



# Who pays the tally-man?

► **“Excuse me mister, I hope you don’t mind me asking, but what happened to your leg?”** **Paul Burns** gathers up his shower gel from the changing room bench and turns round. The boy is perhaps ten years old and not rude or insensitive, just curious. **Nick Cook** discovers what had indeed happened to Paul Burns’ leg and why his world was turned upside down as he worked as a caulker/burner on a suspension bridge in Germany.

**P**aul looks at the boy. **“Whatever you do son, don’t ever join the Royal Air Force as a fighter pilot.”** He keeps his face serious and straight. **“We went on a mission. Harrier jump jets. We got caught out and this is the result.”**

The boy’s eyes widen. **“Really?”** His voice is awed. **“Were yer?”**

Paul nods. Suppressing a grin, he heads out of the changing room and onto the edge of the pool. He puts a towel and gel down by the wall. He is still wearing one trainer. It is on *that foot*. Looking around, he removes the trainer and, as quickly as he can, scrambles over to the edge of the pool and plunges *that leg* and *that foot* into the water.

He breathes a sigh of relief. Now he can relax: nobody can see *that leg*. He slips into the water and starts off on the 40 lengths his physios have told him he needs to do to keep his circulation healthy.

The fighter pilot story is typical of Paul’s humour. But despite the humour his reply to the boy does betray an unconscious irony. Undoubtedly flying combat aircraft in wartime takes a high degree of courage. But the true story of what really happened to Paul’s leg is about another kind of courage. It is about the quiet day-to-day lifelong courage you need when you have been badly damaged and you know you are never going to be the person you once were. What makes it even harder is that the accident that damaged Paul should never have happened in the first place.

It is not a story that Paul makes a habit of telling people; not unprompted anyway. **“If an adult asks I will tell them,”** he says, **“but that is the only time I will tell them. I don’t go round moaning to anyone.”**

His story begins on May 28 1994 on the Rodenkirchten suspension bridge.

The day started normally enough as he left the neat flat where he was staying in Köln. His friend Si-man Li, visiting from England, was still asleep on the floor and they were both looking forward to a party that weekend. It was a goodbye party for some of Paul’s workmates who were being paid off as work on the bridge neared completion. Paul was not among them. His employer, a large Scottish construction company, valued his work and wanted to use him on their next project.



► **Paul Burns with the type of torch he was using when the accident took place.**



Paul's shift began at 8:00 a.m with some arc air gouging. At 10.00 a.m. he was assigned to do some oxy-acetylene burning in a box section underneath the main deck of the bridge. Twelve feet above his head were the metal plates supporting the roadway. The only thing between Paul and a drop into the Rhine was a temporary staging consisting of wooden floorboards. Together with the vertical metal plates which added further support to the bridge, the roadway and the wooden boards formed a confined space.

The two hoses attached to Paul's torch snaked across the wooden boards. The blue hose carried oxygen, the red acetylene. They ran almost the full width of the bridge before disappearing upwards through some holes onto the main deck. Here they connected to the gas cylinders.

Paul started work, turning the red and blue knobs on the top of his torch. Oxygen and acetylene hissed from the circle of small holes in the end of its nozzle. Paul ignited the gas stream with his flint gun. He directed the resultant ring of flames onto the junction between two of the vertical steel plates forming part of a supporting series of box-work sections. As the temperature of the mild steel rose towards 900°C it began to glow orange. But through his welders' goggles Paul only really noticed the effects of the heat when the steel turned white. This was his cue. He squeezed a lever and a lance of pure oxygen shot from a central hole in the end of the torch. It punched through the now almost molten steel. Paul had cut his first "mousehole" of the day.

**“Paul lay with the flames licking around his left leg for over half an hour.”**

He worked his way across the width of the bridge, cutting specified mouseholes. As he finished the last one he closed off the torch and turned to walk back across the walkway. It was then that he saw the flame coming from what must have been a hole in the acetylene pipe. He made his way towards it and as he did so there was a whooshing sound as the acetylene flame burned its way through the hose which delivered the oxygen. Paul bent each hose back on itself and, starved of fuel gases, the flames died.

