



# WORLD CLASS METAL FORMING

**SINCE 1946** 



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#### **ABOUT SUTHERLAND**

#### **GENERATIONS OF INNOVATION**

Since 1946, Sutherland Presses has been delivering world-class forming press solutions and services. We are a family-owned and operated business with three generations of industry-leading passion. The Sutherland brand continues to represent our commitment to personalized service and long-term accountability.

We specialize in providing turnkey press solutions that are designed and built to meet the most rigorous metal- forming applications and demands. Our advanced controls, impeccable service, and reliable components continue to demonstrate our passion for innovation and our dedication to our customers.

Every Sutherland Press build is approached with a "Controls First Philosophy." Designed, welded, heat treated, machined, assembled, tested and fully documented to meet or exceed the demanding JIS 1st Class standard and all key international standards.

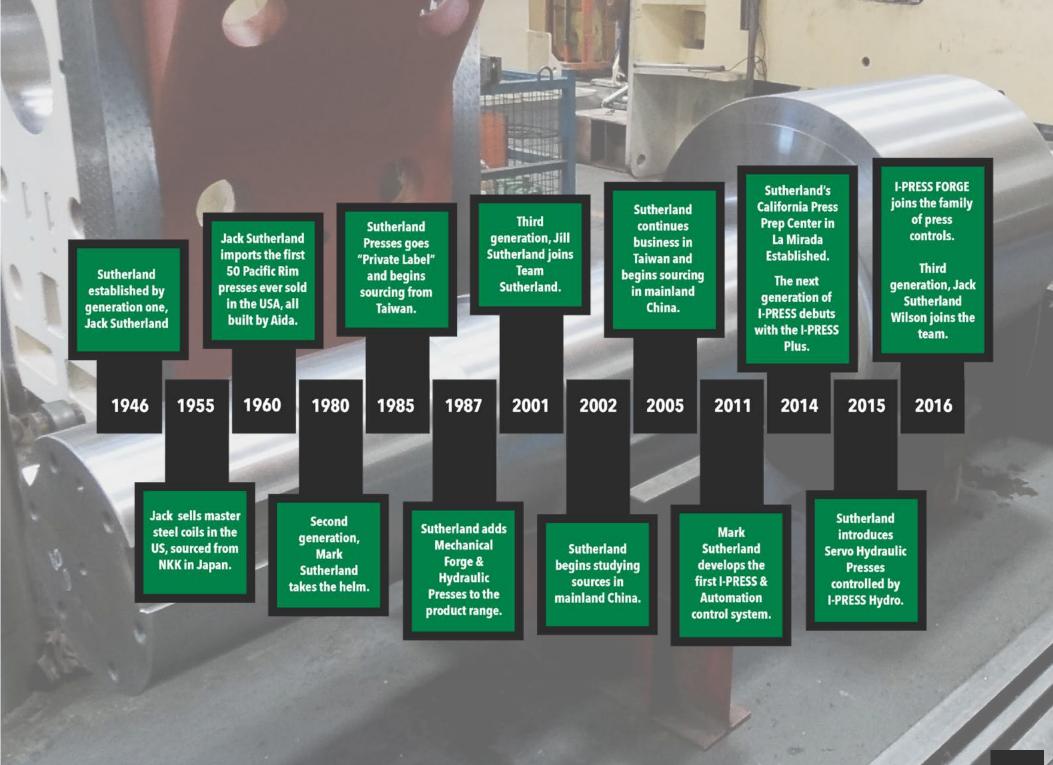












### **CONTROLS FIRST PHILOSOPHY**



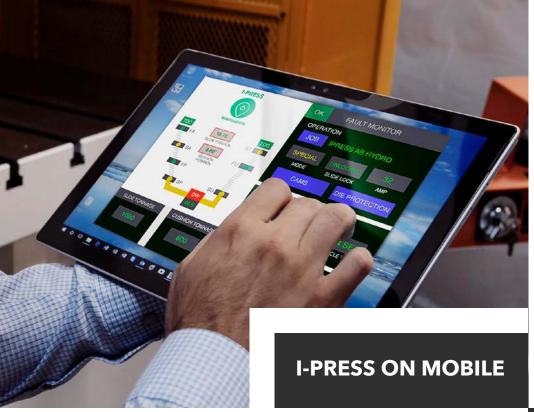




### I-PRESS® THE FUTURE OF PRESS CONTROLS

Our "Controls First Philosophy" has changed the evaluation process for end users. With software-based controls and touch-screen displays, I-PRESS represents our commitment to leading the industry with the latest in controls innovation. The metal forming industry is evolving to a new level of connectivity and automation, and I-PRESS has been designed to bring your press operations into the 21st century. I-PRESS comes standard on every new Sutherland press, and is available for retrofits.

