

BREAKOUT

THIRD ISSUE 2008



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ON the INSIDE

FIELD-TESTED, CUSTOMER-APPROVED

Every few years, equipment manufacturers roll out new models. Some changes are mandated by new environmental rules. Other improvements come about from ongoing R&D. Sometimes it seems the changes are so arbitrary you find yourself wondering, "What were they thinking? They should have asked my advice!"

Well, that's exactly what Hitachi did prior to creating the new Dash-3s. The chief designer of the Dash-3s traveled to 30 countries (primarily in North America, Europe, and Asia) over a two-year period, collecting detailed information about the kind of work and field conditions for which excavators are used. Many meetings were held, and one basic message emerged: Improve basic performance. More specifically: Increase the horsepower, make the unit more durable, make multifunction operations even smoother, raise the payload with quicker front motion, and improve fuel efficiency even more.

The result is the Hitachi Dash-3 Series. It uses finely tuned technology for increased workloads using the efficient control of engine rpm, torque, and hydraulic pressure, while at the same time lowering fuel consumption. Much of this technology has been a Hitachi staple for years, but has been optimized as never before in the Dash-3. As a result, the Dash-3 has increased productivity, longer life, and greater fuel efficiency, and incorporates an electronic control system which operates invisibly, without the operator even noticing.

If you are looking to add a new excavator, or replace a poor performer, you owe it to yourself to check out the new Dash-3s. You'll see we took your advice.



Luke Gakstatter,
Director, Hitachi Construction Products



Swing into action

Short in size, long on features

85USB-3

The Hitachi Zaxis 85USB-3 Swing-Boom Excavator is a new ultrashort compact that is long on features. It's the perfect size for all kinds of jobs including landscaping, light residential, urban renewal, and underground utilities.

A dream to maneuver, the ZX85USB-3 delivers all the power, smoothness, precision, and ease of operation owners and operators expect from Hitachi. Its compact shape also lets the operator focus on the "business end" of production and worry less about what's behind, while reducing the potential for damage to the surrounding area or to the machine itself. Getting closer to the action also eliminates the need for a lot of handwork.

Choose steel shoes or outfit it with rubber pads or rubber crawler belts to be the landscaper's best friend. The new shape of the backfill blade provides better crowding performance, additional machine stability, and enhanced operator visibility. The swing boom adds yet another dimension of performance by enabling parallel digging to walls,

guardrails, and foundations, making it ideal for excavation and utility work.

SCALPEL-LIKE PRECISION WITH LESS EFFORT

At the heart of this new excavator is the superbly matched turbocharged Isuzu 4LE2X Tier-3-certified engine and Hitachi's own patented HIOS III hydraulic system. Gutsy, rugged, and remarkably fuel-efficient, the engine outperforms the competition and works very well at high altitudes without sacrificing performance.

With more horsepower, swing torque, lift capacity, and drawbar pull, you can expect big productivity from the ZX85USB-3. Regenerative flow on the boom, stick, and bucket cylinders result in faster down movements, extremely fine control, and easier multitasking.



SPACIOUS, COMFORTABLE CAB

The special shape of the cab accommodates the path of the swing boom without sacrificing comfort or convenience. The cab also features a deluxe suspension cloth seat, advanced multilingual LCD monitor, slide-open front glass, generous legroom, short-throw/low-effort controls, and tinted transparent roof window.

For more information about the new ZX85USB-3, visit our dealership or go online to www.hitachiconstruction.com.



Twin EX1200s

buck tradition on big Texas pipe job



Two EX1200 Excavators, equipped with Leading Edge rock buckets, make the final trench to grade through blue limestone and dirt on the South Fork San Gabriel Interceptor project near Georgetown, Texas.

The South Fork San Gabriel Interceptor project is the kind of job that becomes a benchmark — a metaphor for expertise and perseverance. “It’ll run about four-and-a-half-miles long, go 40-feet deep, traverse the San Gabriel River seven times, and cost \$16 million,” says Ronnie Lewis, president of Lewis Contractors. “Plus, we have to cut through 20 feet of rock in some places.”

