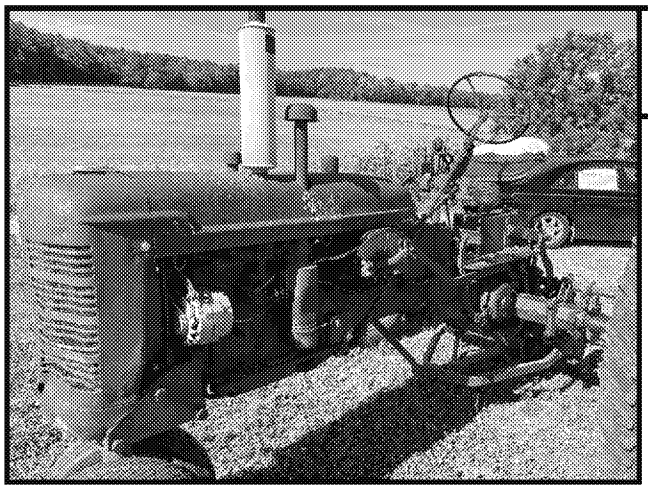
US EPA Meeting with Rodney Snyder

EPA headquarters 1200 Pennsylvania Ave. NW, Washington, DC | WJC North, #3304

October 26th, 2022, by Willie Cade (UPDATED)

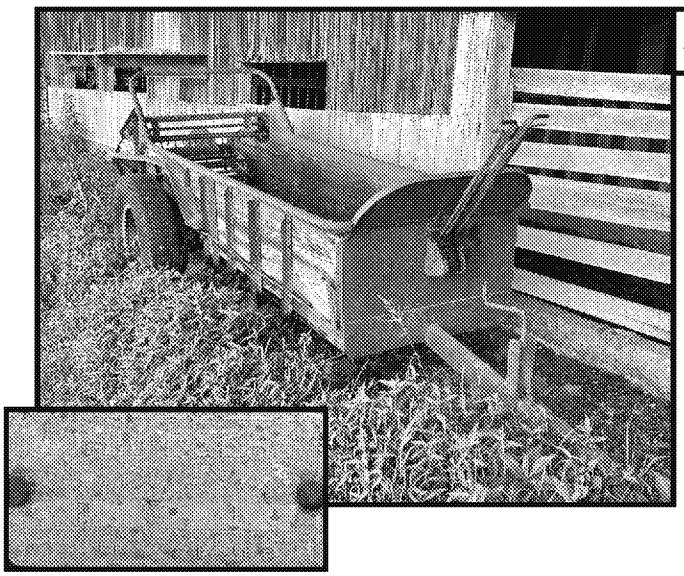
Costing farmers $1,000's in profits, for $100's of dealer revenue.

A Plea for relief and enforcement

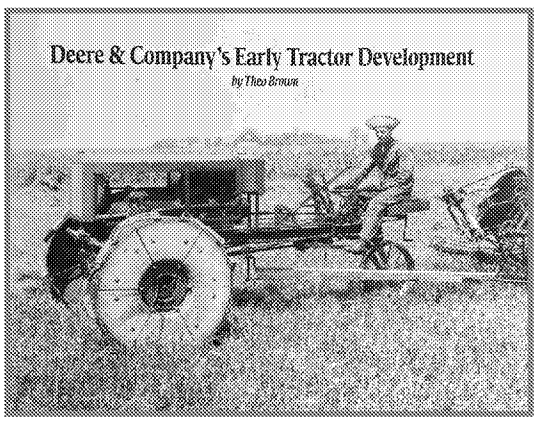


Farmall Tractor by International Harvester still operational in 2022. 70+ Years, with new alternator

John Deere tractor still operational in 2022.
60+ years



John Deere manure spreader Series R - version 1



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Purpose

I am a Right to Repair activist and volunteer board member of the Repair Association (Repair.org). My intent with the following pages is to supplement my statements so that the reader will be better informed of important facts about my passion and my heritage. While I may disagree with the opponents of this issue, I hope we can engage in a dialog that benefits the whole agricultural community.

