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Global product development solutions for mobile OEMs



OVER
165
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INSIDE

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ENGINE Spec Guide

OEM Off-Highway Spec Guides are essential industry tools for component specing during the equipment research, development and design phases. These are the industry's first online, interactive component specing products custom-built for engineers - and by engineers - of the product development team to find exactly what they need for the next generation of mobile equipment.

TONS

OF ENGINE SPECS ARE AVAILABLE FOR YOU ONLINE!

OEM Off-Highway

BAUMA ENGINE DRIVETRAINS FLUID POWER ELECTRONICS OPERATOR ENVIRONMENT GREEN & HYBRID DESIGN & MANUFACTURING TRENDS & ANALYSIS COMPONENT DIRECTORY

ENGINE Spec Guide MOTOR Spec Guide PUMP Spec Guide

OEM Off-Highway Spec Guides are essential industry tools for component specing during the equipment research, development and design phases. These are the industry's first online, interactive component specing products custom-built for engineers - and by engineers - of the product development team to find exactly what they need for the next generation of mobile equipment. [Engine Spec Guide](#) | [Motor Spec Guide](#) | [Pump Spec Guide](#)

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The OEM Off-Highway Engine Spec Guide is the industry's first online, interactive component specing tool custom-built for engineers and product development team members to find exactly which engine they need for integration into the next generation of equipment.

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SEARCH SPECIFICATIONS SEARCH

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hp	Disp. liters (l)	Torque (lb.-ft.)	Fuel	Tier Reg. Compliant Emissions Certifications	Aftertreatment	Dimensions (in.)			Weight (lb.)		Model	Family/Series	Company
						L	W	H	Dry	Wet			
0	0.15	6.50	G	EPA Phase 3/CARB Tier 3		14.4	14.0	10.5	23.8		XT Series	XT650	Kohler Co.
0	0.15	6.75	G	EPA Phase 3/CARB Tier 3		14.4	14.0	10.5	23.8		XT Series	XT675	Kohler Co.
0	0.17	7.75	G	EPA Phase 3/CARB Tier 3		17.1	13.9	11.0	26.9		XT Series	XT775	Kohler Co.
1	0.03	0.74	G	Tier 3		7.6	8.7	9.1	6.8		Mini 4-Stroke	GX25	Honda Engines
1.3	0.04	1.2	G	Tier 3		8.0	9.2	9.4	7.6		Mini 4-Stroke	GX35	Honda Engines
2	0.08	3.85	G	EPA Phase 3 (Class 5)		9.4	12.6	11.5			PLMH		Liquid Combustion Technology (LCT)
2.1	0.05	2	G	Tier 3		8.9	10.8	13.0	12.1		GX	GXH50	Honda Engines

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The OEM Off-Highway Motor Spec Guide is the industry's first online, interactive component specing tool custom-built for engineers and product development team members to find exactly which motor they need for integration into the next generation of equipment.

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- Sorting the information by any column to order the information the way you need it
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You can search by specs and export the results as a PDF or Excel file.

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PRODUCT SHOWCASE

The Annual Showcase issue is your window into the latest product launches for the heavy-duty vehicle industry.

Browse through pages of products to get a taste for what's available to you, but don't forget that thousands more products wait for you online at www.oemoffhighway.com/Directory.



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12 Engines

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130 The Euclid TC12

After several lackluster equipment solutions to increase power for crawler tractors,

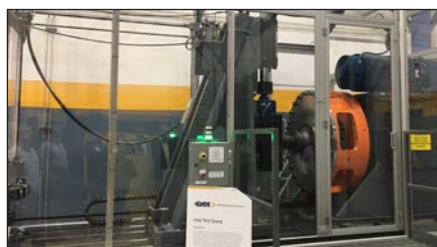
Euclid designed a vehicle from the ground up to handle the output and weight of two powertrains.

Search: [20858662](#)



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Online Exclusives www.oemoffhighway.com



Increased Testing Capabilities Enable Improved Product Optimization

A component manufacturer expands its hub and spindle testing capabilities to enable creation of more optimized products and improve time to market.

Search: [20862837](#)

Signs of a Positive 2017?

First quarter financial reports are out, indicating the year is off to a good start and 2017 may be a stronger economic year.

Search: [20860433](#)

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201 N. Main Street, Fort Atkinson, WI 53538
(800) 538-5544 • www.ACBusinessMedia.com
www.OEMOffHighway.com

PRINT AND DIGITAL STAFF

Publisher **Sean Dunphy**
sdunphy@ACBusinessMedia.com

Associate Publisher/Editor **Michelle Kopier**
mkopier@ACBusinessMedia.com

Managing Editor **Sara Jensen**
sjensen@ACBusinessMedia.com

Senior Field Editor **Curt Bennink**
cbennink@ACBusinessMedia.com

Contributing Writer **Thomas Berry**

Senior Production Manager **Cindy Rusch**
crusch@ACBusinessMedia.com

Art Director **Dave Haglund**

Audience Development Director **Wendy Chady**
Audience Development Manager **Angela Kelty**

ADVERTISING SALES (800) 538-5544

Stacy Roberts.....sroberts@ACBusinessMedia.com

Al Bower.....abower@ACBusinessMedia.com

Jill Draeger.....jdraeger@ACBusinessMedia.com

Sean Dunphy.....sdunphy@ACBusinessMedia.com

Erica Finger.....efinger@ACBusinessMedia.com

Change of Address & Subscriptions — PO Box 3605
Northbrook, IL 60065-3605, Phone: (877) 201-3915
Fax: (847) 291-4816 • circ.OEMOff-Highway@omeda.com

List Rental — **Elizabeth Jackson**, Account Executive,
Merit Direct LLC, Phone: (847) 492-1350 ext. 18
Fax: (847) 492-0085 • ejackson@meritdirect.com

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Erica Finger at 920-542-1230
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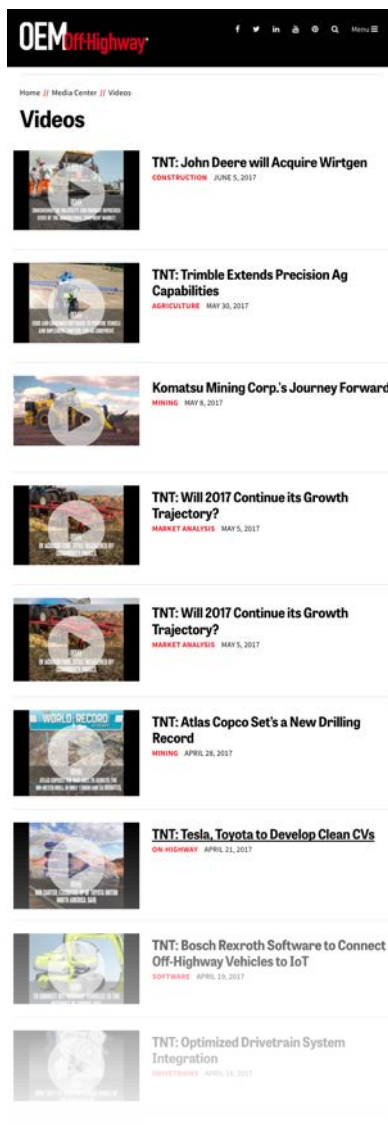
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Volume 35, No. 4, June/July 2017



Video for a Dynamic Media Industry



It is becoming more common for me to find parallels between my job and the product development team. We both conduct ample research before a finished product (article) can be completed, travel around the world to see the latest technologies and confer with experts.

Even while writing last month's Editor's Note, *Why Tradeshow Matters for Engineers* (read online, [20858034](#)), I realized that just as engineers are the first to be cut from travel budgets, so too are editors.

In yet another parallel, the dynamic nature of technological advancements in the heavy-duty vehicle space correlates nicely to the dynamic nature of the media industry. There are always new ways readers are consuming their information. For a while, tablets were seen as a disruptive technology and the app world exploded for magazine publishers.

More recently, there has been a surge of mobile phone information absorption as social media and news aggregator alert systems build reader profiles and deliver news to the consumer based on their interests. Facebook is one of the largest "news" sources used by readers, and I use the term news loosely because it isn't a source, but simply a platform for content delivery by a wide array of sources, some reliable and others not.

And as social networks and mobile devices become the norm for content absorption, the structure of information must conform to suit the delivery platform. I'm sure you have noticed the trend from static posts and articles to videos on Facebook, for example. That is a change in how consumers want their information delivered to them based on the nature of how Facebook is used. Since Facebook is scrolled through, video is the fastest way to catch a consumer's eye and hold their attention in a way that static words and images cannot.

This is why OEM Off-Highway has started to release its minute-long *Technology News Tracker* videos. The *Technology News Tracker* video series seeks to grab a reader's attention with a single news announcement in an easy-to-absorb quick video. Additional in-depth information is available should the reader/viewer want more.

The *Technology News Tracker* videos can be found everywhere:

- OEMOffHighway.com's Media Center, oemoh.com/videos
- OEM Off-Highway's YouTube channel, oemoh.com/youtube
- Facebook, facebook.com/OEMOffHighway
- Twitter, twitter.com/OEMOffHighway
- Instagram, instagram.com/OEMOffHighway

Enjoy the new content! And as always, let me know what you think.



Michelle

editor@oemoffhighway.com



@OEMEditor

AUGUST "E" ISSUE

- Hydrogen Fuel & Fuel Cells
- Battery Technology & Thermal Management Materials
- Connected Cities & Electromobility
- Electric Powertrains
- Hybrid Vehicle Profiles
- + The 2017 Engine Spec Guide

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U.S. SEEING RECOVERY

Across the Board

Production in the U.S. for agricultural machinery, heavy-duty trucks and construction machinery are all on the rise. For U.S. agriculture, machinery production is projected to exceed 2016 numbers slightly. As for U.S. construction machinery production, cyclical rise signals there may be more opportunities in this sector moving into the second half of 2017.

U.S. Total Public New Construction has seen an ongoing decline specifically in U.S. Total State and Local Government Construction, which suggests the Total Public New Construction segment will contract further in 2017. |

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QUESTIONS?

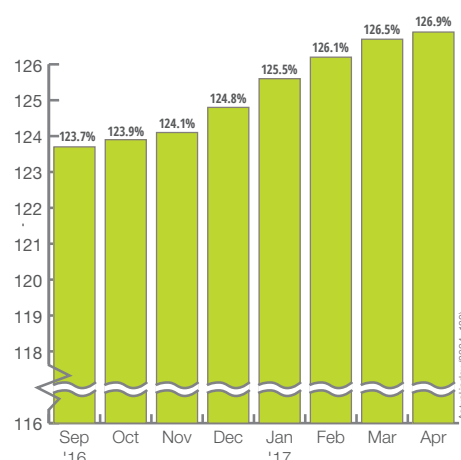
economics@oemoffhighway.com



U.S. Leading Indicator:

- The U.S. Leading Indicator rose further in April.
- Rise in the Leading Indicator suggests that overall growth and positive business cycle momentum in the U.S. economy will persist through 2017.

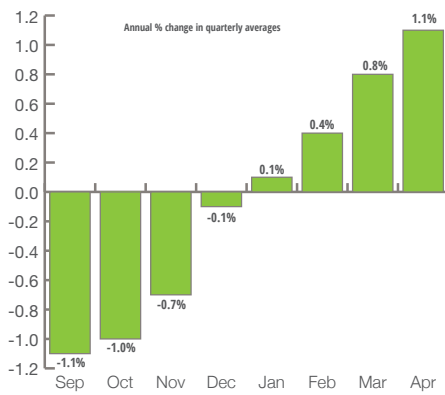
Editor's Note: Please note that this chart has been modified on the Y-axis to show the trend more easily.





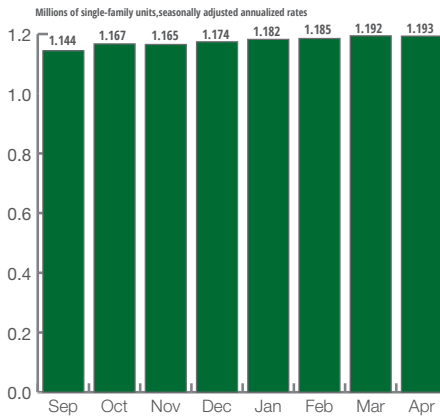
U.S. Total Industrial Production:

- Average U.S. Industrial Production during the 3 months through April was up 1.1% compared to the same 3 months 1 year ago.
- Expect rise for 2017 as manufacturing activity picks up.



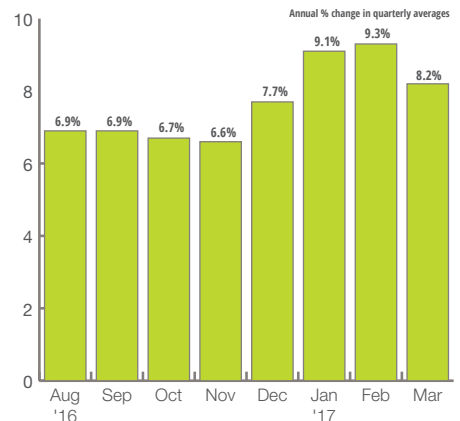
Housing Starts:

- U.S. Housing Starts during the 12 months through April totaled 1.193 million units.
- Starts have tentatively ticked up into an accelerating growth trend and are expected to rise throughout 2017.



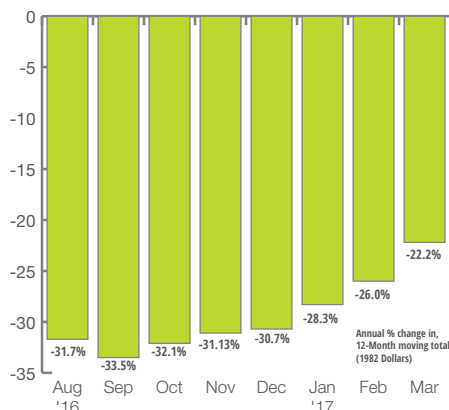
Private Nonresidential New Construction:

- Construction is decelerating but was up 7.3% year over year during the 3 months through March.
- Expect ongoing rise in Private Non-residential New Construction.



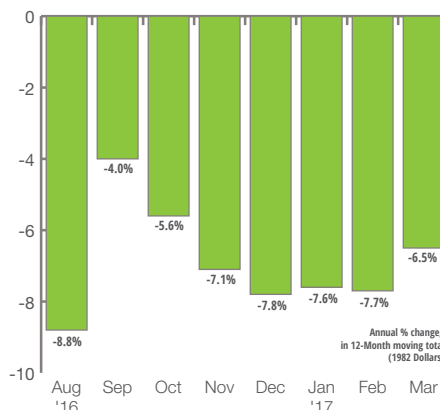
Construction Machinery, New Orders:

- The New Orders trend turned upward since the last report.
- Expected growth in U.S. Housing Starts and rising U.S. Nondefense Capital Goods New Orders (excluding aircraft) in 2017 suggest cyclical rise for Construction Machinery New Orders this year.



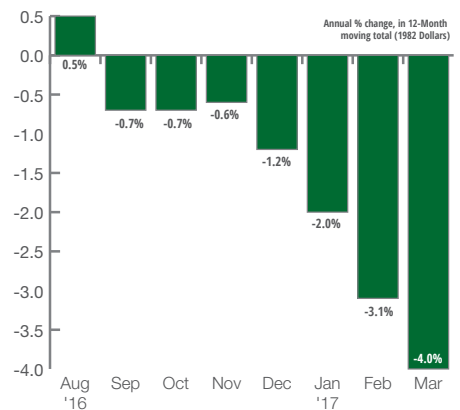
Farm Machinery & Equipment Supplies:

- U.S. Farm Machinery & Equipment Supplies is down 6.5% but is recovering.
- Cyclical rise in the John Deere Stock Prices (12-month lead time) signals that further cyclical rise is likely moving into 2018.



Total Public New Construction:

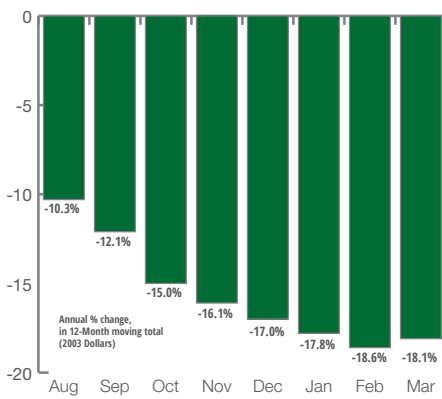
- U.S. Total Public New Construction during the 12 months through March was down 4.0% compared to the year-ago level.
- Public New Construction will decline through late 2017.





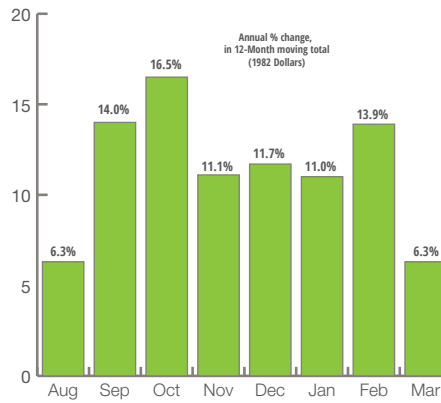
Heavy-Duty Truck Shipments:

- U.S. Heavy Duty Truck Shipments during the 12 months through March were down 18.1% compared to the year-ago level.
- Shipments transitioned toward a recovery trend in March. Rise is probable later this year.



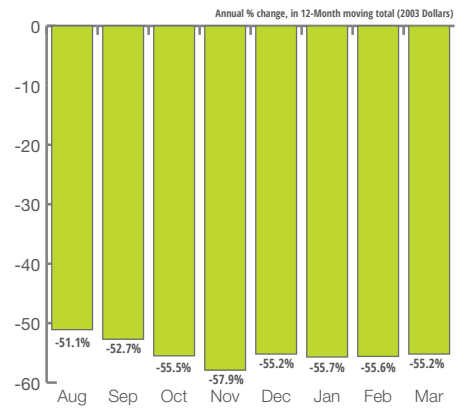
Defense Industry, New Orders:

- U.S. Defense Capital Goods New Orders is rising at a decelerating pace.
- The quarterly rate-of-change has downward passed the annual rate. This signals that New Orders will maintain deceleration status.



Mining, Oil & Gas Field Machinery New Orders:

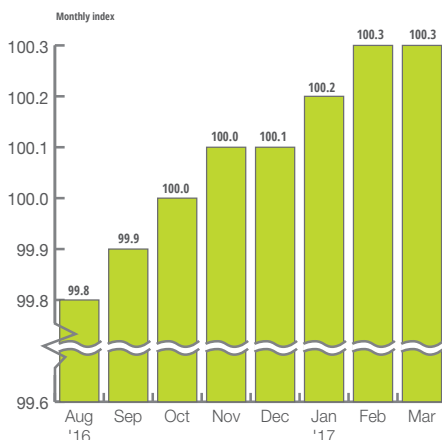
- U.S. Mining Machinery New Orders is 55.2% below the year-ago level.
- Expect New Orders to recover as oil and metal prices generally rise.



Europe Leading Indicator

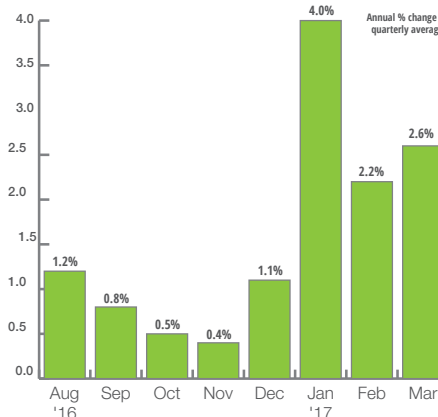
- The Europe Leading Indicator is rising.
- Rise in the Leading Indicator suggests that the European economy will expand at a faster pace in 2017 than in 2016.

Editor's Note: Please note that this chart has been modified on the Y-axis to show the trend more easily.



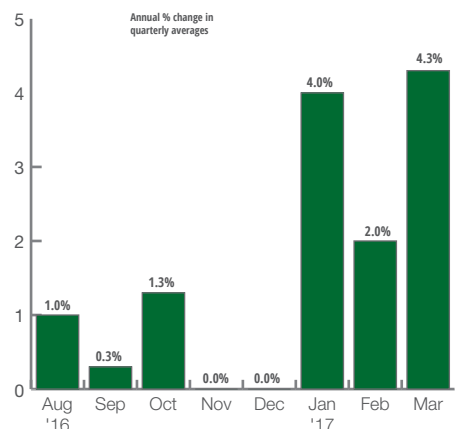
Industrial Production, United Kingdom:

- Average UK Industrial Production during the 3 months through March rose 2.6% compared to the same 3 months in 2016.
- Production will generally decelerate through late 2017 but will avoid recession during this cycle.



Industrial Production, Germany:

- Average Germany Industrial Production in the 3 months through March was up 4.3% compared to the same 3 months 1 year earlier.
- Expect Industrial Production to generally accelerate through 2017.



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Engines & Components

Sponsored by Federal-Mogul Powertrain

Federal-Mogul Powertrain's new industrial spark plug has unprecedented mechanical and electrical strength, thanks to a new 'u-shaped' core nose on the insulator. The Pokal spark plug offers increased robustness for use in new engine applications with high peak cylinder pressures while also enabling the use of larger electrodes, providing increased service life and enhanced performance.

"The geometric constraints of a 14mm plug make it more difficult to meet the levels of robustness and durability possible with an 18mm product, but we have achieved this with our new Pokal spark plug," said Gian Maria Olivetti, Chief Technology Officer, Federal-Mogul Powertrain. "The unique shape of the insulator core nose increases its resistance to mechanical pressure waves, allowing OEMs to use more aggressive combustion strategies for improved engine efficiency without reducing spark plug life."

Conventional insulators have a conical nose, the shape of which defines the heat range of the plug and ultimately limits the thermal extraction and electrical properties. The nose of the Pokal spark plug incorporates a cup-shaped cavity around the centre



electrode, improving both the electrical and mechanical strength. This shape allows the plug to better withstand increased voltage demand requirements, in addition to a more aggressive combustion setting with higher peak cylinder pressures.

The Pokal spark plug has been released for use in engines rated between 100 KW and 600 KW and has

been in production since 2016. Its first application is with a major European industrial engine manufacturer, but the technology is of interest worldwide for marine, off-highway and stationary industrial engines using gaseous fuels, including natural gas, landfill gas and bio-gas.

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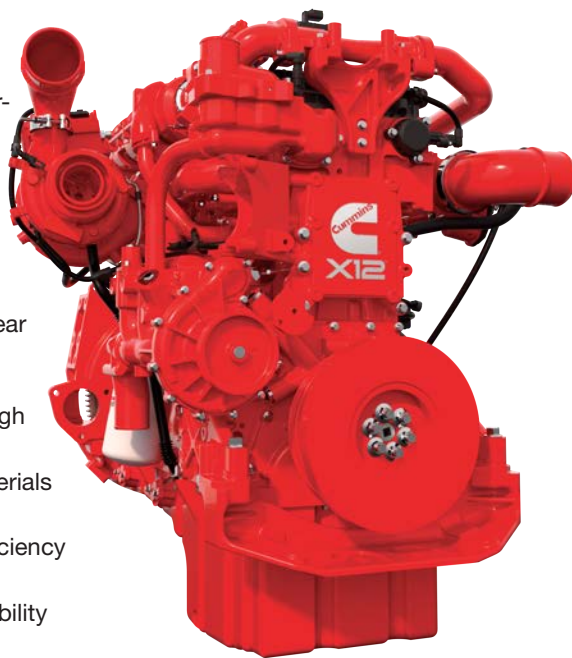
If you're looking for Engines, Fuel Filtration, Air Precleaners, Fans and more just type a keyword into our search bar!

12 L Engine

Cummins Inc. has unveiled the next-generation X12 Series engine, anticipating the productivity and performance needs of the North American Class 8 truck market.

- Enables regional-haul, intracity delivery and vocational trucks to operate at maximum payload with lower fuel consumption and more responsive driving
- Features 12-L design and rating up to 475 hp (354.21 kW)
- Provides up to 1,700 lbs.-ft. (2,304.89 Nw) of peak torque at 1,000 rpm which remains available to over 1,400 rpm, reducing need for gear shifting and giving better low-speed lugging on grades
- Low weight of 2,050 lbs. (929.86 kg) is enabled by sculptured block design which allows unnecessary mass to be removed but retains high rigidity
- Weight savings are achieved by use of high-strength composite materials for oil pan and valve cover
- Single Cam In Head (SCIH) design with roller valvetrain and high-efficiency intake ports minimize complexity
- Includes latest version of Cummins VGT Turbocharger featuring reliability and durability enhancements to boost transient response
- Compliant with Phase 1 greenhouse gas (GHG) and fuel-efficiency standards
- Incorporates Cummins ADEPT, SmartCoast and Predictive Cruise Control (PCC) functions for further fuel savings

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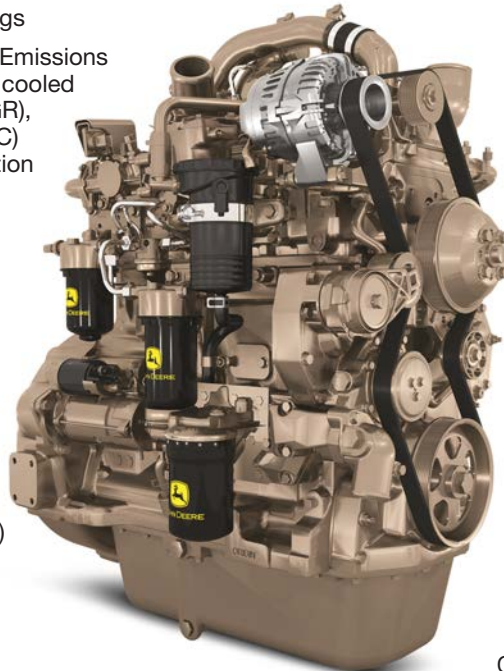
Don't forget to... SEARCH for more product information online using the unique [URL](#) under each product!

Tier 4 Final Engine

John Deere Power Systems announced the latest addition to its lineup of Tier 4 Final industrial engines, the PowerTech PSL 4.5L engine.

- Features variable speed ratings
- Equipped with an Integrated Emissions Control system consisting of cooled exhaust gas recirculation (EGR), diesel oxidation catalyst (DOC) and selective catalytic reduction (SCR) system
- Integrated Emissions Control system designed to balance performance and operating requirements
- Combustion optimization eliminates need for DPF
- Delivers more power density and improved low-speed torque
- Available with power ratings from 93-129 kW (125-173 hp)

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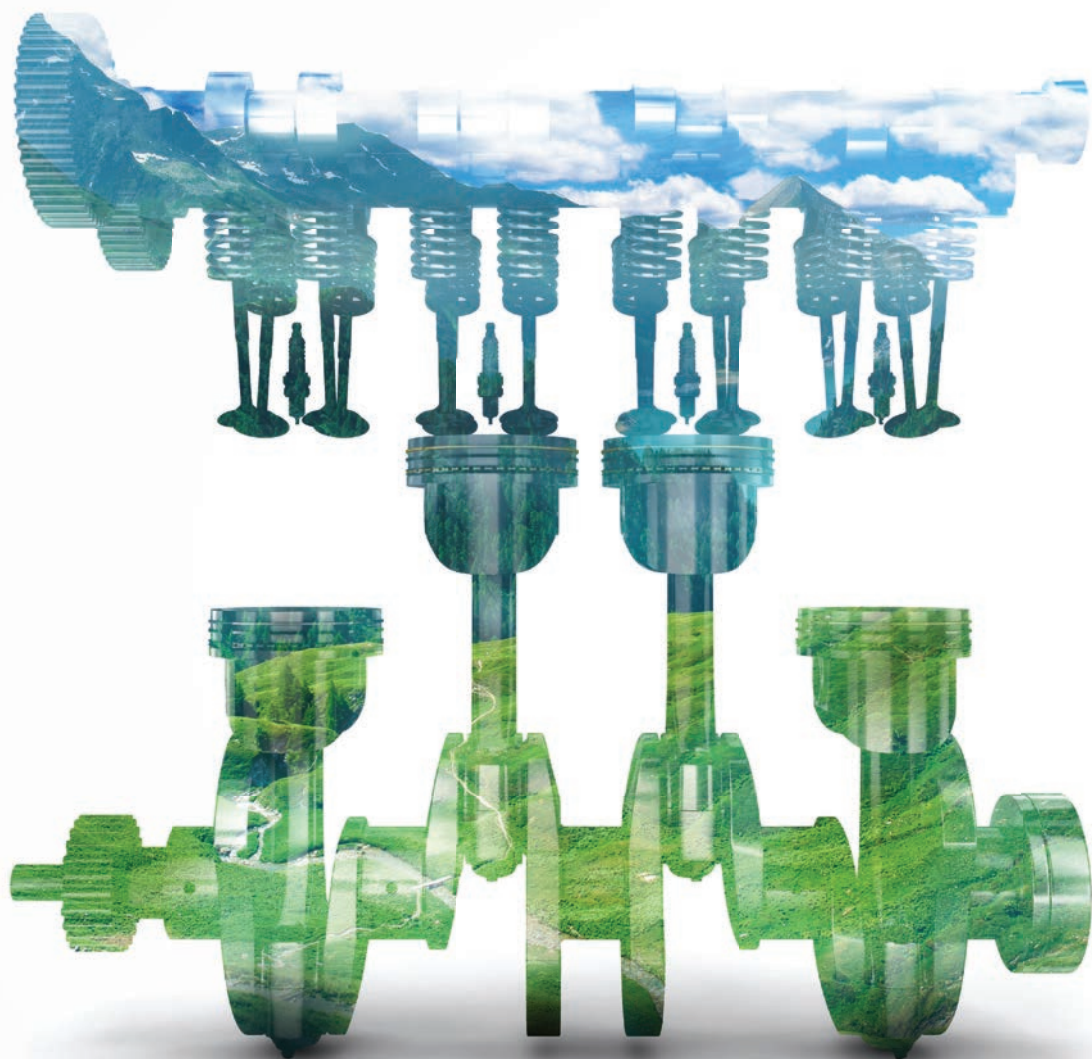
Mining Engine

Liebherr has introduced the 12-cylinder D9812, the first of its Series D98 engines for use in the mining industry.

