

# Capability Brochure







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# About Us



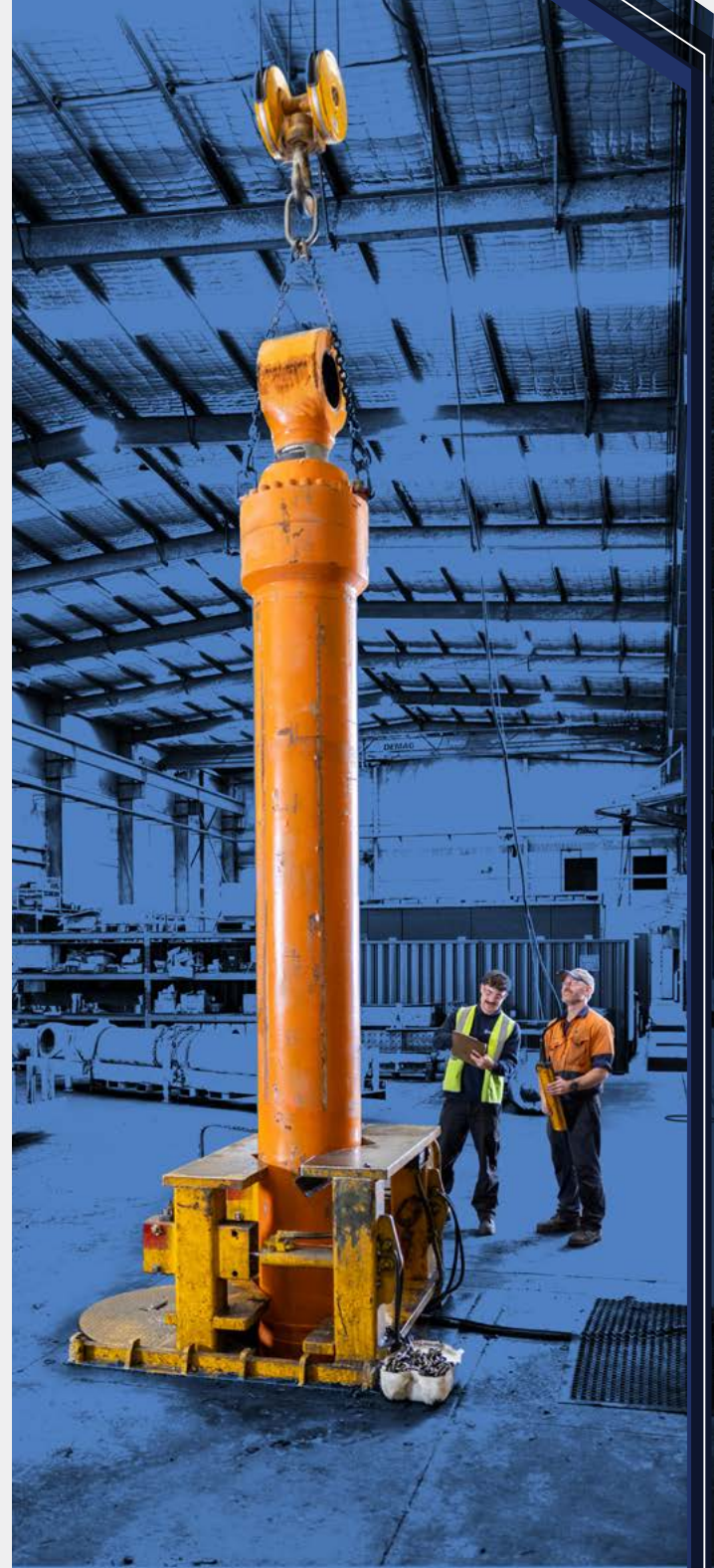


# Over Seven Decades of Hands-on Experience

Founded in 1952 by Bruce Jarvie, Swanson Industries (formerly Jarvie Engineering) started as a general repetition engineering workshop. Over the years, the company has evolved into a leader in hydraulic and pneumatic cylinder manufacturing and repair. Swanson Industries boasts a proven track record in servicing a wide range of industrial sectors including mining, defence, marine, transportation, energy and agriculture. With more than 70 years of experience, we are a trusted business partner for delivering high-quality, innovative solutions that optimise performance and minimise downtime.

Our capabilities include repairing, designing and manufacturing hydraulic cylinders and system components, as well as the supply of end-to-end hydraulic and pneumatic solutions. We have a strong history of providing reliable products and services with a focus on quality and delivery.

The experienced team at Swanson Industries are committed to working closely with clients to develop tailored solutions that meet their specific needs and requirements. With our dedication to quality, safety and sustainability, we have rigorous continuous improvement practices and hold ISO 9001:2015 certification.



Swanson Industries maintains two production facilities in the Hunter Valley region and one in the Bowen Basin region, making Swanson an ideal strategic partner for hydraulic cylinder manufacture, repair, remanufacturing, general machining, spare parts, laser cladding and chrome plating for all industrial operators.

