



**ENHANCED
PERFORMANCE**



GREASED SOLID PIN KITS

To suit Caterpillar 992G & 992K Loaders

2025 - Revision 13

[geographe.com.au](https://www.geographe.com.au)

**DESIGNED
TO DELIVER.**

A close-up photograph of a person's arm and torso. The person is wearing a high-visibility yellow-green safety vest over a white long-sleeved shirt. They are carrying a large, bright red rectangular box. The box has white text printed on it. The background is blurred, showing what appears to be a paved surface with a red line.

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From the Chief Executive Officer

“We’ve listened to our customers and the Geographe team understand the challenge.

It’s a combination of scarce talent and operating equipment designed by the OEM’s to be made to a budget, not necessarily to win any productivity prizes.

That’s our job. To relentlessly search for the significant marginal (and in some cases major) gains and turn great ideas into real products.

We look for three key categories of improvement:

- Safer to install and replace
- Longer lasting where it matters
- Simpler to fit and maintain

Although we develop many of these gains by developing creative solutions internally, customers are the origin of our most valued feedback about problems faced and trials of our products.

We will continue to fulfil our purpose in challenging you to expect more. That’s what we’re designed to deliver.”

Sam Hyder
CEO

Solving premature wear within OEM loader pivot joints

The Challenge of Problematic Leaks and Premature Failures

Premature wear observed in CAT 992G/K bushings and oil-filled cartridge pins was a problem experienced by loader operators.

Bushings and cartridge pins are critical components in various heavy machinery, however, the OEM design for these machines has led to various issues that can affect both operational efficiency, as well as maintenance costs.

Drawbacks of Oil Filled Cartridge Pins

- Unpredictability of service life
- Critical need for lengthy pre-start warm-ups.
- Oil filled pins rely on gravity and motion to transport the oil to the load zone.
- There is no ability to purge contaminated lubricant.
- Oil filled pins are not typically suited to high load, low speed applications such as Loader pivots.
- When the machine is idle, oil freely flows away from the load zone, increasing the risk of metal-to-metal contact, especially at start-up.

Premature failures not only lead to unscheduled downtime but also necessitate costly repairs.

The Geographe Solution

To solve the premature wear in both bushings and cartridge pins, Geographe designed the **Enhanced Performance (EP) Greased Solid Pin Kit (SPK)**, with re-designed bush features and mating parts.

The SPK has a greased design that significantly reduces the chance of leakage and catastrophic failure by offering a reliable, predictable service life.

Customer Outcomes

Geographe Enhanced Performance™ Greased Solid Pin Kits have reduced the total cost of ownership for our global mining customers; increasing fleet uptime and supporting the bottom line.



Faster more efficient pivot joint parts changeouts.

Ease of dismantling due to the inclusion of seals, where possible, to prevent dirt and moisture ingress.



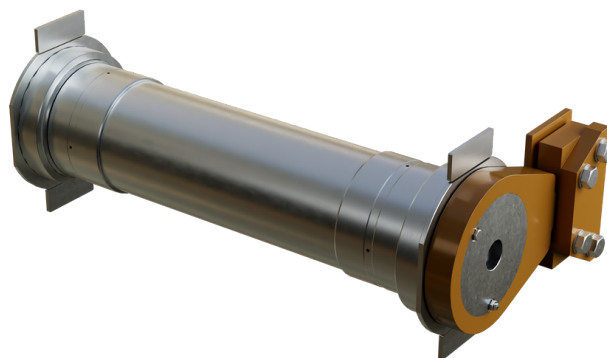
Decrease in extended downtime during maintenance events.



Reduction in corrosion & friction at start-up, due to bush phosphate coating.