The job consists of furnishing and installing 17,591 lineal feet of 36-inch and 4,885 lineal feet of 30-inch HOBAS gravity sewer line, the sewer manholes, bores, trench safety, and all final landscaping. “We’re also responsible for restoring 100 feet of right of way. The entire project is adjacent to the San Gabriel riverbed. The rock is mostly blue limestone and is moderately hard. It’s not the hardest rock around here, but it’s getting up there.”

OUT WITH THE OLD...

Traditionally, contractors in Texas use a huge chain trencher to cut rock, usually jobbed through a subcontractor. The limestone rock at South Fork is just soft enough for chain trenching, but hard enough to require hoe-ram work or blasting if excavators are used.

Lewis decided to buck tradition and go with two Hitachi EX1200 Excavators equipped with special rock buckets made by Leading Edge Attachments, Inc. The buckets feature staggered teeth so that each tooth exerts substantial force on the rock in a one-two-three manner. Obviously, the EX1200’s 247,000

pounds of operating weight and 132,500 foot-pounds of breakout force have what it takes to cut through rock, but the application is certainly not routine excavator work.

THINKING OUT OF THE BOX

“I thought about trenching,” notes Lewis. “Then, I started thinking about how much this job was like another we had done in Austin in the 1980s. Scrapers were used to remove the dirt overburden and then we benched down for a trencher to make the final rock cut. Using the scrapers saved a lot of money, and the job was a success. Since then, we’ve built a niche in Central Texas with large excavators.

“About three years ago, I saw an ad for the Leading Edge bucket. I did some research on the Internet and bought one for one of our largest excavators. Using that bucket in rock just made all the difference in the world. At the time, that bucket was the largest Leading Edge had ever manufactured. It has been one of our ‘secret weapons’ for a number of years.

“So, as I looked at this job, I felt good about using scrapers. I felt good about using the Leading Edge bucket for the rock instead of a trencher, but didn’t think our excavators would give us the production we needed.

“I called the Leading Edge people and asked them if they thought they could make a beefier bucket that would hold up to the digging force of the Hitachi 1200. They thought they could.

“We chose the 1200-size because the weight gave it an extra ‘oomph.’ The Hitachi is clearly the leader in that weight class. The Hitachi dealer for my area of Texas knows that size well and does a good job of supporting it. I thought the 1200s would do a good job. They would also be easier to sell later if I didn’t get more large projects.”

A WINNING BID

Lewis put together what turned out to be the winning bid, using scrapers to remove the overburden and two EX1200s to dig the rock. He estimated a reduced cost by using the Hitachi excavators compared to subcontracted trenching. He also promoted an added bonus based on the fact that excavators would keep the river clear because they wouldn’t churn up mud — especially in the non-rock portions of the trench.

“On price, we felt that we could do better with excavators, and we’ve been proven right. Another advantage was how they helped us deal with groundwater. Putting a trencher in that situation, considering the amount of groundwater, would have stirred up a tremendous amount of mud. We would have had to dispose of the mud without disturbing the environmental quality of the river. The fact that we wouldn’t always be working in rock meant a trencher wouldn’t perform as well or as cleanly as an excavator.”

A THREE-PASS PROCESS

“After we cleared the right of way and made our temporary river crossings, we used two push-pull scrapers assisted by a dozer to make the initial cut. We worked with the scrapers until all the overburden was removed. This created a big channel, which is where we put the two Hitachi 1200s. We usually had one excavator in front of the other. The first had a 60-inch bucket, which was faster at pioneering the trench and provided relief for the second pass. Then, the second 1200 with a 72-inch bucket finished the trench.

“Occasionally, we ran into a hard area, and then we’d use one of our other excavators outfitted with an Atlas Copco HB 7000 Hydraulic Breaker.”

Just like the Hitachi 1200s, Lewis went big with the breaker. When introduced in 2005, the HB7000 was the world’s largest breaker.



Ronnie Lewis, President, Lewis Contractors, Inc.



