## REGINA -v- Ms $* * * * * * * * * * * * *$

Driving Without Due Care and Attention-7 December 2003

Newbury Magistrates Court $4{ }^{\text {TH }} / 5^{\text {TH }}$ November 2004

## SUMMARY REPORT OF INSPECTION

OF THE
SCENE OF THE INCIDENT
\&
*******'S VEHICLE

Date of Inspection 21 October 2004

CLIENT: BINDMAN \& PARTNERS

## REPORT REF $\mathbf{N}^{0}$ R3069-A1

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ASSOCIATES

## REGINA -v- Ms $* * * * * * * * * * * * *$

## SUMMARY

This report summarises the findings of my inspections of the incident scene and the vehicle being driven by Ms ${ }^{* * * * * * * *}$ at the time of the alleged offence.

I have conducted these inspections with particular reference to the Witness Statements of the MoD police officers and other individuals present at the scene.

Generally, I find the statements of the police officers involved, particularly Hornett and Walton who were close by, to provide a consistent description of the events which fit the scene and sequence of the alleged incident although, not unexpectedly there are some relatively minor discrepancies between the recollections of these individuals. Police officers Beatty and Sawyer seem to be a little more fanciful in their respective recollections, claiming to have seen relatively far off events in the dark of an unlit road and with vehicles blocking their fields of vision.

However, Mark Parbery (an employee of the Atomic Weapons Establishment) with his recollection claims to have witnessed and experienced events that could not have possibly taken place: He claims that he had to take immediate and strenuous action to avoid impact with *******'s vehicle within one-third of a second; incredulously, that he was able to steer his 2.5 m wide vehicle through a reduced gap caused by Ms *******'s intrusion into the carriageway of just 2 m width; and that $\mathrm{Ms} * * * * * * * *$ had not stopped her vehicle just over the carriageway centre line, as reported by two police officers, but that she continued to drive across the full carriageway without crashing into his vehicle side as it passed by.

None of Mr Parbery's claims are corroborated by the police witnesses.

My examination of $\mathrm{Ms}^{* * * * * * * \text { 's vehicle shows it to be in excellent and well maintained condition }}$ and, judging from the service records the vehicle was in such condition at the time of the incident.

Throughout my preparations for this inspection I asked for access to the Ministry of Defence vehicles involved but my requests never received any response from the Crown Prosecution Service. Thus I have been denied opportunity to inspect the vehicles involved but, that said, the assumptions that I have made about those vehicles in the absence of inspection should not materially detract from my overall findings and conclusions in this matter.

John H Large

ASSOCATES

## Regina -v- Ms

## 1 QUALIFICATIONS AND EXPERIENCE

1.1 I am John H Large of the Gatehouse, 1 \& 2 Repository Road, На Ha Road, Woolwich, London SEI8.
1.2 I am a Consulting Engineer, Chartered Engineer, Fellow of the Institution of Mechanical Engineers, Graduate Member of the Institution Civil Engineers, Member of the British Nuclear Society and Fellow of the Royal Society of Arts.
1.3 Over my professional career, I have undertaken many investigations into road traffic incidents and accidents. For several years I acted on behalf of the Fire Brigades Union conducting investigations into a number of incidents involving fire appliances not that dissimilar to the heavy vehicles deployed by the Ministry of Defence for its transportation of nuclear weapons.
1.4 I consider myself adequately qualified and sufficiently experienced to provide opinion on this matter.
1.5 The incident in question here relates to the convoy of specially adapted heavy goods vehicles (articulated lorries) and their attendant security and emergency response vehicles, that are used to transport nuclear weapons to and from the Atomic Weapons Establishments at Aldermaston and Burghfield in Berkshire to the strategic nuclear weapons store at the Royal Navy Armaments Depot (RNAD) at Coulport in Scotland.
1.6 My understanding is that Ms ******* opposes the deployment of nuclear weapons although, as such, I give no regard to this in this summary report of my inspection.

