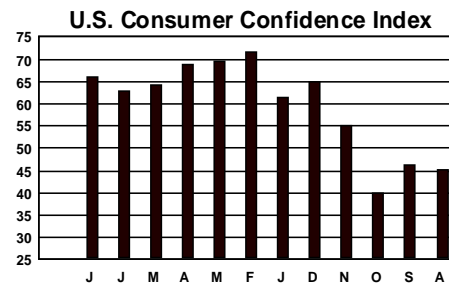


STARK'S TRUCK & OFF-HIGHWAY LEDGER

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Claas to Build Lexion 700 Series Farm Combines with Automated Harvesting System

Claas AG, a major maker of farm machinery in Europe and a low-volume producer of Lexion-branded farm combines at a site near Omaha, Neb., will begin making and selling new Lexion 700 Series self-propelled farm combines with a unique Claas Electronic Machine Optimization System that automatically and continuously adjusts to harvest conditions during use.

Claas said, "The Cemos Automatic system in the new Lexion promises to bring a revolution in combine harvesting as the first fully automatic adjustment system for separation and cleaning. In combination with the GPS Pilot, automatic steering system, and Cruise Pilot throughput controller, Claas machines can perform almost fully automatic grain harvesting with top performance in the areas of throughput, grain quality, grain cleanliness, minimal fuel consumption, and ease of operation.

"The new Cemos Automatic system uses numerous sensors to monitor a wide variety of the parameters of the combine harvester with split-second accuracy and immediately adjusts the settings to the current conditions—fully automatically. Here a distinction is made between two working systems: Cemos Auto Separation optimizes residual grain separation by adjusting the parameters for rotor speed and rotor cover plate position. Cemos Auto Cleaning regulates the cleaning process via the parameters for blower speed as well as upper sieve and lower sieve opening.

"Cemos Automatic is based on the familiar Cemos system and the Automatic variant retains the same dialogue function. The automatic functions are displayed on the Cebis terminal. These are always activated at the plant but can be shut off by accessing Cebis Mobile.

"Furthermore, Cemos Auto Separation and Cemos Auto Cleaning can be switched on and off separately. In Cemos Automatic, the operator can choose between four optimisation strategies: these are 'maximum throughput,'—if the harvesting window is very tight or if the weather

conditions are more favorable; 'minimum fuel consumption;' 'high threshing quality;' and finally, 'balanced,' combining the three aforementioned basic settings.

"On initial preproduction machines, using the 'maximum throughput' operating strategy in Cemos Automatic resulted in output improvements of up to 20%," the firm claimed.

Claas also plans to upgrade its Tucano range of seven models of self-propelled farm combines with new Tier 4 interim-compliant diesel engines sourced from Daimler AG's Mercedes-Benz unit. The redesigned Tucano farm combines are designed with increased cooling capacity to accommodate the new engines that possess higher 238-326 horsepower with selective catalytic reduction technology.

Claas said five (340, 430, 440, 450 and 470) models of the seven-model range of Tucano farm combines are designed
(continued on next page)



Claas Cemos control unit for Lexion 700 farm combines

U.S. RENTAL BUSINESS IS 'BRISK'

Komatsu Sees China Construction Vehicle Industry Sales Tumbling by 20-30% in 2012

Komatsu Ltd., a major maker of construction, mining and utility-type machinery, predicted today in its 2012 annual report to shareholders that China industry-wide demand for construction machinery during fiscal 2012-13 ending this March 31 would tumble by another 20-30%.

Komatsu's president explained, "With respect to China, demand has remained sluggish since May 2011, as affected by the China government's credit squeeze, and we haven't seen any clear signs of firm recovery.

"Although there are signs of credit easing, such as decreasing the cash reserve and interest rates, they are not resulting in an increase of new construction projects. In this light, we are projecting annual demand to decline by 20-30% from fiscal year 2011."

As reported, (see p. 113 of previous issue for related details,) Caterpillar Inc., a major competing maker of construction, mining and utility-type machinery, acknowledged it began exporting China-made wheel loaders and hydraulic excavators to unnamed markets in Africa and the Middle East, as the firm seeks to improve its use of capacity in place in the wake of a slowdown in China market demand for the vehicles. It was not more specific at the time.

Caterpillar said late last month it recently reassessed its hydraulic excavator-making capacity expansion plans in

China, citing short-term economic risks and downwardly revised "expectations for world economic growth in 2012. We are being cautious and are delaying some programs, such as excavator capacity additions in China."

Nonetheless, the Komatsu president predicted today Japan demand for construction machinery would continue to "steadily increase for some years to come," as the nation rebuilds from a massive 2011 earthquake and tsunami.

In North America, the Komatsu chief executive repeated an earlier forecast, saying "demand is recovering in the housing sector and that for rental equipment is brisk." (See p. 19 of previous issue for related details.)

He added, "In South America, while demand for construction equipment is softening in Brazil, the largest market in the region, we are anticipating that demand for mining equipment will remain strong centering on Chile and Brazil. In Europe, although demand remains firm in the major markets of Germany, France and the United Kingdom as well as northern Europe, demand is sluggish in southern and eastern Europe.

"With respect to Asia, we are anticipating that demand for medium-sized and mining equipment for use in coal mines will slow down in Indonesia, the largest Southeast Asian market, as adversely affected by falling prices of thermal coal."

(continued from previous page)

with a wider rotating radiator frame. The air intake surface is enlarged by 33%, resulting in "increased air flow" to improve the cooling performance of the system by up to 15%.

The company said the entire seven models of the Tucano range of combines "has adopted the Cebis operating system from the Lexion (farm combine)," as well as yield mapping, GPS Pilot and telematics. "Telematics now also enables every Tucano to be monitored from anywhere in the world. The harvesting machinery is networked via the internet with dealer service centers and farms."

Claas said the Tucano farm combines now possess a straw chopper drive on the left-hand side of the machine with a single lever "to fold back the guide plate and lower the straw distribution hood."

Jeep Liberty Production Run Ends after 11 Years

Chrysler Group LLC, a major maker of trucks which is 58.5% owned and under the management control of Fiat S.p.A. of Italy, halted production last Thursday of Jeep Liberty sport utility-type vehicles at Toledo, Ohio, for an eight-month period.

When output resumes in the spring of 2013, a yet-to-be-renamed, completely new replacement mid-size SUV will debut as a platform spin-off of the new 2013 Dodge Dart compact car.

Sources confirmed the new, renamed Jeep Liberty SUV will be powered by a new 3.2-liter, V6-shaped gasoline engine mated to an entirely new nine-speed automatic transmission.

Jeep Liberty's halt ends an 11-year production run. During January-July 2012, Chrysler produced 72,919 units of the vehicles here—an 80.3% increase from 40,435 units built during the same period of 2011.