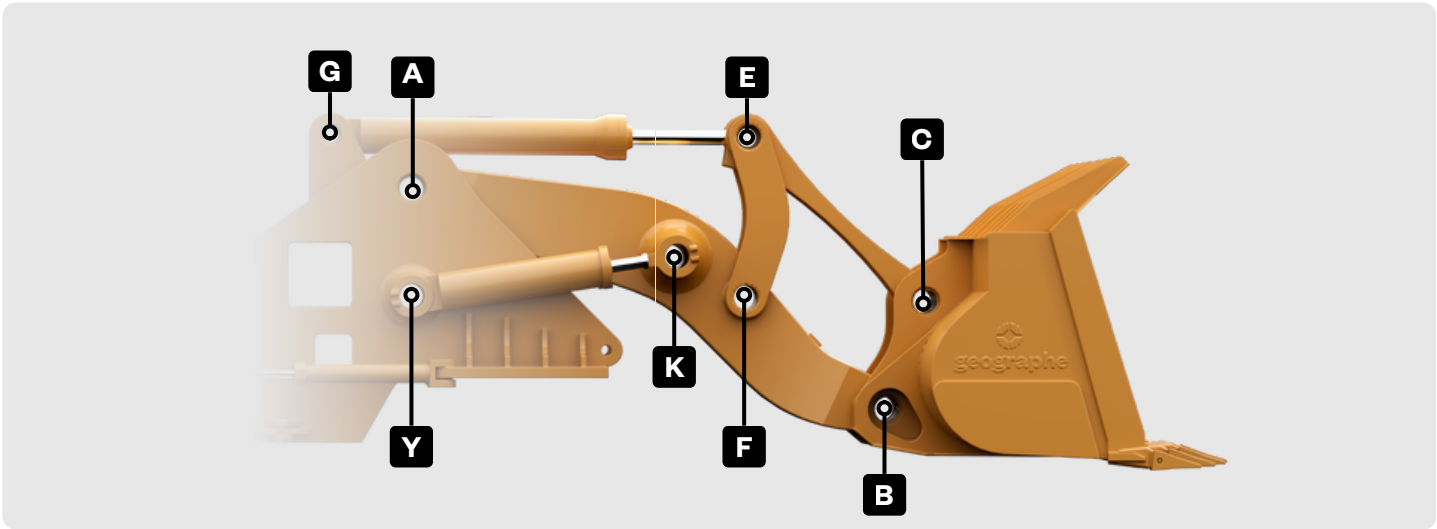
Increased operational life through grease lubrication and enhanced components.



992G/K Pin Locations

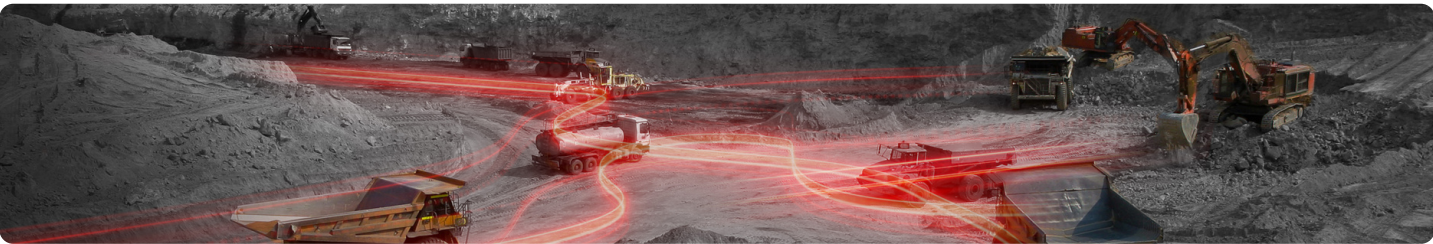
Pin Location	Pin Location Description
A	Front Frame to Boom
B	Boom to Bottom Bucket
C	Link to Top Bucket
E	Tilt Cylinder to Bucket Link

Pin Location	Pin Location Description
F	Boom to Boom Link
G	Front Frame to Tilt Cylinder
K	Lift Cylinder to Boom
Y	Front Frame to Lift Cylinder



Replacement Kits Available to suit 992G Loaders

Pin Location	Geo Description	OEM Ref for Kit	Geo Ref for Kit
A	Front Frame To Boom (Pin "A") Replacement Kit (With Lock Upgrade)	2289569 KIT-A / EPMOD	11540968
B	Boom To Bucket (Pin "B") Replacement Kit (With Lock Upgrade)	2289569 KIT-B / EPMOD	11540969
C	Link To Bucket (Pin "C") Replacement Kit (With Lock Upgrade)	2289569 KIT-C / EP	11540970
E	Tilt Cylinder To Bucket Link (Pin "E") Replacement Kit	1617069 KIT-E	11540014
F	Boom To Link Pin "F" Replacement Kit	1617069 KIT-F	11540015
G	Front Frame To Tilt Cylinder Pin "G" Replacement Kit	2043581 KIT-G	11540016
K	Lift Cylinder To Boom Pin "K" Replacement Kit (With Lock Upgrade)	1448300 KIT-K / EPMOD	11541432
Y	Front Frame To Lift Cylinder Pin "Y" Replacement Kit (With Lock Upgrade)	1448300 KIT-Y / EPMOD	11541436



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992G Overview

Geographe's Greased Solid Pin Kits replace the OEM oil-filled cartridge pins in CAT 992G Boom Arm and Bucket Pivots with a durable, automatic grease-lubricated system. This upgrade reduces downtime, enhances reliability and removes the chances of premature failure.

