ELEVATED TOOL HOLDER

The Monopod is a pneumatic, elevating tool / device designed to hold heavy pneumatic or electric hand tools such as chipping hammers, drills, and riveting guns at high levels (over-head, shoulder height, waist height). It is height adjustable with finger controls, has 360° rotation and an effective working range from 48” height to 84” height. It holds most known sizes of chipping hammers, drills, and rivet guns.

The Monopod allows a worker to perform overhead and high level chipping, hammering, drilling, and riveting tasks without fatigue, thus eliminating injury potential and vastly improving productivity. Having the total weight of the heavy tools sustained by the Monopod, chipping tasks can be performed for longer duration with less worker downtime. This in turn increases the period a worker can safely operate a heavy vibrating tool.

With decreased downtime, longer duration of work without fatigue, and reduction of injury potential, there is less need for crew availability, crew rotation, frequent breaks, or limited chipping time. This allows a smaller crew to perform any chipping or drilling tasks usually requiring additional personnel availability and task rotation.

The monopod was designed to fill a need for workers to perform overhead chipping demolition without having to hold up heavy chipping hammers. Currently there is no effective or efficient means other than by human effort to hold up chipping hammers for overhead, shoulder and waist level work. The Monopod was specifically designed to reduce occupational injuries and increase productivity for all high level and especially overhead chipping work tasks. By mechanically raising the chipping hammer, it eliminates all weight bearing on the workers spinal column, arms and shoulders. Additionally the dynamic lift to position is completely eliminated, as is the static loading of the shoulders / arms while holding in place. The Monopod shock absorbing capability also decreases vibration transmission to the workers. Reducing an additional source of serious occupational injury.

The Monopod also uniquely allows vertical “push” when required in the field, by use of its own air pressure. This dramatically lessens the need to exert muscular activity to push chipping hammers upwards for contact. Horizontal push requirements are also diminished since vertical load is sustained by the Monopod.

It was developed in 2002 to address occupational injury and performance issues of holding up pneumatic chipping hammers in construction repair / demolition for the City of Seattle Bridge and Road Maintenance crew. It has been used in overhead and high level (shoulder, waist) projects for concrete demolition and repair. It is expected to be used and adapted to other industries where overhead or high level powered tool usage is required, such as mining (rock drilling), assembly (large area grinding / sanding / polishing / riveting), and other applications within the construction arena.

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