

*Start of Jon Hall logbook entries*

**September 13<sup>th</sup> 1974**

Nigel Slade assists Charles Lamont in rebuilding Bo after a cylinder water jacket had been repaired. Satisfied that all was in place, we set out for a test run, it soon became obvious that Bo was coughing and spluttering more than ever. After a stop in Queensgate, and return to Bo's garage, the trouble was traced to the spark plugs, which had been bent ( dropped ? ) and that the gap was horribly wrong. Once this was corrected, Nigel Slade was taught to co-drive, and Bo departed ( late, and not cleaned ) for a wedding at the church behind Brompton Oratory.

Jez was cleaned, after an excursion for petrol. ??? stops and Jez moved into the garage at about 6.00pm, when it starts to rain. AAW departs for Dave Willey's residence at Grays, Essex.

**September 14<sup>th</sup>**

We arrive on the floor of Ron Kill's room ( sub-warden of Tizard ) to find that the rain continues. Proceed round to the garage to prepare Jez for the day's outing to Croydon. Rain continues to fall. Dave Willey arrives in his Austin 7, and says that AAW will follow on his bike when the rain abates. When no sign...

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...of AAW, Dave Willey phones his home to discover that AAW got his bike out, discovered that the battery was flat, and push-started only to find that the clutch had stuck, and consequently was dragged behind the machine into a parked car. Motorcycle not rideable. Dave sent out to assist AAW.

Eventually that afternoon, the gallant band, clad in a variety of rain-gear, set off into the pouring rain. Beware of wet pedestrian crossings ! In Clapham we found a crossing, on a corner, and proceeded to perform a front-wheel skid, closely followed by a rear-wheel skid. We arrive at our destination, a children's birthday party in Croydon. ( parents of the children were friends of Dave Cowin's ). After refreshments about 8-9 children were taken out on Jez for a ride around the district. Despite the rain, low, over-hanging wet tree branches and more rain, the kids still enjoyed themselves greatly. Then on to Dave Willey's parent's house in Wallington for a good meal thanks to Mrs Willey. Set out for home, stopping at a Young's pub. About this time, the rain ceased.

**September 28<sup>th</sup>**

Being the day before the start of term, Jez was washed, the paintwork coated with silicone wax, most of the brass was polished, and all visible greasers were filled. In the evening, after a visit to the Hot-Pot, a sight-seeing tour of the Embankment, the Houses of Parliament, Trafalgar Square, Piccadilly (twice), Buckingham Palace and Hyde Park.

**September 29<sup>th</sup>**

Brass polishing in the morning. Richard White given his second drive of Jez – many laps around College Block ( Sherfield Building ), and then around South Kensington. Richard 21 driving smoother, cautious, but not confident on gear changing. Dave Salisbury,...

...having passed his test only one week previously, drove for a short distance. RCS Fresher's Union meeting in Physics Theatre 1 at 2:30pm. Jez taken round to the side of Physics just after 2:30pm, and later parked at the front. The theatre was full, the interesting part – the election of Queen of Jez – collected a dozen entrants. Q.O.J. = Christine ( "Marilyn Monroe" ) Deacon. After the meeting, Jez and the entrants for Q.O.J. competition, with Richard at the wheel, set out for the swimming pool, where the executive (R.C.S.) received cold baths. Jez then departed for the customary trip through Hyde Park.

### **September 30<sup>th</sup>**

Fresher's Fair, in the Union Buildings. In the morning, Jez was polished, then at 2:00pm parked outside the Union arch, after conveying R.C.S. President Steve Brightman to the Fair. A load of interested people taken for a ride around Hyde Park. On the return, the loose door-handle was missing. An enquiry was started to find out who used it last.

On Ian Redwood's arrival with one of his RAF friends, Jez set out on a short trip round South Kensington. On turning left out of Prince Consort Rd, the missing door-handle was spotted, lying in the middle of the road. The trip proceeded after its recovery.

### **October 1<sup>st</sup>**

Four freshers turn up, all Physics 1. Fair response from the six names collected at the Fresher's Union Meeting. Little work done. Driving practise – trip around Embankment, Houses of Parliament, Trafalgar Square, Piccadilly, Buckingham Palace, Hyde Park.

### **October 4<sup>th</sup>**

Tiddlywinks down Oxford Street. Polishing started at 8:30pm, at 9:30pm, the R.C.S. President was driven to Marble Arch. Jez was parked off the road near the Arch. Photographs taken. After the race ...

...had started, at 10:00pm, Jez after the arrival of AAW and motorbike, departed from Regent Street, via the back streets to the north of Oxford Street. Eventually Jez was parked outside the Cockney ride Tavern, in Piccadilly Circus.

We returned to the new R.C.S.U. office, in the new Maths Building, to deposit some collecting cans. AAW gave Richard White some lessons on gear changing, accompanied by many laps of College Block. After lunch at the Hot-Pot, we proceeded to Richmond Park, for more driving practise.

### **October 5<sup>th</sup>**

AAW cleaned the carburettor, and checks the magneto. Also, tappet clearances, and mostly found to need adjustment. The clutch springs were tightened. A test drive showed that these adjustments were generally beneficial.

## October 11<sup>th</sup>

A display of foolishness, egomania and sheer naughtiness on the part of one Dave Salisbury, who takes it upon himself to take Jez, by himself, to a Rag stunt outside Harrods. Despite only passing his car driving test a mere three weeks previously, after "driving" his motor-bike, he could not be bothered to wait for anyone else to turn up. No-one, but no-one, should take Jez out alone, particularly when so inexperienced ( less that 1-2 hours driving Jez ). Unless you have spent much time and effort taking parts off and replacing them so they work, and are thoroughly conversant with all the controls, the weight and the poor braking, can you start to consider yourself sufficiently respectful of Jez to be able to handle her with any degree of safety.

An inexperienced driver, alone on Jez, can cause a great deal of damage to himself, and more...

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...importantly, to Jez, and other people. Experience should reveal when something is not as it should be. You may think that you can bring Jez to a halt, safely and rapidly, under normal conditions, but in an emergency ---- ?

Reports of Dave's driving this weekend indicate that he is not a competent driver of Jez. He failed to stop ( when other drivers of Jez would have done so ) at red lights, and grated the gears a countless number of times.

That there is no apparent damage caused that weekend, is probably only due to good fortune.

The weekend's events :- ( some details were gained , not from the people with Jez, but from Pete Teague, whom Andy Wilson and Nigel Slade had met, after Dave Salisbury had left on Jez )

The key to the garage only came to be in Dave Salisbury's hands after the battery charger had failed, and the batteries were being charged in Physics, where Dave was to collect them. On Saturday, Dave decides he is going to Harrods, on Jez, and goes, leaving a rather cryptic note. After the Rag collection, he picks up some passengers, and they go to the Hot-Pot to eat. Later, they return to the garage. By this time AAW and Nigel Slade have arrived. The oil is changed, after flushing with solvent oil. Some nuts were replaced on the exhaust. That evening they visit some Young's pubs in Barnes. Total mileage – 27 miles.

## October 12<sup>th</sup>

Dave Salisbury, with a crew of people, who know nothing useful about Jez, set off for Hampton Court via Richmond. AAW and Nigel Slade were left behind. After being refused admittance at Hampton Court, they go to Richmond Park, later returning via some Young's pubs. Dave said he was drinking lemonade at most of the pubs. ( 34 miles )

Facts ( or some of them ) about the weekend's events revealed to the chairman on arrival in the Union Bar that evening – only shortly after Jez's return.

Dave has: a) Taken Jez without permission . b) Driven Jez alone. c) Driven Jez badly.

Incompetent drivers must not be allowed to drive Jez.

### **October 15<sup>th</sup>**

STOIC ( Student Television of Imperial College ) coming round to interview R.C.S. President Steve Brightman on Jez.. Jez started up – banging noise is heard to emanate from the engine – engine is immediately stopped. Noise is found to be due to a nut, which should hold the exhaust manifold to the rear block, being about to unscrew itself totally and drop off. After tightening this and checking other exhaust nuts, Jez starts more quietly. Jez driven out. Once outside and stationary, a minor waterfall of oil is seen from the back of the engine ( behind 5 main ). Jez is stopped. No obvious cause for the leak. STOIC arrives. More of them than of us. Interview takes place. Jez restarted, no more oil appears, so decided to leave this for the time being.

The radiator support bushes were investigated, it was found that the bronze inserts had started to wear, due to the movement of the radiator. Cuts were sawn in the bushes to enable them to be clamped around the lugs on the radiator. The gap due to wear was partially filled with strips of plastic, in the hope that the plastic will reduce the wear on the metal parts.

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### **October 18<sup>th</sup>**

The transmission joint just in front of the pump-drive gearbox has been noisy and loose due to wear. The joint was dismantled and repacked with bits of tin can ( shim ). A squared shaft fits into a once squared hole. The battery charger was repaired by AAW, the fault was not electronic component failure as suspected, but the simple two-pin plug which is used to connect from 6V > 12V charging was not conducting. The plug consists of two pins joined mechanically by a small metal strip. Test drive around Hyde Park.

### **October 19<sup>th</sup>**

The transmission was re-split-pinned. Work was started on cleaning and repainting the interior of the body. The floorboards and transmission tunnel were removed. It was found that the interior was painted with a water-based emulsion paint, which was rather grubby.

### **October 22<sup>nd</sup>**

Work continues on the interior. Some freshers still showing some interest.

### **October 23<sup>rd</sup>**

Commemoration Day. Interior of body given a coat of primer. Petrol collected in 5 Gallon drum. About 5:45pm, after the ceremony had finished , Nigel Slade, Ian Redwood, Pete Thomas and Richard Whitbread of last year's Maths 3 came round to show to parents and relations why they'd nearly failed their degrees. With Nigel Slade at the wheel, Jez and parents set off around Kensington. On the return to the garage, just about to turn left near the Science Museum Library, a car emerges at high velocity from the ramp behind Biochemistry. Nigel hauls on the brakes and

manages to arrest Jez's motion. He reckons that Jez just about touched the car. The car driver just sat there and applauded Jez when we had stopped. He didn't know how lucky he had been !

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### October 26<sup>th</sup>

Work continued on the body interior. The floor boards and transmission were given a coat of cream, the rest of the interior primed. The brass-work was polished by two girls – it certainly kept them quiet. Oil was put in the differential and some greasers checked. A party set out for the Hot-Pot in the J4, where the waiter became rather confused when asked for a meal in reverse, ie. coffee + sweet then main course, followed by soup.

### October 27<sup>th</sup>

Guilds rally through London. After arrival at the garage at 8:00am, the floor boards and transmission tunnel were replaced and Jez taken to Southside at 8:30am. About a dozen other participants were there, including Clem and Bo. By taking down a full load of passengers on Jez we hoped we would be at an advantage. After the start at 9:00am we set off, the clues provided took us to The Albert Hall, Marble Arch, The Post Office Tower, Buckingham Palace, Charing Cross, St Pauls, the side streets behind Fleet Street, Waterloo, Kennington Oval ( where we passed Clem looking rather hot ), then back to the side streets behind Fleet Street ( who forgot to read all the clues ? ). We should then have gone out to Shepherds Bush, but time was against us. Return to Southside at about 12:25pm and prepared answer sheet, being assured by Dave Willey ( ex Guildsman ) that we had plenty of time. Hand in answer sheet at 12:31 ( 1 minute late ). Never trust a Guildsman's watch !

Result – Jez 12<sup>th</sup> out of 13. This was due to answers not being written correctly on the question paper, we had the correct answer to all the clues we had visited, but the form of the required answer was not indicated. The large number of people on...

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...Jez was a great help was a great help when it came to searching for answers to clues. Somehow Bo came first ( event organised by Guilds Motor Club ). Still, it was a good day, great fun, and Jez saw many parts of London.

Pm set off to the Hot-Pot to eat. On the return to the garage, a listening test started, to try and establish the cause of a sort of tapping sound, which appeared to emanate from the engine. Despite many laps of College Block, with the bonnet off, and one person perched on each wing listening, no cause was found. The noise came and went as the engine was advanced and retarded. The sump was left to drain, preparatory to an inspection of the interior of the engine.

### 28<sup>th</sup> October

Motor Club Chairman sitting quietly in the corner of the R.C.S.U. office, idly flicking through the pages of a magazine. A girl walks in and announces to the contents of the office that she knows where there is a Dennis pump going spare. Chairman leaps off chair, and after rebounding from ceiling moves in to cross-examine. Apparently her dad is high-up in the Merseyside Fire Brigade and

they've got a 1920s , ~500 gal Dennis pump, which they wish to dispose of. They seem to reckon that it should match Jez, but the matter will have to go before the County Council. We may even get it transported down when one of their engines comes to Greenwich for something. Too good to miss so letter composed and sent.

This is something Motor Club Chairmen have been dreaming about for twenty years.

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### **October 30<sup>th</sup>**

The sump and fittings were removed. Two excess bits of split-pin retaining 1 and 3 big-ends had broken off and were moving towards the oil pump. Scratch marks had appeared on the inside of the sump, this was due to the split-pins rubbing. All big-ends seemed tight enough, though it moves slightly when pressure applied to 3 or 4. Could be side play ? Inside of the body painted and buttons sown on to some of the Jez jackets. The Dennis plate on the radiator repainted and other odd jobs done.

### **November 1<sup>st</sup>**

Preparation for Brighton Run. AAW and Nigel Slade and Dave Willey all under the engine together – legs everywhere. Nothing obviously wrong. Thinner shims put into No 2 big-end. The sump was replaced and Jez was running in the afternoon. The brass-work was polished, Jez was washed down ( in the dark ), and waxed. The wheel hubs, pump-drive gearbox and steering box oiled.

