Oil Skimmers Keep Winnebago Production Running Clean

The Winnebago name is associated with quality recreational vehicles. Based in Forest City, IA, Winnebago Industries builds motor homes under the Winnebago, Itasca, Rialta and Ultimate brand names, and markets them to dealers throughout the U.S. and Canada. Motor home sales have represented at least 87% of company revenues over the past five years.

The final production of motor homes takes place within a plant that is considered the most technologically advanced in the RV industry. The 200-acre site houses approximately 60 acres under roof, or nearly 2 million sq. ft. Production involves three moving assembly lines, each the length of approximately seven football fields. Winnebago utilizes a flexible manufacturing system, producing a variety of models simultaneously on each of these lines. All motor homes and their components are subjected to rigorous testing prior to delivery. Holding tanks and water systems are fully tested on each unit and every unit also goes through a severe water test. This delivers five minutes of concentrated water spray from 160 spray heads at a rainfall rate of 50 inches per hour.

When production recently experienced problems related to excess oil on painted parts, Dave Ziebell, senior maintenance leader, sought a quality solution. "Something easy to install, easy to use, and help us conserve parts wash water by removing the oily wastes," he says. A 20-year veteran of the company, Ziebell supervises a crew of six who maintain equipment used for production and assembly within the company's main production facility, located in Forest City.

Ziebell determined that an oil skimmer would solve the problem. After research, he chose the Tote-It Portable Oil Skimmer from Abanaki Corp., a Chagrin Falls, OH-based manufacturer of oil skimmers for a wide range of industries. He chose the unit for the facility's second-stage wash tank where the wash concentrate is still present, in a diluted form. Ziebell noted that the skimmer was designed to be easily installed in almost any wash or coolant tank without modification and with minimal maintenance. The Winnebago maintenance crew was able to mount it right where it was needed, high on the side where water is sprayed in order to protect the heads from getting clogged with excess oil.

According to Ziebell, the Tote-It has performed well, running continuously over the course of two shifts. "We knew right away the unit was removing virtually all the free-floating oil from the wash water because our tank cleaning was significantly reduced. We used to have to clean the tank at least once a month to prevent the spray heads and filters from clogging," he says. "Now we only have to clean the tank every three months."

The Tote-It removes oil from tank water by making use of the differences in specific gravity and surface tension between the two substances. The unit does this through a continuous belt-and-wiper action that removes oil from the fluid surface. The belt operates on a motor-and-pulley system attached to a stabilizer bar that is immersed in the contaminated liquid. After traveling over the head pulley, the belt passes through tandem wiper blades where oil is scraped off both sides of the belt and

discharged through a small hose.
Ziebell says he was so pleased with the results, the company purchased two additional units. One is used to support another stage of the continuous-flow wash system, and one is used by the hazardous-waste team. This one, he says, eliminates waste that is a byproduct of the production cycles. "The oil skimmer not only helps us meet government regulations for water discharge and reduced fluid-disposal costs," says Ziebell, "it also prevents recontamination of parts as they are removed from the tanks."
Free-floating oils or other hydrocarbons in parts wash tanks is a common challenge for vehicular and other mobile equipment production facilities. Ziebell says the Tote-It oil skimmer is just one of the ways in which the company keeps its state-of-the-art manufacturing operation working at top efficiency.
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