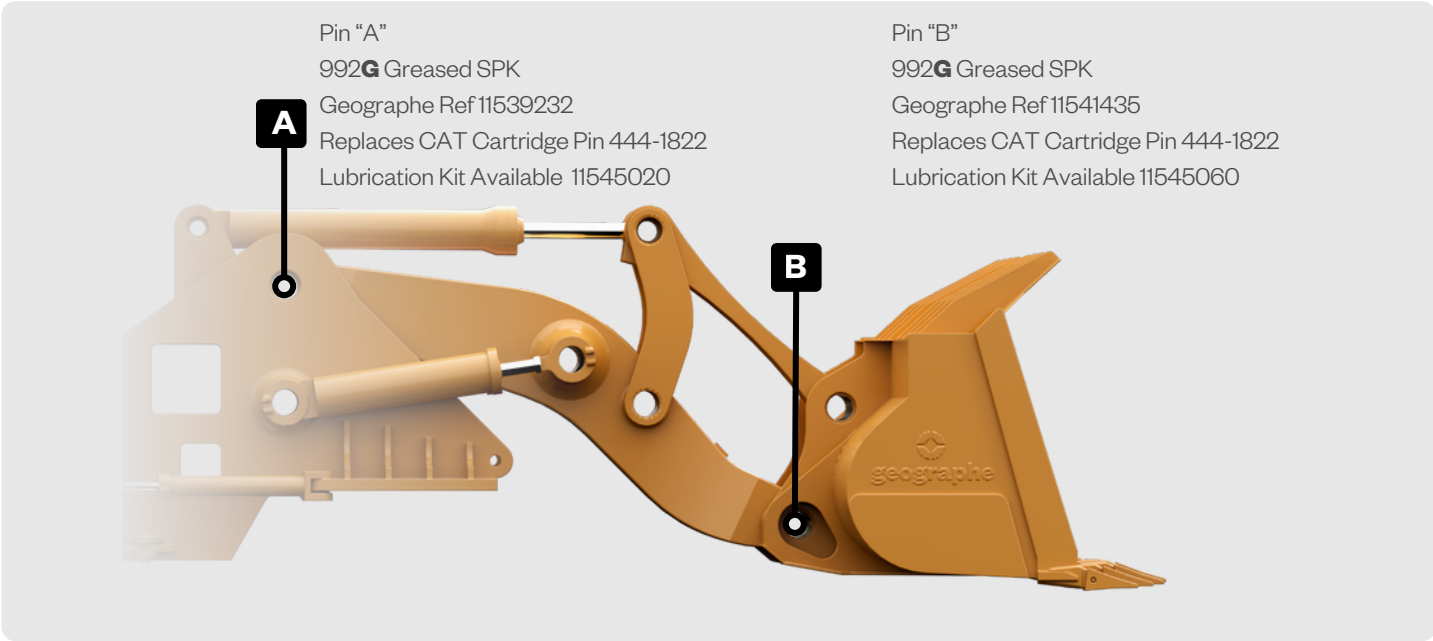


Enhanced Performance (EP) and EPMOD Components

EP parts are engineered for greater durability and efficiency, addressing common equipment challenges. **EPMOD** parts, designed for specific needs, may require machine modifications for correct installation, offering tailored performance enhancements.

992G Enhanced Performance (EP) Greased Solid Pin Conversion Kit (SPK)

