



CONSTRUCTION PROFILES

FALL 2020 / WINTER 2021



DEAR CUSTOMERS AND FRIENDS:

Looking back on 2020, the worldwide COVID-19 pandemic will be one of the seminal moments in our world history. Who would have imagined the significant impact it would have on our families, the world economy, and our businesses?

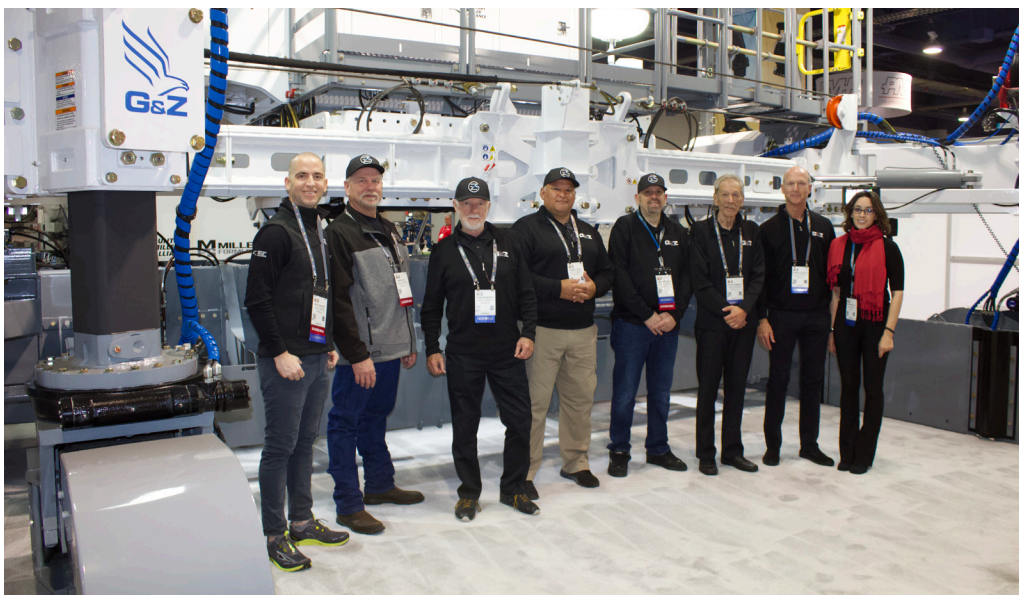
For our industry, the COVID-19 pandemic and subsequent worldwide shutdown, caused 2020 to be the year of uncertainty. Delays in lettings, funding, awards, and land acquisitions, all created unprecedented challenges for our businesses and professional family. We witnessed the travel industry's collapse, which has and will continue to impact an important segment of our market. Pre-occupied with winning a very contentious and polarized U.S. Presidential election, and how to respond to the COVID-19 impact, American government leaders have not been able to find time or common ground to pass a multi-year surface transportation bill.

However, to be in this industry, one must be optimistic! It is not overly confident to say that a vaccine for COVID-19 will be released soon, testing is getting quicker and more widely available to allow us to better control outbreaks, and better therapies for treating COVID-19 patients continue to evolve as our medical experts gain more experience. These are all key to allowing us to fully reopen the world economy again and get back to work. Furthermore, governments around the world are considering robust, multi-year infrastructure programs to reduce unemployment, which will create additional opportunities for our customers.

For G&Z, 2020 was going to be a breakout year after the tremendous investment we made across our product line in power units to accept the taller, low emissions, Tier 4f (Stage V) diesel engines. We had completed the Tier 4f power unit updates on our largest selling products. Moreover, the turnout at World of Concrete and ConExpo in spring 2020 was very encouraging. Most of our customers had strong backlogs going into 2020, with 2021 looking promising. We were also very pleased with the positive responses we received at these trade shows on our updated S600 Tier 4f power unit and controls. In retrospect, about this same time we were just starting to see the early signs of a worldwide supply chain disruption. In heavy construction machinery, components come from all over the world. This supply chain disruption worsened during the shutdown; however, as the summer progressed, the supply chain started to catch back up. By moving machines around in the production schedule, remaining flexible and working closely with our customers, we were able to minimize the disruption to them. We want to thank our loyal customers for working with us, with special thanks to the great team at G&Z for their sacrifices and extra efforts! As we look ahead to 2021, we can already see it is going to be a very busy year!

As you can see in the following articles, the updated S600 and S850 pavers have been well received and have performed very well in the field. Our first MP550 material placer with Tier 4f update is being manufactured now, while the S400 Paver Tier 4f power unit design update is nearly complete, and will be in production in the first half of 2021.

Like you, we look forward to the end of this COVID-19 pandemic. We would also like to wish you a successful end to your paving season, good luck in your bidding and look forward to talking to you about your needs for 2021!



A handwritten signature in blue ink, which appears to read "Ron Guntert".

RONALD M. GUNTERT, JR.
PRESIDENT & CEO

WELCOMING RICHARD GRAVES

Guntert & Zimmerman is happy to announce the appointment of our new Sales Manager for the North American region. Richard Graves is an experienced industry manager in the fields of asphalt, and construction. Driven by his strong belief in customer service, his goals include providing the best product on the market and providing even better product support to keep his customers operational and profitable. In addition to his primary job functions, he has been recognized as a leader at the dealer and manufacturer level for his extraordinary commitment to improving equipment and processes that lead to efficiency and productivity.

Richard resides in Austin but is from the small town of Mart, Texas. He was raised in a family in the heavy earth moving construction business, that began in the 1930's. He grew up operating and repairing CAT equipment before he could get a driver's license. After graduating from Texas A&M University, he began his career at Holt Cat of Texas as a Machine Application Specialist. He soon became an Account Sales Representative covering all statewide government agencies. Since 2015, Richard has been the Paving Industry Manager which has led to an unprecedented growth in paving product sales volume for brands such as CAT, Weiler, and Integral DX, within Holt CAT's territory. Richard has experience in sales, account management, product support, customer service, and machine application. Richard is technically very strong and field oriented. G&Z looks forward to getting Richard educated in concrete!



We are excited to have Richard on our sales team and look forward to the value he will bring to G&Z and its customers.

RESIGNATION ANNOUNCEMENT

Rolf Guntert, our EVP of Sales, resigned effective August 2020, to pursue a career in the real estate and mortgage industry. The motivation for the change was to reduce his sometimes-intensive travel demands, to allow him to stay closer to home with his wife Kate and three kids Eden (5), and twins Quinn and Lennox (1.5).

Rolf completed his MBA with honors in March 2019 from St. Mary's College of California. The broad experience he gained while working 10 years at The Guntert Companies, and his MBA curriculum, fueled his entrepreneurial spirit which contributed to this new pursuit. We respect his decision and wish him success and all the best in his future endeavors. His work and contribution were greatly appreciated, and he will be missed at the companies. Rolf will remain as a member of our Board of Directors.