## Instructions

2.1 I have been instructed on this matter by Mr M Schwarz of Bindman \& Partners, a firm of solicitors acting on behalf of Ms J ${ }^{* * * * * * *, ~ t h e ~ A c c u s e d ~ i n ~ t h i s ~ m a t t e r . ~}$

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2.2 I was first instructed on 16 August 200. In my acceptance of the instruction of 18 August, I noted that in view of the alleged facts given in a number of witness statements made by Ministry of Defence (MoD) personnel, I wished to inspect a number of the vehicles involved in the incident. I know that Ms $* * * * * * *$ forwarded this to the Crown Prosecution Service asking it to accede to my request although no response has been forthcoming.
2.3 I made similar requests for inspection of MoD vehicles etc., on 8 September, 25 September and, finally, on 11 October all of which Ms ******* forwarded to but none of which received any acknowledgement or reply from CPS whatsoever.
2.4 In the absence of any cooperation from the CPS and MoD, I pressed ahead with my inspection of the site of the incident on Thursday, 21 October 2004 limiting my inspection to the locality, road conditions and Ms *******'s vehicle.
2.5 Because I have not been afforded access to the MoD vehicles it has been necessary for me to make a number of assumptions about the Foden articulated vehicles about which the convoy centres. For this, I have relied upon recent photographs of the vehicles for their dimensions, and for performance I have referred to the Foden specification for its Alpha type of commercial lorry which seems to be very similar to the MoD-adapted Foden tractor unit.
2.6 That said, these necessary assumptions and the relatively small error margin that might derive therefrom, should not have that much influence on the reliability of my analysis and assessment.
2.7 At the time of the incident Ms ${ }^{* * * * * * * ~ w a s ~ d r i v i n g ~ a ~ C i t r o e n ~ R o m a H o m e, ~}$ Registration $\mathrm{N}^{\circ}$ R216 FDL. The RomaHome is a camper van, exclusively manufactured by Citroen, being based on a small delivery van about the size of a small family car.

## SCENE OF THE INCIDENT

3.1 The scene of the incident was on Amners Farm Road just north-west of the junction with Pingewood Road and Burnthouse Lane (OS Grid location 683 693).
3.2 The road is not illuminated, it has raised and hard kerbs on both sides and a centre dashed line marking, with no significant camber to either carriageway. Road width is approximately 6 m with equal carriageways of 3 m width. In the locality
 of the incident, over a linear distance of 100 m running north-west from the junction with Burnthouse Lane and Pingewood Road, there is a $0.6 \%$ incline running up to the north-west to a slow right-hand bend.
3.3 There is a shallow drainage ditch flanking the northbound carriageway, set back in the road verge approximately 1.5 to 2 m from the carriageway verge, and there is a thicket hedgerow on the verge of the southbound carriageway (eastern side).

4 Passage ROUTES OF Vehicles Involved
4.1 Ms ${ }^{* * * * * * * ~ w a s ~ a p p r o a c h i n g ~ f r o m ~ t h e ~ n o r t h-~}$ west and had just passed by the farm track leading to Amner's Farm.
4.2 The MoD convoy was approaching northwestwards along Pingewood Road rounding the bend in the road to run along Amners Farm Road.


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5.1 The convoy running arrangement was with the lead panel van (Transit) ahead, followed by a heavy articulated vehicle tractor unit, then three complete articulated vehicles all moving to the northwest and approaching a long right-hand bend.
5.2 At the time of the incident two of these vehicles (an uncoupled tractor unit and a fully articulated lorry) were positioned between the right-hand bend to the northwest and the sharper bend to the east at the Burnthouse Lane junction, in a relatively straight stretch of road of approximately 100 m length. Trailing behind this group of vehicles two further articulated units, one of which was approaching or actually negotiating the Burnthouse Lane junction bend. The remainder of the convoy (most probably comprising a fire engine, breakdown truck, decontamination unit, and another transit van) was located somewhere along Pingewood Road bringing up the rear.
5.3 Also within the convoy at least three motorcyclists (Innes, Walton and Davis). Davis was ahead of the convoy at the next main road junction, Innes was leading the convoy in front, and Walton's position is uncertain, although he seems to have been just ahead of Parbery's tractor unit.