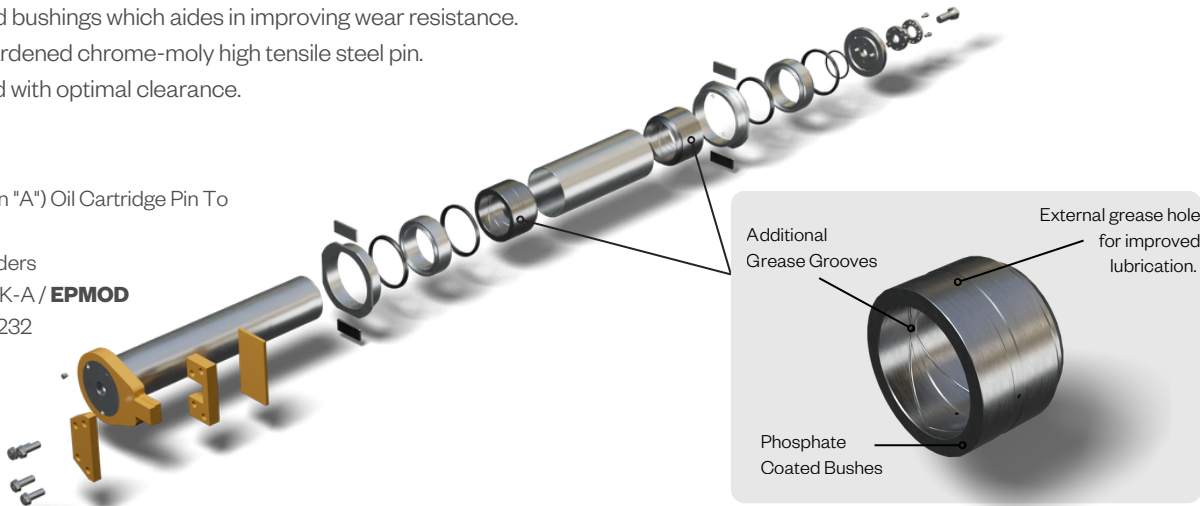
Pin Location	Geo Description	OEM Ref for Kit	Geo Ref for Kit
A	Front Frame To Boom (Pin "A") Oil Cartridge Pin To Greased Solid Pin Conversion Kit	4441822 SPK-A / EPMOD	11539232
B	Boom To Bucket (Pin "B") Oil Cartridge Pin to Greased Solid Pin Conversion Kit	4441822 SPK-B / EPMOD	11541435



Features

- External grease hole in the bushing design allows tapping into the loader's auto grease system (with minor modification) for improved lubrication performance.
- Phosphate-coated bushings which aides in improving wear resistance.
- Deep induction hardened chrome-moly high tensile steel pin.
- Bushings designed with optimal clearance.

Front Frame To Boom (Pin "A") Oil Cartridge Pin To
Greased Solid Pin Kit
To suit CAT 992G/K Loaders
OEM Ref No: 4441822 SPK-A / **EPMOD**
Geographe Ref No: 11539232



992K Overview

Geographe's Greased Solid Pin Kits replace the OEM oil-filled cartridge pins in CAT 992K Boom Arm and Bucket Pivots, which are prone to leaks and premature failures, with an automatic grease-lubricated system, improving reliability and durability.

Enhanced Performance (EP) and EPMOD Components

EP parts are engineered for greater durability and efficiency, addressing common equipment challenges. **EPMOD** parts, designed for specific needs, may require machine modifications for correct installation, offering tailored performance enhancements.



992K Enhanced Performance (EP) Greased Solid Pin Conversion Kit (SPK)

Pin Location	Geo Kit Description	OEM Ref for Kit	Geo Ref for Kit
A	Front Frame To Boom (Pin "A") Oil Cartridge Pin To Greased Solid Pin Conversion Kit	4441822 SPK-A / EPMOD	11539232
B	Boom To Bucket (Pin "B") Oil Cartridge Pin To Greased Solid Pin Conversion Kit	4596731 KIT / EPMOD	11539211
K	Lift Cylinder To Boom (Pin "K") Oil Cartridge Pin to Greased Solid Pin Conversion Kit	5980498 KIT / EPMOD	11539210
Y	Front Frame To Lift Cylinder (Pin "Y") Oil Cartridge Pin to Greased Solid Pin Conversion Kit	5980498 KIT / EPMOD	11539210

Pin "A"

992K Greased SPK

Geographe Ref 11539232

Replaces CAT Cartridge Pin 444-1822

Lubrication Kit Available 11545020

Pin "K"

992K Greased SPK

Geographe Ref 11539210

Replaces CAT Cartridge Pin 316-6134

Lubrication Kit Available 11545056

Pin "B"

992K Greased SPK

Geographe Ref 11539211

Replaces CAT Cartridge Pin 311-1898

Lubrication Kit Available 11537270

Pin "Y"

992K Greased SPK

Geographe Ref 11539210

Replaces CAT Cartridge Pin 316-6134

Lubrication Kit Available 11545055

Lock Upgrade

It has been reported that the standard OEM central M36 bolt is prone to becoming loose over time leading to premature failures. Working with the confines of the existing componentry, Geographe developed a locking system to prevent the M36 bolt from coming loose.