On behalf of everyone at The Guntert Companies, we wish Rolf good luck for the future and bid him a happy farewell.



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THIS YEAR WE COME TO YOU!

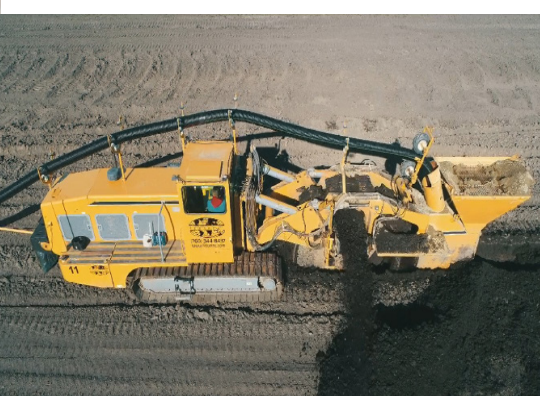
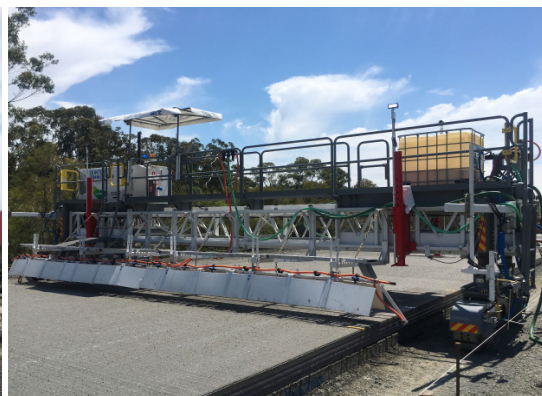
**RESERVE YOUR SLOT BETWEEN
JANUARY AND MARCH 2021**

This year nothing is traditional, and neither is Guntert Paving School. Traveling has become a big hassle during COVID-19 pandemic, so rather than making you come to us, this year we are coming to you.

Every state has unique road construction requirements which makes every contractor a unique customer for G&Z. Only in 2021, G&Z will offer custom tailored classes to be taught on your time, on your ground and on your paving equipment.

Give your paving crew an opportunity to be trained at your own facility by the experienced G&Z instructors. A two day training program is designed to prepare your crew to the 2021 paving season in a whole new way!

To register go to: www.pavingschool.com
For more information call 209.599.0066 or email mcantu@guntert.com



FLYNN CO. PROUDLY DELIVERS “NICE & CLEAN” SU



In 1932, Thomas Flynn founded Thomas Flynn Coal Company in Iowa, which supplied coal in winter, and in summer

undertook curb & gutter and underground utility projects. In the 1950's, with the market changing to heating fuel, the company exited the coal industry and refocused its efforts on municipal and private paving. In the 1970's, Flynn Co. further branched out its paving efforts going after Iowa DOT paving contracts and later expanded into Minnesota, Missouri, and Nebraska. In 1997, the brothers Jeff and Mike Flynn purchased the company from their father and have since adapted and molded the company into one of the leading concrete paving contractors in the USA.

As a professional concrete paving contractor, Flynn Co. creates value for its clients in every segment of the concrete paving industry they participate in, by focusing on quality and excellence. It is not surprising that the company has been awarded many important highway and airport construction jobs throughout the years.

In June 2019, the US DOT announced that the Federal Aviation Administration (FAA) awarded Flynn a runway rehabilitation project at Eastern Iowa Airport (CID) as a part of the Airport Improvement Program (AIP).

The \$7.7 million airport infrastructure grant was aimed to assist CID to keep up with the growing number of frequent flyers to and from Iowa. With more airlines flying into Iowa, this grant would improve the runways and make the airport more efficient.

Flynn's part in the CID project was to rehabilitate the second runway. This includes removing a little more than 3,000 ft. (914 m) of runway and replacing it with a new concrete pavement. Nearly 50,000 yd³ (41,807 m³) of FAA P-501 specification Portland Cement Concrete (PCC) was poured for the job. Flynn chose to use a three aggregate, optimized concrete mix (ave. slump 1-1/4" (32 mm)) which included a 1-1/2" (39.5 mm) coarse aggregate, 3/8" (9.5 mm) intermediate aggregate and sand. Sourcing adequate supplies of fly ash for the concrete industry is getting more challenging these days. Thus, according to Matt Schmitt, Flynn's project manager, no fly ash was used in the project.

A RexCon Model S concrete plant located on the CID airport property supplied 34 loads per hour to the paver by seven dump trucks hauling 8 yd³ (6 m³) batches. Each truck made 5-6 round trips per hour with 11 minute round trip intervals. On average, 2,500 yd³ (1,900 m³) of concrete mix was poured per day.



PER SMOOTH AIRPORT RUNWAY TO EASTERN IOWA



One of the most critical components of the project was the selection of the paving equipment. Every contractor aims to limit non-productive paving activities.

"We at Flynn always try to increase paving time which is highly influenced by the equipment in use, among other factors. We have a long history with G&Z and together we have contributed a lot of know-how to the concrete paving industry. So, we knew that for such a specific aviation project, in which low ride numbers and perfect edges cannot be compromised, G&Z's S850 Quadra paver would be the best fit." says Flynn's paving superintendent Gary Hoffmann.

Flynn paved the 150 ft. (46.4 m) wide x 14 in. (35.5 cm) thick runway with four pilot and four fill-in lanes, each 18'-9" (5.8 m) wide. The lanes were paved over dowel baskets at the location of the transverse contraction joints on 17'-6" (5.4 m) centers. The 1-1/4" (32 mm) diameter x 18" (457 mm) long dowel bars were supported with baskets at mid-slab on 1 ft. (30 cm) centers starting 6 in. (15 cm) from the edge. These specs are very common in airport runway projects. The concrete paving phase of the project lasted seven days by engaging 50 crew members to run the concrete paving equipment, a batch plant, dump trucks, finishers, mechanics, fitters, etc.

Matt Schmitt refers to the CID project as a "Nice & Clean" paving project. "Weather has been very favorable to us and in runway projects, we don't have any structural obstacles to overcome. The only challenge was the existing runway which limited us down to a four-hour set-up window (12am-4am). Due to the work zone safety regulations, we had to fit into this time frame to set everything ready for the next paving day." concluded Schmitt.

Regulations and FAA standards specific to the CID runway rehabilitation project require careful approach and expertise. Eastern Iowa Airport trusted the coordination, engineering, and design of the project to the Des Moines branch of Foth Companies. "Foth represents the airport in this project to secure the overall success. This project is built per the FAA standards. In conjunction with Flynn, we are committed to deliver a high quality, durable and smooth runway to the community of travelers." said Foth's inspector in charge Brent Nelson.