### **November 2<sup>nd</sup>**

V.C.C. Brighton Run. A party of intrepid fireman were at the garage at 7:00am and soon after Jez was started up. The spark-plugs were replaced, but the tapping / knocking noise was still present. The R.C.S. van, a clapped-out Austin J4, accompanied Jez, after collecting the Queen of Jez ( late again – tradition ? ). Jez went round Hyde Park and past the official start at about 8:30, after Bo by 10 – 15 minutes, and headed south. Contrary to expectations, the weather was fair, even sunny at times, though cold as ever. A few miles out, Bo was spotted stationery. We stop. Bo drives on ( minor trouble ). Discover that J4's clutch pedal spring broken. Quietly bodged up replacement. Continue journey, Jez being waved on by friendly policeman into third lanes, ...

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...or up the wrong side of the road, like the old cars. The J4 follows, headlights blazing, following Jez like it was tied on. A stop for breakfast at the Happy Eater, no daffodils this year. Also, crew change between J4 and Jez. Clem seen to go past. Continue and reach Brighton about 12:45pm - before Bo ! Jez parked on the front with the rest of the tenders. Clem arrives later. We later discover that Bo was delayed by mechanical problems, and lack of water. Also, while trying to make up lost time and beating a traffic queue, Bo formed a third lane, just inside Brighton. But, police not pleased and book Bo for forming a third lane ! ( Ho, Ho ). By now the sun had emerged and Jez crew go look for food and drink, then return to look at the old cars.

R.C.S. then massacre Guilds and Mines on the dodgems. The return journey was started about 5:00pm, the way out of Brighton was slow as ever, we stopped for petrol on the way. Clem was passed looking rather immobile and drinking up water. Ian Redwood, following in his MG, reports blue flames in Jez's exhaust. On stopping at Gatwick Airport, 2 or 3 nuts discovered to be missing off the exhaust. The homeward journey was resumed, very cold, and patches of freezing for as well. A stop at a Young's pub in Croydon – The Gloucester – good beer and sandwiches. On the return to South Kensington we got a little lost and crossed and re-crossed the South Circular Road. Eventually returned to the garage at 9:30pm – 9:45pm and went to the Union Bar for a pint. Clem returned, slowly, with the clutch bearing disintegrated. Bo was trailered back, as usual.

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All in all a good day, Jez running better than the J4, Clem or Bo. That makes the first time in a good few years that Jez has reached Brighton in November. The noise still present, but difficult to trace. ~16 galls, about 125 miles. ( ~8mpg – fair )

#### November 5<sup>th</sup>

Two rings, for the joint between the two manifold parts, were fitted (  $3\frac{1}{8} \times 30^{3/32}$  ARD ). Steel studs were used to replace the brass studs, also brass nuts replaced the steel nuts. Two studs on the bottom of the rear block were immovable, but were steel anyway. Two nuts were missing from the flanges on the exhaust and half the gasket had gone. This explains the blue flames in the exhaust. Outside, a large potato was being constructed, as part of the R.C.S. float for the Rag procession.

#### November 8<sup>th</sup>

Magneto gap checked and adjusted. The tight bonnet clip spring, next to the steering box, was replaced. Rivets on the bonnet were hammered back into place. After a visit to the Hot-Pot, the banging was getting worse. Other bolts were dropping off the exhaust and the radiator moves somewhat. The tappets were checked / adjusted.

#### November 9<sup>th</sup>

The missing nuts on the exhaust were replaced and lock-nutted. There are two slightly loose nuts on the sub-chassis brackets, but these cannot be tightened without removing the clutch.

#### November 12<sup>th</sup>

Jez started, still making banging noise. Listening test about 6:00pm when Dave Cowin came round. Noise intermittent, but appears to come from towards the rear of the engine. The sump etc. was removed. The scratch marks on the sump ( possibly due to ends of split-pins scraping ) were worse, with marks under 1, 2 and 3 big-ends. No 4 big-end was...

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...removed for examination, the lower shell was pitted, possibly due to poor quality metalling.

### **November 15<sup>th</sup>**

The large potato ( computer paper on a wire and wood framework ) was finally loaded on to a lorry to make up the R.C.S. Rag float. ( potato had been sitting outside Jez's garage ). While the Rag procession wound its way through Kensington, examination of the bowels of Jez's engine proceeded on the arrival of AAW. No.3 big-end was taken off and found to be in reasonable condition. Dave Willey had suggested that the noise may have been due to a loose flywheel . AAW takes flywheel into his hands and the flywheel rotates a few degrees independently of the crankshaft. Closer examination revealed that the retaining bolts were a little loose, despite split-pins. The six nuts on the flywheel front were tightened up and re-split-pinned . The way in which the bolts became loose is a mystery. The nuts were still held by the split-pins, either the bolts have stretched, or wear of some sort is taking place in the flywheel.

Should a knocking noise be heard from the engine, especially at slow speeds or under load, investigate the possibility of a loose flywheel – it's easier to tighten up bolts than remove the sump.

### **November 16<sup>th</sup>**

The fit of 3 and 4 big-ends checked by use of engineer's blue – reasonable fit. The bolts of No. 4 con-rod were wedged in position to stop them rotating when the nuts were being tightened. The big-ends were reassembled and the sump replaced with two layers of paper petrol joining, to lower the sump to stop the scratching on the inside of the sump. Reassembled, Jez was started and ran quietly !

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A testing run took us to the Hot-Pot. The weather was exceedingly cold and wet. Jez was running much more quietly than recently, the exhaust having been cured of leaks. On the return to the garage, the front of the timing case was removed and the magneto drive shaft bushes removed ( interference fit ). This was done in record time ( 45 mins ) so that AAW could depart for his train to Cambridge complete with bushes to be remade to stop the oil leak.

### **November 19<sup>th</sup>**

A Rag-Mag selling trip to Surrey University had been planned. Now Surrey is in Guildford and just down the road from Dennis's. So we arranged to see John Dennis there and got some pump drawings. But, the J4 van was not in use ( battered in abortive mascotry raid ) so we took the train from Waterloo. John Dennis very helpful, drawings for original and Dennis No. 2 pump, operating instructions and lists of spares. He thinks they may still have some spares in stock to fit. The current Dennis No.2 pump is quite similar to the 1920s one.

### **November 22<sup>nd</sup> / 23<sup>rd</sup>**

AAW returns with magneto drive shaft bushes, these were refitted to the timing case with the assistance of Nigel Slade. Jez ran happily on the test drive. The oil leak from these bushes seem to have been cured.

### **November 26<sup>th</sup>**

Garage tidied. £ 5.00 of petrol was added at Coys, it being rather to cold to go far.

### **November 28<sup>th</sup>**

Jez, having been invited to the R.C.S.A. annual dinner in College Block, was polished by three people, starting about 7:00pm while the rain fell steadily outside. About 8:30pm, the rain stopped and Jez was driven out to be parked outside the...

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...anteroom in College Block at about 9:30pm.

When the dinner had finished, everyone came out to look a Jez and most ( about 30 ) were given a ride around College Block, Richard While and Pete Teague and Ian Redwood, who were in the dinner, took turns in driving. Jez behaved impeccably. Jez's crew retired to the bar for their free pints, after Jez had been put to bed. A silver collection more than paid for the petrol used (~ 1 gall ).

### **November 29<sup>th</sup>**

Low oil pressure, having been noticed during the previous days, the oil feed pipes were removed and blown through. No obvious blockage found, the oil tank was topped up, the pipes replaced. Oil pressure is usual on the trip to the Hot-Pot. On returning to the garage, the radiator bushes were packed with shim to make a better fit and stop the radiator moving around.

### **December 3<sup>rd</sup>**

The Physics building was to be renamed The Blackett Laboratory after Lord Blackett, once head of Physics, by another member of the great Wilson clan, Harold Wilson ( the Prime Minister ) ( but no relation to AAW ). Despite the great lack of publicity, Jez got to hear of the event and got permission from the Head of Physics to come along ( well, didn't say not to ). After polishing most of the brass-work, the polishing crew were given a trip round Hyde Park, to totally freeze them solid, then we parked in front of the main entrance to Physics. A fairly friendly policeman decided that Harold couldn't get his two Rovers in with Jez there, and moved his car so we could park on the other side of the road, directly opposite the entrance. So we waited – he's going to be < 10 minutes late we're told. Eventually, along comes the convoy ( 2 cars ). As he steps...

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...out of the car complete with flunkies, Jez sounds her klaxon and Harold, his attention attracted, looks round and gives a couple of his waves. He's hustled off inside, before we can offer him a ride..... After the naming ceremony, he gave a memorial lecture. Jez returned to garage.

### **December 6<sup>th</sup> - 1975**

After a visit to the Hot-Pot, Jez returned to the Union to pick up the I.C. B2 Rugby XV – the "Union Bar" team ( or at least half of the team ) and transport them to Wimbledon for their game.

Jez was in time to visit a Young's pub before 3:00pm. When the game had finished we returned, via the clubhouse ( beer and free food ! ) and a couple of Young's pubs, to the Union. Jez was taught some rugby songs. A good day out. Christmas holidays and little done on Jez. Fan-belt shortened by 1" to remove slack.

### **January 4<sup>th</sup> - 1976**

Nigel Slade and crew of about four brave the rain and go out to get some petrol.

### **January 7<sup>th</sup>**

Jez was taken down to Milkichs ( ? ) Coachworks in Wandsworth to enquire if the door-handle and transmission bearings were ready – not yet. On the return journey the engine suddenly cut out. The fault was eventually traced to the magneto, the adjusting nut on the contact-breaker gap had unscrewed itself and jammed the assembly. The bolt holding the rotating contact-breaker assembly to the shaft snapped. Jez returned rather slowly on the trembler and batteries, no backfiring, but no power. She only boiled when stopped in the garage.

### **January 14<sup>th</sup>**

Remainder of bolt removed ( thanks to Arthur's workshop in Mech. Eng. ). New bolt turned by Dave Salisbury...

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Diagram of bolt...4 mm thread, 7 mm head, much of magneto seems to be METRIC

... in the Physics workshop, the magneto now works.

### **January 18<sup>th</sup>**

Guilds Treasure Hunt Rally around London. Jez taken out at 8:30am to fill up with petrol – not easy on a Sunday morning – eventually find an open garage, put in 10 galls, remembered to collect lots of Green Shield Stamps, then return to pick up rest of crew from garage and proceed to start ( 9:30am ). After visiting many streets ( all west of Park Lane ) and gathering such items as a Green Shield Stamp ! and a Guinness bottle, we returned in good time to fill in the answers. Bo came first ( again ! ), we were announced as third, but later they discovered another car at second equal. If we had realised that " A Zany Stag Dies Immune " was the Sunday Times Magazine ( which we had already bought ), we would have come second – next time take someone who can solve anagrams !

Outing to Hot-Pot afterwards.

### **January 24<sup>th</sup>**

JEZEBEL GETS PUMP ! Having learnt from the Merseyside Metropolitan Fire Brigade that we could have their Dennis No. 2 pump for free, a group of 5 masochists prepared for the 230 mile trip to Liverpool. At 5:15am, 3/5 of the party were awoken from their slumbers in the R.C.S. Union

Office, 5 minutes before the alarm clock went off, by an early morning alarm call from Southside. After a cup of coffee, the five of us set out in the J4 van at 6:00am for the far North. These five were – Andy ( watch it I've farted again )...

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...Wilson, Dave ( I'll get this bloody J4 up to 100mph ) Dodge, Rich ( it's bloody freezing in the back of this van ) White, Nigel ( Audi-bashing Broadsheet Editor ) Reditt and Jon ( are we really meant to be on the A57 ? ) Hall.

We reached Liverpool at noon, despite stops for rip-off motorway food and petrol and an average temperature in the van of – 20° C.

The Fire-Station ( Storrington Ave, Liverpool ), where the pump was awaiting us, was soon found. After signing for it, the pump was soon loaded on to the J4, with the help of a fireman or two. We noted an old chassis in the station yard, Jon Hall was seen to perform strange measurements upon it with the aid of an envelope and a brick ( 3ft wide chassis, nice bracket on the pump ). The next place to visit was an eating house. Eventually, a convenient Wimpy Bar was located, after demolishing a moderate first course consisting of incinerated bits of imitation soya-bean shoved between two crusts and surrounded by short lengths of greasy string which they called chips, we ordered 5 Knickerbocker Glories . This baffled the waitress, who replied “ Yer What ? “ in a strong Liverpoolian accent, and eventually reappeared with 5 Knickerbocker Glories in 4 glasses. Consequently, Phantom Farter Wilson had to have his in a Banana Sundae glass.

By the time we reached a good pub, the pump was in about ten pieces, more bits were removed on the way back to London.

The weather was foul – snow, sleet and cold etc. We arrive back in time for the Union Bar for a last drink before appraisal of the pump was started.

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#### **January 25<sup>th</sup>**

Outlets and rear casing removed from pump. Outer impellor removed, then diffuser. It was noted that the two impellors faced in opposite directions, i.e. one was of the wrong pattern. The pump was re-assembled and for the next hour some people had a lot of fun in filling the pump with water from a hose, blocking off most of the outlets and turning the handle in either direction. Water gushed out regardless of the rotation of the handle. Eventually, the cold weather took over and the pump was returned to the garage.

#### **January 28<sup>th</sup>**

Dismantling of the pump was restarted, and continued as far as the bits that would readily remove and as far as the cold weather allowed. Study of the diffuser showed that the shaft was intended to be rotated clockwise ( looking from the rear ). This meant that the outer ( rear ) impellor

was of the wrong pattern and had presumably been wrongly replaced sometime in the past. The inner impellor is in any case very difficult to remove from its shaft.

