc engine was replaced with a 1500 cc engine. This generally gave reasonable performance although the body was still too small. Structural testing was apparently not well done in the UK. Structural strength was not acceptable, probably due to the extra weight. Tested OK on daily durability, but accelerated durability showed up deficiencies in the dash area and the front suspension bump stop area on body. Extra reinforcement had to be added	Model 1101
6m-25s	A lengthened version of 1101, (model 1115) with bigger boot was sent out as prototype for Aust, but no testing done at this stage because of activity on 1101 problems. The 1115 was peculiar to Aust. only. No Wolseley version was made. Local content was very high when it went into production.	Model 1115
9m-35s	Despite the merger into BMC, in the UK there was still some independence of Austin (Charles Griffin) and Morris (Alec Issigonis). Amalgamation was a long time coming. The Austin vehicles (styled by Pininfarina) were ADO8 and ADO9 (ADO signifying Austin Drawing Office). The ADO9 was seen as suitable for Aust. production, getting nearer to the family sized vehicle (like Holden) and it used the same sized engine we were making. It was decided to just assemble the ADO8 (it still had mechanical rear brakes, which were considered obsolete by all other manufacturers). The A50 and A55 Austins were dropped in Aust.	Charles Griffin, Alec Issigonis. Models ADO8 & ADO9
15m-0sec	ADO9 was heavier than A55, but had the same sized engine. It was decided therefore to increase the 1500 cc up to a 1600 cc engine with siamesed bores. UK was not happy with this, but it worked well and ultimately UK did the same and went even further. ADO9 was eventually launched in 1962 in Morris, Austin and Wolseley versions. Because of needing to introduce the bigger bore engine on ADO9, this was also introduced on the DO1115 to keep one common engine size.	Model ADO9
20m-15s	The initial Engineering premises comprised a very small DO and a garage. A new grand scale Product Engineering Building was planned at Buckley stage, but budget cuts resulted in a building of half this size. Local manufacturing was also starting up in Aust. by the Japanese and VW (but all VW decisions were made in Germany). Our changes were made pretty well autonomously provided no major capital expenditure was required.	Prod Engineering Building. Japanese in Aust. VW in Aust.
25m-20s	A major limiting factor was still considered to be our lack of a 6 cylinder car, so an engine with an extra 2 cylinders tacked onto the existing 4 cylinder engine was designed. Dave Beech (then in Planning Dept) came up with a low cost method of machining the extra two cylinders on the transfer machines, which involved very little capital expenditure.	6 cylinder engine. Dave Beech
28m-20s	Ford with the introduction of Falcon, Chrysler with the introduction of Valiant and the VW all presented strong competition. Likewise the Japanese, who were not initially even seen as a threat. Sales potential of BMC vehicles was never reached because of this changed strong competition.	Ford, Chrysler, VW, Japanese competition.
31m-11s	End of Tape JC10, Side A. (continues on Side B.)	