The vehicle is the third largest production volume SUV in the Jeep portfolio, exceeded by the Jeep Grand Cherokee and the Jeep Wrangler.

Demag Adopts Cable Sliders, Motion Limiters on Cranes

Demag Cranes AG, a major maker of construction and industrial-type cranes, as well as majority-owned by Terex Corp., said last month it would immediately adopt cable sliders for power supply lines and slewing motion limitation for wall-mounted slewing jib cranes on its KBK light crane systems to improve safety.

KBK installations are suspension cranes of single or double-girder design, or as suspension monorails in companies of almost all types and sizes.

It explained, "With immediate effect, adjustable limitation of the slewing motion is available for wall-mounted slewing jib cranes to protect workers at their workplaces and, at the same time, to protect material, such as neighboring machinery" is being adopted for use.

"In addition, a new cable slider is now available to accommodate flat cables. This offers an outstanding and rugged design to facilitate simple installation and ensures highly convenient operation. Limited slewing motion for wall-mounted slewing jib cranes" lead to "improved safety for man and material.

"The new slewing motion limiter for Demag wall-mounted slewing jib cranes corresponds to the slewing motion limiting function already offered for some time for KBK pillar-mounted slewing jib cranes. Demag Cranes has modified its KBK I and KBK II wall brackets accordingly to employ this convenient safety device also for wall-mounted slewing jib cranes. This flexible solution now allows the slewing range of wall-mounted slewing jib cranes to be adapted to the given operating requirements up to a radius of 270 degrees at any time.

"The pre-completed sub-assembly consists of a carrier plate, mounting bracket, perforated plate and buffer bracket. The perforated plate used in connection with buffer brackets enables the slewing angle to be precisely adjusted in increments of 1.5 degrees. Simple adjustment is possible at any time also if operating requirements change. In the same way as for pillar-mounted slewing jib cranes, the new slewing motion limiter for Demag wall-mounted slewing jibs can also be fitted to the crane jib at a later date if they are equipped with the new wall bracket."

U.S. Truck Sales by Class

	2012 Jul	2011 Jul	2012 YTD	2011 YTD
Classes 1-2				
Dodge/Chrysler	41,150	36,970	311,696	276,968
Ford	103,194	112,631	785,958	738,422
General Motors	127,524	132,176	871,966	844,539
BMW	6,886	7,401	53,380	46,914
Honda	52,156	38,181	367,511	306,908
Hyundai	10,051	12,595	72,107	75,118
International	—	—	—	7
Jeep/Chrysler	41,559	38,691	283,106	227,615
Kia	14,832	20,030	103,550	118,573
Land Rover (Tata)	3,320	2,811	24,311	20,103
Mazda	7,507	7,246	52,751	51,505
Mitsubishi	2,128	3,637	14,663	21,710
Mercedes-Benz	8,463	8,197	64,058	54,480
Nissan	39,510	35,373	267,144	216,443
Porsche	1,119	1,342	7,606	8,219
Subaru	15,886	14,826	108,127	104,481
Suzuki	642	601	4,160	4,204
Toyota	75,078	62,740	500,489	431,978
Volkswagen	8,242	7,170	51,251	46,307
Others (Saab, Volvo-Geely)	2,995	2,610	19,167	17,735
Total	562,242	545,228	3,963,001	3,612,229
Stocks	1,437,202	1,201,596	—	—
Classes 3-7				
Dodge/Chrysler	10,433	8,605	70,519	56,045
Ford	8,969	7,547	58,778	54,533
Freightliner	2,889	2,216	20,064	17,392
General Motors	2,513	2,664	21,806	18,109
Hino	589	267	3,651	3,009
International	2,641	3,262	20,907	21,338
Isuzu	1,290	860	7,439	5,656
Kenworth	283	248	2,581	1,643
Mitsubishi-Fuso	257	408	1,710	1,056
UD Trucks	36	63	325	358
Peterbilt	397	282	2,601	1,537
Sterling	—	1	—	3
Total	30,297	26,423	210,391	180,679
Stocks	106,161	89,469	—	—
Class 8				
Freightliner	5,368	3,303	36,451	26,407
International	3,260	2,961	22,117	17,986
Kenworth	2,018	1,652	16,690	11,020
Mack	1,803	1,103	10,136	6,903
Peterbilt	2,310	2,291	16,516	11,798
Sterling	—	—	—	1
Volvo Truck	1,471	1,374	12,403	9,823
Western Star	190	196	1,349	1,002
Others	1	5	5	13
Total	16,421	12,885	115,667	84,953
Stocks	42,607	27,673	—	—
Total				
Dodge/Chrysler	51,583	45,575	382,215	333,013
Ford	112,163	120,178	844,736	792,955
Freightliner	8,257	5,519	56,515	43,799
General Motors	130,037	134,840	893,772	862,648
BMW	6,886	7,401	53,380	46,914
Hino	589	267	3,651	3,009
Honda	52,156	38,181	367,511	306,908
Hyundai	10,051	12,595	72,107	75,118
International	5,901	6,223	43,024	39,331
Isuzu	1,290	860	7,439	5,656
Jeep/Chrysler	41,559	38,691	283,106	227,615
Kia	14,832	20,030	103,550	118,573
Land Rover (Tata)	3,320	2,811	24,311	20,103
Kenworth	2,301	1,900	19,281	12,663
Mack	1,803	1,103	10,136	6,903
Mazda	7,507	7,246	52,751	51,505
Mercedes-Benz	8,463	8,197	64,058	54,480
Mitsubishi	2,128	3,637	14,663	21,710
Mitsubishi-Fuso	257	408	1,710	1,056
Nissan	39,510	35,373	267,144	216,443
UD Trucks	36	63	325	358
Peterbilt	2,707	2,573	19,117	13,335
Porsche	1,119	1,342	7,606	8,219
Sterling	—	1	—	4
Subaru	15,886	14,826	108,127	104,481
Suzuki	642	601	4,160	4,204
Toyota	75,078	62,740	500,489	431,978
Volkswagen	8,242	7,170	51,251	46,307
Volvo	1,471	1,374	12,403	9,823
Western Star	190	196	1,349	1,002
Others	2,996	2,615	19,172	17,748
Total	608,960	584,536	4,289,059	3,877,861
Stocks	1,585,970	1,318,738	—	—

Note: Classes 1-2, 10,000 lbs GVW & Less; Classes 3-7 10,001-33,000 lbs GVW; Class 8, 33,001 lbs. GVW & More.

Deere Still Sees 2012 U.S. Farm Vehicle Sales Up 10%

Deere & Co., a major maker of farm machinery, still believes North American (U.S. and Canada) industry-wide sales of farm machinery will expand by more than 10% for all of fiscal 2012 ending this October 31. The outlook remains unchanged from three and six months ago.

