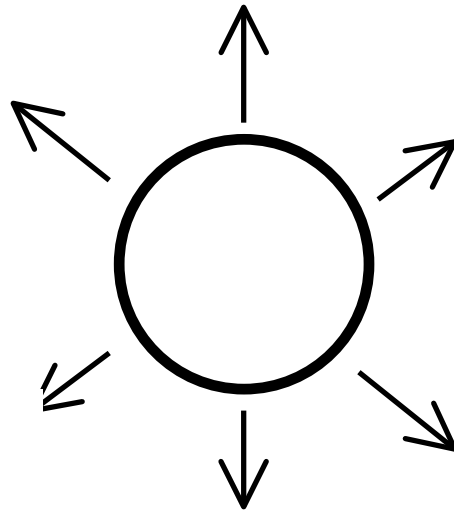


May 1997

Presentation on "Ergonomics " by Eric Hickman and Les Campbell.

The Project Furnishing DSE Workstation neatly set the scene for **Eric Hickman** to demonstrate, with two 'volunteers' from the audience, the problem of accommodating "tall and short" operators in the same office space! He then outlined the correct principles to be followed in order to adjust the workstation and chair to the operator - NOT vice-versa!

He emphasised the critical relationship between the elements of pain in what he called the "Vicious Circle"



Eric also emphasised that it was management's responsibility to set up safe systems of work and that poor standards of working by operators should not be tolerated. Training is an important part of this process and to reinforce the point he distributed a copy of the Birmingham City Council's operator's handbook. He also made the point that, although the demonstration unit displayed a very cost effective way of providing excellent facilities, even this might be beyond the ability of some smaller firms. Sometimes, the only fault with older desks was that they were too narrow and in that case the best solution may be a DIY modification by adding a strip of timber. The objective should always be "What can we do to keep the office running - **cheaply**?"

In answer to a question about the availability of suitable training films, Andy Chappell said that the BHSA video "In your own Interest" was one of the best available. He went on to say, in answer to another comment about space for VDUs often takes precedence over writing space, that the Project workstation was designed to get this balance right. It had been designed to a Rover specification, with a one-piece desktop which was superior to the previous separate main, corner and return units. It also had a very thin desktop, which was a critical

advantage above knee line when adjusting the operator's position. Another advantage of this particular design was the mobile drawer pedestal, giving a more flexible layout.

Les Campbell then took up the story from the manufacturing standpoint by introducing the "Design for Assembly" concept, which looks at Production Ergonomics. An example he quoted was where Steering Racks were initially clipped in position on a vehicle chassis, thus eliminating the problem of supporting a heavy, awkward workpiece at the same time that it was being bolted into position. Specially designed trolleys were used to move the components around the chassis.

An "Ergonomic Checklist", obtained from their BMW parent, was used to facilitate the Ergonomic Assessments which were done by the operators with assistance from Safety Specialists, Physiotherapists and Occupational Health Nurses.

Les then showed us a video film of Rover's "Virtual Jack" programme which simulated the movements of workpieces around the robot operator. Work is done at face height and the programme measures the ergonomic loading on the operator carrying out various processes. It was selective enough to enable, for example, physically capable women to be selected to move spot-welders around the work position. Another example of the outcome of this approach was the tilting of storage bins to face the operators, thus reducing the flexing of wrists and arms to retrieve workpieces.

David Hughes asked if the ergonomic approach had reduced absence rates. Les replied that there had been fewer accidents and injuries. He also stressed that the best advantages of this approach resulted from the operators doing the assessments themselves, because it increased their commitment to making them work. **Peter Evans** asked if it was possible to include a second man in the virtual programme and Les confirmed that it was possible.

George Allcock brought the discussion to an end by remarking that as workers' expectations became higher it was necessary to carry out risk assessments carefully. Today we had seen two extreme types of techniques from the two speakers, but the common factor had been that they both involved the close involvement of the operators. Les Campbell then added that Rover had established a link with Loughborough University for ergonomic research purposes and said that, as it was to their mutual advantage, research trainees offered a very cost-effective solution to problem solving.