Tape :	BMCLA : JC10, Side B	
TIME	**SUBJECT**	**NAMES & KEYWORDS**
0m-0sec	(continued from Tape JC 10, Side A.) Our vehicle sales peaked about 1960-1961. In UK Austin were producing rehashed models whilst the combined new Austin/Morris vehicles were being developed by Alec Issigonis and Charles Griffin. These were the 1 box, 2 box & 3 box concepts which became the Mini, the 1100 and the 1800.	Mini 1100 1800
2m-12s	Charlie Griffin came to Aust about 1958 to look at competition and was taken on a bush trip with three cars, an 1115 an ADO8 and a VW. Charles was impressed with the performance of the VW and conceded it performed best on rough roads.	Charles Griffin
4m-05s	The development of each of the three concept vehicles were undertaken in UK by separate groups or cells in the UK. They were originally planned to be completely new including a new engine design. The magnitude of new plant needed to produce new engines ruled this out. Mini was the first completed and set a new trend for small cars with its crosswise front engine front wheel drive as distinct from the approach of VW and Fiat, which had gone for a small car with a rear engine rear wheel drive.	
6m-55ss	In the UK, Mini was basically successful, but had initial major production problems and UK had to recall and rebuild many. When introduced in Aust most of these problems had been overcome. Our Sales Dept were not enthusiastic about building Mini, but in fact it was an immediate success. Initially Aust vehicle was assembly only. Initial proposal was for a V4 engine, but this never happened.	Mini
12m-45s	BMC never seemed to get ahead after the amalgamation and was always short of funds for major new projects. BMC models, although good cars never achieved their potential because they were usually too late into the market. BMC cars were also a bit too narrow for Aust preferences.	
17m-20s	In Buckley's time modifications were cosmetic. After the 6 cylinder Morris Isis was discontinued, the Morris Marshall (a rebadged A95) was introduced to provide Morris dealers with a vehicle equivalent to the "up-market" 6 cylinder Austin A95. Bill Moody was the early stylist (before Product Engineering) for trim, colour and badging. Later he became head of styling in the newly formed Product Engineering.. In early models there was no opportunity to style the body as models were designed in UK. When Bill Moody left, his assistant John Holt became stylist, then later Romand Rodbergh (from GMH) who did most of the styling prior to P76, but fell out with Michelotti over P76 and left the company. Mark Kazacas (also from GMH) was last stylist and did cosmetic work on P76.	Styling Morris Marshall Bill Moody John Holt Romand Rodbergh Mark Kazacas
25m-20s	Late 1960 Bill Abbott and Bill Serjeantson prepared a Magnum Opus which was an in-depth study of the Aust. market and future trends, indicating size and type of vehicle needed. (but totally ignored the Japanese competition). The company never generated enough money to develop a local model.	Magnum Opus Bill Abbott Bill Serjeantson
28m-35s	At end of 1961 Reg went to UK to see about building the Morris 1100 at high local content. The ADO9 4 and 6 cylinder were to carry on and eventually be replaced by 1800. The concept of local content plans set by the Government was looming.	Morris 1100
31m-05s	End of Tape JC 10, Side B. (continues on Tape JC 11, Side A.)	

Tape Log

Tape : BMCLA : JC11, Side A		
TIME	**SUBJECT**	**NAMES & KEYWORDS**
0m-0sec	(continued from Tape JC 10, Side B.). The Morris 1100 had a sideways mounted engine, was very refined but suffered from inadequate performance. Launched Feb 1964. Competition was Toyota Corolla which was cheap, conventional and developed a reputation for reliability. 1100 suffered from poorer quality than Nissan and VW. Eventually entered into local content program at 85%. The 1100 had a hydrolastic suspension that produced a very flat ride. Interior space was very good	Morris 1100
6m-10s	The 1800 was also coming along and in many ways was a good car with very good internal space but a bit short of boot space. Perceived as a rather stodgy car by the market and lacked in performance.	1800
8m-25s	Maxi introduced in UK with E series engine. Thought came to putting E series engine into 1100 and making a 6 cylinder version for the 1800. Morris 1300 / Nomad took the 4 cyl. Tasman / Kimberley took the 6 cyl. UK did the design of these cars. Maxi was a hatchback. In UK the car was a disaster, particularly the gearbox and the same problems were inherited on our vehicles introduced in 1969.	Maxi Morris 1300 / Nomad Tasman / Kimberley
13m-35s	Meantime, Minis were still going strong. Cooper S had been introduced which was very successful. Reached about 85% local content. About 1965, John Hamilton moved to England as Liaison Officer and Reg became Engineering Coordinator (between Body and Engine Group). Ken Haw (our metallurgist) became Experimental Engineer. New large car in England was the Delta, but was unsuitable for Aust as it didn't comply with our Safety Regulations.	Mini John Hamilton Ken Haw Delta
19m-30s	In Dec 1966, the idea of building an Aust designed car came up again. Bill Abbott now MD and Dave Beech assumed Abbott's old position in overall charge of all Engineering Departments. A small group was formed to look at how best to achieve this. Barry Anderson, Graham Hardy formed the nucleus of the group. Came up with a report for a local program for 1973 to 1983 recommending 2 sizes of vehicle. Model A, small size car, bit bigger than 1100. Model B, car of Holden / Falcon size. The concept was to have maximum commonality of parts. Make use of as many existing sub-assemblies, like rear axles, transmissions etc. Make 2 different engine sizes down the same production line. Would need a completely new engine design.	Long range plan Barry Anderson Graham Hardy
26m-40s	Presented to Abbott mid 1967 who put the proposal to the Aust Board in Nov 1967. In Jan 1968 (without any prior hint of this move in Aust) Leyland took over BMC. This put everything into turmoil. Aust got new chairman, Jack Payne (formerly from Leyland South Africa). Result was numerous high level Leyland visitors from overseas including Roy Haynes styling chief (ex Ford)	Leyland takeover
31m-15s	End of Tape JC11, Side A. (continues on Side B.)	