Larry Lesikar, Sales Representative, ROMCO Equipment

“The project crosses the river seven times. By having the wastewater line on both sides, it will provide for future development on both sides. We used a subcontractor, Bryant and Frey of Waco, for a total of 17 bores.”

An excavator lowers the HOBAS pipe into the trench. Another excavator equipped with a remote-controlled gravel bucket built in the Lewis Contracting shop then places bedding gravel.

“We’re over halfway done at this time, and we’re two months ahead of schedule. If we can maintain this pace, we should easily finish ahead of schedule, with everything landscaped and money in the bank,” smiles Lewis.

Lewis Contractors, Inc. is serviced by ROMCO Equipment, with branch locations throughout Texas.

See more of the story and the Hitachis in action at www.hitachiconstruction.com/ExcavatorTestimonials

*“The Hitachi is clearly the leader in that weight class.”
— Ronnie Lewis, President,
Lewis Contractors, Inc.*



SHARC (SHanks On An Arc) multi-ripper bucket

The Leading Edge Hi Cap SHARC (SHanks On An Arc) multi-ripper bucket for excavators is made to help contractors dig through rock effectively.

Designed by Lee Horton, P.E., owner of Leading Edge Attachments, the bucket is a direct result of Horton’s engineering career with International Harvester and work with Komatsu, Dresser, Wain-Roy, and Woods Equipment before starting his own company in 2001. Horton came up with the idea when he became frustrated with the inability of contractors with whom he was working in Arizona to effectively dig through rock.

The patented design is based on putting the ripping teeth on an arc so that only one tooth at a time — and the full power and weight of the machine — hits the smallest possible surface area. To keep the teeth from wearing too fast, they moved to a twin tiger-style tooth and rotated one tooth up, the other one down, and raked it back to look like a two-finger ripper.

Says Horton, “The staggered ripper teeth fracture the substrate in sequential order. No ripper teeth align with each other, resulting in the maximum breakout force being applied to each tooth. The distance from the excavator stick pivot to the tooth tips is also shorter than the standard bucket for the machine. The shorter distance actually multiplies the tooth-tip force.”

Leading Edge Attachments products are sold through equipment dealers as well as direct from the company. For more information go to www.leadingedgeattachments.com.

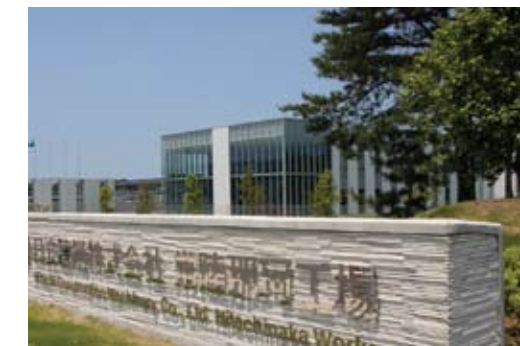
Hitachi BUILDS two new factories



Worldwide, Hitachi excavators and rigid-frame haul trucks are continuing to increase in popularity. And projected forecasts show no signs of slowdown. So Hitachi Construction Machinery in Japan made the decision to build two new factories to spread out portions of its component and assembly capabilities in order to increase capacity and be more efficient.

Breakout has just returned from a visit to both new factories, and we're here to tell you they are a mind-boggling combination of gleaming floors, high-tech machines, and an unwavering commitment to quality control.

One of the new facilities is called Hitachinaka Works, the other Hitachinaka Rinko Factory. Both have just opened their doors and are ramping up production. Unlike other Hitachi facilities which are located inland, these are located in the Hitachinaka port area. This significantly reduces transport distances and disassembly/trailing costs for overseas shipments.



Hitachinaka Works component factory employs 290 people and covers over two million square feet.

HITACHINAKA WORKS

Representing an over \$130-million investment (14 billion yen), employing 290 people, and sprawling over 2,346,609 square feet (218,000 m²), Hitachinaka Works becomes Hitachi's fourth component factory. Tsuchiura Works (the "mother factory" for Hitachi, which handles assembly as well as component manufacturing), Kasumigaura Works, and TCM Ryugasaki Works are the other three.