I-PRESS is fully customizable, and is available for mechanical, hydraulic, and forge presses. I-PRESS HYDRO gives precise control of tonnage at any point in the stroke, and I-PRESS FORGE utilizes advanced temperature sensors for maximum press protection. Every feature is designed for intuitive operation and optimum safety. I-PRESS can also integrate with enterprise networks, allowing data from the shop floor to be logged and analyzed to gain valuable insights, improve productivity, and reduce downtime.



THE ULTIMATE ALL-IN-ONE SOLUTION

I-PRESS is built for customization and expandability. When new features or modifications are needed, there are no costly chip replacements, just unlock your upgrades directly from Sutherland.

- The world's most intuitive press control
- Built for automation and expandability
- Designed for Connected Enterprise
- Full suite of automation tools & safety features
- Full suite of safety features
- Easy integration with feeders, robots, and transfer systems
- Customizable to support special applications

"Sutherland Presses' I-PRESS is the future of press control technology. Press control systems are no longer a black box on the shop floor with Sutherland. The I-PRESS is intuitive for operators, feature rich, uses industry standard safety features, and customizable to customers' unique applications. More importantly, the I-PRESS control system is shipped ready to integrate with user facilities' enterprise network. This gives customers access to valuable data from the shop floor, which enables them to log, analyze, and interpret information to make intelligent decisions. Ultimately, the I-PRESS will improve productivity and reduce unplanned downtime."

~Joe Carson Control Systems Integrator





## **SUTHERLAND SERVICE**

#### A GLOBAL NETWORK OF CERTIFIED EXPERT SPECIALISTS

Sutherland's certified network of expert metal forming specialists maintains thousands of machines worldwide. Our technicians are vetted professionals in electrical, mechanical, and hydraulic systems. We've built a comprehensive international rapid-response team without sacrificing our "pit crew" philosophy. We support our clients with a full range of services designed to ensure maximum efficiency and minimum downtime.





Sutherland Presses are made with the highest quality parts in order to meet your high standards for performance and safety. Our Los Angeles headquarters is fully stocked with all perishable name-brand components and replacement parts. Sutherland ensures the fastest possible availability for the parts you need, shipped anywhere in the world.

We are committed to helping you raise the bar for safety, productivity and efficiency in every aspect of your press lines - from rebuilds to control upgrades to customized solutions.

Our Preventative Maintenance Plans are the best way to ensure productivity and reliability for Sutherland Presses. With thorough system checks, we identify issues before they become problems, giving your company peace of mind throughout the lifetime of your press lines.

Our Preventative Maintenance Plans include valuable training for your maintenance teams, both for newcomers and seasoned veterans, providing the knowledge and best practices to keep your presses in top condition.

Preventative Maintenance Plans are available on an annual or semi-annual basis.





#### **MECHANICAL PRESSES**

Sutherland has been a leader in Mechanical Presses for over 70 years. We are constantly pushing the industry forward with innovations in manufacturing, materials, and controls. We offer a full range of Mechanical Presses up to 2500 ton capacities, with gap frames, straight sides, single, double and four point configurations to serve a wide variety of applications. All of our presses are built to exceed JIS First Class standards, the highest standard in the world for industrial machinery.