Tape :	BMCLA : JC11, Side B	
TIME	**SUBJECT**	**NAMES & KEYWORDS**
0m-0sec	(continued from Tape JC 11, Side A.) The main project Roy Haynes was working on was the Project ADO28 (Marina), a replacement for Morris Minor Fleet Sales in UK. It was a new styling onto Morris Minor with a B series engine. Haynes was flamboyant and oblivious of Mechanical aspects. He ruled out the proposed A car and substituted the Marina, a basically obsolete vehicle which negated any parts commonality with the proposed B car. The requirement for the big B car still recognised. Our resources very stretched as new emission controls were introduced and needed a lot of development capacity to comply. There were reliability problems on the 1300. On top of this Bill Abbott thought of putting the 6 cyl engine into the Marina.	ADO28 Marina Roy Haynes
7m-30s	Approval given to develop proposal for model B. Small advanced Model Group set up under Graham Hardy (body) and Barry Anderson (mechanical). In Apr 1969 model B proposal sent to UK. Clarke from UK (Engineering Manager of Triumph who had taken over at Leyland) came out to look at project and went back with a favourable report. Project was approved.	Model B
11m-15s	Starting engine was proposed as Rover V8 which was an aluminium engine and very light. Abandoned transfer machine concept in favour of now well-developed NC Machines.	Rover V8 engine.
14m-05s	Dave Beech impressed with Roy Haynes (Longbridge), decided to sub contract body styling out to him and we would arrange the body design under our direction, but Haynes resigned to start his own styling studio and undertook to style and supply models. UK cancelled permission to use Haynes as stylist. Styling proposals were then obtained from Longbridge, Carmen Ghia and Michelotti. Pressed Steel (part of Leyland group) originally declined to do the body design because of lack of capacity. As a result Carmen Ghia had been approached for the design and body tooling. Pressed Steel were lent on by Leyland management not to let the tooling go to Carmen Ghia, and were instructed to find a way to accommodate our job. This ruled out the Carmen Ghia styling. The Longbridge styling was very poor. Triumph directed that Michelotti styling be used. Styling Program very tight to meet end point at finish of 1800 model. Car ended up a little longer than had been requested. Three-quarter scale models submitted from which Aust chose one. Then full-scale model produced and submitted to board. Very tight program with lots of dissention	
25m-45s	Mechanical design was done using Holden bodies. Prototypes were built. Romand Rodberg left, leaving front and rear ends a bit of a disaster. End product just wasn't good enough. Ended up with too many body parts, probably the result of designing by committee. Model released right at time of fuel crisis. Jun 1973 Introduction. Time constraints and sourcing constraints prevented 6 cylinder engine being offered as an alternative, so the E series 6 cyl was put into it, which was under-powered.	
31m-0s	End of Tape JC 11, Side B. (continues on Tape JC 12, Side A.)	