In runway projects the biggest challenge is to achieve sharp, non-slumping edges while making sure that the edges of all companion lanes and saw joints perfectly match. "Hydraulic edge overbuilds are one of the most appreciated features of this paver. As soon as we started paving the first lane, we knew that we made a right choice by betting on G&Z. Another nice feature is the "super quiet" power unit with dual fans. Sometimes we even wonder if the paver is actually running." jokingly added Mr. Hoffmann.

Flynn's new S850 Quadra Paver has a fuel efficient and low emissions CAT Tier 4f / Stage V diesel engine and quiet power unit package.



The S850 Quadra is equipped with EGON Belly Pack Console, which gives the paver operator a great flexibility and visibility. Ricardo, Flynn's young operator said: "Although I am relatively new to concrete pavers, it is very easy to run a smart machine. The Belly Pack allows me to control the machine, vibrators, concrete head, etc. from any point on the ground and on the machine." When not controlling the paver from the ground, the Belly Pack Console is safely stored in a relocatable and lockable control box, along with the Minnich Vibration Monitoring System and Stringless Paving System Computer.

Flynn has an innovative and pioneering spirit. In 2009, Flynn was the first company in the world to very successfully pave "stringless" on a tough zero blanking band smoothness specification, on Hwy 65 near Mason City, Iowa U.S.A. On that "whitotopping" demo project Flynn had zero grinding / corrective work. This big achievement was a joint effort of Flynn Co., G&Z, Leica, Flores Automation, and Ames Engineering. Today Flynn is still one of two companies in Iowa to do stringless paving.

Flynn's new G&Z S850 Quadra is equipped with Leica Stringless Paving System, which eliminates all the logistical, cost and accuracy issues associated with setting and maintaining physical string line. G&Z works closely with Flores Automation and the Leica team to provide excellent service and support to G&Z's stringless users.

The ride numbers for the CDI project have been very smooth averaging at 40 in/mi (0.61 m/km) which is a big achievement for a runway project, making all the participants of the project very proud to participate in Iowa's travelling community's life in such a fulfilling way.





The G&Z S850 Quadra is a versatile mid-size paver designed to be the paver of choice for all your paving needs from 12 ft. to 34 ft. (3.65 m - 10.36 m). With optional JC extenders and / or bolt-in tractor frame extensions, the S850 Quadra paver is capable of paving widths up to 41 ft. (12.5 m). It is agile enough for economic use on cut up urban and residential paving projects without sacrificing the weight, power, and balance required to produce a superior ride on highway and airport concrete pavements. Recent updates on the S850 Quadra paver include a power unit featuring a quiet, fuel efficient, low emissions diesel engine, improved accessibility without sacrificing operator comfort or visibility around the machine, and into the concrete liquification hopper underfoot. With a 415 HP engine and reinforced tractor frame, the S850 Quadra can pave wider than ever before. ■

"We have several pieces of paving equipment in our fleet and reliability, longevity of the G&Z equipment, as well as the timely and trusted technical support of the G&Z service team definitely impacts our equipment choice over and over again."

- Gary Hoffmann - Paving Superintendent



MP550

MATERIAL PLACER

Receiving Hopper	5 yd ³ (3.8 m ³)* Powerful Variable Speed 14 in. (355 mm) Auger 23 in. (584 mm) High Front Lip with Hydraulic Flop Gate
Conveyors	Swing Conveyor: 36 in. (914 mm) Wide x 35 ft. (10.66 m) Long 170° of Swing Capability Transfer Conveyor: 36 in. (914 mm) Wide x 2 ft. (7 m) Long Variable Speed: 0 - 600 fpm (1.8 m/min)
Propulsion System	4 Wheel Drive - High Flotation Rubber Tires, Front and Rear Steering 5 Steering Modes - Coordinated, Crab, Front, Rear, and Optional Automatic 0 - 9 mph (0 - 14.5 km/h) 12 ft. (3.66 m) Steering Radius**
Elevation Control	Standard: Hydraulic Hopper Height Adjustment Optional: 4 Jacking Columns with 27 in. (685 mm) Hydraulic Height Adjustment
Machine Weight	Approx. 55,000 lbs (25,113 kg)*** with optional Jacking Columns
Engine Power	6 Cylinder CAT C7.1 Diesel Engine US EPA Tier 4f / EU Stage V Intermittent Horsepower @ 2,200 RPM: 302 hp (224 kW), Diesel Fuel Tank 135 U.S. Gallon (511 L), DEF Tank 8.5 U.S. Gallon (32 L)

Note: All the above data is approximate and is subject to change without notice.

*Capacity of optional high production hopper. The two belts together hold approx. 3.75 yd³ (2.86 m³) for a total on board capacity of 8.75 yd³ (6.66 m³)

**To Centerline of Inside Tires

***Dry Weight

U.S. and International Patents Pending



VERSATILE



All Wheel Drive Propulsion System
Independent Front and Rear Wheel
Steering



Wireless Belly Pack Controls



Hinging Swing Conveyor. 35 ft. (10.66 m)
Long with 170° Swing Capability

HIGH PRODUCTION



High Production Hopper



High Capacity Conveyors and Auger



Hinge Up Flop Gate with Shuttle Plate

EASY MAINTENANCE / LOW OPERATING EXPENSE



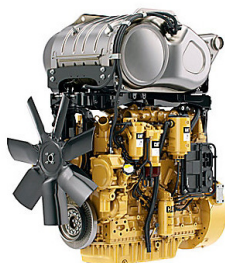
Quick Release Hopper



Swing Open Side Panels for
Cleaning Access



Easy To Change Endless Belts



Premium Tier 4f Diesel Engine



ECU-Mode



Hydraulic Lowering of Transfer Belt

GRANITE AND CALTRANS GIVE NEW LIFE TO OLD STR



Granite Construction Inc. is one of the leading heavy civil contractors in the United States, operating primarily through its subsidiary, Granite Construction Company. The Watsonville, California-based company is publicly traded, with employees owning 21%. Granite Construction Company undertakes various projects for its two divisions. The Branch Division serves local markets in California, Arizona, Nevada, and Utah, concentrating on highways, bridges, pipelines, and large and small local site projects valued at less than \$50 million. Granite's Heavy Construction Division operates on a national level. While it occasionally accepts small local projects, it generally takes on such major public and private projects as highways, dams, rapid-transit bridges, tunnels, pipelines, and canals generally valued more than \$50 million.

To maintain a competitive edge, Granite produces its own sand, gravel, and aggregate-based construction materials, which it also sells to other companies. Granite owns or leases strategically located reserves of aggregate materials, as well as, over 150 processing plants for rock, asphalt, and concrete.