#### **February 4<sup>th</sup>**

Disassembly of the pump continued. The inner impellor was removed, after warming the bush with a blowlamp flame and pulling with an extended, boded Mk 1 extractor. The rest of the impellor casing was then removed, this was a little stiff. This left the gland exposed ( greasy string ? ). The gland compressing lever was removed, again with a little assistance from the blowlamp. The cover plate over the ball-bearing race in the casing was removed.

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#### **February 7<sup>th</sup>**

Various parts of the pump and various tools were tidied up and along the side of the garage. Jez started up for the first time since before we got the pump and taken to the Hot-Pot. Using a newly-purchased set of magneto spanners, the contact-breaker gap was adjusted to 15 thou. Jez then seemed to run happier. The setting of the gap is quite critical to the timing of the engine.

#### **February 8<sup>th</sup>**

The priming pump – cylinders, crankcases and pistons, were removed, if the big-end nut is removed and the nuts holding the cylinder to the crankcase and the crankcase to the main casting are removed, first the cylinder and liner are removed, the big-end can be coaxed off and the piston comes free ( no rings ). The crankcase is then manoeuvred over the crank and the retaining studs – it can be done !

The ball-race at the clutch end was removed by judicious levering, the female portion of the clutch has a pair of threaded holes, a puller was boded up to fit. The Woodruff key on the shaft is then removed. This leaves the male part of the clutch and the worm helix gear free to be removed. The pump shaft and remaining ball-race then slid out towards the rear. The priming pump crankshaft was not dismantled.

The task of Nitromorsing the components of the pump then started. Nuts and other small components were left overnight to soak in the stuff and washed off with water the following day, quite successful – must put an advertisement in Broadsheet for strippers !

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#### **February 11th**

Paint stripping continued on pump components. Brass discovered under some of the paint, this will be polished up.

#### **February 14<sup>th</sup>**

Off to Cannons – shopping for bits for the pump etc. – with the J4 van.

### **February 15<sup>th</sup>**

Jez taken out for the first time in about a month, after being polished. Trip out to Ravenscourt Park for a lunchtime boozing session. All the paint having been removed from the bits of the pump, the gunmetal casing were given the first of many coats of paint. Two coats each of primer, ground-coat and topcoat were applied in the following week.

### **February 18<sup>th</sup>**

Contact-breaker points in magneto replaced by a new set ( Clare's, 260 Knight's Hill, West Norwood ).

### **February 20<sup>th</sup>**

Jez, having been hired to open a shop in East Ham, was cleaned and polished by the crew of four. Arrived on time and set off in procession with the Dagenham Girls Pipers Band. For this, we were paid £ 85 in cash including £ 25 for special insurance for Jez to carry four West Ham footballers, who decided not to travel on Jez – a good thing as there were crowds of fans around later. We were then invited to the free booze-up afterwards – we must have consumed as much as the rest put together. Unfortunately Fireman's tunics have no pockets !

Jez was running fairly well, though rather hot – investigate timing.

### **February 21<sup>st</sup>**

Carburettor cleaned out, petrol filter full of shit from the tank. Trip out to Hurlingham for the benefit of I.C. B2's Rugby team.

### **February 22<sup>nd</sup>**

Nuts and other brass bits of the pump were polished up. The pump should now be ready...

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...for reassembly preparatory to the 60<sup>th</sup> Birthday Dinner.

### **February 23<sup>rd</sup> and the days following**

Frantic last-minute preparations for the Celebration Dinner for Jez's 60<sup>th</sup> birthday ( also 21 years in the possession of R.C.S. ). The pump is reassembled, but minus the impellers and is resplendent in red paint and con??ted acres of gleaming brass. Jez's exhaust is shot-blasted and re-aluminised then painted in aluminium paint. The paintwork and gold-leaf are tidied up and many other jobs seen to. People descend on the garage to help, the evening before the dinner, much brass got polished.

### **February 27<sup>th</sup>**

The day of the dinner, final preparations take place. Jez was in place outside College Block ( Sherfield Building ) by about 6:00pm, joined by a youthful 1958 (?) Dennis Engine driven by Mr. Monday and Dennis's 1914 60hp engine. The pump, Jez's 60<sup>th</sup> birthday present, arrived at about

7:25pm on a trolley pushed from the garage by ~ 4 people in suits, trying to stay clean. Nick Grenside and John Dennis immediately pounced on the pump and soon much useful advice was flying about. The dinner guest speaker was again Lord Montague of Beaulieu – the meal wasn't too bad. After the usual chase around College Block took place as Jez and two other fire-engines and Bo gave people rides around. It all finished about 1:00am when the bar closed.

### **February 28<sup>th</sup>**

A trip to Motspur Park to watch I.C. in the Gutteridge Cup final – despite the presence of Jez, I.C. lost. The Motor Club party departed to watch Doctor Who on Dave Willey's TV.

### **February 29<sup>th</sup>**

It is possible, just, for two people to lift the pump as demonstrated by Nigel Redditt or Reditt ( or Enid Glitter ! ) and Jon Hall, as they...

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... lifted the pump onto the trolley and place the pump on the back of Jez, in the appropriate mounting position.

### **March 3<sup>rd</sup>**

Garage tidied up. Visit by the college fire officer, who "tested" our extinguisher – friendly guy.

### **March 10<sup>th</sup>**

The pump partially dismantled in 1-2 hrs – its easy when you know how ! Bits loaded into the J4 van for a trip to Dennis at Guildford. John Dennis very helpful, we got a new impellor, bushes, valve spindle, taps etc., and picked up a magneto from Nick Grenside, via John Dennis. Should now be able to get the pump reassembled soon, for good.

### **March 13<sup>th</sup> & 14<sup>th</sup>**

Pump again reassembled. The worn bronze sleeve on the main shaft, in the gland, was removed only by sawing into three pieces and much levering, after the long key had been removed by use of the vice ( approved Dennis method ). The replacement sleeve was just a sliding fit. The bronze bushes in the primer drive worm were removed eventually by tapping with a blunt instrument, the new bushes were dropped into place in the heated worm (there's a pin to locate on one of the bushes – it may get in the way ). The wear marks on the pump shaft were removed by rubbing with wet and dry and the worm replaced. The pump shaft was inserted into the clutch / primer crankcase, the new keys for the impellers were positioned in the grooves. The front pump casing was bolted onto the primer unit, the second stage impellor was slid onto the shaft ( very tight fit ) and lined up, by shim washers, to the level with the waterways in the casing. The diffuser casing was next added, followed by the new first stage impellor, again ensuing that the waterways in the impellor and diffuser were aligned. Sealing between the castings was by rubber O-rings...

...and  
grease. The impellers were secured on the shaft by the bronze sleeve. The bearing for this is a white metal insert in the rear gunmetal pump casing. The old, worn insert was removed by gentle hammering, but the replacement was found to be ~ 0.040" too small in radius to fit into the casing.

**March 17<sup>th</sup>**

The clutch, having been re-lined by Ferodo, was replaced in the pump, the clutch actuating fork can only be fitted if the shaft is moved  $\frac{1}{8}$  -  $\frac{1}{4}$ " into the rest of the pump. The bearing and cover plates were replaced. On turning the handle the impellers turned, the assembly is best described as "snug". The clutch lining requires a little "bedding in", as the primers do not completely disengage on operation of the lever ( letter from John Dennis explains that clutch should run in oil – should help ).

**March 19<sup>th</sup>**

A tour of scrap-yards with the J4 looking for a suitable reversing box for the pump drive. Try ex-military vehicles – transfer boxes. End of term.

**March 20<sup>th</sup>**

The I.C. B2's rugby team taken to Hayes for their game. A 1950's Dennis fire-engine spied in a scrap-yard near the pitch. Jez then taken down to Chiswick to watch the Oxford and Cambridge Boat Race. As ever, waved on by the police where others are turned away we made it to the riverside with a few minutes to spare before the two teams come past. Back then to pick up the rugby players, off boozing in the City.

**March 21<sup>st</sup>**

Gear lever and shaft removed to be re-made by AAW.

**Easter**

A gear-box for the pump is tracked down. Millards (?) of Edgware scrap ex-military lorries, we got a Bedford RL transfer box for £ 10. In normal use...

...this converts 2 > 4 wheel drive. The box was soon dismantled and found still to contain oil, ( messy ! ) the gears and bearings were in very good condition. By suitable manipulation of the selectors, a 1:1 or 2:1 reversing drive can be obtained, using the front-wheel drive as the input and the rear-wheel drive as the output to the pump. There is even a take-off for speedo or rev-counter. The paint was stripped off ready for re-painting.

**April 24<sup>th</sup> and 25<sup>th</sup>**

Start of Summer Term, garage tidied somewhat.

## April 28<sup>th</sup>

Jez was cleaned and waxed ready for the H.C.V.C. Brighton Run. Inspection of the magneto revealed that the retaining nut on the points was missing, and the gap was > 70 thou, accounting for the rather retarded running. While Jez was being cleaned, Nigel Reditt succeeded in reversing the J4 into the back of Jez. Fortunately, Jez escaped unscathed, but the J4 was somewhat perforated by the chassis and the exhaust pipe. (*mea culpa – typist*)

It now seems likely that we will get a new garage for Jez. The current site is on land required for an extension to the Science Museum or something, we have been offered ( by people in College Block ) a site between the Science Museum Library and 170 Queens Gate. Hopefully we should end up with a bigger garage... ( summer 1976 – new garage recedes into the distant future )

## May 1<sup>st</sup> and 2<sup>nd</sup>

Brighton run on Sunday 2<sup>nd</sup> May. Jez polished etc. on the Saturday. Clem, now running again was being fixed by a joint R.C.S. / R.S.M. Motor Club party outside the Jez garage,

Brighton Run – an intrepid party of 15 were up early enough to get Jez to the start at Battersea Park at 7:00am, our official start time. A Transit van accompanied Jez as the tender. After a stop...

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...for breakfast, Brighton was reached at ~ 11:00am. Petrol consumption ~ 10mpg. Reasonable day, it did not actually rain. Returned via Young's pub in Croydon and Windmill, Clapham Common. Boiled on steep hill near Reigate.

## May 7<sup>th</sup>

R.C.S. Annual Dinner. Jez polished in ~ 2 hours by the Chairman. Jez arrived at the dinner in time to give rides to those who wished. The guest speaker, Raymond Baxter, of Tomorrow's World fame, rode on Jez, but declined an offer to drive her.

## May 8<sup>th</sup>

It was decided to visit the collection of fire-engines / steamers / scrap-yard of Messers Hardwick at West Ewell. Due to a late start ( runs out of petrol twice on King's Road – petrol feed problems ), they were on the point of closing when we arrived, so we said we would return the next day. On the way back the fan-belt was tightened, Jez having boiled due to the warmth of the weather. Out in the evening to a riverside pub in Hammersmith, the best place on a hot day.

## May 9<sup>th</sup>

A DISASTEROUS DAY. This, one of the hottest days of the year was marked by a series of annoyances, culminating in what, for Jez, is probably the ultimate misfortune. This day began with the Felix Treasure Hunt, organised by Paul Bentley of Guilds Motor Club. The first clue led us to the Royal Mews, then on to look for a clue within 100 yards radius of one of the 8 or 9 tube entrances to The Bank station. Not finding the clue here, nor the clue at the next location, it was decided to retire

to The Samuel Pepys, a pub on the river nearby. The return journey was delayed by a petrol blockage ( clag in the tap under the tank ), this gave us an impressive total of negative points. Since the other entrants...

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...also became frustrated by the clues, Paul Bentley found his Spridget parked sideways in the Union Archway ( it nearly ended up in the Felix Office ).

Jez and crew proceeded to the Hot-Pot for lunch, only to find that the chips, owing to the potato shortage, would only be served as a side dish, at the cost of 20p extra. On returning to the I.C. Union, other people were picked up, so Jez and a crew including the President of R.C.S. and John Mellors of Mines Motor Club set off for the scrap-yard ( Hardwicks ) at West Ewell.

At 3:15 pm in the afternoon, having reached the New King's Road, disaster struck. There was a bang from the front, then a clatter as of metal on the road. Andy Wilson immediately disengaged the clutch and brought the machine to a halt. On opening the bonnet the jagged end of a con-rod was protruding through the side of the crankcase. Runners returning with large bits of aluminium revealed that the sump had been holed, bits of piston were also picked up. Closer investigation showed cracks on both sides of the engine, near the broken No. 3 con-rod. Nigel Reditt and John Mellors went off to get help.

Dismantling of the engine was started at the roadside. The oil and water pipes, magneto, carburettor, distributor etc. were removed. The stunned silence was broken only by a muttered " this is where I came in..." by Andy Wilson.

After a while, the Exploration Board (Mines) K9 lorry arrived, with Clem. Bits and people were loaded onto Clem, the K9 towed Jez away, leaving just a small pool of oil to mark the site. The slow return journey was almost without incident, though a rather young motorcycle cop halted the funeral procession at the end of Exhibition Road to pick fault with the...

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...towing arrangement and that the Motor Club Chairman was perched on top of the ladder to relay instructions from the K9. The cop made some stupid remark about " we've got people falling off the top of things like this every day". Not in the mood to argue the point. Jez was eventually parked outside the back of Biochemistry.

Dismantling now started in earnest. The oil pump and sump were removed, this showed cause and results of the blow-up. The central aluminium journal for the exhaust camshaft had suddenly moved from its position in the crankcase, into the path of No.3 con-rod. This collision lead to the journal being pushed into the side of the crankcase, leaving cracks and bending the camshaft and the con-rod snapped ( probably at the old weld in it ) and the end smashed into the inlet camshaft, bending it greatly and putting a hole in the crankcase and taking a chunk out of the side of the piston. The other end of the con-rod went through the side of the sump, as well as breaking the oil trough.