Tape Log

Tape : BMCLA : JC 12, Side A		
TIME	**SUBJECT**	**NAMES & KEYWORDS**
0m-0sec	(continued from Tape JC 11, Side B.) Many difficulties in the design and development of P76 were due to obstacles such as number of variants which had to be produced, adding to the complexity. There was to be a 2-door and a station wagon to follow on from the 4-door P76. The 2-door sedan subsequently became known as Force 7.	Model variants Force 7
2m-17s	They were 3 very distinctly different looking vehicles, but with minimum differences in body panels. Not intended to be introduced together, but spread over about a year. Huge explosion in number of options being offered by competitors, such as 4-speed gearbox, air cond. and power steering. Ford, Chrysler and Holden offered options randomly available to a buyer's specification. This added to complexity of various things that had to fit together.	Model options
5m-03	Big expansions in Marketing Depts. New M.D. Peter North from Ford, favoured American Co. structure, quite different to English style. He felt marketing needed strengthening and hired Market Research and Analyst people, John Kay for one. This caused rethink on version levels to be available. Was to be just luxury and higher luxury, but ended up with 3 levels of luxury involving different trim, wheels , tyres etc. This called for big increase in work load, including testing and strained the always tight tooling budget. New Marketing Dept. wouldn't consider common trim with different car colours, so number of different parts became so great it contributed to Quality problems. Too much to co-ordinate.	Marketing Department Peter North, John Kay
8m-45s	The first small batch of pilot vehicles went well, but the plan to thoroughly examine and test these before full production didn't happen. Production followed right after, as huge initial stock build up of 4000-5000 was needed to have all the different variants available for dealers' demo vehicles eg. 6cyl, 8cyl, manual, auto, floor shift, column shift etc.	Pilot production.
11m-30s	Actual initial launch in Canberra went well according to motoring magazines of the day. This was because the vehicle was technically advanced in terms of handling and road manners. Initial sales were even better than anticipated, but fairly quickly problems caught up with us. Mainly body problems, panel fits and water leaks. Not many mechanical problems. Graham Hardy had gone to great lengths with Pressed Steel to have panel checking fixtures made, but a lot of old hands on the production side thought this was a bit of an overkill and a lot weren't used.	Graham Hardy Pressed Steel Panel checking fixtures
15m-30s	Probably only Aust car to be styled by an Italian stylist (Michelotti), but this was nothing to do with body panel fit problems. Force 7 came into production about a year after P76. First cars were just starting down the line when the plug was pulled on the company. About 30 to 50 were in process. No cars were officially sold into the public except for a few to enthusiasts. Only one prototype Station Wagon was produced. The body was designed to enable future quick facelifts. This was already underway to make it a better-looking car. Clay models were already under way with new front end and boot reduced in size and rounded off.	Michelotti Force 7 initial production. Station wagon. Facelift for next model.

Tape :	BMCLA : JC12, Side A (continued)	
TIME	**SUBJECT**	**NAMES & KEYWORDS**
20m-00s	Reg wasn't there when company was wound up. In March 1974 Reg was taking long service leave, which he had planned to take after vehicle was in production. Bill Serjeantson had already taken early retirement before this. Bill was disappointed at lack of recognition. Barry Anderson was standing in for Reg when collapse occurred. First Reg knew about collapse was when visiting head Office in London. By time Reg returned to Aust, Dave Beech had already resigned. After the wind up, Reg went to CAC (where Bill Abbott was MD) taking Barry Anderson, Duncan Todd and a few draftsmen to work on a Sonar Bouy Project. The location was at AWA. When CAC contract ended, Reg continued working on the same project, then on to other projects with AWA	Bill Serjeantson Barry Anderson Dave Beech Duncan Todd CAC. AWA.
26m-00s	Other points and highlights. P76 was the "B" model. The "A" model didn't entirely die. Marina was its temporary replacement. Barry Anderson picked up the "A" model and continued to the point of Michelotti doing model. Had it continued it would have been just the right timing. Up until mid 60's everything seemed to run pretty well. Most memorable was the camaraderie of this period. Pretty exciting time right up till quality problems and sales started to drop. Things turned very quickly from this point.	"A" Model. Marina
31m-00s	End of Side A / End of Interview	