#### **FEATURES**

- I-PRESS and automation control
- Robust fabricated steel frames are stress relieved
- Exceeds JIS / Japanese Industrial First Class Standards
- Effective preventative maintenance programs



**Double Point Straight Side - Tie Rod** 

The New **KS2 APEX SERIES**, Center Drive with Left to Right Crankshafts. The **KS2** incorporates a new and improved crown and drive design. The opening in the top center / apex has been made larger for ease of drive installation and future maintenance. With the main drive gear box in the center, the left to right crankshaft journals push the connecting rods further apart. This has advantages with large die area and off-center load conditions. We have been installing center drive straight sides since 1985, and all presses exceed JIS 1st class standards. The I-PRESS AB PLUS press and automation controller comes standard on all Sutherland presses.

The **EHW SERIES** represents the most heavy-duty presses available, engineered under demanding standards to deliver unmatched power and precision on the toughest jobs. The **EHW** is built with a tie rod design frame, using thick steel members to ensure reliable stability. Complementing the sturdy frame is an advanced drivetrain, featuring a back-to-front drive with an eccentric gear drive and double pitmans. These pitmans align and equalize the tonnage on the pitman journals. The lower sections of the pitmans are connected to plunger guide suspension points for precise, vertical, non-rotational tonnage delivery. This unique drivetrain ensures higher rating points and faster speeds without compromising on raw power.

**Double & Four Point Straight Side - Tie Rod** 





**Double Point Straight Side - Tie Rod** 

Sutherland's **SP2 SERIES** Double Point Straight Side Presses are the perfect match for virtually any application. These presses are built to last, with crankshafts rated at 150% capacity, keyed release HOLPs rated at 110% of press capacity, and tie rod frame designs for maximum strength and rigidity. The **SP2** has been engineered for versatility, and can be outfitted with a variety of drives, including eccentric geared, single or double geared, and crank or link motion. With large bed sizes ranging from 72" to 240" left-to-right, the **SP2** is a super-duty press ready to take on the toughest jobs.

The **CRS SERIES** is engineered to deliver high performance in a tightly packaged design. With a low-ceiling monoblock frame design, the CRS can be installed quicker in less floor space than other presses of the same tonnage. This robust frame is fully heat-treated and stress-relieved after welding, providing a homogenous steel structure with superior strength and durability.

**CRS's** drivetrain incorporates counter-rotating main gears to eliminate side thrust loads, and 8-point full length slide guides to ensure precise movement and excellent position repeatability. This combination directs the tonnage towards the center of the tooling, extending tooling life and allowing for higher quality production.

**Double Point Straight Side - Monoblock** 





"Sutherland Presses has been the supplier of choice for our Mexico operation with six Straight Sides and Gap Frame presses up to 400 tons since 2000. We get great response times and attention for any service issues for our MX plant and run our presses 24-7."

~Jody Fledderman President/CEO Batesville Tool & Die

**Double Point Straight Side - Monoblock** 

Our **KS2B SERIES** Double Point Straight Side Presses employ a monoblock frame design, built to precise JIS 1st Class standards. With a heat-treated one-piece frame stress-relieved after construction, the **KS2B** is built on a solid foundation to provide decades of service.

The pinion gear and main drive gears run in a self-contained oil bath. Counter-rotating main gears and connecting rods eliminate side thrust loads. Eight full-length slide guides provide for accurate alignment and movement of the slide, extending die life.





Double Point Straight Side - Monoblock

The **HDP SERIES** is the perfect choice for high load jobs, featuring a monoblock one-piece frame, greatly reducing angular deflection under load compared to gap frame presses. The **HDP's** precision drivetrain includes an encoder-based slide position monitor, six-point full-length slide guides, and counter-rotating main gears to eliminate side thrust loads, deliver accurate slide movement and parallelism, and provide longer tool life and higher quality part.

The **HCD SERIES** is ideal for producing larger parts, featuring bed areas up to 98" x 35". A heat-treated and stress-relieved monoblock frame ensures high levels of stability. The **HCD's** advanced drivetrain features a front-to-back design with counter-rotating gears connected to dual crankshafts rated at 150% capacity. A keyed HOLP system rated at 110% capacity and an encoder-based slide position monitoring system combine to provide exceptional slide positioning repeatability, yielding longer tooling life and ensuring accurate production of parts.

