

POWERSOURCE

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OFF THE GRID IN ALASKA

POWER FOR REMOTE ALASKAN VILLAGES

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ON THE COVER

The village of Chenega on Prince William Sound is among some 200 remote communities in Alaska that depend on John Deere-powered generator sets as a prime source of electricity.

POWERSOURCE

COVER STORY

8 Because of its low population density, rural Alaska is a patchwork of unconnected grids. As a result, most communities with populations below 300 depend on John Deere-powered generator sets as their prime source of electricity. The Alaska Energy Authority reports that nearly 1,000 John Deere-powered prime-power generator sets now supply electricity to rural communities, such as the Chenega, pictured on our cover. Marsh Creek Energy Systems of Anchorage is credited for supplying generator sets to many Alaskan communities like Chenega, as well as pump stations along the Trans-Alaska Pipeline System.

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John Deere Power Systems
Attn: Marketing Communications Dept.
P.O. Box 5100 Waterloo, IA 50704-5100
Phone: (800) 533-6446 in the U.S.
Email: jdpower@JohnDeere.com

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Editor: Christine McClintic
European Contributing Editor: Hester Regoort

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An AT-150HD releases frack hose in central Alberta.

TREK THE TOUGH TERRAIN

All-Track carriers take you to the world's most isolated areas

Some jobs, like drilling and mining, can take you to the farthest reaches of the earth — places so remote and void of roads that it's almost impossible to haul equipment there ... *unless you're driving an All-Track AT-150HD.*

Built by All-Track, the AT-150HD is a rubber-track carrier with exceptionally high load capacity and traction, making it the ultimate all-terrain, offroad carrier. It's certainly catching the attention of those working in mining, oil and gas, and forest fire suppression.

This rig can haul 14 metric tons (31,000 pounds) and leave little trace, even while driving across fragile ecosystems like tundra and muskeg. With an 8-square-meter

(12,500-square-inch) track area, it seemingly tiptoes across the tundra with a ground pressure of a mere 0.22 bar (3.25 pounds per square inch) under full load.

Its offroad capabilities are further enhanced by a hydrostatic drive powered by a high-torque John Deere PowerTech Plus 6.8L engine and Funk Series 28000 pump drive.

"Customers are asking for machines that are more powerful with more torque," explains Tyler Van Megen, All-Track's engineer. "The power-to-size ratio of the John Deere engine is very good. Because of the high power density, we can maintain a compact frame and achieve the power we need."

The power density of the 6.8L engine also makes it a popular choice for the company's heli-portable AT-80HD. This track vehicle

features a modular design that can be split into loads of less than 2,722 kilograms (6,000 pounds) and flown into remote regions and reassembled.

"John Deere has reliable technology in place to meet Final Tier 4, which gives us confidence that we'll meet the new emissions standards without much trouble."

— Tyler Van Megen, All-Track engineer

An AT-150HD crosses snowy terrain with hydrostatic drive powered by a PowerTech Plus 6.8L engine and Funk pump drive.



The AT-80HD works in muddy conditions in Brazil.



The AT-80HD sets up a Canadian drilling rig. The all-terrain vehicle features a modular design that can be split into loads of less than 2,722 kilograms (6,000 pounds) and transported by helicopter to remote locations.

Van Megen says the PowerTech 6.8L engine's broad power range makes it possible to use the same engine block and engine mounts on both machines. The AT-80HD makes use of the 138-kW (185 hp) power rating, while the AT-150HD uses the highest rating at 205 kW (275 hp).

The company sources the engines and Funk pump drives from John Deere engine distributor Frontier Power Products, which assembles the components in Calgary, Alberta. "We work closely with them to develop a complete engine package that can be dropped into the frame," says Van Megen. "It saves us a lot of time ordering parts and combining them here. Because both are manufactured by John Deere, they are reliable solutions that work well together."

He says eventually the company will transition to Final Tier 4/Stage IV engines. "John Deere has reliable technology in place to meet Final Tier 4, which gives us confidence that we'll meet the new emissions standards without much trouble."

All-Track is a third-generation family business that began powering its tracked vehicles with John Deere engines in 1995. Van Megen says the engines are routinely put to the test in harsh, remote environments, such as deep mud, muskeg, and extreme temperatures.

"John Deere has been performing excellently since we started using them," says Van Megen.

And if service is needed, he likes knowing there's a global network of John Deere dealers to support his crew. "Our machines work in remote locations, and there are usually John Deere dealers in the area that can service the engine. You don't get the same availability with other engine manufacturers."

Distributor: Frontier Power Products in Delta, British Columbia and Edmonton and Calgary, Alberta; www.frontierpower.com