

# Delivering Sustainable & Permanent Highway Repairs

Alan Wallace  
UK Highways Manager



# AGENDA

- ▶ **Why we created the JCB PotholePro**
- ▶ **How it works**
- ▶ **The value that other councils / contractors have gained from the machine**
- ▶ **What else can a JCB Pothole Pro do**

“

A **comprehensive excavation** and removal of all the damaged material from the defect within the **preparation stage** (before filling).

After the preparation of the defect is completed, **a solid structure** with no remaining cracks / crazing must remain, and the vertical faces must be **bond-coated**, with a **tac-coated** bottom face, ready for reinstatement. Reinstatement must be suitable for the type of road conditions and the depth of the defect, and compaction **must be completed using approved methods**. Finally, the joints between the repaired defect and the **original road surface** should be **sealed**.

In turn, the **repair would be long-lasting**, rather than temporary with a likelihood of failing in the short-term.

”

**Steve Spender**

Chief Executive



# Temporary pothole repair



**Sweep the area  
to remove debris  
on occasion**

**Filling the hole on  
top of the damaged  
surface**

**Repair  
completed**

NUMBER OF FIXES PRE DAY



Jet patcher



Jcb pothole pro



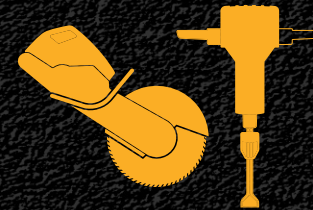
Plane cut



Skid steer



Thermal patcher



Circular saw  
& jackhammer

Temporary

Longevity of repair

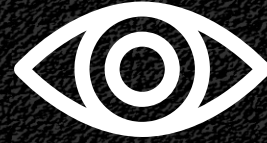
Permanent



## MISSION

We will fully mechanise the preparation process – the number one challenge faced by local authorities today.

We will be able to repair a pothole within 10 minutes, without the operator leaving their cabin. Additionally, it must be able to repair 250m<sup>2</sup>+ in a single shift.



## VISION

The vision from the outset of the project was to design and engineer the most versatile, productive and safest repair method.

It must offer a suitable solution for the wide variety of environments and challenges faced by highways teams in the UK today.



# JCB

# POTHOLEPRO

## HYDRADIG



# To create...

A one stop shop for potholing and patching teams  
**CUT, CROP AND CLEAN WITH ONE MACHINE**

The Pothole Pro has been designed to **fix potholes permanently**, first time.

Eliminate the need for labour intensive repair methods or specialist equipment.



**CUT** - 600mm sideshifting planer



**CROP** – 400 / 100mm cropping tool



**CLEAN** – 1.2m sweeper with bucket mode



# CUT



# CUT



600MM WIDE PLANER

- ▶ 600mm wide modified version of standard Simex planer, with dust suppression (100L)
- ▶ Powered by 150L/min hydraulics at 280 bar
- ▶ Weight of 1.3T
- ▶ 1.3m traverse to left (to kerb side) with 100mm over the edge of the tyre
- ▶ Can cut to a huge depth of 170mm in a single pass
- ▶ 8 degrees of tilt either way
- ▶ Hydraulic depth control from the cab
- ▶ Option of either powered or floating tilt
- ▶ Tried and tested on a variety of surfaces, including HRA
- ▶ 54 tungsten carbide picks (others available e.g concrete)
- ▶ Unidirectional (with free flow to anticlog)





**CROP**



# CROP



- ▶ 400mm Hydraulic Cropping Tool
- ▶ Dedicated cropping tool mounted on the JCB multitool
- ▶ 150 tonnes of downward pressure
- ▶ Can be positioned in any orientation
- ▶ 20mm thick blade
- ▶ Hardox 500
- ▶ It can cut through the toughest of surfaces
- ▶ Perfect for operating around ironworks
- ▶ Can also use a small blade for CATs Eyes
- ▶ Includes a travel mode position
- ▶ Eliminates HAVS





