

2Tip 'double lift' highways & byways manual handling safety requirement

*Reading Borough Council solved the emptying out of a wheelbarrow health and safety issue with Safety Handles. The **2Tip** two-person lift set from Safety Handles protects road teams backs from injury and long-term damage.*



A problem addressed by cooperation & collaboration

In the summer of 2022 iTip® Handles were invited to exhibit at the [LCRIG Innovations Festival](#). The Local Council Roads Innovation Group (LCRIG) provides members with a unique platform to engage with councils, the Department of

Transport, and the wider highways community. It is a chance to hear from the industry on the latest developments and updates from leading lights, government, and influencers. Also, to compare notes between councils on current and ongoing highways projects. Central to the Festival is an innovations exhibition showcasing new ideas.

Safety Handles are designed to bring ergonomics to manual handling from wheelbarrows to roll cages. They are ergonomically designed to rotate. Therefore, as you walk, lift, and manoeuvre your manual handling device, it keeps your back and wrist straight reducing strain and injury in the short term and musculoskeletal disorders long term.

Safety Handles were introduced to LCRIG by North Yorkshire Highways and mobilised quickly to realise attendance at the LCRIG Innovations Festival. The Festival proved to be amazing. So many council delegates, members of LCRIG and other stands came over to try Safety Handles and experience that Eureka moment! The enthusiasm was electric with many telling colleagues and giving views on how Safety Handles could be used in their situations.

Sam Shean from Reading Borough Council (RBC) straight away started examining a standard wheelbarrow with iTip Safety Handles configuration and began thinking about how it could be used for solving a problem. The 'double lift' for muck away situations.

“The chance of the team members hurting and injuring there musculoskeletal are high as the wheelbarrow is not designed to be lifted from this position. Also, the chance of dropping aggregates or tar is increased as no handle exists.”

Sam Shean Reading Borough Council

Safety Handles innovation with RBC's experience

A thorough discussion at the Festival ensued with different sets of Safety Handles being placed against various parts of the wheelbarrow and heads scratched, as the merits of various formations and positions were discussed. It became obvious that prototyping and experimentation would be needed and Sam kindly invited Safety Handles down to the Reading Depot to meet the crews and collaborate on the “muck away” issue.

Brainstorming & experimentation

Once at the depot, introductions were made, and real-world feedback began. Safety Handles had prepared a modified wheelbarrow, from the brainstorm at the LCRIG Festival. A set of Safety Handles were applied to the barrow's tubular arms as normal. Then a hole was placed either side of the wheelbarrow nose, by the wheel. A pair of ezTip Safety Handles was attached. The road crew started experimenting with the innovation in the yard. This included loading a low sided truck with aggregates, and generally trying out the normal operation tasks of the road crew.



Fitting ezTip Safety Handles to the nose of the wheelbarrow

Further discussions from the feedback began. The group consensus was, **it was easier, and safety was much improved.** It increased back protection and ease of lift, for both operators. It was agreed to go back to the workshop, make some adjustments before deploying the 2 persons lift set to RBC's Highways & Drainage Operations team.

Dirt challenges

The collaboration led to some initial changes to the bolt size and positioning before another wheelbarrow left the workshop. The team were working on a byway replacing the bitumen after a section of path had been removed. Sticky bitumen is particularly hostile to equipment, a great test.



It was noted that the wheelbarrow tray was sprayed by the RBC team with rapeseed oil to reduce the stickiness. The group decided this might be a good process addition to keep the Safety Handles themselves, lubricated.

Psychology

Something that became apparent was psychology, the use of a tipping aid for a red-blooded macho male can be a deterrent to adoption. Musculoskeletal injuries are ignored until real issues have arisen. This is often too late and can cause long term problems. Think of it like a high visibility jacket or protective shoes. Given the choice, someone might choose comfort over safety with disastrous repercussions.

It was evident that some boxes of iTip Safety Handles were still in the yard's shed, not fitted. A scepticism often happens, however once the health and safety benefits are explained, users can become very protective over their Safety Handles wheelbarrow. However, if they are not installed this cannot happen.

Health and safety science of iTip Safety Handles

The Health & Safety Executive (HSE) Science Division independently tested the use of iTip Safety Handles on different manual handling devices. These included wheelchairs, wheelbarrows, stretchers, retail cages and sack trucks.



The HSE Burton Labs testing iTip Safety Handles

The team used sensors on several different human body builds to measure the strain effect on the subjects. The ergonomics laboratory summarised;