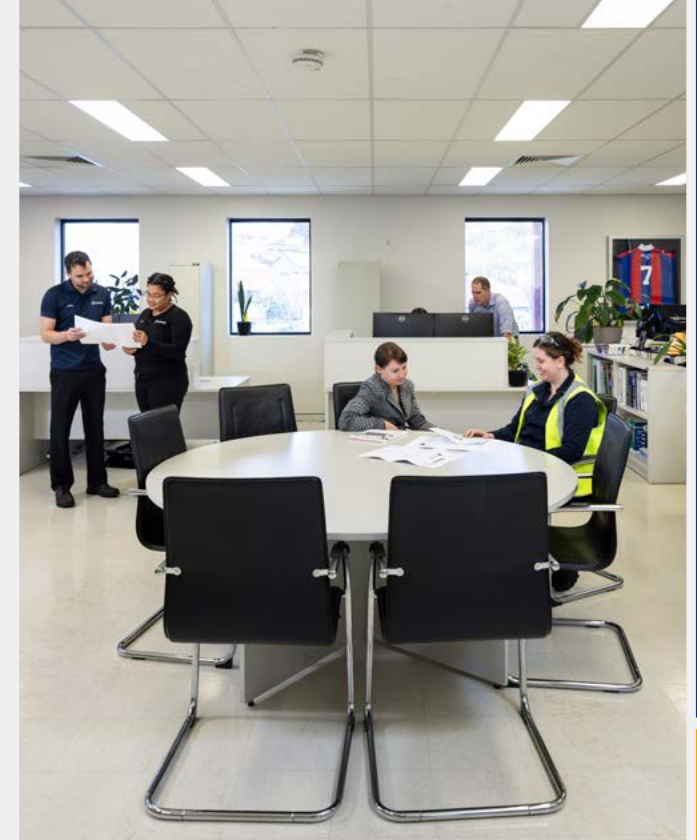


## DELIVER EXCEPTIONAL RESULTS EVERY TIME

We are dedicated to delivering exceptional manufacturing services to our customers through our expertise in hydraulic and pneumatic cylinders, surface technologies, general machining, fluid power services and product distribution. Our long-term commitment ensures outstanding results every time, including:

- › Certified products
- › Designing and manufacturing new products
- › Remanufacturing and repairing components
- › Engineering, design, research and development

Swanson Industries is a leading provider of hydraulic cylinder manufacturing, remanufacturing, repair and distribution services.



## Our Team

### EXTENSIVE KNOWLEDGE IN THE FIELD

Swanson's experienced and seasoned team members provide customer service, technical support and quality assured products for a range of mining, industrial and agriculture equipment.

Experience is the key to consistent, high-quality performance. We provide our customers with extensive design flexibility as well as ensuring our facilities are up-to-date with the latest technologies.





# Swanson Services





# Hydraulic Cylinder Remanufacturing and Repair Services



With extensive engineering capabilities and decades of hands-on experience, Swanson leads the industry in restoring severely damaged hydraulic cylinders to prime working condition. Our support system is well positioned to take all types and sizes of worn or abused hydraulic cylinders and return them to original equipment manufacturer specifications, or better, at a cost that compares favourably to new cylinder replacement.

## SPECIALISING IN OPEN CUT AND UNDERGROUND CYLINDERS

Swanson houses the specialised machinery needed to remanufacture cylinders to OEM specifications:

- › Conventional and CNC machines
- › 550mm 8m long hone
- › 12m cylinder assembly machine
- › Laser cladding, welding technologies, and hard chrome plating

Swanson's world class remanufacturing process includes:

- › Complete disassembly and inspection of all components
- › Verification of components using the most recent OEM specifications
- › Remanufacture of components per approved specifications
- › Thorough cleaning of each component
- › Welding solutions to reclaim damaged components and excessively worn surfaces
- › Reassembly and testing of components to ensure OEM caliber performance





# Hydraulic Cylinder Remanufacturing and Repair Services

## IN-HOUSE CYLINDER REMANUFACTURING

- › Single and double acting
- › Welded rod and telescopic
- › Threaded or bolted head
- › Long stroke / large bore
- › Position feedback

## QUALITY ASSURANCE

- › ISO 9001:2015
- › Controlled environment for testing and assembly
- › Every cylinder is pressure and functions tested before shipment
- › Proven testing facilities including cylinder load testing by 800-tonne restraining fixture
- › Certified welders and qualified weld procedures
- › Test equipment oil cleanliness maintained to 16/13 (ISO 4406) or better

Swanson Industries delivers superior hydraulic repair services, backed by state-of-the-art facilities that guarantee peak equipment performance.

Swanson's specialised stripping and assembly service workshops consist of vertical workstations capable of handling the largest excavator cylinders in the market. Hydraulic torque wrenches can apply up to 135,000-Nm to facilitate rapid disassembly and construction.

Our test bench facilities have capacities up to 800-tonne to allow for mineral oil or water emulsion pressure testing of cylinders under restraint up to 5m in length and 700 Bar.

In addition, Swanson offers:

- › Expertly trained and experienced technicians
- › Flexible repair options
- › Stringent quality control procedures
- › Repairs backed by an industry leading warranty
- › Facilities equipped with state-of-the-art contamination control
- › Complete in-house performance testing capabilities of all component brands





# New Hydraulic Cylinder Manufacture

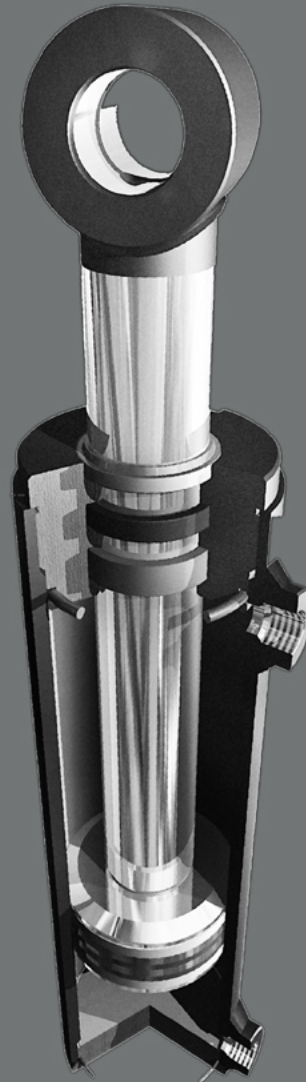
## LARGE ENOUGH TO DELIVER

At Swanson Industries, we have made substantial investment in technology, machinery and engineering design capacity to provide us with unmatched in-house capability for hydraulic cylinder manufacture. We have established ourselves as a trusted leader in the industry and use our extensive experience and knowledge to design hydraulic cylinders that meet the demands of our clients across a wide range of applications: civil, industrial, agriculture, marine, mining, and energy.

Swanson's modern manufacturing techniques allow our experienced engineers to deliver high-quality hydraulic cylinders to various industries.