The lock system has a modified retainer plate, a tabbed plate and a lock ring, including some additional hardware. The tabbed plate engages in slots in the retainer plate. Once the M36 bolt is tightened to the final torque, the lock ring is fitted over the bolt head and secured in place with 2x M12 bolts.



11540945 - Upgraded Locking Plate Kit

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Lubrication Kits to complement Solid Pin Kits

The lubrication kits are exclusively compatible with Geographie Greased Solid Pin Kits (SPK). These kits do not support the standard Caterpillar oil-filled cartridge pins. The Greased Solid Pin Kit setup necessitates drilling and tapping into the boom.

Features

- The existing onboard grease system is utilised to provide automatic lubrication to each bushing.
- Grease ports are strategically drilled and tapped into the Front Frame/ Boom Arm, significantly lowering the risk of catastrophic failures.
- For Pin B on the 992K, the kit includes custom Banjo Fittings, designed to screw directly into the existing threaded holes on the top of the Boom Arm "legs."

Two attachment methods to suit site preference



Pot Magnets

The kit includes pot magnets, magnet installation/removal tool handle & two stencils for precise and safer magnet placement. The components are secured and fastened using a nyloc nut.

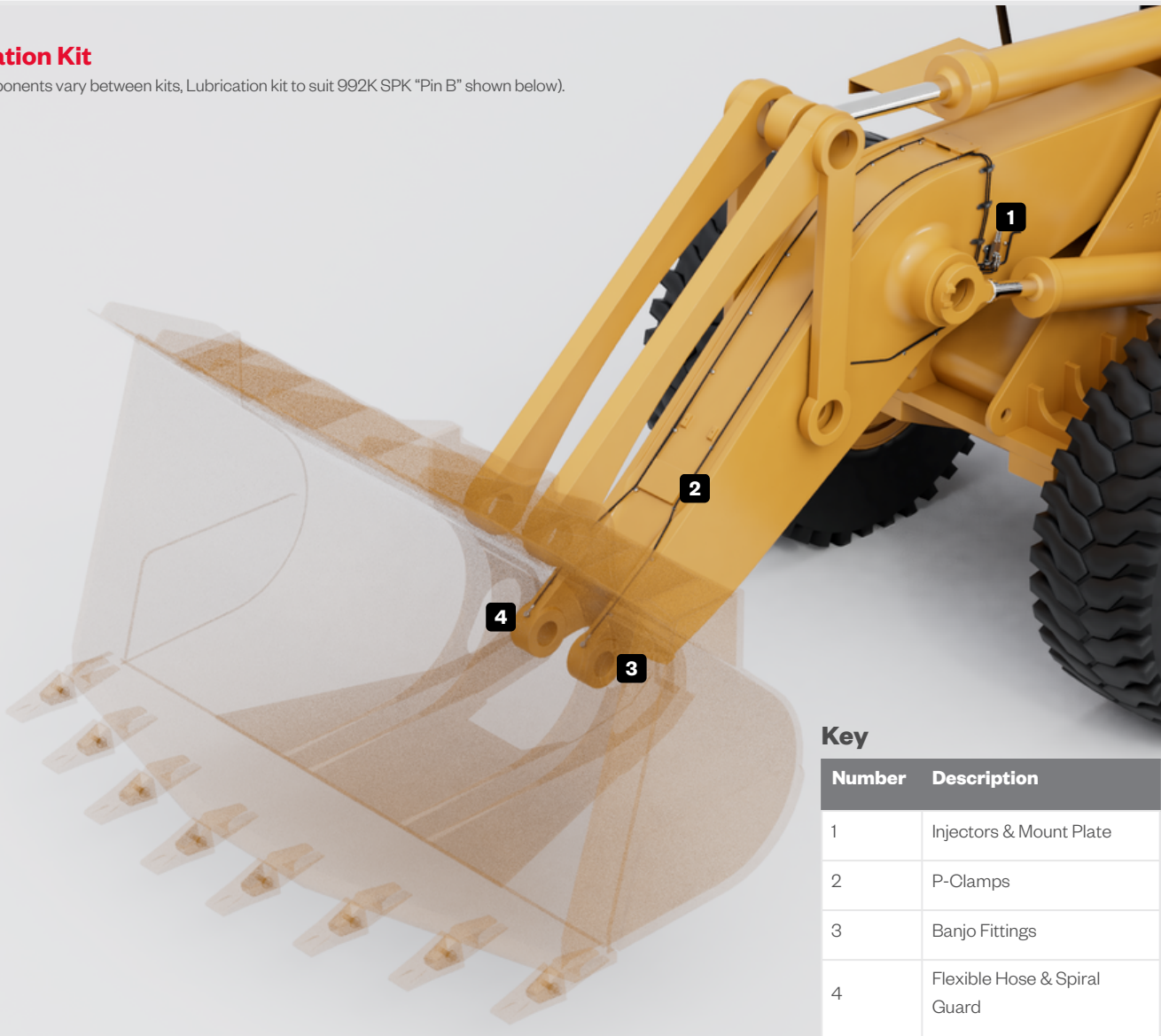


Weld-on Boss (Optional)

If magnets do not align with site preferences, an alternative solution is the 20mm x 20mm Weld-on boss option. These Weld-on Bosses are ready for welding onto the boom and come with M6 screws to securely fasten the components together.

Lubrication Kit

(Note - components vary between kits, Lubrication kit to suit 992K SPK "Pin B" shown below).



Key

Number	Description
1	Injectors & Mount Plate
2	P-Clamps
3	Banjo Fittings
4	Flexible Hose & Spiral Guard

Compatible componentry, maximising safety

What customers think about the Geographe Lubrication Kits



"The lubrication kit was simple to install and extremely well designed. The instructions were clear and straightforward, and the injector sizing with the mounting plate setup worked perfectly for our application. It's a practical, reliable solution that made our maintenance process easier and more efficient.

We're very pleased with the results." – **Maintenance Supervisor, Charles Hull Contracting**

Lubrication Kits Contents:

All lubrication kits come with all the necessary components that are needed for a seamless installation.

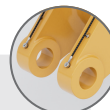
1 Injectors & Mount Plate