The big-ends, cylinder blocks, pistons, radiator etc. were removed, then, as the light faded, the remnants of Jez were pushed into the garage. The post-mortem following indicated the cause of the blow-up. The bolt which locates the journal in the crankcase had been noted as missing the previous day, but had not been replaced immediately as it had been thought that the journal would not move. Unfortunately, the crack in the crankcase, which had not been eradicated by the previous attempt to weld it up, had opened sufficiently around the journal to give it a certain degree of freedom. The marks on the journal and the con-rod show that the collision was square on the...

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...journal – i.e. that it had not edged slowly out, but jumped suddenly with the devastating results described above. The possible cause of excessive speed was ruled out as Jez was slowing down from around 20 mph. Poor maintenance must have been responsible for the blow-up, if the engine had not been run without that locking bolt in position, then this would not have occurred. I hope that this much will serve as a moral for any who run Jez in the future. Another point to note is the cracks in the crankcase. Cracks between the centre web and the sides of the crankcase had been poorly welded up before, but had merely moved them. Had there been no cracks there, then the journal probably would not have moved. With the cracks present there was a possibility of the crankcase failing under stress, leading to much damage to the engine.

The use of a welded con-rod in the engine is also relevant to this blow-up. It is hard to decide whether, if the con-rod did not have a weld in it, the damage would have been more or less extensive.

I hope that others will gain some benefit from these notes on the blow-up, and that such will not occur again. The damage is both extensive and expensive, it will need much welding, if not new castings. The crankshaft, however, appears to be undamaged, the broken No.3 big-end turned freely, but checks will have to be made on this. The presence of the President of R.C.S. on an ill-fated trip may be useful in gaining assistance in the repairs.

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#### **The days following**

The ill-tidings were spread to those interested, John Dennis was rather upset to hear of the blow-up, but was able to supply a replacement con-rod off the shelf. With the aid of members of the Motor Club from inside and outside of I.C. the engine was stripped down, the clutch and flywheel removed, until the crankcase could be lifted out. The timing gears had to be removed using a puller ( tapered shafts and Woodruff keys ). The crankshaft was carefully removed, the crankcase did not disintegrate further. The bent camshafts could not be removed.

With the help of Nigel Slade, the bits were taken round to Coys ( in the mews nearby ), they fix old Rolls etc., they thought it possible ( just ). Several firms were phoned up to ascertain their ability to weld the crankcase and sump. Barimer (??) Ltd of South Norwood were suggested by Dennis's and by David Hughes' father ( amongst others ), so it was that the crankcase, sump, crankshaft, piston, bearings etc. were loaded into Nigel Reditt's Minivan and taken to Farnley Road, South Norwood. They seemed quite helpful, the work would be carried out in the name of David

Evans Ltd. ( ~ Barimers (?) ). The bits were left for them to clean and examine, to give an estimate for the cost of repair.

Since it was thought that the cost of repairs would be high ( > £ 1000 ), the task of obtaining finance for the work was started. The incoming President of R.C.S., Miss Chris Morrell, with the aid of the President of I.C. Pete Teague, composed a begging letter to the Rector. Meanwhile, the Chairman of Motor Club made an appointment to see Sir Hugh Ford, head of Mech. Eng., in the hope of assistance. The Chairman ( in clean shirt ) and a letter from the Rector ( including a photocopy of the begging...

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...letter ) arrive in Sir Hugh's office at the same time. After explaining the details to Sir Hugh, he seems quite helpful, i.e. do the machining in Mech. Eng. Workshops, the cost to be paid by college and repaid by R.C.S.

This will be most useful, since the estimate for all the welding and machining of the crankcase, sump and camshafts ( inlet one removed in several bits ) by David Evans are £ 1800 – £ 2000 ! The cleaning up and welding of the crankcase, sump and pistons will cost £ 900 ( + VAT ). R.C.S.U. is prepared to pay up to £ 1000 for the welding so David Evans is given the go ahead to start.

Mech. Eng. will do all the machining and make up new camshafts ( the cams are pinned onto shafts ) etc., for a cost of £ 600 - £ 750 ( 40-50 man-days ). I hope that Motor Club can pay back much of this expenditure by using Jez for advertising etc. The bills will be met initially by R.C.S., so the work can proceed.

Among all this, the exams happened. A study of previous major break-downs of Jez shows that all occur in either November, May or June – which doesn't help with exams. With Jez off the road, R.C.S. Motor Club seem to have taken over Clem, another annoying vehicle – it seems to wander all over the road. On Clem, another visit was made to West Ewell, a fascinating place – there is a ~1914 First World War Thornycroft lorry with a large gun on the top – rusting away, but nothing useful to Jez. R.C.S. Motor Club also provided half the team on Clem for the Miglia Quadrata ( Square Mile ) treasure hunt – organised by U.L.V.M.M.C. in the City – starting at midnight !

During the summer vacation little happens, David Evans proceeds slowly with the welding. While the transmission is in pieces, it would be useful to reline the clutch.

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#### **October 1976**

Sees the start of the new academic year, and something of a revival of interest in Motor Club. Transport for the club and for R.C.S., the J4 van, has the gearbox, tyres etc. replaced, and somehow manages to pass the MOT test first time – despite the super-stiff steering and the rest.

A long and very heavy bit of 4" x 2" channel steel is "borrowed" from outside the old Chemistry Building and a 6' length sawn off, to be converted into a bracket for the pump.

Jez seems to have set something of an example, in that now both Clem and Bo are also off the road. Clem had trouble with the transmission on the way back from the Isle of Wight – and had to be towed back. The machine was dismantled, the chassis and front axle were straightened ( Clem has been rolled in the past ! ) and the whole thing is being re-painted prior to re-building. Somehow, one front wheel was found further forwards than the other, the consequence was that turning to the right was adequate, but a turn to the left was an involved manoeuvre.

Bo has been moved into the new garage ( the Rector's garage ) between the R.C.M. and Chem. Eng., the lease ran out on the old one. The engine was removed in Mech. Eng to investigate the knocking from the engine. It was found that the big-ends were catching on the crankcase, due to excessive end float on the crankshaft. The engine was reassembled, on turning the engine over slowly, a grating noise was heard to emanate from the gearbox. Removal of the cover enabled the spanner to be taken out ! The engine was started ( with difficulty ), but the timing was wrong. Somehow, they managed to drop the engine on the camshaft drive, bending it. Bo seems stuck with a bigger set of bodgers than we are.

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### **October 5<sup>th</sup>**

Some interest in Jez's piston at the Fresher's Fair. Nine freshers attracted to Motor Club – some to Jez, others to work on cars, or driving. Wait and see how many ( or how few ) are useful.

### **October 6<sup>th</sup>**

A visit was made to David Evans to take them drawings and photos of Jez – and to look at their progress. The crankcase is shaping up nicely – they've filled in the holes left by the con-rod and the cracks caused by the camshafts and are working on the old cracks in the centre web. The piston was finished, bar cleaning up. The sump was causing a few problems, the oil trough was welded up, but the hole in the side was more obstinate, due to the variation in the composition of the aluminium ( some silicon ) and that the rather porous metal had absorbed much oil over the years. Still, the end of the work does not seem to be so far away.

Since it seems unlikely that Jez will be running in time for the Lord Mayor's Show ( only a month away )

Dennis's have been asked if they could supply an engine and drivers to take Jez's place – they have offered the choice of either of their 1914 engines.

### **October 13<sup>th</sup>**

About half-a-dozen freshers ventured round to the garage to view the remnants of Jez. Some interested. No work done. The new Queen of Jez, Paula Moszynska (??) was notable by her absence.

### **October ??**

Various jobs carried out on Jez. No freshers can be induced to do any amount of work on Jez.

## **November 7<sup>th</sup>**

V.C.C. Brighton Run. The R.C.S. J4 took a few people down to look at the cars ( the Rector was on Bo, and got very soggy ), and to sell enough Rag Mags in Brighton and in the pubs on the way back...

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...to cover the costs and make some money for Rag.

## **November 13<sup>th</sup> – Saturday**

Lord Mayor's Show. As arranged, Dennis's 1914 engine arrived in college at 4:00pm on the day before the show, hidden under a tarpaulin ( to keep the rain off the brass ). The drivers were taken off to the briefing in the city, then the engine was parked in Mines Quad, under cover. Dave Dodge, Nigel Reditt and Jon Hall were left in the J4 van to keep an eye on the engine overnight, but any chance of rest was upset by ( at ~ 11:30pm ) the screeching of tyres and the tinkling of glass, as Steve Brightman ( last year's R.C.S. President ) succeeded in driving a car into Mech. Eng. . The fire-engine guarding crew were thus on hand to right the car ( it was on its side ) so that the driver and passenger ( Dave Nickson ) could get out, fortunately unhurt. Both the car and Mech. Eng. were rather bent. *( typist's note – the car was Steve's mother's yellow Triumph Dolomite Sprint )*

Sleep did not come easily to the crew in the van, because people from Southside kept coming across to give us coffee. By 05:00am ( still dark – I didn't know such hours existed until I joined R.C.S. Motor Club ) the polishing crew were arriving ( or being collected ). Since Dennis's crew had polished her up the previous day, most was in good condition, only the rain blemishes had to be removed. At ~ 7:00am, breakfast was served in Falmouth kitchen. The engine crew then set off for the start in the city, in the rain. Later, the rest of the floats arrived from storage at the docks somewhere. After a long wait, during which the weather improved – the sun even came out –the procession eventually got under way, at an average speed of 2.4mph or so. Truly vast numbers of spectators at all points of the route – even from the rooftops !

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Nick Gillett, son of the incoming Lord Mayor, got himself interviewed by the BBC, with the interviewer perched precariously on the back of the machine. Several people were later heard to say " my mum saw me on TV ". Bo blew a tyre just before reaching the cameras, so was not seen.

After lunch at King's College, the procession returned to the starting point. Later, on returning to college, Dennis's crew gave an impressive display of pumping from a hydrant outside Southside, blasting the leaves off a tree ! A good time was had by all.

## **November 14<sup>th</sup> – Sunday**

The R.C.S.M.C. Treasure Hunt. Again the day dawned early ( for a Sunday ) as crews arrive at Southside ready for a 9:00am start. Nine out of twelve entrants started, those missing included Bo ( despite some of the crew turning up ) and Steve Brightman's car ( scratched and bent ). An R.C.S. exec team went out in the J4 van and a Motor Club Chairman's team ( past and present ) also competed. The event was won by Dave Nickson ( Jez driver ), with Steve Brightman among the crew.

Thanks to Dave Dodge and Nick Gillett for spending so much time and effort organising such an enjoyable treasure hunt.

### **November – December – 1976**

Work proceeds slowly, but steadily in the garage. The interior of the body was painted cream, as were the side-box interiors. The bits of engine were tidied away into the side-boxes. The petrol tank was removed, to be cleaned inside and out. A 40' length of 4" x 2" channel steel was "borrowed" from outside Old Chemistry and sawn up ( laboriously, with a hacksaw ) into brackets...

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...to take the pump and transfer box. The brackets for the rear of the pump were cut up in Mech. Eng. Student's workshop ( Arthur's ) and welded by a friendly guy in the Chemistry workshops ( who remembered Jez's first arrival in 1955 ). The pump-drive take-off box was removed from the chassis ( by the human crane – AAW ) and dismantled – for the first time in 60 years. Much congealed oil scraped out. The teeth look as new, the ball races don't seem too bad. The oil seals look to be made of felt, the box leaked oil, probably due to overfilling, but the replacement of the seals may help.

Several people have been using the garage facilities to fix their cars and motorbikes – I only hope they work on Jez when reassembly begins.

Progress at the welders has got slower and slower due to inhomogeneity of the metal ( welding rods of given composition take in one place, but not in another ); oil absorbed by the metal over the years starts bubbling out when heat is applied ( so they try acid treatment – with little effect ); and, after cooling, cracks reopen further along the weld ( too fast cooling ? ). Samples were collected from the welder and taken to Analytical Services in Mines to be analysed – results are somewhat different to those expected. ( Crankcase – Al + 10% Bn, 2% Cu, + Fe, Sr. Sump – 0.4% Bn, 0.5% Cu, 3% Mg, +Fe, Sr & Mn ).

The capability of the welders is questioned by some.

### **January – February – 1977**

Consultation with welding experts ( Dr. A. Crane ) of the Metallurgy Dept. ( R.S.M. ) confirmed our suspicions that the material from which the crankcase is made is virtually un-weldable. The welders have tried every rod available, but with no great success. In places, the metal does not melt, but just bubbles and falls out. A ray of hope appears...

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...in the form of an offer to recast the crankcase by Mr Terry Shepherd ( of Metallurgy and Mat. Sci. ) on behalf of Alcan Ltd. For this, however, they require a pattern. (expensive part )

The welders, having agreed that the crankcase and sump could not be welded, returned these parts to us on Wednesday, 23<sup>rd</sup> Feb, at no charge. They had, however, repaired the cracked piston. They lose about £ 1000, we lose about 8 months.

The pump take-off was reassembled using hot water to expand the aluminium casing to take the ball-races. New felt oil-seals fitted and box replaced in the chassis.

### **February 26<sup>th</sup> – Saturday**

Saw the arrival of several Motor Club members who left college in the last few years – all on the same afternoon – coincidence ? It being a pleasant day, it was decided to push Jez out of the garage, and clean off some of the accumulated grime. Around this time that garage was given a clean-out and much junk chucked out, including many bits of Mini engine. The day was marred, however, when manoeuvring Jez up the kerb opposite the garage ( necessary to line her up with the doors ), the pump fell of its temporary mountings ( not bolted on ), bending the primer tap and scratching the brass – should be repairable. Jez pushed into the garage by about 8 people, pump end outwards.