- Features power output rating up to 2,700 hp (2,013 kW)
- Architecture and high system integration with all key components developed by Liebherr helps achieve high efficiency
- Intelligent engine control unit (ECU) and common rail 11.5 fuel injection system are well matched, providing low fuel consumption
- Easy to maintain
- Modular system consisting of specially-adapted components to suit specific application needs and ensure optimum performance
- Includes newly developed SCR system

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A Better World.

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At a very personal level, we strive to grow as people doing our creative best inspiring colleagues at all levels across roles. We are producers of breakthrough advancements in component design, materials and more efficient propulsion. These breakthroughs drive lighter weight powertrain solutions that help our customers improve fuel economy and reduce harmful emissions. Cleaner technologies create better products for a better world.



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SEARCH: 20863143

Cummins Announces Engine Compatibility with Select Renewable Diesel Fuels

Cummins has confirmed compatibility of its B4.5, B6.7 and L9 engines with paraffinic renewable diesel fuels which meet the EN 15940 specification.

SEARCH: 20859216

Global Diesel Engine Market for Construction and Earthmoving to Grow 3.83%

Research and Market's latest report shows the global diesel engine market will grow at a CAGR of 3.83% due to increasing demand for fuel-efficient equipment.

SEARCH: 20854403

Kalmar Selects Volvo Penta for Stage V

Kalmar has chosen Volvo Penta's new Stage V engine, debuted at CONEXPO 2017, for its cargo handling products.

SEARCH: 20851397

Rolls-Royce Enters Excavator Market, Supplying MTU Engines for JCB

Rolls-Royce MTU engines will be used in JCB JS 300, 330 and 370 Series excavators; a new JS 370 with MTU 6R 1000 engine was unveiled at CONEXPO 2017.

**Find all of these and more at
www.oemoffhighway.com**

Just type in the 8-digit number, or the article name into our search bar!

9 L Engine

Perkins has expanded its industrial engine range with the launch of the 9 L 1700 Series.

- Direct injection and fully electronic control system that will meet EU Stage V, U.S. EPA Tier 4 Final emissions standards
- Power range of 250-340 kW (335-456 hp)
- Offers good power density, allowing downsizing
- Compactly designed
- On-engine aftertreatment mounting contributes to reduced installation costs
- Fuel consumption optimized for wide range of equipment

oemoffhighway.com/20856553



12-Cylinder Engine

MAN Engines' 12-cylinder D2862 LE13x engine is based on the most up-to-date engine technology which demonstrates significantly improved performance characteristics.

- Applicable for use in heavy-duty construction machinery
- Power output range from 588-816 kW (800-1,110 hp)
- Waste gate charging allows maximum torque of 3,700-5,000 Nm (2,729-3,688 ft.-lbs.) at low speeds (1,300-1,400 rpm)
- Meets Tier 4 Final and EU Stage V emissions standards without exhaust gas recirculation (EGR), purely via selective catalytic reduction (SCR-only)

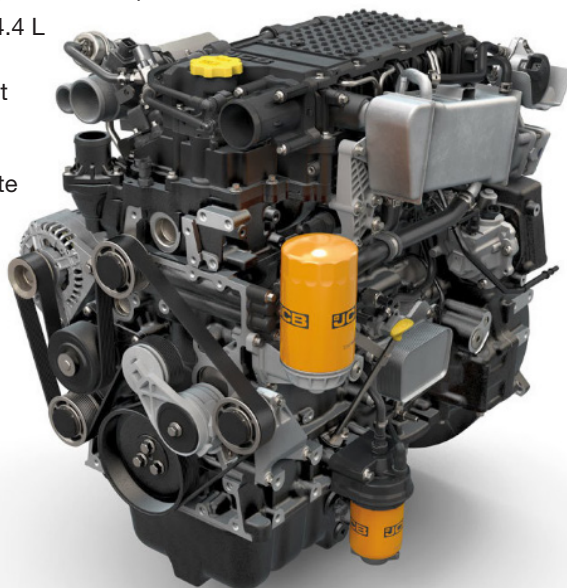
oemoffhighway.com/20855963

Stage IIIB / Tier 4 Engine

The 3.0 L JCB430 DieselMax engine offers a compact, 4-cylinder engine which has been developed for the most demanding off-highway applications.

- Features cast iron bedplate structure and rear mounted geartrain for long service life and low operating noise
- Initial availability with 55 kW (74 hp) power output, additional power ratings available in the future
- Produces 400 Nm of torque at 1,300 rpm
- Up to 24% smaller than 4.4 L EcoMAX
- No aftertreatment to meet EU Stage IIIB/EPA Tier 4 emissions regulations
- State-of-the-art particulate and NOx control technologies for EU Stage V
- 30% lighter than a 4.4 L EcoMAX
- Up to 8% fuel savings over 4.4 L EcoMAX

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For more information on JCB Power Systems, visit www.jcbpowersystems.com

JCB knows a thing or two about producing world-beating engines. We started building our own units in 2004, and today more than 70% of all JCB machines are powered by our own engines. This rapid growth has been built on the success of the original JCB DIESELMAX engine. Two years after going into production, two of these engines powered the JCB streamliner car to a diesel land speed record of 350.092mph, a record that still stands today. Since 2004, we've produced over 450,000 engines and sales to third parties have grown by over 325%.

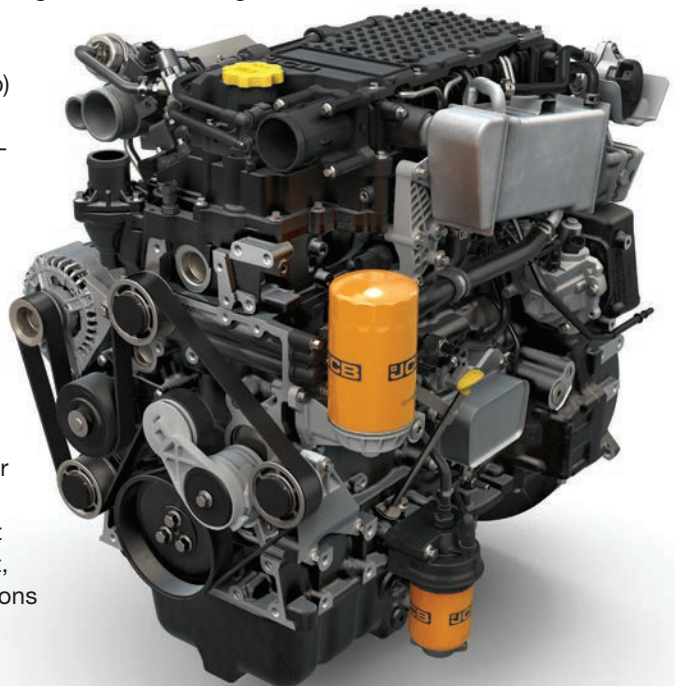
Following a £10m investment in cutting-edge manufacturing facilities, we now produce cylinder heads and engine blocks in-house in the UK. This takes our world-wide manufacturing capacity to 100,000 engines a year.

Less is more

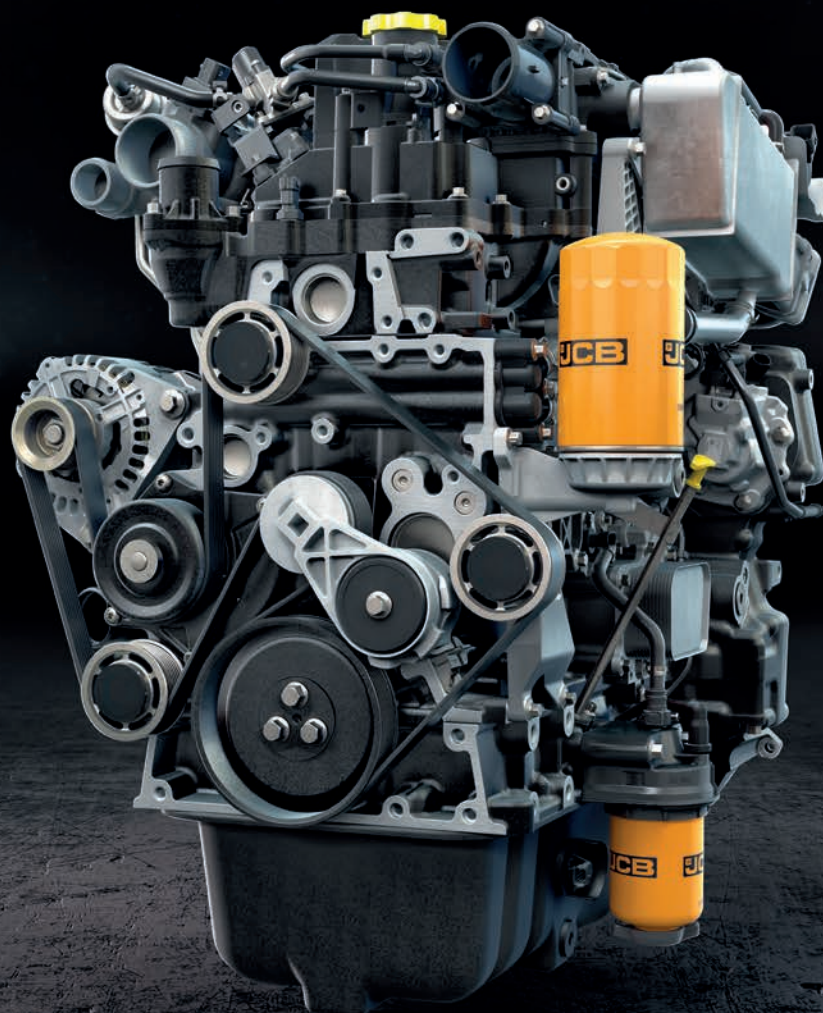
After a £31m investment programme, JCB Power Systems this year launched the all-new 3.0-litre JCB430 DIESELMAX engine which is the lightest, most fuel-efficient unit we've ever made.

Our 3.0-litre JCB430 unit builds on the success of the DIESELMAX range to date, using 8% less fuel than the existing, and already very efficient, 4.4-litre engine design, as well as being 30% lighter. Designed specifically for mid-range construction and industrial equipment operating cycles, the new JCB430 initially delivers 55kW (74hp) of power and 400Nm (295lb-ft) of torque at just 1300rpm. The JCB430 is also Stage IIIB/Tier 4 Final-compliant without a Diesel Particulate Filter (DPF), Selective Catalytic Reduction (SCR) or any form of exhaust additive or after-treatment.

Its high torque, heavy-duty design helps to ensure maximum durability, and we've used automatic valve adjusters for the first time – this means that regular valvetrain adjustment is a thing of the past, reducing downtime and boosting productivity. There are also integrated glow plugs for faster cold starting, and an integrated mass air flow system to minimise set-up work needed for different machine configurations. Given all of this investment, the JCB430 has been designed with Stage V emissions legislation in mind.



Award Winning Performance.



Now Available in 3.0L

The new four cylinder, 3.0L Dieselmax is designed to excel in the most demanding off-highway applications. The JCB 430 comes from a long line of pedigree. Using state-of-the-art technology, building on an 'award winning platform' of class-leading fuel efficiency; the lighter, more compact 3.0L delivers real world benefits of superior torque density, low emissions and up to 8% further improvement in fuel economy.

To find out more please visit our website

www.jcbpowersystems.com

oemoffhighway.com/10055649

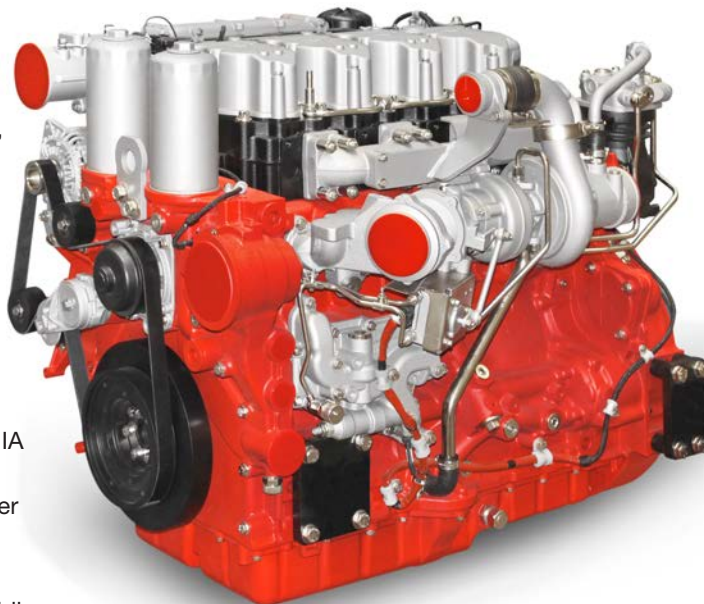


4-Cylinder Diesel Engine

DEUTZ introduces its TCD 9.0 4-cylinder diesel engine, the first in a new generation of engines the company is planning as part of an alliance with the Liebherr Group.

- Features 9 L capacity
- Power rating of 300 kW (402.3 hp)
- Produces 1,700 Nm (1,253.9 ft.-lbs.) of torque
- Highly compact design that makes for easy installation in wide range of applications
- Well suited for use in excavators and wheel loaders
- For EU Stage V, U.S. Tier 4, China IV and EU Stage IIIA emissions standards
- Follows standardized concept with common customer interface and high proportion of shared parts
- Uses highly developed aftertreatment systems
- Emissions downgrade versions will be available, enabling a single engine platform to be used both for Stage V markets and for regions with more relaxed regulations

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13.6 L Engine

John Deere Power Systems has revealed its 13.6 L engine, the first of its next generation engines.

- Designed to meet future needs of global markets
- Integrated high-pressure common-rail fuel system reduces diesel fuel consumption at rated speed
- DEF consumption has been reduced through design enhancements that improve combustion process
- Provides reduction in size and weight compared to other engines in same power range
- Offers maximum variable speed power rating over 500 kW (684 hp)
- Employs full-authority electronic controls and cooled exhaust gas recirculation (EGR)
- Single and dual turbocharger configurations offer OEM customers improved packaging and greater application flexibility
- Offers full power from front and rear of engine while providing capability to add more pumps with an integrated power take-off (PTO)
- Will be available with two Integrated Emissions Control system sizes which can be mounted horizontally or vertically, providing greater packaging and integration flexibility

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Engine for Agricultural Applications

The Perkins Syncro 3.6 L, common rail agricultural engine will meet global emissions standards including EU Stage V and U.S EPA Tier 4 Final.

- Engine range has been designed to fit into more than 80 machine chassis
- Provides power up to 100 kW (134 hp) with up to 500 Nm of torque
- Compatible with most modern off-highway transmissions
- Optimized design to be narrow, especially at the front end, to accommodate agricultural machines' front wheel articulations
- Features four-valve head and vertical injector for efficient combustion, reducing the size of the radiator pack

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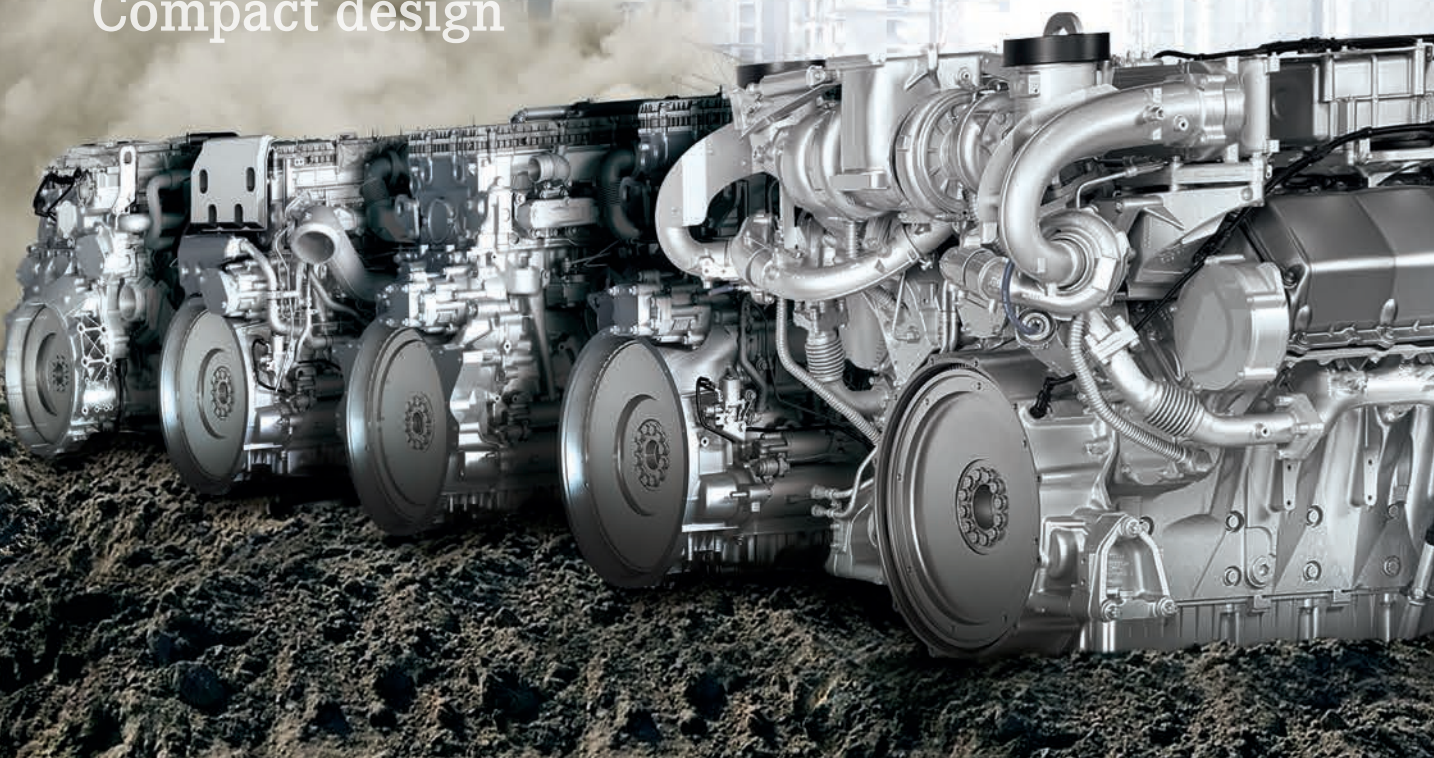
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Complete line of Tier 4 solutions
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Compact design
Compact design



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Engine Spec Guide**

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SEARCH: 20850572

**Technologies Come Together
for Emissions Reduction**

Stricter emissions targets for Stage V may require the use of additional componentry, prompting manufacturers to re-evaluate existing technologies and develop more compact, integrated designs.

SEARCH: 12235836

**Natural Gas Meets Diesel
Performance**

A balanced combustion process, improved fluid dynamics and increased displacement bring a natural gas engine's performance up to that of its diesel equivalent.

SEARCH: 12231403

SuperTruck Returns

The DOE has announced the next iteration of its SuperTruck program with the aim of increasing Class 8 long-haul truck efficiency more than 100%.

SEARCH: 20857520

**Ready for the Next Stage of
Emissions Compliance**

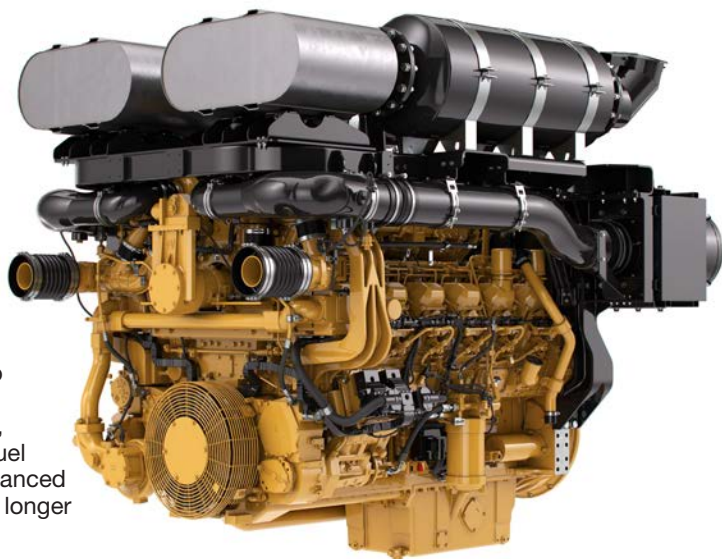
New engine designs for the impending Stage V emissions regulations include compact, modular aftertreatment systems and technologies for optimized performance and efficiency.

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article name into our search bar!**

**78-Liter
Tier 4 Final
Engine**

Caterpillar Inc. introduces the 3500E Series engine, the next generation of its industry-leading 3500 family of engines.



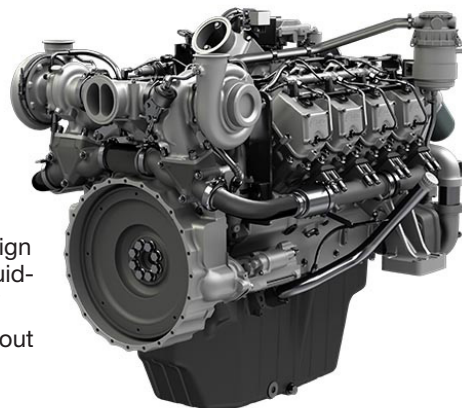
- Provides up to 20% greater power density, 10% greater fuel efficiency, enhanced durability, and longer life
- Designed to be remanufactured and key components are backwards compatible
- Power range of 507-3,015 kW (679.9-4,043.2 hp)
- Achieves greater power from enhanced cast iron engine block and cylinder heads
- Displacement of 78 L and rated speeds of 1,200-1,925 rpm
- New block and crankshaft design increases durability
- Features two available fuel systems—mechanical electronic unit injector or common rail
- Meets U.S. EPA Tier 4 Final and EU Stage IIIB emissions standards

oemoffhighway.com/20845016

20 L Engine

FPT introduces its V20, a powerful top-of-the-range 20 L engine.

- Features 90 degree V8 (8 cylinder) architecture
- Performs at maximum power of up to 910 hp (678.6 kW) at 1,800 rpm and maximum torque of up to 3,024 lbs.-ft. (4,100 Nm) at 1,500 rpm
- Includes 2,200 bar Common Rail Injection system and ECU (Electronic Control Unit) for high system efficiency and low fluid consumption
- Lean V8 design with no-EGR, as well as single-stage WG turbocharging and high resistance materials, guarantee system reliability
- Power-to-weight ratio is 13% more than 12 cylinder competitors' average, delivering high performance while preserving vehicle stability and reducing load on axles
- Compact design, minimizing impact on vehicle dimensions and load capacity
- Permits up to 2% of savings on fuel compared to 12-cylinder engines due to lower friction and smaller displacement
- Cross-banks exhaust system design releases optimal turbochargers fluid-dynamics for maximum efficiency
- Adopts one side serviceability layout
- Includes HI-eSCR technology



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**WE HAVE GREAT SUCCESS
WITH THE UPTIME, AND
REALLY THERE'S BEEN
NO DOWNTIME.**

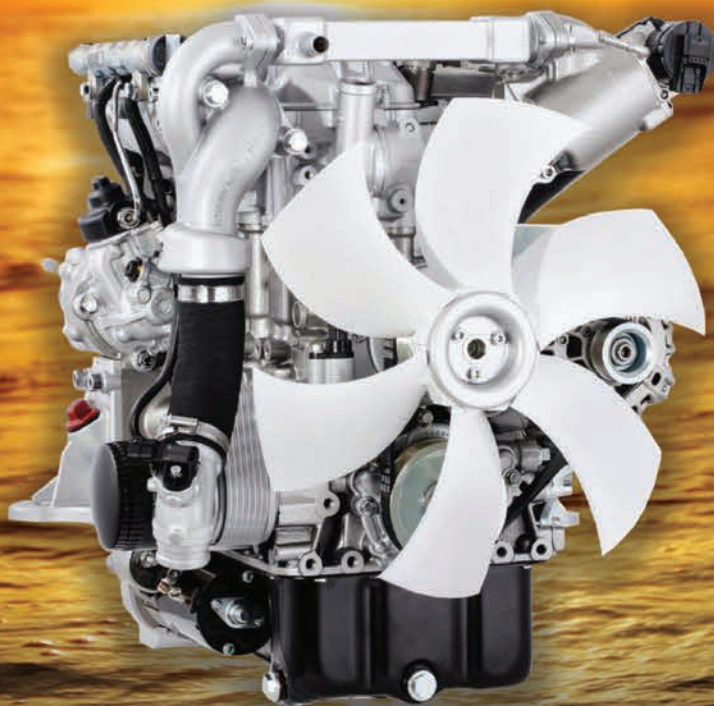
“Our machines are everywhere. All different applications and environments. Severe cold, severe heat, moisture, altitude – and the DEUTZ engine is performing flawlessly.”

Robert Rossi, Jr.
Vice President
R.R. Equipment Company

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The New 3H50
Designed for Tomorrow,
Ready for Today.

The Rising Power in Liquid-Cooled Engines

Our Expanding Liquid-Cooled Family

Together with our well-established 4-cylinder 4H50 engines, the new 3-cylinder 3H50 adds more world class engine features to make our H-series rise above the competition.

The New 3H50... Ready Today, Ready Tomorrow.

The 3H50TI version meets EPA Tier 4 Interim and EU Stage IIIA standards without any exhaust after-treatment. The 3H50TIC version utilizes a combination of external EGR and DOC to meet Tier 4 Final standards. And, with a combination of external EGR, DOC and DPF, the 3H50TICD version will meet the future EU Stage 5 regulations.

So Compact It Fits In 2-Foot Cube

An innovative downsizing approach makes the new 3H50 an ideal solution for the tightest spaces. Metals optimized for lightweight and durability slim the 3H50's engine weight to just 355 pounds making it the lightest and most compact engine in its class!

Awesome Fuel Economy

Bosch common rail technology provides extraordinary fuel economy in all usable speed ranges of our H-series Engines. And, with the new Intelligent Hatz Advanced Combustion Strategy (iHACS) technology, the 3H50 engine provides the lowest fuel consumption in its class.

Quietest In Its Class & Lowest Vibration

Bosch common rail technology also provides whisper-quiet combustion in all usable speed ranges of our H-series Engines. And ideal engine sizing provides the lowest vibration.

Meets Overseas Emissions Without Losing Power

Turbocharged and intercooled with common rail technology means the powerful new 3H50 will maintain its power while meeting all overseas emission regulations. There's no need to upsize this compact powerhouse.



*The Rising Power in
Liquid-Cooled Engines*

www.hatzusa.com

oemoffhighway.com/10706130





Heavy-Duty Engines

Cummins Inc. has revealed the next-generation 15-L X15 heavy-duty engine.

