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A pipe trailer, designed specifically for the ARDCO AMT 600, has adjustable lengths up to nearly 36 ft. and is intended for off-road transport in utility or pipeline construction applications.

DIRECTIONAL DIFFERENCES

ARDCO rolls out standardized Articulating Multi-Purpose Truck for tough applications

BY CHAD ELMORE

ARDCO's new Articulating Multi-Purpose Truck (AMT) truck represents a major change for the equipment manufacturer. Long known as a source for custom-built solutions to jobs over tough terrain and remote locations, it has built thousands of unique machines since it was founded in 1955 as Applied Research and Development Co. A new design from the ground up, the AMT is about as close to being a mass-produced machine as the company wants to get.

Each AMT is built on a standard chassis with a modular rear platform that the company said can be customized to suit any work environment, from urban construction sites to extreme off-road locations.

A wide array of configurations is available, including bare chassis, flatbed, water or fuel tank, dump bed, service and lube station, personnel carrier and pipe

trailer. End users can easily change attachments, the company said, while the design allows rental companies to serve a variety of customer applications with a single machine.

The AMT replaces the company's iconic K Series truck. "That's the model that's been around the most and the one people identify us with," said Tom Leahy, vice president and general manager, ARDCO, New Iberia, La. "We have sold them all over the world and have made our name by building custom, purpose-built machines.

"If someone had a specific problem, our engineering team would get together and design a machine for whatever purpose that was. Until the AMT, we rarely built the same machine twice."

When the company set out to update and ultimately replace the K Series, it did so carefully. "We flew all



Sold in two base models, the AMT 600 is powered by a Cummins QSB6.7 Tier 4 final diesel engine rated 250 hp. The AMT 400 shown here has a Tier 4 final Cummins QSB6.7 diesel engine rated 200 hp.

over the world to look at trucks and talk with customers," Leahy said. "We found areas where customers had struggled with the K Series and we addressed them. From an engineering standpoint, we went through all of it. Nothing was off table and we looked at every single aspect of the machine.

"We looked at what customers did with our machines to come up with a multipurpose platform. By using a base chassis with a customizable rear frame we can be more efficient in the manufacturing process, too, and our customers can minimize their inventory of spare parts. And now, to take on different jobs, all they have to do is customize the rear frame to fit their application."

Sold in two base models, the AMT 600 is powered by a Cummins QSB6.7 Tier 4 final diesel engine rated 250 hp and has selectable four- or six-wheel-drive with a maximum payload of 45,000 lb. The AMT 400 has a Tier 4 final Cummins QSB6.7 diesel engine rated 200 hp and two- or four-wheel-drive with a maximum payload of 28,000 lb. for hauling fuel, water, dirt and more. Cummins QSB6.7 and Caterpillar C7.1 Tier 3 engines are also available for certain regions.

"We redesigned a lot of the structural components and beefed them up to carry bigger loads and help us go into more markets," said Tim Niedzwiecki, senior sales engineer, ARCO. "We were able to increase the payload from 15,000 lb. on the K Series four-wheel

drive to 28,000 lb. on the AMT 400, and from 25,000 on the K Series six-wheel drive to 45,000 lb. on the AMT 600 lb."

Both models utilize Dana six-speed powershift transmissions with twist grip shifter with high and low range and three forward gears and three reverse. The AMT 600 incorporates AxleTech rigid planetary axles with driver controlled differential lock, while the AMT 400 uses Dana rigid planetary axles with automatic limited slip differentials, front and rear. Top travel speed for the AMT 600 is 30 mph, while the AMT 400 can reach 25 mph. The service brakes use a pressure-applied hydraulic system while the parking brake is an internal spring-applied hydraulic release disc unit.

They also share the same two-person, fully enclosed, all-weather rollover protection system (ROPS) cab that is sound rated to 68 dB(A). A 7 in. display from Cobo is incorporated in the steering column and framed by the steering wheel to provide digital gauges with onboard diagnostics, digital owner's manual access and an optional backup camera display.

"When we re-designed the cab, we went from three persons to two because we found a lot of people weren't carrying three," Niedzwiecki said. "Having room for two is handy for remote places where they'll need at least that many. It's a smaller cab but it's still very

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comfortable and quiet. Visibility is terrific and ergonomics is great. Being able to see everything around you in such a big machine is really important.

"Along with changing the aesthetics of the machine we also looked at how we can make this machine more functional," Niedzwiecki said. "We shortened the front end to get a better approach angle for entering steep hills or embankments." Visibility is enhanced by the sloping fiberglass hood that helps give the driver a panoramic view.

Multiple tire choices — tractor, construction, terra, sand and more — help further configure the machine to various work conditions in construction, oil and gas, railroad, utility, forestry and agriculture, said the company. A railroad high-rail configuration is also possible. Standard on the AMT 400 are 23.1x26 tractor tires, while the AMT 600 gets 66x43.00 20-ply terra tires.

The vehicle has a redesigned high-strength center pivot trunnion with about 20° of oscillation which allows all the tires to maintain ground contact and traction while travelling over rough terrain, the company said. Dual hydraulic cylinders provide 37° of steering each way, for maneuverability and traction. The articulating motion is designed to permit the tires to slide left or right in wet/muddy terrain and gain traction instead of spinning in one place and digging a rut, said ARDCO.

The new design has also allowed the factory to adopt lean manufacturing concepts during assembly. "The engineering team did a fantastic job looking at fasteners and wiring to streamline their assembly and make it easier on manufacturing," Leahy said. "They were careful to not lose what customers want but still be able to manufacture it more efficiently."

The company has introduced a pipe trailer built specifically for the AMT 600. Its adjustable lengths — 22 ft. 2 in. to 35 ft. 8 in. — and load capacity are intended for off-road transport in utility or pipeline construction applications. The trailer attaches to the truck using a supplied hitch mount with conventional fifth wheel connection. The trailer has a flexible-load rear frame with 45° angle swivel capabilities, trailer axles with an available braking system and various tire options.


To protect against damage, the load surface is made of oak timbers and the side pole surface is Teflon-coated. The trailer has a load capacity of 50,000 lb.

ARDCO also introduced new dump beds for both AMT models. The AMT 400 dump bed can carry flat loads up to 7.5 cu.yd. and heaped loads up to 10 cu.yd., while the AMT 600 dump bed can carry flat loads up to 16 cu.yd.

"Most manufacturers no longer produce an articulated dump truck under 25 tons," Leahy said. "We believe there's still demand for dump beds in the 12- to 22-ton range, and the AMT comes at a very attractive price point for that application — and that's before even considering its multipurpose capabilities for additional job site tasks."

ARDCO is part of The Heico Companies' Pettibone Heavy Equipment Group along with equipment manufacturers Barko Hydraulics and Pettibone/Traverse Lift LLC. The AMT is built at the Pettibone plant in Baraga, Mich.

The AMT will change the way ARDCO sells its equipment, Leahy said. "Our goal now is to find dealers in every major market," he said. "In the past, because everything was purpose-built we sold direct to the end user. Now we want to set up dealerships all over the world."

"We are talking to dealers in Dubai, China and in South Africa. While this is still a niche machine, we believe it will open up markets for us — both in remote projects with difficult terrain and traditional construction sites."  **diesel Weblink**

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