### **Spring – Summer**

Since the only pattern maker in college had but recently retired ( ~ 2 weeks ago during the welding ), he was approached, but since he was soon to move away from London, he turned down the job. So the crankcase and sump were taken around to a number of pattern-making...

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...firms, with a view to getting an estimate for the work. The first firm, Premier Pattern Co. of Peckham, quoted £ 1400 for 6-8 weeks work. The next quote though, was rather different - £ 3800 from Crockett-Orwin Patterns, Waltham Cross. +[ VAT on all estimates ]. On consultation with the guy there, it seemed that this price was quite justified. The first guy had missed out some of the ( vital ) nasty bits of the inside. A third estimate was obtained from J.H. May of Bethnal Green – of ~ £ 4200, but this was lowered to £ 3300 if certain details were simplified – without affecting the operation of the engine. It was then evident that a cheaper source of patterns would be required. Consultations with John Dennis gave the address ( and recommendation ) of their pattern makers, Wood and Metal Patterns of Willenhall ( Birmingham ). The estimate was £ 2800. At this point a couple of people from Alcan Labs, Banbury, came down to look at the crankcase and sump. They seemed quite helpful – they can arrange a casting, given patterns. They suggested the West Bromwich College of Commerce and Technology ( Mr J. Lewis ) may be able to help, this led also to a college in London ( Poplar College ) and a Foundry Training Scheme ( F.I.T.C. ). Eventually some of these people saw the castings and thought the work could be done as a student project, though not until after Christmas. They may also be interested in casting some spare pistons ( always useful ) – the welded piston could be replaced.

A visit to Dennis at Guildford to collect a flexible drive coupling for the pump, also gave the name of some people who make patterns for bits for fire-engines. What is more, this two-man firm turned out to be in a mews, just off the New King's Road, Fulham, and wait for it...just a few yards down the road from that fateful spot where Jez violently expired, almost exactly a year ago ! These people ( W.M. Stafford ( ? ) & Co )...

... after taking into account the permissible simplifications to the original design of the crankcase and sump and a bit from John Dennis to keep the price down, quoted £ 1600 for two months work.

Two further contracts were obtained, the uncle of Mr. Dave Foxall of Chem II, ran a pattern making firm near Bradford. Friends of Richard Whitbread ( a recent graduate from Physics ) were some pattern makers in Southampton, who, after being shown the bits, quoted £ 1200 for 6 months work, evenings and weekends.

Thus it was, after 5 months, and about 700 miles in the trust J4, and digging deep into pockets of R.C.S.U. and I.C. major claims, not to mention much contemplation, that it was decided to give the job to Messers W.H. Shepherd of 12 Peterborough Mews, Fulham. They offered 10% discount for cash, so the first payment of £ 800 in £ 20 notes was made on July 22<sup>nd</sup>, when the crankcase, sump and what drawings we had been able to find / scrounge from Dennis's were taken down. Work proceeded steadily, with regular visits by us to advise on short cuts and simplifications.

### **Meanwhile**

Since the transmission was in ( many ) pieces, the opportunity was taken to get some of the bronze bushes replaced ( thanks to Dave Lashbrook's father and apprentices ). The clutch was taken to Ferodo's Tottenham branch, to be sent to the main works for re-lining ( £ 34.88 ). This procedure took them all of 4 months ! A good job we didn't want to go anywhere at the moment.

About 12" of 4' x 2' channel steel was welded onto the rear chassis, extending it to the rear of the original length, to take the footboards around the pump. The Biochemistry workshop supplied the mobile arc welding gear and welder. Other work was carried out on the pump occasionally.

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On a trip to Clares, Knight's Hill, a Bosch ZU4 magneto ( the correct one for Jez ) was purchased for £ 10 – it needs to be overhauled though. They may also have a vernier coupling – a useful place to go to.

### **May 1<sup>st</sup>**

Brighton Run. John Dennis had kindly invited four of us to ride down to Brighton with them. The four intrepid travellers arrived bright and early at Battersea Park ( 6:30am )

Courtesy of Dave Dodge and the J4. All three of Dennis's engines were there, plus a works tow-truck ( carrying petrol supplies ). The journey to Brighton when without mishap, indeed it was very pleasant. A BBC cameraman, perched on the back of a MG Midget, passed and repassed us - though we didn't make the news.

The Dennis engines nearly made a clean sweep on the prizes, the recently repainted 40hp 1914 engine taking 1<sup>st</sup> prize and the 60hp 1914, 2<sup>nd</sup> prize in the fire-engine class. The Enfield Leyland

Metz was relegated to third. There was, naturally, much rejoicing on the return, via two very pleasant pubs.

The route taken out of Brighton was to the North West; as the 60hp pointed its radiator skywards, the rest of the convoy following, taking a steep hill steadily in top; as the crest was reached, the magnificent panorama of David's Dyke unfolded, then the long descent too place, rapidly, even though the brakes were used greatly.

A dash on the "Flying Pig", from the last pub on the ten miles into Guildford, got us there in good time for the last train into London. A good time was had by all.

### May 7<sup>th</sup>

I.C. Rag Fete. The first I.C. fete was opened in Princes Gardens by...

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...The Lord Mayor ( Nick Gillett's father ). For the occasion, Jez made her only public appearance of the year, being cleaned and pulled by about 20 people. Some money was raised for Rag by sale of Jez drawings, and getting money from people taking photos of friends / Kids sitting on Jez !

From the sale of a complete museum on the Isle of Wight, a Dennis pump pressure gauge was purchased for £ 3. ( a pair of firemen's helmets went for £ 120 ). Some (2) lengths of suction hose ( 4" and 6" ) and some delivery hose was obtained from Hertfordshire Fire Brigade, by Brian Percival's father.

A visit was made on Sunday 11<sup>th</sup> September to the annual Autojumble at Beaulieu. Over 700 stalls, some firemen's helmets and hose nozzles, but the useful thing was a 1914 Dennis radiator, complete with nameplate, crew filler cap – intact. Useful considering the vulnerability of the radiator ( skips etc. ). The guy was asking £ 150, but lowered the price immediately o £ 125 when we showed him a photo of Jez. The radiator was a snug fit in the back of Andy Wilson's E-Type, the passenger seat being occupied by two people and a Wolsley Hornet ( 1933 ) radiator ( ouch ! )

### The Garage Saga

Towards the end of the summer term, it became apparent that the site of the Jez garage would be required for other purposes. The garage was in any way becoming rather restricted with the acquisition of the pump. Consultations with College Block were entered into by Chairman-elect, John "Muff" Potter. The ground on which the garage stood belongs to the Department of the Environment, who wished to build something in that vicinity. The road through to Central Stores would pass through the garage. The intention of College was to move the garage, lock, stock and barrels of oil, to a new site

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The only area available was between two parts of the old buildings of the Chemistry Dept., near to the patch of grass that is the extension to New Chemistry. We suggested that now would be the ideal opportunity to extend the garage. The eventual solution was to convert one of the defunct

rooms in Old Chemistry, next to lecture theatre A, into a home for Jez, after providing a suitable extension. The cost was ( at first ) £ 2400, of which a part would be paid by the D of E, and £ 600 from I.C.U. and R.C.S.U. ( £ 300 each ). The short, steep, slippery ramp at the entrance to the old garage would be no more, the new would have larger doors and be generally bigger. The only snag would be that the old garage would be dismantled on 19<sup>th</sup> August, the new would not be ready until the beginning of September ( in theory ) ! Not having any real choice, we agreed.

Without telling us, they moved the date of the demolition forward by a week; it was not until phoning around to arrange to store the stuff from the garage that this came to light. The demolition date was rearranged for Aug 17<sup>th</sup>. Most of the bits of the dismantled engine, tools and brass lamps, bell etc., were moved up to my lab in New Chemistry, where they disappeared into various cupboards, lockers etc. The bigger bits and much junk was moved into the room next to the new garage site, over the weekend after much hassles with the security guard.

### **August 17<sup>th</sup> – Wednesday**

Since no-one else had turned up to help shift Jez and people were standing around with itchy fingers to rip the garage to pieces, I pushed Jez out single handed. As she accelerated down the ramp, the nearside front wheel hub caught the doorframe and moved the wall ( concrete part ) out by 3". No damage to Jez, but it was fortunate for the owner of a red Mini, parked outside the garage illegally, that I had got security to open it and move it !

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Later, Jez pushed by assorted P.G.s to a spot under the Holland Club, next to the New Maths Building. Here she was to rest, under grubby tarpaulins. The contractors meanwhile, were rapidly dismembering the old garage.

Time passed. Work eventually started on clearing the site for the new garage at the start of September. No garage by the start of the new term in October, phone up – “garage ready by end of month”. Contractors seldom observed at garage site. Meanwhile, the vice and drill stand have been unbolted from the workbench in the storeroom adjacent ( doorway removed ) and walked. Drill stand later found amongst the bags of cement ...?! Bricklaying starts 19<sup>th</sup> October – stops the following day, after 2ft of bricks put in.

Asked by contractors working on road widening between Physics and Aero to move Jez from under the Holland Club because they want to dig up the ground. Jez moved on Saturday 22<sup>nd</sup> October to next to College Block, under the walkway, next to the switchboard. Complaints start on Monday. Phoned up the guy on level 5 College Block every day for a week. Results – still nowhere to put Jez that is safe and out of people’s way. Architect still swears that garage will be finished in two weeks time, despite no-one working on site.

[ Note Jez log for Feb – May 1967 – no engine, no garage etc. history repeats ? ]

### **October 1977**

Saw the start of the new session. Jez was cleaned and polished singlehandedly, while under the Holland Club, inviting comments from passers by, including the Rector. Motor Club starts the

year with no engine, no garage and lacking a Chairman ( Muff ) due to exam results. Martin Watson ( noted for his ability with big brass spanners and a certain large bolt ) was conned into running the club. Jez was pulled up onto Prince Consort Road for the Fresher's Fair. Since Clem is...

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...In 1000

pieces in a corridor in Mines, and Bo is off having his paintwork done ( £ 700 ). Jez was the only "motorised " mascot present. Queen of Jez, Sally Down given a ride back to Jez's temporary (!) resting place. Several people interested in helping Jez – but nothing can be done at present.

[ A few words about Clem:- Clem is a 1926 Morris Commercial 1 ton Lorry. It is rumoured that once it worked for the G.P.O., but some time in the past a flat body was fitted to the rear. For some reason he engine was swapped with an ex-minesman's van engine, various other bits are not original. Having the chassis straightened prompted a complete rebuild – long overdue. The work is being done ( mostly ) by John Mellors ( Retlaw), A.R.S.M. ( just ! )<sup>\* see note below</sup>, which is probably why it is taking so long. It is now well over a year, yet reassembly has barely started ( the engine and rear body have not been touched ). The chassis, however, is impressive. After the primer, several coats of grey oil-based filler ( like paint ) were applied, with knifing filler ( blue, thicker stuff ) to fill the deeper pitting. After much rubbing down etc., then painting with chassis black, not to mention immense care, a completely flawless smooth hand-painted finish was obtained. ( how long that will last when running? ). R.S.M. Motor Club are still trying to get a garage. ]

\* Retlaw is a character, he runs ( when he can afford it ) a 1932 Wolsley Hornet. One day, having temporarily swapped with AAW, and driving the E-Type around college ( Slade's bend ) he lost it on the bend ( wet road ) and buggered the rack and bent the rear end ( i.e. spun ). Retlaw borrows welding gear and slowly fixes car outside Jez garage. Meanwhile, Andy drives Hornet – gutless – overtaken by invalid carriage up hill !

### **October 11<sup>th</sup> – Patterns**

The pattern makers have now all but finished the patterns, and applied a first coat of paint. Our two contacts from Alcan Labs, Brian Gillett and Keith Latimer, came down and were duly impressed by the patterns. Considering the intricacies of the original castings, they thought the job of casting would be less complicated than they had thought. On the 28<sup>th</sup> October, after the finishing touches and paint / varnish had been applied to the patterns, Alcan checked the pieces and will start casting - FREE ! ( and some advertising for them ) ( paid off patterns – total bill £ 1555 – cash )

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### **November 3<sup>rd</sup>**

Jez pushed out of college and down Exhibition Road to the short road behind the new extension to the Natural History Museum ( bronze doors ) to be out of the way until the garage is ready. Hoses, axes and belts and various other stuff moved into Linstead basement. Cylinder blocks and suction hose put int

o S.A.C. office, near to R.C.S.U. office – safer than near contractors/

### **November 6<sup>th</sup>**

V.C.C. Brighton Run. Bo sets of... and seizes a big-end 20 miles out of Brighton ! Oh the ignominy ! - return on trailer. ( see Jez in Nov 1974 – big-end )

### **November 7<sup>th</sup>**

Bricklayer reappears, work re-starts on garage. College maintenance finally provides and ropes down tarpaulins over Jez.

### **November 28<sup>th</sup>**

Pillars put in to support building above garage. Exterior walls taking shape. At this stage, it was noted that the door opening was narrower than in the plans ( and slightly smaller than the old doors ). Complaint was made; and same again the following week.

### **December 12<sup>th</sup>**

Went to see Mr Chandler ( minor works ), College Block. He agreed that doorway size was to in agreement with drawing; and to raise the matter with D of E architect. Meanwhile, the architect has actually seen the garage and taken a violent dislike to the quality of the brickwork ( and the lack of cement ). The bricklayer ( awaited for so long ) was fired. One outside all was demolished ( or did it just fall down ? ) as far as ground level.

Some of the worst blunders remain buried in the foundations e.g. overhanging bricks etc. – not a pretty sight ! At least this means the correct door opening can be incorporated.