As reported, Deere predicted last November 24 North American industry-wide sales of farm vehicles would increase by 5-10% in fiscal 2012 as "overall conditions remain positive...especially for high-horsepower equipment." Deere was not more specific at the time.

Deere said last Wednesday it continues to believe North America industry-wide sales of turf and utility equipment during fiscal 2012 will remain unchanged or increase by 5% from last year, reflecting "drought conditions in the U.S."

In Europe, Deere said it foresees 2012 industry-wide sales of farm machinery will be flat "as strength in the northern European market offsets weakness in the South."

July Commercial Heavy Truck Business Off Again

U.S. Classes 5-8 commercial truck business, an indicator of future U.S. economic activity with an 8-12 month lead time, continued to decline during July 2012, which is expected to extend through the remainder of the 2012 third quarter, as order activity for heavy-duty units fell well below that of a year ago and the prior month. Mixed signals started in June 2011, abruptly turned soft in July 2011 and ended the 2011 year in favorable fashion.

The market surge started in December 2009 and then turned weak in January, February and March 2010. A mixed trend occurred in April and May 2010, recovered in July-August 2010 and displayed a mixed trend in September-November 2010.

Market recovery still appears likely to resume during the fourth quarter of this year. Rising order intake, despite a hiatus in January-February-March-April 2012, for heavy-duty trucks remains stubbornly constrained by a reluctance of trucking fleets to add fixed capacity to their operations. Smaller fleets are opting for variable capacity (full-service lease) additions. (See p. 1 of prior issue for exclusive details.)

The medium-duty segment of the truck business, which rebounded nicely in June 2011 and turned soft in July 2011, recovered somewhat in August 2011 and displayed mixed signals during September-October-November 2011. Market upturn started its cyclical recovery in June 2010. Orders for newly made heavy-duty vehicles turned weak in July 2010, recovered in August 2010, turned weak in September 2010, rebounded in October-November 2010, abated in December 2010, and rose in January-April 2011. A decline in overall activity started during October 2006 and eased during the past 23 months.

U.S. Medium-Duty Truck Business by Month

	Order Backlogs	Retail Sales	Vehicle Production	Dealer Stocks
July 2012	37,655	11,426	6,875	35,678
June 2012	37,725	11,976	9,485	36,792
May 2012	38,125	12,371	9,285	36,112
April 2012	39,000	10,826	8,270	35,889
March 2012	39,250	13,894	8,570	31,143
February 2012	40,000	10,834	7,800	32,600
January 2012	38,400	9,900	7,470	30,515
December 2011	38,800	11,500	6,135	30,727
November 2011	37,885	9,091	6,975	31,721
October 2011	36,775	10,810	7,665	29,137
September 2011	38,275	10,717	7,695	26,949
August 2011	40,775	11,602	8,360	27,261
July 2011	39,515	9,259	6,125	26,588

U.S. Medium-Duty Truck Indicators by Month

	Gross Orders	% Cancel	Net Orders	% Chge
July 2012	15,775	10%	14,200	+ 10.0
June 2012	14,185	9%	12,910	- 00.7
May 2012	14,285	9%	13,000	+ 44.4
April 2012	10,000	10%	9,000	- 27.9
March 2012	13,415	7%	12,475	- 02.2
February 2012	13,635	6-1/2%	12,750	- 02.0
January 2012	14,565	7-1/2%	13,475	+ 00.9
December 2011	14,355	7%	13,350	- 00.2
November 2011	14,200	6%	13,375	+ 00.3
October 2011	14,500	8%	13,340	+ 01.3
September 2011	14,310	8%	13,165	+ 08.1
August 2011	13,090	7%	12,175	+ 03.4
July 2011	12,725	7-1/2%	11,775	- 17.4

U.S. Heavy-Duty Truck Business by Month

	Order Backlogs	Retail Sales	Vehicle Production	Dealer Stocks
July 2012	121,655	16,421	12,225	42,607
June 2012	122,000	17,484	16,120	43,365
May 2012	121,335	18,012	16,725	41,450
April 2012	122,000	16,905	15,180	40,482
March 2012	120,745	17,308	17,055	39,647
February 2012	121,300	15,418	15,500	38,219
January 2012	117,025	14,119	16,275	34,751
December 2011	119,975	20,939	13,410	31,948
November 2011	115,850	17,020	16,085	34,123
October 2011	122,900	17,424	16,590	32,648
September 2011	121,275	15,937	16,555	30,388
August 2011	124,100	15,085	18,005	29,698
July 2011	120,025	12,885	13,725	27,673

U.S. Heavy-Duty Truck Indicators by Month

	Gross Orders	% Cancel	Net Orders	% Chge
July 2012	14,685	13%	12,775	- 22.4
June 2012	18,305	10%	16,475	- 09.0
May 2012	21,295	15%	18,100	+ 05.8
April 2012	19,895	14%	17,110	- 14.2
March 2012	22,655	12%	19,935	- 11.1
February 2012	25,470	12%	22,415	- 12.8
January 2012	28,100	10%	25,290	- 15.8
December 2011	34,120	12%	30,025	+ 45.7
November 2011	24,360	15-1/2%	20,600	- 26.9
October 2011	29,975	6%	28,175	+ 19.3
September 2011	25,950	9%	23,615	+ 14.0
August 2011	22,570	8-1/2%	20,705	+ 16.0
July 2011	19,455	8-1/2%	17,850	- 08.8

Note: Units represent diesel and gas Classes 5-8 (16,001 lbs GVW & over) commercial trucks, bus chassis & school buses built, sold & ordered from U.S.-based assemblers only. Production represents actual assembly line output, minus monthly floats. Retail sales & order backlogs exclude imports. Dealer stocks reflect medium and heavy-duty truck inventories only.

Honda to Enter Robotic Lawn Mower Business in 2013

Honda Motor Co. Ltd., a major maker of outdoor power equipment, said today it plans to enter the European market early next year with two models of Honda Miimo-branded, battery-powered, robotic lawn mowers produced at a company-owned site in Orlean, France. Pricing of the robotic lawn mowers was not disclosed.

Honda said the Miimo 300 and 500-model commercial robotic lawn mowers are designed with three modes of operation, and can mow up to a total lawn size of 3,000 square meters.

Honda added, "Honda Miimo operates a 'continuous cutting' system, typically mowing just 2-3mm of grass at a time, several times each week. It cuts in a random pattern, meaning less stress on the grass, more healthy growth and reduced moss and weeds. Unlike a traditional lawn mower it doesn't need to collect clippings, as the clippings it creates are so small that they are dispersed into the lawn root system, breaking down quickly to act as a natural fertilizer which improves the health and quality of the grass."