In December 2019, Granite was awarded a contract by

the California Department of Transportation (Caltrans) for the reconstruction of four miles of State Route 99 (SR 99). A primary source of funding for this project is California Senate Bill 1 (SB 1), the Road Repair and Accountability Act of 2017 that is expected to invest \$54 billion over a ten-year period to improve California's roads, freeways and bridges. The long-term concrete pavement rehabilitation project is starting at State Route 201 near Kingsburg, Fresno County and ending at 2nd Street of the city of Selma.

The project includes reconstructing two lanes in both directions of SR 99 with continuously reinforced concrete pavement (CRCP), as well as, reconstructing ten off- and on-ramps. The project was awarded to Granite based on the so-called A+B (cost plus time) bidding. In such jobs, the contractor's schedule must minimize construction time and delays. In addition, the contractor must coordinate with subcontractors and its suppliers to meet time constraints. The \$32.6 million project took off in April 2019 to be completed in 6 phases ending in April 2021.

Although it seems like a straightforward highway job, the main challenge is rebuilding the busiest stretch of SR 99 spanning into two towns.



ETCH OF STATE ROUTE 99 NEAR SELMA, CALIFORNIA

Thus, the paving crew constantly needs to be mindful of the “heavy traffic” job site safety. “Restricted access challenges our timing to get concrete to the paver on time. Getting truck routes established and delivering the material to the paving equipment is highly challenging in such a busy stretch. Some shifts are forced to place concrete mix over K-rail.” says Granite’s project manager Jonathan Johnson.

The existing structural section was consisting of 9 in. (23 cm) thick concrete, without any reinforcement or dowels, 4.2 in. (10.6 cm) thick concrete-treated base (CTB) and 4.2 in. (10.6 cm) thick aggregate base (AB). Per Caltrans’s requirements, the pavement is to be replaced with 13.2 in. (33.5 cm) thick CRCP over 3 in. (7.6 cm) thick asphalt surface. A total of 50,000 yd³ (38,228 m³) P-501 specification Portland Cement Concrete (PCC) will be poured in one pass at 26 ft. (8.0 m) wide for 4.2 mi. (6.7 km).

The 6.29 “bag/sack” concrete mix with 1 in. (25 mm) top size coarse aggregate, is delivered to the paver in dump trucks hauling 9 yd³ (7 m³) loads.



"Our concrete production rate is consistent throughout the project at 1,200 cyd (917 m³) per shift, and given a three mile (4.8 km) distance between the paver and the batch plant, with the G&Z S600 paver we pave 3 fpm (91 cm/min) or almost 1200 ft. (366 m) per shift which is an optimal speed for such a heavy-traffic project. The average slump at the paver is 2 in. (5 cm) and we are happy to see very good smoothness numbers." says Greg Gillenwaters, Granite's paving engineer.

The selection of the paver was one of the main success factors. Granite has one of the largest contractor equipment fleets in the US. Knowing the value of equipment in the road construction industry, Granite once more trusted G&Z as a premium equipment manufacturer.

The paving superintendent Nathan Hayes highlights some important features of the paver: "The G&Z S600 Paver was the right choice for the heavy traffic job site like SR 99, where space is at premium. We were able to slip in some pretty tight areas thanks to the ability of the legs to swing and rotate on the fly. Quick width changes is also a definite plus. With the added TeleEnd sections on the kit coupled with the swing legs, changing paving widths turned out to be very simple."

"Another great advantage of the G&Z pavers is that most of the optional attachments such as finishing tools, side bar insertion tools, water systems are interchangeable among all the G&Z paver models. In this project we have "borrowed" a Final Finisher from the S850QB paver we have in our fleet. The interchangeability saved us money which is a big factor, and plus the finish is just perfect." added Granite's paving foreman, Eric Rawls.

Granite's project manager Jonathan Johnson confirms his teams feedback by adding: "We had our profiler subcontractor out to profile the slab for the last two stages and each time we have received the same comment on how smooth the ride turned out. Both times they have stated that never on a Caltrans white paving job were ride numbers so low. We have not had an issue with an edge standing up or holding grade even with some of the transitions we had to make. We wound up slipping a ramp that we were doubting the paver would be able to do because of access, but the S600 had no issues! Knocked it out like a champ! Every core we took was spot on what Caltrans was looking for in consolidation, and even the aggregate distribution was crystal clear in each and every core."

The project is very succesfull by all means and by looking at the ride numbers, MRI 70 in/mi, (1.07 m/km) Granite and Caltrans can consider the goal accomplished.



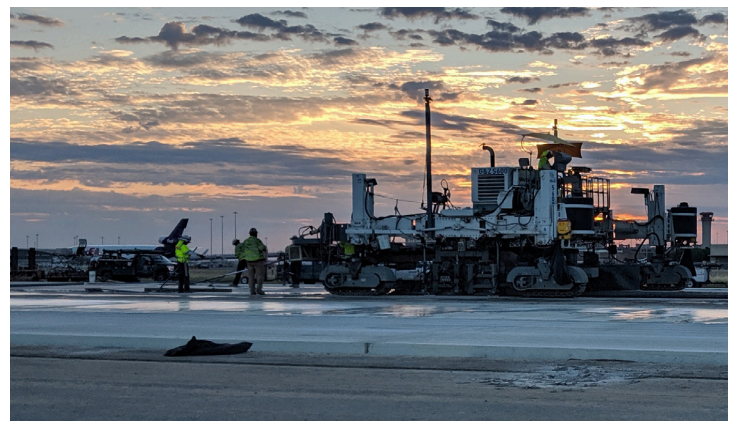
Granite Construction and G&Z's relationship goes back to the late 1960s. Besides numerous highway jobs around California, one notable concrete paving job done by Granite was a runway at Travis Airforce Base near Fairfield, California in 1971 with a two track G&Z Slipform Paver. The 15 in. (38 cm) thick concrete runway was paved at a width of 25 ft. (7.6 m).



In 2009, Granite took delivery of a G&Z S850QB Paver with CDBI for their SH 22 project located in Garden Grove, California. Later in 2010, G&Z delivered a CL1500 full span canal liner, along with a special full span transverse PVC water stop joint inserter/finishing jumbo and a FCJ1500 finishing cure jumbo for Granite's Pima-Maricopa Irrigation Project. The CL1500 was based on the S1500 paver tractor design and the FCJ1500 was based on a TC1500 texture cure machine design.



