



Briggs & Stratton Operators Take A Shine to Aluminum Melter

As the world's leading producer of air-cooled engines for outdoor power applications, Briggs & Stratton Corp. melts a lot of aluminum. Five of the company's manufacturing facilities include aluminum die casting operations, but only its newest facility uses a Jet Melter to melt aluminum. At least for now.

Located in Statesboro, Georgia, the 400,000 square foot factory has been in operation since mid-1995. It's a fully-integrated plant, with 750 employees performing all functions from die casting through final engine assembly.

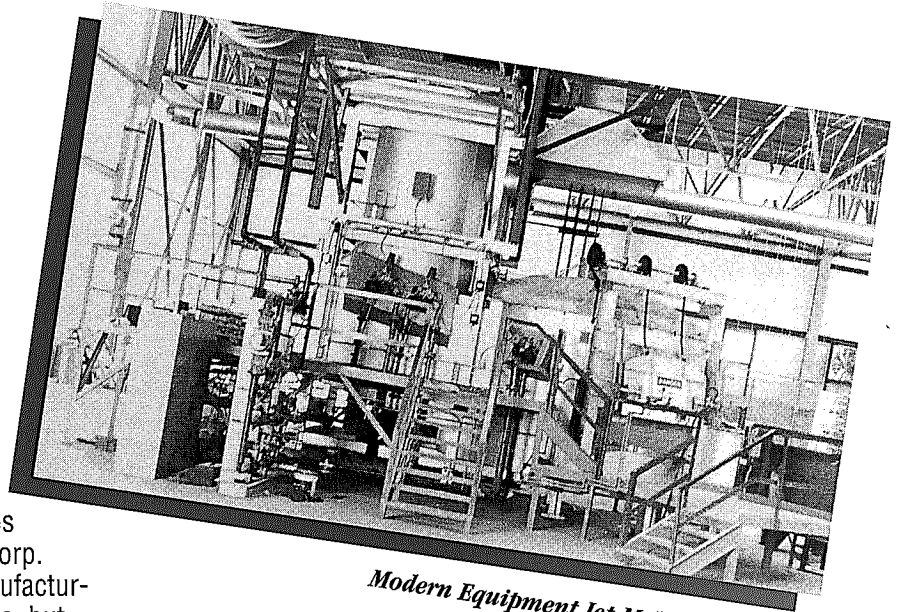
The facility manufactures the Briggs & Stratton Model 28 engine in sizes from 8 to 16 horsepower for riding lawn tractors. It's one of the company's most popular engines and it's offered in two versions: the standard flathead and a newer overhead valve configuration.

The die casting area comprises 65,000 square feet, with four teams of two workers responsible for the entire aluminum delivery system. But as Frank Alonge, Die Cast Area Manager explains, none of them was familiar with aluminum melting processes or equipment when they were hired.

As part of their training, they spent a month at other Briggs facilities to learn aluminum melting operations. With traditional gas-fired reverberatory furnaces, it's a hot, noisy, cost intensive and potentially dangerous job.

"They were thrilled with what they saw."

Briggs installed a Jet Melter JM 5000 Series high-efficiency melter manufactured by Modern Equipment Co., in part, to reduce energy costs. But the employees immediately



Modern Equipment Jet Melter JM 5000

recognized and appreciated the JM 5000's other virtues. "They were thrilled with what they saw when they returned from their training," Alonge says.

One of the distinctions they prefer over the reverberatory furnaces they saw on their trip is the Jet Melter's operational safety. "The safety factor is extremely important to us," Alonge says.

Unlike reverberatory units, the Jet Melter preheats aluminum ingots before melting them, all on a dry hearth rather than in a molten bath. Preheating vaporizes any moisture that might be present in the aluminum, virtually eliminating the risk of steam explosions during the melt. Alonge says, "It's an extremely safe operation."

With operating temperatures that often exceed 1200° F, reverberatory furnaces radiate intense heat; and that's another reason the operators appreciate the Jet Melter. As Alonge puts it, "It's insulated well and designed well. You can stand right next to it and not feel the heat."

Prior to the Statesboro installation, Briggs & Stratton's history had always been with gas-fired reverberatory furnaces. Before deciding on the JM 5000, the review team did a lot of research, including looking at several reverberatory units.