## Position of the Convoy Vehicles

6.1 Now referring to the Witness Statement (undated) of Paul Beatty, Mr Beatty states that he was the police escort accompanying (sitting in with) the driver of an articulated lorry of the convoy and that "As the [*******] vehicle approached the lead articulated lorry it appeared to swerve in front of it, in a deliberate attempt to stop it".
6.2 I can position Mr Beatty in the third lorry of the convoy lorries because John Sawyer states (Witness Statement 11-12-03) that he was also escorting another articulated lorry of the convoy and that he witnessed the approaching vehicle "appeared to swerve towards the convoy vebicle, which was in front of me". The vehicle in front of Sawyer was the articulated tractor unit being driven by Mark Parbery.

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6.3 Now, if I position the various vehicles involved at the point in time when Ms ******* allegedly swerved over into the northbound carriageway: First, $* * * * * * *$ 's vehicle has to be on the southern side of the bend to be seen at all by either Sawyer or Beatty, because if any further north being round the slow right-hand bend it would have been obscured by the dense hedgerow and thicket on the eastern side of the road.
6.4 According to Mr Parbery (Witness Statement of 10-12-03), I know that the convoy vehicles are travelling at 20 miles per hour and that Ms ******* allegedly swerved across the path of Mr Parbery's vehicle just 10 feet (3m) ahead of it.
6.5 Keith Watson (Witness Statement 9-12-2003) who was driving the second vehicle (Sawyer's vehicle) puts his speed at 15 mph and his distance to Beatty's vehicle at 50 m . This large separation was probably due to the vehicle slowing for the Burnthouse Lane junction bend.
6.6 With the vehicles travelling at a general convoy speed 20 mph a minimum safe stopping distance for heavy vehicles, particularly travelling at night in convoy, would be at least one and one-half times the Highway Code recommended total stopping distance of 12 m at 20 mph . Thus, with each vehicle about 15 m overall length (see Photograph 1 of Appendix 1) and, say, 6 m length for the leading tractor unit, the length of the vehicle train from $* * * * * * *$ to Parbery to Beatty, including for Watson's large separation distance of 50 m , would have been $(3+6+50+15+18$ $=92 \mathrm{~m}$.

## $7 \quad$ Fields of Vision

7.1 Diagram 1 shows that with the convoy vehicles correctly positioned.
7.2 Riding in the passenger seat of the second fully articulated lorry, Beatty's field of vision ahead would have been blocked by the high trailer of the articulated vehicle

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ahead under escort by Sawyer - see Photograph $1 .{ }^{1}$
7.3 Not only could Beatty not have seen $* * * * * * *$ 's vehicle but his embellishment

## "I noticed headlights approaching, the vehicle

 was flashing the headlights of the vehicle (sic) as it neared the convoy. As the vehicle approached the lead articulated lorry it appeared to swerve in front of it, in a deliberate attempt to stop it".suggests that he was watching a drawn-out sequence of $* * * * * * *$ 's approach as it neared the convoy and was then deliberately positioned in front of a vehicle that was (if he could have seen it) 92 m ahead of him, in the darkness of an unlit country lane. Since ${ }^{* * * * * * *}$ was approaching the convoy round the blind bend all that Beatty could have actually seen would have the indirect glow of approaching headlights. From his position he could not have witnessed $* * * * * * *$ allegedly swerving over the carriageway in front of the convoy "in a deliberate attempt to stop it".
7.4 In other words, I doubt the veracity of Mr Beatty's


Diagram 1 - Vehicle Positions account.
7.5 On their parts, Sawyer and Watson could just about have seen ${ }^{* * * * * * * ' s ~ v e h i c l e ~ a s ~}$ it rounded the bend, viewing it over the exposed chassis section behind the cab of the tractor unit being driven by Parbery immediately ahead, although the final phase

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when "the [******] vehicle appeared to swerve towards to the convoy vehicle" would not have been within Sawyer's (or Watson's) line of sight.
7.6 Similar to Beatty, Messrs Sawyer and Watson have included the description of the ******* vehicle swerving that they both could not have seen.