- Rated at 400-605 hp (298.28-451.15 kW)
- Ready to exceed EPA 2017 greenhouse gas (GHG) and fuel-efficiency standards
- Incorporates ADEPT, SmartCoast and Predictive Cruise Control (PCC) functions to gain a further 3% fuel economy improvement
- Features 400 hp (298.28 kW) braking power at 1,300 rpm
- Optimized cam profile minimizes inherent parasitic loss during combustion, increasing thermal efficiency and providing high compression ratio
- Two configurations available, the X15 Performance Series and X15 Efficiency Series

X15 Performance Series

- For heavy-haul, vocational and emergency vehicles
- Upgraded high flow air-handling system gives faster pedal response for enhanced driveability at full payload and steep-gradient climbing

X15 Efficiency Series

- For line-haul and regional-haul applications
- Offers high level of fuel efficiency and payload productivity

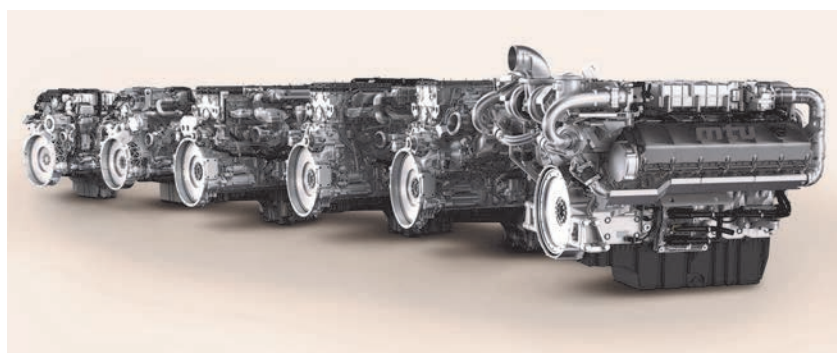
oemoffhighway.com/12235775

Stage V Engines

MTU's range of Series 1000-1600 EU Stage V emissions compliant engines provide a horsepower range from 100-736 kW (134-987 bhp).

- Up to 3% fuel savings compared to EU Stage IV
- DEF consumption of approximately 3-5%
- High torque at low RPM
- Common electronic vehicle interface J1939
- Airless SCR system below 560 kW
- Reduced engine noise emissions
- Compact or flexible design of exhaust gas aftertreatment system with integrated DPF
- Also available with EU Stage IV/EPA Tier 4 certification

oemoffhighway.com/20859789



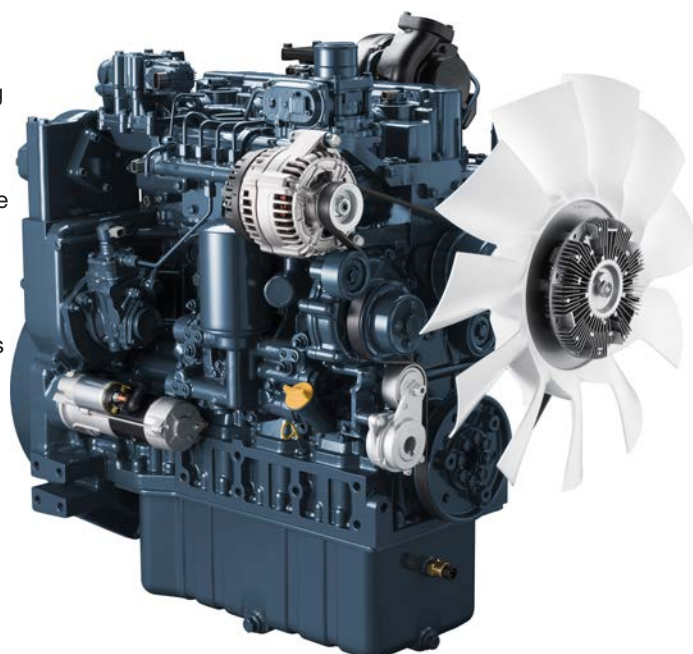
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5 L Engine

For the first time, Kubota is expanding its diesel lineup to include engines up to the 200 hp class. The first model in the Kubota 09 Series is the 5-L V5009.

- Meets Tier 4 Final and impending Stage V emissions regulations
- Compact, 4-cylinder design
- Output of 157.3 kW (210.9 hp)
- Aftertreatment devices include DPF and SCR

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POWER FACTS

275–770 hp
5, 6 and 8 cylinders
US Tier 4f, EU Stage IV
NO DPF

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PROVEN US TIER 4f AND EU STAGE IV TECHNOLOGY – WITH NO DPF.

The Scania engine platform features compact dimensions and a common footprint which enhances flexibility, simplifies installation and shortens time-to-market.

Last but not least: Proven reliability, outstanding operating economy and industry-leading fuel efficiency vouches for long-term profitability and satisfied customers.

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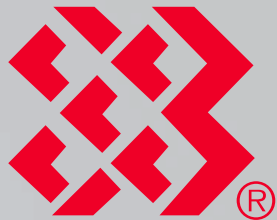
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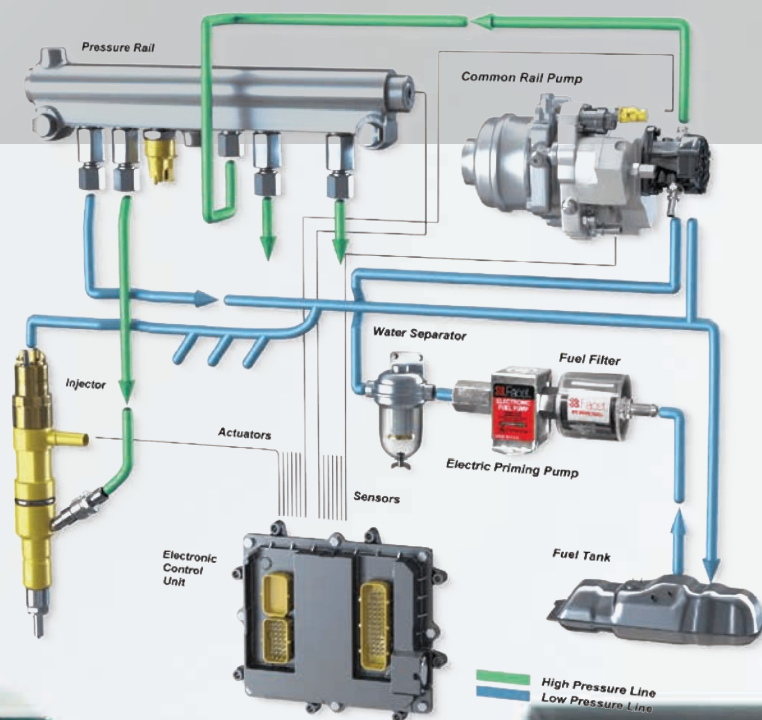


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New Clear,
Screw-On
Fuel Filters!



Check out the Engine Spec Guide

Go to www.oemoffhighway.com/specguide/engine

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SEARCH: 20853867

Agility Introduces Blue iQ Tool for Natural Gas Engines

Agility's Blue iQ uses proprietary technology developed through a partnership with Cummins to provide natural gas engines the same fuel consumption optimization and uptime tools as their diesel counterparts.

SEARCH: 20842322

ABB Reports Successful Testing of Valve Control Management on MTU Gas Engines

Durability testing of ABB's Valve Control Management variable valve train system on MTU's S4000 gas engine has demonstrated successful engine performance improvements.

SEARCH: 20860900

Jacobs and DTNA Sign New Long-Term Agreement Through 2027

The new long-term agreement will have Jacobs continuing to supply engine braking systems for DTNA's global engine platform.

SEARCH: 20856736

Horton Introduces eRev Fan Software for Product Recommendations

New tool helps OEM engineers and designers build a better engine cooling package.

Find all of these and more at www.oemoffhighway.com

Just type in the 8-digit number, or the article name into our search bar!

Two Circuit Diesel Engine Cooler

HYDAC Technology Corporation announces the release of its SCC Series two circuit diesel engine cooler.

- Uses a combination of high performance cooling elements balanced with optimized performance for both charge-air and engine water/glycol cooling
- Flexible design allows for use with optional hydraulic fan drive solution or an engine-driven fan for cooling air flow
- Works with wide range of diesel engine sizes
- Provides water/glycol cooling capacity up to 190 kW (254.79 hp)
- Rated water/glycol flow rates up to 80 gpm (302.83 lpm)
- Features charge-air flow rates up to 54 lbs./min.

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Low Evaporative Emission Universal Fuel Tanks

Walbro has introduced a line of low evaporative emission universal fuel tanks for gasoline and diesel powered equipment.

- Designed for both heavy- and extreme-duty applications
- Available in 5, 6 and 7 gal. (18.92, 22.71 and 26.5 L) capacities
- CARB and EPA compliant
- Extreme Duty version has 40% thicker shell for puncture and abrasion resistance

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Biodiesel Hoses

Power management company Eaton has launched the GH100 and GH101 hoses for high-percentage biodiesel blend and high-temperature oil applications.

- Features unique polymer that more effectively resists degradation
- Performs in high-temperature mobile applications including trucks, buses, agriculture and construction equipment and eco-friendly power vehicles
- Compatible with high-percentage biodiesel fuels and new synthetic oils
- Qualified for -40-150 C (-40-302 F) with B2, B5 and B20, -40-125 C (-40-257 F) with B100
- Qualified to -40-150 C (-40-302 F), 175 C (347 F) intermittent, with synthetic oils
- Can be used with every blend of biodiesel up to B100

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A Century of Success

In 1915, a young Frank Donaldson Sr., then a Bull Tractor Company salesman, visited a customer whose farm tractor kept breaking down in his dusty field. So, he fashioned an air cleaner to protect the engine from the dust. The invention – the world's first effective air cleaner for a tractor engine – worked, and Donaldson Company was born. More than one hundred years later, Donaldson holds over 1,600 active U.S. and international patents, and employees in 44 countries support customers around the world.



For more information on Donaldson Company, visit www.donaldson.com

The Innovation of Filtration

For over two decades, Donaldson has been a pioneer in nanofiber technology, manufacturing and testing filter elements using fibers less than a micron in width. In the tightly regulated transportation market, our R&D efforts have produced smaller, lighter and more efficient filters and filtration systems. And our technologies help protect critical applications from the damaging effects of particles, gases and humidity in everything from computers to hearing aids. As equipment and technology advances, Donaldson continues to develop innovative solutions to anticipate and exceed evolving requirements.

Comprehensive Filtration Solutions for Off-Highway Equipment

Downtime means lost revenue. To keep your equipment in service you need filters that deliver superior performance – and a reliable supplier that offers complete coverage for your entire operation. With Donaldson protection, your engines and equipment will operate longer between filter replacements, saving on costly downtime and repairs. And, adding a Donaldson filtration system to your bulk fuel and lube storage will provide even more protection for your equipment and maximize uptime.

The Legacy Continues

In 2015, Donaldson turned 100 years old. We appreciate that the first and following decades of success are largely due to the employees who live our values of Integrity, Respect and Commitment. With an unwavering commitment to customer and ongoing innovations in technologies and processes, we have the best team, the best products and the momentum for another legendary century of service.



END-TO-END FILTRATION

**FOR THE MOST DEMANDING
REQUIREMENTS.**



At Donaldson, our single-minded focus on filtration allows us to develop the most advanced filtration technologies available today—which can be applied across your equipment. We offer innovative filtration solutions for air intake, fuel, lube, hydraulics, crankcase and emissions systems.

- Snyteq XP™ media delivers superior liquid filtration—and 4x cleaner fuel than competitors' best filters*
- Compact PowerCore® and innovative PowerPleat® air cleaners deliver superior performance in a wide range of on- and off-road equipment
- Our experienced filtration engineers create custom solutions to protect your most advanced engine and equipment platforms

*When testing particle retention under SAE J1985.

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TECHNOLOGY HELPS
PROTECT YOUR MOST
VALUABLE ASSET—
YOUR REPUTATION.**



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Fan Blade Extensions

Multi-Wing introduces its EPS Fan Blade Extensions.

- Features bristles on the end of each blade, closing the gap between the shroud and fan tip
- Minimizes turbulence in the blade, improves fan performance and reduces noise
- Increases efficiency by up to eight percentage points and pressure by up to 25%
- Strength tested for durability in tough off-road applications and use in HVAC systems
- Third-party tested for chemical resistance
- Compatible with all Multi-Wing fans
- Suited for operating temperatures up to 280 F (120 C)
- Withstands loads of more than 1,016 N/in. (40 N/mm)
- Performs at maximum operating speed for PAG fans
- Performance and noise remain unchanged even after 400,000 impacts

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Thermoset Engineered Composite Fan

Development of the Horton Thermoset Engineered Composite (HTEC) 1800 fan follows closely behind the HTEC 2500.

- Combines advanced material technology with custom engineering capabilities to meet or exceed cooling requirements
- Structural thermoset delivers benefits including increased efficiency, higher temperature and speed rating, durability, corrosion resistance, reduced fuel consumption and significant noise reduction
- Compatible with Horton Modulator Fan Drives for variable-speed control
- For use in rigorous off-highway applications
- Available in diameters of 47-72 in. (119.4-182.9 cm)
- Weighs 30 lbs. (13.6 kg)
- Features maximum tip speed of 22,000 ft./min.

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One-Piece Molded Fan

Phillips & Temro Industries (PTI) announces the release of its Truflo SDS39 Molded Fan, one of the world's largest one-piece fully molded fans for engines in off-road and power generation markets.

- Features diameter range of 500-990 mm (19.7-39 in.)
- Efficient, quiet and lighter weight than other fans while retaining durability
- Offers 26% more efficiency than other molded fans
- Reduced need for attenuation materials and elimination of clutch increases affordability
- Features lower power consumption
- Available in any fan-mounting pattern, including fitment to viscous clutch
- Includes standard and reverse flow, glass-filled polyamide sickle-shaped blades, steel center disk, and optional shaft adaptors for direct, electrical or hydraulic drives

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From engine bay ventilation, to distributive cooling, to variable speed cooling and beyond, SPAL sealed, brushless products provide extreme reliability, flexibility, durability and performance under the most challenging environmental conditions that is second to none.



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Electronic controls with on-board diagnostics (LIN/CAN capable)

High resistance to vibration and mechanical stress levels

Very long motor life under all operating conditions

PWM & analog inputs allows for continuous speed adjustment based on fluid temperature



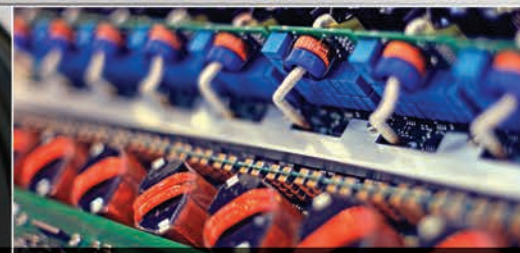
HVAC & CLIMATE CONTROL

Speed control for "Auto Temp" option (LIN/CAN capable)

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IP68 & IP6K9K sealed motor with internal electronics

Auto adjusting RPM based on system pressure changes (i.e. dirty filters)



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Reduced NVH levels for optimal sound quality

Soft startup allows for more ideal power management

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Compact Fan

Horton announces an expansion of its High-Efficiency, Hybrid-Flow (HEHF) fan product line.

- Combines features of axial-, mixed- and radial-flow technology
- Compact fans address customer demand for more efficient cooling packages and reduced noise
- Specifically designed to engage more of the radiator core through direct and focused airflow
- Design maximizes cooling capacity by reducing the size of an engine's overall cooling package
- Hybrid-flow design and integrated shroud improve airflow by more than 20% while reducing fan noise by up to 5 dB in vehicle testing
- Applications for both on- and off-highway vehicles and equipment
- Available in 550 mm (21.7 in.) and 750 mm (29.5 in.) diameter range, with plans for further expansion

oemoffhighway.com/20856639

Don't forget to...

SEARCH for more product information online using the unique [URL](#) under each product!

EPDM- and Nylon-Core SCR Hoses

The Parflex Division of Parker Hannifin Corp. now offers a standard line of SCR Hose for on-vehicle DEF transfer with EPDM or nylon core tubes to meet new Tier 4 specifications being implemented in 2018.

- Heated hoses designed for heating and conveying DEF throughout SCR (selective catalytic reduction) system on commercial vehicles
- Eliminates problems associated with low ambient temperatures, such as condensation, coagulation or freezing of liquids within hose
- Locks in heating elements with patented, extruded sheath for added protection and long-lasting uniform heating
- Thermal performance is balanced to ensure even heating throughout assembly length
- Standard assemblies are available with 4 mm (EPDM core [0.16 in.]), 5.5 mm (EPDM core [0.22 in.]), or 6 mm (nylon core [0.24 in.]) I.D.
- Each assembly is electrically tested, pressure tested and cleaned before shipment

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Engine Oil Drain Valve with Optional Hose Connectors

Global Sales Group introduces the EZ Oil Drain Valve with optional Hose Connectors.

- Nickel-plated brass ball valve
- Optional Hose End (sold separately) can be screwed in to connect a hose to drain oil in remote receptacle
- Enables small sample of oil to be drained from valve even without shutting off engine for routine oil analysis
- Available for all engines with 30 different sizes to fit farm tractors, heavy-duty trucks, buses, construction equipment, and even lawn mowers

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engines and complete exhaust systems. We supply blankets for off-road and on-

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Firwin MineWrap™ with Hard Coat™ on the manifold and turbo



Our MineWrap™ foil-lined blankets specially designed for underground-mining reduce the danger of fire when diesel and hydraulic oils spray onto hot piping.

Firwin products:

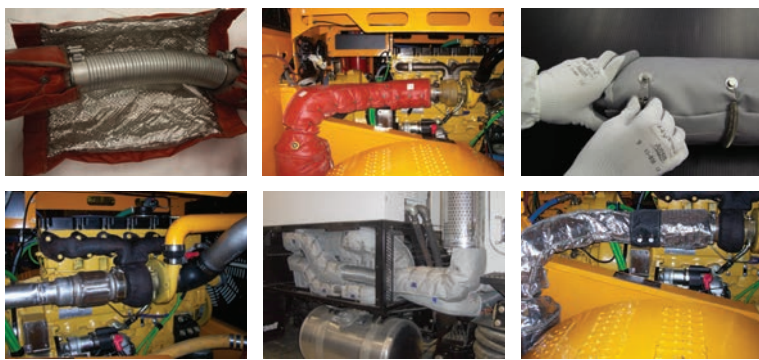
- protect operators from burns,
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Inline Filter

Shaw Development LLC introduces its patent pending Inline Filter solution for DEF and AdBlue Fluid ISO-22241-1 applications.

- Integrated filter/bowl combination allows contamination-free filter replacement in field conditions
- Available in heated and unheated configurations
- For use in operating environments with ambient temperature range of -40-110 C (-40-230 F)
- Optional electronic heating configuration provides thaw capability with ready to flow/dose within 35 minutes at -35 C (-31 F)
- Thermal cut-off prevents possible overheat conditions
- Steady state current draw of less than 10 amps in both 12 and 24V DC designs
- Maximum power usage is 100W
- Compatible with SAE J2044 fluid fittings in 3/8 in. (9.53 mm) and 5/16 in. (21.17 mm) sizes
- Provides 98% efficiency at 40 micron particle size
- Vibration rated per ISO 16750-3 Test 7

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Lube Filter

Cummins Filtration has refined its Fleetguard LF1400NN combination lube filter for the arrival of newer engine platforms including Cummins X15 engines, introduced last month.

- Uses a co-bonding lamination process that pairs NanoNet and StrataPore media together to create a single filter element
- Maximizes media area within filter for optimum capacity and service life
- Eliminates need for separate media sections without losing combination performance of different media grades
- Reduces flow restriction, allowing more efficient operation

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Components

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Dual-Stage Fuel Filters

Baldwin Filters' BF46002 Dual-Stage Fuel Filter is the first fuel filter to take advantage of a new media technology developed at CLARCOR's Innovation Center.

- Proprietary, highly engineered media has multiple layers to trap and hold the smallest contaminants
- Provides maximum protection to modern high pressure fuel systems
- Offers higher efficiency by removing contaminants under 5 microns
- Long-lasting design
- Continually provides ISO 4406 12/9/6 cleanliness levels for significantly larger amounts of fuel
- Features over 25% higher dirt holding capacity

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Inline Aftertreatment System

John Deere Power Systems has debuted its latest Integrated Emissions Control

system configured with an inline aftertreatment device.

- Offers greater packaging and integration flexibility to both internal John Deere and OEM customer applications
- Contains diesel particulate filter (DPF), diesel oxidation catalyst (DOC) and selective catalytic reduction (SCR) system, achieving Tier 4 Final and Stage V emission levels
- Can be mounted horizontally or vertically
- Diesel exhaust fluid (DEF) management system provides efficiency and performance
- Enhanced interface points ease application integration and reduce leak paths, connection points and heat loss
- Available in two sizes for 13.6L engine

www.oemoffhighway.com/20855643



Air Cleaner Indicator

Donaldson Company, Inc. introduces an advancement to its Filter Minder air cleaner indicator technology with a low-profile visual indicator.

- Low-profile visual indicator line allows for streamlined packaging into an engine air intake system
- Large, visible dial makes the indicator easy to read
- Low-profile design is less susceptible to accidental damage during routine engine maintenance
- Profile is only one-third the height of previous offerings

- OE engineers have more flexibility to position the fully integrated indicator in a variety of locations on the air cleaner housing



New, low-profile Filter Minder® integrated indicator



Traditional Filter Minder® indicator

- New design results in fewer system components; cost-effective
- Future product enhancements include providing more real-time data

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Heavy-Duty Tandem Axles

AxleTech International is your reliable partner as a leading manufacturer of specialty and off-highway drivetrain systems with proven performance in the field. With a legacy dating back over 100 years, we have supplied axles and components to the heaviest off-highway trucks.

We provide a range of high-capacity tandem axles specifically for heavy haul applications. Reaching a Gross Axle Weight Rating (GAWR) of up to 180,000 lb (81.7 T) and a Gross Combination Weight Rating (GCWR) of up to 1,000,000 lb (450 T), our tandem axles allow for superior performance in the most challenging environments and heavy load combinations. Numerous axle ratios, load

capacities, suspension mountings, carrier offsets, and brake options are available to accommodate your specific vehicle installation requirements and performance characteristics.

The SPRC1736 is the newest model in our line of high-capacity tandem axles. This model is designed for heavy haul applications requiring high speeds for on-highway and off-highway uses.

- Heavy payloads. Gross Axle Weight Rating (GAWR) of up to 85,000 lb (38 T) and Gross Combination Weight Rating (GCWR) of up to 500,000 lb (227 T).
- High torque capacity carrier. The 145HD (Heavy-Duty) carrier features a high torque capacity inter-axle differential.

Differential options include open, with driver-controlled lock, or with automatic traction control.

- High-speed functionality. Planetary wheel end includes needle bearings optimized for high-speed use. Ratios range from 7.35 to 25.80. CTIS is optional.
- Flexibility. We offer a variety of input flanges and yokes, track widths, and mounting options that provide a complete packaged solution.

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Advanced Emergency Braking System

WABCO Holdings Inc. introduces its OnGuardMAX advanced emergency braking system (AEBS) for trucks and buses.

- Provides up to full braking when confronted with both stationary and moving vehicles ahead
- Equipped with state-of-the-art 77GHz radar and a high-resolution camera
- Detects impending rear-end collisions with vehicles ahead and alerts driver with distinct acoustic, visual and haptic warnings
- Performs with high precision, even in low visibility conditions
- Meets global standards for AEBS
- Provides lane-departure warning (LDW)

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Powershift Transmission

Comer Industries introduces its 2- or 3-speed Powershift transmission A-614 for high capacity feed mixers.

- Integrates mechanical transmission, hydraulic system for clutch management, and electronic control unit (ECU) into single system
- Allows gears to shift while machine is running
- End user can change final speed of augers without stopping tractor PTO, avoiding any waste of time while increasing fuel savings
- Gearbox works in combination with electronic control to manage multiple components and functions of the machine
- Sensors installed in the gearbox monitor temperature, input and output speed, and pressure
- ECU protects from improper shifting
- ECU provides simple analogic signals and features CANbus interface to submit sophisticated feedback to main feed mixer control unit
- Provides 30% fuel saving and reduction in mixing time through piloting gearshift from final machine's panel and using best gear ratios at all times
- Low noise transmission due to helical gear design
- Designed for 10,000 hours of life

oemoffhighway.com/20843733

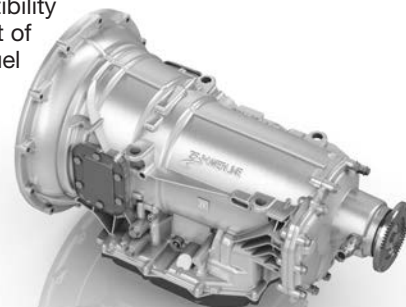


Automatic Transmission

The ZF Powerline automatic transmission features eight gears and a design principle adopted from passenger car systems.

- For medium- and heavy-duty trucks and buses
- Weighs approximately 150 kg dry (330.7 lbs.)
- Suitable for engines with up to 1,400 Nm of torque
- Offers reduced fuel consumption, extended oil change intervals and wear-free driving
- Can be used on vehicles with gross combination weight of 26 tons
- Provides improved shifting qualities including comfort, speed and elimination of tractive force interruption
- Prepared for use with supplementary PTOs and automatic transmission brake
- Powershift transmission design suits use with natural gas engines
- Use of automatic engine stop function enables fuel consumption to be reduced up to another 5%
- Hybrid compatibility offers prospect of even greater fuel and efficiency savings potential

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CVT Corp ECOMEC 150 Product Line for Off-Highway Applications

The ECOMEC 150 continuously variable transmissions (CVTs) from CVT Corp. offer increased efficiency, productivity and fuel savings.

- Fully mechanical CVT
- Automatic shifting and infinite number of ratios result in improved vehicle performance and engine optimization
- Use with mechanical or electronic engine
- Open platform controls and software to adjust vehicle sophistication level
- Simple and precise controls
- Smooth and efficient forward/reverse shuttling for a comfortable ride
- Replicates torque converter behavior

oemoffhighway.com/20846505



Electro-Pneumatic Parking Brake Control

WABCO Holdings Inc. has unveiled its OnHand electro-pneumatic parking brake control for trucks and buses.

- Operates independently of vehicle's air processing unit
- Provides automatic engage and release functionality
- Actuated via a dashboard switch
- Control system also checks and validates safe parking of truck and trailer combination, including on sloping roads
- Provides back-up braking in case of electrical service-brake failure in redundant systems for autonomous driving applications
- Uses three internal valves and requires less pneumatic piping than conventional parking brake controls
- Enables multiple braking-related options such as Anti-Lock Braking Support during secondary braking and Advanced Hill Start Aid

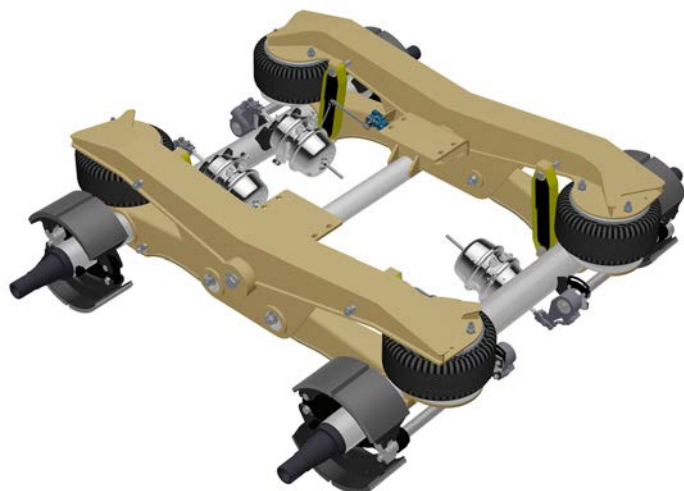
oemoffhighway.com/12261188

Air-Ride Single Point Suspension

Ridewell Suspensions has released the first model of its air-ride single point suspensions, the RAR-254.

- Leverages proven components of model RAR-266 suspension
- Provides smoothness of an air-ride suspension with advantages of a single point, pedestal mount suspension
- Available in ride heights as low as 10 in. (25.4 cm)
- For integration with Ridewell drum and disc brake axles
- Can be shipped fully assembled with pre-aligned axles and pivot hardware torqued to specification as an option
- Uses high-density urethane bushing for trunnion assembly center bushing instead of trunnion U-bolts to reduce maintenance
- Utilizes weld-on pedestal mounts for easy ride height customization
- Replaceable boss for pivot bushing provides for complete replacement of the bushing assembly
- Narrow and wide bushing versions are available
- Custom ride height, pedestal height and pedestal mount bolt pattern versions can be designed upon request

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With a history going back over 100 years, our expertise sets us apart. From concept to completion and after sales service, performance on the highest level is the common factor.