"Honda Miimo navigates the garden through an intelligent combination of controls, timers and real-time sensory feedback. It works within a boundary wire, installed under the ground or in the grass around the perimeter of the garden. Honda Miimo detects the electronic signal in the wire and stays within it, ensuring high levels of safety and accuracy. Powered by a high performance lithium-ion battery, it is self-charging, constantly monitoring its battery level and returning to its docking station when it needs to recharge."

"Honda Miimo features a fan, built-in to its blade holder, which creates airflow to effectively 'suck' the grass towards the blades. This ensures a superior finish and a more consistent distribution of clippings back into the root system. Additionally, in a first in the market, it uses three highly durable blades, which bend rather than shatter on impact with



Honda robotic lawn mower with docking station

hard objects, eliminating the danger of pieces of broken blade being left on the lawn. Cutting height is adjustable between 20mm and 60mm, to suit the conditions and time of year."

It added, "Honda Miimo features three independent 360 degree 'bump' sensors, which detect a solid contact between it and any obstacle. If a bump sensor is activated, it will stop, turn and move away from the point of contact in a different direction."

"Honda Miimo can ascend slopes and when it encounters patches of thick or long grass it will automatically reduce wheel speed but maintain blade speed in order to deal with tough areas effectively."

"Both safety and security are assured by two 'lift' sensors which are triggered if Honda Miimo leaves the ground. On activation it shuts down completely, an alarm sounds, and it cannot be used until the owner inputs a unique PIN. In line with new regulations this means that it cannot be picked up whilst the blades are turning, and it is rendered useless in the event of theft."

Honda said its dealers would install a docking system for each commercial robotic lawn mower, "which acts as both the charging point and signal generator." It said a boundary wire will be connected to the docking station and then routed around the perimeter of the garden to define the mowing area.

"Honda Miimo is then programmed to cut to a schedule convenient to the customer, via its inbuilt timer and calendar. Then, at the end of the season the Honda Authorized Dealer collects it for winter maintenance, and, in some countries, winter storage."

September Caterpillar CM Output Seen Rising 26.3%

Caterpillar Inc., a major manufacturer of construction machinery in North America, tentatively plans to produce 2,925 units of the vehicles next month at five primary production facilities in the United States. It's an 8.6% decline from a foreseen 3,200 units this month and a substantial 26.3% rise from 2,315 units manufactured during the same period one year earlier as midsize and heavy-duty vehicles no longer are allocated to dealers.

The advance in monthly construction machinery production, on a month-to-month basis, is linked to seasonal factors as the firm limited its traditional summer closures and increased daily production schedules for mid-size vehicles. Local market demand for compact skid steer loaders and compact wheel loaders are returning to robust life as rental companies reenter the market after a late-2005 exit, re-entered in 2006 and exited again in 2007. Industry sales of industrial wheel tractors strengthened in 2006 and ebbed in 2007 due to a rise and fall in U.S. housing starts. It now is in recovery. Demand for midsize machinery used in road construction remains weak. Machinery used in mining applications is exploding.

Export demand for crawler dozers, crawler loaders and articulating-type trucks is in recovery. Local market conditions for highway construction-related vehicles built by Caterpillar Inc., Komatsu Ltd. and other producers remain somewhat stable. Caterpillar is expected to continue to assemble 139 units of construction machines on a daily straight-time basis in the United States next month.

Daily vehicle assembly schedules still feature 24 units of four-wheel-drive wheel loaders, 12 units of hydraulic excavators and one unit of compactor at Aurora, Ill.; 25 units of crawlers at East Peoria; 39 units of skid steer loaders, five units of compact track-type loaders and five units of multi-terrain loaders at Sanford; three units of scraper and 15 units of off-highway trucks at Decatur, Ill., and 10 units of motor graders at North Little Rock, Ark.

Caterpillar Machinery Assembly by Plant

	E. Peoria Assembly	Aurora Assembly	Decatur Assembly	Sanford Assembly	N. Little Rock Assembly	Monthly Factory Output	Stocks
Sep 2012	25/day	37/day	18/day	49/day	10/day	2,925	—
Aug 2012	25/day	37/day	18/day	49/day	10/day	3,200	—
Jul 2012	25/day	37/day	18/day	49/day	10/day	2,600	65
Jun 2012	25/day	37/day	18/day	49/day	10/day	3,095	55
May 2012	25/day	37/day	18/day	49/day	10/day	3,135	50
Apr 2012	22/day	30/day	6/day	52/day	8/day	2,580	75
Mar 2012	22/day	30/day	6/day	52/day	8/day	2,810	55
Feb 2012	22/day	30/day	6/day	52/day	8/day	2,400	45
Jan 2012	22/day	30/day	6/day	52/day	8/day	2,650	35
Dec 2011	19/day	27/day	6/day	49/day	8/day	2,180	50
Nov 2011	19/day	27/day	6/day	49/day	8/day	2,365	50
Oct 2011	19/day	27/day	6/day	49/day	8/day	2,310	45
Sep 2011	19/day	27/day	6/day	49/day	8/day	2,315	45

Note: Data are estimated, subject to revision. Monthly production data represent assembly at Caterpillar's five principal plants in the United States.

Mack Upgrades Pinnacle Trucks with Creature-Comforts

AB Volvo's Mack Trucks Inc. unit, a major maker of heavy-duty commercial vehicles in North America, confirmed last August 7 it soon would update the interior of its Mack Pinnacle-model, over-the-highway trucks with a host of new creature-comforts for drivers.

Mack Trucks said the new creature comforts include: An optional center storage console for Pinnacle Day Cab models with interior lighting and a 12-volt power supply; optional ambient red floor lighting for use at night; a standard 'dead pedal' for the driver's left foot; a standard dash-mounted single automated manual transmission shifter keypad; standard and improved engine brake controls, enabling a driver to set and maintain a target downhill braking engagement speed, in or out of cruise control; a remote in-dash sleeper auxiliary HVAC switch, standard for 70-inch and 60-inch sleepers, and optional for the 56-inch and 48-inch sleepers, and self-canceling turn signals.

In 2011, Mack introduced other interior upgrades to the Mack Pinnacle series, including an optional one-piece windshield and an updated Grand Touring trim package with button-tuck vinyl and ultra-leather seats at no extra charge over the previous trim offering.

Mack manufactures Pinnacle-model over-the-road heavy-duty trucks at a complex in Macungie, Pa. It also builds vocational-type commercial vehicles at the same site. Overall manufacturing schedules currently are pegged at 89 units per day.