**JCB**



**CLEAN**



# CLEAN



- ▶ JCB / Whites 1.2M HD sweeper, with dust suppression (80L)
- ▶ Hydraulic ram enables bucket mode to collect a large volume of materials
- ▶ 24 easily changed segments
- ▶ Adjustable length to enable an effective clean and minimal wear
- ▶ Significant reduce parts wear & replacements – sweeper brushes need to be replaced on average once every 2 months
- ▶ Optimised for small potholes up to big patches
- ▶ 360 degree manipulation to enable cleaning at every angle



1200MM SWEEPER





# WHY POTHOLE PRO



## safe

- ▶ Eliminate HAVS
- ▶ Reduce the time spent in live carriageways
- ▶ Eliminates the need for specialist kit such as road sweepers



## productive

- ▶ 1 pothole in 8 minutes
- ▶ 300m<sup>2</sup> in a single shift
- ▶ Less time roading, more time working
- ▶ 7 years with of pothole repairs in 12 months



## permanent

- ▶ 'One Time Fix' vs temporary repairs
- ▶ Dedicated cropping tool to square off edges
- ▶ Catching potholes / patches before resurfacing is required
- ▶ Repair a wide variety of defects and locations



## economical

- ▶ 3 machines in
- ▶ Fully road legal, reducing transport costs
- ▶ Significantly reducing the cost per defect
- ▶ (£30 using Pothole Pro instead of £60 using traditional methods)
- ▶ A variety of different risk free finance options



## trust

- ▶ Free 5 year / 4000hrs machine warranty
- ▶ JCB to pay and provide all operator training
- ▶ Livelink telematics for 5 years
- ▶ Market leading dealer support to reduce down time



## ENVIRONMENTAL

- ▶ Carbon saved using the Pothole Pro equates to over 500 trees (compared to traditional methods)
- ▶ Planings can be recycled as they are not contaminated in the process

before

97%



Of temporary defects require a return visit within 6 months

after

<1%



Of pothole pro repairs require a return visit within 6 months

**What our Customers say...**



**“With the Pothole Pro we have fixed 7 years worth of defects in just 12 months!”**



**“It normally takes us 2 – 3 days to take out a 70m<sup>2</sup> patch. With this machine we can have this done before breakfast.”**

**JAMES HARPER,**  
Highways Team Manager | Stoke-on-Trent City Council

**“This machine will drastically improve the roads of Stoke-on-Trent by repairing potholes even faster. We’re proud to be associated with JCB.”**

**COUNCILLOR ABI BROWN**  
Leader | Stoke-on-Trent City Council

**What else can you do ...**

## Flail Head

Uses: Cutting verges, hedges, embankments and branches at low level, vertical and high levels.



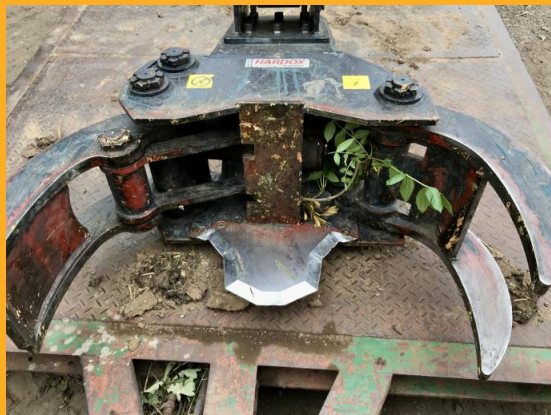
## Reed cutting bucket

Uses: Ditch maintenance, invasive weed removal, cleaning culvert and gulleys of over growth.



## Tree shears

Uses: Cropping overgrown trees, removing storm damage from trees, removal of unstable trees in sections.



## Finger grab

Uses: Handling of trees / timber, removal of boulders.



## buckets

Uses: Ground works, drainage, cutting grips, deep digs, landscaping, loading, rehandling of material, gritter loading.



## Post knocker

Uses: For fencing and security, giving as stable base unit to carry a notoriously cumbersome attachment on uneven terrain, used to drive fencing posts into soil and verges.



## forks

Uses: Rehandling, loading / unloading of material onto vehicles, tree clearance, emergency callout.



## waste grab

Uses: Sorting of waste and bulk material, recovering of fly tipping, loading skips, unloading material, clearing culverts and gulleys, picking and placing kerb stones.







# JCB

# POTHOLEPRO

## HYDRADIG