**Double Point Straight Side - Monoblock** 

HCD SERIES
121-275 ton







**Double Point Straight Side** 

When you have the need for speed, the **HS2 SERIES** double point straight side is up to the task. These presses are built for high performance, with a plunger-guided drivetrain and hi-torque clutch and brake combination to attain up to 300 strokes per minute. When operating at such high speeds, proper lubrication is essential. The **HS2** provides constant, worry-free lubrication with its recirculation oiling system, automatic grease lubrication, electrically monitored lube distribution blocks, and a Bijur automatic air counter-balance oiler.

For heavy stamping and small die applications with concentrated loads, rigidity and heavy frame strength are a must. Sutherland's **SP1 SERIES** Single Point Straight Side Press is built for the task, available from 220 to 1000 ton capacity. A high-strength monoblock frame design allows this press to cover a wide range of heavy duty applications. The **SP1** can be equipped with a single or double gear and optional link motion drive, and incorporates a front-to-back shaft gearing in a self-contained oil bath.

**Single Point Straight Side** 





**Single Point Straight Side** 

Our **HCP SERIES** single point straight side presses are ideal for progressive die and small bed applications with concentrated loads. With a unique "H Frame" design, the **HCP SERIES** is built for a high degree of strength and rigidity. Smooth slide adjustment is achieved with 3-piece connecting rods and alloy-threaded inserts. With a keyed HOLP rated at 110% capacity and a crankshaft rated at 150% capacity, the **HCP** press is designed to deliver a powerful punch and provide decades of reliable service.

The **KS1 SERIES** provides both strength and versatility. With a unique "H Frame" design, the **KS1 SERIES** is built for a high degree of strength and rigidity, concentrated loads, and other heavy duty jobs that require manual loading and unloading. For high-volume jobs requiring speed and automation, pair your **KS1** with our I-PRESS Control System for advanced customization and connectivity.

**Single Point Straight Side** 





100-370 ton

**Single Point Gap Frame** 

The Sutherland MARK GEN II is stronger and more feature-packed than any gap frame press on the market. The MARK GEN II features a cast slide body, stress-relieved welded steel frames and extra steel in the "C" section of the frames to reduce angular deflection under full load. The MARK GEN II also features 6-point full-length slide guides, providing outstanding position repeatability, allowing for longer die life. A super duty drivetrain with larger flywheels and crankshafts rated for 150% overload combine to provide for a higher energy rating curve ABDC. With automatic lubrication systems, and a centralized maintenance center, the MARK GEN II is a highly versatile and productive line of presses.

The **KC1 SERIES** line of gap frame presses provides an incredible value, and an excellent alternative to a used press. The **KC1** is built to last, incorporating heat-treated frames machined to JIS 1st Class Standards, keyed HOLP, crankshafts rated for 150% overload, and a self-contained oil bath for the pinion and main gear.

For fixed speed jobs, equip your **KC1** Gap Frame Press with a standard Omron Push Button Control System, available in two different stroke lengths and speeds. For advanced jobs requiring more customization, the I-PRESS touch screen control system provides the most advanced setup and control features available anywhere.

**Single Point Gap Frame** 





**Single Point Gap Frame** 

Our **MARK SERIES** of Single Point Gap Frame Presses ranges from 35 to 88 tons, and offers a fully featured press at a great value. These presses feature Color Touch Screen Controls, Stroke Position Indicators, Batch Counters, Heavy Duty Heat Treated/Stress Relieved Steel Frames, Cast Slide Bodies, Keyed HOLPs rated at 110% capacity, and Crankshafts rated at 150% capacity. For ease of maintenance, our **MARK SERIES** presses also incorporate a centralized maintenance center, ensuring easy access to the reservoirs for the lubricants. The **MARK SERIES** is a fully capable workhorse for a wide variety of applications.

The **KC2 SERIES** of double point wide bed gap frame presses are available from 88 to 330 ton capacity. These presses feature large area bolsters to accommodate a wide range of tooling and jobs. Counter-rotating double crankshafts direct the tonnage towards the center of the slide and bolster. The **KC2** Gap Frame Press is built to last, incorporating heat-treated frames machined to JIS 1st Class Standards, keyed HOLP release at 110%, crankshafts rated for 150% and a self-contained oil bath for the pinion and main gear.