As Alonge recounts, what steered the team in the direction of the Jet Melter was an article published by the North American Die Cast Association comparing newer technology with the reverberatory method.

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"Melts metal better than we expected."

With the JM 5000, Briggs & Stratton has reduced its gas consumption from 2500 BTUs to 1000 BTUs per pound, a savings of 60% compared to its reverberatory systems, with no re-engineering needed. Alonge says the new furnace "melts metal even better than we expected."

The Jet Melter JM 5000 supplies all the aluminum for the plant's die casting machines. Its rated capacity is 5500 lbs. per hour but, "In actuality we've done better than that. It has lived up to all our expectations," says Alonge.

What's more, while metal losses with reverb systems typically run between 3 and 7%, the Jet Melter holds those losses to as low as 1.5 percent.

Quality is fundamental to Briggs & Stratton's operations. The Jet Melter helps the company achieve its quality goals while reducing its operating costs. With guaranteed molten metal temperatures of $\pm 18^\circ$ F, the JM 5000 provides excellent product consistency.

It doesn't take a lot of training for employees to be able to operate the Jet Melter and the workers like its easy operation, Alonge says. "We've also been able to train them to maintain, troubleshoot and perform minor repairs."

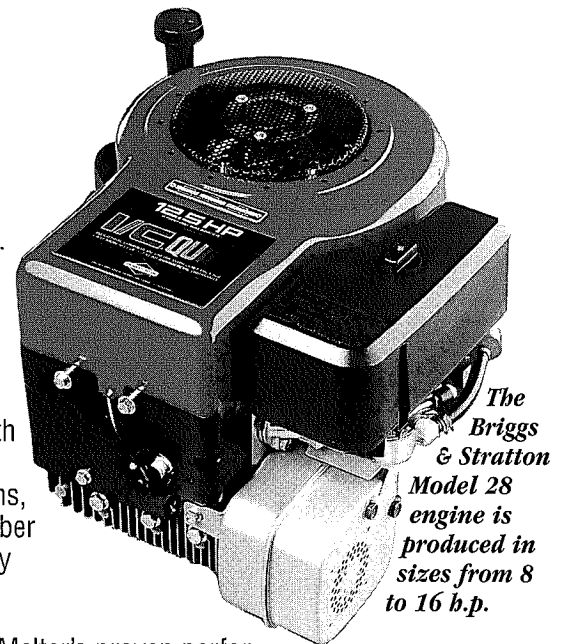
The Jet Melter includes a system of alarms and an annunciator panel for easy identification of potential problems and out-of-range operating conditions. A graphics panel provides a visual display of the status of all key components.

For simplified maintenance, the Jet Melter features quick disconnect burners and stack and bath clean out doors for quick and easy cleaning. The large bath clean out door has a refractory ramp for easy fluxing, cleaning and sludge removal.

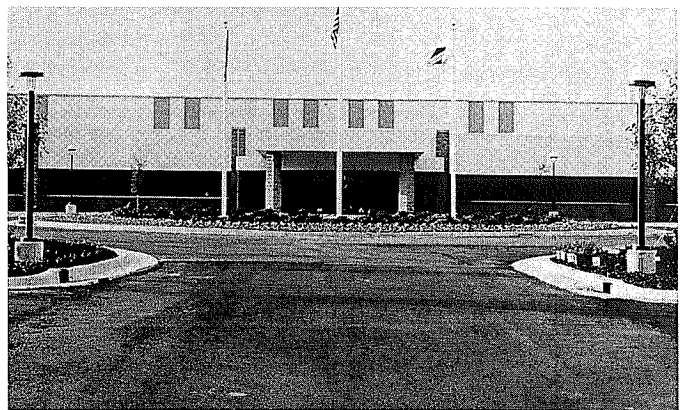
The Statesboro facility operates 14 die casting machines with capacities of 900-1200 tons, but that number will eventually grow to 22.

With the Jet Melter's proven performance and enthusiastic employee acceptance, Alonge says the prospects are good for Briggs & Stratton adding more units at Statesboro and elsewhere.

"We're very pleased with it," he says. "The bottom line is that it was well worth the investment."



The Briggs & Stratton Model 28 engine is produced in sizes from 8 to 16 h.p.



This Statesboro, GA manufacturing plant came on-line in mid 1995.