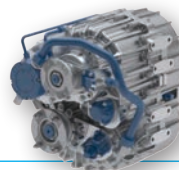
**HEAVY-DUTY
PLANETARY AXLES**



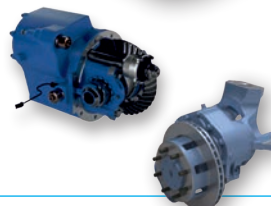
**INDEPENDENT
SUSPENSIONS**



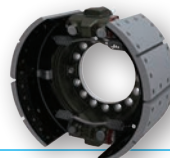
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SEARCH: 20864726

Daimler Begins Production of Intelligent Truck Axle

Mercedes-Benz has begun production of its fuel-efficient truck axle at its facility in Kassel, which reduces fuel consumption of the Actros truck up to 0.5%.

SEARCH: 20860486

Timken Acquires PT Tech

Timken's acquisition of PT Tech will help grow its portfolio of mechanical power transmission products.

SEARCH: 20855913

WABCO Localizes Air Disc Brake Production in U.S. to Meet Increasing Customer Demand

WABCO has opened a new 145,000 sq. ft. facility, expanding its manufacturing footprint over 60% to meet growing demand for its technologies in the commercial vehicle market.

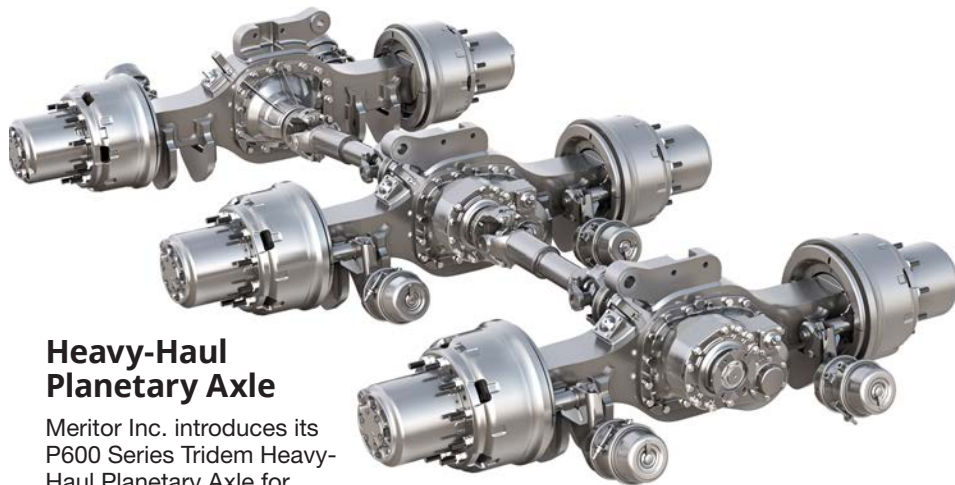
SEARCH: 20856501

Volvo CE Opens New State-of-the-Art Driveline Test Facility

Volvo's new test facility includes test rigs for electric and conventional drivelines, aiding its ability to test entire electromobility drivelines in a modular way.

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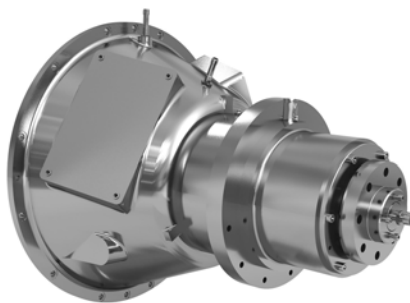


Heavy-Haul Planetary Axle

Meritor Inc. introduces its P600 Series Tridem Heavy-Haul Planetary Axle for heavy-duty, long-haul, oil field, mining and logging applications. Full production begins in June.

- Developed for global markets
- Built to operate in extreme conditions
- Compatible with industry-leading suspension options
- Offers gross axle weight rating (GAWR) of 126,000 lbs. and gross combination weight of 560,000 lbs.
- Proportioning inter-axle differential delivers even torque split between the three axles for improved traction, maximum load capacity and increased longevity of drivetrain
- Wide ratio coverage and standard anti-lock brakes deliver optimum safety and performance in extreme conditions
- Can be equipped with optional driver-controlled differential lock and hardware for central tire inflation systems (CTIS)

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Clutch for Mobile Crushers

The DESCH hydraulic Planox clutch PHA-HR is designed for the drive of mobile crushers.

- Permits rapid acceleration of driven machines or machinery groups, as well as reliable torque transmission
- Machines connected with friction clutches are protected against damage which can occur through peak torques during operation or during the engaging/disengaging process

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Infinitely Variable Transmission

Marmon-Herrington announces the release of the HydroMechiVT, a hydro-mechanical infinitely variable transmission that maximizes the advantages of both hydrostatic and mechanical transmissions.

- Provides reduction in operating costs, fuel consumption, and GHG emissions
- For applications where performance is limited by torque converter waste and inefficiency

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Planetary Wheel End

AxleTech International is offering a new planetary wheel end especially designed for electric drivetrain systems to produce extremely low noise, while delivering high strength, high efficiency, and long product life.

- Available as an independent module or as part of the range of AxleTech's electric axles
- 15,400 lbs. (7,000 kg) capacity per wheel end
- Hub piloted 10 stud wheel mount with 13.19 in. (335 mm) bolt circle
- Works with air disc, air wedge drum, or s-cam drum brake systems
- Helical planetary gearing help reduce NVH and boost strength by 38% compared to spur gears of the same tooth size and width
- Design life of 750,000 miles without major rebuilds

oemoffhighway.com/20858971



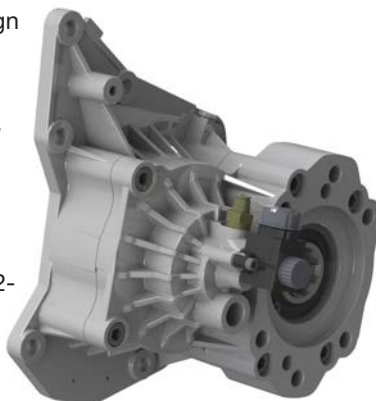
Don't forget to... DISCOVER more product information online using the unique [URL](#) under each product!

Rear-Mount PTO

Muncie Power Products Inc. introduces its RS6S-P89M Series rear-mount power take-off (PTO).

- Features integral hydraulic mount for structural support of hydraulic pumps up to 60 lbs. without additional transmission support
- Bending moment limit of 29.5 ft.-lbs. maximum
- Takes advantage of full torque capacity of transmission
- Solenoid-activated, mechanical shift design
- Capable of different ratios and several different outputs
- Able to mount larger displacement pumps
- Available with direct mount or companion flange output options
- Fits Detroit DT12 transmissions in Freightliner or Western Star Class 8 Cascadia or 5700 trucks, and requires 362-822 Detroit power take-off prep kit option

oemoffhighway.com/20858277



Hydraulically-Actuated PTO

Twin Disc introduces the HP800, a middle horsepower-range option to its industrial lineup of heavy-duty, hydraulically-actuated PTOs.

- Maximum power rating of 800 hp at 1,800 rpm
- Features modular design allowing for either side-load "P" or in-line "I" applications with simple change of bearing carriers
- Advanced control system allows for smooth engagement of driven equipment
- Auxiliary drive pump towers with 400 hp maximum capacity per tower, or 450 hp maximum for both
- Rotatable by 0, 45 and 90 degrees, either clockwise or counterclockwise, to allow for clearance in any installation
- Optional speed increase ratios of 0.77:1 and 0.83:1 are available
- Pads and splines are easily interchangeable to accommodate varying pump sizes
- Sizes SAE A through SAE E are available
- Integrated reservoir can be built in, saving space and reducing installation cost
- Includes spring applied, hydraulically released brake (SAHR) as standard
- Mechanical brake release allows output shaft to easily be rotated if driven equipment becomes jammed

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SEARCH: 20858043

Greater than the Sum of its Parts

The shift toward full system optimization of powertrain development continues to gain momentum in off-highway vehicles.

SEARCH: 20841256

Advanced Powertrains Generate ROI Despite Low Fuel Prices

The focus for advanced powertrains and hybrid drive systems in today's construction equipment looks beyond fuel economy to increased performance and ease of operation.

SEARCH: 12247647

Synergy and Global Expansion

Seeking an opportunity for expansion in its product portfolio and geographic reach, WABCO acquired MICO Inc.—a perfect fit for its goal to become a market leader in the brake control business.

SEARCH: 20857367

Variety is Key for Operational Efficiency

As there is no 'one size fits all' solution when it comes to tires, manufacturers are continually looking to expand their product offerings and mix of design features to meet the diverse needs of the construction industry.

Find all of these and more at www.oemoffhighway.com

Just type in the 8-digit number, or the article name into our search bar!



Hydromechanical Variable Transmission

Dana Rexroth Transmission Systems has introduced a short-drop version of the R2 hydromechanical variable transmission (HVT).

- Ideal for material-handling, pushback, and forestry applications
- Features modular configuration with redesigned transmission case that reduces input/output distance
- Supports power outputs from 130-200 kW (174-268 hp)
- Demonstrated fuel savings of up to 25% over traditional transmission designs

oemoffhighway.com/20859183

Remote-Controlled PTOs

Twin Disc has released two remote-controlled power take-offs (PTOs), the RC214 and RC314.

- Excels anywhere heavy-duty disconnect clutch is required
- Hydraulically-actuated with self-adjusting dry clutches, utilizing 240-300 psi of engagement pressure
- SAE #1 housing size



RC214

- Clutch maximum horsepower rating is 376/Class II, 251/Class III and 188/Class IV

RC314

- Horsepower rating is 564/Class II, 376/Class III and 282/Class IV

oemoffhighway.com/20860071

Intelligent Air Springs

ContiTech air springs are now intelligent. Equipped with Continental sensor technology, the height of the air springs can now be adjusted electronically, the internal pressure monitored and the internal temperature measured.

- Ultrasonic height and pressure sensor (UHPS) detects changes in height within the intelligent air spring using a pressure and temperature-corrected ultrasonic run-time measurement procedure, at a resolution of +/- 1 mm (0.04 in.) in a measurement range of up to 500 mm (19.7 in.)
- Digital air springs do not require mechanical control components, which are prone to wear
- Several air springs can be controlled separately

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Ultra Wide Base Drive Tire

Yokohama Tire Corporation announces the introduction of its first-ever BluEarth commercial tire, the BluEarth 709L ultra wide base (UWB) drive tire.

- SmartWay verified and designed for maximum fuel efficiency
- Available in size 445/50R22.5
- BluEarth designation reflects use of advanced environmental technologies
- Features advanced compound resistant to heat build-up to provide fuel economy benefits
- Tread depth of 24/32 in. (0.02 m) provides excellent low rolling resistance
- Specialized directional tread pattern provides superior traction, especially in wet or snowy conditions (without sacrificing rolling resistance)
- Z-block design creates multiple biting edges for outstanding grip during acceleration
- Tie-bar connectors increase block rigidity to reduce heel-toe wear
- Seven circumferential grooves efficiently evacuate water from beneath tread to maximize contact with road
- Zero-degree belt extends service life

oemoffhighway.com/12268140



63-in. Haulage Mining Tire

The Goodyear Tire & Rubber Company has introduced the Goodyear RM-4B+ ultra-large haulage mining tire.

- Contains latest technologies in materials, design, construction and manufacturing
- Engineered to help mine trucks operate at optimal levels
- Measures 63-in. (1.6 m)
- High net-to-gross tread pattern increases cut and impact protection in rugged, hard rock applications
- Features extra-deep tread pattern for longer wear
- Enhanced, cool-running compound suits use in high-heat applications

oemoffhighway.com/12264018



Surface Mine-Haul Tire

To address the productivity and endurance issues found in today's surface mines, Michelin Earthmover announces the introduction of the MICHELIN XDR3 MB4 surface mine-haul tire.

- For 400-plus-ton trucks
- Features new compounds and tread pattern which increases tire life a minimum of 10%
- Use of corrosion-isolating cables incorporated into tire architecture results in 10% increase in tire endurance
- Tread pattern provides excellent load distribution across contact patch and lowers contact pressure
- Available in the 40.00R57 size
- MEMS ready
- Reduces rim slip due to new flat bead wire which strengthens clamping force on wheel

oemoffhighway.com/12258392



GKN Wheels & Structures
For more information please contact us:

Web: www.gknwheelsandstructures.com
Email: marketing.wheels@gkn.com

With a proven pedigree and unrivalled range, GKN Wheels & Structures designs, manufactures and supplies Wheel, Hub and metallic Structures products and solutions for the most demanding and technically-challenging off highway environments.

With a global footprint, the company operates from seven manufacturing plants across Europe, the United States and China, with investment planned during the next two years at a number of these facilities.

GKN Wheels' roots are in engineering excellence and its market-leading Wheel and Hub product ranges reflects this wealth of experience and expertise. The company's wheel range spans single and multi-piece, fixed and adjustable wheels capable of operating in the harshest of environments – including agriculture, construction, mining, defence, forestry and material handling – while its product development programme drives innovation to the customers.

Customers are looking to develop bigger machines that are capable of carrying increased payloads and at faster speeds. GKN Wheels work closely alongside customers to provide the technical expertise that will help deliver this, bringing together wheel solutions that meets their specification.

In addition to its manufacturing facilities, GKN Wheels operates advanced testing facilities in Italy and North America and recently invested in a new state-of-the-art test machine for hubs and spindles, which sits alongside the exciting wheels and tires test facility at its Woodridge plant in Chicago.

The new machine enables hubs with load capacities in excess of 100,000 lbs to be tested, and by simulating real-world loadings of the hub, spindle and bearings, it virtually eliminates the need for expensive and time-consuming field testing, enabling larger hubs to be more quickly and efficiently developed to meet the needs of the customer. The ability to apply loads up to 100,000 lbs, makes this the largest known hub testing machine in the world.

Reflecting GKN's market leadership in the design, development and manufacture of off-highway wheels and hubs, the new hub testing equipment has been commissioned to complement the company's existing wheel testing equipment, providing a dedicated and comprehensive wheel and hub test facility for customers across North America and further afield.



As one of the world's leading suppliers of wheels, hubs and spindles, GKN manufactures a wide range of products and systems for off-highway machinery, supplying major manufacturers throughout North America, Europe and Asia.

Profi-fit

Low pressure tires are extensively used in agricultural applications in order to minimize the risk of soil compaction. However, these tires typically have stiffer walls, making them more difficult to fit – the Profi-fit rim was specifically developed to address this problem:

- Reduced weight and easier tire fitting
- Innovative and sustainable design solution
- Perfect solution for low pressure agricultural tire assemblies
- Rolled flange improves rim strength



Fortis Hub

Our new Fortis Hub series has been designed for 20,000 miles of service at 20mph and with a wide range of options, including brake and non-brake assemblies. Developed for 10 hole x 11.25" bolt circle applications and offering a number of key benefits:

- Increased carrying capacity – up to 15,700 lbs
- Improved bearing performance
- Improved servicing
- Customizable assemblies to meet customer specifications



Further information can be found at www.gknwheelsandstructures.com or email us at marketing.wheels@gkn.com

FIND MORE ONLINE – Over 900 more Drivetrains & Components products for you to find at: www.oemoffhighway.com/directory
If you're looking for Transmissions, Brake Systems, Tires, Suspensions, Axles and more, just type a keyword into our search bar!

Read Online

SEARCH: 20864891

Vision, the Michelin Concept Tire

At Movin'On 2017, Michelin introduced VISION, its concept tire which is airless, connected, rechargeable, customizable and organic, and is both a wheel and a tire.

SEARCH: 20862837

Increased Testing Capabilities Enable Improved Product Optimization

A component manufacturer expands its hub and spindle testing capabilities to enable creation of more optimized products and improve time to market.

SEARCH: 20856460

Vector HXX Paradigm Now Available with Rubber Track Conversion System

Vector's Hxx Paradigm vacuum excavator is now available in an extreme terrain configuration with Mattracks 400 Series rubber track conversion system.

SEARCH: 20854012

Dana Introduces New Axle Ratio to aid Engine Downsizing

Dana has introduced the 2.47:1 ratio for its Spicer AdvanTEK 40 tandem axle to support engine downsizing for increased truck efficiency.

Find all of these and more at
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Tire for Port Applications

Alliance Tire Group (ATG) has introduced the Galaxy Portstar Plus, an advanced tire for port applications.

- Features extra deep tread for longer service life
- Robust nylon casing and large actual number of plies ensures high lateral stability and high load carrying capacity
- Large ground contact area ensures pressure on the ground is lower than maximum permissible pressure, resulting in extended life, and lower, uniform wear
- Strong bead bundle results in minimized bead failure
- Specially formulated tread compound and higher insulation between plies aid in reduced heat buildup, further extending service life and providing good operation characteristics on hard surfaces
- Material mix provides wear resistance on highly abrasive surfaces
- Optimized driving characteristics
- Provides good shock absorption on both asphalt and concrete surfaces

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Off-the-Road Radial Tires

Bridgestone Americas Inc. introduces its Firestone VersaBuilt off-the-road radial tire line.

- Designed to perform across wide variety of environments, applications and equipment
- Provides solid traction for loaders, graders and earthmovers
- Steel casing and SideArmor sidewalls protect against cuts and punctures by deflecting stones and debris
- Non-directional, self-cleaning tread adds traction
- Tough tread compound promotes wear life
- Available in three different tread patterns optimized for general use across environments

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- Electric drives
- Swing drives
- Track drives
- Wheel drives

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Tractor Tire

BKT introduces Agrimax V-Flecto offering less soil compaction and higher load capacity.

- Features NRO Technology (Narrow Rim Option) which makes it possible to use recommended rims in standard size instead of specific rims
- Complies with new experimental standards introduced by European Tire and Rim Technology Organization
- Offers life cycle that is at least 10% longer
- Ultra-resistant casing and special reinforced bead suite use in both fields and during road transfers without changing the inflation pressure

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Off-the-Road Tires

The EM-Master from Continental Commercial Specialty Tires (CST) is part of the company's ContiEarth portfolio of Off-The-Road (OTR) tires.

- Specifically designed for extreme demands of construction and earthmover segment
- Includes iTire, an integrated sensor which constantly monitors inflation pressure as well as tire temperature and transmits information in real time to ContiPressureCheck system
- Sizes include 23.5R25, 26.5R25, and 29.5R25
- Applicable for use on articulated dump trucks (ADTs), loaders, and dozers

oemoffhighway.com/20858195



Rubber Tracks with H-Shaped Tread Pattern

Bridgestone Corp. has debuted the Vortech line of rubber tracks.

- Designed specifically for compact tracked loaders
- Features responsive track design and powerful H-shape tread pattern to deliver both workability and smooth driving experience
- Optimized internal structure and tread pattern lowers bending resistance that occurs when rubber tracks rotate, enabling more fluid vehicle movement
- Reduces engine power loss during vehicle driving by 26%, contributing to improved driving efficiency and subsequently more fluid vehicle movement
- Employs H-shaped tread pattern to expand edge portion of tracks, which grips the ground, and provides higher levels of traction for powerful performance
- Unique tread pattern and tread positioning achieves smoother driving, which helps reduce operator fatigue resulting from vehicle vibration
- Available in 450 mm (17.7 in.) wide sizes

oemoffhighway.com/20854807



Tracks for Agricultural Applications

Camso, formerly Camoplast Solideal, introduces the Camso AG 2500 Series tracks which offer a more economical yet high-quality track solution for general agricultural applications.

- Built with the same process and high quality standards as all of the company's rubber tracks
- Features Camso's exclusive endless single cure technology that ensures high performance and durability
- Provides average cost saving of 15% per hour of operation
- Available for all friction-drive tractors

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NEW! Logan FlexaDrive™ Drive Systems for Your Mobile Equipment

2-Position Pump Drive System For Engines up to 1000 HP (745 kW)

The Logan FlexaDrive™ 2-Position Pump Drive is outfitted with up to four (4) PTI / PTO pads, and can accommodate up to 1000 HP (745 kW) Engines, with maximum Speeds up to 2200 RPM, and a maximum of 160 HP (120 kW) at 3000 RPM Max, per tower under continuous duty. Higher horsepower models are also available.

- Input Housing SAE No. 1 – No. 3
- Output Housing SAE No. 1 - No. 3
- Pump Pads SAE A – SAE D
- Continuously Rated – Total 300Hp (225 kW)
- Continuously Rated – Per Tower 160Hp (120 kW)
- Integrated Reservoir - Eliminates need for secondary tank
- Pump Drive Towers can be positioned up to 45° in either direction
- Tower Gear Ratios 1:1, 1:1.16, 1:1.25

Logan Bell Housing PTO Clutches

Logan offers a full range of standard power take off clutches to suit a variety of OEM Industrial, Mobile, Oil & Gas, and Marine applications. Standard Logan Bell Housing PTO's are available in No. 00 to No. 7 Size SAE Bells with input torque ratings from 159 lb. ft. (216 Nm) to over 7,473 Lb. Ft. (10133 Nm). Engineered, modified standards are available to meet specific application requirements. Logan products are engineered and manufactured in Cleveland, Ohio, U.S.A.

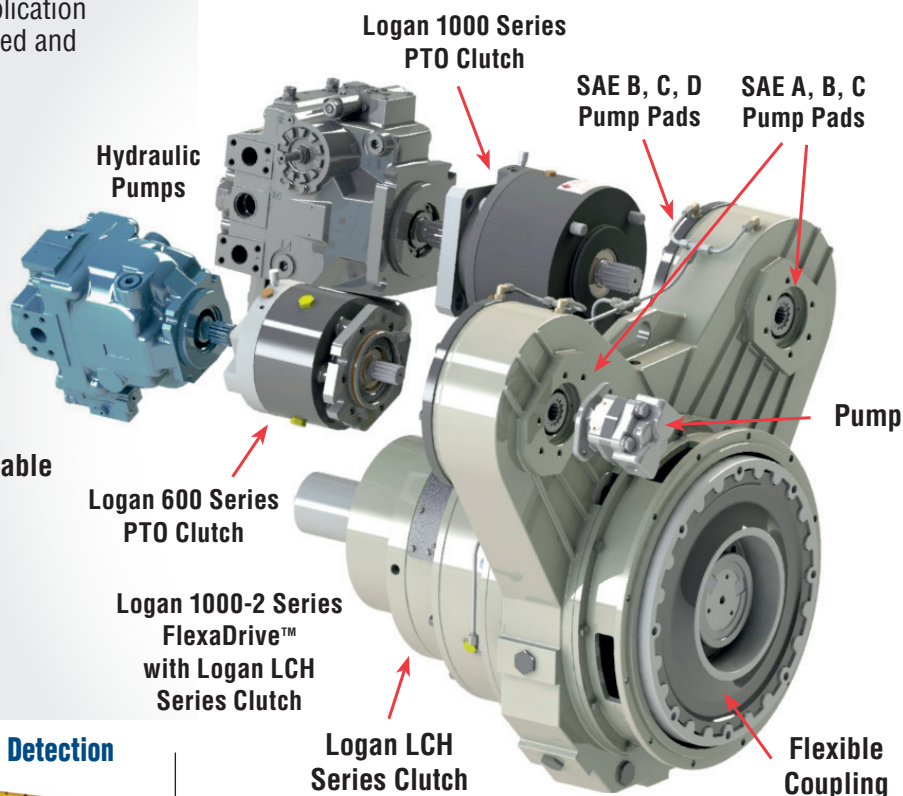
Key Product Features Include:

- SAE Flywheel Mounted
- Air or Hydraulic Actuation
- Self-Adjusting™ Disc Pack
- Push Button Actuation
- No Pilot Bearing Option
- Ideal for In-Line or Heavy Side Load Applications
- High Torque, Small Envelope
- SAE J1939 and Telematics Options Available

Applications Include:

- Snow Blowers
- Road Milling and Grinding
- Dredging and Trenching
- Tub Grinding and Rock Crushing

This LC-318
transmits over
7500 lb. ft.
(10,170 Nm) of
torque @200 psi
(13.8 bar)



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Logan LCL-442 I/O Module

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800.525.8824



High Speed Conversion Track System

Camso, formerly Camoplast Solideal, has launched a Conversion Track System (CTS) to the North American agriculture equipment market, the CTS High Speed.

- Includes suspended frame and integrated final drive system for combines
- Integrated final drive system allows tracked harvesting machines to reach road speeds similar to wheeled combines
- Frame suspension system and double oscillating wheels improve ground contact on uneven surfaces
- Features 12% larger footprint to reduce ground compaction and field damage to maximize quality of harvesting operations
- Increases combine's mobility and flotation for better access to fields with soft ground conditions

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Variable Inflation Pressure System

Trelleborg's VIP (Variable Inflation Pressure) system is a smart and autonomous wheel capable of self-adjusting the pressure of a combine harvester's tire during operation according to its precise load, optimizing the tire's footprint in order to reduce soil compaction.

- System measures and/or changes tire pressure while also, being an intelligent system, determining and adopting the right pressure at the right time
- Achieves better flotation, resulting in lower soil compaction of up to 10.5%
- Up to 5% higher crop yield compared to a standard wheel
- Directly integrated on rim
- Automatically senses whether the machine is in the field or on the road and modifies pressure accordingly

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Wheel for Nokian CT Tires

GKN Wheels & Structures has developed a wheel for its Pro-fi-line+ range designed specifically to suit the Nokian CT tires which were introduced to the market earlier this year.

- Features double well radius, new flange design and wider bead
- Optimized to meet very specific requirements of high load-bearing CT tires
- Loading capacity is 20% higher
- Offers five times longer lifetime than standard flotation wheel designs
- 'Bend-over' flanges provide improved stability and afford greater protection to tire, both during operation and tire mounting
- High-spot marked to ensure suitable for speeds up to 70 km/h

oemoffhighway.com/20864320



All-Steel Radial Tire

BKT USA Inc.'s latest addition to the EARTHMAX lineup is the 750/65R25 EARTHMAX SR 35, which is the first tire to be produced in the 65 Series.

- Features low profile
- All-steel radial design
- For articulated dump trucks and loaders
- Cut resistant compound available for maximum service life even under severe conditions

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Mining Tire

The DumperMaster E4 is the latest addition to Continental Specialty Tires' (CST) portfolio of mining tires.

- Designed for mine trucks
- Capable of carrying heavy loads under extreme conditions
- Newly developed tread pattern design offers excellent traction and abrasion resistance
- All-steel radial technology equates to low heat build-up
- Up to four star rating carcass construction combines extremely high load-carrying capacity with increasing efficiency in material hauling
- Tread pattern ensures high self-cleaning ability and good traction in muddy and loose ground conditions

oemoffhighway.com/20858218

Earthmoving Tires

Titan International Inc. announces the launch of its expanded STL2+ line.

- Includes the 875/65R29 and its Low Sidewall Technology (LSW) equivalent, the LSW875/55R34.5
- Additional sizes include 23.5R25, 26.5R25 and 29.5R25
- Dual-purpose E-3/L-3 tread can be selected with either cut- or wear-resistant compounding
- Tied-in, bar lug design is open and non-directional for excellent self-cleaning

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The human factor in construction environments is always like playing a wild card but if you incorporate HAWE controls into your design, you can help trump that wild card. HAWE proportional spool valves are sensitive but powerful and suitable for the harshest of environments.

HAWE's Proportional directional spool valves are designed to the load sensing principle. They control the direction of movement and the velocity of individual or multiple hydraulic consumers actuated independently or simultaneously, providing multi-function, load independent control.

The proportional directional spool valve type PSL is suitable for fixed displacement pump systems and type PSV for variable pump systems with a pressure/flow controller. The flows and load pressures for each section can be individually adjusted. The proportional directional spool valve type PSL and PSV can be adapted to various control tasks, e.g. for safety functions.

Our directional valves are designed and manufactured with modularity in mind so all sizes can be combined with each other. There are millions of combinations possible with all the options that can be configured, all from our standard program.

The proportional directional spool valve type PSL and PSV is used in mobile hydraulics, in particular in crane and lifting equipment, construction and mining machinery, drilling equipment as well as in offshore and marine technology.



Features and benefits:

- One product for various control functions and differing flow requirements
- Energy-saving Open and Closed-Center systems
- Compact and space saving design
- Modular system with wide range of options to cover all system requirements

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Track Motor

Power management company Eaton has launched the HP50 track motor, featuring high power density, high starting torque efficiency and low no-load pressure drop.