Caterpillar Crawler Assembly by Model

	D6	D7	D8	D9	D10	D11	Pipe Layers	Total
Aug 2012	330	105	115	25	—	—	—	575
Jul 2012	245	75	85	20	—	—	—	425
Jun 2012	300	95	105	25	—	—	—	525
May 2012	285	105	125	35	—	—	—	550
Apr 2012	250	90	110	30	—	—	—	480
Mar 2012	300	95	105	25	—	—	—	525
Feb 2012	250	80	90	20	—	—	—	440
Jan 2012	275	85	90	20	—	—	—	460
Dec 2011	215	65	75	10	—	—	—	365
Nov 2011	250	80	90	20	—	—	—	440
Oct 2011	220	70	100	15	—	—	—	405
Sep 2011	220	70	100	15	—	—	—	405
Aug 2011	240	75	85	15	—	—	—	415

Note: Data represent output at plant in East Peoria, Ill. Machinery assembly represents estimated results.

Caterpillar Wheel Loader Assembly by Model

	924/928	938	950/962	966/972	980	988	992/994	Total
Aug 2012	315	—	90	135	35	—	—	575
Jul 2012	210	—	75	90	25	—	—	400
Jun 2012	280	—	80	120	30	—	—	520
May 2012	300	—	80	120	30	—	—	530
Apr 2012	260	—	70	105	25	—	—	460
Mar 2012	290	—	75	110	25	—	—	500
Feb 2012	255	—	65	95	20	—	—	435
Jan 2012	275	—	70	95	20	—	—	460
Dec 2011	200	—	50	75	20	—	—	345
Nov 2011	210	—	75	90	25	—	—	400
Oct 2011	205	—	70	90	25	—	—	390
Sep 2011	205	—	70	90	25	—	—	390
Aug 2011	245	—	80	105	30	—	—	460

Note: 2011 data represent reclassified production by vehicle platform at a plant in Aurora, Ill. Output of 924 and 928-model units shifted to Leicester, Britain, where Caterpillar also produces 902, 906 and 908-model units. Machinery assembly represents estimates, subject to revision.

Caterpillar Motor Grader Assembly by Model

	120	130	12	140	14	16	Total
Aug 2012	115	65	115	30	—	—	325
Jul 2012	70	45	75	20	—	—	210
Jun 2012	105	60	105	25	—	—	295
May 2012	75	45	80	20	—	—	220
Apr 2012	65	35	65	15	—	—	180
Mar 2012	80	40	60	15	—	—	195
Feb 2012	65	35	60	5	—	—	165
Jan 2012	80	45	60	15	—	—	200
Dec 2011	55	40	55	10	—	—	160
Nov 2011	60	35	65	10	—	—	170
Oct 2011	60	35	55	10	—	—	160
Sep 2011	60	35	55	10	—	—	160
Aug 2011	65	40	70	10	—	—	185

Note: Data represent output at plants in Decatur, Ill., and North Little Rock, Ark. Machinery assembly represents estimated results.

Caterpillar Hauler Assembly by Model

	785-789	769-768	773-772	777-776	Total
Aug 2012	—	255	160	—	415
Jul 2012	—	190	115	—	305
Jun 2012	—	235	145	—	380
May 2012	—	245	150	—	395
Apr 2012	—	125	75	—	200
Mar 2012	—	130	80	—	210
Feb 2012	—	100	60	—	160
Jan 2012	—	125	75	—	200
Dec 2011	—	85	50	—	135
Nov 2011	—	75	45	—	120
Oct 2011	—	80	45	—	125
Sep 2011	—	80	45	—	125
Aug 2011	—	100	55	—	155

Note: Data represents output at plant in Decatur, Ill. Machinery assembly represents estimated results.

Volkswagen: 2012 Global Drop in Commercial Vehicles

Volkswagen AG of Germany, a major maker of trucks and diesel engines, predicted last Thursday growth in the global industry-wide market for commercial trucks and buses would slow through the balance of this year, netting an overall decline when compared to the 2011 full-year.

Volkswagen said its worldwide turnover of commercial trucks and buses more than doubled during January-June 2012, to 200,852 units from 80,600 units last year.

Turnover of the vehicles in South America nearly quadrupled to 35,435 units in the period from 9,749 units last year, it added.

Volkswagen noted its newly acquired MAN SE unit accounted for 68,394 units of commercial truck and bus sales during January-June 2012.

Year-ago comparison was not reflected in the Volkswagen results. Scania commercial vehicle turnover fell by 20.5% in the period to 32,032 units from 40,300 units in January-June 2011.

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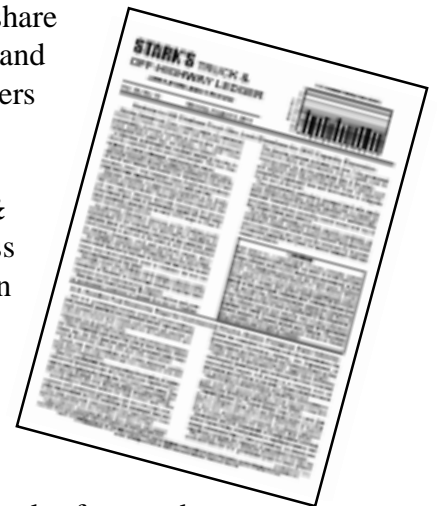
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Case Crawler Assembly by Model

	550	850	855	1150	1155	1550	Total
August 2012	—	115	—	—	—	—	115
July 2012	—	85	—	—	—	—	85
June 2012	—	105	—	—	—	—	105
May 2012	—	110	—	—	—	—	110
April 2012	—	70	—	—	—	—	70
March 2012	—	90	—	—	—	—	90
February 2012	—	80	—	—	—	—	80
January 2012	—	75	—	—	—	—	75
December 2011	—	45	—	—	—	—	45
November 2011	—	45	—	—	—	—	45
October 2011	—	60	—	—	—	—	60
September 2011	—	60	—	—	—	—	60
August 2011	—	55	—	—	—	—	55
August 2010	—	75	—	—	—	—	75
August 2009	—	30	—	—	—	—	30
August 2008	—	65	—	—	—	—	65
August 2007	—	30	—	—	—	—	30
August 2006	—	90	—	—	—	—	90
August 2005	—	25	—	—	—	—	25
August 2004	—	20	—	—	—	—	20
August 2003	—	30	—	—	—	—	30
August 2002	—	10	—	—	—	—	10
August 2001	—	40	—	—	—	—	40
August 2000	—	—	—	—	—	—	—
August 1999	—	10	—	—	—	—	10
August 1998	—	105	—	—	—	—	105
August 1997	—	90	—	15	—	—	105
August 1996	—	10	—	—	—	—	10
August 1995	—	35	5	—	—	—	40
August 1994	—	25	5	—	—	—	30
August 1993	—	15	—	5	—	—	20
August 1992	20	40	5	10	5	—	80
August 1991	—	30	5	5	—	—	40
August 1990	80	95	25	60	15	—	275

Note: Data represent output at plant in Calhoun, Ga. Machinery assembly represents estimated results. Case ended production of the vehicles at Burlington, Iowa, in 2007 and at Wausau, Wis., in 1993.