Additionally, I am seeking both immediate and long-term solutions to what I believe are unjust monopolization and monopsony of agricultural equipment repair from the whole of my government.

Respectfully, Willie Cade.

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Summary of a Real Harvest Time Repair

This is a rendition of a repair process occurring in the Mid-West from October 5th, to October 13th, 2022.

Harvest begins months before you pull your combine out of the barn. It starts when previous harvest ends, and you put your combine away for the season. Let's skip over the hours and hours mentally wrestling with deciding what to plant in what fields. We will even skip over the uncertainties of the spring planting with weather, equipment availability, and input price spikes. After planting you watch the seeds sprout, not get quite enough rain or at the wrong time, then you start to think about getting the combine ready for the dash of harvest. If you are smart you will check the manufacturer's website for any notices or Product Improvement Program (PIPs). Then a few last-minute checks and some grease because this year you are determined to go non-stop and grab every kernel of every crop that you have nurtured with fertilizer, herbicides, fungicides, and insecticides, all bought on credit.

Finally, the moisture content of the crop is just right, you hear in your head the starting gun.

Day 0, Wednesday, October 5th, 2022, you line up the header of the combine at the edge of your first of 79 fields, drop it, check the screens, and away you go. Not a bad day, 128 acres harvested, 58 bushels per acre, 3,172 more acres.

Day 1, Thursday, noon, watching the field and the screens but something is a bit off, the power is low, this is odd. At the end of a row, you stop to look deeper. After closing a yield monitoring program on the screen, you see an ECU delta pressure sensor error, 2659.04, your combine has been 'DE-RATED,' partially shut down. Accessing customer available information via John Deere phone app and touching base with the dealer you decide to replace a sensor, by now it is too late to get the sensor today.

Day 2, Friday, sensor replaced, error code persists and still DE-RATED. A call to the dealer to ask a dealer technician to bring out the Dealer Level Service ADVISOR laptop, connect it to the combine and trouble shoot, $500. Dealer tech says a second sensor could be the source of the error code.

Day 3, Saturday, the dealer tech comes back out Saturday afternoon with the new part, $500. He replaces the second sensor. Back up and running . . . for 3 acres and a new ECU error code, 2659.17, DE-RATES the combine. Dealer technician identifies PIP for 13.5-liter engine, 20HX588, listed as a "Fix if Fail." Manufacture has known of the issue for two years, opaque to you. Machine needs a new ECU according to the PIP. ECU on allocation will take 3 or 4 days to ship from manufacturer's facility.

Day 4, Sunday, no part, no service. Beans falling from their shells to the ground where they can't be harvested, lost yield, lost profit.

Day 5, Monday, no part, no service. Beans falling from their shells, lost yield, lost profit.

Day 6, Tuesday, dealer tech visit, $500, ECU replaced, error code NOT cleared. New theory is EGR valve needs replacing, part not in stock. Beans falling from their shells, lost yield, lost profit.

Day 7, Wednesday, no part, no service. Rain and hail hitting crops dropping many more beans to the ground, lost yield, lost profit. Yield impact 10 bushels per acre? Instead of a profit this year of 3% for the operation a loss of 7%?

Day 8, Thursday, dealer tech visit, $500, EGR valve replaced, error code cleared, harvesting!

See next page for bill as submitted, NOTE: Warranty period expired June 2022?

[redacted]

Heritage Tractor, Inc.
13134 NW County Rd. 31
Adrian, MO 64720
816-293-2495
billing@heritagetractor.com

YOUR PARTS, YOUR WAY.
Order online, over the phone, or on the app. Pick up in store or at a dropbox location.
Scan code for details.