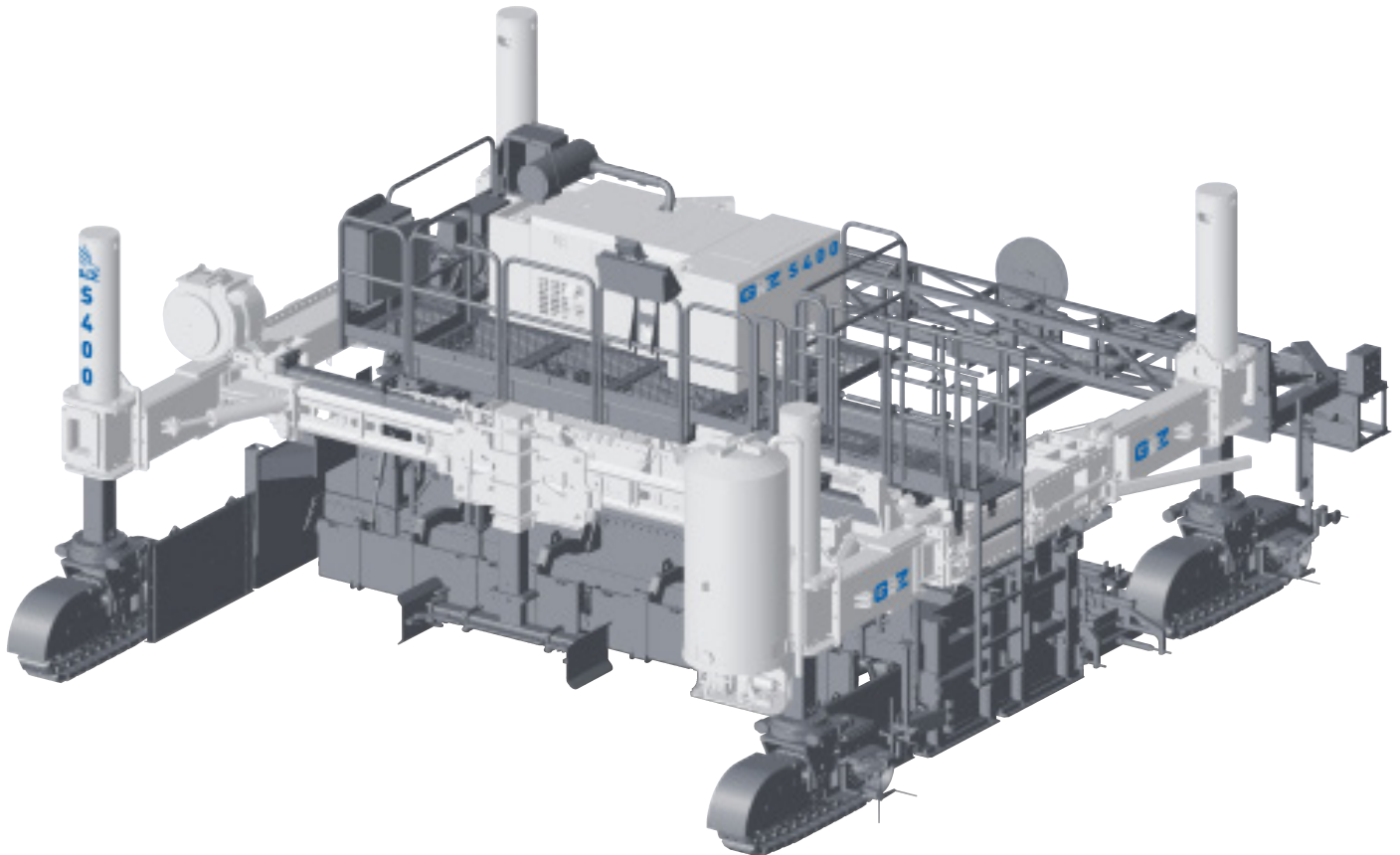
In 2019, Granite successfully used a G&Z S600 for their runway replacement project at Sacramento International Airport paving 18.9 ft. (5.8 m) wide and 18 in. (46 mm) thick. For Granite's work on the SR 99 project near Selma, California, their new S600 Paver with new Tier 4f / Stage V Power Unit and TeleEnds was selected as the best paver to fit that project. ■





S400 SLIPFORM PAVER

COMING SOON WITH A NEW POWER UNIT



UPDATED S400 POWER UNIT TO BE AVAILABLE IN EARLY 2021. The G&Z S400 is a versatile, multi-purpose paver which is a great choice for a wide range of applications including city streets, ramps, shoulders, highways (dual and single lane), airports, off-set, zero or minimum clearance, barrier walls and curb/sidewalk molds. With its standard double telescopic range of nom. 6.5 ft. to 17.5 ft. (2 m to 5.3 m), the S400 allows contractors to pave most single-lane applications without the need for bolt-in, tractor frame extensions. With optional extensions, the S400 paves out to 24.5 ft. (7.5 m), giving contractors a combination single and dual-lane slipform paver to increase machine utilization. Like G&Z's other paver models, the S400 is available with field proven, exclusive, productivity features such as SmartLeg, AccuSteer, VariWidth and TeleEnds to save you time and money. Many of the S400 components, attachments and options such as paving kits, Trailing Finishing Pans, Final Finishers, front and side tie bar inserters, water systems, and concrete spreader plow system parts are interchangeable with the S600 Paver.

The updated power unit will feature a quiet, fuel-efficient CAT C4.4 200 HP (149 kW) US EPA and CARB Tier 4f / EU Stage V, 4-cylinder diesel engine gives you low operating cost and years of productive life. Minimum 5,000-hour diesel particulate filter service interval and 500-hour oil change interval enable low cost operation supported by a world-class product support offered through the global CAT dealer network. Improvements in access, visibility, dependability and troubleshooting have all been incorporated into the new power unit design.



S600 SLIPFORM PAVER

THE MULTI-PURPOSE “HYBRID” LEADER



THE POPULAR G&Z S600 PAVER JUST GOT EVEN BETTER. The G&Z S600 multi-purpose, “hybrid” slipform paver has sufficient weight to avoid overloading and to obtain low smoothness numbers while being agile enough, with the available G&Z productivity features, to give you more actual paving hours on every job. The S600 has a unique, single stage, double telescopic tractor frame design with telescopic ability from 8 ft. to 22 ft. (2.5 m to 6.7 m). By moving the paving kit mounts to the provided location under the bolsters, paving widths up to 26 ft. (7.9 m) can be achieved. With bolt-in, tractor frame extensions widths out to 34 ft. (10 m) are possible. The S600 is ideal for a wide range of paving applications and will be your “go to” paver for half width and mainline paving. Many of the S600 components, attachments and options such as paving kits, Trailing Finishing Pans, Final Finishers, front and side tie bar inserters, and water systems are interchangeable with the S400 and S850 Pavers.