Hitachinaka Works builds such components as travel and swing devices, pump units, and idlers for the mining-sized Hitachi excavators, and travel devices for mining-sized rigid-frame dump trucks. A second building, due to be com-

pleted in December 2008, will make shoes for the large mining excavators and swing bearings for the small- and medium-sized excavators. It will cover 161,464 square feet (15,000 m²) and employ 90 people.



Hideo Kitawaki, Senior Officer, Deputy General Manager, Production Division, General Manager, Rinko Production Department, with Takayuki Sasaki, Manager, Production Secretary, Rinko Production Department.

HITACHINAKA RINKO FACTORY

Rinko assembles and tests the large excavators and rigid-frame haul trucks. How large? For the excavators, the ZX450-3 on up through the mammoth EX8000-6. For the trucks, the EH3500ACII and larger. Additionally, the Hitachi truck-manufacturing plant in Guelph, Ontario (the original home of Hitachi-Euclid trucks) will produce the EH750-3 through the EH5000ACII.

The Rinko complex covers 1,953,380 square feet (181,469 m²) and is right next to the water. It represents a nearly \$242-million investment (26 billion yen) and employs about 400. Rinko has areas for welding/machining, painting, testing, and two different assembly areas. Annual production capacity is 110 dump trucks, 180 mining-sized excavators, and 2,800 large excavators.

THE BENEFIT TO YOU

The expansion of Hitachi's component and assembly capabilities means they can increase overall production capacity to satisfy the needs of their customers. Whether you need a Zaxis 17U-2 Compact Excavator or the huge EX8000-6 Mining Shovel, Hitachi remains committed to building the best construction equipment in the world and continuing to improve them.



Saving green with

ORANGE



Randy Pauly, Owner, Rapid Services



The next generation of Paulys to run Rapid Services: Top: Thomas, Ted, Simon, Caroline; Bottom: Fulton, Charles.

When Randy Pauly got his Hitachi ZX35U-2, he knew he was buying a much-needed piece of equipment for his fleet. What he hadn't realized was how popular it would be with his crews. "It goes out all the time. It's been a good investment."

CHECKING THINGS OUT

Initially Pauly, the owner of Rapid Services in Wichita, Kansas, thought about getting another loader backhoe. But when he and his 16-year-old son Ted, who has joined the business, talked it over, they decided to investigate compact excavators first. They demo'ed several different brands in the 50-metric-ton range, but settled on the Hitachi ZX35U-2 for several reasons. It was tight — no looseness in the controls. It was narrower and more compact — allowing them to get into places they couldn't otherwise access and still dig 10-feet deep. The price was right. And they had a great working relationship with the area Hitachi dealer — Murphy Tractor.

"We did think about getting the cab version," admits Pauly, "But about 40 percent of the time our operators are standing up and leaning out over the front anyway, so we decided not to. The visibility, by the way, is excellent."

Some other advantages they've seen their compact has over a loader backhoe include:

less expensive to buy, uses less fuel, and can be easily hauled behind a non-CDL pickup on a gooseneck trailer. About the only time crews don't use the machine is if they need to load or move a lot of sand.

NO SLOWDOWN

Rapid Services is a relatively new company. Before starting it in 2003, Pauly had been manager of a local trucking company and farmed near the Wichita area. He wasn't making any money farming and decided he could do better focusing on dirt work for construction rather than dirt work for agriculture. Now he's a sewer and plumbing contractor, primarily working with Wichita-area home builders. Although some parts of the country have seen a housing slowdown, that's not been a problem in Wichita, for which Pauly is grateful.

"We put in all the service lines — the sewer, the water, the electric. And we'll do septic systems for rural areas. Usually we do 4-inch pipe, sometimes 8- or 12-inch. And we'll set drain boxes and do 8- or 12-inch storm drains. I don't know why we put off buying the compact excavator for so long because it's the handiest thing we've got. It has exceeded our expectations."

Rapid Services, Wichita, Kansas, is serviced by Murphy Tractor and Equipment, Wichita, Kansas.



