# ABOUT ME

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## AGENDA:

- 1. Introduction
- 2. What's the problem with farm repair, and how do we know it's a problem?
- 3. The role of software locks in farm equipment
- 4. Do repair tools make it easier to bypass safety or emissions controls?
- 5. Questions (20 mins)

## Introduction

In order to fix something, you need:

- The skills
- Manuals / informaion
- The tools
- The parts

# For tech-weary Midwest farmers, 40-year-old tractors now a hot commodity

Tractors built in 1980 or earlier cause bidding wars at auctions.

By Adam Belz Star Tribune JANUARY 5, 2020 - 8:27PM



... The other big draw of the older tractors is their lack of complex technology. Farmers prefer to fix what they can on the spot, or take it to their mechanic and not have to spend tens of thousands of dollars.

"The newer machines, any time something breaks, **you've got to have a computer to fix it,**" Stock said.

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"The main reason we do this is to make money," Folland said. "**Older equipment is a way to reduce your cost per bushel** to become more profitable."

## Timeline for right to repair

#### 2012

Massachusetts voters approved a ballot measure (86% - 14%) in 2012 which required indepednent mechanics be able to access service information and diganostic software for cars.

Farm and repair advocates won an exemption from federal copyright law for bypassing software locks to repair farm equipment.

#### 2014

The Massachusetts law became a national agreement between aftermarket auto industry and car manufacturers, extending access to all 50 states. Road-commercial vehicles added to the agreement.

#### 2018

Manufacturers and dealers promised to sell the tools needed to repair equipment as part of R2R Solutions, with a deadline of Jan. 2021.



Farm Bureau members ratchet up "right-to-repair" pressure

### The role of software locks in farm equipment repair



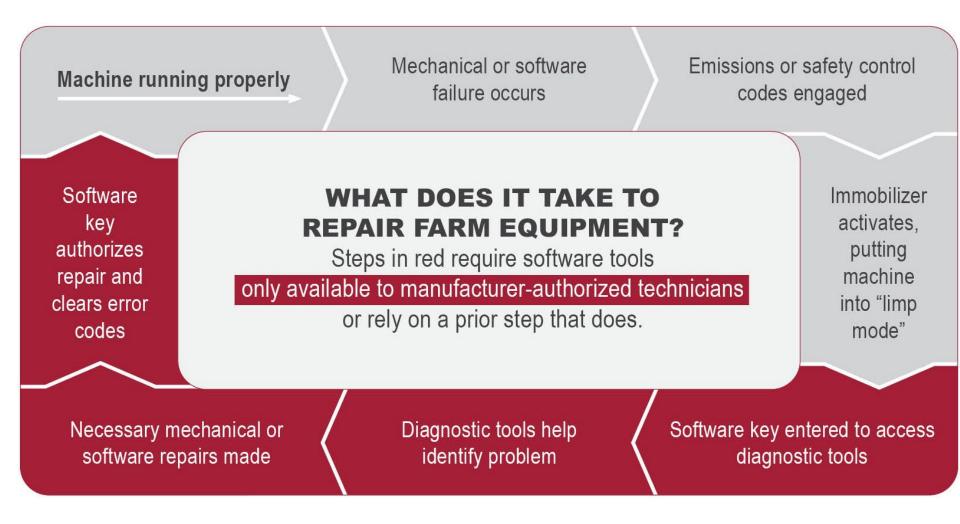
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## Installing "firmware" or payload files

- Works like a printer driver -- enables interoperability.
- Distributed as "compiled machine code" -- not user editable
- Even turn signals can require firmware installations, and therefore dealership support
- Other parts require a "calibration" sequence after installation to pair the part.





# Do repair tools make it easier to bypass safety or emissions controls?