We use LEAN cellular processes to give our product a competitive advantage in large scale projects. This includes:

- › Cylinders up to 1,219mm in diameter
- › Cylinder assembly machine up to 12m
- › Stroke up to 18m
- › Porting as required: NPT, SAE O-Ring, BSP, tube lines and specials
- › Operating pressures of up to 700 Bar
- › Rods up to 20m long
- › Steel construction standard: aluminium, cast iron and stainless steel options available
- › Mounting: cross tube, clevis, flange, trunnion, spade, pin or custom designs
- › Rod materials and coatings: chrome, laser applied stainless steels
- › Advanced seal options: low, medium and high pressures
- › Valve blocks: machined for specified cavities and mounting configurations
- › Cushioning on both ends of the stroke





# New Hydraulic Cylinder Manufacture

## SMALL ENOUGH TO CARE

Our team takes great pride in using the latest technology and highly developed skill sets to produce standard and industrial cylinders that meet the small project requirements, including phasing and agricultural cylinders.

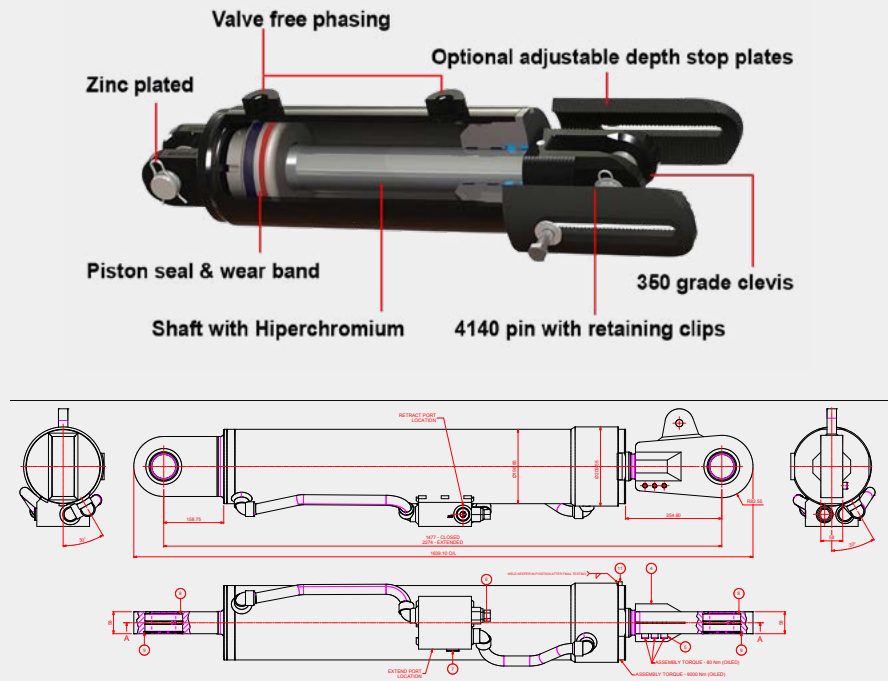
Our agricultural cylinders are designed to handle harsh environmental conditions, preserve a long life-cycle and conform to ASAE standards.

## QUALITY MATERIALS

- > Industry leading high corrosion resistant shaft to ISO 10289 200 hours rating >9, periodically tested to ensure consistency
- > Induction hardened and 4140 shafts also available to provide for a wider range of applications
- > SRB and honed 520MPa ST52 tube
- > Swanson Industries predominantly uses internationally available Hallite seals throughout their range to ensure quality performance and availability of replacement seals worldwide
- > Finished in quality 2-pack polyurethane paint

Swanson has the capability to manufacture cylinders from 1.5" bore x 10mm stroke to 48" bore x 18m stroke for applications including:

- > Light duty
- > Medium duty
- > NFPA style
- > Mill style specification
- > Specialised production runs
- > Agricultural
- > Custom designed and manufactured





# General Machining





# General Machining

General machining processes include:

- > Large Turning  
(1m swing x 8,000mm length bed)
- > Deep Hole Drilling  
(30-150mm diameter, 7,000mm depth maximum)
- > Deep Hole Boring  
(30-500mm diameter, 7,000mm depth maximum)
- > Space & CNC Gun Drilling  
(5-30mm diameter, depth to 100 x hole diameter)
- > Cylinder Honing  
(to 550mm diameter x 8,000mm stroke)
- > Cylindrical Grinding (to 15m)
- > CNC Milling & Turning, multi tasking machines  
(5-Axis)
- > CNC Milling CNC CO<sup>2</sup>
- > Diode Laser Surfacing

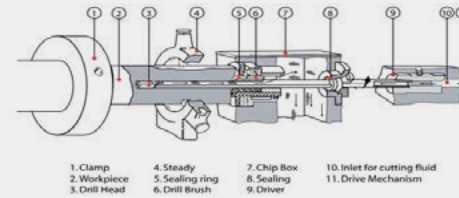
Swanson is quality endorsed by SAI Global to the International Standard AS/NZS ISO 9001.

Our machine shop is supported by a skilled team with a rich history in the field.

## GUN DRILLING

Gun Drilling employs an internal-type cutting fluid supply and external chip exit. The fluid is supplied at very high pressure through the channel to the cutting edge where it lubricates and cools the cutting edge and support pads.