Case Wheel Loader Assembly by Model

	W11	W14	621	721	821	921	Total
August 2012	—	—	175	105	—	—	280
July 2012	—	—	105	65	—	—	170
June 2012	—	—	160	95	—	—	255
May 2012	—	—	140	80	—	—	220
April 2012	—	—	120	65	—	—	185
March 2012	—	—	155	85	—	—	240
February 2012	—	—	130	70	—	—	200
January 2012	—	—	135	75	—	—	210
December 2011	—	—	100	55	—	—	155
November 2011	—	—	115	65	—	—	180
October 2011	—	—	100	70	—	—	170
September 2011	—	—	100	70	—	—	170
August 2011	—	—	95	65	—	—	160
August 2010	—	—	100	55	—	—	155
August 2009	—	—	85	40	—	—	125
August 2008	—	—	55	45	—	—	100
August 2007	—	—	55	45	—	—	100
August 2006	—	—	55	35	—	—	90
August 2005	—	—	20	10	—	—	30
August 2004	—	—	15	5	—	—	20
August 2003	—	—	55	45	—	—	100
August 2002	—	—	125	95	—	—	220
August 2001	—	—	60	40	—	—	100
August 2000	—	—	115	75	—	—	190
August 1999	—	—	15	10	—	—	25
August 1998	—	—	60	100	—	—	160
August 1997	—	—	70	140	—	—	210
August 1996	—	—	75	110	—	—	200
August 1995	—	—	55	70	25	—	150
August 1994	—	—	20	10	—	—	30
August 1993	—	—	60	20	—	—	80
August 1992	—	15	70	10	—	—	95
August 1991	—	40	—	10	—	—	50
August 1990	60	75	5	30	10	5	185

Note: Data represent output at plant in Fargo, N.D. Machinery assembly represents estimated results. Case ended production of the vehicles at Wausau, Wis., in Sep 1993.

Argentina Truck Assembly

	2012 Jul	2011 Jul	2012 YTD	2011 YTD
Light-Duty				
Ford Argentina	4,381	3,653	17,191	24,174
Ranger Pickup Truck	4,381	3,653	17,191	24,174
Toyota Argentina	7,066	4,085	48,158	36,767
Hilux Simple Pickup Truck	54	—	181	2
Hilux Doble Pickup Truck	5,814	3,458	39,662	31,241
Hilux SW4	1,198	627	8,315	5,524
General Motors Argentina	—	—	—	750
Chevrolet Corsa Combo	—	—	—	750
Renault Argentina	1,649	1,914	13,649	10,508
Renault Kangoo	1,364	1,381	12,403	7,984
Renault Kangoo Diesel	285	533	1,246	2,524
Peugeot-Citroen Argentina	2,447	1,478	9,284	8,746
Peugeot Partner Pickup Truck	1,706	970	6,582	6,280
Citroen Berlingo Truck	741	508	2,702	2,466
Volkswagen Argentina	7,366	7,155	41,255	39,746
VW Amarok Pickup Truck	7,366	7,155	41,255	39,746
VW Caddy Pickup Truck	—	—	—	—
Total Light-Duty	22,909	18,285	129,537	120,691
Medium/Heavy-Duty				
Mercedes-Benz Argentina	1,437	1,408	5,962	8,227
Sprinter Diesel Pickup Truck	1,308	1,408	5,246	8,227
1720 Chassis	129	—	716	—
Iveco Argentina	524	536	2,649	2,758
Iveco 160 Series Trucks	2	—	15	—
Iveco 170 Series Trucks	289	265	1,324	1,511
Iveco 180 Series Trucks	32	27	171	105
Iveco 200 Series Trucks	3	7	31	20
Iveco 230-260 Series Trucks	36	27	256	127
Iveco 380 Series Trucks	30	15	119	252
Iveco 440 Series Trucks	—	—	—	—
Iveco 450 Series Trucks	83	121	351	418
Iveco 490 Series Trucks	27	37	200	242
Iveco 570 Series Trucks	—	34	4	39
Iveco 720 Series Trucks	5	1	34	9
Iveco 740 Series Trucks	17	2	144	35
Total Medium/Heavy-Duty	1,832	1,944	7,895	10,985
Buses				
Iveco	2	9	8	33
Iveco 118-170 Series Buses	2	9	8	33
Mercedes-Benz	322	198	1,398	1,194
Sprinter Combi	153	—	691	—
OF-1418/OH-1618/OH-1718	169	198	707	1,194
Total Buses	324	207	1,406	1,227
Grand Total	25,065	20,436	138,838	132,903

NO WRONG-DOING

Volvo, Iveco, Scania, MAN European Probes End

United Kingdom's Office of Fair Trading and its European Commission counterpart quietly terminated two separate 1-1/2 year-old antitrust probes late last June over possible collusion between Caterpillar Inc., AB Volvo, Fiat S.p.A.'s Iveco truck and diesel engine-making unit, Daimler AG, Scania AB and MAN SE, major makers of commercial trucks and buses in Europe, as well as industrial-type engines, without taking any action.

The probes centered on suspected collusion of producers of industrial piston engines and price-fixing of commercial vehicles in Europe.

Scania confirmed in January 2011 it was being investigated by the European Commission over the "inappropriate exchange of information." Scania was not more specific about the nature of the regulatory investigation at the time. MAN also followed suit.

Iveco S.p.A. now is a part of Fiat Industrial S.p.A. Scania and MAN now are controlled by Volkswagen AG of Germany.

Toyota to Test an On-Demand Bus System in Japan

Toyota Motor Corp., a major maker of Hino-branded buses, confirmed last Thursday it plans by this October to test an "on-demand bus system" with the municipality of Kamaishi City, Japan, to link temporary housing units in the area affected by the 2011 Great East Japan Earthquake with the downtown area of the city.

"The test is part of efforts to provide flexible transportation services for people traveling to and from temporary housing units. The system must also be able to adapt to change as infrastructure restoration progresses," the company said.

Toyota added, "Kamaishi City will use a TMC-produced on-demand transportation management system to manage the city's microbus fleet and dispatch buses on request to pick up and drop off passengers at desired locations and times."

It said tests of the on-demand bus system would conclude in March 2015.

MORE SPENT FOR ASIA DEALER

Caterpillar Pays \$444 Million for Mitsu Heavy CM Stake

Caterpillar Inc., a major maker of construction, mining and utility-type machinery, disclosed 10 days ago in a regulatory filing with the U.S. Securities & Exchange Commission it paid \$444.0 million to Mitsubishi Heavy Industries Ltd. on April 2, 2012, to acquire all of the remaining venture interest in Shin Caterpillar Mitsubishi Ltd. which it did not already possess.