- Designed to reliably meet growing trend of higher top speed and horsepower transfer
- Withstands harsh environments faced by off-highway equipment
- Enables higher speeds with up to 23% higher starting torque than competing radial piston motors, improving operator productivity with less shifting and a more efficient workflow
- Testing demonstrated up to four times the life of radial piston motors and up to 10 times the life compared to axial piston gearbox motors
- Geroler motor design profile and optimized driveline matches power outputs of new Tier 4 and Stave V engine designs
- Available in single- or two-speed models
- Reaches 6,000 psi (413.7 bar) of pressure and 70 gpm (265 lpm) of flow
- Available with option of spring applied hydraulic release brake
- Provides up to 50,000 in.-lbs. of torque

oemoffhighway.com/12266962

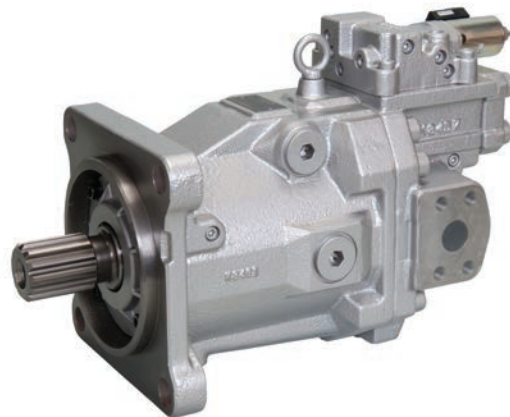


Motors

Danfoss Power Solutions launches its Orbital X product line which includes the OMP X and OMR X, marking the first new product introduction since acquiring White Drive Products in September 2016.

- Replaces current OMP, OMR, DS and DH motor models
- Up to 15% higher torque capacity than current OMP or OPR motors
- Up to 45% more torque than current DH and DS motors
- Improves bearing capacity by 20% over DH and DS motors
- Shaft seal lifetime is improved by 50%
- Finish meets corrosion class C3 standard
- Two modular platforms will replace six existing options – one platform will have offset and end ports and the other will have aligned ports
- Different configurations ensure an option will work in OEM customers' existing machines, allowing for easy conversion
- Covers wide range of light- to medium-duty tasks in machines such as sweepers and scrubbers, harvesters, mowers and forklift trucks

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Axial Piston Motor

The M7V Series from Kawasaki Precision Machinery is a high speed variable displacement swash plate type axial piston motor. It is suitable for use in hydrostatic transmissions, drill rigs and crane winch systems.

- 85, 112 and 160 cc displacements
- 400 bar (5,801.5 psi) continuous pressure rating
- Electronic and hydraulic displacement control
- Fixed displacement version available

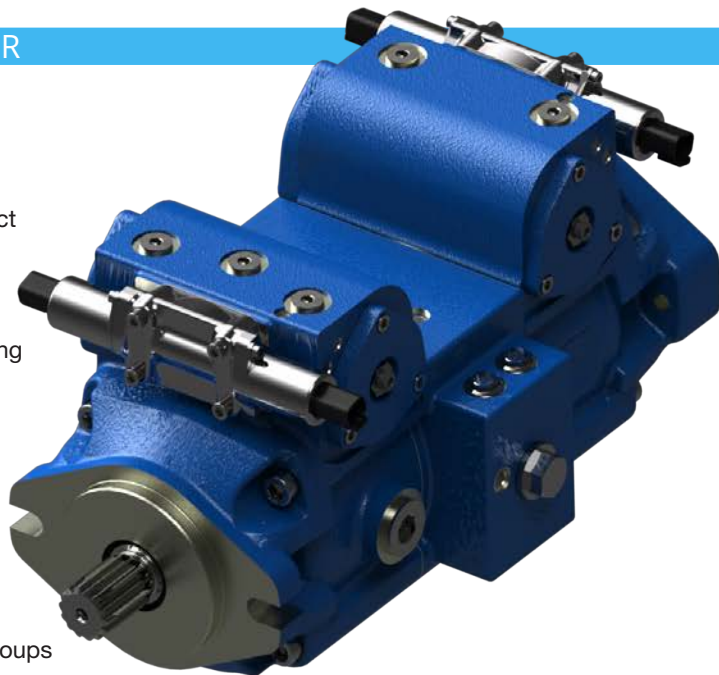
oemoffhighway.com/20846525

Compact Double Pump

Bosch Rexroth is launching the A21 VG 35/45, a compact double pump for closed-circuit applications.

- Wide range of control options available
- Features efficient back-to-back design that allows for installation in applications with very limited mounting space
- Provides two highly competitive closed-loop pump outputs in one housing for medium-duty applications
- Plug and play installation
- Includes pre-adjusted controls and convenient hydraulic and electric connections
- Requires significantly less installation space in comparison to tandem pump configuration
- Uses same housing offering for 45 and 35 cc rotary groups
- Possible applications include skid steer loaders, compact track loaders, paving machines, compactors, rollers and sprayers

oemoffhighway.com/20855711



Fixed Displacement External Gear Pump

The Gear Pump Division of Parker Hannifin Corporation announces the launch of the PGP130 Series fixed displacement external gear pump.

- Fits where space is limited
- Capable of delivering high pressure fluid transfer in various applications
- Available with industry standard output shafts, ports and mounts
- Delivers up to 25 gpm (94.6 lpm) at 3,988 psi (275 bar) continuous pressure
- Provides up to 27.5 gpm (104.1 lpm) at 3,045 psi (210 bar) continuous pressure
- Cast iron construction

oemoffhighway.com/20856300

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Axial Piston Pump

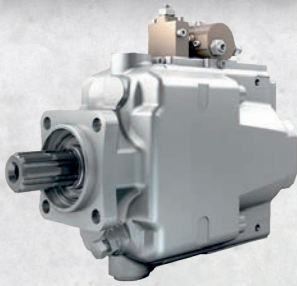
Danfoss Power Solutions is updating the Series 45 pump portfolio with the addition of the K2 frame axial piston pump.

- Frame has been reduced in length by up to 20%, width up to 10%, and weight up to 30%
- Output of 25-45 cc
- Modular design
- Improves performance with increased rated pressure, and higher rated speed and temperature capabilities
- Additional features inside housing allow for dissipation of noise and vibration
- Sound-deadening characteristics help meet local industry regulations for noise
- Pumps with fan drive controls allow lower minimum system pressures, resulting in slower minimum fan speed, reducing fan drive noise and improving efficiency
- New endcap configurations are optimized for size and weight to provide greater flexibility in installation
- Can be integrated with PVG and PLUS+1 solutions

oemoffhighway.com/20857210

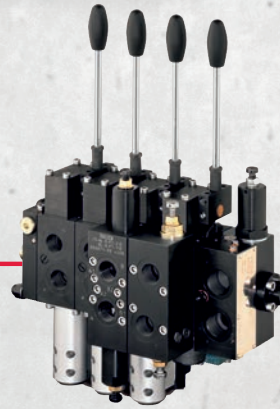


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Variable displacement axial piston pump
type V60N



Industry Leading Performance

Proportional directional spool valve PSL



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Zero leakage

Directional seated
valve BVE



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Check out the Pump Spec Guide

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SEARCH: 20860413

U.S. Fluid Power Exports Help Close Trade Deficit in 2016

The NFPA reports U.S. fluid power exports fell just 2.1% in 2016, helping to tighten the industry's trade deficit.

SEARCH: 20858887

Concentric Supplying Oil and Coolant Pumps for New Compact Engine

Concentric is supplying oil and coolant pumps, optimized for low noise levels and improved performance, for a global OEM's new compact diesel engine.

SEARCH: 20854925

Parker IQAN Connect Delivers Next-Generation Electro-Hydraulic Control and Asset Management

Parker IQAN Connect, introduced at IFPE 2017, uses the SAE J1939 protocol to integrate electronic control and software into intelligent hydraulic components.

SEARCH: 20847870

Bailey Intl. and Axiomatic Form Strategic Partnership

Bailey Intl. has formed a partnership with Axiomatic which will help expand its offering of complete hydraulic control solutions.

Find all of these and more at www.oemoffhighway.com

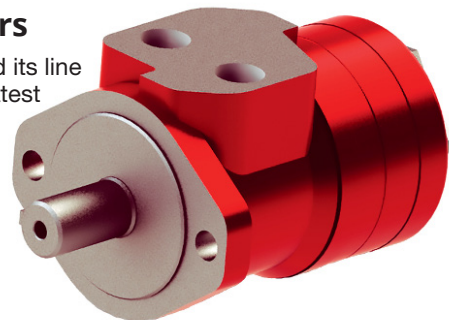
Just type in the 8-digit number, or the article name into our search bar!

Low Speed High Torque Motors

Muncie Power Products Inc. has expanded its line of low speed high torque motors with its latest addition – the MH Series.

- Available in 16 displacement sizes
- Roller gerotor design reduces sliding friction between rotor and stator
- Provides smooth performance, high efficiency and durability for low speed operation
- Features high-pressure shaft offering superior life and performance
- Spool valve design gives smooth operation over wide speed and torque range
- Three-pressure zone design provides lower case pressure and extended shaft seal life
- Can be used essentially with any equipment that requires rotary power

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Variable Displacement Piston Pumps

The C Series Variable Displacement Piston Pumps from the Hydraulic Pump and Power Systems Division of Parker Hannifin Corporation are designed for use in closed-circuit hydrostatic applications.

- Features rugged swash plate and bearing design
- Offers full range of controls, such as manual lever with feedback, hydraulic proportional and electric proportional
- Available with variety of accessories including hydraulic pressure override, electric cut-off valve and cross-port relief valves to protect from pressure overloads
- Rated to 420 bar (6,090 psi) continuous pressure and 3,800 input rpm
- C055 model is a 55cc/rev (3.35 CIR) unit that also features compact and robust design

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Axial Piston Variable Pump

Bosch Rexroth's axial piston variable pump, the A30VG, is fully compatible with Rexroth's BODAS mobile electronics product range.

- Suitable for wheel and travel drives with two hydraulically separate circuits
- Can function as hydraulic self-locking differential
- Both controls can be superseded by input speed dependent control cartridge
- Absence of flow dividers enables high efficiency

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LX-6 Mobile Directional
Control Valve

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- Exceptional resolution due to extended spool stroke.
- Excellent pressure compensation
- High power density & reliable construction



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Data Recorder

- Large, full-color graphics display 5.7" touchscreen
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- High-speed sampling rate, up to 8 sensors at 0.1 ms at a time.





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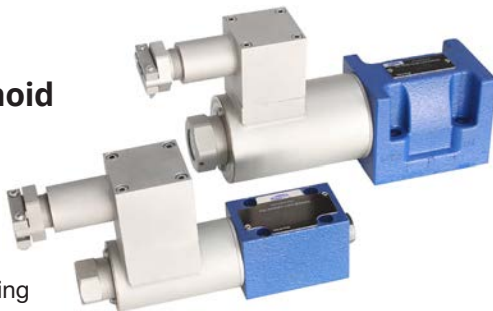
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Explosion-Proof Solenoid Directional Valves

Hengli Hydraulic is expanding its directional valves to include explosion-proof solenoids.

- For oil and gas, mining and hazardous industrial processing applications
- Available sizes include D03 350 bar (5,076.3 psi) at 80 lpm (21.1 gpm), D05 315 bar (4568.7 psi) at 120 lpm (31.7 gpm)
- Coils include 12, 24, 36, 110V DC
- Meets standards including execution to NEC-500 standards, Class 1, Division 1

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Directly Operated Pressure Control Valve

Thomas has developed the PPCD08 (Proportional Pressure Control Direct-Operated) valve to achieve gentle, yet quick hydraulic engagement within powershift transmissions.

- Uses directly operated pressure control
- Suited to clutch control tasks in powershift transmissions for tractors, earthmovers, and crawlers in particular
- Flow rate between 18 and 25 L/min. (4.76 and 6.60 gpm)
- Offers high flow capacity in compact installation space, ensuring clutch is filled quickly and pressure levels are kept stable regardless of flow rate
- Fits into spaces measuring less than 30 mm (1.18 in.)
- Delivers faster switching times (< 45 ms) than predecessors
- Electromagnetic force is transmitted directly to valve spool in directly operated valves and does not need to pass through pressure stage, a technically complex process required in previous models

www.oemoffhighway.com/20857700



Electrohydraulic Inline Steering Valve

Danfoss Power Solutions' EHi electrohydraulic inline steering valve is compact, making it beneficial when working in limited engine compartment spaces.

- Can be used to remove steering column and steer with joystick or other steer-by-wire inputs for four-wheel, or even full autonomous, steering
- Enables use as universal steering valve, as it works with all common steering units
- Flow capacity from 12-70 lpm (3.17-18.5 gpm)
- Use in conjunction with PVED CLS steering and safety controller enables seamless creation of certified steering subsystem
- Flexible mounting options allow location wherever space is available
- Allows OEM to receive complete Category 3 safety architecture

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Digital Logic Valve

Sun Hydraulics Corporation has launched the solenoid-operated Digital Logic Valve (DLV), a high-speed, reduced-power logic valve.

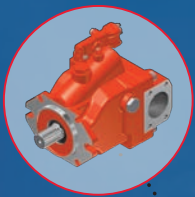
- Provides 10 ms typical response time in a small package with few moving parts
- Employs micro-solenoid with optimized magnetics and a small, top-mounted M12 connector to drive down size and weight
- Simplifies wiring of components and reduces amount of space required for a multi-valve integrated package
- Rated to IP69K for use in demanding mobile applications
- Use as a logic element enables directional control, pressure control or flow control
- Optimized magnetics and use of micro-solenoid allow coil draw of only 2 W hold (typical) and 15 W peak (typical)

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Piston Pump



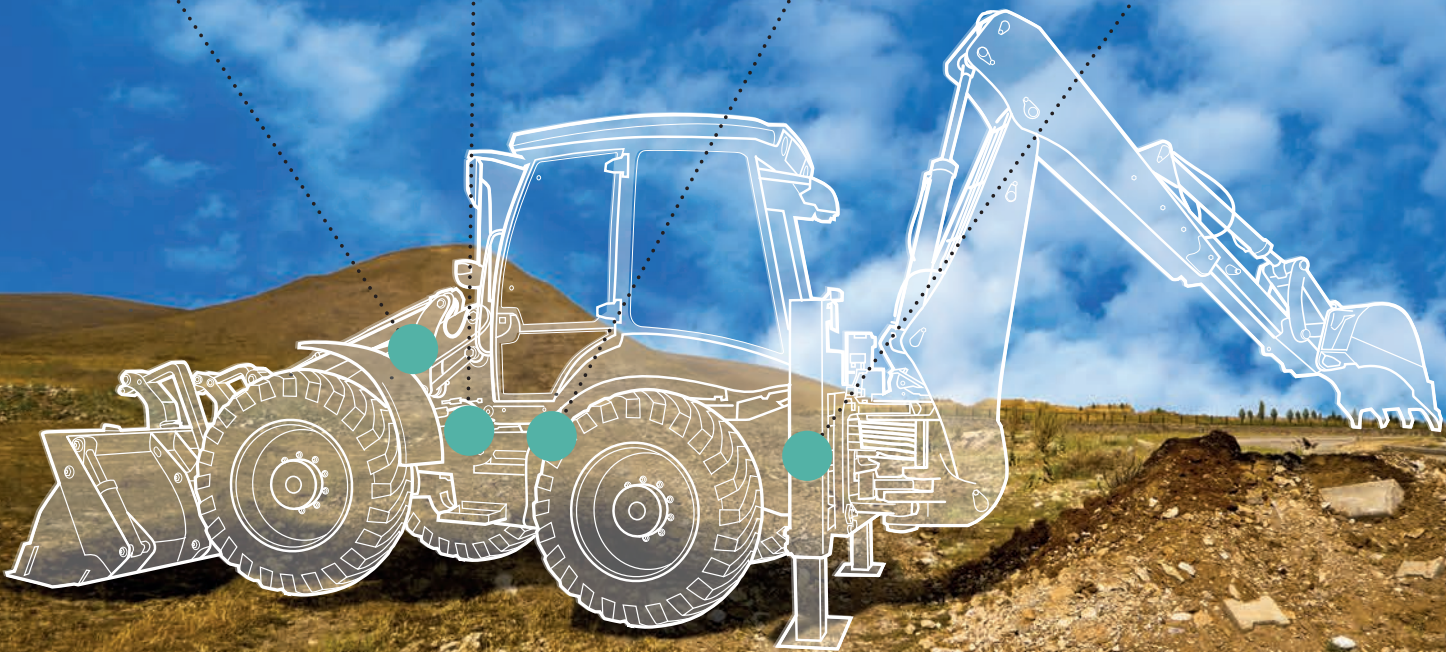
K8V
Closed Circuit
Piston Pump



M7V
High Speed
Piston Motor



KLSV
Load Sensing
Valve



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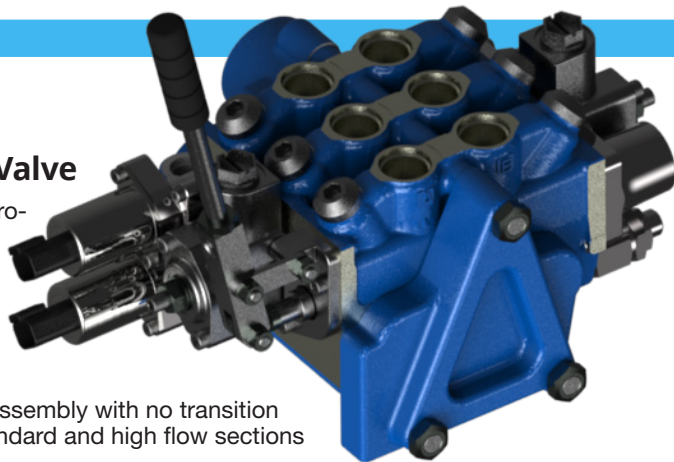
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Check out the Motor Spec Guide

Go to www.oemoffhighway.com/specguide/motor

Load Sensing Valve

Bosch Rexroth is introducing the RM10, a load sensing valve which easily integrates into today's energy efficient systems.



- Features flexible assembly with no transition plate between standard and high flow sections
- Compact, general purpose, multi-application design
- Well suited for machines that have limited space
- Equipped with common industry work port and load sense relief cartridges
- Low leakage at pump pressures of 320 bar (4,641.2 psi) and working pressures at 350 bar (5,076.3 psi)

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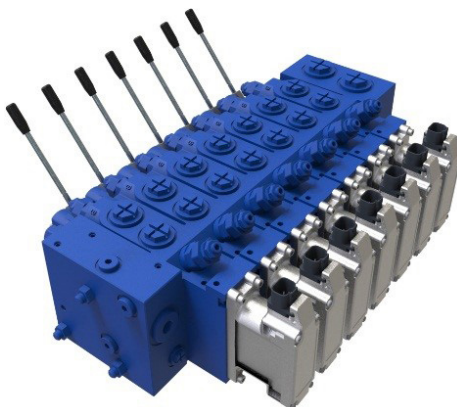
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2-Way Solenoid Valves

The IMI Norgren 2-way solenoid valves from IMI Precision Engineering are designed to prevent water hammer (also known as hydraulic shock) which occurs when a valve closes and fluid in motion is forced to stop suddenly.

- Proprietary internal design enables smooth and gentle valve closure
- Prevents large pressure spikes while still maintaining closing speed
- Reduces water hammer by up to 80% compared with similar solenoid valves
- For use in any application where water/fluid flow starts and stops

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Proportional Control Valve with CANbus

Hengli offers HVSP proportional valves with integrated, intelligent electronics providing full integration into the bus network of mobile machinery with IP68 protection.



- Internal closed loop position design achieves spool position accuracy levels nearing the performance of a servo-valve
- Up to 10 sections
- High peak pressure rating: 350/420 bar (5,040/6,048 psi)
- Individual load independent flow control via section pressure compensators
- Low hysteresis
- Manual override
- Flow: Inlet maximum 150 lpm (39.6 gpm) with valve compensators

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The Next Chapter for Hydraulics

Digital Displacement pumps bring hydraulics into the digital age by replacing analog mechanical actuation with digital solenoid valves and embedded software controls.

SEARCH: 20861922

Continental Investing in North American ContiTech PVC Hose Manufacturing

Continental is expanding the manufacturing and production capacities for its ContiTech PVC hoses by creating a state-of-the-art competence center at its upgraded Mount Pleasant, IA, facility.

SEARCH: 20846978

Taking Action to Develop the Future Engineering Workforce

Student design competitions help provide fluid power education and encouragement for a career in engineering.

SEARCH: 20860296

Aventics Announces Acquisition of Vector Horizon Technology

Aventics' acquisition of Vector Horizon Technology will enable it to expand its business beyond pneumatics technology and strengthen its position in the global commercial vehicle business.

Find all of these and more at www.oemoffhighway.com

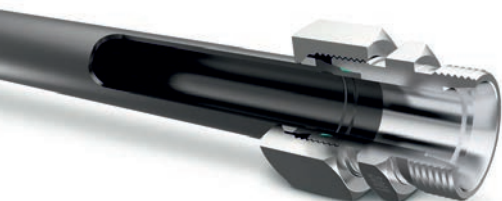
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The VOSS Sense Control Hub has a modular architecture and flexible valve configurations, helping to optimize thermal management systems.



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It's true: We're rooted in a tradition of world-class line and connection technology. That's why more than 4 million vehicles rely on our SCR lines and quick connect systems. And while we see value in tradition, taking the road less traveled has led us to developing more innovative, quality products for our customers.

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- Thermal management systems
- Valve technology
- Plastic/metal/hose line assemblies
- Metal end-formed tubes
- Temperature and pressure sensors
- Pneumatic systems
(Air suspensions and brake lines)

info.vossusa.com/InnovativeQuality

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Standard Grip Fitting for Spiral Hoses

Continental has introduced a standard grip (SG) line of fittings for spiral hoses.

- Expands number of available thread options
- Provides PC125 crimper greater ability to crimp heavy, four-wire and six-wire hose, with a one piece non skive option
- Single product family fits virtually all applications from 1 in. (2.54 cm) and below
- Includes online crimp chart
- PC125 can crimp all spiral constructions up to 1 in. (2.54 cm)
- Additional end forms available

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Flat Face Multiconnectors

Manuli Hydraulics introduces the Q.Safe Flat Face Multiconnectors to its quick coupling range.

- Combines superior performance with added efficiency and safety related benefits of a multiconnector block system
- Used on applications where various attachments are used and need to be able to be connected quickly, safely and without the risk of error
- Compact design reduces weight
- Features almost zero oil spillage on connection and disconnection
- Universally interchangeable according to ISO 16028



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you to implement a PWM control scheme on a wide range of equipment. Plus, these new pumps include a pressure relief valve to prevent hydraulic over-speeding and the damage it can cause.

Our years of engineering experience with cutting edge development processes make Ace your Number 1 choice for custom product development. We employ the latest in 3-D modeling and rapid prototyping tools, which

ensures design accuracy and efficiency while minimizing lead times. Just tell us your needs and we can design a custom pump solution to meet them.

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Flat Face Seal Fittings

The Tube Fittings Division (TFD) of Parker Hannifin Corporation has introduced the Seal-Lok Xtreme flat face seal fittings for LNG fuel system applications.

- Equipped with patented metal sealing ring for extreme temperature applications
- Working pressures up to 5,850 psi (403.3 bar) with temperatures as low as -328 F (-200 C) and as high as 1,200 F (650 C)
- Resistant to overtightening and vibration

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High Pressure Spiral Hose

Power management company Eaton announces the availability of the EC600 X-FLEX high pressure spiral hose, designed for demanding applications requiring very high pressure performance in small areas.

- Up to 24% more flexible; 50% of the Society of Automotive Engineers (SAE) 100R15 bend radius
- Makes installation in tight spaces easier while reducing total amount of hose needed on each machine
- Features highly abrasion-resistant cover material, supporting longer hose assembly life while helping increase uptime and reduce overall operating costs
- Withstands over one million impulse cycles
- Offers operating pressure of 6,100 psi (420.6 bar)
- Four and six spiral wire construction
- Operable at temperatures from -40-121 C (-40-250 F)
- No fluid leakage between hose and fitting when machine shuts down

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Hydraulic Hoses for High-Pressure Applications

ContiTech has introduced the ContiTech Constant Pressure Spiral Hydraulic hose for North American markets.

- Features various characteristics crucial to operating under high-pressure hydraulic applications
- Provides reduced bend radius up to 1/2 (through 1 in. I.D.) that of SAE conventional spiral hose standards
- Includes abrasion-resistant cover
- Meets United States Mining Safety and Health Administration (MSHA) flame resistance designation
- Excellent impulse performance and flexibility
- Meets SAE 100R19 and ISO 11237 standards
- Inner tube is constructed of nitrile rubber and is reinforced with four or six alternating layers of spiraled high-tensile steel wire
- Outer cover is manufactured with Extended Life extra abrasion, and oil- and weather-resistant synthetic rubber
- Less-bulky inner tube and outer wall construction requires less force to bend

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- Base-ported filter provides easy element service from top cap

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The ssVEC features a unique color-coded and keyed connector system, and accepts common plug-in fuses, relays, circuit breakers, resistors, diodes, etc., based on the industry standard 2.8mm footprint.

Waytek stocks a standardized layout of the ssVEC that has not been previously available, which allows you to easily wire in 8 micro relays and 12 fused circuits, all in a compact 6"x6" area, providing up to 200 amps of power distribution. Custom configurations are also available to order for quantities greater than 75. As with all VEC's, the ssVEC can be programmed to accommodate various OEM wiring requirements,

and supports both 12V and 24V electrical systems (or combinations thereof).

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Two Position Connectors

TE Connectivity's (TE) high-power AMP MCP 9.5 two position connectors are designed for harsh environment wire-to-wire and wire-to-circuit board connections.

- Designed to withstand the extreme conditions of the trucking, agricultural, mining, construction, and marine industries
- Utilizes TE's field-proven AMP MCP 9.5 contacts
- Current rating of 78 amps for 10 mm² wire
- Constructed of heavy-duty thermoplastic
- Withstands severe vibration and mechanical shock
- IP67 and IP69K rated to protect connections from dust, dirt, and moisture
- Long-term operating temperature range of -30-100 C (-22-212 F)
- Integrated secondary lock confirms contact alignment and retention
- Several mounting options are available, including inline, flange, sealed flange, and PCB mount
- No tools required for mounting; connectors feature a clip-in mounting feature

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Heavy-Duty Brushless Alternator

BorgWarner's Delco Remy 55SI is designed to take on the electrical loads of heavy-duty vehicles from 12V utility and work trucks to 24V wheel loaders, graders and mining equipment applications.

- 12V, 430 Amp; 24V, 250 and 275 Amp models provide high output performance at engine idle
- Brushless design has fewer moving parts, less wear and longer life
- Battery charge time can be reduced by 50% through Remote Sense, which utilizes a second wire that reads the actual voltage at the battery and signals the alternator to boost its output to compensate for the voltage drop, ensuring 14V at the battery
- Weighs 43 lbs.
- Frame length is 8 in., freeing up engine mounting space

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Linear Actuator

Midwest Motion Products Inc. announces the release of the Model MMP LA3-12V-5-A-SP-100 Linear Actuator.

- Utilizes all-steel drive pinion, increasing force capacity while maintaining 5:1 reduction ratio to maintain rapid 2 in. (50.8 mm) per second stroke speed
- Robust design
- Maintains relatively low noise profile
- Features IP65 protection rating to prevent ingress of moisture and other contaminants
- Stroke length is 4 in. (101.6 mm) overall
- Available with 2 in. (50.8 mm), 6 in. (152.4 mm), 8 in. (203.2 mm), 10 in. (254 mm) and 12 in. (304.8 mm) stroke lengths
- Features 8 mm (0.3 in.) diameter clevis mounts on both ends, and built-in limit switches for both (full extend and full retract) ends of travel
- Operating temperature range is -26-65 C (-14.8-149 F)
- Acme screw drive allows for 517 lbs. (234.5 kg) of static load, while boasting 45 lb. (20.4 kg) dynamic load rating

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Linear Actuators

Venture Mfg. Co. provides a complete range of linear actuators to suit the needs of many different applications.

- Offers clean and smooth operation
- Features lightweight, compact design, simple installation and quiet operation
- Made from high grade industrial materials
- Available models include heavy-duty linear actuators, high speed linear actuators, industrial linear actuators, motorized linear actuators and electro-mechanical linear actuators
- Suited for use in applications such as mining, agriculture, oil and gas, construction and manufacturing

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Electric Motor

The HVH410 electric motor from BorgWarner provides high torque and power density for full hybrid and electric systems.

- Up to 700V
- Stator diameter is 410 mm
- Up to 300 kW of power
- Up to 2,000 Nm of torque
- Offers an estimated 20-30% fuel savings and CO₂ reduction
- Patented high voltage hairpin (HVH) high efficiency stator
- Oil and WEG cooling options available
- Permanent magnet rotor
- Proven high durability design

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Electric Actuator with Self-Contained Hydraulic Actuation

Warner Linear has developed the H-Track electric actuator with self-contained hydraulic actuation to meet the growing demand for power dense actuators used in a variety of industrial and mobile off-highway applications.

- Provides performance of hydraulics
- Force rating of 4,800 lbs. (21 kN) packaged in compact size
- Features less than 0.3 cc/min. initial drift
- Immune to vibrational drifting once seated

oemoffhighway.com/20853721



Connector Interface

ITT Inc., through its Cannon brand, launches the Modular APD Connector Interface.