**Double Point Gap Frame** 



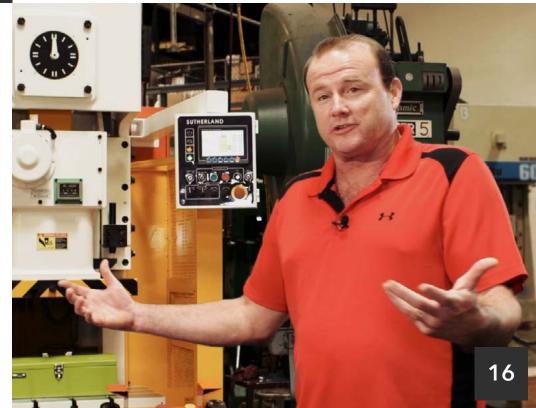


"I like the thought of working directly with a president or owner. He's hands on and involved and we just liked his approach. We're really impressed with how Sutherland came in. The presses are well built and heavy duty."

~Perry Bloomers
Owner, Bloomers Metal Stamping
Valencia, CA

#### **Double Point Gap Frame**

The MARK 2 SERIES features large die areas to accommodate a wide variety of dies and jobs, making this line of presses the perfect choice for a long list of applications. Counter-rotating double crankshafts direct the tonnage towards the center of the slide and bolster. Counter-rotating main gears eliminate side-thrust loads, improving die life. Precision machined steel frames, a cast slide body and 6-point full length slide guides provide for accurate repeatability.





### **SERVO HYDRO PRESSES**

Sutherland's Servo Hydraulic presses are custom-built to deliver outstanding precision and reliable operation to a wide variety of applications. Our combination of active fluid management and advanced servo motors adjusts fluid volume and motor speed to match the workload required, optimizing press performance while greatly reducing energy consumption.

#### **FEATURES**

- I-PRESS HYDRO press and automation control
- Superb application versitility and easy to create program motion profiles
- Optimal press performance/energy consumtion curve

### I-PRESS® HYDRO MULTIPOINT EDIT

### **TOUCHSCREEN HYDRAULIC PRESS CONTROL**





We have years of experience in customizing hydraulic presses for **MOLDED COMPOSITES**. These carefully layered materials are the ideal choice for aerospace and automotive applications due to their ability to achieve high strength at very low weights. When your components have zero tolerance for failure, you need the time-tested reliability and uncompromising attention to detail that goes into a Sutherland hydraulic press.

**COMPOSITE** formers like the I-PRESS control include custom screens and features which can be added to control mold temperatures, part extraction and the ability to record data to remote devices.

Sutherland's **SERVO FORMING** presses offer outstanding energy efficiency compared to similar mechanical presses. Unlike traditional variable angle pump displacement presses, servo forming hydraulic presses can dynamically adjust the tonnage from 10% to 100% at any point during the stroke cycle, allowing for efficient yet flexible forming.

With the on-board I-PRESS HYDRO control and our Multi-Point Edit screen, you can adjust speeds, distances, pressures and dwell time throughout the stroke. For less complex jobs, users can select our Single Point Edit screen for fast set ups. **SERVO FORMING** presses can be used for many applications, from blanking, forming, deep draw, transfer and composite forming.

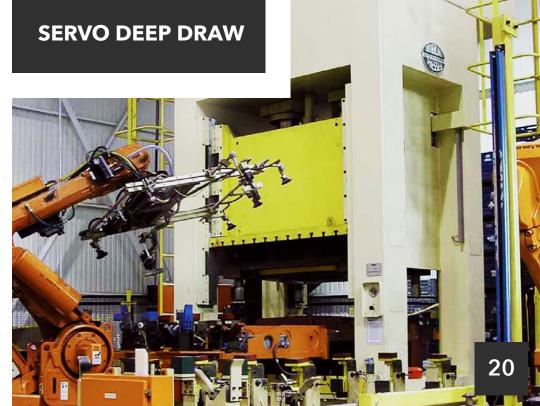




**DEEP DRAW** applications require the utmost in precision control and adjustable positioning, and Sutherland's hydraulic deep draw presses set the standard for quality and reliability. For cases that push materials to their limit, such as producing oil filters or metal kitchen sinks, you need total control at every stage of the stroke. Sutherland's deep draw presses feature our advanced I-PRESS control with programmable motion & pressure profiles, allowing for higher quality parts and more efficient production.