## Witness Statement Accounts of Tony Walton \& Mark Parbery

8.1 Mark Parbery who was driving the lead tractor unit states (Witness Statement 10-12-2003), my paraphrasing and itemising:
> (i) first saw ******* vehicle when it was $70 f t$ (21m) away . . ii) I was travelling at about 20 mph due to the road conditions being dark and narrow . . . iii) when ******* was about 10ft in front of us it blinded us with full beam beadlights . . . iv) ******* immediately pulled in front of our path taking $\sim$ р about one-third of my side of carriageway . . . v) I swerved to the nearside . . . vi) braked and steered back to the offside . .vii) I came to stop on my side of the carriageway . . . viii) when I had stopped I could just see the rear corner of *******'s vehicle protruding from behind my lorry in my offside rear view mirror'
8.2 i) first saw ${ }^{* * * * * * * ~ v e h i c l e ~ w h e n ~ i t ~ w a s ~ 70 f t ~(21 m) ~ a w a y: ~ D i a g r a m ~} 1$ shows that the bend ahead of Parbery would have obscured a direct view of $* * * * * * *$ 's approaching vehicle, so this puts Parbery's vehicle about 23 m or so southeast of the bend for ${ }^{* * * * * * *}$ to have been in Parbery's sight for the 70 ft prior to the incident, thus further confirming the vehicle positions of Diagram 1.
8.3 ii) I was travelling at about 20mph due to the road conditions being dark and narrow . . . iii) when ${ }^{* * * * * * * ~ w a s ~ a b o u t ~ 10 f t ~ i n ~ f r o n t ~ o f ~ u s ~ i t ~ b l i n d e d ~ u s ~}$ with full beam headlights: I have measured the aim and spread of main and dipped beams of ${ }^{* * * * * * * ' s ~ v e h i c l e ~ a t ~ p o i n t s ~ a l o n g ~ t h e ~ c e n t r e ~ o f ~ t h e ~ o f f s i d e ~}$ headlamp, and at various distances outset from the offside and forward of the front of the vehicle out to the distance of 3.04 m (10ft).
8.4 The results of my measurements applied to the position and height of the cab driven by Parbery are shown in the following diagram which demonstrates that

Parbery could not have been 'blinded' by the main beam headlights of $* * * * * * *$ 's vehicle.


Diagram 2a - Parbery's Dazzling Claim - Main Beam On


Diagram 2b - Positions According to Parbery
8.5 iv) $* * * * * * *$ immediately pulled in front of our path taking up about onethird of my side of carriageway . . . v) I swerved to the nearside . . . vi) braked and steered back to the offside: As previously noted, I have measured the carriageways from hard kerb to the painted centre line at several localities along the road. I found both northwest and southeast carriageways to be consistently of 3 m width.