- Manages ITT's APD connectors used widely in cabin-to-chassis and centralized interconnect applications
- Modular design provides flexibility, allowing operators to easily install, manage and reconfigure APD connectors as needs evolve
- Features space-saving design
- Withstands temperatures from -40-85 C (-40-185 F)
- Fully compliant with IP54/IP6K5 specifications

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2-4kN Linear Actuators

Thomson Industries Inc. has expanded its WhisperTrak actuator line to give motion system designers greater ability to extend quiet, compact actuation to more demanding applications.

- Provides higher-speed operation at 2 kN
- Rated for 4 kN (900 lbs.) with load speed at 4 mm/sec (0.16 in./sec)
- 2 kN version is rated for 2,000 kN (450 lbs.) with load speeds of up to 8 mm/sec (0.31 in./sec)
- All models can be specified for 12- or 24V input
- Includes IP67 static environmental rating

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Battery Disconnect Power Switch

BD-Series battery disconnect switches from Carling Technologies are designed to minimize battery drain, ensure maintenance personnel safety, and when used in conjunction with a padlock, provide vehicle theft protection.

- 100-250 Amps
- 12/24V DC operation
- IP67 sealing protection
- Lock compatible

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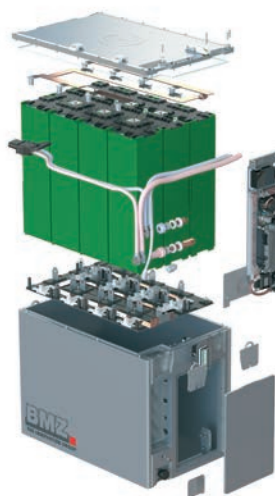


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Lithium-Ion Batteries

The BMZ Group develops large-scale lithium-ion batteries for vehicles like buses, forklifts, cranes, sweepers, and commercial vehicles.

- Quick-charging capabilities
- Long service life of up to 20 years
- Economical alternative to maintenance-intensive lead-acid batteries
- Modular battery systems with 24-48V that can be connected in parallel and cascaded up to 800V
- High-quality installed automotive cells withstand 4,000 charging cycle

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Brushless AC Servo Motors

Allied Motion Technologies introduces the HeiMotion Premium (HMP) brushless AC servo motor family.

- Available in five metric frame sizes with rated torque from 0.12-14.4 Nm, and continuous shaft power from 50 W -3.75 kW
- Compressed winding technology allows for compact size
- Standard flange sizes are 40, 60, 80, 100 and 130 mm (1.57, 2.36, 3.15, 3.94 and 5.12 in.)
- Top speed ranges from 2,000-9,000 rpm
- Holding torque range of 0.18-18.5 Nm

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9 Pin Green Installation Kits

Continental has expanded its VDO RoadLog installation kit portfolio with a line of 9 Pin Green Installation Kits.

- Increases capability of ELD program to run single platform in mixed fleets
- Supports 2015 and newer trucks that utilize 9 Pin type II (green) Deutsch diagnostic ports, as well as pre-2015 9 Pin type I (black) Deutsch diagnostic ports
- Available as direct connection or as Y-Cable configuration
- VDO RoadLog combines GPS data with input from vehicle to create digital log driver can either download or print out as needed

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SEARCH: **20862670**

ABB Opens New Canadian Headquarters in Montreal

ABB has opened its new Canadian Headquarters and Customer Innovation Center to better serve customers in the region; it also includes the company's North American Center of Excellence in E-Mobility.

SEARCH: **20862259**

Ricardo Collaborating with Toyota on Heavy-Duty Fuel Cell Truck Project

Ricardo provided Toyota with various engineering support including systems integration and packaging for the fuel cells, power electronics and hydrogen tanks.

SEARCH: **20860141**

U.S. Electric Motors Market to Cross \$19 Billion by 2022

A new report from Researchlinker indicates the U.S. electric motors market will reach \$19 billion by 2022 due to increased demand from the industrial, transportation and commercial sectors.

SEARCH: **20851008**

Microvast Delivers Record Number of Electric Bus Power Systems in 2016

Microvast delivered over 7,500 systems for all-electric and hybrid-electric buses in 2016, a new high for the company.

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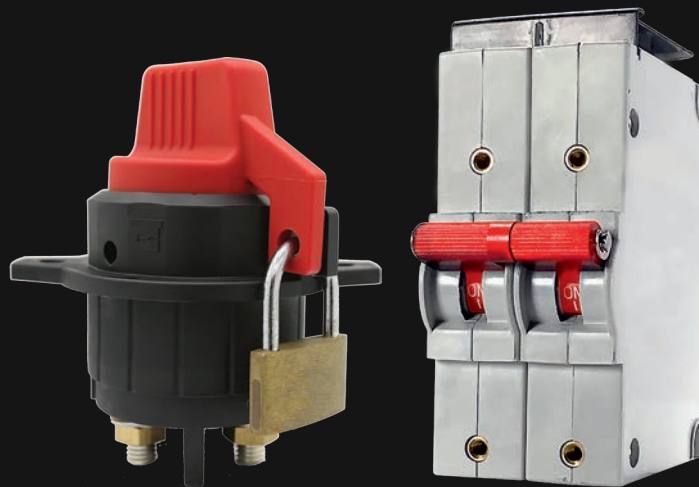
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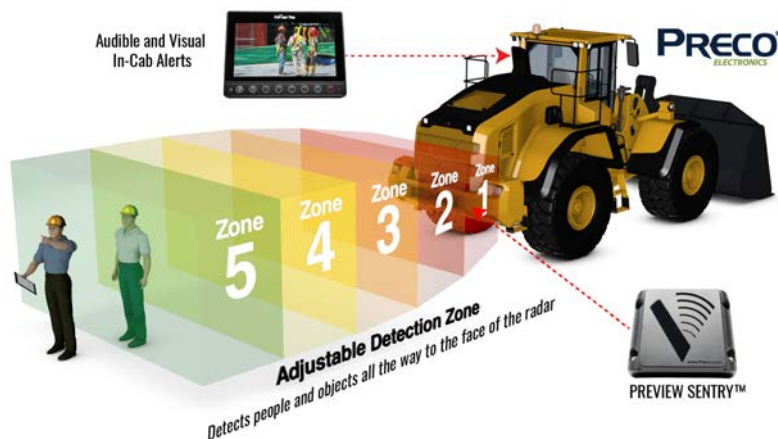
Intermat
Paris, France
April 23-28, 2018

Object Detection System

PRECO Electronics introduces its PreView Sentry object detection system.

- Features fully adjustable detection zone
- Able to detect objects from face of radar up to 30 m (98 ft.)
- Accurately identifies location and velocity of up to 16 people or objects simultaneously
- Includes built-in fail safe alerts that notify operator of radar blockage

oemoffhighway.com/12261125



Concrete Paving System

Topcon Positioning Group announces the next generation of automated concrete paving, the ZPS system, with the new Z-Robot and Z-Stack sensor.

- Uses enhanced Topcon Millimeter GPS technology
- Features integrated Z-beam laser technology
- Provides hybrid function of high-precision, optically-based vertical accuracy control and convenience of Z-beam laser positioning to maintain accuracy across the paver
- Self-leveling Z-Robot cuts setup time in half
- Eliminates need for multiple robotic total stations and instruments

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Data Acquisition System

DTS (Diversified Technical Systems) introduces SLICE NANO IEPE, the latest in its rugged data acquisition lineup.

- Features footprint of only 26 x 46 mm (1.0 x 1.8 in.)
- Can be embedded in virtually any test article
- Withstands impacts up to 500 g, meets MIL-STD-810-E, and does it all on standard batteries
- Configurable from three channels to 24 per stack
- Can be daisy-chained for large test set-ups

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Multi-Constellation Antenna

Antenna Company announces the launch of the AC30011, a multi-constellation antenna for location tracking and positioning applications, supporting GPS, GLONASS, and BeiDou frequency bands.

- Optimized for easy integration into industry standard OBD-II dongle form factors, allowing fast time-to-market without need for extensive tuning
- Tested with industry-leading GNSS chipsets
- Provides greater coverage and accuracy in challenging RF conditions compared to ceramic GPS patch antennas
- Offers omni-directional coverage pattern
- Efficiencies of 65-70% are typical

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SEARCH: 20849520

New Sensor Designs Aid Creation of Smart Hydraulics

Evolving sensor technology is providing manufacturers with more flexible and precise options for the development of smart hydraulic systems.

SEARCH: 12247642

Unique Data Needs for Mining

As vehicle connectivity becomes commonplace, industry-specific data management solutions are becoming essential for optimizing performance in an individual application.

SEARCH: 12237071

Innovations for Safety and Efficiency in Heavy-Duty Vehicles

A component manufacturer has developed demonstration vehicles to highlight use of new technologies for safety and efficiency in commercial applications, and its ability to be a full systems solution provider.

SEARCH: 20849703

Testing Technologies of the Future, Today

Development of a battery-electric, fully autonomous load carrier working as part of an electrified job site demonstrates the potential for improved machine efficiency, safety and emissions reduction.

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Full Constellation GNSS Receivers

Topcon Positioning Group announces two full constellation GNSS receivers, the B111 and B125, for the OEM market.

- Utilizes GPS, GLONASS, BeiDou and Galileo constellations with the B111 tracking signals in the L1 and L2 frequency band
- Both boards are designed to provide scalable positioning from sub-meter DGPS positioning to sub-centimeter RTK positioning
- Includes 226-channel Vanguard Technology with Universal Tracking Channels for reliable 'all-in-view' and 'future-proof' tracking
- Quartz Lock Loop technology provides superior GNSS tracking in high-vibration environments

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Portable Data Recorder

The HMG 4000 portable data recorder from HYDAC is a portable measurement and data acquisition device.

- For all measured variables in relation with hydraulic systems, such as pressure, temperature, flow rate and linear position
- Features easy-to-operate user interface due to large 5.7 in. (144.78 mm) touchscreen
- Can be connected to existing CAN network
- Measures inputs for standard sensors
- Large data memory for archiving measurement curves
- Enables storage of 500 measurements

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GNSS Receiver

Hemisphere GNSS Inc. has released the Vector VR1000 Rugged GNSS Receiver.

- Designed specifically for harsh machine control environments
- Multi-frequency, multi-GNSS receiver
- Offers RTK positioning and high-precision heading
- Features 744 channel design and 12 multi-color LEDs
- Tracks GPS, GLONASS, BeiDou, Galileo, QZSS, and IRNSS
- Supports Ethernet, CAN, internal 400 MHz/900 MHz radio, Serial, Bluetooth, and Wi-Fi
- Easy-to-use webUI makes it simple for users to operate and quickly identify health of all significant receiver and performance features
- Provides centimeter-level RTK
- Tracer technology helps maintain position during correction signal outages

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Manage a vehicle
from anywhere



OnCity™ Urban Turning Assist

OnCity delivers the commercial vehicle industry's widest field of view using breakthrough LiDAR single sensor technology. The system provides both driver warning and active braking to help protect cyclists and pedestrians in urban areas.



Collision Avoidance System

WABCO Holdings Inc. has released its OnCity Urban Turning Assist system to help protect pedestrians and cyclists in city traffic.

- Single-sensor collision avoidance system which uses LiDAR technology for object detection
- For trucks, buses and tractor-trailers
- Features wide field of view, up to 180 degrees
- Uses single sensor for safety monitoring of road users located on vehicle's blindside
- Detects and distinguishes moving and stationary objects, including pedestrians and cyclists
- Visually and acoustically alerts driver regarding potential collision with unprotected road users both right before and during a turning maneuver
- Can autonomously apply brake to prevent collisions should driver fail to take corrective action
- Performs reliably with high precision during nighttime, in blinding sunshine and even in low visibility conditions

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High-Current Controller

Danfoss Power Solutions has released the MC018 high-current controller as part of the PLUS+1 microcontrollers family.

- For the control of high-current devices
- Features maximum total current of 160A and maximum steady state current of 120A
- Higher maximum current allows more devices to be simultaneously powered by one controller
- Can run up to 4kHz at maximum load and up to 20kHz at reduced load
- Higher frequency makes it possible to control in-cab applications with smoother and higher precision of control, all with a reduced noise level
- Meets fault detection requirements

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OEM GNSS Sensor

Trimble introduces the Trimble ABX-Two OEM GNSS sensor.

- Delivers precise heading, pitch, roll and 3D positioning information
- Includes two internal MB-Two modules
- Offers third antenna option providing drift-free, absolute attitude solution
- Compact, lightweight and weatherproof enclosure
- Allows wide range of voltage inputs and maintains low-power consumption regardless of voltage
- Speeds integration process with web user interface and variety of interface connections
- Features powerful RTK engine that delivers centimeter-level accuracy
- Z-Blade technology drives powerful GNSS agnostic engine, allowing use of any single GNSS satellite system

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Data Acquisition System

HBM Inc. announces its next generation ruggedized Somat eDAQ data acquisition solution, the Somat eDAQXR system, for a simple migration path to the upgraded eDAQXR hardware and software tool.

- Significantly smaller footprint than its eDAQ predecessor, but more powerful processor
- Operating temperature range of -40-80 C (-40-176 F)
- Operating power requirement of 8-36V
- Remains a layered centralized data acquisition system, but will also have ability to connect to remote SomatXR signal conditioning modules
- Fully tested to MIL-STD202G
- Withstands vibrations of 20G, shock up to 75G

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LED Combination Light

ABL Lights announces the release of the 3800 LED combination light.

- Offers direct drop-in replacement for halogen design
- Prevents snow and ice buildup via lens heat sync
- Multi-voltage of 12-24V
- Vibration resistance is 15 Grms from 24-2,000 Hz and shock resistance is 60 G
- Meets various industry standards including ISO 13766, ISO 14982, ISO 12985 and CISPR25
- Protected against reverse voltage
- Includes electronic thermal management to protect against overheating
- Water tightness to IP68/IP69K
- Operating temperature range is -40-85 C (-40-185 F)
- Features salt spray protection to ISO 9227
- Lens is hardened glass with free-form reflectors and aspherical lens modules

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Stop/Turn/Tail & Back-Up Combination Lamp

Truck-Lite Co. LLC has added the 44 Series Stop/Turn/Tail & Back-Up combination lamp to its current 44 Series offerings.

- Performs the functions of two lamps in one unit
- Features hardwired connector for tight-packaging applications
- Three-position LED Fit 'N Forget AMP connectors are compatible with existing connection points on vehicle harness
- Measures 4-in. (10.16 cm)
- Meets or exceeds all FMVSS 108 requirements, even on vehicles over 80 in. (203.2 cm) wide
- Stop function offers same appearance and performance expected in marketplace
- Distinct back-up feature provides clear indication of white reverse signal without impairing effectiveness of stop/turn/tail lamp when both are illuminated

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Slim LED Light Bars

Super Bright LEDs introduces its series of slim off-road LED light bars.

- Measures 1 in. (2.5 cm) thick and 7-, 20- and 30-in. (17.8, 50.8 and 76.2 cm) long
- Emits 1,650, 5,000, or 8,200 lumens respectively
- LEDs emit either wide flood beam, narrow spot beam, or combination spot/flood beam pattern for focusing on long- and short-range distances simultaneously
- Features polycarbonate lens and shock-resistant aluminum housing with integral LED-cooling heat sink
- Waterproof and powder coated for rust resistance
- Operates within wide 10-30V DC range
- Can be easily installed with included mounting brackets and installation hardware

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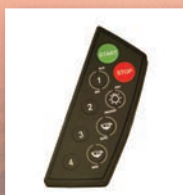
J1939 Devices

- CAN Splitters
- I/O Devices
- Inclinometers
- Displays



CANopen Devices

- CAN Splitters
- I/O Devices
- Inclinometers
- Accelerometers



Digital Switching

- Rubber Keypads
- Membrane Switches
- Power Output Devices



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PCB ASSEMBLY

SMT

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- Standard or Lead Free Solder



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- ACE Selective Solder Line
- Standard or Lead Free Solder



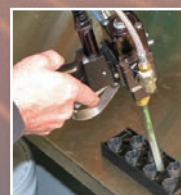
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SEARCH: 20862261

TerraE Plans Gigafactory Lithium-Ion Cells in Germany

Start-up TerraE is aiming to build up production of lithium-ion cells in Germany, reaching a capacity of up to 34 GWh/year by 2028.

SEARCH: 20860364

Navistar Selects MTA to Equip Fleet of International Trucks with Control Units

MTA will supply its PDM Underhood and PDM Chassis electromechanical units for use in Navistar's International Truck Brand Vehicles.

SEARCH: 20855251

Peterson Presents All-New Generation of 36-Diode Classics

Peterson's 817R-36 Stop/Turn/Tail light and 817A-36 Park/Turn light combines the classic look of its 36-diode Piranha LED lights with state-of-the-art circuitry.

SEARCH: 20853556

Truck-Lite Forms Partnership with NanoMech Industries

Through the partnership with NanoMech, Truck-Lite will introduce a series of products which provide improved levels of resistance to electrical malfunction, corrosion and oxidation.

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Modular Lights

HELLA's modular light series Shapeline allows manufacturers to arrange their own individual vehicle light signatures in a modular system.

- Enables manufacturers and designers to compile their own design with the click of a mouse using HELLA Shapeline configurator
- Automatically integrates either current American SAE regulation or European ECE R48 regulation
- Available in two design alternatives: classically straight "Shapeline Tech" and dynamically curved "Shapeline Style"

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Sealed-Beam LED Projector Headlights

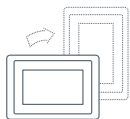
Super Bright LEDs announces the addition of four sealed-beam LED projector headlights.

- Round and square headlights
- Can be used in standard vehicles, rescue vehicles, agricultural equipment, or commercial trucks with factory H5006, H6545, H4651, or H4656 headlights
- Weatherproof and comes with plug-and-play connectors
- High-beam H4651 and low-beam H4656 LED headlights emit 2,250 lumens and 900 lumens, respectively, of cool white illumination
- High-/low-beam H6545 headlights emit 700 or 2,350 lumens of cool white light
- H6545 is a 4 x 6 in. (10.16 x 15.24 cm) square projector featuring shatterproof polycarbonate lenses and die cast aluminum housings with integral LED-cooling heat sinks
- 5-in. (12.7 cm) LED headlights also have shatterproof polycarbonate lenses



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ACTI-Vision 1230
Multi-Function Display

ACTI-Vision 730
Multi-Function Display



7 inch Viewing Area



ACTI-Vision 430
Multi-Function Display



4 inch Viewing Area

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ACTIA's MFDs combine ruggedness (IP65/67) with flexibility (Linux OS) and thereby allowing the OEM to autonomously design applications and integrate functional solutions on many platforms where the elements are of concern.

Whether it's a small machine (where space is an issue) or a large machine (where safety is essential), the scalability in size can accommodate them all; inside or outside the cab. These beautifully designed-to-cost displays can easily be the centerpiece of any cockpit and are guaranteed to add a high-end automotive look to any vehicle/machine/vessel.

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Combination Spot/Flood LED Light Bars

Optonics International announces the release of three LED light bars which project a combination spot/flood beam pattern.

- Available in 13-, 22- and 33-in. lengths (33.02, 55.88 and 83.82 cm)
- Can be used for wide range of applications and in almost any environment
- Delivers from 3,700-7,500 lumens depending on size
- Features IP65 rating for dust and water resistance
- Includes tough polycarbonate lenses that resist dust adhesion
- Each lamp is constructed with durable, die-cast aluminum housing and mounting brackets
- Accommodates both 12 and 24V electrical systems
- Employs solid-state, surface-mount device (SMD) design that protects electronics against moisture, shock and vibration

oemoffhighway.com/20862425



Compact LED Worklamps

ESG's (ECCO Safety Group) ECCO range of LED worklamps has been enhanced with the addition of EW2470 (square), EW2480 (round) and EW2490 (oval) Series of LED worklamps.

- Compact units feature five bright 3 W white LED modules
- Suitable without adjustment for 12 or 24V vehicles
- All lamps are compliant with the Europe directive ECE R10 for electromagnetic compatibility
- Water and dust ingress resistant to IP67
- Polycarbonate lenses
- Life expectancy of up to 80,000 hours

oemoffhighway.com/20856532



LED Worklights

HELLA has introduced a light-optimized second generation of its LED Ultra Beam range of worklights.

- Features higher light output of 4,000 lumens
- Produces light color very close to daylight, which prevents fatigue and allows switching low-beam lights on/off under various lighting conditions and in specific situations such as in tunnels
- Can be used for close-range and long-range illumination
- Available with ZEROGLARE light distribution
- ZEROGLARE specifically aims light from LEDs towards the ground in front of vehicle, creating clear-cut boundary between light and dark to not distract oncoming drivers
- Version for mining industry, Mining RokLUME 280 Series, includes impact-resistant hard-coated polycarbonate lens and anti-corrosion aluminum housing

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Flexible Magnetostrictive Linear Position Sensors

MTS Sensors has expanded its MH Series of magnetostrictive linear position sensors by introducing the field-serviceable Flexible MH (FMH).

- For use with hydraulic cylinders in mobile applications
- Features two-part design to separate flexible sensing element and electronics from housing without opening hydraulic system
- Available with Analog or CANbus
- Supports stroke lengths of 500-5,000 mm (19.69-196.85 in.)

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Absolute Multi-Turn Angle Sensors

Novotechnik U.S. introduces the RMB 3600 Series of absolute multi-turn angle sensors.

- Features galvanized steel housing and stainless steel shaft
- Sealed up to IP69K, depending on version
- Included enhanced giant magnetic resistance (EGMR)
- Counts turns even when power is removed, and retains turn count and angle information for years without power
- Operating speed to 12,000 rpm
- Withstands shock to 50 g and vibration to 20 g

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Inclinometers

The QG Series of inclination sensors from DIS Sensors measure angles in one or two axes.

- Based on robust MEMS technology in which capacitance differences can be converted into an analogue voltage within a micro-mechanical sensor chip
- Single axis measurement range is ± 10 degrees, ± 30 degrees, ± 90 degrees and 0-360 degrees
- Double axis measurement range is ± 10 degrees, ± 30 degrees and ± 90 degrees
- Meets Functional Safety SIL2/PLd
- Provides analog output of 0.5-4.5V or 4-20 mA
- Digital output is CANopen (Safety), RS232
- Features accuracy up to 0.02 degrees
- Includes protection to IP67



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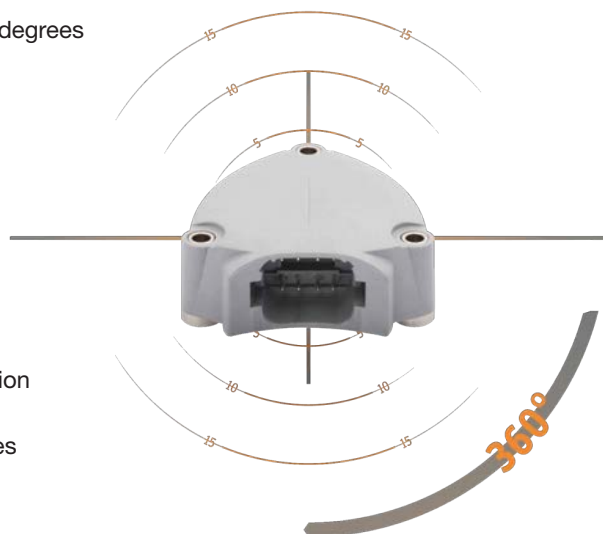
Tilt Sensor with Integrated CAN Electronics

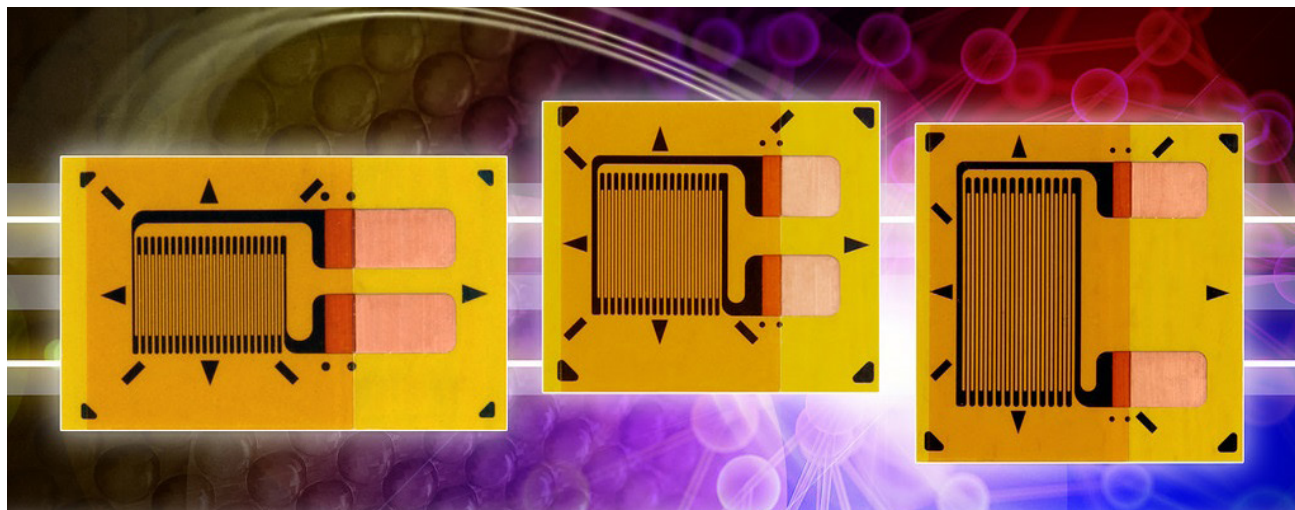
The N5 Tilt Sensor from elobau provides an integrated CANopen output with J1939 protocol according to ISO 11898.

- Based on MEMS technology for reliability in demanding environments
- Measuring range of 360 degrees with the one axis version, or 180 degrees with the two axis version
- Available with up to four configurable switching points and a selectable switch-on/switch-off delay per switching point
- Neutral position signal can be adjusted using an infrared remote control or via the CANbus
- Compact, flat housing; easily mountable in confined space
- IP67 protected
- Operating temperature range from -40-85 C (-40-185 F)
- Electrical connections through a Deutsch or M12 connector
- CANopen protocol offers various options such as baud rate selection or direction of rotation
- 9-32V DC supply voltage is suitable for battery operation in vehicles

oemoffhighway.com/12227267

360° N5 Tilt Sensor with CAN bus interface





Strain Gages

Micro-Measurements, a Vishay Precision Group Inc. (VPG) brand, announces the release of three CEA-Series strain gages designed to perform standard compression tests on polymer matrix composite materials.

- Features unique configuration suited for any strain measurement requiring close proximity to one-sided features
- Pattern geometry meets needs of ASTM Standard Test Method D6641
- 062UB, 125UB and 250UB patterns

are designed with both solder tabs placed on one side of linear sensing grid

- Enables proper orientation on composite specimen and keeps sensing grid centered in test zone

oemoffhighway.com/12239939

Open Faced Inductive Angle Sensors

Turck announces the release of the RI360-DSU open faced inductive angle sensors.

- Provides customers with rotary valve sensing solution suited for harsh environments
- Utilizes inductive resonant circuit measuring principle
- Delivers analog or discrete outputs
- Allows for continuous 360 degree contactless position measurement
- Wear-free sensing capabilities

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SEARCH: 12233087

Follow the Leader

Wirelessly linking vehicles together in a convoy provides opportunities for emissions reduction, safety and efficiency benefits.

SEARCH: 20860980

Honeywell and SKF Launch Industrial Internet of Things Pilot Project

SKF and Honeywell will combine their expertise to develop a user-friendly digital ecosystem which captures and analyzes large amounts of data from machinery.

SEARCH: 20858755

WABCO Forms Joint Venture for Truck and Trailer Fleet Management Systems in China

WABCO has formed a joint venture in China with G7 to develop and sell advanced fleet management systems for trucks and trailers.

