Anlegg & Transport

www.AT.no

30 år

Nr. 4 - 2015 32. vintage
single copy NOK 79,00

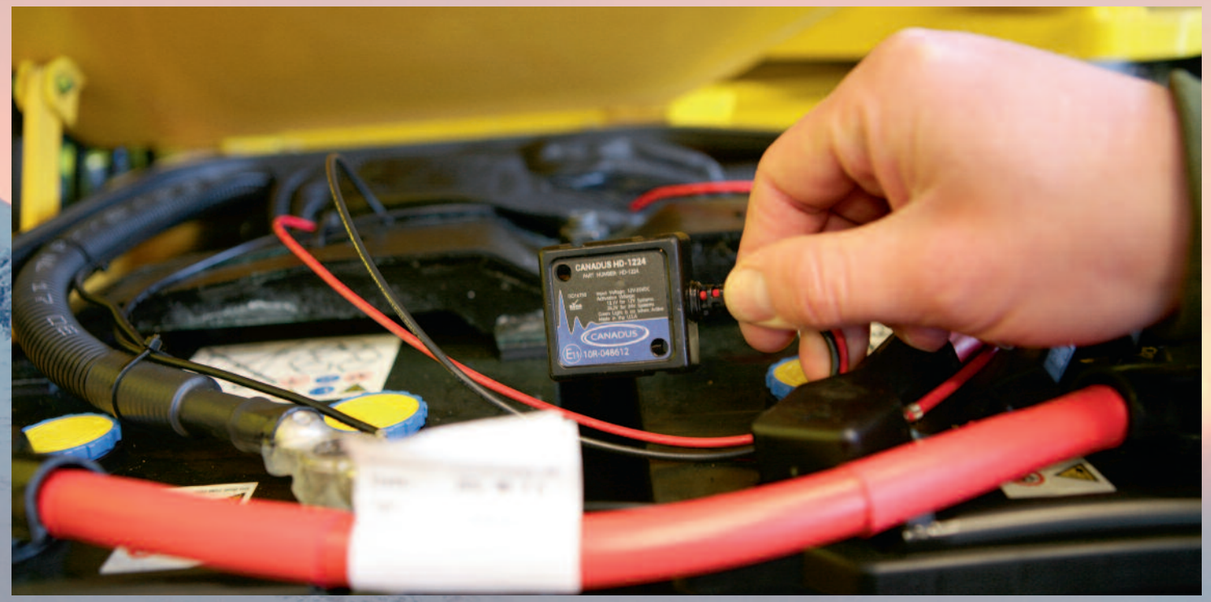
Tidsskrift for maskin- og transportteknikk

Offprints from Anlegg&Transport

News in line - Hellerud-sletta next !

Defense cuts with «widgets»

Defence spending cut by using a gadget



The pulse chip mounted on the battery is modest in size, only 4x4 cm.

We save tax money on this. We haven't replaced a single battery on the 79 wheeled loaders we bought in 2012, nor have we changed one on our rotary snowploughs. Previously, replacing batteries was a normal routine, and when you have a lot of vehicles, the costs mount quickly. With the little gadget – a device mounted on the batteries – the engines start immediately every time, says Major Frank Schjølberg in The Norwegian Armed Forces Logistics Organization (FLO).

The little gadget referred to by Major Schjølberg is the NATO-approved Canadus HD-1224 – a 4x4 cm chip that is connected to the battery poles and prevents the batteries from discharging (more detailed explanation follows in this article).

Large order from the Volvo Group

Hans Fossum

Always ready

Major Schjølberg is responsible for the Armed Forces' wheeled loaders and rotary snowploughs. The Armed Forces' equipment must always be ready, but the vehicles are not operated every single day. For long periods they are actually «at parade rest» while awaiting a mission. When vehicles remain unused for a long time, discharged batteries are often the result. This is where Canadus HD-1224 comes to the rescue.

Was sceptical

I have to admit that I was a little sceptical when I was told that this little Canadus chip could solve the dead battery issue. Nevertheless, we mounted the chips on all 79 Volvo wheeled loaders we bought in 2012, and on the 36 rotary snowploughs from Øveraasen. And since then, we haven't had to replace a single battery. We always had to do that before. And frequent battery replacements can be expensive. We will now mount the little chips on our excavators, road graders, dumper trucks and road sweepers, FLO's Major Frank Schjølberg says.

Sulfation

The American Canadus Power System is imported into the EU and EFTA by Jens Kleven Trading, based in Askim. Jens Petter Kleven describes how the Canadus system works:

Canadus HD-1224 prevents and reverses a phenomenon that occurs in all batteries when they are charged or discharged. The phenomenon is called sulfation. This is a bi-process that results from the way a battery stores and releases energy. In practice this means that the sulfation process begins already from the first charging of a battery. The consequence of this is that the lead plates which make up the major portion of the interior parts of the battery are covered with large or smaller insulators (non-conducting crystals). From the very beginning, these will grow in size, resistance will increase and the ability to absorb energy will be reduced. As a result, the value of the battery deteriorates considerably. This happens at the expense of the generator, which must work harder to charge the battery. At the same time, this lowers the battery's capacity precisely because the battery will not take a sufficient charge, Jens Kleven explains.

Kjeller Air Station's wheeled loader L110G with an Øveraasen snowblower UTV 600 (600 hp) both have the gadget mounted on the batteries. Knut Sollesnes (left), Volvo Maskin; Major Frank Schjølberg (FLO) and Jens Petter Kleven, JK Trading, show the fit-out.

Pulse technology

Another effect is that the charging temperature rises at the same time as the battery's ability to prevent peak charges is lessened. Since this is a slow process, it is not easily noticed in ordinary vehicles. In utility vehicles, however, it will be noticed relatively quickly.

Canadus HD-1224 works with a pulse technology that affects the 'non-conducting crystals' so that they are issolved and returned to the lead plates in the form of active materials. It is this pulse technology that prevents a battery from having to be discarded. The unit is active when the battery is charged either by the generator in the vehicle, or by an externally mounted charger. The chip requires no maintenance, works automatically when the battery is charged and will not drain energy from the battery when it is not being charged. The Canadus device can be used on all types of lead batteries, Kleven says.

Increased service life

With the pulse chip, the service life of the battery/batteries and the surrounding systems will increase significantly. An increase in service life of from 50 to 100 percent has been documented, Jens Kleven adds.

120 000 chips delivered to Volvo

Emergency vehicles that Bertel O. Steen has delivered to the police since 2003 are equipped with a charger and a pulse chip; the same applies to the Norwegian Public Roads Administration's special vehicles.

Volvo Group recently signed an agreement with Canadus/-Jens Kleven Trading (JKT) for delivery of 120 000 Canadus systems to be installed in the giant group's vehicles. The agreement has been signed with an option to renew for four additional years.

Norsk Scania AS has used the system on its contract vehicles for several years, and globally, Scania has now entered into an agreement with JKT for Canadus deliveries. The first 400 units have already been shipped.

All of the Norwegian Armed Forces' Volvo wheeled loaders have the Canadus system – here in a Volvo trio ploughing snow at Bardufoss Air Station (Photo: Stig Mikkelsen).