[redacted]

Invoice To Account No: [redacted]

Deliver To:

SERVICE INVOICE

[redacted]
Bus Phone: [redacted]
Prv Phone:

[redacted]
Bus Phone: [redacted]
Prv Phone:

Invoice Number:
Invoice Date: 10/29/2022
Location: 04
Work Order Number: [redacted]
Payment Type: Account
Page: 1 of 1

Make/Model:	Meter	Serial Number:	Q kt:	File # No:
JOHN DEERE S690	[redacted]24	1HOS690[redacted]	S6 TW	

ALL/0037/CSC/022 Retail

COMPLAINT:

01 COMBINE SERVICE CALL - COMBINE THROWING ECU 002659.04 - EGR FLOW SIGNAL OUT OF RANGE LOW CODE AND COMBINE DERATED. CALL JOHN HILL BEFORE WE HEAD OUT 417-955-0

CAUSE:

CORRECTION:

Combine Service Call
Drove to machine and followed the diagnostics for code. I found that the EGR delta pressure sensor was showing it needed replaced. Checked wiring to sensor to be sure it was not a wiring issue. I talked to John Hill about the sensor and he drove to Pittsburg and got a new sensor and installed it. Combine ran for about 30 minutes and threw the ECU 2659.17. Drove back to machine and did diagnostics for that code and found that it said to replace ECU. Drove back to shop and ordered an ECU but found there was a fix as fail PIP on the Combine ECU. I did the ECU PIP and still had ECU 2659.17 code. I went through the EGR system and cleaned the Venturi and replaced the EGR valve. Put machine back together and Customer took it to field. Combine did not throw anymore codes after that.

PartNumber	Description	Quantity	Net Price	Extended Price	Taxed Ind
51M7040	O-Ring	1.00	$2.41	$2.41	N
DZ119115	Exhaust Gas Recycling Valve	1.00	$1,105.19	$1,105.19	N
R526831	GASKET	3.00	$11.34	$34.02	N
R532000	O-Ring	2.00	$7.76	$15.52	N
T77013	O-Ring	1.00	$2.15	$2.15	N

Labor: $1,930.25 Parts: $1,159.29 OL&M: $0.00 Misc: $0.00 Sub-Total: $3,089.54

Customer PO N
Tax Exempt No: 2015.0 SAVED
Advisor: Jeremy Fry

Labor:	$1,930.25
Parts:	$1,159.29
OL&M:	$0.00
Misc:	$0.00
Sales Tax:	$0.00
Total:	$3,089.54

TERMS AND CONDITIONS
Finance Charges are 1.5% per month (APR of 18%) and will be charged on balances over 30 days past due. No returns after 30 days and 15% restocking fee on all special order items. No returns on electrical items.

Received by: ..... Date: .....

Confidential

Alternative Scenario 1: Producer (farmer) "eliminated" emission system and cleared error, so that the equipment is no longer DE-RATED?