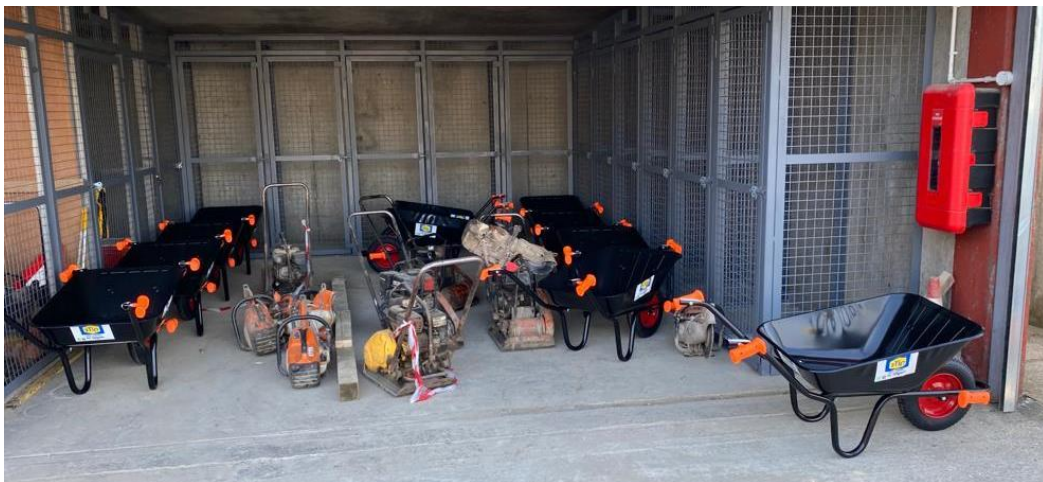
“The measured reductions in the wrist angles when using the sack barrow and wheelbarrow will, in the long term, decrease the risk of musculoskeletal symptoms and disorders developing in the wrist, eliminating taking hands off the wheelbarrow during tipping increases the safety of emptying wheelbarrows.”

Adjustments

After further discussions with RBC, it was decided a new direction needed to be taken.

Rather than an iTip and ezTip, it might be better to use ezTip Safety Handles at both end of the wheelbarrow. The safety benefits are the same, EzTip Safety Handle's lend themselves to more hazardous and dirty environments. This is due to less surface area on the moving components. When a cleaning process is difficult to maintain this provides an excellent solution.

Safety Handles took back the existing stock and provided RBC with a new set of 20 wheelbarrows, each had pre-installed ezTip Safety Handles at both ends of the wheelbarrow. Therefore, the psychological macho barrier was removed, and the safety benefits occurred. It is necessary to approach Safety Handles like any other piece of PPE such as a hard hat or protective gloves.



RBC's new fleet. This product combination is called **2Tip** and can be provided pre-installed on wheelbarrows from Safety Handles.

Risk Assessment Method Statement (RAMS)

Safety Handles as a control measure provides Health & Safety Officers with the ability for accurate and truthful RAMS. Previously it was not possible to do so as you could not detail the action of sharply throwing the wheelbarrow up, letting go and catching again. The introduction of Safety Handles means full grip of the

wheelbarrow is always maintained. A new template RAMS set is available from Safety Handles on request.

Safety Handles can also increase inclusivity by allowing all people of height and stature to successfully operate a wide variety of material handling equipment.



Vision for the future

Both RBC and Safety Handles are looking forward to discovering more applications where manual handling can be improved and made safer using Safety Handles. The vision is to use the work done with RBC as the basis for supporting other LCRIG members and councils in improving safety for their operational teams.

“ Not all innovations need to be expensive. By working together, we can overcome issues and progress the highways industry.”

Steve Rendell, Highways and Operations Manager RBC Highways Depot.

Background

Safety Handles are a UK invention designed to reduce musculoskeletal symptoms such as backache, when completing manual handling tasks.

Although automation has reduced the need for human involvement in many tasks, there are still situations where it is more time and cost effective to use traditional methods. A full range of reports from the HSE, physiotherapists and independent strength tests can be found [here](#).



iTip Safety Handles are designed to reduce manual handling injuries.



ezTip Safety Handles have the same safety properties and are great when a cleaning process is difficult, or a pram style handle is provided on the equipment



The **2Tip** combination for lifting a wheelbarrow whilst providing back protection

Since being introduced to the health and safety industry, Practitioners

have found additional benefits from Safety Handles including being used on cement mixers and roll cages. The HSE have a roll cage with iRoll Safety Handles at their Buxton Laboratories, to demonstrate safety innovation. In fact, the Innovation Society awarded them the Best International Invention of the Year. They have also won awards such as Product of the Year, Best New Tool, and Best of British. The Highways industry (LCRIG) have declared them “Highly Commended” at the 2022 Strictly Highways event.

Sustainability

A key parameter for innovation is to make the product as sustainable as possible. To this end Safety Handles readily breakdown in the correct compostable conditions. They are manufactured in Slough, the UK, to reduce their carbon footprint. The nature of manual handling also reduces the need for carbon producing powered equipment to move loads.

Availability

Safety Handles are currently available from www.SafetyHandles.co.uk . They are supplied individually and in bulk trade packs of various multiples. Please contact us on 0333 800 5000 for an account. The commercial variant is provided in high visibility colours to enhance the safety capability. Individual high visibility commercial sets of iTip or ezTip Handles are available at £25 (+VAT). The 2Tip is available at £50 (+VAT). For exports, please call Paul on 0333 800 5000.

Summary

iTip Safety Handles are an inexpensive control measure designed to improve safety and comfort.

“iTip Handles are an easy way to show we care about the welfare of our team”

Ross Bullerwell Managing Director, North Yorkshire Highways

For details contact Hello@SafetyHandles.co.uk ring 0333 800 5000 or visit www.SafetyHandles.co.uk