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8.6 As described by Parbery, *******'s vehicle swerved and drove across the northbound carriage occupying about one-third of its width. This would have produced a pinch point reducing the northbound carriage down to $\left(2 / 3^{\text {rd }}\right.$ of 3 m$) 2 \mathrm{~m}$ width.
8.7 First, to negotiate the 2.5 m width tractor unit through the 2 m pinch point Parbery could only have done so by steering abruptly to the left, with all four axles of the vehicle mounting the 100 mm high hard kerb and riding on the soft verge. Now, I suggest, riding over the kerb would have been a very noticeable if not alarming experience in such a large vehicle and should have been recalled by Parbery when recounting the experience in making his witness statement. ${ }^{2}$


Diagram 3 Parbery's Swerve
8.8 I also doubt that Mr Parbery could have manhandled the vehicle in the way he claims. This is because at 20 mph his forward velocity would have been (5280/(60 x 60$) \times 20) 29.34 \mathrm{ft}$ per second $(8.94 \mathrm{~m} / \mathrm{s})$ so, at the 10 ft distance from $* * * * * * *$ 's vehicle when it immediately swerved over into his carriageway (as he claims), he would have had just about (10/29.4) one-third of a second to avoid collision. Even with power steering, because of the gearing-down ratio of the steering wheel to the degree steering axle(s) offset, it would not have been possible to manoeuvre (complete the number of steering wheel turns) so quickly. ${ }^{3}$
8.9 viii) when I had stopped I could just see the rear corner of ${ }^{* * * * * * * ' s ~}$ vehicle protruding from behind my lorry in my offside rear view mirror: In this part of his statement Mr Parbery seems to be implying the $* * * * * * *$ vehicle continued to drive into the northwestbound carriageway without stopping,

[^1]ASSOCIATES
coming to rest completely blocking the carriageway. As can be reasoned from Diagram 3 if, in the first instance, ${ }^{* * * * * * *}$ had pulled across into one-third of the northbound carriageway and then (according to Parbery) continued on that path further into the carriageway without stopping, then the $* * * * * * *$ vehicle would have most probably collided with the front of Parbery's vehicle or, if not, then definitely with its side.

Of course, since Parbery must have been, according to his recollection, fully occupied in manoeuvring his vehicle around ${ }^{* * * * * * * \text {, it is doubtful during that }}$ fraction of a second he could have witnessed the motion and path of $* * * * * * *$ 's vehicle once that he had passed it.

In fact Ian Hornett (Witness Statement 10-12-2004) seems to provide a much more reliable account from his position in the lead Transit van just ahead of Parbery's vehicle, describing ${ }^{* * * * * * * ' s ~ a p p r o a c h ~ t o ~ t h e ~}$ convoy:
> " a white camper van was travelling towards the convoy . . it passed my vehicle and slowed rapidly coming to a stop . . . the camper van was with its front offside quarter and wheel over the central dividing line, effectively blocking the road and causing part of the MOD convoy to come to a balt. . . .I saw that the camper van had been parked on the nearside grass verge. . ."'

This is a very much different description to that given by Parbery. First, with just the offside front quarter of *******'s vehicle into the northwestbound carriageway, the pinch point is still sufficient at about 2.75 m for Parbery's vehicle to pass through unhindered and without excessive


Diagram 4 Hornett's Recount manoeuvring.

So far as Parbery's claim that ${ }^{* * * * * * *}$ continued to drive into the northwestbound carriageway, more likely, as Hornett explains, ${ }^{* * * * * * * ~ h a d ~ a g r e e d ~ t o ~ m o v e ~ t h e ~}$

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vehicle off the road under the supervision of another officer (Tony Walton) and it was this movement underway that Parbery probably witnessed in his rear view mirror.

I find Mr Parbery's account of the incident to be incommensurate with the facts of the matter, that is at the speed and distances he gives he would not have had enough time to manoeuvre his vehicle and, even if he had done so, the width of his vehicle would not have passed through the pinch point that he sets for *******'s intrusion into the northwestbound carriageway.
8.17 Mr Watson, observing from the following vehicle, albeit 50 m back, also contradicts Parbery's statement in that he states that *******'s vehicle "drove back onto its correct side of the road. As I was about 10 m away the $[$ *******'s] vehicle then turned into our side of the road and this time came to a stop, blocking our passage".