The new power unit introduced in early 2020, features a quiet, fuel-efficient CAT C7.1 302 HP (225 kW) US EPA and CARB Tier 4f / EU Stage V, 6-cylinder diesel engine gives you low operating cost and years of productive life. Minimum 5,000-hour diesel particulate filter service interval and 500-hour oil change interval enable low cost operation supported by a world-class product support offered through the global CAT dealer network. Improvements in access, visibility, dependability and troubleshooting have all been incorporated into the updated power unit design.



THE HARPER CO. PAVES CVG AIRPORT WITH G&Z S850SL “TOP OF THE LINE CONCRETE PAVER”



The Harper Co. proudly bears the name of late William L. Harper, who grew up believing in the American Dream. As a child he would spend hours watching the workers near his home building roadways. This early interest in the construction industry grew into a desire to be a contractor. In 1938, after obtaining his engineering degree from the University of Cincinnati Mr. Harper, founded The Harper Co. in Cincinnati working with his brother John, who oversaw construction of the projects. Early jobs included extending the runway at Lunken Airport, concrete placement for the Tailmobile Corporation's facility in Oakley, and a grading and paving project at the Jefferson Proving Grounds for the U.S. Corps of Engineers.

A major turning point for Harper came in the 1950's, when the firm completed its first section of interstate highway I-75 in Cincinnati, from US 123 to the Montgomery County line. In the 1960's, with the nation's Interstate Highway System in full swing, and expansion at the Cincinnati / Northern Kentucky International

Airport (CVG), Harper developed the expertise for high volume concrete paving. By the 1980's, the firm became one of the top 100 privately held companies in Greater Cincinnati.

In the mid 2000's, due to the downturn of the economy, Harper expanded its reach to the Gulf of Mexico and the Atlantic region with projects in South Carolina, Missouri, Tennessee, and Arkansas. Today, Harper is known for its general contracting capabilities, including site improvements, excavation, concrete pavement restorations, and high-volume concrete paving. Since its founding, Harper has completed over 260 mi. (418 km) of four lane interstate highway in Kentucky, Ohio and Indiana. While successfully performing grade, utility, excavating, and rehabilitation jobs, Harper's expertise remains in airfield jobs. Since 1945, Harper has built over \$500 million worth of projects at CVG alone.

As a continuation of the "tradition and trust" in June 2019, CVG awarded Harper a new airport job after a competitive bidding process. The project still involves the rehabilitation of Taxiways "S" and "N" with the new construction of an extension off of Taxiway "N" to

Taxiway "T". The entire project started in Fall of 2019 to be completed over two construction phases by the end of the 2020 paving season.

CVG, while serving the Greater Cincinnati area, throughout Ohio, Kentucky, Indiana and beyond, has grown as an airport, community partner, and business operation. The chief engineer of the company Samantha Kleem talks about the challenges of the project: "The project is phased to minimize impacts to the Airport's operations, which has been one of the nation's fastest-growing airports in recent years. Each phase of the project has limited durations and must be constructed in an expeditious manner. Construction of each phase requires close coordination between subcontractors and material suppliers to ensure the timely completion."

This CVG project involves the construction of 20 in. (51 cm) thick concrete pavement. Both the thickness of the pavement and complexity of the project set this job apart.

The longest taxiway reconstruction area was just less than 1,500 ft. (457 m) long. However, this length was split into two phases, therefore making the available area to slipform pave in each phase even shorter.

In phase 1 nearly 30,000 yd² (25,084 m²) of P-501 specification Portland Cement Concrete (PCC) was poured on 6 in. (15 cm) P-307 specification Permeable Cement

Treated Base Course (PCTBC) and on 12 in. (30 cm) granular subbase material.

To improve durability and reduce life cycle costs of the pavement, slag cement has been used in the mix design. Better workability and finishability, higher compressive and flexural strengths, and improved resistance to aggressive chemicals are among the benefits of slag cement which impacted the decision of adding it to the mix. The concrete mix was produced at Harper's on-site batch plant with approx. 180 yd³/hr (138 m³/hr) production capacity. The concrete was delivered to the paver with dump trucks hauling 8 yd³ (6 m³) batches. Dump trucks would dump directly in front of the paver, while a belt placer would unload another truck simultaneously.

The newly acquired G&Z S850SL Slipform Paver with Tier 4f / Stage V power unit, paved the 20 in. (51 cm) thick concrete along taxiway "S" in three passes, two of which were at 22 ft. (6.7 m) and 26.5 ft. (8.0 m) wide. The G&Z S850SL paving kit was equipped with TeleEndXL Terminal End Sections which allowed the paving crew to change the width between the lanes more efficiently (3-4 hours), so as not to delay the paving schedule.

At both paving widths with an efficient concrete delivery the average paving speed was approx. 2 fpm (61 cm/min) achieving 700 ft. (213 m) long pavement poured per day, equaling on average of 1,200 yd³ (917 m³) of concrete per lane poured.





The Harper Co. was required to use dowel bars and basket assemblies in the concrete pavement. The lanes were paved over the dowel baskets at the location of the transverse contraction joints on average 13'-2.5" (4 m) centers. The 1.5 in. (38 mm) diameter x 20 in. (508 mm) long dowel bars were supported on baskets at mid-slab on 18 in. (457 mm) centers. "The job had several light cans that we were required to pave over, and the job plans called for reinforcement around those lights. Additionally, thickened edges required us to pave 25 in. (64 cm) thick in some areas." added Samantha Kleem.

FAA requirements for the CVG taxiways rehabilitation project includes smoothness of the pavement to be tested with a 12 ft. (3.65 m) straightedge, across each transverse and longitudinal construction joint. Any deviations that held more than 0.25 in. (6.3 mm) of water were to be corrected by diamond grinding. No smoothness testing was required across grade changes or cross slope transitions. The S850SL Paver was equipped with a highly effective Trailing Finishing Pan with a burlap drag.



Each phase of the project requires full paving and preparation crews. The paving operation required the help of between 20-25 people, including plant crews, prep crews, and the paving crew themselves.

The Harper Co. has received many Regional and National Awards for Excellence in Concrete Pavement which would not be possible without the quality the company delivers. The success of any project depends on many factors and the selection of the right equipment is one of them. The project superintendent Tom Marx, Jr. said: "The selection of G&Z as a concrete paver manufacturer was not random. The first S850 in a Quadra configuration we received in 2008, and since then has paved several of our airfield jobs. The new S850 Swing Leg configuration with the features like TeleEnds, Swing Leg Bolsters and its 90 degree steering feature makes the paver even more productive. The swing legs help us to move the legs out during paving operations to dodge obstacles and allow for better mobility throughout the job."



The paving foreman Truman Lyons added: "The engine is much quieter than our older paver and the machine puts out a great concrete lane. The paver is smooth while paving. The Belly Pack helps us to take it to the ground for width changes and loading. We will pour thousands of yards with it as we do with the older S850 Quadra model."