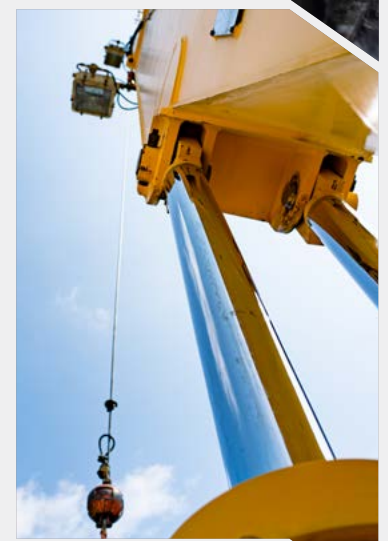
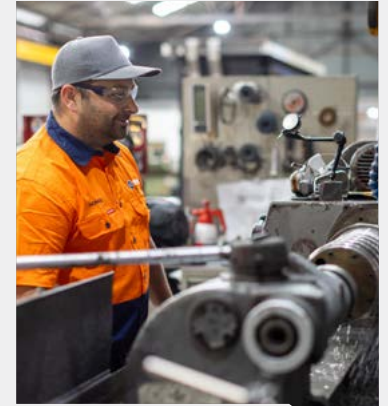
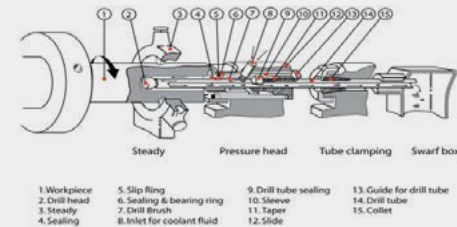
Gun Drilling produces holes that conform to high levels of straightness, surface finish, and tolerance.



## STS DRILLING

STS drills and counterboring tools comprise of a drilling head fast threaded to a drill tube. The cutting fluid is pumped under high pressure between the external surface of the drill and the hole being drilled.

The cutting fluid, diverted at the drilling face, transports the chips through the drill head and out through the tube. The working principle of the Swanson process incorporates a rotating component and a stationary drill.





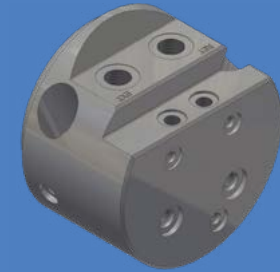
# General Machining

PROFESSIONAL MACHINING SERVICES  
FOR OVER 70 YEARS

Swanson Industries demonstrates proficiency in manufacturing industrial components through the utilisation of state-of-the-art equipment including CNC milling, turning and deep hole drilling. Our tailored machining technologies offer optimal solutions for a wide range of projects from simple pins and bushes to intricate manifolds.

Every process undergoes thorough verification as part of our quality control.

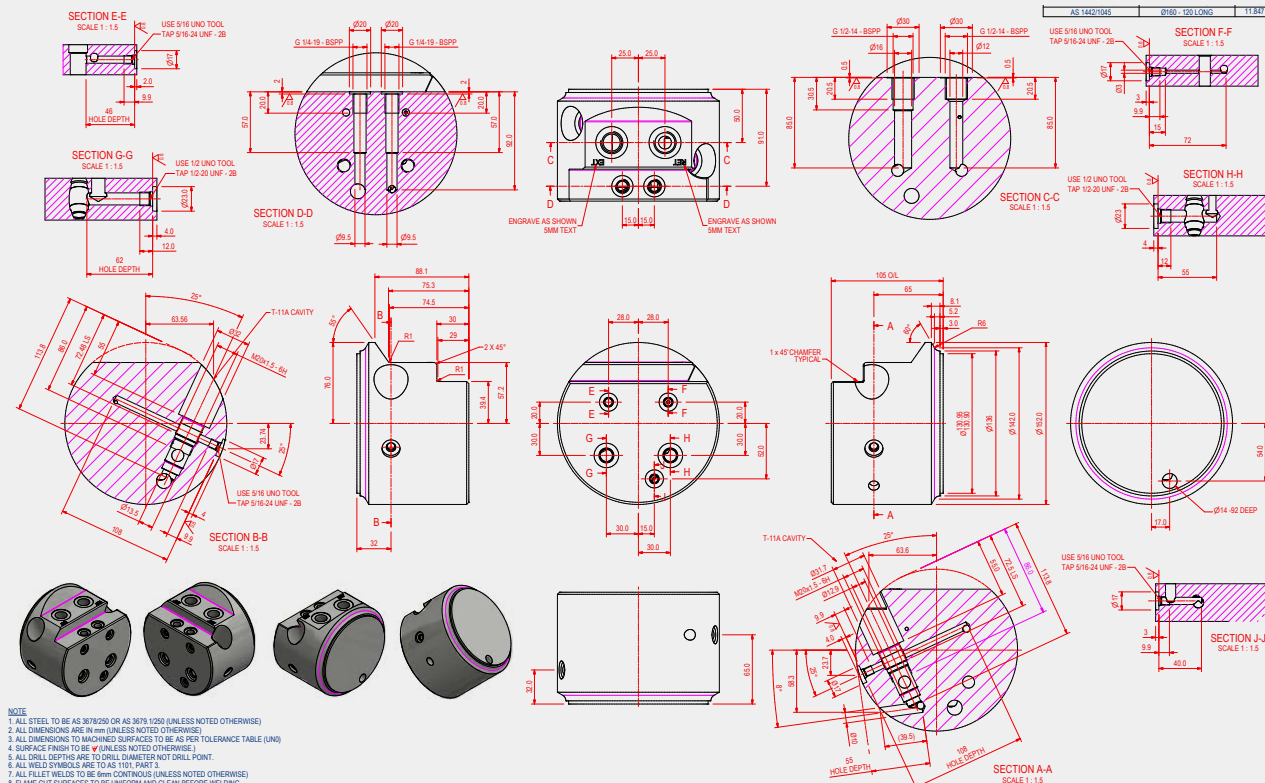
## CYLINDER END CAPS



## PINS AND BUSHES



## FLANGES





# Fluid Power Solutions





# Fluid Power Solutions

We recognise that maintaining the integrity and efficiency of your fluid power systems is paramount to your success. That's why we offer a dedicated suite of services tailored to ensure the longevity and optimal performance of your hydraulic equipment.