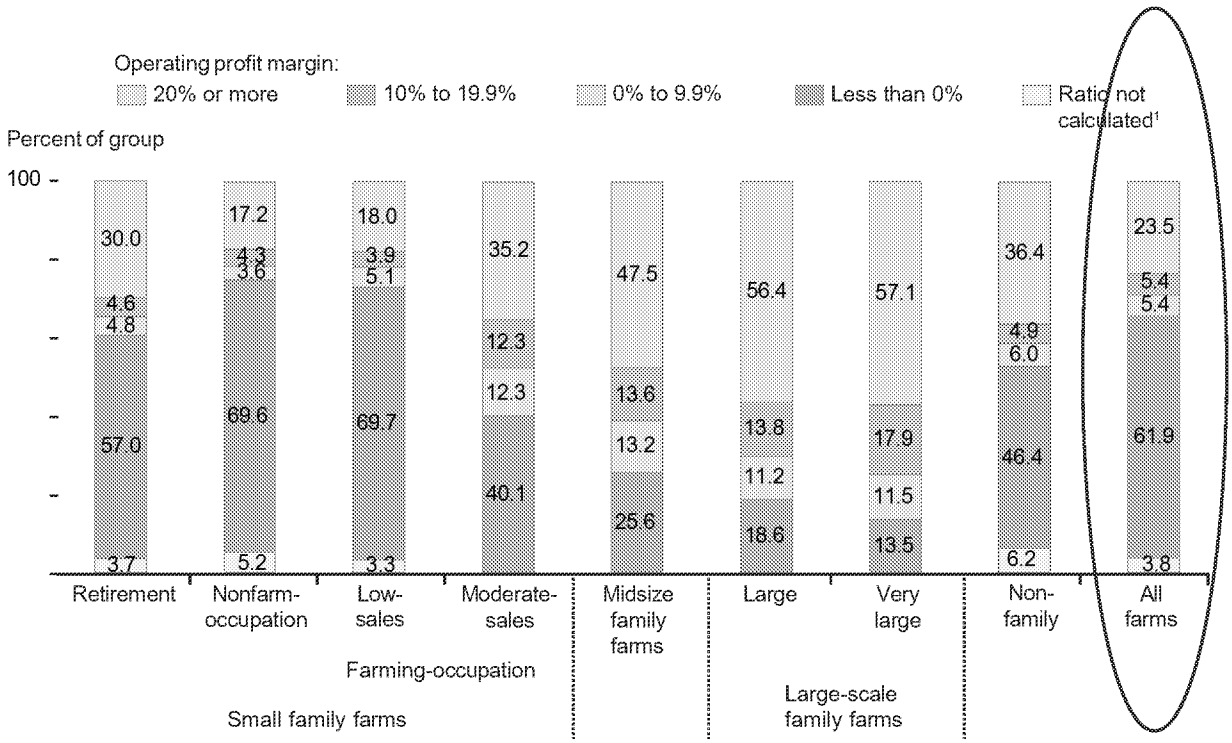
Costs: $6,000 "eliminate" service and possible fine: $4,454 equals $**10,454**.

Business logic: loss of .25 bushels of soybeans per acre (15 pounds) at $13.87/ bushel over 3,222 acres is **$11,172**. Note: only 0.25 bushels/acre is 0.43% of the 58 bushels/acre yield.

Context: 61.9% of all farms have less than 0% operating profit.

Profit: $1,172.

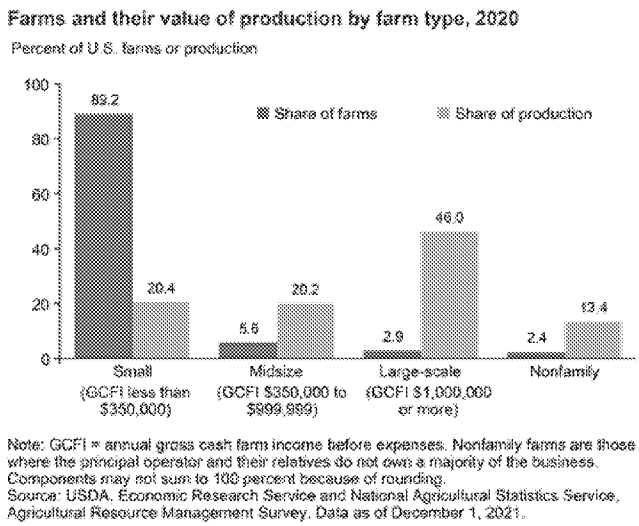
Figure 13
Farms by operating profit margin and farm type, 2011
Small family farms are more likely to have a negative operating profit margin than larger family farms

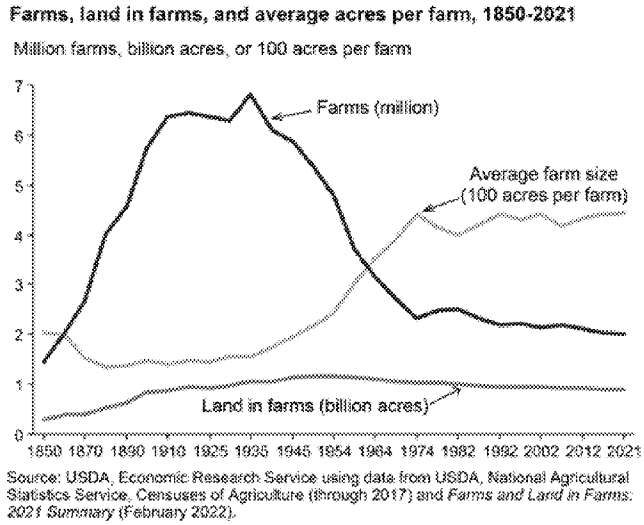


Note: Operating profit = 100 percent X (net farm income + interest paid – charge for operator and unpaid labor – charge for management) ÷ gross farm income.

