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## **Jeep® Cherokee Settles Into Its New Home at the FCA US Belvidere Assembly Plant**

- Company invested \$350 million to retool Illinois assembly plant for Jeep® Cherokee production; approximately 300 new jobs added
- Assembly of Jeep nameplate relocated from plant in Toledo, Ohio
- Nearly 75 percent of plant touched by significant retooling changes

June 20, 2018, Auburn Hills, Mich. - The FCA US [Belvidere Assembly Plant](#) welcomed the [Jeep® Cherokee](#) to its new production home on June 1, 2017.

It had been preparing for the Cherokee's arrival from Toledo, Ohio, since late 2016. The decision to invest \$350 million to retool the Illinois facility, located about 60 miles west of Chicago, was made as part of the Company's broader industrialization plan created to respond to the market's shift away from small cars and to realign its U.S. manufacturing operations to fully utilize available capacity to expand the Jeep and Ram brands.

"FCA US was ahead of the competition in recognizing the shift in sales from cars to trucks and SUVs," said Brian Harlow, Head of Manufacturing, FCA - North America. "This led to a plan that discontinued car production in the U.S. and a complete realignment of our U.S. manufacturing operations. In July 2016, we announced the first phase of the plan, which included a total investment of \$2.5 billion and commitment to add 1,700 jobs, to focus all of our U.S. production on the vehicles consumers are demanding. Moving the Jeep Cherokee from Toledo to Belvidere was the first step toward accomplishing this plan that will ultimately impact five facilities in three states."

The last Jeep Cherokee rolled off the line at the Toledo North Assembly Plant on April 6, 2017. Since its birth in June 2013, Toledo employees built nearly 950,000 vehicles. Toledo North has now been retooled to build the all-new Jeep Wrangler, which launched in December 2017.

### **Employees at the Center of Belvidere Assembly Transition**

For more than four years, the Belvidere Assembly Plant built three distinct vehicles with two different architectures on one assembly line. The transition from building three vehicles to building one not only required a physical makeover of the plant and its processes, but also a culture shift for the employees.

That process began in October 2016, long before the plant shut down for 12 weeks of construction. A cross section of 150 employees, representing all areas of the plant, gathered for a week-long offsite workshop. In addition to receiving World Class Manufacturing and leadership training, the employees began addressing non-production issues to improve the plant's operations, ranging from how to welcome new employees and improving communications to discussing plans for a new cafeteria.

Work on those issues continued at the plant in a space designated the "incubator," a problem-solving hub where employees could meet and find resources needed to continue driving specific initiatives. One of the projects coming out of the incubator involved creating "welcome back" events for the crews as they returned to work after the shutdown. Over a two-week period, employees not only started job-related training, but more importantly, toured the plant to see all of the improvements for themselves, participated in team-building exercises and got an overview of the vehicle they would be building.

Belvidere Assembly was the second facility in North America to institute the incubator concept. The Jefferson North Assembly Plant in Detroit was the first.

"Preparing and engaging employees in the launch of a vehicle is equally as important as preparing the actual facility," said Tomasz Gebka, Belvidere Assembly Plant manager. "The employees are the brains, the creativity and the heart of the plant. They truly are the strength behind the continued success of the Jeep Cherokee."

One of the other big changes at Belvidere is the institution of uniforms, part of a plan to align all FCA plants with global standards, to all employees, both hourly and salaried. Branded with Jeep logos, the uniforms are designed to build pride around the iconic nameplate and to help employees feel connected to the global FCA team.

Projects to prepare the Belvidere plant for production of the Jeep Cherokee touched all areas of the plant – body shop, paint shop and general assembly – with approximately 75 percent of the facility experiencing significant equipment changes.

### **Body Shop Changes Enhance Quality Control**

Prior to retooling, Belvidere Assembly had two body shops. The north body shop was added in 2011 as part of a \$700 million investment to produce the Dodge Dart. It is 92 percent automated with 650 welding robots, 100 sealer robots and 200 material handling robots. The south body shop produced the Jeep Compass and Jeep Patriot.

Because the Dart and Cherokee shared the same architecture – the Compact U.S. Wide – the north body shop required very few changes. The 965,000-square-foot south body shop, however, was completely gutted, overhauled and painted, creating white space to accommodate additional work.

As a result, four sub-assembly stations, including dashboard and center floor assemblies, were transferred to Belvidere from the Company's central stamping location in Warren, Michigan, a move that allows for better dimensional quality control and reduces cost by eliminating the need to ship the closures. Additional sub-assembly work could be added at a later date. Insourcing this work created 87 new jobs.

After 12 hours in the body shop, the completed Jeep Cherokee body-in-white travels to the paint shop.

### **Paint Shop Freshens Up**

Belvidere's 700,000-square-foot "coloring box" is 40 percent automated with 121 robots. One of the improvements made to the plant's paint shop was the installation of a new polish deck, which includes lights that automatically adjust in intensity based on the vehicle's paint color or reflectivity. This provides optimum conditions to review the final painted body, eliminating operator eye strain and fatigue.

Once the bodies are painted, they receive a clear coat inside one of the two clearcoat booths armed with 32 new robots. An all-new cool zone was incorporated with the latest investment, which allows the Cherokee body to cool to 80 degrees and helps the clear coat adhere better.

