Altec finds the right equipment mix

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Jeff Mooney, general manager, Altec Body Manufacturing, in Burnsville, N.C., is pleased with the way his manufacturing facility is running today. Associates push for manufacturing efficiencies, so the fabricating of truck bodies and related parts, such as racks and storage boxes, is as simple as possible and that successful practices are sustained. The facility has a strong culture that has enabled it to stay on top of increasing business.

In fact, Mooney said he recalled a recent conversation with an employee working an assembly line who said he couldn’t believe they were getting five bodies off their line per shift, compared to only one or fewer when the plant first opened up in early 2006.

That’s a goal every metal fabricating company wants to achieve, but Altec’s Burnsville facility didn’t get there overnight. It’s been a continuous journey over the past several years, but a very worthwhile one.

Building a Big Business

Altec began in 1929 as Alabama Truck Equipment Co. It focused mainly on constructing truck bodies in the early days, but business changed over the years as the company added other products, such as distribution of aerial lifts in the 1950s and building its own aerial and digger derricks in the 1970s.

Today the company, which is based in Birmingham, Ala., produces truck bodies and special equipment, like telescopic cranes, cable handlers, and chippers (see Figure 1), for customers in the electric utility, telecommunications, tree care, and contractor markets. Altec delivers these products and associated services to customers in more than 100 countries.

By the 1990s, the company had grown so much that its truck body fabrication had become a huge bottleneck. Due to the strong market demand and strategic acquisitions, Altec was forced to outsource about half of the truck bodies needed annually. The company’s lone body plant in Birmingham was unable to keep up.

By 2004, Altec management decided a new facility was needed. By February 2006, a 185,000-square-foot building was opened in Burnsville.

“While we were planning the new facility, we looked at ways to be more efficient ... especially in fabrication,” Mooney said. “We wanted to turn our raw material into assembled parts as quickly as possible with as little work-in-process inventory as we could. We were exploring lean manufacturing and became interested in an integrated machine that could do the material handling, punch, shear, and bend.”

That led to the purchase of a Shear Genius® integrated punch/shear and an EB Express Bender from Finn-Power, now known as Prima Power, shortly after the new facility opened. The punch/shear could quickly create the blanks with the shear and the detailed holes and shapes with the punch before the parts...
were shuttled off to the bender, if necessary.
Both pieces of equipment were connected
to a 64-shelf Night Train FMS® material stor-
age and retrieval system (see Figure 2). Raw
material—ranging from 20 gauge, which
might be used for truck doors, to 14 gauge,
commonly used in fabrication of other body
panels—is kept in the material management
system before it is fed to the punch/shear.
As Altec worked through the challenges
associated with opening a new facility,
including new equipment and an undeveloped
enterprise culture, Mooney and his team tried
to take a commonsense approach to lean
manufacturing principles in the new plant.
To blindly start applying lean manufacturing
rules in a production environment with a lot
of customized product wasn’t going to work
well. Baby steps were needed—to implement
efficient manufacturing practices where they
made sense, and to bring the workforce along
so they realized how work process improve-
ments could make their lives easier on the
shop floor.
“In order to practice lean manufacturing in
a custom environment, it takes a whole lot of
logic and common sense. And it’s experience
too,” Mooney said. “We try to empower peo-
ple as much as possible and want the decisions
made closest to where the work is being done.”
For example, Mooney said production
scheduling is done according to a “shear list,”
which is a production order of parts for one
day’s work on an assembly line. The list could
contain production instructions for two large
trucks or five smaller trucks. If it’s the latter,
the shop floor will likely send all the smaller
trucks down one of eight assembly lines.
“That gives us some repetition in fab, so
press brake guys aren’t doing a million setups,”
Mooney said. “They get to bend some parts
over and over, but we’re not going hog-wild
making big batches of stuff either.”
Altec also realized early on that it couldn’t
just schedule trucks for a specific assembly
line. A production delay of any kind—miss-
ing parts or an unscheduled absence on that
particular assembly line—could generate a
backup in a heartbeat. That’s when it moved
to a flexible approach to assembly. With the
exception of one line dedicated to assembly
of heavier trucks, all lines have similar equip-
ment, so almost anything can be assembled
on any line. When part kits have departed
the punch/shear and bending cells, they flow
to the line that can accommodate the work.
Later, production reports what was assembled
on each line, and labor is charged according to
the corresponding line upon completion.
By the end of 2010, Altec’s volume had in-
creased dramatically. As the company head-

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Figure 3
The small footprint of the PLATINO laser cutting machine and its accompanying 10-shelf storage and
retrieval tower fit comfortably into existing manufacturing space after the company moved some
assembly lines and office space.

Figure 4
(From left to right) David Loftis, production supervisor; Jeff Mooney, general manager; and David Tilly,
plant manager, pose in front of one of their new laser cutting machines.
The company decided to add two more production shifts, effectively moving to around-the-clock manufacturing. It was running three full-time shifts during the day and two full-time shifts on the weekend, with some of those overlapping.

From May 2011 through August 2012, the punch/shear ran nonstop with the exception of a four-hour preventive maintenance period every Monday. During that scheduled downtime, the operator takes the whole turret apart. Because the fabricating department keeps a complete set of tooling on hand, the operator can switch out any dull tooling with a replacement so the downtime doesn’t extend past the allotted four-hour timeframe. When the punch/shear is up and running again, the operator can focus on maintaining any tooling that was pulled from the equipment.

“We knew this max production was not sustainable,” Mooney said. “But we knew we could increase production while planning to fit more fab equipment into the plant.”

The Next Phase of Fabricating

In 2012, Altec purchased a servo-electric Shear Genius, two PLATINO® laser cutting machines with material storage and retrieval towers (see Figure 3), and a used servo-electric press brake.

The new equipment required Altec to determine how it was going to configure the shop floor to accommodate the influx of new manufacturing opportunities. An original plan called for connecting the new servo-electric punch/shear to the Night Train, but that was shot down because the storage/retrieval system needed to be expanded, and questions were raised about the binder being able to keep up with parts fed by two punch/shears.

The final decision called for creating two separate fabricating operations within the plant. Fab 1 is centered on the older punch/shear and binder. The newer equipment makes up Fab 2.

Fab 2 is where most of the standard-materia...