## A COMPLETE SOLUTION FOR FLUID POWER: INSPECTION, OVERHAUL, AND MANUFACTURE

### 1. Inspection Services:

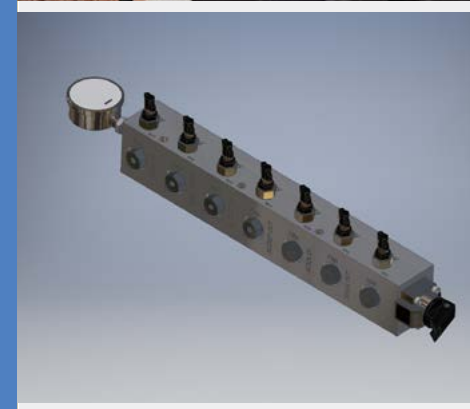
Preventative maintenance is key to avoiding costly downtime and unexpected failures. Our comprehensive inspection and testing services provide you with peace of mind by identifying potential issues before they escalate into major problems. Using advanced diagnostic tools and techniques, our technicians conduct thorough inspections of your fluid power systems, pinpointing areas of concern and recommending appropriate measures to address them.

### 2. Overhaul Services:

Our overhaul services are designed to breathe new life into your existing hydraulic equipment. Whether it's power packs, valves, cylinders, pneumatic/hydraulic tools, porta power equipment or other critical components our team of expert technicians meticulously disassemble, inspect and refurbish each part to like-new condition. From replacing worn-out seals and bearings, to manufacture of brand-new power units, we can restore your equipment to peak performance with a quick turnaround time.

### 3. Manufacture Services:

Whether you require specialised hydraulic cylinders, custom-designed valves or bespoke hydraulic systems, our manufacturing division is equipped to bring your vision to life. From concept to completion, our experienced engineers work closely with you to understand your unique requirements and develop innovative solutions that meet or exceed your expectations.





# Distribution and Parts Sales

Experience the Swanson advantage of gaining access to all major hydraulic component suppliers.

## GLOBAL PARTNERSHIPS, LOCAL EXPERTISE

With a network of worldwide partnerships, Swanson Industries brings you access to the latest innovations and technologies in fluid power. Our team of seasoned experts combine international expertise with local knowledge, ensuring tailored solutions that meet your unique requirements.



## AUTHORISED STOCKING DISTRIBUTORS

As the global authorised stocking distributors for industry leaders such as STAUFF, IMI Norgren, Specialised Force, Durapac, Versa Valves, and DK-Lok, we proudly present an unparalleled array of hydraulic components at your fingertips. Our extensive inventory includes everything you need to keep your operations running smoothly. We supply end-to-end high-quality hydraulic solutions from high pressure hydraulic and pneumatic tools and valves to cylinders, gauges and test equipment.





# Distribution and Parts Sales

Industry Leading Brands

## STAUFF

Internationally leading developer, manufacturer and supplier of pipe work equipment and hydraulic components: hydraulic accessories, clamping systems, fittings, tubing, test couplings, spray nozzles, fittings and diagnostic systems.



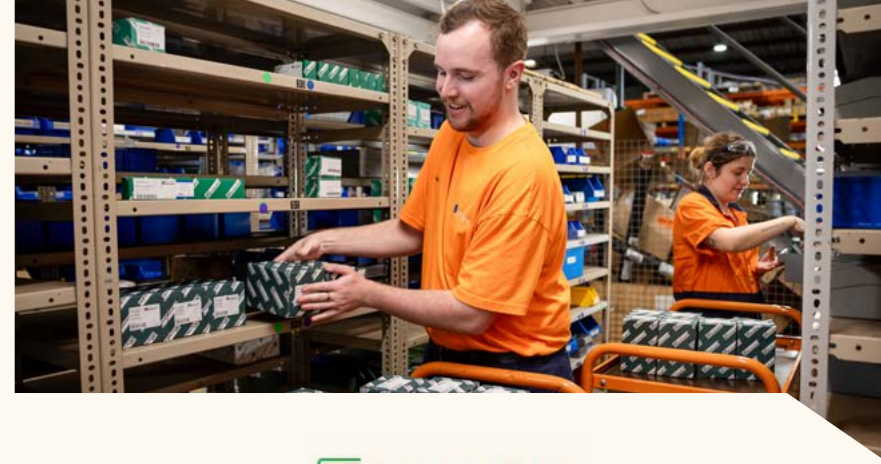
## IMI NORGREN

One of the world's leading motion and fluid control companies. Norgren offer a core set of products and technologies proven over millions of hours of reliable service in hundreds of applications: single and double acting cylinders, rotary actuators, vacuum pumps, cups and switches, valves, airline equipment, fittings, function fittings and tubing, regulators & system components.



## VERSA VALVES

Versa Valves design, manufacture, and deliver valves and related accessories to meet the application-critical specifications.



## SPECIALISED FORCE

Specialised Force is a leading supplier of high-quality tools and equipment, crimpers, cable cutters, tree trimming tools, post and ground rod drivers, pole pullers, tampers and tube bending tools, jacking equipment, torque wrenches and a wide-range of other products including power units.



## DK-LOK

DK-Lok is a manufacturer of fittings and valves in the field of measurement equipment and semiconductors. They produce essential components that are installed in a wide-range of industrial facilities.



## DURAPAC

Durapac is a leading force in high-pressure hydraulic tools that brings together decades of industry experience with a global manufacturing base to produce a complete range of quality industrial tools.





# Surface Technologies





# Surface Technologies

## DELIVER EXCEPTIONAL RESULTS EVERY TIME

Swanson engineers use their unrivalled experience in cylinder design to evaluate component wear and tear and can make design recommendations that will improve cylinder life and performance.

Swanson Industries takes immense pride in offering an array of high-impact surface technology solutions, encompassing:

- › Industrial Chrome Plating
- › Laser Cladding
- › Submerged Arc Welding
- › Diamond Grinding

These versatile services, meticulously executed by our seasoned professionals, empower you with the ability to restore hydraulic cylinders and components to original equipment manufacturer (OEM) specifications or better, delivering the same level of performance and reliability as a brand-new unit at a fraction of the cost.

We bring over five decades of expertise in the field of surface technologies to remanufacture industrial hydraulic cylinders. Our skilled professionals are dedicated to developing and applying advanced coatings and treatments tailored to your specific industrial needs. We serve a wide range of industries including mining, construction, oil, gas, and many more.