**FOUR POST** hydraulic presses are commonly used for applications that require access to all four sides of the die area. These applications usually involve tightly controlled automation and feeder systems for the loading and unloading of various types of parts. Four post presses can be considered the cost effective alternative to our true straight side H frame presses.

Notice in the photo above, we've build in large removable lower bolster plates and upper slide adapter plates. Both come standard with T-Slots on 6" centers to assist in QDC / Quick Die Change.





At Sutherland, we know **TANDEM PRODUCTION** lines better than anyone. Our engineers have designed multi-stage processes for a huge variety of applications, and our presses are built with automation and transfers in mind from the very start. We're ready to work with you from the initial planning stage through to the custom design, installation, and operation of the most efficient and reliable press lines available today.

Photo above is a six press **TANDEM LINE** with 800 ton lead press and 5 sets 600 ton presses. The line is equipped with press to press servo transfer and custom side loading QDC / Quick Die Change systems.

#### **CASE STUDY >**

For a tier one automotive sunroof panel line, Sutherland devised a **CONTROLS FIRST** servo hydraulic press solution. The client needed eleven hydraulic presses which could be floor mounted, reducing installation costs. Sutherland's **I-PRESS HYDRO** control provides unmatched control over the entire range of the stroke, allowing the end user to program motion and pressure profiles for optimum parts formability.

This installation has consistently exceeded our clients' expectations with regards to safety, accuracy and productivity.

Schedule a consultation to let us help you realize your company's maximum metalforming productivity.

The installation featured at right inlcudes:

- Three Sutherland **HD2 400 SERIES** presses
- Two Sutherland HD2 600 SERIES presses
- Five Sutherland I-PRESS HYDRO press controls

# **MULTI-PRESS HYDRO SOLUTIONS**





#### **FORGE PRESSES**

Sutherland's hot, warm, and cold forge presses are built for the most intensive applications in metal forging, all the way from shaping massive multi-ton parts to hot heading aerospace bolts. Our wide range of forge presses can incorporate eccentric, knuckle joint drives, link drives or hydraulics. This flexibility allows us to help you consistently achieve the perfect press production stroke for your most demanding jobs.

#### **FEATURES**

- I-PRESS FORGE press and automation control
- Heat-treated, stress-relieved frames
- Patented motorized slide adjustment
- Eccentric shafts rated at 200% overload
- Exceeds JIS / Japanese Industrial First Class Standards



The **FPG SERIES** has the backbone to tackle the toughest jobs. With a robust steel frame, eccentric shafts rated at 200% overload capacity, 8-point full-length slide guides, and thermal bearing sensors, the **FPG** is built to last. Single and multi-station die holders are available, along with an "unsticking" device under the slide adjustment screw.

We have also introduced our **FPG-X** model with X angle slide guidance which allows for thermal expansion while still running very close tolerance slide guides.

Hydraulic Cold and Warm Forging can be accomplished with a great degree of control over forging speeds.

With our manifold fluid management system and limited piping, we can regulate position, speeds and pressures for the best result of material flow and calibrating accuracy.





FP SERIES
400-2500 ton

The **FP SERIES** can address any forge application, featuring single and multi-station die holders with hydraulic ejectors and an "unsticking" device. With fully guarded high and low-speed gears, high compression bronze bushings, and massive pitman slide connections, the **FP** drivetrain is designed to endure a wide range of challenging jobs.

Our **FP SERIES** is designed for flatter and wider forgings. When taller and thicker forgings are required, it may be suggested that you move up to the FPG or FPG-X models.

The **KNP SERIES** is ready for any cold or net shape forging application, and is available with either link or knuckle joint drives. A heat-treated, stress-relieved steel frame with 8-point full-length slide guides and an encoder-based slide position monitor ensure precise position repeatability. For easy part ejection of single or multi-station dies, the press can be equipped with both an upper and lower cam-controlled air ejection system, along with a keyed "unsticking" device near the BCD. To further ensure trouble-free operation, the **KNP SERIES** features automatic grease lubrication, recirculating oil systems, electronically monitored lubrication distribution blocks, and Bijur automatic air counter-balance oilers.