"The ZX35U-2 has exceeded our expectations."

— Randy Pauly, Owner, Rapid Services



MAKING WORK A BLAST

with boom-mounted drilling attachment

A few years ago, Dale MacLean of Jock's Blasting & Son broke away from the pack. He was tired of the traditional pre-blasting drilling methods that used a variety of stationary- and track-mounted air-powered drills and struck out on his own. "We've been drilling and blasting in the Vernon area of British Columbia for nearly 30 years," says MacLean. "Our company has carved out a substantial part of the rock required to build in the Canadian Coastal Mountain areas north of Kelowna and south of Kamloops, British Columbia. We've done well, but it was time for a change."

MacLean did his homework and discovered two companies that would change his company forever. One was Hitachi, with Wajax Industries as the area dealer. The other was Traxxon Rock Drills Ltd., a Vancouver-area company that had just begun manufacturing a purpose-built drilling attachment that quick mounts on hydraulic excavators. It wasn't long before he decided to play matchmaker.

EXCAVATOR AND DRILL COMBO

"Actually, we started our transition to Hitachi in 2005 when we bought a ZX270LC-1," recalls MacLean. "We used



"Our Hitachi units have been excellent machines," says Dale MacLean, president of Jock's Blasting and Son Ltd.

it to dig out areas. The 270 is an excellent machine and continues to be an important part of our operation. We came to appreci-

ate its Isuzu engine as long lasting and really fuel-efficient. No doubt about it, Hitachi builds a first-class machine.

"We also were convinced that the Traxxon drill would do a good job for us, and it obvious that pairing Hitachi with Traxxon would be a great match. The Traxxon drill is powered from the excavator's hydraulic flow, same as a hammer or other attachment. There's also an air compressor that blows off the cutting dust. The Hitachi has sufficient horsepower and pump volumes to run it without a problem. So the drill, air compressor, and excavator form a very efficient, self-contained unit."

DRILLING TO SPEC

British Columbia's Coastal Mountains are a prime vacation area. Strict environmental regulations control the footprint of construction on new developments.

"We bought the Hitachi ZX240LC-3 equipped with the Traxxon TR-EX2000 hydraulic rock drill so that we could effectively cut roadways and trench lines without leaving the designated right of way. We can't disturb the natural habitat or the lay of the land except in designated areas. Following the developers' plans, which already incorporate the various government regulations, means each lot retains its greatest possible value and we avoid any penalties or delays."

OUTSTANDING RESULTS

The company is currently working on a mountaintop development overlooking the town of Vernon. "We're building the road first, then we'll help trench the utilities. As the lots are sold, we'll blast and build the driveways." Now that Jock's Blasting is using the Zaxis 240LC-3/Traxxon combination, the results have been outstanding.

"We thought the 240 would work well with the drill," says MacLean. "It actually has greater hydraulic pump pressure than our 270, plus a little more horsepower and less weight — all of which is good because we're primarily using the ZX240LC-3 as a work platform. But unlike the single-purpose platform packages that we've used in the past, the 240 has enough reach to let us drill beyond the right of way as well as do all of our drill bolts to secure rock faces.



High-performance rock-drill attachments

Thinking about buying a rock-drill attachment for use in blasting, pre-shear, or rock work? Excavator-mounted attachments offer many benefits over dedicated rigs. Because the attachment mounts on the excavator arm, the reach is considerable. There are incredible geometric possibilities which make drilling possible at nearly every angle. They have excellent mobility. And they have a much lower capital cost compared to dedicated crawler rigs.

Since the rock drill runs on the hydraulic system of the excavator and exerts little wear and tear on the excavator itself, the drill attachment can extend the life of a semiretired excavator. It also increases the opportunities for a new one by giving a contractor a very effective and extremely versatile piece of modern drilling equipment. As the attachment uses the bucket linkage, changing between the rock drill and a bucket should not be too complicated or time-consuming.

Decisions to make

There are a number of rock-drill attachments suitable for blasting and rockwork available on the market. These are not to be confused with attachments suitable for foundation work, which make larger-hole diameters and go much deeper. Hitachi does not have a list of "approved" third-party attachment vendors, but certainly Tramac, TEI, John Henry, and Traxxon are some companies to investigate.