# Laser Cladding

Swanson Industries utilises laser cladding technology to enhance the surface properties of base materials. The process involves melting the surface of the base material using a laser beam, creating a localised molten pool. This results in minimal distortion, with a heat-affected zone (HAZ) only 0.8mm deep. Powder is introduced into the weld pool to form a complete metallurgical bond with the parent material. The powder is transported by an inert carrier gas or gravity, while shielding gas protects the molten metal from the atmosphere. Cladding can be performed in single or overlapping tracks, in one or several layers.

The advanced laser cladding technology finds diverse applications in various industries:

- › Reclaim cylinder rods when chrome plating cannot be reapplied or damage has occurred
- › Reclaim bearing journals - i.e. wheel spindles, hubs, electric rotors
- › Reclaim pins, shafts, struts, spigots, yokes
- › Reclaim gear pinions
- › Reclaim support sleeves



Laser cladding is a dense, full penetration, metallurgically bonded, high-quality weld which is applicable to various industrial surfaces.



# Laser Cladding

## ADVANTAGES

This process allows for selective surface treatment, preserving your equipment's original dimensions while minimising material waste. With our expertise, you can extend the life of your hydraulic cylinders and components, reduce maintenance costs and maximise productivity.

Swanson Industries proudly commissioned the first laser in the Southern Hemisphere and offer 316 and 431 stainless steel, Rockit 401, Stellite 6, and Tungsten Carbide laser cladding.

## LASER

In addition, Swanson offers:

- Coherent direct diode 10kW laser machine
  - Up to 1,200mm diameter
  - Up to 6,000mm length
  - Rectangle beam up to 24 x 6mm
  - Horizontal and vertical flat capability
- Senfeng Fibre 6kW laser machine
  - Up to 800mm diameter
  - Up to 6,000mm length
  - Round beam at 6mm

## LASER CLADDING ADVANTAGES

- The process is entirely different to spray metal & HVOF reclamation processes
- Can be applied to any machined surface in a static or dynamic role including bearing journals and seal surfaces
- Very low weld dilution – doesn't dilute the parent material (typically 3%)
- Fusion bond – metallurgical bond, not a surface coat (mechanical bond)
- Low heat input – allows rectification of journal on electrical rotors without removing windings
- Isolate and laser damaged area only – no masking or dipping
- Reclaim components that would otherwise be beyond economical repair with minimal workpiece distortion
- Dense microstructure – not porous
- Chemically clean – more environmentally friendly than chroming and HVOF
- Thin or layered coating – single or multiple passes
- Minimal after machining – one to two passes then finish
- Fast turnaround – compared to chrome or new
- Wide material selection - Stainless 431, Stainless 316, Stellite-6, Tungsten Carbide



**TALK TO US  
ABOUT OUR  
INTERNAL LASER  
CAPABILITY**



# Industrial Chrome Plating

Our engineers and management have extensive experience in the design, manufacture and utilisation of industrial chrome plating for your cylinders, rods, seal areas and other components. Our expertise in precision hard chrome repairs on large-scale components, combined with exceptional quality, sets us apart in the industry.

Swanson has implemented industrial chrome plating as part of the OEM and remanufacturing process. The technology enhances the mechanical and physical properties of components such as:

- > Rods
- > Pins
- > Screens
- > Rolls
- > Shafts

When it comes to industrial electroplating and the associated machining, grinding, welding and polishing, Swanson is one of the largest service providers in Australia.

Whether you require precise chrome plating and polishing, or heavy chrome plating of several thousands of an inch, meeting a customer's specialised project needs is a hallmark of Swanson.

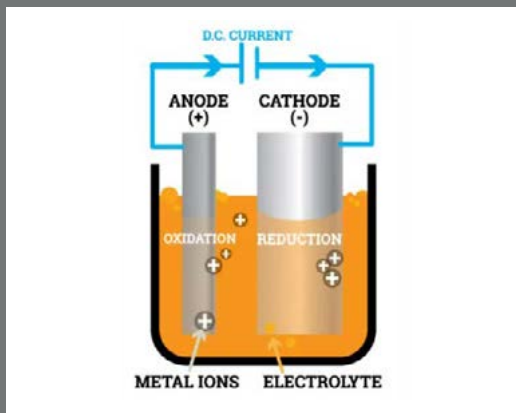
## CHROME PLATING PROCESS

**Cathode:** The metal to be plated by another metal

**Anode:** Oxidation occurs and is the positive polarity contact in an electrolytic cell

**Electrolyte:** Conducting solution containing metal ions in which the anode and cathode are placed

**Power Source:** Supplies a direct current to the anode and oxidises the metal atoms which dissolve in the solution



## BENEFITS OF CHROME PLATING

- > Increased surface hardness
- > Provides high-quality adhesion properties
- > Improves the load capacity
- > Increases metal endurance
- > Optimises protection
- > Applies to a wide variety of metal surfaces



# Industrial Chrome Plating

## CAPABILITIES

As a single-source custom manufacturing service for all types and sizes of hydraulic cylinders, Swanson designs, builds and tests all hydraulic components to meet or exceed industry standards and exact OEM specifications.

## HARD CHROME PLATING

- › Up to 9m in length
- › Up to 1,300mm in diameter
- › Up to 5t in weight

## PRECISION GRINDING

- › External grinding up to 15m in length
- › Up to 2,800mm in length and 1,300mm in diameter
- › Centreless grinding up to 160mm diameter

## LATHES

- › 1m swing x 8,000mm length bed

## ONSITE REPAIRS

- › Specialised selective plating and "cold" dot welding
- › Internal honing up to 550mm and up to 8m long





# Serviced Industries

As a leading player in the Australian market, Swanson Industries takes pride in delivering cutting-edge solutions for various industries.

We have a long-term commitment to providing manufacturing services for our customers utilising hydraulic and pneumatic cylinders in Australia's varied mining, industrial, ports, defence, energy, transport, agricultural and marine markets.

Our quality craftsmanship, advanced technology and sustainable practices sets us apart.