88-1500 ton

Our **FLST SERIES HOT HEADING PRESSES** have become the industry standard for aerospace and high technology fasteners. **FLST** is a Sutherland trademark and stands for Front Loading Sliding Table, which facilitates faster heater to hit time and operator or robot ergonomics. The **FLST** can be used without the sliding table, but when long bolts are being headed, the table slides out and ejector lifts the part for unloading without any interference from the upper slide. We can offer a complete turnkey system including, **FLST** press, sliding table, upper spring head and tooling.

Our range of **TRIM PRESSES** is available in gap frame and straight side from 66 ton up to 1200 tons. Due to excessive exposure to heat, we have designed in heat protective shields and cable carries, and, ability to move control station away from heat. Our lower bolsters can be a standard flat surface, with T-Slots, or customized to have a removable section to allow trim flash / scrap to drop thru bolster to scrap exit steel belt conveyors. The photo shown below is of one of eleven KC1-176 ton presses installed at a major forging company in Michigan.





# **DENSO**

**10.0** 





"We own a Turn-Key CRS-220 ton Double Point Mechanical Straight Side Press + Double End feedline + Pascal Automation, fully integrated into one AB control. We run this machine 7 days a week for full production. It is a very reliable line."





RANDY CRUSCIEL

PLANT MANAGER FOR 25 YEARS

**DENSO** 



"We are very satisfied with our 120-ton press and the support we've received from Sutherland Presses. It's a reliable machine that produces quality blanks. It's built strong operates 17 shifts a week and is capable of doing more."





mabe

ROGER LABONTÃ

TECHNICAL MANAGER PRODUCTION

**ROYAL CANADIAN MINT** 

KAISER ALUMINUM











"We purchased a Sutherland SHF-1000 hot forging press purchased in 2003. We use the press 6-7 months out of the year and can count on the reliability and consistency... I would recommend the purchase of a second or larger forging press should we need to expand our capacity in the future."







JOHN HEYMANS

VP ENGINEERING &

TECHNOLOGY

ATI FLOWFORM

StanleyBlack&Decker

"Our 13 Sutherland presses play a critical role in our manufacturing. We recommend Sutherland and are proud to work with them."





Firestone

SENIOR VICE PRESIDENT OF OPERATIONS

**GOODMAN** 

**BILL TOPPER** 

Sutherland Presses is proud to be the preferred press supplier for a Tennessee-based Tier 1 automotive stamper, with 16 presses installed and more on the way.

This Fortune 100 customer needed a full line of presses and controls that could handle all forms of integrated peripheral equipment, as well as custom tooling and guarding for their complex manufacturing cells. Sutherland has exceeded their expectations with a custom-built set of heavy-duty presses and advanced I-PRESS + controls.

With a multi-shift, 24/5 production schedule, this client requires the highest standards of service. Sutherland continues to provide an all-inclusive service package, including a dedicated team of locally-based certified service providers available for rapid response, as well as a comprehensive ongoing preventative maintenance and training program.

"Working with the Sutherland team has given our plant the competitive edge needed to continue to gain market share and be the leading player in our field of expertise. We push our technological needs forward and Sutherland continues to hit the marks. We are proud to partner with Sutherland Presses, and I would recommend working with them" ~ Anonymous - GM

# **SUTHERLAND CONTACT & RESOURCES**

**SUTHERLAND PRESSES** 

Malibu, California 90265 USA

**TESTIMONIALS** 

**VIDEO GALLERY** 

**NEWS** 

**SALES** 

**TESTIMONIALS** 

**SERVICE** 

**TECHNICAL** 

**PRESS TERMINOLOGY** 

**I-PRESS CONTROLS** 

**SCHEDULE LIVE ONLINE CONSULTATION** 





"The world-shaping industries of metalforming, forging, and composites are constantly evolving to better empower manufacturers as they create exciting new products that improve our lives. At Sutherland Presses, we've made innovative industrial solutions our family business for 3 generations, and I am proud to be part of the legacy that the entire Sutherland team is creating as a world-class provider of cutting-edge technology and outstanding service."