Injectors connect to existing onboard automated grease lubrication system.



3 Banjo Fittings

Custom-made Banjo Fittings that screw directly into the existing threaded holes on top of the Boom Arm "legs" (for 992K Boom to Bucket).



2 P-Clamps

P-Clamps of different sizes are used to secure the flexible hosing.



4 Flexible Hose & Spiral Guard

A high-pressure abrasion resistant hose that can be cut to length on-site, with a spiral guard for added protection against wear and impact in vulnerable areas.



Lubrication Kits to suit 992G

Pin Location	Machine	Geographe Reference	Geographe Description
A	992G	11545020	Lubrication Kit to suit Solid Pin Kit 11539232 (and also can suit Replacement Kit 11540968)
B	992G	11545060	Lubrication Kit to suit Solid Pin Kit 11541435 (and also can suit Replacement Kit 11540969)
K	992G	11545056	Lubrication Kit to suit Replacement Kit 11541432
Y	992G	11545055	Lubrication Kit to suit Replacement Kit 11541436

Lubrication Kits to suit 992K

Pin Location	Machine	Geographe Reference	Geographe Description
A	992K	11545020	Lubrication Kit to suit Solid Pin Kit 11539232
B	992K	11537270	Lubrication Kit to suit Solid Pin Kit 11539211
K	992K	11545056	Lubrication Kit to suit Solid Pin Kit 11539210
Y	992K	11545055	Lubrication Kit to suit Solid Pin Kit 11539210

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**CHALLENGING YOU
TO EXPECT MORE
FROM YOURSELF
& YOUR ASSETS**





ENHANCED PERFORMANCE

With over 1,000 Enhanced Performance (EP™) components now catalogued to suit OEM brands such as Caterpillar, Komatsu, Hitachi, and Liebherr, Geographe creates and manufactures products to outperform any wear parts in the market.



Extend the
Operational Life
of parts



Correct known
deficiencies in
OEM parts



Adapt existing
designs for specific
conditions



Cut maintenance
costs and increase
uptime

How we add value to your operation

At Geographe, our products are designed to deliver beyond expectations. We provide engineered solutions to achieve higher equipment utilisation and performance rates.

We collaborate with our customers to solve mine site challenges, helping to significantly reduce maintenance time, improve safety, and decrease up-front and whole-of-life operating costs.

Through innovative thinking and a pioneering approach, our dedicated team of skilled engineers, metallurgists, analysts, and developers design and engineer high-performance parts to support optimal performance and minimal interruptions to operating equipment in mine sites around the world.

Let us know how
we can help.

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