

**The HK & Kln Painters General Union's submission on the
Use of Boatswain's Chair in painting external walls of buildings**

The Administration's Responses

Use of Boatswain's Chair

1. Boatswain's chairs were originally developed from the equipment used for painting the external hull of ship by the ship repairing industry. They have since been introduced in painting external walls of buildings due to their lower set-up cost. The boatswain's chair is made up of a wooden seating board, a pulley system and a long fibre rope. The fibre rope passes through the pulley which is secured generally at the roof of the building. One end of the fibre rope is tied to the seating board and the other end will be tied to the hitch of the seating board to form a closed loop. By releasing and retying the hitch bit by bit, the worker can descend from the top along the external wall of the building.

Legal Requirement

2. Regulation 38I(2) of the Construction Sites (Safety) Regulation, Chapter 59 provides that:-

“The contractor responsible for a construction site shall ensure that no boatswain's chair or similar plant or equipment is used as a working place in circumstances in which a suspended scaffold could be used unless the work is of such a short duration as to make the use of a suspended scaffold unreasonable or the use of a suspended scaffold is not reasonably practicable.”

3. It is clear from the above that the purpose of this provision is to prohibit the use of any boatswain's chair for maintenance work at the external wall of the building except in some situations where the use of suspended scaffold is not practicable due to the structure of the building or the short duration of the job. This legal requirement has come into operation since 1984 and, before that, interested parties had been consulted prior to passing the law. Therefore, the construction industry should have sufficient acquaintance of this provision.

Reasons for Restricting the Use of Boatswain's Chairs

4. Since the workers using boatswain's chair are only supported by a chair board while working at height, they are extremely vulnerable. They are suspended high above the ground, and if any fault occurs in the work system or its components or any human error occurs, it will inevitably result in fatal or serious bodily injury. Even with the use of safety belt, there is still the risk of serious spinal injuries in case of a fall.

5. The following risks are involved in the use of this type of equipment:
 - (a) When work begins, the worker has to climb over the roof edge to sit on the seating board. At this juncture, usually the safety belt has not been fastened. The worker may fall over the edge of the high-rise building.
 - (b) Both the pulley system and the independent lifeline are affixed at some points usually at the roof top. This kind of anchorage provides no security and depends only on the experience and the subjective judgement of the worker who is responsible for setting up the equipment. Any error in the selection of the anchorage or in the way the suspension rope is affixed to the anchorage may result in failure of the whole system with serious consequences.
 - (c) The knots and hitches of the pulley system and the independent lifeline that tie to the anchorage depend very much on the skill of the worker. Any fault in the process may also result in serious consequences.
 - (d) The strength of the fibre rope is also a critical element in the safe work system. Since the work is conducted in open areas, the fibre rope is exposed to weather and subject to constant wear and tear due to frictional contact with roof edge or the hitches as well as contact with corrosive substances. Any damage to the rope during its use could present grave safety problems.
 - (e) When painting work proceeds, it is difficult for the workers to refill their paint. Hence, buckets of paint are carried with them. Since there is limited space on the seating board, these buckets are hung at two sides of the seating board. They are not well secured. Any lateral displacement of the board may cause the buckets to drop off the seating board. This sudden loss of balance may cause

the worker to fall off the seat board. Furthermore, falling buckets may cause injuries to passers-by.

- (f) Unlike suspended working platforms, boatswain's chairs are always suspended by one fibre rope only. Lifeline will be the first line of defence in case the rope fails. Suspended working platforms are usually suspended by two to four ropes and provided with working stage fenced by guard rails. The guard rails are effective means to protect workers from falling off the stage. In addition, brakes installed on suspended working platforms can prevent them from over-speeding and falling out of control. Therefore, lifelines used by workers are not the first line of defence in this case.
- (g) The seating board restricts the movement of the workers concerned. Prolonged exposure may produce adverse chronic effect on the spine of the worker.

6. Because of the serious risks involved and the fact that much safer work systems such as the provision of proper working platforms or suspended working platforms, safety professionals reject the use of boatswain's chair except in extreme circumstances.

Foreign practices

7. Most developing countries in the world discourage the use of boatswain's chair unless the work required to be done is short in duration and that the use of suspended working platform or proper scaffold is not practicable. Hong Kong is following this mainstream approach in protecting workers from exposing to undue hazards.

Accident Statistics

8. The number of fatal accidents involving the use of suspended working platform and boatswain's chair for the year 1985 to 1997 is tabulated below:

Year	81	82	83	84	85	86	87	88	89	90	91	92	93	94*	95	96	97
Suspended Working Platform	NA	NA	NA	NA	1	1	-	-	2	2	-	-	-	-	-	1	-
Boatswain's Chair	2	1	-	3	-	1	1	-	-	-	-	-	-	-	-	-	-

Note : NA-Not available

* Factories and Industrial Undertakings (Suspended Working Platforms) Regulations was passed on 29.6.94 and came into operation on 1.7.95.

9. It is worth noting that, before the passing of the Factories and Industrial Undertakings (Suspended Working Platforms) Regulations in 1994, there was a total of eight fatalities in connection with fall from boatswain's chairs and five from suspended working platforms since 1981. Afterwards, there was only one fatal accident concerning the use of suspended working platform and none concerning boatswain's chairs. All safety professionals would agree that accidents happened by chance and low fatalities or accident toll does not reflect the true risk facing workers working on boatswain's chair. Furthermore, many high rise buildings constructed in the recent decades are designed to use suspended working platforms for external building work including curtain wall cleansing, thus the use of suspended working platform has become very common nowadays. Although we have no figures on the number of workers employed in using these equipment, we believe that workers working in suspended working platform are substantially higher than that working on boatswain's chair. The safety record of working in suspended working platform since the relevant Regulation came into operation in 1995 indicates that legislative control on the use of such equipment is extremely important.

Livelihood of the boatswain's chair workers

10. Boatswain's chairs workers can perform their painting work on suspended working platform after attending a two-day course organised by the Construction Industry Training Authority and obtaining the relevant certificate. The Labour Department has made special arrangements with the Construction Industry Training Authority to provide training for the affected workers. Extra training courses will be conducted even on Saturdays and Sundays. Daily wages for workers working on proper working platform on scaffold, in suspended working platform and on boatswain's chair are roughly the same.

11. In its submission, the General Union mentioned that 145 boatswain's chair workers had been affected by the suspension notices issued by the Labour Department. Most of the projects subject to these suspension notices involve the repainting of the external walls of Housing Authority estates. The Labour Department has liaised with the Building Maintenance Division of the Housing Department and assisted the contractors concerned to find a reasonable and practicable work method to resume the repainting of the external walls of housing estates. It has been agreed that in places where the use of suspended working platform is not feasible, boatswain's chair could still be used subject to strict safety requirements laid down by the Labour Department. All the estate repainting projects concerned are expected to be completed before end-1998 and, after that, the Housing Department would review its new contracts and require its contractors to follow closely the safety guidelines issued by the Labour Department.