He knew that the only place he could completely switch off the gases was at the



► *The Rodenkirchten bridge, showing the confined spaces under the main decking.*

cylinders and these were up on the main deck. Holding a doubled over section of hose in each hand he started to make his way back to the edge of the walkway. Once there he could drop the hoses. There would be some leakage of gas while he made his way up the hooped ladder to the top deck but he was confident that he could reach the cylinders before the gas re-ignited.

He never made it. His route was crossed by alignment (or tie) bars approximately eight feet apart. Paul stooped underneath them but what he did not appreciate was that the floor was inclined. The third bar was effectively lower than the previous two. The light was poor and as Paul stooped beneath the bar he caught the side of his head, just below the rim of his safety helmet. The blow knocked him out and he slumped down.

It is not clear exactly what happened next although the net result as far as Paul is concerned is all too horribly clear. Somehow the oxygen and the fuel gas escaped and re-ignited and started a fire.

For his part Paul is certain that he retained his grip on the pipes. "They had to prise my fingers off them," he says.

Welders had been working on the deck above and Paul believes that a piece of hot, molten material must have fallen through the space between the deck plates and onto the hose. Unfortunately for Paul the welders, oblivious to his plight, stopped work shortly afterwards and went for their tea break.

Paul lay with the flames licking around his left leg for over half an hour. It was Billy, an inspector checking the quality of the welds along the bridge, who discovered

him. "What alerted Billy was the smell," says Paul. "The smell of burning hose, burning overall and burning me. Apparently he said that when he got to where I was he looked down and saw a corpse."

An air ambulance landed on the bridge. Paul has only one memory of what he was thinking as he drifted in and out of consciousness as they got him onto the main deck. "I told them not to call my Mother. The shock would be too much. They were to call my brother instead."

Meanwhile, back at the flat, Paul's friend Si-man had no idea what had happened. But at 2p.m. there was a knock on the door. "You need to go to the hospital." Paul's workmates looked awkward. "We're his work friends. You're his actual friend. We think it is you who should go."

Si-man followed them to another flat in the same block. Several of them had gathered there. "They were just sitting there, looking down at their feet, saying nothing," recalls Si-man. One of them poured him huge whisky – though he doesn't actually touch alcohol.

It began to dawn on him that this was a serious accident though just how serious did not become apparent until he reached the hospital.

"Paul was in a glass room. I was in the corridor, separate from the room. He was connected to all sorts of tubes. I could see blood – just dripping out of the end of his foot."

The company approached Si-man and asked him if he would stay in Germany and visit Paul, to keep his morale up? They would pay. Si-man agreed – and stayed four months. ►



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► Paul with Si-Man Li during one of his many visits to the German hospital.

"For the first two weeks," he recalls, "Paul was only semi-conscious." And when he was conscious he was not coherent. He imagined that Pink Floyd were getting ready to play outside on the hospital lawn. At first this frightened Si-man.

"But then," he says, "the Doctor explained that it was normal – an effect of the morphine. He told me not to contradict Paul as this would upset him. So I played along. Yes I would say – I can see them too – they're setting up the stage."

In a sense this was a phony war. Paul had experienced no pain – not when he was lying unconscious because the flames burned away his nerve endings – and certainly not for the first two weeks in hospital when he was resting on a comforting counterpane of morphine.

But all phony wars have to end and when this one ended it ended with a vengeance. "Each day they had to change the bandages on my leg," recalls Paul. "I'd wake up at 8 in the morning. I would hear their footsteps coming down the corridor. They strapped me up yet it still took three of them to hold me down. I was still connected up to a lot of tubes so I suppose they had to make sure I didn't thrash about. When the doctor ripped off the bandages I screamed. I couldn't help myself. I'll never forget the searing pain. The pain was worse across my thigh."

Paul's bandages were changed in this way every day. It only became less excruciating after six weeks when they were able to soak his leg in warm water. Even worse was the threat of amputation. The doctors were

clearly determined to save his leg but they were not able to give an unconditional guarantee.

Every day Si-man would turn up at the hospital, bringing Paul his copy of *The Guardian*. He almost became one of the staff.