Currently, the paint shop houses nine waterborne basecoat colors and one solvent-based clearcoat. Two additional waterborne basecoat colors will be added in the future. In total, all layers of the Cherokee's paint – e-coat, primer, basecoat and clearcoat – measure one tenth of a millimeter thick, or no thicker than a single strand of human hair, providing maximum corrosion protection.

After nearly 13 hours, the painted Jeep Cherokee goes through the new soy-based Purfoam station before moving to general assembly. Purfoam is a material used to "waterproof" a vehicle. The soy-based formula has an environmental advantage over chemical-based materials. Approximately 16 pounds of Purfoam are used to fill and plug any gaps that may allow water leaks, ensuring that every Jeep Cherokee will qualify for its Trail Rated designation.

### **General Assembly Improvements Benefit Employees**

General assembly, which is comprised of trim, chassis and final production and spreads across more than one million square feet, is where more than 50 percent of the Belvidere employees work. It is the area that saw the most significant transformation with nearly all of the workstations designed to be more ergonomically friendly, resulting in a safer work environment for the operators and a better-quality vehicle for customers.

Tucked inside general assembly is Belvidere's new product and process center. Designed to support new vehicle launches, the center houses an abbreviated assembly line so employees can learn about the new product and verify the build process before "real" production begins. Even after production has launched, the center can be used to address issues and for additional training.

One of the tenants of the FCA World Class Manufacturing methodology is to eliminate waste. Excessive, non-value-added movement by an operator can be defined as waste. The goal of every manufacturing facility is to deliver parts in the "Golden Zone," a 60-degree area immediately in front of the operator, which allows him to build the vehicle with the precision of a surgeon. As part of the Belvidere retooling, two improvements were made on the line to increase the efficiency of the Cherokee assembly process – the addition of skillets and limos.

Two new skillet conveyor lines, comprised of 82 skillets, run through general assembly. A global standard for FCA, but a first for Belvidere, a skillet looks like the bellows of an accordion on its side. It carries the vehicle down the line on a moving floor, adjusting in height – from 13 inches to up to 52 inches – depending on which interior trim component is being installed by the operator. By delivering parts to the operator in the optimal position, skillets enhance vehicle quality with better line of sight, improve the ergonomics for the operator and optimize available floor space, making the plant more efficient.

The other enhancement to the production line was the addition of more "limos" – in fact, 80 all-new ones. Designed and built by the plant's skilled trades employees, limos travel with the vehicle down the line, carrying the parts the operators will need to assemble the Cherokee. Limos align with the Company's World Class Manufacturing methodology by improving ergonomics, efficiency and quality.

Eight additional ergonomic or "ergo" assist arms have been incorporated to help operators install heavy components, like fuel tanks and skid plates, which can weigh as much as 20 pounds each. These ergo assist arms triple the human strength of one operator, allowing for greater assembly precision and quality, and reducing repetitive motions that can cause injuries.

A new "glass cell" was added to the Cherokee production line for installation of the front and rear windshield, turning what was once a manual process into a fully automated one. The glass cell robot is equipped with a vision system that quickly measures the Cherokee and installs the windshield in the optimal location, customizing it for that particular body. The new system reduces variation, improves the overall vehicle quality and ensures a tighter seal to reduce wind noise and water leaks.

The station prior to windshield installation is the new automated Vehicle Identification Number (VIN) etching. This is where each Cherokee gets its unique identity. Located in seven different areas of a finished vehicle, the VIN is now etched by a robot, increasing the efficiency of the process and the legibility of the number.

To improve communication, 50 new 20-inch Andon screens were added throughout the plant. Japanese for "go see," the screens are part of the overall Andon system to communicate stoppages on the line. Operators are empowered to signal an issue by pulling a cord located at each station, which stops the line and signals the screens to display the specific detail of the stoppage so the appropriate people can assist in resolving the issue quickly.

The alignment and rolls stations were also improved during retooling. After digging out the three old stations that equaled the size of an Olympic swimming pool, five new ones were installed. The additional stations increase throughput and keep the assembly process flowing.

Before rolling off the assembly line, every vehicle's electrical systems are tested during a three-minute exam during which more than 200 electrical checks are confirmed.

The plant runs six days a week on a 3-2-120 operating pattern. Nearly 5,000 employees are assigned to one of three crews that work four 10-hour days on two shifts for a total of 120 production hours per week. From start to finish, it takes about 28 hours for a Jeep Cherokee to roll off the line.

**About FCA US LLC**

FCA US LLC is a North American automaker based in Auburn Hills, Michigan. It designs, manufactures, and sells or distributes vehicles under the Chrysler, Dodge, Jeep®, Ram, FIAT and Alfa Romeo brands, as well as the SRT performance designation. The Company also distributes Mopar and Alfa Romeo parts and accessories. FCA US is building upon the historic foundations of Chrysler Corp., established in 1925 by industry visionary Walter P. Chrysler and Fabbrica Italiana Automobili Torino (F.I.A.T.), founded in Italy in 1899 by pioneering entrepreneurs, including Giovanni Agnelli. FCA US is a member of the Fiat Chrysler Automobiles N.V. (FCA) family of companies. (NYSE: FCAU/ MTA: FCA).

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