### **December 21<sup>st</sup> – 1977**

One wall finished – now the other all is demolished.

### **January 6<sup>th</sup> – 1978**

Bricklaying finished. ( floor put in before old walls taken down – including apron over heating tunnel ). Official completion date now given as 22/2/78.

### **February 1<sup>st</sup>**

Garage completed but:- has yet to be “handed over” ...

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... from D of E to college; and lack lights and power as yet.

It had been planned to move Jez, but lack of people, lousy weather and 2 skips outside the garage were deterring. The ladder was collected and moved into the room next to the garage. A message had been received from the Nat. Hist. Museum that the coverings on Jez had been coming adrift during the inclement weather ( gales etc. ). In fact, Jez was sitting there half naked, since the good tarpaulins supplied by maintenance had been removed by some unknown sod. The brass-work was brown, blotched, scratched and bent in places. Ugh !

### February 4<sup>th</sup>

Ladder, workbench and junk moved into garage.

### February 6<sup>th</sup> – 8<sup>th</sup>

Electrician in garage fitting lights and power.

### February 8<sup>th</sup>

A visit from our friends at Alcan – with the new casting for the crankcase ( + the damaged one ). After sorting out problems making the moulds, the first casting was good with just a few little bits on the main bearing feed oil troughs to build up with weld ( LM 25 AL Alloy )

### February 9<sup>th</sup>

MOVE INTO NEW GARAGE.

Amid flurries of snow, Jez is pulled up the ramp behind Nat. Hist. Museum by a team of the faithful ( including 3 from R.S.M.M.C. ). Wider doors, more space outside and no ramp make manoeuvring easy. Jez is pushed in to garage, but halfway, just in time, the driver looks up...the ladder bracket is just about to meet the door beam. So this is the modern building craftsman at work:- after writing since mid-August ( “due for completion in September” ), after knocking down thousands of pounds ( £ 4000 ? - R.C.S.U. to pay £ 600 ? ); the new doorway is ¾” too low ! Problem is solved temporarily by unbolting the top part of the ladder bracket ( it then clears the light to ! ) and Jez is moved fully into her new home.

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### February 11<sup>th</sup>

Assorted bits of Jez, + tools etc. moved into garage and junk ( Mini bits etc. ) slung into back of J4 van. Some tidying up. Door opening can be modified by taking out two small bites – mostly from slat that stop doors moving inwards. It was cold, despite the lagging, the garage water tap was frozen up.

### February 13<sup>th</sup>

Crankcases ( old and new ), camshaft bits etc. taken over to Mech. Eng. Main workshops – by arrangement with Peter Moore. Meanwhile, the garage gets a pair of brackets to support the ladder, various shelves are put up ( the original brickwork is good, the cement hard – but the new stuff is poor – the cement is crumbly of non- existent – but since our drills are not the best, it was not possible to drill the brick – do not overload the shelves ! ). The Sun ( 1kW light ) was wired in. Heaters were fixed up eventually. The garage approaches tidiness for a while. Later, with the acquisition of more spanners, they are marked R.C.S. and colour-coded red ( Whit ) and green ( AF ), in the hope that this will stop losses. A board is put up to take this set of indispensable tools. The garage gets a phone installed ( difficulty ) eventually. Of course, a week after installation, it stopped working, so they came back and fixed it.

### **March 3<sup>rd</sup>**

Via contacts at the F.I.T.C. ( Foundry Industry Training Ctte. ) [ Rob Drywood ] and the equivalent in Birmingham, patterns have been made for our piston. After several attempts, a good piston has been cast ( in iron ) and collected today – free ! Will be machined in Mech. Eng. ( better than the welded one ).

### **March 6<sup>th</sup>**

The D of E, having made Jez homeless for ~ 5 months, now decide it is time to start work on the site they cleared so long ago. What planning !

Spacers are made up to support the pump and bracket to the appropriate height above the chassis ( only a slight bodge )

### **March 19<sup>th</sup>**

It's very easy to get carried away on Jez....

#### **The body top**

Jez's sojourn without cover during the winter had not improved the woodwork – or the paintwork. The top of the body had shown a pair of cracks in the paint running most of the length of the body. Since this was worsening, it was investigated. After removal of much filler, the true situation was revealed. The centre panel of the body had warped, and sunk into a U-shape, generating gaps around the outside. To improve accessibility, the ladder rack, seat back, brass trim and seats and hinges were removed. Attempts were made to remove the centre panel from inside the body, leading to the tips broken off two screwdrivers. Close examination of the edges showed a row of screws – the filler covering these was removed and the screws removed – mostly with a screwdriver.

It is now agreed that the best method of removing old screws is :- clear out filler, paint etc. from the head end slot. Using the largest screwdriver that fits, tap it into the slot and first tighten the screw a little ( this frees the rust from the wood and does not damage the sides of the slot needed to remove the screw ) . Then unscrew the screw ( then resort to drilling ).

Eventually, the entire top of the body could be lifted off. From the underside, the two end pieces were removed and the three centre panels unscrewed. On removal of these pieces, much filler came to light. Martin Watson's father being a carpenter, these pieces were taken up to Preston for inspection, over the Easter holiday. The back of the body ( 3 pieces ) were also removed, so planks could be cut to fill in the opening over the pump.

Someone else with a useful father is Dave Lashbrook, the apprentices at Paxman Diesels were sent the bits and sketches for making adaptors to fit the prop-shaft to the pump take-off box; and the transfer box to the pump flexible drive.

Visit to Allscrews for stainless steel screws.

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The body top was eventually re-assembled with new centre panel of Pirana Pine ( probably should be seasoned ash ) and stainless screws. Along the long joints parallel to the grain, fewer screws were used, in the hope this would not cause more splitting. The body rear was assembled with three extra planks ( the r.h.s. panel was replaced also – due to splitting ), incorporating a cut-out for the pump and the gauge ( screw holes for original 6” gauges visible in top l.h.s. of original wood under paint ). All of the top and rear were sanded down to the bare wood. Filler ( exterior and flexible Polyfiller) – perhaps still not the best stuff – not flexible enough, applied to the joints between planks to make watertight and tidy.

## **March 17<sup>th</sup> – 1978**

Machining has now started on the crankcase in Mech. Eng. Machinist ( Kenny ) finds grain size rather coarse, since Alcan could not heat-treat the casting. Alcan, although sand moulds are ready, cannot cast the sump for the time being, as their casting system is presently being re-built. Odd bits, e.g. tappet etc. taken to Mech. Eng, with original drawings of engine, for dimensions. Drawings of limited use, as few dimensions quoted.

More wood bought for the footboards and each side of the pump ( the brackets for which having been completed and painted ). Wood cut to size ( using patent Motor Club blunt tenon saw ) and supported on chassis by ~ 2” square wood with a neat groove à la Dennis. Groove cut by Maintenance carpenters – special tool is block of wood with screw. Aluminium patterned sheet cut to fit and ½” x 1” half-hard brass angel bent to fit – hammered around a ( drain pipe ) former, and held on by a plethora of brass screws.

Nigel Reditt was first person to sleep in the new garage.

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## **May 6<sup>th</sup>**

Groundcoat was applied to the top and rear of the body, the ladder rack temporarily bolted on, the footboards fixed either side of the pump, nozzles and branches balanced thereon, suction hose festooned around sides and rear, the tarnished brass-work polished up, Jon Hall sleeps in the garage overnight after the R.C.S. Annual Dinner and Jez is pushed out to Princes Gardens to the I.C. Rag Fete – where we can stand back and admire the new-look rear of Jez.

## **May 7<sup>th</sup>**

Brighton Run. R.C.S.M.C. an R.S.M.M.C. set off by car. Within sight of Battersea Park, Jock’s brakes disintegrate and are fixed with nuts and bolts that hold Nigel Reditt’s tool box together. ( I saw the box in a skip a few days later after he drove over it ). At Brighton, much use is made of a tape-measure and notepad concerning the rear footboard and other bits of Dennis’s 1914 engine – for which privilege, we’ll sent a couple of slop-shirts.

Having noted the details on Dennis’s engines, a set of four lumps of wood were cut and fitted to the footboards to take the branches and nozzles. The footboards were removed and painted.

## May 22<sup>nd</sup>

R.C.S. acquire another J4 van – for m/c to play with ?

Painting on the top and rear of the body of Jez continues. Many coats ( ~ 4 ) of oil-based brushing filler ( Thornley & Knight ) were applied – it's good stuff. Odd indentations were filled with knifing putty ( blue putty ) from the same source. [ note having been taken of the immaculate ( of slow work ) finish obtained by Retlaw on the chassis and cab of Clem ]. All this was painfully rubbed down – the filler until as smooth as a baby's bum ( so I'm told ) and my fingers through to the blood. Eventually, the surface was ready for 2-3 coats of ground-coat ( ICI coach finish ). Lightly rubbing down between coats.

Having bought a squirrel-hair brush, top coat ( Wexham Red ) ( lightly thinned ) was applied ~ 4 coats. Brush marks disappear ( nearly ), but horizontal surfaces attracted dust and...

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...under the sun, various Kamikazi flies. Wet and dry ( 400 grade ) removed the worst of the blemishes. Coach varnish ( again, slightly thinned ) was applied. At last ( many weeks ) the painting is done. Left to harden off ( finished by September ).

## End of May

Lights taken to George Grou ( Goswell Road ). Headlights looked fragile – nothing can be done for them. Rear light to be cleaned up ( estimate £ 5 ).

## June 10<sup>th</sup>

AAW taking part in hose-running competition with Ilford works volunteer fire brigade – at Shellhaven. Party of three sets off to meet Andy – but delays mean he's set off by the time we reach the works. With Retlaw driving, route is via Southend. Arrive in time to see Ilford team run out hose and affix branch while other bod turns on water. Not fastest team, but others got rather wet. Gained an impression of the potential of our pump.

Work continues slowly on crankcase in Mech. Eng. Until mid July, when pressure of other work causes a halt.

Various people working on their cars over summer. Black museum of clapped bearings etc. grows.

## September 6<sup>th</sup>

Oil tank taken to Wembley Radiators to have copper cooling coil inserted. Estimate £ 30 - £ 40, paid £ 39.96

## September 8<sup>th</sup>

Sump arrives at garage, immediately taken to Mech. Eng. In the hope of stimulating some work.

## **September 10<sup>th</sup>**

Joint R.C.S.M.C. / R.S.M.M.C. visit to Beaulieu Autojumble.

## **September 23<sup>rd</sup>**

Sorting through pump equipment. Two different standpipes, three different turn keys. Nigel Slade, Nigel Reditt and Jon Hall investigate three hydrants near the garage. Result – all three different, one seized up, but the other two piss water at quite a pressure.

Dividing breeching and collecting breeching bought ( brass ) from L.W. Vass ( Ampthill ) for £ 32.40 .

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## **October 2<sup>nd</sup>**

Was the start of the new session. Jez was polished up – the brass seems to tarnish less in the new garage. The ladder rack had been bolted down previously – the coach-bolts replaced by Zosia Zbrzezniak.

Bo not around, having been dismantled to the chassis – some mechanical troubles. A third-year project ( 1977 – 78 ) in Mech. Eng. Was to start the construction of a replica of Bo. I came across it once in a lab in Mech. Eng. – it is an abortion. It has no body yet ( fibreglass contemplated ) but the “chassis” has adumper truck engine, Escort rear axle, 3-stud wheels modified to 4-stud ( crudely ), half a rack for the steering link and hydraulic brakes.

## **October 6<sup>th</sup>**

A visit was paid to the new head of Mech. Eng. Prof. Swanson, to try and get work re-started soon on the crankcase.

## **October 17<sup>th</sup>**

A pair of ½” thick brackets for the main rear footboard collected from the Mech. Eng. Welder ( Brian ) in exchange for a bottle of Scotch.

After cleaning up, the brackets were clamped to the chassis and drilled in situ. Drill bits were consumed in quantity ( about one per hole ). Nigel Reditt specialised in breaking the small ones, while Nigel Slade and Jon Hall took care of the larger ( = ½” ones ). Well, they were blunt anyway. Footboards cut from 1½” pirana pine, using Slade’s power saw. Al sheet cut to fit and more brass angle bent up – with practise it gets easier. All fitted together, then dismantled for painting.

## **October 31<sup>st</sup>**

Estimate for metal spinning headlights ( Cricklewood ) £ 475 . Save up pennies.....

## **November 5<sup>th</sup>**

V.C.C. Run. Bo reassembled 2 days previously, MOT’d in 2 minutes on the preceding day ! – and reaches Brighton !

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Later that day S.T.O.I.C. come round to film Jez ( pushed out of garage for that purpose ). But, the film could not be shown, owing to a dispute between the technicians (A.S.T.M.S. ) and the college over pay, holidays etc. This meant no machining work. The work that had started on the sump ( soon after our visit to Swanson ) was stopped. No fun.

## November 18<sup>th</sup>

Motor Club create a better mousetrap to sort our Nigel Reditt's problem. Rather vicious.

( from 8/11/78 ) Work not started yet. Dispute over – 11/1/79

Work started on cleaning up bonnet – old paint nitromorsed off, rivets tightened or replaced. New ends made for hinges to replace the missing ones. Repainted with black Hermatite engine lacquer on inside. Satin black spray outside.

## January 21<sup>st</sup> – 1979 and earlier

The rear bonnet support ( for a long time in two pieces ) was riveted and soldered together. It was noted that the dashboard / scuttle had many surplus holes – some for original fittings and switched replaced in the dim and distant past by the four-switch panel – and other holes with no reason or sense – like the one some twat drilled in the chassis / engine / body plate. Most of these spare holes filled with rivets and filler. Repaint.