With Swanson Industries, you're not just investing in products; you're partnering with a dynamic force driving the future of industrial solutions.

## INDUSTRIAL



## MINING



## MARINE & DEFENCE



## AGRICULTURE





# Mining Equipment Services

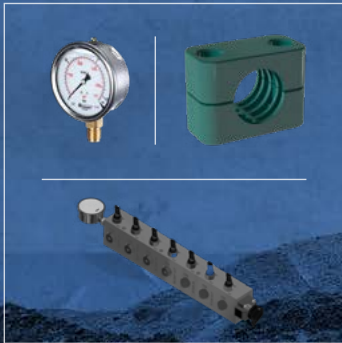




# Mining Equipment Services

HITACHI, LIEBHERR & CAT EXCAVATORS  
Component Repair, Replacement & Overhaul

Hydraulic accessories including gauges, STAUFF clamps, bleed down manifolds, etc.



Pins

Arm cylinders

Track adjusters

Centre joint

Boom cylinders

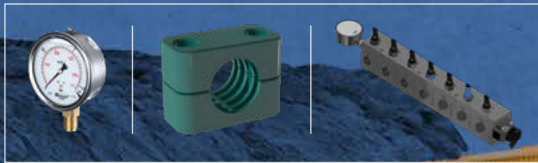
Bucket cylinders



# Mining Equipment Services

CAT & KOMATSU DOZERS  
Component Repair, Replacement & Overhaul

Hydraulic accessories including  
gauges, STAUFF clamps, etc.



Blade lift cylinders

Yokes

Ripper cylinders

Blade tilt cylinders

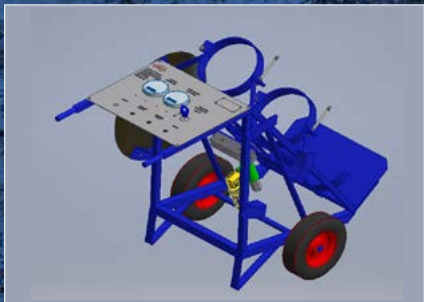
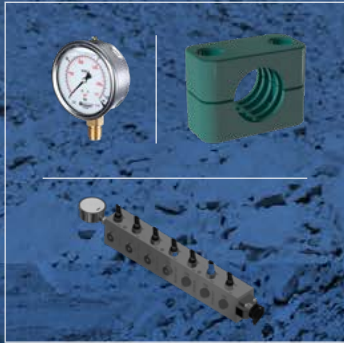
Pivot shafts



# Mining Equipment Services

CAT, HITACHI & KOMATSU TRUCKS  
Component Repair, Replacement & Overhaul

Hydraulic accessories including gauges, STAUFF clamps, bleed down manifolds, etc.