[^2]ASSOCATES
8.18 Overall and collectively, the various witness statements of the individuals involved present a muddled picture of the events of the evening $7^{\text {th }}$ December 2003. This I find particularly disturbing because these records are, in the main, drawn from the observations and note keeping of experienced police officers.
9.1 I have inspected ${ }^{* * * * * * * ' s ~ v e h i c l e . ~}$
9.2 Photograph 2 shows Ms $* * * * * * *$ in her vehicle. The vehicle is loaded (water tanks, gas supplies, etc) as it was on the evening of the incident and, as shown by the photograph, under this load distribution it is properly trimmed. Tyre pressures at the time of my inspection were at the manufacturer's recommended settings.
9.3 I have examined the most recent MOT certificate for the vehicle. The certificate is dated 20 December 2003 (HM0059857 - previous MOT Certificate EH 0325052 ) and the vehicle mileage at that date is entered as 081,634 miles.
9.4 I find the vehicle to be in excellent condition. I note that recent service records (routine servicing, tyre and brake pad replacements) give account that it has been regularly and well maintained.
9.5 Several of the witnesses refer to being dazzled by the approach of $* * * * * * *$ 's vehicle so I have given particular attention to the setting and aim of the dip and main beam headlamps (there are no fog lamps fitted).
9.6 There is no apparent bodywork damage or misalignment of the forward body shell that would misalign the aim of the headlamps, each headlamp is fitted with the H 4 halogen $60 / 55$ watt bulb recommended by the manufacturer, and the

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manually operated level adjustment of the headlamps, normally kept in its midrange position, maintains the aim of the dipped headlights with the MOT limits. ${ }^{5}$
9.7 Ms ${ }^{* * * * * * *}$ demonstrated how she used the toggle stalk of the headlight switch to flash the main beams. Her action, not untypical of common practice, is to pull forward the toggle level with the index finger and to release it immediately. This momentary engagement of the solenoid signal voltage results in the main beam illumination never, because of the transient time lags involved, ${ }^{6,7}$ reaching full illumination.
9.8 Although I did not measure the main beam output transients on Ms ${ }^{* * * * * * * ' s ~}$ vehicle, typically this momentary flashing action results in the main beam illumination not rising above 30 to $40 \%$ of the maximum illumination rating - I would expect this to apply in Ms $* * * * * * *$ 's case providing, that is, at the time of the incident she adopted the same headlight flashing action that she demonstrated to me during my inspection of the vehicle.
9.9 This leads me to briefly comment on the number of references to ${ }^{* * * * * * * ' s ~}$ headlights flashing and, particularly, the various drivers being dazzled (Parbery, Thursby and Walton) or blinded (Innes).
9.10 I can understand the two motorcyclists being dazzled or blinded by the oncoming traffic at night. This is because the motorcyclist's helmet visor generally has poor optical qualities (particularly if scratched), and its wrap round geometry can act as a curved partial reflector, focussing light back-reflected from the face. My own

[^3]ASSOCATES
personal experience as a long term motorcyclist is to drive at night with the visor up, although in winter (as is the case here) air temperature and wind chilling often demand that the visor being down.
9.11 Of all of the other vehicle drivers and occupants, it is only Parbery and Thursby (both in the same vehicle) who make a point of being dazzled by ${ }^{* * * * * * * ' s ~}$ approach. For example, Hornett and Braund who were both just ahead of Parbery in the lead Transit make no reference to being dazzled by $* * * * * * *$ 's headlamps.
9.12 Parbery makes a point of being dazzled by $* * * * * * *$ and then only when $* * * * * * *$ 's vehicle was within 10ft ( $\sim 3 \mathrm{~m}$ ) of his cab. Although Parbery's eye line (at about 3 m above the road surface) would be above the cone of the powerful beam of the headlight at a distance of 10 ft , the windscreen of the cab may have been picking up the dispersed or faint light that surrounds the powerful and more focussed light of the main beam.
9.13 I did request the optical specification for the windscreen of the vehicles but, as I noted earlier, no response to this and other requests for information was received from the CPS. It may be that the armouring laminations used in the front windscreen have the disadvantage that light is more readily dispersed within the laminates, resulting in a greater dazzling effect.