As reported, Caterpillar disclosed last February it would spend an additional ¥36.50 billion (\$447.8 million) during the second quarter of this year to acquire the remaining equity interest which it did not already own in the construction machinery-making venture with Mitsubishi Heavy Industries.

Caterpillar created the venture, now renamed Caterpillar Japan Ltd., with Mitsubishi Heavy nearly 45 years ago. In 2008, it became a majority equity holder in the venture.

Caterpillar Japan Ltd. employs nearly 5,000 workers at several manufacturing and design centers in Sagami and Akashi, Japan.

Caterpillar also disclosed 10 days ago in a regulatory filing with the U.S. Securities & Exchange Commission it acquired Caterpillar Tohoku Ltd., a distributor of Caterpillar vehicles in Japan, last March for \$202.0 million. Caterpillar said in the filing that Caterpillar Tohoku possessed tangible assets valued at \$251.0 million.

SPECIAL REPORT

XCMG Claims a 'Breakthrough' in Structural Part Painting at New 33-Bay Crane-Making Site

Xuzhou Construction Machinery Group Co. Ltd., in an aggressive business strategy to become the world's third largest producer, seller and exporter of construction machinery by 2015, said a newly commissioned production site in Xuzhou, Jiangsu, China, for medium and large-tonnage cranes, and all-terrain cranes possesses a "breakthrough...in the linearization of structural part painting, chassis assembling and complete machine's testing."

The massive plant, capable of manufacturing 5,000 units of cranes each year, consists of six production units—blanking, machining, structuring, assembling, painting, commissioning and repairing. It possesses a 33-bay production workshop covering 250,000 square meters. The site's commissioning lot spans another 130,000 square meters.

"The blanking workshop, the machining workshop as well as the structural part production unit and the assembly unit, are integrated together to span more than 10 bays and stand in contrast to the commissioning area in the east side, where each and every vehicle has to be tested and debugged strictly and comprehensively," XCMG explained.

"For the world's top overlarge tonnage circular arc beam technology," XCMG claimed it "has cracked the nut of splice plate thickening technology for 500-tonnage products for the first time and accordingly offered its 500-tonnage products at a comparatively advantageous position in the international market.

"The first visual large-tonnage assembly line of the industry made a breakthrough in 1000-tonnage production, guaranteeing the timely supply of parts and components and reversing the situation that large-tonnage products are stall-like manufactured. XCMG crane 3D Flexible Tooling System, which is a result of joint efforts by top experts from Europe, America and China, offers more than 20 lattice jib splicing modules covering all series of production lines.

"Counter-deformation technology of welding for oversized structural parts is an exclusive know-how technology based on the adequate analysis of deformation stress and characteristics of structural parts.

"The first large-tonnage complete machine's testing line of the industry guarantees the high efficiency and precision in testing such key links as jib hoisting, boom hydraulic system, telescopic system. Linearized painting system for complete machines reverses the situation that oversized parts for the 1000-tonnage product have to be manually painted in the open, and it has reached the advanced level of the world.

"The innovative technology and the outstanding manufacturing capacity enable XCMG to reproduce the design concept in its products to the full and take the lead worldwide in terms of product quality. Linear production and efficiency enhancement facilitate the growth of annual output value to the world-class level.

"There are two innovative measures in the XCMG Heavy Machinery Industrial Park which facilitate the annual growth of crane output value by great margin to overtake the world level," it claimed.

"Firstly, as the large-tonnage production linearization level is heightened, a breakthrough has been achieved in the linearization of structural part painting, chassis assembling and complete machine's testing. The tonnage has been raised to 1,200 tons from 70 tons for the first time and the production efficiency heightened by great margin to an internationally leading position.

"Secondly, in response to the different demands from the crane market, other construction machinery market and the automobile market, flexible production lines are adopted to enable the production of machines from 35-tonnage to 1,000-tonnage, and to improve the response capability to the market demand of small batch size in a rich variety while the fast volume production is maintained.

"The production capacity of XCMG is thus upgraded to the world level and resultantly narrows the gap between XCMG and other international leading enterprises.

"Whether the process simulation system or the information system, whether the Manufacture Engineering System or Product Data Management system," XCMG said it "spares

no efforts to seek to establish a digitized factory with each production nod processed by information networking and monitored by visual terminals, and to strive to be a crane factory characterized with the highest degree of digitization and automatic management worldwide."

XCMG also claimed two other newly commissioned manufacturing sites for concrete pumping and mixing machinery set new world-wide industry benchmarks for the concrete machinery-making industry due to their size, technical advancement and quality control measures.

XCMG launched final production last June 25 of concrete pump trucks, automotive pumps, trailer pumps, concrete-spraying vehicles, concrete mixer trucks, dry mix mortar trucks, concrete mixing stations, and dry mix mortar mixing stations at the two new manufacturing plants capable of producing 20,000 sets of the machinery on an annual basis.

XCMG said the concrete pumping machinery-making facility is the world's largest interconnected seven-span workshop. "There are seven pump truck assembly lines, which are all equipped with intelligent fastening machine, assisting robot-arm and other automation equipment." It said the "online assembly rate has reached above 90 per cent and the assembly efficiency has reached industry's leading level.

"During the product coating process, the industry takes the initiative to adopt constant-temperature coating conveyance and parts surface painting engineering; the workshop also employs the industry's most advanced centralized paint transmission and mixing system to ensure the optimal painting effects.

"MES intelligent production management system is comprehensively introduced to conduct optimal management for the whole production process from placing orders to product completion, effectively realizing the organic integration of technology, manufacture, information, logistics and management.

"The form of welding workstation and special welding machine is adopted to improve the automated welding rate and welding efficiency and the automated welding rate has reached industry's advanced level.

"Lean production pattern is adopted, the processing units are subject to linear distribution, internationally advanced cutting machine is adopted for plate cutting, the tack welding for all the structural members is made with clamping fixtures, all the key parts are welded by welding robots and all the key basal parts are processed with global state-of-the-art equipment.

"Lean Six Sigma management method is fully implemented and the procedure of 'incoming control, process control, finished product control' and 'constant improvement' is strictly abided by to form the industry's unique quality assurance advantage."

XCMG also said its new concrete mixing machinery manufacturing complex possesses an 'E' type layout for the manufacturing of mixing machinery products.

"Consequently, a raw material processing unit can be transferred to the manufacturing line for a variety of concrete mixing products, and components can be directly moved to the warehouse without undergoing other manufacturing processes, such that unnecessary turnaround in the manufacturing process can be effectively eliminated, and lean logistics in the manufacturing process for concrete mixing products can be achieved."