"I saw the leg from that first day," he says. "I saw toes as they started to go one by one until there were none left. I saw his leg when it was held in place by pins which went right through to the bone. I saw his leg with the burnt skin stripped away, the flesh beneath exposed and red and raw. At first it was difficult. I remember going back to my room after the first time I saw Paul's leg. The meal in front of me was lamb but I couldn't eat it. In fact I couldn't eat meat for quite a while."

What probably helped Si-man was Paul's attitude. "He was so cheerful, just like he is now. I never saw him really depressed. His way of dealing with it was through his sense of humour. I'm sure a lot of people would have just given up."

Paul says he will always be grateful to his friend. "Getting cards, and visits from my brother was a boost – but what really made the difference was Si-man. I was in a foreign country and he was there for me – every day."

Meanwhile, muscle was taken from below Paul's shoulder and grafted onto where his calf had once been. Skin was grafted from his upper thigh. And although he lost all of his toes he is mobile. This is thanks to the aid of a stick, and the physiotherapy he got

first in Germany and then in his home town of Barrow-in-Furness.

And it was on his return home that reality struck. The company flew him back and arranged a private ambulance to take him to his mother's house. Up until then she had been protected from the full truth by Paul and his brother. She knew there had been an accident but when she saw him she broke down.

As for Paul, he had to face the reality of being too disabled to work. Each night it was the pub. Next day he would sleep until two in the afternoon. "Sleep kills time," he says by way of explanation.

He was in a rut and he knew it. His family started giving him advice. He knew it was because they cared but at the time he resented it. Each day he told himself he would file his compensation claim – tomorrow. But he didn't actually do it until a year of tomorrows had gone by.

Paul's case was funded by the GMB and, because the company employing him at the time of the accident was Scottish, the case ended up with Glasgow based solicitors Digby Brown.

Robert Swanney, the solicitor assigned the case, comments, "although the exact

► 'That leg' before and after the many skin grafts.





## Examples of negligence on the part of the company identified by a report commissioned by Paul's solicitor.

Example of negligence	Comment
1. failure to provide safe means of access and egress to and from place of work.	To enter the box section Paul had to climb down a metal ladder onto a walkway. He then had to lie down and move himself under the narrow gap between the vertical outer metal sheet and the wooden staging. This made getting him out of the section difficult.
2. failed to provide a safe place of work	The hoses posed a particular danger. They were vulnerable to traffic on the deck, sharp edged holes through which they were often fed, and sparks and hot debris from welding.
3. caused him to use a burning set with defective hoses.	The leak during the incident indicates this.
4. failed to devise and implement any effective system for the routine inspection and testing of hoses.	The hoses should have been tested in a water bath. Visual inspection would not have been enough.
5. failed to light the compartment adequately or indeed at all.	Although there was temporary lighting installed Paul describes this as poor. Better lighting may have enabled him to see the tie bar more clearly.
6. failed to provide adequate warning as to the presence of the overhead tie bars.	The tie bars could have been wrapped with hazard warning tape.
7. failed to ventilate the compartment adequately	This could have allowed the escaping gases to build up to dangerous levels. (For acetylene the lower flammability limit is 2.5%).
8. failed to recognise that the work gave rise to foreseeable risk of the boards burning	The boards were wooden and the welding and burning work would provide sources of ignition.
9. failed to heed and act upon previous instances of fire	Prior to the accident the fire brigade had been called out to deal with fires in the staging. Although the boards were doused with water at the end of the days work, they were not wetted down at any other time.
10. failed to take appropriate measures to eliminate the risk of fire.	e.g. by not checking the condition of the hoses.
11. allowed or required Paul to work alone	At the time of Paul's accident he was allowed to work alone.
12. failure to provide a second person to act as an observer	Observers were only provided after the accident. An observer, on seeing Paul's plight, could have switched off the oxygen and acetylene at the cylinder. This would have helped prevent, or considerably reduced, the injury.
13. exposed him to a foreseeable risk of injury	A 1991 HSE information sheet, <i>Confined Spaces</i> available at the time, highlighted one of the main dangers of confined space work as: <i>fires caused by leakage of fuel gas (propane, acetylene etc) usually from damaged or badly joined sections of hose.</i>

circumstances of the accident were never fully established, it was very difficult for the company to defend their position. Paul was working in a confined space at the time of the accident. There was no tally-man assigned to check that he was all right. Nor was there any system in place to check the hose pipes for leakage."