## John H Large

Large \& Associates - Consulting Engineers

[^4] ASSOCIATES

## REGINA -v- Ms $* * * * * * * * * * * * *$

Driving Without Due Care and Attention - 7 December 2003 Newbury Magistrates Court $4{ }^{\text {TH }} / 5^{\text {TH }}$ November 2004

## APPENDIX 1

SUMMARY REPORT OF INSPECTION<br>OF THE<br>SCENE OF THE INCIDENT<br>\&<br>*******'S VEHICLE

Date of Inspection 21 October 2004

## CLIENT: BINDMAN \& Partners

REPORT REF $\mathbf{N}^{0}$ R3069-A1

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Photograph 1 Rear of an Articulated Vehicle - Note the full height and width of the trailer unit obscuring the forward view to a vehicle behind


Photograph 2 Articulated Unit - note the separation space of the following two units


Photograph 3 Tractor Unit - note the height of the driving position compared to the standing police officer


Photograph 4 Tractor Unit with Full Articulated Unit behind


Photograph 5 Ms ${ }^{* * * * * * * \text { 's Citroen RomaHome }}$


Photograph 6 Ms ******* approaching the stopping location - about where the road sign is sited to the left viewed from the junction with Burnthouse Lane - note that the road curves off the right and the dense thicket-like hedgerow established on the right hand verge, both obscuring the approach of $\mathrm{Ms} * * * * * * *$ 's vehicle further back from this point


[^0]:    1 Of course, the closer the vehicles of the convoy are positioned together the more restricted is the view ahead.

[^1]:    2 Also, if Parbery had mounted the kerb then I would expect that this would have required reporting so that the vehicle could checked for any damage prior to be reassigned to convoy work.

    3 In fact the swerving manoeuvre required is first, abruptly to the left and then, once ${ }^{* * * * * * * ' s ~ v e h i c l e ~ h a d ~ b e e n ~ c l e a r e d, ~}$ to the right and then left to reposition on the carriageway. Even if it is was possible for the vehicle to be made to adhere to this path, the centrifugal forces felt within the cab would have been violent throwing the occupants from side to side in rapid succession.

[^2]:    4 In his statement of 11 December, Bruce Innes states that ${ }^{* * * * * * * ' s ~ v e h i c l e ~ h a d ~ s t o p p e d ~ ' w i t h ~ i t s ~ f r o n t ~ o f f s i d e ~ a c r o s s ~ t h e ~ c r o w n ~}$ of the road' and, similarly, John Braund in his statement of 15 December states that he could see ' a white camper van stopped with its front offside quarter and wheel protruding over the white dividing line'.

[^3]:    5 Main headlights $-1,2 \% \pm 0,5 \%$ lowering $-2.0 \% \pm 0.5 \%$ lowering - High beam - 0,0 $0 \pm 0,5 \%$ lowering, $0,0 \% \pm 0,5 \%$ deflection.

    6 The electrical set up is that the toggle switch sends a signal pulse to a relay (solenoid) which enables main beam circuit to receive power voltage to illuminate the main beams. There are a number of transient time delays in the forward path (ie switching on as opposed to the lamp switching off) of this arrangement, including toggle stalk movement, solenoid engagement and heating of the bulb element wire and the halogen gas pellet, all of which cascade to delay the bulbs of the main beam achieving full illumination - there is also a correspondingly higher drop in line voltage in the common return wire from the headlamp to the chassis ground when the dipped beams are also in play.

[^4]:    7 Parbery states that ${ }^{* * * * * * * \text { 's headlights were flashing from Main to Dipped beam, whereas the electrical circuit of the }}$ vehicle permits the dipped beam to remain whilst the main beam is 'flashed'.