The wiring had, during last summer, been replaced with new lacquered, cotton covered, rubber insulated, stranded wire and junction boxes to replace the lumps of solder and “chocolate strip” terminals. Since the wiring had been routed through the dash, it was temporarily disconnected.

## January 28<sup>th</sup>

On return from Pizzaland, skips behind Chemistry investigated – many useful containers for garage tidy up found also two carpets. So, Jez pushed out and carpets laid. What luxury eh ?

## February 3<sup>rd</sup>

Valves removed from cylinder blocks using the Jez valve spring compressor, a long bit of bar ( part A ), a...

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...piece of 2” square section tube with a notch cut in it ( part B ), plus a bit of wood to wedge down the valves ( part C ). Use parts A & B to compress the spring and simply pull out the retaining bit. Exhaust valves a little stiff ( but as expected ). Oiling of the valve stem in the guide is by means of a small piece of felt ( ¼ “ dia x ¾ “ thick ) in each of the two cut-outs near the bottom of the guide. Only one remained, others will be made up. The paint on the pots was nitromorsed off, red paint being found underneath in places; no black under the red though. It would therefore seem

that the cylinder blocks were originally red ( like Dennis's 1914 's are now ) unless an uncharacteristically thorough stripping job had been done in the past. Pots repainted Hermatite engine black – a more pleasing hue.

The water jacket covers are held on by cheese-head set screws, with the exception of one on 1-2 block being a cap-nut on a stud. A further 15 – 20 of these, some with their studs were found in the garage. At one stage, these cap-nuts must have been in place as a complete set. The two cylinder blocks are different, 3-4 having steel core plugs rather than brass ones, one block was replaced in ~ 1932 at Crossfields, Warrington after it had damaged itself on the way up. Possibly one pot had screws, the other studs and cap-nuts – I feel cap-nuts look better, but the screws do not unscrew ( Araldite ? or rust ), the heads sheer off with an impact driver. ( The one cap-nut sheered with a spanner ). So the idea of removing the water jacket covers was abandoned ( despite the quantities of rust and scale falling out of the pots ( now dry ) ). Even as the last valve was being removed ( at 5 past midnight ) “Jock” Murray, who runs R.S.M.M.C., ...

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...returned to the garage with his car – ( Triumph 1300 ) – this time on a suspended tow – having deformed it around a 1800 towball. The Jez garage panel beating service immediately swung into action, a radiator acquired from a scrap-yard next day and within 24 hours of original crump, we were driven in the very vehicle for food.

R.C.S.M.C. is now the repair shop for the R.C.C. Transit vans and crew-buses ( and we have their trolley jack and torque wrench ). Some members of the club making a profit on the hours spent. Nigel Reditt goes one better and even blows the engine us specially – they didn't tell him the core plug had fallen out before hiring it to him.

The driver's side wing stay, having been missing, presumed deceased, since Slade's incident with the skip; it was now decided, should be replaced and the stay for the other side taken to a blacksmith ( King's Road Forge, 109 St Pancras Way, NW 1 ) and a mirror image copy made. With a bit of filing and more bending, it was made to fit.

Following communications with John Dennis, a package ( which got the messengers in Southside most confused ) arrived, containing an original 1916 suction hose bracket, complete with bolts and strap. This was found to be a good fit on the chassis behind the oil tank. It was noted that the bracket fouled on the woodwork above. Closer examination showed two cracks in the paintwork at that spot. Quick work with chisel removed a chunk of filler ( complete with gold leaf ), showing a neat cut-out, the bracket fitted like it had always been there ! Using this as a pattern, another pair were made by the blacksmith to support the suction hose at the chassis rear.

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Meanwhile, things were again turning in Mech. Eng. Workshops. The sump was now ready for bolting to the crankcase, but the holes could not be drilled as someone had bugged the machine ( blown a relay ? ). Since it was over 10 years old, originating in Czechoslovakia , it took a while to get it fixed. The camshafts therefore received some attention.

The shafts are made up from cam lobes taper-pinned onto a shaft ( now silver steel bar ) interspersed with bronze bearings in aluminium bushes which fit into the crankcase. The inlet shaft has a helical gear, driving the distributor and oil pump. The front ( No. 1 ) bearing is the thrust bearing, being located between the timing gear ( on a taper ) and a collar. Wear of the bearings was not great, and will be reused ( except for smashed ones ); end float – on the inlet shaft at least – was 40 thou. This will be reduced on the re-made shafts, to ~5 thou. The cam lobes were spot-marked 1 – 4 from the rear – tying in with some earlier marks. Lobes on cams offset from pin holes by ~ 45° offset to the same side for four cams on each shaft, but opposite from one shaft to the other. The pin-holes for the first cam on each side was found to coincide with the position of the locating key slot for the gear. All should be in the same place as originally.

Another job having come in, and the expert services of “our” machinist being required, work again ground to a halt. Present “estimate” from Mech. Eng.. 40 man-days spent ( over almost exactly 1 year ! ) further 40 – 80 to go. Full cost would be ~ £ 20 per man-day.

### **March 10<sup>th</sup>**

Water supply “plumbed” to the Jez garage sink using a green garden hose ( must replace some time with copper pipe ! ). Much time spent over the weekend playing with R.S.M.’s go-carts, proceeding...

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...at speed through the various puddles that lurk along the road behind Old Chemistry.

The “new” radiator, bought at Beaulieu a while ago, was tried for fit – and found to be good – a good spare radiator. The support brackets want looking into – the bronze bushes wear out very quickly, especially since the thinnest part of the eccentric bush is at the bottom. Rearrange bush, or perhaps shim up front of crankcase higher ? Various brackets removed from front, to facilitate cleaning up and repainting front chassis.

Rear light returned ( £ 15.12 ) after renovation by G. Grou, Goswell Road – looks very good. Take in side-lights and head-lights ?

The Motor Club Black Museum was affixed to the garage wall, to display the full talents of the club members.

### **March 23<sup>rd</sup>**

Visit to L.W. Vass, Ampthill. Many goodies in the way of pump equipment espied, some bits bought, including an adaptor for fit hydrant hoses onto 4” pipe ( our suction hose is standard 4” round thread hose – gunmetal fittings ), suction wrenches, nozzles and a sawn-off bit of thread that will be converted into an inlet for our pump to take the hose.

Storage of assorted bits – including the hydrant standpipes was sorted out in the side-boxes.

The piece of brass pipe joining our priming pipe to the diffuser casing, which was bent when we got it, was straightened. On the advice of Jock, our car-crumping metallurgist friend, the pipe

was pre-treated by heating it at 400°C in my tube furnace in Chemistry, bent by careful bashing, then distressed for another hour. It works.

### **March 24<sup>th</sup>**

With the assistance of Mr. Slade, the driver's side front wheel was removed to investigate the source of a scrunching sound, noted when Jez was pulled out to facilitate the laying of some more carpet. Noise found to be due...

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...to clag falling inside the disc wheel when rotated. Oil in bearing contains fine particles of bronze, so cleaned out. I'm not sure if it has already been stated, but while I remember I'll put it in here:- when the rather curious thrust washers were replaced ( March 1975 ) with ¼ " this brass ones, it was noted that the outer brass bushes that help stop the wheel falling off the end of the axle are worn down on the bearing face. These will fairly soon need facing back or replacing. The thickness of thrust washers mean the split pin is a tight fit. Remember, to get the correct clearance, tighten the nut finger tight, then slacken of ⅓ turn.

The bolts holding the sub-chassis onto the brackets fixed to the main chassis, level with the flywheel, were tightened up and re-split pinned, one having got chewed was drilled out and replaced.

### **March 28<sup>th</sup>**

On my visit to Mech. Eng. Workshops, presented with freshly machined piston. Not bad, but since hole cut for gudgeon, machining reveals porous parts. Gudgeon pin free push fit – should really be 0.0002" interference fit – says letter from Dennis's. Next to be tackled is the sump, which is placed on inverted crankcase, centred and drilled together for many bolts. Incidentally, the machinist is Kenny Barham, used to work for Napiers, his hobby is fixing and making clocks, and he's produced a set of Maserati con-rods in his 18 month lunch hour. ( machined from solid ). His apprentice, Dave, has also tackled bits of Jez's engine.

The suction hose receives a couple of coats of Maxol waterproofing black, the strainer painted black – until we get a copper one. Nigel Reditt spends many a happy hour changing the brown of the spare radiator to the true brass, using Vim and Brasso. Gills on both radiators sprayed black, bosses on sides painted red.

### **April 11<sup>th</sup>**

Trip to Clares Motor Works ( now taken over – Washington ), got much goodies for...

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...a very small sum – including a brass petrol filter to be converted to a water filter for the pump to oil tank feed. Radiator supports inspected – driver's side ( crumped by Slade ) had the piece of leather and Araldite removed, replaced by filler. The other side has cracks on the flanges below the boss. Repainted and eventually the cast "D"s gold leafed.

### April 12<sup>th</sup>

Another visit to Vass, Ampthill. 15' of suction hose bought, ourscrew-thread branch exchanged for another push-fit and some small nozzles got.

### April 21<sup>st</sup>

Radiator ( the "spare" one, for a change ), bonnet supports ( with four bits of felt under the bottom of the bonnet ), bonnet and front wings, complete with bracket, bolted on. The second radiator is less worn on the bosses, also has provision for bolting to the front of the bonnet – stops wear and unnecessary movement – worth incorporating on the other one. This tarting-up – cleaning and polishing to come – for the benefit of the fast-approaching Rag Fete.

Andy Wilson shows up – with E-Type – for the first time this year – with his amazing switches-off-when-fully-charged battery ~~fr~~yer charger. Ideal for Jez batteries.

Meanwhile in Mech. Eng. Workshops, setting up for the line bore of the crankcase starts. Machine won't do complete job in one go, so a little bodging required.

### May 2<sup>nd</sup>

Jez mobilised, with 24 hours notice, for the "meet I.C." day. Since she had been cleaned up for the Rag Fete ( next Saturday ), not too much work was involved, but after moving her outside College Block, a trip was made to Grou's to pick up the headlights ( taken there for an estimate for mending ). Local residents ( those that turned up ) were duly impressed by Jez and other exhibitions, as were the local press ( photo in Kensington and Chelsea News ). Later wine and fed at I.C.'s expense.

### May 5<sup>th</sup>

Pushing crew mustered again for Jez's visit to the...

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...I.C. Rag Fete, again in Prince's Gardens.

The Rector ( now Lord ) Brian Flowers interested in progress made. When things had quietened down later, a hydrant was opened up and our equipment found to fit. Quite a good jet of water obtained without a pump. The hose was later allowed to dry by dangling from a convenient fire-escape next to the garage.

### May 6<sup>th</sup>

Departed for Brighton in John Phyllis's ( R.S.M.M.C. ) transit. Arrived early and watched entries arriving. When Dennis's convoy arrived, a session ensued of photographing relevant bits of equipment, for the Motor Club files. The 60hp engine was getting tatty, it's covered a great deal of mileage – it's been driven to Paris and back. The sup still shows cracks on the sides – they would be well advised to attend to this before it falls to pieces.

### May 13<sup>th</sup>

Felix Treasure Hunt. ( 3 years on since Jez blow-up ) R.C.S. team go out in J4. Faulty ignition coil causes problems, resulting in second place – by one point !

### May 27<sup>th</sup>

Visit to E.D.V.V.S. rally at Enfield. Various fire-engines including “Madeleine”, the 1912 Morris Belsize, now running. Tatty, needs restoring, but no garage. Dare not remove wheeled escape, as wheels may collapse under the weight. Ignition cable for Jez bought in auto-jumble.

Many fooled by the Wilson battery charger now installed in the case of an old radio. Meters added later.

### June 4<sup>th</sup>

Mech. Eng. merrily working away at engine. Case bored out to take crankshaft bearings; now camshaft bore machined out using a bar with three separate tools, supported at free end by a bearing bush in the end of the crankcase. Allowance made for the tendency of the machine ( not the best ) to run slightly off the true axis. Eventually, crankshaft placed in bearings...

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... and camshafts place into position. Gears mesh fairly well ( perhaps 40 thou gap ), but since assured that the relative position coincide exactly with the old casting, the gap must be a combination of the original clearance and wear over 60 years. Therefore, it will work.

Apprentice set to work cleaning up and remaking main bearing studs. In view of the fine ( pipe ) thread, suggested torque of 90 ftlbs. Handbrake ratchet teeth, built up with weld in Mech. Eng., now refitted; teeth on pawls cleaned up.

### June 22<sup>nd</sup>

To show them what they would be up against, the main bearings and old crankcase taken to Thompson Engineering, Beulah Hill ( the alternative to Crankbeers ).

Sometime around now, visit made to auto-jumble at Brentwood. Later fed well on cheesecake courtesy AAW.

### July 2<sup>nd</sup>

Chairman attends H.C.V.C. London branch meeting, two speakers on fire-engines. Very interesting, slides of things I've not seen before. The first speaker ( MR. Barclay ) was responsible for getting the Science Museum the 1904 Merryweather. Also 1925 Dennis chassis drawing, very similar to Jez, with early Tamini Pump ( like ours ). Drive to pump taken off top of main gearbox. Second was Mr. Langley, of the Fire Service Preservation Group – they have various old fire-engines and regularly hold sessions using the pump. Also, recently involved in getting a 1921 (?) chassis with Dennis engine, box and Gwyne pump ( used until trembler packed up ?? for pumping ). Presently

stored at Cardington for a museum being set up by the Nation Fire Services Preservation Trust (?) at Moreton-in-Marsh ( Fire Brigade training place ). If the museum folds, put in an offer !

### July 7<sup>th</sup>

Ardingly Steam Rally and auto-jumble. Bought various pipe fittings for pump plumbing. Dennis's engine arrives ( after pubs closed ). Real owners of 40hp engine rumoured to want it back ( on loan to...