Of utmost importance is the need to match the hydraulic capacity of the excavator to the size of the rock drill. You also need to determine if there is enough capacity left over to drive the air compressor, which flushes out the hole. If there is not enough, you'll need to get an auxiliary engine-driven air compressor and mount it to the excavator. So you may want to look for an excavator large enough to provide hydraulic power for everything — the drill functions, positioning, and the air compressor.

Although your Hitachi excavator comes plumbed for most attachments, you will need to add extra lines for air and electrical, and possibly grease. If you need the engine-driven compressor, the counterweight will need to be removed and/or adjusted as well. As a result, your sleek orange beauty will have all kinds of things clustered on it, changing its operating width, length, and height.

Where to start

If you are a newcomer to rock-drill attachments, we recommend you check with your Hitachi dealer and tell them what you have in mind. If they have any questions, they can contact the Hitachi Custom Engineering staff, who in turn can answer questions, give advice, and in general help facilitate a smooth working relationship between the manufacturer, the dealer, and the customer.



Features of the Traxxon used by Jock's Blasting & Son Ltd.

- A** Cylinder feed for smooth operation and increased steel life
- B** Large heavy-duty stabilizer foot to alleviate pressure on the drill-feed beam and a five-foot feed extension for fast hole setup.
- C** Fully proportioned hydraulic valves mounted in a protective box on the attachment
- D** Single-point lifting eye for easy transport
- E** 360-degree feed swing actuated by Traxxon's patented self-locking positioner and 180-degree dump actuated by the excavator's bucket cylinder
- F** Heavy-duty RE2000 high-tensile aluminum feed beam with adjustable and replaceable nylon guides riding on stainless-steel linings
- G** Easy-to-operate, cab-mounted compact control box

“On top of that, we really have two machines in one. If necessary, we can drop the drilling attachment and put on a bucket. And if the blasting market dramatically slows, we can bid for excavating jobs and keep right on moving. Either way, we have a machine that has already paid for itself from drilling, but has many, many productive hours left. It also has high resale value. You can't say that about specified rigs, because if things get slow and you want to sell them — so does everyone else.

“Our Hitachi units have been excellent machines. The ZX240LC-3, since it is essentially a tool carrier, averages around four gallons of fuel per hour at full rpm. That's because it spends a lot of time idling. When it's not running at full rpm, which is fairly often, the fuel usage is even less.

“Our research had showed the fuel economy of the Isuzu was far better than others, which we like a lot. We just don't worry too much about diesel fuel increases. They are there, of course, but they're manageable. Bottom line, the ZX240LC-3 does more with less overall weight and fuel. We like Hitachi.”

Jock's Blasting and Son Ltd. is serviced by Wajax Industries, Kamloops, British Columbia.



Pajamas optional.

Operators spend more time in their cabs than they do in bed. That's why the new Dash-3 cab is the most comfortable, operator-friendly work environment on an excavator today. Shock isolation. More interior space. Added legroom. A multilingual, wide-screen, color LCD monitor. An adjustable suspension seat with wider seatback. Plus 47-percent more glass on the right-hand side for improved visibility.

See how much gets done when operators are really comfortable. Not to mention content. Let them work in a new Zaxis 160LC-3, 200LC-3, or 225US LC-3 Excavator.

www.hitachiconstruction.com



HITACHI

ALWAYS | PRODUCTIVE

ZAXIS DASH 3

75US-3
85USB-3
135US-3
225US LC-3
190W-3
220W-3
200LC-3
240LC-3
270LC-3
350LC-3
450LC-3
650LC-3
850LC-3



A large orange and grey Hitachi Zaxis DASH 3 excavator is shown from a low-angle perspective, highlighting its massive hydraulic arm and bucket. The machine is mounted on a tracked chassis. The background is a soft, greyish sky. The Hitachi logo and model number 'ZAXIS 135 US' are visible on the side of the excavator's body.

HITACHI

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