Robert Swanney commissioned an independent engineer to investigate the accident. The areas of negligence identified in his report are summarised in table 1.

The report ended with the statement that: *In my opinion the plaintiff (Paul Burns) would not be considered to blame for his accident.*

Not surprisingly the company admitted liability. But Paul was by no means home and dry. The legal battle switched its focus to the amount of compensation. A large proportion of compensation for an industrial accident is based on the accepted estimate of loss of earnings.

Several factors were quoted by the com-

pany's insurers in order to try to reduce the estimate of this loss. These included: the amount of work Paul had done before the accident; the state of the economy (a weak economy would limit his chances of employment); whether the caulker/burner trade was dying out; the degree of rehabilitation that Paul was likely to achieve; and the fact that Paul was intelligent and therefore likely to get qualified and find an office job.

Paul rejected several out of court offers until the company's insurers finally made



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► **There is a look of trepidation on Paul's face as a dressing is removed from his leg.**

one which the GMB thought would be unlikely to be beaten in Court. If they went ahead and failed to improve on it, they would incur costs. The GMB were not prepared to take that risk, so Paul reluctantly accepted.

"I think the amount of compensation that Paul eventually won was fair," comments Robert Swanney, "but he was by no means over-compensated."

Although a combination of negligences contributed to Paul's accident, the underlying factor was undoubtedly a lack of safety culture; or as Paul puts it, "what safety culture?" He does not remember receiving any safety or induction training during his employment with the company.

Why didn't Paul ask for a tally-man? Paul's answer is revealing. "Soon after I joined the company it became apparent that it was the kind of company that wanted to do the job at minimum cost. If you got a reputation for making a fuss about safety you may not get re-hired at the end of a project. Word would soon get round the industry. You could end up blacklisted."

This view is borne out by Paul's brother. Shortly after the accident he visited the bridge and spoke to the engineer in charge of the work. Paul had been working in a confined space. There was only one exit. Why had a tally-man not been provided?

The engineer looked embarrassed but finally admitted: "We priced ourselves low to get the job. There was no money to pay for a tally-man."

Meanwhile, Paul is still coming to terms with the tab he picked up for that particular piece of "saving". He admits his life is now a lot lonelier. He misses the day to day social

contact you get when you go to work. He misses the work itself. He is in constant pain. This tends to be most intense at the point where his small toe had been joined to the foot. Each morning he has to work his foot by hand. If he forgets, the agony when he puts it on the floor is excruciating.

But he refuses to give in: Paul's overriding ambition is to use his story to help others avoid the same fate. He has three assets; a powerful story, an articulate delivery and, in his photographs, vivid – albeit harrowing –

visual aids. He is producing a CD-ROM. Some organisations have already expressed interest.

"I don't want to prevent one accident," he says, "I want to prevent many."

### Useful Information

- *Safe work in confined spaces, Confined Spaces Regulations 1997, Approved Code of Practice, Regulations and Guidance, L101*, ISBN 07176 1405 0, published by HSE Books Tel 01787 881165
- *Health and safety in confined spaces*, by Neil McManus, published in 1999 by Lewis Publishers, Boca Raton, New York, Washington D.C. ISBN 1 56670 326 3. At over 900 pages this book gives a comprehensive overview of this topic.
- *Hot work on small tanks and drums, INDG 314*, a leaflet published by the HSE in April 2000.
- *Health and safety in arc welding*, HSG 204, ISBN 0 7176 1813 7. Published by the HSE in 2000.
- *The safe use of compressed gases in welding, flame cutting and allied processes*, HSG 139, ISBN 0 7176 0680 5. Published in 1997 by the HSE.
- *Safety in gas welding, cutting and similar processes*, INDG 297 published in August 1999 by the HSE
- Paul Burns can be contacted on 01229 826620.

► **To compensate for the lost toes on his left foot, Paul now owns these 'odd-sized' boots, plus a specially constructed insole with a block at the front.**