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...Dennis's) – if it does go, it goes without all the equipment Dennis's have added – we may benefit here !

### July 10<sup>th</sup>

Engine now nearing completion. The decision was made to get all the mains re-metalled and line bored. [ No.5 main 20 thou too high in case – due to being bored to fit old crankcase ] Stepped collets made to locate the bearing caps ( he got it 20 thou out and had to correct in this way ) and fitted with Loctite. Shells, shaft, caps and studs and nuts added, but not tightened down. All his, plus the new piston, con-rod and a gudgeon pin ( (a) to build up pin with Cr until ~ ½ thou interference fit in piston and (b) to check fit of old bearing in new con-rod on No.3 big-end journal ). Estimate ~ £ 200 5/6 weeks to re-metal and line bore mains. No. 3 main bearing appears to be the one that takes the end thrust, so end radii must be correct.

Still work to be done on the sump, plus fitting and assembling camshafts, but no more can be done until the crankcase returns.

All this activity around the engine prompts a look at the bits of engine in the garage. Various nuts and bolts and washers purchased, the clutch stop was relined with ½ " of softish lining. Wear in the phos.bronze bushes in which the clutch spring studs slide prompts the replacement of these in Mech. Eng.

The flywheel to crankshaft bolts have stretched, allowing the flywheel to rock, damaging the bolts and causing the holes to go slightly oval ( see page 247 ). The wear in the holes is not too bad at this stage, new high tensile bolts should help. This should be checked regularly at the slightest sign of anything being amiss. E.g. change on torque setting, then the respective holes must be reamed out to the next size up, and oversize bolts fitted. Watch it. The clutch centre bearing – into large bronze bush – is also...

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...badly worn and would benefit from attention.

### July 14<sup>th</sup>

The pump plumbing is finished off, by running a ½ " ( not 15mm ) pipe from the pump, to a tap, to a converted petrol filter ( now a water filter, metric threads "converted" to BSP ) to ¾ " pipe and tap, to the cooling coil in the oil tank. Not use of soldered pipe fittings.

## July 15<sup>th</sup>

Open day at Ken Senior's collection. First stop, Church Farm, Weybridge – various fire-engines included and the 1913 Commer. Has a rusty Dennis diff and wheels and springs and a wheeled escape, amongst lots of other bits and pieces and vehicles. Next, house at Woburn Hill, Chertsey. More expensive motors, pride of place is recently acquired American La France fire-engine ( ~ 1918 ). Very well-off and has rich friends.

## August 11<sup>th</sup>

More bracketry – our blacksmith – King's Road Forge, St Pancras – has completed two more – one to support the suction hose at the front, passenger side, one long bracket to support the droop at the rear ( guaranteed to pierce the radiator of anything that gets too close ! ). Brackets cleaned up and fitted, also bracket made to support exhaust pipe. A pair of brackets were fabricated from steel strip to support the brass breechings on the rear footboard. Later welded together by Chris, the Mech. Eng. Welder.

## August 18<sup>th</sup> & 19<sup>th</sup>

Fire-engine display and pumping sessions at Kew Bridge Pumping Station. Frequent displays by a variety of machines in extinguishing a small shed or a scrapped car. These people ( Fire Service Preservation Group ) run training sessions on use of fire-fighting equipment – decision made to join.

Back at the garage the pump plumbing was tested by use of the tap end hosepipe. After tightening up some unions, some leaks were cured. The filter on the pipe to the oil tank has a cork washer, this leaks a little. Still, it shouldn't be under any great pressure when...

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...water is flowing correctly. It was noted that although the main gland barely leaked, the water pressure ( 30 lb/sq in on 3 gauges ) forced grease out of the two greasers. Reference to the pump drawings later, confirmed that the greasers have taps incorporated.

## August 25<sup>th</sup> – Saturday

After curing most of the other leaks ( new copper-asbestos washers ) we went one better. Jez was pushed around the corner to the hydrant next to the archway in Old Chemistry and connected up. The first length of delivery hose leaked, but the pump did not – at 70 lb / sq in. Another length of hose was connected, this time no leaks. Great . Now to try another length. At this point, it was discovered that the hydrant could no longer be turned off. Even after much crewing and unscrewing of the control wheel, still vast quantities of water gush from the pump outlets when open. A hunt under local manhole covers etc. reveals no tap. A rather embarrassing situation – how do you explain that your fire-engine is permanently connected to a fire hydrant ? A visit to college security, then to shift engineers saw chairman retelling the story. The shift engineers each separately come over to see for themselves and satisfy themselves the tap is jammed open. By the time darkness had fallen, the college plumber had been contacted and the tap located – in the boiler room next to gent's toilets in Old Chem. With the water off, Jez was returned to the garage.

The next day, we stripped down the hydrant – a screw had fallen out and fixed it, then tested some more hoses.

The old J4 van hulk was finally broken up for scrap.

A light board was made up for the rear of Jez ( removable for daytime use ) to dissuade people from driving into...

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... the back of us.

### **September 8<sup>th</sup> & 9<sup>th</sup>**

Beaulieu Autojumble. Bigger than ever, and two days, so sleep in van overnight. Local sport seems to be to tie exhaust pipe to convenient tree, then wake up contents of van, who should then go ( noisily ) in pursuit. We were too lethargic for this to work. 1200 stalls later, we espied a pair of brass headlamps, same size but different shape to Jez's ( which are very battered and wearing thin ). Bought for £ 60, ( one reflector needs re-silvering, £ 3 – 40 ). Other odds and sods purchased. Name of Motor Club put down for info for a stall next year.

### **September 18<sup>th</sup>**

At the invitation of Lt. Pete Thomas, three members of R.C.S.M.C. descended upon the Chatham Navy Base. A pleasant couple of hours was spent with the navy fire training school. They were impressed by our brass / copper nozzles and braches, we were impressed by their hydrant water pressure. The chairman volunteered to try our 1" nozzle and as the water was rapidly turned on, found himself sliding backwards on the path. Other, smaller, nozzles were more controllable. Everyone had a turn on the branches. Later, it took three of us to hold the 1" nozzle on a straight hose ( reaction not absorbed ). Pressurised water and CO<sub>2</sub> extinguishers were used to put out fires – very effectively . The petty officers running the fire school proved very helpful, we scrounged a suction basket to cover our suction strainer.

### **September 20<sup>th</sup>**

Crankcase, shaft and bearings collected from Thompson Engineering – ( £ 261.74 ). Crankshaft straightened ( was ~ 10 thou bowed ), mains reground ( oval and worn tapered ), main bearings re-metalled and line bored and reassembled ( 90 ft lb on big nuts, 60 on small and big-end ). No. 3 big-end shells fitted to new con-rod, re-metalled and bored. Gudgeon pin hard chromed, ground to ~ ½ thou interference fit into new piston. Engine rushed to Mech. Eng. And work starts immediately.

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On testing the pump, the main unit is now leak-free, but when the priming pumps are connected, water leaks past the pistons ( which have no rings ), into the primer crankcases ( which should be part full of oil – can draw off water by taps provided ), thence into the clutch casing and leaks out of the oil seal on the pump shaft. Moral – do not connect up primers unless priming, check there is sufficient oil in casing, drain water after use.

## **October 2<sup>nd</sup>**

Fresher's Fair. Jez cleaned and polished – more brass than ever – and propelled by Land-Rover power to next to Queen's Lawn ( Beit Quad dug up for potatoes or something ). The radiator-sized rally board also on display – at last ( thanks to Mr. Watson Snr. ). Some interested people around. Queen of Jez, elected previous day, ( Jane West ) turns up and sits on Jez. Work progresses in Mech. Eng..

## **October 6<sup>th</sup>**

After the Tiddlywinks, a couple of freshers appear. To prepare for the insertion of the engine, the wings, bonnet, bonnet supports, headlamps and radiator are removed.

In Mech. Eng., studs are made up and fitted, the cams and bearings assembled onto the new camshafts with taper pins, the sump to crankcase bolt holes finished off, oil pump mounting holes drilled and tapped and sundry other jobs done.

## **October 26<sup>th</sup>**

All is finished. In one afternoon, I deliver the final instalment of my thesis to the typist and collect all the engine bits and take them to the garage. The rebuild now gets underway, a supply of new nuts, bolts, washers and gasketing, spray golden Hermatite !, oil, grease etc. having been laid in. Those invited in the rebuild are predominately ex-students, including AAW, NJR, DJD, JPH, who remember Jez before the blow-up 3½ years ago, and travel miles at weekends, plus others acquired over the years – Martin Watson, I.C.U. Pressy Chris Fox, R.C.S.U. Pressy Sean O'Boyle, plus the new R.C.S.M.C. Chairman Andy Cheyne, back from a year's exile in Swansea now Mech. Eng. PG ( maybe I'll let him write a few words in the logbook ? ), plus...

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... the occasional real student from R.C.S. .

Work is sustained by Swan lager, curries and "Big Macs". Many photographs were taken, for the record.

## **October 27<sup>th</sup> & 28<sup>th</sup>**

An attempt was made to prod the Guilds steam cleaner into life. When it refused to perform dragon impersonations, resort was made to manually ( using a toothbrush ) scrubbing out swarf, grease and casting sand from the new castings. After drying, the crankcase was checked again. Pockets of casting sand were poked out. It was noted that parts of the new crankcase casting were ill-formed – in the ( unstressed ? ) web of the central flange ( No.3 main ) near the camshaft bosses – no problems are anticipated, but keep an eye on this area. The main bearings were placed in the crankcase by the transplant team in ( nearly ) clean lab-coats. The crankshaft and caps were added and torques up to 90 ft lb. Split-puns were inserted, adjustments of washers etc. being made to line up the slots with the holes. The camshafts, including three bearings, were slid ( with oil ) into place and the retaining bolts fitted.

### **November 3<sup>rd</sup> & 4<sup>th</sup>**

Following the Life Sci. Fresher's Dinner, at which pots were presented to three of those involved in the rebuild ( amongst other things ), work resumed. The timing cover rear ( which ought to have been fitted before the crankshaft ) was added after removal of the crankshaft gear and two studs. The camshaft front ( No. 1 ) bearings were added, followed by the timing gears ( paying close attention to the timing marks ) onto the Woodruff keyed taper shafts. The assembly was lifted into the sub-chassis and shimming commenced. This allows for the distortion (  $\sim \frac{1}{16}$  " ) of the sub-chassis. A good fit of shims -  $\frac{1}{16}$  " -  $\frac{1}{8}$  " or so - was eventually achieved at all 10 points, having started at the four corners. Having cleared the paint from the holes, the 10 bolts were fitted and split-pinned.

The slots of the gudgeon pin for the new ( No. 3 ) piston were opened out to take the piston ring ( slot machined off-line ( error ) ) and the unit of con-rod, piston, gudgeon pin and rings assembled carefully. No. 2 piston was tight on the con-rod due to a burr on the small-end bronze bush. The rear bonnet support was removed for clearance. Nos. 3 & 4 pistons were supported by the skirts on the crankshaft ( webs horizontal ). The gasket ( Hermatite brown paper petrol jointing ) in place on the crankshaft, ...

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... the 3 / 4 cylinder block was lifted by AAW ( otherwise, 2 mortals ) from floor to side-box to chassis ( on blocks of wood ) to crankcase, where it fits onto the studs and over the pistons. If the bores are well oiled, the pistons may be pushed up into place, with only a little jiggling required to get the rings in. The chamfer of the bottom of the pots makes this possible. No. 1 / 2 pot and pistons added likewise ( though twice breaking rings on No. 2 - try again ), big-ends assembled, torque to 60 ft lb, split pin. Bolt up pots, split pin.

The flywheel was lifted into place and bolts inserted ( High tensile bolts - BSF though ).

### **November 11<sup>th</sup> & 12<sup>th</sup>**

With the flywheel bolted up tight and split-pinned, the clutch assembly was added. Only one bit of the transmission is packed out with shim, being the flange on the front of the power take-off box. Other bits fit together one way round only - care. Clutch linkage added, with new clevis pins. Tappets, magneto drive, timing case front, water pump, manifolds etc. added. Pump take-off box moved into place and bolted down. About to set the tappets, Retlaw ( Mellors ) turns up and discovers that one camshaft is wrong. After crawling under the engine etc. it is found that nos. 2 & 3 inlet cams are 180° out. Shit ! Ken has boobed.

The timing cover front removed, the gear pulled off ( bodged puller ) and the crankcase unbolted ( collecting the shims ), moved forwards and jacked up at the front to enable extraction of the offending shaft.

### **November 17<sup>th</sup> & 18<sup>th</sup>**

Correction of the problem in Mech. Eng. ( remove pins, rotate, re-ream, re-pin ) enabled the shaft to be fitted. The crankcase was bolted down again. The camshaft bearing retaining bolts ( 8 )

were fitted with Loctite Torqueseal. Various bits of piping, linkages, wiring and big bits like the radiator and sump were added. By evening, all is ready for oil ( into sump and tank ), water ( warm ) and petrol. A fair collection of people ( a couple of dozen ) had crawled out from under stones etc. and clustered around Jez outside her garage. Half a dozen worked in relays, cranking her over, rewarded by a chuff and wheeze. At around 8:44pm on Saturday, 17<sup>th</sup> November 1979, with AAW at the controls, Retlaw the choke and JPH on the handle, Jez fires up and runs for a good half minute. Good enough to open the Champagne. Run engine for half an hour or so ( on trembler only – magneto wrongly adjusted ) – a few water leaks, but otherwise a true reward for 3½ year work. After more Swan, off for a curry where the younger element ( not having seen her run before ) were rather overcome.

**It works again !**