Nitrogen charging stations



Front struts

Hoist cylinders

Rear struts

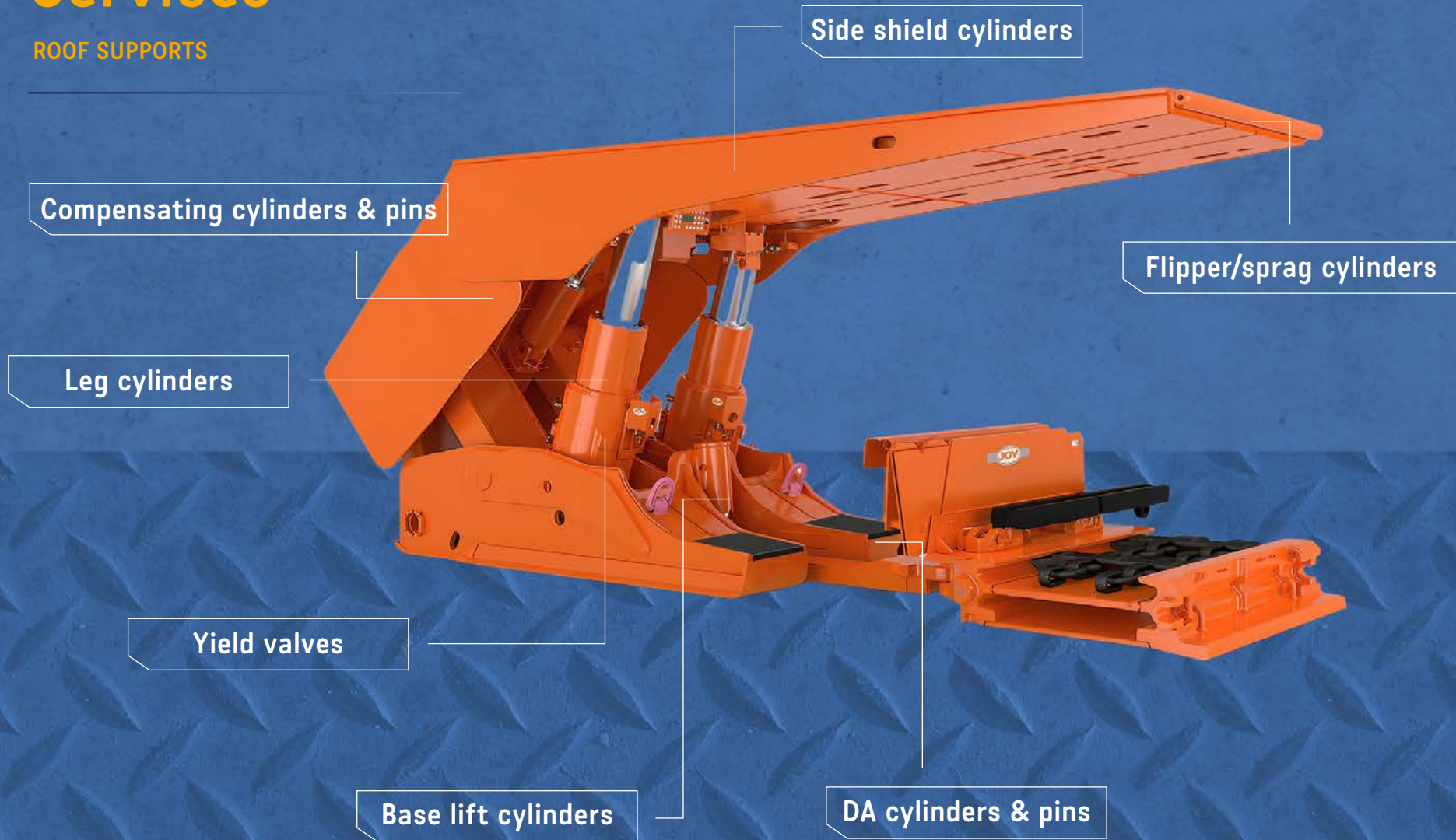
Steering cylinder

Wheel hubs & spindles



# Mining Equipment Services

## ROOF SUPPORTS

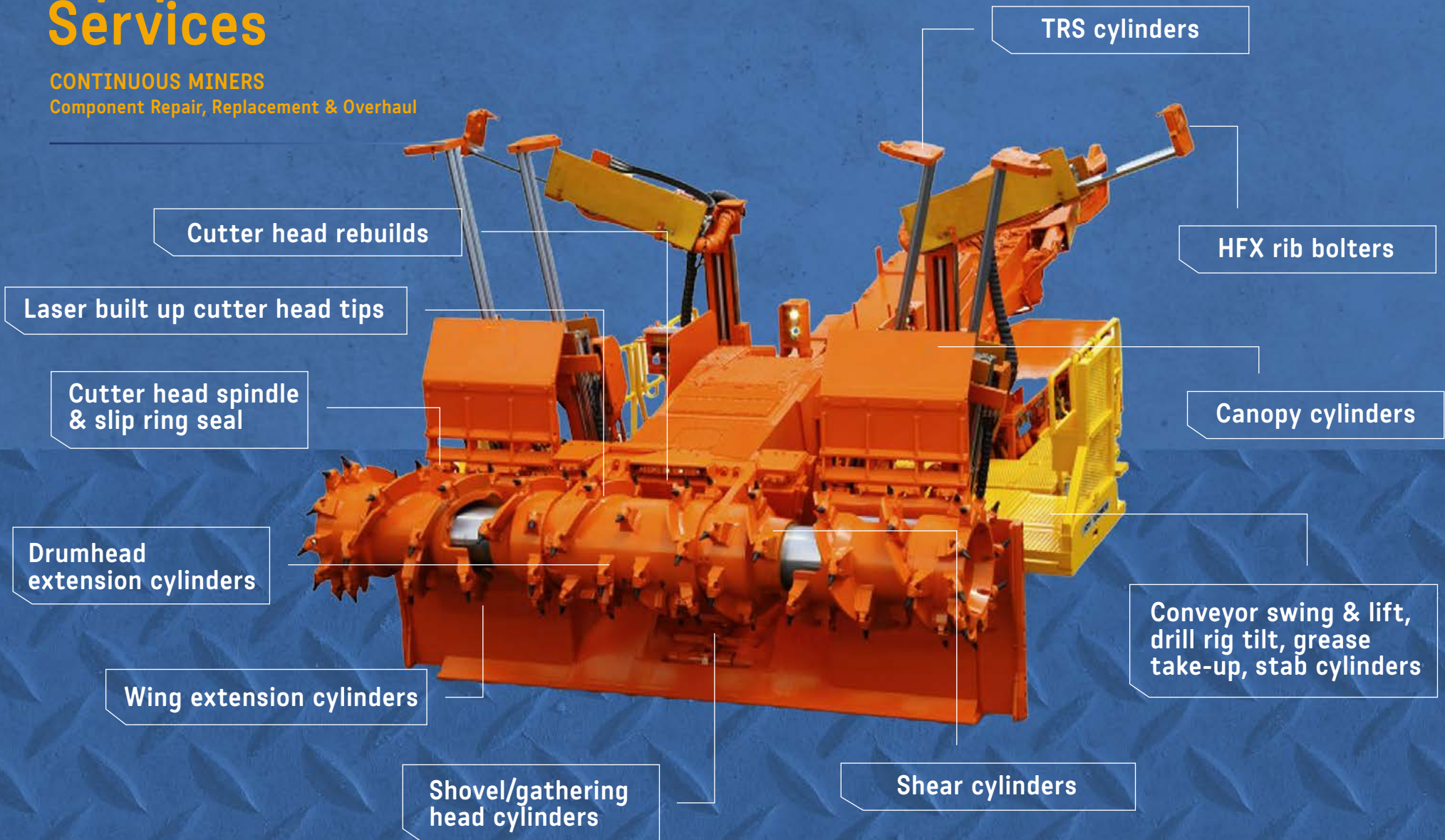




# Mining Equipment Services

## CONTINUOUS MINERS

Component Repair, Replacement & Overhaul





# Quality Certifications

## WORLD CLASS CERTIFICATIONS

At Swanson Industries, we are committed to quality, safety and sustainability. Our team of experienced engineers, technicians and tradespeople work closely with clients to develop tailored solutions that meet their specific needs and requirements.

We hold ISO 9001:2015 certification and are committed to continually improving our processes and practices.

With over 60 years of industry experience and success, Swanson have a proven track record, along with the knowledge and skills to be a trusted business partner. We not only provide quality products and services, we also support our offerings with the latest technology, a highly-skilled team, regular training and a focus on continuous improvement.



## QUALITY ASSURANCE

- › ISO 9001:2015
- › Controlled environment for testing and assembly
- › Test equipment oil cleanliness maintained to 16/13 (ISO 4406) or better
- › Every cylinder is pressure and function tested before shipment
- › Certified welders and qualified weld procedures





**SWANSON®**  
INDUSTRIES

#### NEW SOUTH WALES

Lambton (Head Office)  
4 - 26 Verulam Road,  
Lambton NSW 2299, Australia  
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[lambton@swansonindustries.com.au](mailto:lambton@swansonindustries.com.au)

#### QUEENSLAND

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