The company said it introduced large steel plates and section pretreatment equipment to the plants manufacturing processes. "No-rust welding was achieved. Such advanced, efficient plate and section blanking equipment as large format laser cutting machines, precision plasma cutting machines, robots steel cutting machines, and angle steel ironworker lines were used, and such efficient nesting technologies as shared edge, even cutting, automated pre-perforation and shared holes were applied, such that 'efficient, high quality and lower power consumption' cutting have been achieved and processing precision and efficiency have been improved. (continued on next page)

(continued from previous page)

"The domestically-advanced automatic seam and straight seam automatic welding technology and such automatic welding technology as welding stations using main mixing machine robots are applied to improve the automated welding rate and welding efficiency.

"Double-face boring machining centers, gantry drilling and milling machining centers and other sophisticated equipment are used to ensure processing quality. Industry-advanced and efficient plate chain assembly lines are installed, and pneumatic and electric tools are put in place to reduce labor intensity and improve production efficiency.

"The introduction of the MES intelligent production management system results in the realization of equipment data-based management and system test of data transmission, to ensure the real-time availability of production and quality information."

XCMG described the control system and the main mixing machine as the 'brain and heart' of concrete machinery and equipment. "In order to fully grasp the core manufacturing technology, and to further develop XCMG concrete machinery's advantages of being professional, exquisite, special, and new, XCMG Construction Machinery established the first electrical factory in the industry, which has completely changed the fact that the industry's electrical system is outdated.

"One control system wiring harness assembly line and two control system control cabinet assembly lines have been designed and developed, such that specialized production of electrical systems has been achieved and advanced, reliable and efficient control system manufacturing technologies have been developed.

"Production lines using highly specialized main mixing machines are built, and the full coverage of KBK and board chain lines enables the assembly lines to run smoothly, which greatly improves the efficiency of the assembly. Modern MES control systems are used to control the assembly lines, and dynamic updates and real-time availability of production and management information are achieved through LED displays that visualize such information as the main machine's assembly line plan and abnormal stations.

"Debugging stations are equipped with visualization automatic detection control system to reduce measurement errors caused by personnel's operation."

XCMG said the mixing machinery production site is equipped with "dynamic monitoring and testing" for product quality.

It explained, "We can see (at the plant) such processes as relevant materials and specifications inspection, processing quality testing, performance testing, online assembly testing, control system simulation, mixer no-load test bed, system simulation, and whole machine test platform throughout the processes from the delivery to the factory and blanking of raw materials including steel and the processing of structural members to assembly and painting.

"Such arrangements can ensure that the whole production process is always in a state of the dynamic detection and management. The use of such test equipment as large articulated arm CMM, on-line detection system, working conditions simulation system, and test platform result in high reliability of XCMG concrete mixing machinery products and customers' satisfaction."

As reported, (see p. 107 of prior issue for exclusive details,) XCMG claimed another new, high technology assembly plant in Xuzhou, Jiangsu, China, for 6-12 ton wheel loaders covers 24 football fields and possesses the world's first "super-size discrete manufacturing system"—an industry milestone.

It noted the wheel loader-making facility, which it said is "the greatest modern plant of the world," took the firm one year to construct, and is the "first green plan in China's engineering machinery industry."

XCMG said the site has a "high management level" with "equipment manufacturing networked management system (that) is fully used for production management, and functions like processing procedure transmitting and equipment dynamic monitoring...The high manufacturing level, a lot of intelligent equipment is input, precise delivery is achieved by automated logistics, and intelligent management is implemented."

XCMG reaffirmed the new, 201,000-square-meter wheel loader manufacturing complex is capacitized to assemble 40,000 units of vehicles annually.

It added, "The base (wheel loader-making plant) is built based on the concept of XCMG on fully building world-class quality and the principle of lean production. A lot of advanced and efficient intelligent manufacturing technologies and processing equipment are adopted on blanking, welding, mechanical processing, coating, and assembling. To improve the intelligent manufacturing level, a lot of automated equipment like welding robot, coating robot and cutting robot is used during technological construction."

Welding robot groups at the plant "form two automated welding lines in this technological transformation, either of the configuration quantity or of the application scope makes this technological transformation become the one and only in the loader industry, e.g.: the whole welding and manufacturing process of the bucket of the loader can realize unmanned operation, and therefore the labor cost is greatly reduced, and the welding quality is obviously improved.

"In terms of coating technique, the base took the lead in introducing lamella cathode electrophoretic and powder coating system in the engineering machinery industry, and innovatively achieved automatic hanging and converting of plot chain and program-controlled running, thus, the pretreatment electrophoretic and powder coating processes are perfectly jointed.

"Meanwhile, the production process of the coating unit and the component transportation are integrated to achieve the concept of 'one flow,' and the automated coating of the component can be fully implemented."

XCMG said the size of the wheel loader manufacturing complex equates to 24 football fields with "11,000 long plot chain transportation lines which pass through the complete set of processes on structural component, coating, assembling, lamina, etc., and the line layout is far more complex than automobile manufacturing industry.

"Process designer said that the large-scale complex plot chain like this is the first one serviced in the global engineering machinery industry. When designing, we changed common design ideal, and adopted transverse sectional design of plot chain and assembly line, so the degree of automation on transportation is higher, and the efficiency is greater.

"The base is provided with lots of AGV trolleys for ground logistics transfer; information system will sequence the materials when automatically scanning the rail pallet, transmitting information on real time, and automatically controlling via the host computer; material unmanned and precise point delivery can be implemented in about 300 delivery points on the two assembly lines according to the production frequency, thus, full-automatic intelligent three-dimensional mode of each production unit on logistics transfer is achieved.

"Meanwhile, SAP system and MES system are further optimized and integrated to make the production plan and dynamic tracking cover the working section level, and informatization control system for the whole production process is established."

As reported, XCMG completed construction and launched final production of all-terrain cranes, "intelligent" wheel loaders, concrete pumping machinery and concrete mixing machinery at four new manufacturing plants two months ago at Xuzhou.

XCMG claimed the four new manufacturing plants are the world's largest and most technologically-advanced "with the greatest lean manufacturing capacity, marking a significant industrial upgrading and strategic transformation in the 12th Five-year Period."

It predicted the new plants would have "a significant impact on the enhancement of the international competitiveness and competitive landscape of China's construction machinery industry."

XCMG added, "Early in 2010, XCMG started the implementation of over 40 projects of the construction of industrial bases. The construction of the Four Manufacturing Bases was officially started in 2011 and completed and commissioned in June, 2012; the technological transformation which would take 24 months to complete in the average capacity of the industry has been completed by XCMG for only 12 to 14 months, setting a new benchmark for technological transformation and upgrading in the industry."