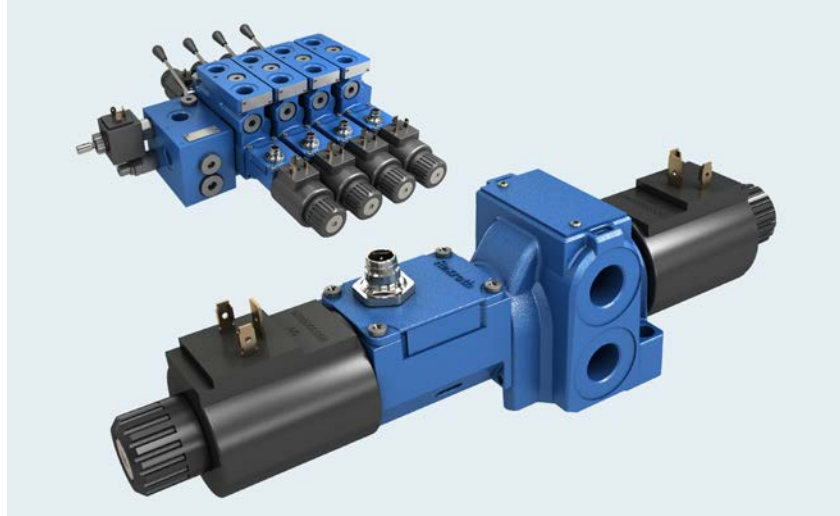
SEARCH: 20855866

Wachendorff Electronics Changing Name to Topcon Electronics

As of April 1, Wachendorff changed its name to Topcon Electronics GmbH & Co. KG. to better reflect its integration into the Topcon group.

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Compact Directional Control Valve Sensor

Bosch Rexroth's compact directional control valve sensor monitors spool state of shifting in both mobile and industrial applications.

- Provides reliable monitoring of spool position
- Satisfies all international standards in safety reliability engineering
- Solid-state, Hall-effect technology
- Installs directly between valve body and solenoid coil
- Monitors any movement of valve spool
- Includes IP69K protection rating

oemoffhighway.com/20855679

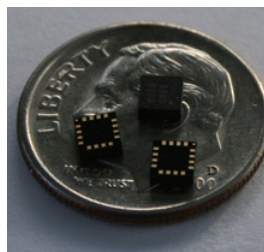
3 Axis Magnetic Sensor

MEMSIC Inc. announces the availability of the MMC5883MA

3 Axis Magnetic Sensor, the newest member of MEMSIC's Anisotropic Magneto Resistive (AMR) based Magnetic Sensor family.

- Provides 16-bit operation over a wide ± 8 Gauss operating range
- High performance enables faster algorithms for hard and soft iron interference correction delivering more precise and faster heading determination
- Ultra-small, low profile LGA package measures 3.0 x 3.0 x 1.0 mm (0.1 x 0.1 x 0.04 in.)
- Operates over -40-85 C (-40-185 F) temperature range
- Supply voltage of 2.16-3.6V
- Exhibits low current consumption of 20uA at seven samples per second data rate

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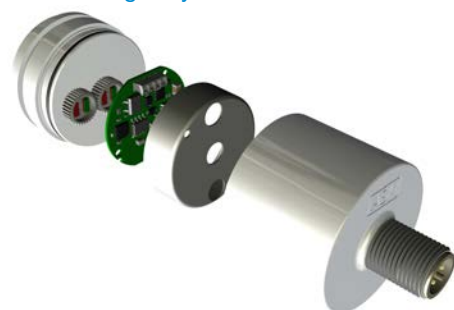


Multi-Turn Optical Encoders

ASM Sensors introduces the magnetic multi-turn encoder technology POSIHALL.

- Measures true-absolute
- Robust alternative to optical encoders
- Measures absolute angular position of shaft over multiple revolutions by utilizing gear coupled multi-hall sensor system that uses magnetic nonius (vernier) principle
- Available in protection class up to IP69
- Works in environments with magnetic field strengths up to 0.5 Tesla
- Available with redundant outputs for safety applications

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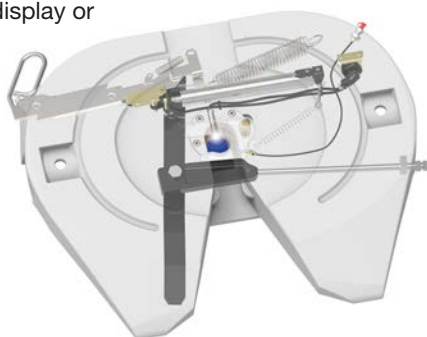


Air-Release Fifth Wheel with Sensor Technology

JOST International has introduced the JSK37USK Series air-release fifth wheel with sensor technology.

- Sensor Coupling System allows driver to confirm fifth wheel is properly and safely coupled from inside the cab
- Provides next step in automated coupling process, particularly as trucks and trailers move toward more aerodynamic designs, which will make physically accessing and confirming coupling difficult
- Sensor Coupling System contains dual sensors
- First sensor verifies kingpin is in lock position
- Second sensor indicates fifth wheel is locked and release handle secured
- Lock status can be shown either by JOST supplied dash display or communicated through vehicle's CANbus

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Accelerometers

DIS Sensors' QG Series of acceleration sensors are based on robust MEMS technology in which capacitance differences can be converted into an analogue voltage within a micro-mechanical sensor chip.

- Measures acceleration in one, two or three axes
- Modular design makes it easy to adapt to specific requirements
- Housing is available in metal, as well as in plastic
- Measurement ranges from ± 0.26 g to ± 18 g (1 g = 9.81 m/s²)
- Frequency is 0 to 10/50/100/500/1.000/2.000 Hz
- Complies with Functional Safety SIL2/PLd (optional)
- Energy supply is 5V DC or 10-30V DC
- Analogue output is 0.5-4.5V or 4-20 mA
- Digital output is CANopen (Safety)
- Offers accuracy up to 0.003 g depending on model and range
- Includes IP67 (optional IP68 or IP69K) protection

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Inclinometers

Jewell Instruments introduces the JMI-100/200 Series inclinometers.

- Versatile, lightweight and robust design
- Contains MEMS capacitive technology
- Available in single (JMI-100) or dual-axis (JMI-200) configurations
- Measuring ranges of ± 14.5 degrees, ± 30 degrees and ± 90 degrees available with 3 milliradian resolution and ± 5 V DC output
- RoHS compliant
- Features lightweight aluminum enclosure
- Conductive to many OEM applications
- Includes IP65 seal, 100 g shock and -40-85 C (-40-185 F) operating range for use in harsh environments
- Single power input version (JMI-100/200-S) available with 0-5V DC output signal



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70-Watt 10" LED work light utilizes the latest LED technology with a precision optic system to maximize illumination spread, a thermally optimized ADC12 housing for better heat dissipation, and a pressure relief valve to eliminate fogging. All backed by a **Lifetime Warranty**.



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Inclinometers with Dynamic Load Compensation

POSITAL has introduced versions of its TILTIX inclinometers with dynamic load compensation that can provide reliable tilt measurement for moving equipment.

- Uses combination of electro-mechanical gyroscopes and accelerometers
- Features measurement range of +180 degrees around X-axis (pitch) and +90 degrees around Y-axis (roll)
- CANopen communications interface is currently supported, with analog, SAE J-1939 and Modbus interfaces soon to be introduced

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Series TB45

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Inertial Sensors

LORD Sensing MicroStrain has expanded its portfolio of sensors for the industrial off-highway market with the introduction of the 3DM-GX5 family of inertial sensors.

- Upgrades include improved performance through in-situ heading calibration
- Automatic magnetometer calibration and anomaly rejection
- Fully calibrated, temperature-compensated, and mathematically-aligned to an orthogonal coordinate system
- Provides automatic compensation for noise and drift
- Withstands high variations in temperature and shock

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Tilt Switches

The latest generation of tilt switches from DIS Sensors are based on MEMS technology and intelligent microcontroller algorithms.

- Single or twin axis switches can be implemented with any desired switching angle
- Single axis measurement to ± 180 degrees
- Double axis measurement range of $\pm 1-90$ degrees
- Energy supply of 5V DC or 10-30V DC
- Digital output is single or dual NPN/PNP
- Provides accuracy up to 0.1 degrees
- Features IP67 sealing

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Position Transducer for Hydraulic Cylinders

Liebherr presents the intelligent position transducer LiView which determines the exact piston position and speed through high-resolution absolute measurement.

- Utilizes the piston itself as robust sensing element
- Measures cylinder's scattering parameters using signals at different frequencies injected onto cylinder itself

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Sensors for Excavator Applications

Leica Geosystems announces the launch of the Leica MSS400 Series Sensors.

- Incorporate SP Technology that allows faster digging without loss of precision at higher speeds
- Provides accurate reading over a 360 degree range of motion
- Enables use of iCON excavate solution without experiencing dead spots
- Features inertial measurement technology combined with gyroscopes and accelerometers
- Designed for excavators

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Inclination Sensors

To accurately determine the inclination of machinery or machinery components, tectis GmbH now has a wide range of inclination sensors.

- Operates using dielectric liquid, the surface of which always aligns itself horizontally by means of gravity
- Electronic system records capacity difference to calculate inclination angle
- Angle resolution is 0.01 degrees
- Angle changes can be recorded at speeds of up to 5 degrees/s
- Measurement covering 360 degrees can be made with high precision
- Fulfills high protection classes, and insensitive to vibration and shocks
- Temperature range of -40-80 C (-40-176 F)

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ACTUAL SIZE

The
PZ30 ProxEncoder®
Non-contact Rotary Position Sensor

30mm ROTARY ENCODER
NON-CONTACT (UP TO 1/2" AIR GAP)
J1939 COMMUNICATIONS
ABSOLUTE MULTI-TURN
IP69K PROTECTED

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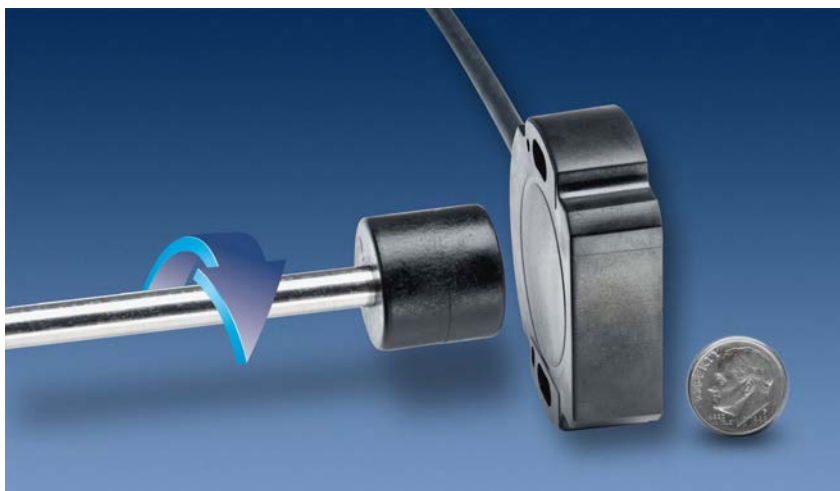
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Touchless Rotary Angle Sensors

Novotechnik U.S. introduces the RFC4800 Series of touchless rotary angle sensors that provide absolute, rotary position.

- Partial and fully redundant versions available
- ISO-pulses and ISO 11452 tested for safety and mission-critical applications
- Utilizes magnetic pickup to provide touchless measurement range of 0-360 degrees
- Capable of measuring through air and non-magnetic materials
- Magnetic pickup mounts to shaft on user application with seven different size markers available for dimensional flexibility and optimized detection for different applications
- Includes ingress protection from liquids and dust to IP69K standard
- Provides resolution of 14 bits
- Repeatability of 0.36 degrees and independent linearity of $\pm 0.5\%$
- Features built-in customization capability
- Analog and digital output versions include CANOpen and IO-Link
- Operating temperature range of -40 - 125 C (-40 - 257 F)
- Cable and connector versions available

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Bearing-Free Rotary Encoder

To make it as easy as possible for manufacturers to adapt to new requirements, SIKO GmbH has developed the MSK320R bearing-free rotary encoder.

- Designed especially for use in forklift trucks
- Helps users implement safety requirements such as EN 1175 (safety of industrial trucks)
- Can be used directly on wheels for speed or rotation detection in AGVs
- Equipped with two magnetic sensors for redundant position measurement
- Has two completely separate position channels, and can be used in combination with secure input card in overall system up to performance level PLd
- Small, compact housing measuring 35 x 25 x 10 mm (1.37 x 0.98 x 0.39 in.)
- Can be used for linear displacement measurement or for angle and speed detection
- Resistant to dust, chips, oils, grease, and moisture

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Pressure Transmitters

Turck introduces the PT2000 line of pressure transmitters, which offer a welded stainless steel measuring cell for increased durability and increased chemical compatibility.

- All wetted materials are 316L stainless steel
- Transmitter housing is gel filled, eliminating problems caused by condensation in applications with wide range of temperatures
- Handles pressures up to 1,000 bar (14,503.8 psi) and process media up to 135 C (275 F)
- Available with process connections such as NPT, BSPP and SAE commonly used in North American hydraulic applications
- Offers multiple output signals
- Includes IP67 rating

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If you're looking for Sensors, Lighting, Control Units and more, just type a keyword into our search bar!

Inductive Linear Position Sensor

The Sensor Connection has released its ILPS-45 Series inductive, contactless linear position sensor using LVIT Technology for measuring applications requiring rugged devices.

- Withstands high vibration and severe shock environments, as well as extremes of temperature and humidity
- Simple coil design permits sensor to be both shorter and more rugged than DC-LVDT counterpart while operating over wider temperature range
- SenSet range adjustability feature allows user to scale zero and full span output to actual range of motion

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- Operating temperature range is -40-85 C (-40-185 F)
- Ranges from 4-18 in. (100-450 mm)
- Double shaft seals keep dirt and grime out of bore
- Axial or radial connector or cable terminations
- Features 1.75 in. (44.5 mm) outer diameter body with 5 mm (0.2 in.) wall thickness

Compact Pressure Transducers

OMEGA introduces its PX119 Series of low cost, compact pressure transducers with an all stainless steel body and rugged construction.

- Designed to provide reliable pressure measurement for material handling, industrial and mobile equipment applications where cost and space constraints requiring a small body are important
- High reliability piezoresistive ceramic sensor with a custom ASIC signal conditioner provide an excellent thermally compensated output
- Pressure ranges from 15-5000 psig and psia (1-345 bar)
- Standard 4-20 mA
- CE certified



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Industrial-Grade Inertial Sensors

LORD Sensing MicroStrain has introduced the 3DM-CV5 family of low-cost, industrial-grade inertial sensors: the CV5-10 IMU, CV5-15 VRU, and CV5-25 AHRS.



- Applications include vehicle health and usage monitoring, precision agriculture, platform stabilization and artificial horizon
- Direct measurement of acceleration and angular rate
- Fully temperature compensated, calibrated over operating temperatures, and mathematically-aligned to an orthogonal coordinate system
- Power requirement of 5V DC

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Measurement Technology for Mobile Automation



Robust, durable, reliable!

- Wire-actuated encoders for linear path measurement with robust wire-actuation technology
- Robust rotary encoders for angle, path and speed measurement
- Inclinometers are suitable for non-contacting measurement of absolute angle positions



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Hardware

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HARDWARE

POLYGON EWS BEARINGS

Polygon's EWS is a composite bearing ideal for highly loaded joints, and features a low friction liner designed for extended periods without maintenance. It is excellent for equipment in the construction, agriculture, and mining industries, or any locations with high contamination leading to premature wear and scheduled replacement. EWS shows a marked 300% improvement in a clean testing environment compared to the industry leading wear performance of Polygon's best-selling MRP line. Contaminated environments are also handled well, with a marked improvement of 350%. Seals and their machining cost can sometimes be eliminated thanks to the increased contaminated environment performance.

The inspiration for the EWS bearing was a high frequency, low oscillation angle application that built total sliding distances quickly and resulted in wear failures. To solve this, Polygon utilized tribology research to create a new composite bearing liner

system, custom engineered to improve the performance of wear surfaces.

When large machinery is taken off-line, entire projects can be halted, leading to costly delays. The primary benefit of EWS in heavy equipment is improved maintenance time windows, all without sacrificing reliability and predictability. Improved timing windows can also reduce the number of scheduled maintenance visits and their attendant downtime. Bigger windows increase opportunity for scheduled bearing replacement to be combined with another major component overhaul on a single call. Let other components set your schedule, not your bearings.

Always the pioneer, Polygon invented the composite bearing, non-

gelcoat composite pneumatic cylinders, composite laparoscopic surgical tubing, and remains one of the foremost suppliers of dielectric motor insulation worldwide. Founded in 1949 by a chemist working on advanced composite materials during World War II at Wright-Patterson Air Force base, Polygon Company has grown into an engineered materials company with distributors worldwide.

Learn more about EWS and our whole line of products at PolygonCompany.com.



Cylindrical Roller Bearings

C&U Americas LLC, the North American subsidiary of the C&U Group, offers cylindrical roller bearings for high speed, high temperature, and high load capacity applications.

- Delivers excellent speed capability
- Features high radial load capacity with optional designs also offering thrust load capabilities
- Available in extra capacity designs with wide range of cage material options including steel, brass, and polyamide
- Can be configured to meet variety of noise, speed, vibration and temperature requirements depending on exact needs of application
- Developed in both single row and double row configurations
- Available in all types of precision classes and features both matched and interchangeable inner and outer ring designs

oemoffhighway.com/20853980



Embedded Positioning Hinge

Southco Inc. introduces its miniature ST-5A embedded positioning hinge featuring an embedded hinge for smaller applications.

- Provides precise positioning of smaller doors and panels that require increased torque
- Features compact design that allows easy installation in thin profile applications
- Eliminates need for secondary support components to hold doors or panels in position
- Preset during manufacturing process, eliminating need for constant maintenance and readjustment

oemoffhighway.com/12258873

Stainless Steel Vertical Acting Toggle Clamps

J.W. Winco Inc. announces it now has available GN 810 "Universal Fit" stainless steel vertical acting toggle clamps with horizontal mounting base.

- Work according to toggle principle, as the lever and clamping bar move in the same direction
- In clamped position, operating lever is in its vertical position
- RoHS compliant
- Accommodates application-specific clamping screw
- Version including spindle assembly with neoprene rubber tip is available as standard
- "Universal Fit" base allows for both inch and metric hole pattern mounting
- All moving parts are lubricated with a special grease
- Hand grip is made from high quality, oil resistant red plastic

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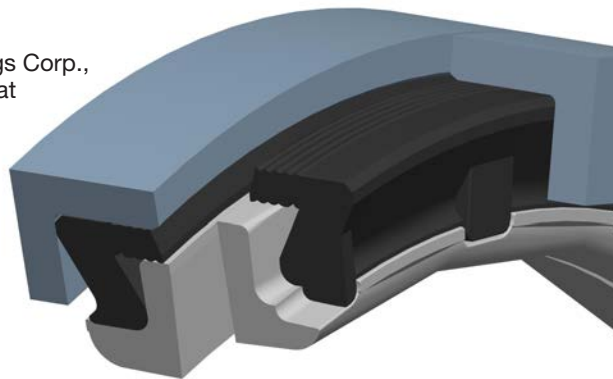
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Mechanical Face Seals

Federal-Mogul Powertrain, a division of Federal-Mogul Holdings Corp., designs, develops and manufactures mechanical face seals that are the product of choice to protect precision assemblies from the harsh environments and hostile debris experienced in industries such as mining, construction and agriculture.

- Provides metal-to-metal mechanical seal that is highly resistant to wear and ingress of abrasive particles
- Well suited for use in wide range of applications
- Consists of two metal rings, one stationary and the other rotating, each backed by elastomeric ring that pushes the faces together
- Controlled force is exerted by confining the elastomers within a defined space in their respective housings
- All relative movement occurs at contact between metal rings, so elastomers are only required to provide a static seal which does not wear
- Resilience of elastomer elements makes design highly robust and able to accept fluctuations in pressure, radial shaft movement and dimensional changes due to progressive wear of metal faces

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Padlockable Compression Latch

Southco Inc. has expanded its successful E3 VISE ACTION Compression Latch Series with an ergonomic T-handle version that features an integrated padlockable design.

- Combines ergonomic operation with enhanced security to provide vibration-resistant latching in rugged environments
- T-handle grip enables gloved hand operation
- Constructed of robust stainless steel
- Offers high corrosion resistance
- Various grip lengths available

oemoffhighway.com/20858215

Seal Rings for Transmissions

Freudenberg Sealing Solutions' Levitas seals are part of the company's Low Emission Sealing Solutions (LESS) product portfolio designed for industrial transmissions.

- During operation, the seal floats on a hydrodynamic oil film that it generates itself
- Film eliminates physical contact between the shaft and the seal ring so that only fluid friction remains and torque levels drop by as much as 70%
- Seal is bi-directional, so the effect occurs irrespective of the shaft's rotational direction; makes installation easier and more secure for the transmission manufacturer



oemoffhighway.com/20856613



Steel Leveling Sets with Spherical Washer

J.W. Winco Inc. announces it now has available GN 350.2 steel leveling sets with spherical washer.

- Made from steel
- Features zinc-plated and blue passivated finish
- Available in stainless steel
- Used for leveling, adjusting and linking operations
- RoHS compliant
- Consists of threaded upper sleeve and tapped lower sleeve
- Fine thread allows precise, stepless setting and locking using a hook wrench
- Anti-rotation disk serves as height limiter for maximum height
- Spherical washer allows precise installation of two non-parallel planes at required gradient up to ~4 degrees

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Seals for Wheel Hubs and Undercarriages

The Freudenberg CASSETTE-S4 seal solution for construction and agriculture mobile machinery wheel hubs and undercarriage applications was developed to exceed performance in harsh operating conditions.

- Sealing function and tailored contamination protection, combined in one single part
- All functional parts of the seal are protected inside the closed design—reduces number of components and risk of accidental damage
- Shaft machining and surface finishing requirements are much lower than standard sealing solutions

Static sealing function:

- OD: rubber + metal (typically)
- ID: full rubber

Dynamic sealing function:

- Freudenberg lip design with proprietary material according to given application conditions
- Optimized seal working surface

Dirt exclusion function:

- Standard steel and stainless steel external cover
- Five internal dust lips

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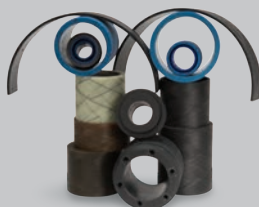


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GO GREASELESS WITH POLYGON BEARINGS FOR AG AND CONSTRUCTION!



Polygon Company has been the leading manufacturer of composite bearings and bushings for decades. We engineer, design, manufacture and specialize in composite bearings and wear materials. We invented the composite self-lubricated bearing and remain the leader in innovation. Go Greaseless by calling us toll-free at (800) 918-9261 or visiting polygoncompany.com

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Vibration Isolators

LORD Corporation introduces its LORD Micro-Mounts high-performance vibration isolators, originally developed for demanding aerospace, as well as oil and gas applications, which are now available to any OEM that needs to protect electronic components in harsh environments.



- For electronic components and PCB assemblies
- Reduces board-level acceleration levels by up to 200 times when compared to hard-mounting electronic components
- Small and soft enough to protect individual electronic components allowing for vibration isolation at the circuit board level
- Can be used as stand-alone solution or to augment performance of full-system vibration isolation solution
- Flexible design
- Made of Broad Temperature Range (BTR) silicone bonded to stainless-steel
- Suited for applications requiring consistent performance at extreme temperatures
- Can support 0.1 lbs. (0.05 kg) with a single mount
- Temperature rated to 350 F (176.7 C) continuous operation and 400 F (204.4 C) peak

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Indexing Plunger Latch Mechanisms with Rest Position

J.W. Winco Inc. announces it has available GN 417 metric size zinc die-cast indexing plunger latch mechanisms with rest position.



- RoHS compliant
- For applications where the plunger has to stay in its retracted position
- Design of the holes/slots allows for fixed or adjustable mounting of latch mechanism base onto tubing or T-slot aluminum structures
- Receptacle for indexing plunger latch pin with adjustable slots in base is available upon request
- Plunger housing is zinc die-cast with black plastic coated textured finish
- Plunger pin and spring are stainless steel

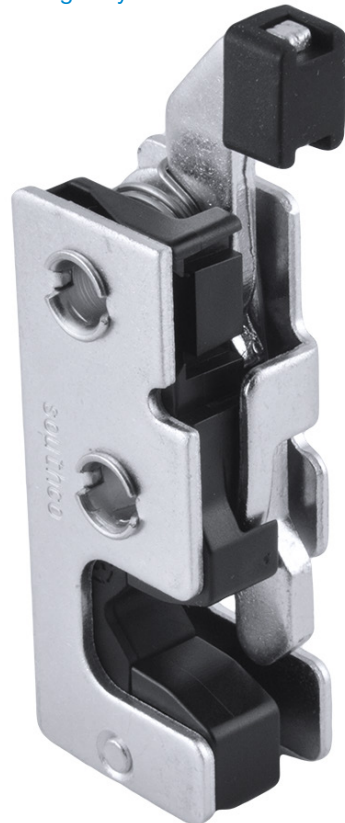
oemoffhighway.com/12272751

Rotary Latch with Direct Actuation

Southco Inc. has launched the R4-10 Rotary Latch with direct actuation.

- Can be triggered directly via push button or lever-style actuator, without need for connected cable or rod
- Rubber covered trigger alleviates potential noise between latch and actuator during operation
- Offers solution for access in applications where short distance may exist between rotary latch and actuator
- Direct actuation design allows actuator and rotary latch to be mounted on different sides of application
- Compact design occupies minimal space within enclosure, providing concealed latching and increased security
- Constructed of corrosion-resistant steel and stainless steel
- Available with integrated bumper feature
- Well suited for broad range of application environments

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CORPORATE PROFILE



High-Quality Bends and Custom Fabricated Assemblies

Grand Bending, a division of Morris Coupling, fabricates short and long radius bends for specialized exhaust systems for off-road vehicles including airport support and rail-mounted service equipment; heat exchangers; high performance automobiles; and other industrial applications. An extensive product offering is available in aluminized and galvanized carbon steel, carbon steel, aluminum and stainless steel. Our capabilities include compound bends, welded fabrications, expansion, swaging and beading.

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Grand Bending is the proven choice for custom and high-performance exhaust systems for off-highway, asphalt paving, rail-mounted, and airport service equipment.

Available in aluminized carbon steel and stainless steel thin-wall tubing.

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Operator Environment

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The new PowerView® 780B is the latest, cutting edge member of the PowerView family of rugged displays. With a 7-inch, high-brightness color LCD, the PV780B is a full-featured, configurable display built to deliver vital application, engine and diagnostic information to operators, even in the harshest environments.

The new PV780B is equipped with all the features of the popular PV780 but is enhanced with triple the CPU power and double the flash memory. Stay connected with additional communication functionality via Ethernet, built-in Wi-Fi and Bluetooth. The PV780B also keeps the same connectors available on the PV780, real-

time clock and I/O to support mechanical and Tier4/Stage IV electronic engines.

The PV780B's 1000-nit, 7-inch display is readable in full sunlight and its touch screen is glove-touch capable. Fully sealed and rated for harsh environments, the PV780B's optically bonded display with anti-glare for superior visibility is built to withstand the elements or a high-pressure washing.

Customizing the PV780B is easy with PowerVision Configuration Studio® software. With this powerful software tool, users can customize their interface, set alerts and program control functions for their applications. PowerVision also helps users quickly define

custom parameters with the built-in library and import custom splash screens, logos or other graphics with their own branding.

The PV780B is one of four PowerView® displays unveiled earlier this year at CONEXPO/IFPE joined by the recently released 4.3-inch PowerView 485, the 10.6-inch PowerView 1100 with infotainment and the 12.3-inch PowerView 1200 wide-format display. The PV780B, PV1100 and PV1200 displays will all be available later this year.

MURPHY
by **ENOVATION** CONTROLS



Dimmer Control Switch

Carling Technologies' LD-Series dimmer control switch offers fully programmable circuitry that can control minimum and maximum illumination levels, number of steps from total dim to full bright, and adjust illumination levels.

- Dimmer control with fully programmable circuitry
- 12 or 24V
- IP67 sealing protection

oemoffhighway.com/20851670

Seat for Lawn and Turf Care Equipment

Grammer Inc. has introduced the S321 seat shell for use on riding lawn mowers and other turf care machines.

- Features modern design created mainly for the U.S., but also for European and Asian markets
- Padded with two-part, 18.5 in. (47 cm) wide cushion
- Cushion can be foamed with Grammer backfoaming technology or be upholstered conventionally to create special designs
- Optionally available with armrests, fore/aft adjustment, and operator presence switch (OPS) as well as a seat belt system for enhanced safety
- Can be installed either as a static seat with or without slide rails or be combined with MSG15 semi-suspension featuring three-step weight adjustment
- Folds forward to service when used with MSG 15
- Can also be combined with MSG 283 suspension



oemoffhighway.com/12271185

Bluetooth Stereo for Heavy-Duty Applications

ASA Electronics debuts its JHD36A Bluetooth stereo for the heavy-duty market.

- Features latest technology with Bluetooth hands-free calling and app control
- Well suited for all construction and agriculture applications
- Built-in app control enables hands-free system control from any smartphone or tablet
- Sirius XM ready
- Includes 12V DC power connection and full 180 W maximum
- Conformal coating protects components from elements commonly encountered in heavy-duty applications

oemoffhighway.com/20849248



Miniature Joystick

APEM introduces the NV Series miniature joystick.