Harper's management relied on its professional team, subcontractors, material suppliers and G&Z to deliver a smooth and consistent concrete slab for CVG.

The success of The Harper Co. shows that Mr. Harper made his dream of becoming a successful contractor come true. He created an institution that provides a livelihood for as many as 400 people. This institution continues strong as ever today because Mr. Harper provided long lasting means in forms of values and beliefs for continuous development and sustainability of the company.

The G&Z S850SL is a mid-size paver designed to be the paver of choice for all your paving needs from 12 ft. to 34 ft. (3.65 m - 10.36 m). With optional bolt-in tractor frame extensions, the S850SL is capable of paving widths up to 41 ft. (12.5 m). It is agile enough for economic use on cut up urban and residential paving projects without sacrificing the weight, power, and balance required to produce a superior ride on highway and airport concrete pavements. Recent updates on the S850SL paver include a power unit featuring a quiet, fuel efficient, low emissions diesel engine, improved accessibility without sacrificing operator comfort or visibility around the machine, including into the concrete liquification hopper underfoot. With a 415 HP engine and reinforced tractor frame, the S850SL can pave wider than ever before. ■

"The S850SL has performed outstandingly. This paver leaves a perfectly straight edge and crisp corners. It also requires less labor to finish the slab behind the paver. The finish is near perfect."

- Tom Marx, Jr. - Project Superintendent

PARTS & SERVICE DEPARTMENTS HAVE YOUR BACK



Guntert & Zimmerman's Parts Department is one of the company's many assets. The Parts Department is available 24/7 reducing downtime and giving our customers the peace of mind that we're always available no matter where you are in the world. The G&Z Inside Sales Team has decades of parts experience with G&Z machines. Their expertise allows our customers to receive the right parts the first time.

We pride ourselves in our customer service. That is why we stock parts at our facility to ensure availability when a customer needs them. If we don't have it, we'll find it for you quickly. With G&Z it's not necessary to talk to an under stocked distributor who doesn't know the equipment. Customers speak directly to the G&Z factory in Ripon, CA which is located just 1.5 hrs from four major airports with international service. If you don't know the part number, G&Z's staff can promptly locate the correct part for your machine and in many instances have it shipped the same day.

PARTS DEPARTMENT
+1.209.924.1236



G&Z's staff has a simple unwavering instruction...when a customer calls, drop what you are doing and take care of the customer's needs, NOW! Our dedicated staff is knowledgeable about the various construction disciplines where our equipment is used. If there is a question a staff member cannot answer for you, they will quickly put you in touch with someone who can.

G&Z service techs not only have intimate knowledge of G&Z equipment, but also concrete paving, trenching and canal construction. The service department can be reached 24/7 by phone and e-mail. We assist not only in commissioning, training and teaching the best maintenance practices of G&Z equipment, but also consult in the areas of concrete mix design analysis and construction techniques and applications. Our goal is to see your equipment perform above and beyond any specifications or expectations.

SERVICE DEPARTMENT
+1.209.599.5604





AVAILABLE UPGRADES

- S600 SYSTEM UPGRADE WITH BELLY PACK
- S850 EGON CONTROL SYSTEM UPGRADE
- S850 COOLING / QUIET ENGINE PACKAGE
- S850 SPREADER PLOW UPGRADE
- S850 COLD START BYPASS KIT
- S850 SLEW DRIVE UPGRADE
- S400/S600S/S850 EGON TELEMATICS UPGRADE SERVICE
- S400/S600/S850/S1500 EGON CORNER OPERATIONS PENDANT (COP) BOX UPGRADE
- S400/S600/S850/S1500 HYDRAULIC CLAMPING PUCKS UPGRADE
- S600/S850/S1500/PS1200 PRESSURE FILTER UPGRADE FOR OPEN LOOP CIRCUITS
- S400/S600/S850/MP550 SPARE BELLY PACK CONSOLE
- S400/S600/S850/S1500 LEICA/TRIMBLE PRISM MOUNT POSTS WITH ELECTRIC WINCH, SET OF 2
- TC1500 EGON CONTROL SYSTEM UPGRADE
- DBI EGON CONTROL SYSTEM UPGRADE
- DBI TELESCOPIC TRAILING HEADER UPGRADE
- DBI OCB LONGER PANS UPGRADE (INCL. PANS AND LEADING EDGE)

CALL G&Z PARTS DEPARTMENT AT 209.599.0066 FOR MORE INFORMATION



TECHNOLOGY AVAILABLE ONLY THROUGH G&Z

G&Z is dedicated to designing machines that **Maximize Available Paving Time and Minimize Everything Else.** G&Z's Exclusive industry proven and requested options include: AccuSteer, SmartLeg, TeleEnd, VariWidth and more. These optional systems work together to reduce paving kit and tractor width change time, ease maneuvering onsite, and dramatically reduce the time required to transform the machine into the transport configuration.

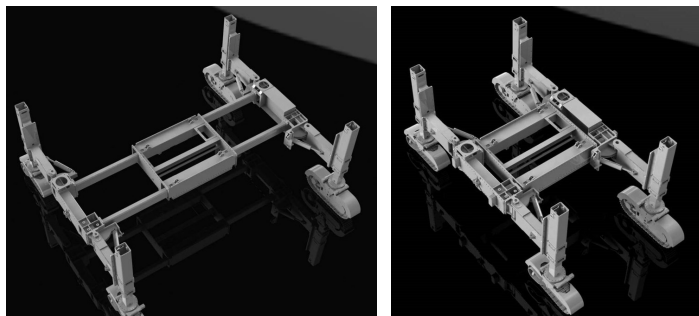
G&Z is committed to making its customers more productive. G&Z offers a wide range of technologies to help contractors work as many paving days as possible during the season. Listening to contractors' needs and engineering patented solutions makes G&Z equipment: **Contractor Inspired, Guntert Engineered.**

MAXIMIZE AVAILABLE PAVING TIME WITH FASTER WIDTH CHANGES

Changing widths quickly without affecting pavement smoothness is a significant challenge. With the combination of the TeleEnd and VariWidth systems, changing both the paving kit and tractor widths has never been quicker or easier. With TeleEnd, no need to drop the kit to change width. TeleEnd uses hydraulic cylinders to open and close the end section to add or remove spacer sections of the kit.

