

WAR AGAINST UKRAINE

## Agriculture equipment disabled

Russian forces have confiscated Ukrainian high-tech agriculture vehicles manufactured by John Deere. As a response, the US company has locked several CAN-connected ECUs (electronic control unit) in this equipment by means of remote access.



*John Deere's agriculture equipment features remote control capability, which allows to disable ECUs connected to the embedded CAN networks and those linked to the CAN-based Isobus network (Source: John Deere)*

Russia has occupied some southeastern parts of the Ukraine. During the international law disgusting invasion, Russian forces have confiscating agriculture machinery. John Deere, the manufacturer of this equipment, announced the suspension of shipments of farm machinery to Russia, and later to Belarus, in response to international sanctions. Already beginning of March, Agrotek-Invest, a John Deere dealer in Ukraine, has posted reports accusing Chechen security forces of taking farm equipment from its showroom in Melitopol, Ukraine. This included two John Deere S770 and S760 harvesters, along with Tempo sowers from Väderstad (Sweden). Some of the equipment, which comes with a remote locking feature and a built-in GPS, was tracked over 1100 km away in the Zakhan Yurt village of Chechnya.

There were additional reports by others farm equipment dealers.

In total, 27 vehicles have been confiscated. According to [CNN](#), the total value of this equipment sums up to more than 5 million US-\$. The Swedish supplier locked the taken sowers by remote control. John Deere did the same with its machinery. The US company updated remotely the CAN-connected ECUs disabling their functional behavior. Some of these ECUs are connected to the embedded CAN-based drivetrain network. The harvesters also implement an Isobus (CAN-based) network connecting implement ECUs and other devices. They are also accessible by means of the remote-control gateway.

In 2017, US farmers were importing cracked John Deere software from Ukraine to hack their US-based tractors to repair and modify them. The right-to-repair movement is requiring that OEMs (original equipment manufacturers) should provide the customers with fair and reasonable access to the tools and software to repair the bought equipment.

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