- Switch based design
- Offers four directional outputs plus a fifth center pushbutton option
- Provides positive, tactile feedback in all directions for precise and secure fingertip control
- Compact design, measuring 16 mm (0.6 in.)
- Available with either castle or conical shaped actuator and numerous color options
- Chrome-plated metal case
- IP69K sealed
- Withstands all types of adverse conditions such as water, frost, dust, sand and hydrocarbons
- Maintains tactile feedback during excessive shock and vibration
- Rated at over 1 million mechanical lifecycles per direction
- Customizable
- Well suited for remote control applications which require compact and highly reliable navigational control

oemoffhighway.com/20844504





Mirror Control Switches

The LMR-Series from Carling Technologies provides the means to control one or two mirrors and up to four separate motors from one easy-to-operate joystick control.

- Enables mirror rotation with joystick control
- Two or four axis
- Controls up to four separate motors
- Includes Delphi-Packard 8-pin connector

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Rotary Switch

The NSB2-0 rotary switch from J.R. Merritt Controls Inc. has been engineered with a new standard all-steel enclosure housing option to meet the demands of more stringent applications.

- Suitable for both indoor and outdoor applications
- Powder coated in black for extra protection
- Robust enclosure enables use in range of lift/drop applications
- Strong steel operating shaft will not bend or break
- Long mechanical life of more than 10 million cycles (with friction break)

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Touchscreen Display

Topcon Positioning Group announces the release of the latest addition to its longstanding line of touchscreen control boxes for construction machine automation — the GX-75.

- Features 10 in. (25.4 cm) touchscreen
- Offers large and easy-to-use display
- Bright, rugged and sunlight-readable screen allows operators in cab to see more in practically any weather condition
- Available for use with dozer, motor grader and excavator machine control system
- Comes with standard lock connector used with previous Topcon control boxes, allowing for backward compatibility
- Includes LED light bars to enable operators to easily see where they are in relation to grade with just a glance

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Seat with Occupant Rollover Warning and Protection Seatbelt System

H.O. Bostrom has unveiled its TerraGlide EX8/ABTS seat, bringing together the latest technology in safety and comfort for construction equipment operators.

- Features first-of-its-kind occupant rollover warning and protection seatbelt system from TPS SCHROTH
- Includes highly-engineered eight-way electric adjustment, ergonomic styling and RiteHite customized seat belt fit
- Occupant rollover warning and protection technology contains multiple progressive safety features
- When vehicle angle reaches 15 degrees, seat belt vibrates to warn driver of possible rollover
- At 30 degrees pull-back feature utilizing motorized retractor pulls occupant into seat to protect in the event of roll over
- Seat belt webbing is automatically retracted away from driver when belt is unlatched
- System angle settings can be custom programmed to meet individual needs
- Eight-way electric adjustment allows for optimized positioning of driver to vehicle controls

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Read Online



SEARCH: 20857351

EAO Reports Shift Toward More Ergonomic, Intuitive HMI Designs

During CONEXPO 2017, EAO recognized an industry shift toward valuing ergonomics to positively impact end user functionality and intuitiveness.

SEARCH: 12233694

A Vision of Pure Genius

A network of partners collaborates to design the cab of the future without OEM intervention.

SEARCH: 20860907

Commercial Vehicle Group Supplying New Seat Design for Volvo VNR Platform

CVG's National Seating brand will supply its new air suspension seat designed in collaboration with drivers and fleets for Volvo's VNR model.

SEARCH: 20853140

Curtis Industries Completes Acquisition of Artillian LLC

The acquisition of Artillian will help complement Curtis' current product line of cabs and accessories.

SEARCH: 20863277

New John Deere 4640 Universal Display Improves Data Collection for Farmers

John Deere's 4640 Universal Display includes a variety of John Deere applications for data collection.

Find all of these and more at www.oemoffhighway.com

Just type in the 8-digit number, or the article name into our search bar!

Inclination Indicator

Hirschmann MCS introduces the CI55 inclination indicator that monitors the inclination/tilt angle as measured by the gSENS WGX tilt sensor.



- For use on any type of stationary, mobile or marine application
- Gives operator ability to pre-set up to eight user limits
- System provides audible and visual warning when approaching set limits
- User limits can be set on the X, Y or slope
- Each user limit will trigger either a warning or one of three cutoffs (one for each digital output)
- Features option of either a 4.3 in. (10.9 cm) or 7 in. (17.8 cm) color graphic touchscreen display
- Both console options feature IP66/67 protection class rating and operating temperature of -40-75 C (-40 - 167 F)

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Battery-Operated A/C Split System

The NITE Phoenix Space Saving Innovation (SSI) is a battery-operated A/C split system that has the highest cooling capacity of any battery-powered, no-idle system on the market.

- First unit with bluetooth technology
- Designed to fit all sleepers
- Condenser/evaporator split system
- Plastic internal unit, durable external condenser assembly
- Automatic digital temperature control
- Electrified A/C unit runs on four auxiliary AGM/deep cycle batteries
- California Air Resources Board (CARB) #08-643-004
- Unit runs 8-10 hours (depending on ambient temperature, solar load and truck insulation)
- Installs easily under bunk
- Rotatable blower assembly to adapt to OEM ductwork in select applications
- Aluminum framed recirculation filter gives extended coil life
- Serviceable TXV, evaporator coil and TXV slimline seals
- Serviceable drier in condenser assembly
- Brushless motors in compressor and condenser fan for extended life

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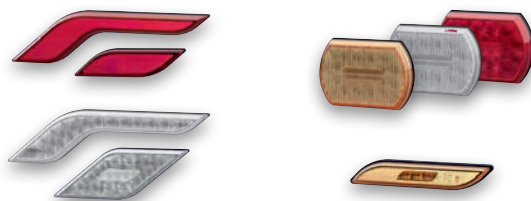


INDIVIDUAL LIGHTING SIGNATURE

The variety and range of shapes and the various combination options paired with a technically optimized product design, make the new HELLA Shapeline series a true innovation in vehicle lighting.

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Topcon AES-35 Electric Steering System

Topcon's AES-35 high-torque electric steering systems are designed to offer hydraulic performance with electric convenience to produce accurate electric steering for a wide range of vehicles.

- Designed for non-steer-ready and other specialty vehicles
- Ruggedized and weatherproof
- Capable of installation in-cab and on open-platform or non-cab environments
- High-torque electric motor can operate in both forward and reverse to produce autosteering at all levels of accuracy when used with the Topcon AGI-4 GNSS receiver/steering controller
- Operates with RTK positioning accuracy, providing autosteering performance to 2 cm (0.8 in.)
- Capable of operating with wheel angle sensors necessary for applications requiring high-accuracy with repeatability
- Compatible with wide range of equipment, including tractors, sprayers, spreaders, swathers and combines

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Don't forget to...

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Touchscreen Display & Computer

Hemisphere GNSS Inc. introduces the IronOne rugged display and computer.

- Purpose-built for harsh machine control environments
- Meets IP67 standard certification
- Features 8 in. (20.32 cm) sunlight-readable LCD capacitive touchscreen display
- Embedded Windows 10 operating system
- Connectivity features include Ethernet, CANbus, Wi-Fi, and Bluetooth
- Optional cellular modem is available for maximum connectivity in the field
- Expandable memory and industry standard connectivity

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Single-Axis, Hall-Effect Proportional Rocker

Curtiss-Wright Industrial division has announced the launch of the JC040, a single-axis, Hall-effect proportional rocker that is suitable for arduous applications in specialty off-highway vehicles.

- Provides safety functionality via dual outputs which can be set to positive or combination of positive and negative ramps
- 'Pass through' design for liquid or dust contamination
- Internal electronics sealed to IP67
- Provides return-to-center, ± 25 degree rocker action

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Customizable Displays

MTA has introduced its Giotto and Leonardo 8- and 12-in. (20.3 and 30.5 cm) customizable displays.

- Android-based platform allows users to easily adapt displays to specific needs of vehicle
- Platform includes standard features such as graphics and reference algorithms that facilitate development of applications
- Can also be programmed with MTA Studio tool
- Designed to be like a real tablet with a TFT touchscreen
- Jacinto 6 multi-core microprocessor produced by Texas Instruments

ensures state-of-the-art performance including activation times of less than 5 seconds

- Can be powered with 12 and 24V supplies
- Features IP66 protection

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Surface Mount Circuit Board Indicator

VCC introduces the 6300T Series right angle LED circuit board indicator surface mount device.

- Measures 3 mm (0.1 in.)
- Offered with black UL 94 V-0 housing that enhances contrast ratio and enables unlimited design opportunities
- LED is positioned at a right angle and has a diffused round dome lens that delivers a 50-degree viewing angle
- Available in wide range of colors, including red, green, yellow, as well as bi-color red/green and yellow/green
- Specifically designed for surface mounting
- Compatible with automatic placement equipment which reduces assembly time and cost

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Standard Connection Keypad

Designed for aesthetics and functionality, like the CANbus version launched a few months ago, the APEM KP6 model with standard connection complements the range to effectively meet customer needs.

- Features snap-in housing allowing for quick assembly and installation
- Space-saving surface panel mounting
- Keys offer positive, tactile feedback
- Features many customization options, including special illumination, extra protective coatings
- Full IP65 panel sealing available
- Suited for dashboard applications requiring flush mounted plug-and-play solution including material handling, agricultural machinery, heavy-duty vehicles and electric cars
- Rated at over 1 million lifecycles



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Touchscreen Display

Topcon Agriculture introduces the X35 — the next generation in the X-Family of touchscreen displays with advanced functionality.

- Designed as a modular solution
- Measures 12.1 in. (30.73 cm)
- Runs Topcon Horizon software, providing icon-based and user-definable views for various farm-operating functions
- Allows for easy upgrades depending on operator's needs
- Includes Horizon XTEND which allows users to manage control applications via mobile devices such as tablets and smartphones
- Remote Assistance Tool enables technicians to remotely diagnose and fix issues, as well as agronomic consultants to advise and configure remotely
- Multiple cameras can be connected so operator can control and view multiple places simultaneously
- Includes ISO section control of up to 200 sections



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Vehicle Instrumentation

Continental has introduced the SingleViu line of advanced individual instruments for a wide range of applications.

- Provides precise display of vehicle functions
- Speed and RPM instruments feature dot matrix LCD and are available in models with 80/85 mm (3.1/3.3 in.) and 100 mm (3.9 in.) diameters
- Custom bezel, dial and warning light options
- All instruments dual input capable, analog or J1939
- Includes fog-free, double lenses
- Features RGB illumination and easy readability in low light conditions
- Operating voltage is 12/24V
- Temperature ranges from -40-85 C (-40-185 F)
- Housings meet IP67 front and IP65 back

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Nickel-Plated Panel Mount LED Indicators

Wilbrecht LEDCO Inc., a Microprecision Electronics company, introduces its latest long body nickel-plated panel mount LED indicator.

- Housing is designed to easily fit panel thicknesses of up to 9.0 mm (0.35 in.) even with additional gasket
- Rugged vibration and water resistant LED design
- Can be modified to fit custom needs for special wires, connectors or marking
- Available in broad range of colors and intensities, including daylight readable red, yellow, green, orange as well as bicolor, blue, white, flashing, infrared and night vision compatible LEDs
- Supplied with additional built-in resistor for voltages up to 48V DC

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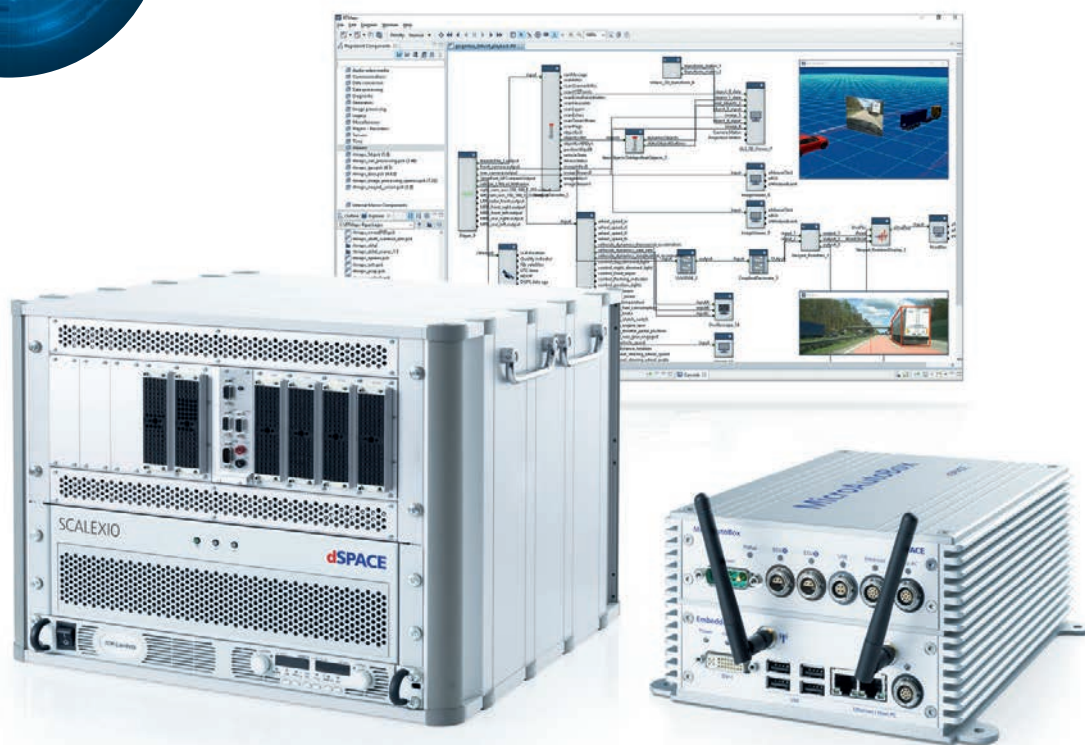
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Engineering & Manufacturing



Sensor Fusion Development Environment for Autonomous Truck Technology

Sensor fusion is one of the most critical building blocks for autonomous truck development.

To implement autonomous driving features in a vehicle, the critical data that is provided by various sensors and interfacing communication networks must be captured, synchronized and processed in real time. It is also essential to be able to record, visualize and play back time-correlated data. RTMaps®, developed by Intempora and distributed by dSPACE, is specifically designed for the development, testing and validation of sensor fusion applications.

With RTMaps (Real-Time Multisensor applications), data

is acquired asynchronously and each data sample is captured along with its time stamp. This ensures that all data is time-correlated.

RTMaps' unparalleled performance on multicore CPUs enables users to get the most out of their computing architectures and easily set up applications that handle multiple, high-bandwidth data streams, including real-time processing and data fusion. Sensor data can be recorded and played back synchronously for offline development and testing under reproducible conditions.

Additionally, RTMaps provides comprehensive user-

extensible component libraries in its graphical environment for vehicle sensors, buses and perception algorithms, and it supports any type and quantity of sensors and actuators. Autonomous driving algorithms can be developed easily by means of block diagrams or by integrating your own code using dedicated software development kits.

To learn more, visit: <https://www.dspace.com/en/inc/home/products/sw/impsw/rmaps.cfm>

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dSPACE



Hardware-in-the-Loop Test Box

With the SCALEXIO LabBox, dSPACE offers a compact, high-performance system for hardware-in-the-loop (HIL) tests.

- Fits on every desk and can be used for early function tests right at developers' workplace
- Provides slots for up to 18 I/O boards which can be conveniently replaced at front side of the box
- More LabBoxes or Processing Units can be added by users if more I/O or computing power is needed
- Connects to Processing Unit via dSPACE-proprietary IOCNET network technology which was developed and optimized specifically to meet requirements of real-time applications
- I/O boards cover entire range of functions

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Thermal Insulating Coating

Lincoln Industries offers its ThermoLinc Genesis thermal insulating coating.

- Features protective properties for service temperatures from -40-200 C (-40-392 F)
- Lightweight, pliable, able to expand / contract with changes in the substrate
- Provides thermal and corrosion under insulation (CUI) protection
- Chemically resistant, highly durable, easily repairable
- Offers impact and abrasion resistance
- Various shades are available
- Can be applied over complex geometries for a wide variety of applications
- Applications include EGR components, engine manifolds, exhaust pipes, header pipes, industrial piping, fire wall and cab housing

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Protective Sealer

Stronghold Coating Systems has introduced Blue Dichtol, a modified impregnation coating for new (and newly repaired) castings.

- Compatible with all ferrous and nonferrous materials
- Impregnates micro-pores and hairline cracks without vacuum or pressure, forming protective barrier to gases and liquids
- Can be applied to raw metal, or to castings that have been coated with plasma, arc spray or HVOF (high velocity oxygen fuel spraying) coatings
- Provides exceptional capillary action, penetrating to 0.004 in. (0.1016 mm), restoring pressure tightness and enhancing surface and varnish properties
- Proprietary engineered polymers penetrate deeply (up to 20 mm/0.79 in.) into the coating, preventing corrosion
- Does not alter part dimensions
- Dampens vibration

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dSPACE Test Benches – Highly Dynamic with Maximum Flexibility

Whether you're developing electric steering systems, brake systems, or electronic control units with integrated sensors – dSPACE provides tailor-made test benches for each use case. Put your systems to the test under extreme conditions, with forces and torques from measurement data or real-time vehicle dynamics simulations. Benefit from our know-how that covers everything: design, planning, installation, and support. All from a single source. Our scalable systems range from small rotary test benches for office use, to large test benches for complete steering systems.

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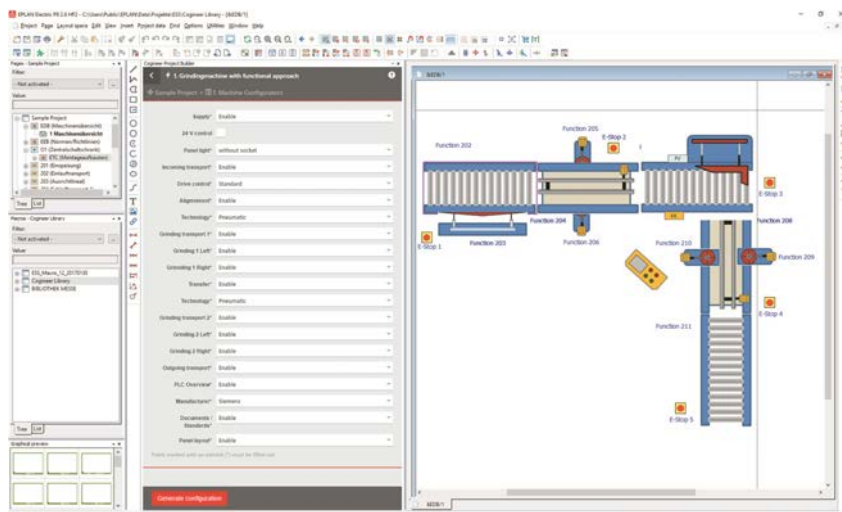
Embedded Success **dSPACE**

Schematic Software

EPLAN is launching EPLAN Cogeener, a software package that generates schematics automatically.

- Can save huge amounts of engineering time in large or complex projects with many schematics
- Just one click can generate complete electro-technical documentation
- Ensures error-free implementation of all defined rules and structures
- Fully integrated into EPLAN Platform shared by EPLAN Electric P8 and other EPLAN software products
- Provides 100% data continuity from design to construction
- Designed to be easily deployable for occasional users and power users
- Intuitive user interface

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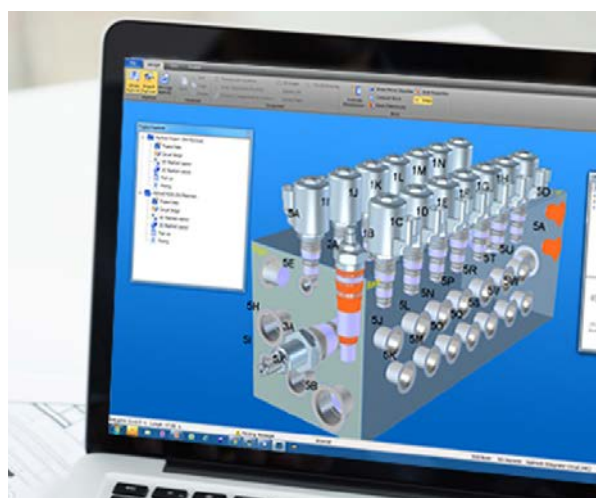


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Manifold Design Software

Power management company Eaton announces the launch of its Circuit Design Software Studio, an easy-to-use platform that streamlines the process of designing custom manifolds and offers new 3D design capabilities.

- Updated product library featuring Eaton's extensive portfolio of cartridge valve solutions allows customers to shorten design cycles while increasing efficiency for quicker communication and manifold display
- Helps users quickly gather customer requirements and select the right valve, and packaging solutions in a custom manifold
- Users can incorporate variety of solutions into 3D design, including surface mount valves, fittings, plugs and other components to meet project needs
- Offers simple way to identify cartridge valve lead times and match valve pressures with specific system requirements for fast and efficient configuration
- Updated valve library enables users to stay up-to-date on pricing and lead-time adjustments
- Information can be accessed from a PC without requiring internet access for better ease-of-use
- Provides easy exporting of various formatting options, including STP, DWG, PDF, CDSX and XML

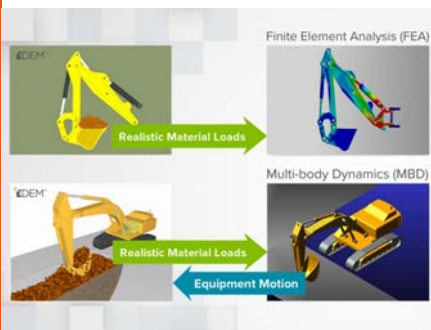


Bulk Material Simulation Software

EDEM is changing the face of Computer Aided Engineering (CAE) with its 'EDEM for' software that will make bulk material simulation accessible to all engineers using Finite Element Analysis (FEA) and Multi-Body Dynamics (MBD) software, in the design of heavy equipment.

- Provides design engineers with an easy to use, bulk material simulation system which links with MBD and FEA software
- Integrates with leading CAE software tools
- Do not require any Discrete Element Method (DEM) expertise to use
- Provides library of thousands of material models

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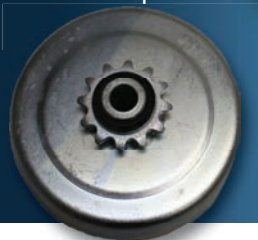
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HCEA ARCHIVES

The oscillation of the TC12's two chassis is apparent on this beautifully restored 1964 example owned and operated by HCEA Second Vice President Earl Fitzgerald at the HCEA's 2010 International Convention and Old Equipment Exhibition in Richmond, RI.

The Euclid TC12

After several lackluster equipment solutions in an attempt to increase power for crawler tractors, Euclid designed a vehicle from the ground up to handle the output and weight of two powertrains.

by Thomas Berry, Archivist, Historical Construction Equipment Assn.

The previous column, The Dual D9 ([read online, 20858662](#)), illuminated how Buster Peterson combined two Cat D9Gs end-to-end to create a single pushloading tractor with twice the power, and touched on the earlier idea of creating a single, more powerful crawler tractor by combining two machines onto one undercarriage.

The Euclid Division of General Motors had the most successful solution to this design concept with its TC12 crawler tractor. Unlike the experimental Cat and Allis-Chalmers tandem tractors, it was designed from the ground up

to handle the output and weight of two powertrains.

Where the earlier tandems were mounted on double-width rigid frames, each engine and drivetrain on a TC12 was mounted on an independent chassis, and the two chassis were joined by a crossbeam that allowed them to oscillate against each other on uneven ground.

In addition to being the first commercially produced twin-engine crawler, as well as the world's most powerful crawler tractor in its early years of production, the TC12 was also the most maneuverable large tractor in the world. With each crawler powered by one of the two

GM 6-71 diesels, one track could be counter-rotated against the other to spin the machine on its central axis.

It also had power shift and a torque converter, which made the flow of power to the crawlers more consistent and efficient. All in all, it was an easier machine to operate than a conventional large crawler with steering brakes and gear shift.

One final benefit was that the radiators were behind the operator. This feature blew dust away from the operator and kept the radiators safe from possible damage due to payloads boiling over the top of the dozer.

The first prototype was developed in 1954, and the first machines were sold later that year. The design underwent numerous mechanical and cosmetic modifications, and a total of 901 TC12s and successor 82-80s were produced until the model was discontinued by Terex in 1974.

For all its advances, the TC12 had several drawbacks. While narrower than the experimental tandems, it still had to be disassembled for highway transport. Anticipating this, the Euclid engineers made the process a simple matter of properly blocking the two chassis in place and removing the crossbeam.

The TC12's complexity was its undoing. If kept in good repair, it was very productive at ripping and dozing. But not every owner had the means to do this, and deferred or improper maintenance soon resulted in very high repair costs. Moreover, unlike the Cat D9s that were introduced in 1956 as a smaller, single-engine competitor, the TC12 did not hold its value in the used equipment market. **I**

The Historical Construction Equipment Assn. (HCEA) is a 501(c)3 non-profit organization dedicated to preserving the history of the construction, dredging and surface mining equipment industries. With over 4,000 members in 25 countries, its activities include publication of a quarterly educational magazine, Equipment Echoes; operation of National Construction Equipment Museum and archives in Bowling Green, OH; and hosting an annual working exhibition of restored construction equipment. The 2017 show is November 3-5 in North Carolina. Individual memberships are \$35.00 within the USA and Canada, and \$45.00 U.S. elsewhere. HCEA seeks to develop relationships in the equipment manufacturing industry, and offers a college scholarship for engineering and construction management students. Information is available at www.hcea.net, by calling 419-352-5616 or e-mailing info@hcea.net.

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www.sae.org/events/cve

AMCON DESIGN & CONTRACT MANUFACTURING EXPO

I-X Center
Sept. 19-20, 2017 | Cleveland, OH
www.amconshows.com/fall-shows/rochester-ny

BICES 2017

New Beijing International Exhibition Center
Sept. 20-23, 2017 | Beijing, China
www.e-bices.org

IVEX 2017

New Beijing International Exhibition Center
Sept. 20-23, 2017 | Beijing, China
www.e-bices.org

ION GNSS+

Oregon Convention Center
Sept. 25-29, 2017 | Portland, OR
www.ion.org/gnss

NORTH AMERICAN COMMERCIAL VEHICLE SHOW

Georgia World Congress Center
Sept. 25-29, 2017 | Atlanta, GA
nacvshow.com

CONNECTED FLEETS USA 2017

DoubleTree by Hilton Hotel Atlanta Downtown
Sept. 25-26, 2017 | Atlanta, GA
<http://www.tu-auto.com/fleet/>

NTEA TRUCK PRODUCT CONFERENCE

Sheraton Detroit Novi Hotel
Sept. 26-28, 2017 | Novi, MI
www.ntea.com

SAE ON-BOARD DIAGNOSTICS SYMPOSIUM U.S.

Wyndham Anaheim Garden Grove
Sept. 26-28, 2017 | Anaheim, CA
www.sae.org/events/obd

THE MINING SHOW

Dubai International Convention & Exhibition Center
Oct. 2-3, 2017 | Dubai, United Arab Emirates
www.terrapinn.com/exhibition/mining-show

ICUEE 2017

Kentucky Exposition Center
Oct. 3-5, 2017 | Louisville, KY
www.icuee.com

AUSA ANNUAL MEETING AND EXPOSITION

Walter E. Washington Convention Center
Oct. 9-11, 2017 | Washington, D.C.
ausameetings.org/2017annualmeeting

PROFESSIONAL EDUCATION SEMINAR: SERVICE AND OPERATION FOR IMPROVED HYDRAULIC SYSTEMS RELIABILITY

GS Global Resources
Oct. 16-20, 2017 | Mukwonago, WI
www.msoe.edu

GIE+EXPO

Kentucky Exposition Center
Oct. 18-20, 2017 | Louisville, KY
gie-expo.com

HCEA INTERNATIONAL CONVENTION AND OLD EQUIPMENT SHOW

Ederville
Nov. 3-5, 2017 | Carthage, NC
www.hcea.net

HHP SUMMIT

Prime Osborn Convention Center
Nov. 6-9, 2017 | Jacksonville, FL
www.hhpsummit.com

INTEGER EMISSIONS SUMMIT USA

Pittsburgh Marriott City Center
Nov. 7-8, 2017 | Pittsburgh, PA
www.integer-research.com/conferences/ies-usa-2017

AGRITECHNICA

Hannover Exhibition Grounds
Nov. 12-18, 2017 | Hannover, Germany
www.agritechnica.com



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