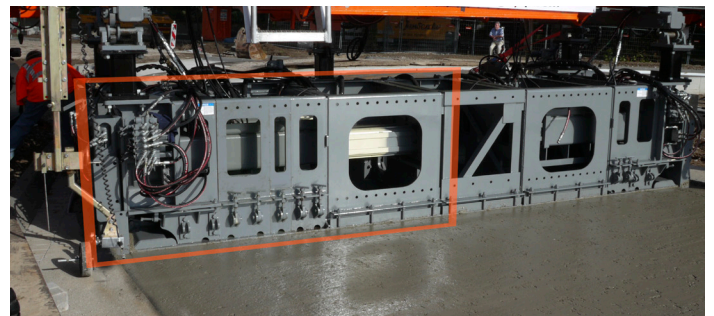
VariWidth is designed to eliminate the need to support the tractor or unbolt extension tube clamping pucks. VariWidth uses adjustable cam rollers and hydraulic clamping pucks to accomplish quick and easy tractor width changes with the flip of a switch!

VARIWIDTH (PATENTED) TRACTOR WIDTH CHANGES



The VariWidth system features adjustable cam rollers and hydraulic clamping pucks to easily extend and retract tractor extension tubes. This can be accommodated without supports or a "two-stage" telescopic tube, which can cause the frame to sag and Jacking Columns to tilt in, which adversely impacts steering and smoothness. VariWidth can reduce tractor width change times from hours to minutes.

TELEEND (PATENTED) TELESCOPIC END SECTION



The TeleEnd: Telescopic Paving Kit End Section offers 3 ft. (1.0 m) of quick change kit per side. A 6 ft. (2.0 m) width change can be accomplished by one or two people in as little as an hour. TeleEndXL's are available allowing up to 4 ft. (1.25 m) of telescopic ability per side. TeleEndXXL's are also offered for up to 7 ft. (2.13 m) of telescopic ability per side.

MAXIMIZE AVAILABLE PAVING TIME WITH SUPERIOR MANEUVERABILITY

AccuSteer and SmartLeg systems take paver productivity to the next level. The two systems work in tandem to adjust the swing leg angle on-the-fly while the crawler track

automatically steers straight ahead. These two systems rapidly and semi-automatically reconfigure the machine into the transport configuration.

ACCUSTEER (PATENTED) SLEW DRIVE TRACK CONTROL



The AccuSteer system offers unparalleled maneuverability and steering accuracy while allowing steering in 90 degree and counter-rotation mode in every swing leg position.

SMARTLEG (PATENTED) SWING LEG SYSTEM



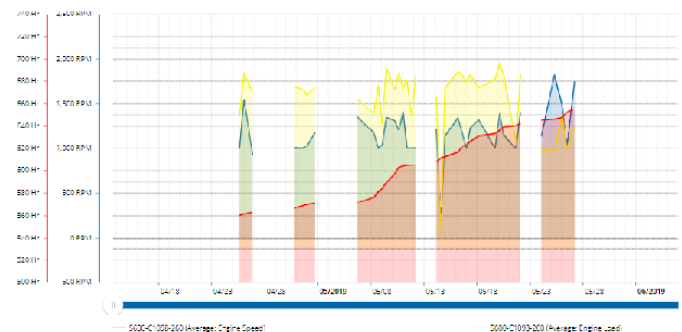
Working in conjunction with AccuSteer, the SmartLeg system allows contractors to adjust the swing leg angle on-the-fly to maneuver around an obstacle without stopping production.

What's the use of great features and options without easy to operate controls? G&Z's Equipment Guidance and Operation Network (EGON) makes operating a piece of G&Z equipment easy and intuitive. Also, EGON boasts great add-ons like Telematics, NoLine: stringless integration, and

remote operability. As new technologies become available, integration and operation should not be difficult or time consuming. EGON's simple and intuitive "plug and play" integration makes the latest advancements available to all customers.



EGON is a Next Generation Operator Control System that incorporates user friendly features, a modular state of the art network of controllers, extensive onboard and remote monitoring options, and diagnostic capability to allow superior ease of use and troubleshooting. It has never been easier to operate, reconfigure, diagnose, and manage a piece of concrete paving equipment.



EGON Telematics is a powerful remote diagnostics/monitoring system. The G&Z software engineering team has designed a web based remote user interface to allow maximum connectivity for the contractor anywhere in the world, as well as solving challenges together with the G&Z service team.

CANAL EQUIPMENT



G&Z pioneered the use of mechanized and automated canal construction machinery starting in 1947. Through the years, G&Z's canal equipment has proven itself to be highly durable and reliable. Some G&Z canal equipment built and sold in 1975 is still being used today. These tools have maintained their value and have kept their owners in a competitive bidding position throughout the long life of the equipment. The machine design is intended to allow the machine to be reconfigured for a wide variety of canal sections. In regions of the world that rely heavily on irrigation, such as the western United States, Spain and South Africa, G&Z equipment has been used to construct more than 80% of the existing concrete lined canals.

EAGLE TRENCHERS

G&Z is committed to manufacturing high quality wheel trenchers to increase your productivity, lower your operating costs, and insure ease of operation. Eagle Trenchers are an excellent choice for a wide variety of high production trenching applications, such as foundations, utilities, irrigation, and fiber optic installations. Eagle Trenchers are built rugged enough for your toughest jobs.



CONVERTIBLE HIGHWAY AND AIRPORT EQUIPMENT



As an alternative to a custom built solution, G&Z's Highway and Airport Concrete Paving Equipment models can be converted into canal and reservoir liners with minimal modification, such as the S1500 paver shown. The G&Z TC1500 can also be converted to a cure jumbo for canals and reservoirs.



G&Z CONCRETE SLIPFORM PAVING EQUIPMENT

Guntert & Zimmerman's (G&Z's) Slipform Paving Equipment are the most trusted machines in the business. In 1956, G&Z pioneered and introduced the first concrete highway and airport slipform paver mounted on crawler tracks with automatic line and grade control. Today, G&Z offers a full range of concrete slipform paver models along with other support equipment, such as mechanical Dowel Bar Inserters, Placer Spreaders, Material Placers, and Texture Cure Machines to suit your present and future needs.

G&Z equipment designs are based on over 75 years of experience. G&Z equipment is built to last under the rigors of job site use, transport, and configuration changes. Unique productivity features are incorporated in the machine design to reduce the time required to transport, maneuver, and change paving widths without sacrificing the performance advantages

CONCRETE SLIPFORM PAVERS



S400

6.5 ft. - 24.5 ft. (2.0 m - 7.5 m)



S600

8 ft. - 34 ft. (2.5 m - 10.36 m)



S850 (QB OR SL)

12 ft. - 41 ft. (3.65 m - 12.5 m)



S1500

18 ft. - 52.5 ft. (5.5 m - 16 m)

CONCRETE SLIPFORM PAVING SUPPORT EQUIPMENT



DBI

Dowel Bar Inserter



MP550

Material Placer



PS1200 PLACER SPREADER

18 ft. - 41 ft. (5.5 m - 12.5 m)



TC1500 TEXTURE CURE MACHINE

12 ft. - 56 ft. (3.5 m - 17 m)



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