[1]The denominator of the ratio—gross farm income—was 0 or negative.

Source: USDA, National Agricultural Statistics Service and Economic Research Service, 2011 Agricultural Resource Management Survey, Phase III.





Alternative Scenario 2: Producer (farmer) had all the tools and information necessary to maintain and repair emission systems

Costs: **$4,500** for dealer level Service ADVISOR (or $100 as a part of a settlement agreement.)

Business logic: 0.25 bushels per acre not lost **$11,712.**

Profit: $7,412

Important note: Not only is lost yield an economic loss it is also an environmental loss of the carbon investment for the crop that falls to the ground. Investigation is needed to determine the environmental impact of lost yield. Current yield dataset that are collected are sufficient for a robust study.

Why I am Requesting Relief and Enforcement for the Repair of Emissions Systems on Nonroad Agricultural Equipment.

1. Existing statute require any and all information be promptly provided to any person engaged in repairing or servicing of motor vehicles or motor vehicle engines.
   1.1. 42 USC §7521 (m) (5), in part says manufacturers shall provide any and all information needed to make use of the emission control diagnostics system prescribed under this subsection and such other information including instructions for making emission related diagnosis and repairs. No such information may be withheld under section 7542(c) of this title if that information is provided (directly or indirectly) by the manufacturer to franchised dealers or other persons engaged in the repair, diagnosing, or servicing of motor vehicles or motor vehicle engines, see exhibit 1, page 13.
   1.2. 42 USC §7521 (a) (2) (D), an enumerated prohibition, for any manufacturer to fail to make information available as provided by regulation under section 7521(m)(5) of this title, see exhibit 1, page 13 and 14.
   1.3. 42 USC §7521 (c) (3) (A), in part says, the manufacturer shall provide in boldface type on the first page of the written maintenance instructions notice that maintenance, replacement, or repair of the emission control devices and systems may be performed by any automotive repair establishment or individual, see exhibit 1, page 13.
2. Existing regulations require any and all information be promptly provided to any person engaged in repairing or servicing of motor vehicles or motor vehicle engines.
   2.1. 40 CFR §1068.101 (b), in part says, manufacturers must provide emission-related installation and instructions. Failure to meet these obligations is prohibited. We may assess a civil penalty up to $44,539 for each engine or piece of equipment in violation, see exhibit 1, page 14.
   2.2. 40 CFR §1068.110 (a), in part says, may not require manufacturer's parts or service to maintain or repair an engine or piece of equipment, see exhibit 1.
   2.3. 40 CFR §1068.5 requires good engineering judgement by the manufacturer, see exhibit 2, page 15.
   2.4. 40 CFR §1039.125 (f) in part, state clearly in your written maintenance instructions that a repair shop or person of the owner's choosing may maintain, replace, or repair emission-control devices and systems. This is done in some manuals yet, not other manuals. I note that the current regulation is not in

accordance with 42 USC §7521 (c) (3) (A), but in accordance with 40 CFR §1039.125 (f) as amended on 25th October 2016, see exhibits; 3, page 16; exhibit 4, page 17; and exhibit 5, page 18-19.

2.5. 40 CFR §1068.110 (b) (2) in part states engine/equipment repair work that an operator performed to correct an unsafe, emergency condition is allowed.

3. The FTC voted unanimously to adopt the Nixing the Fix report that in part found[1]
   3.1. Manufacturers steer consumers to manufacturers' repair networks.
   3.2. Justifications need to be scrutinized on a case-by-case basis and should be rejected if found to be a mere pretext for anticompetitive conduct.
   3.3. Manufacturers do not make available complete diagnostic software and tools.
   3.4. Some designs make independent repairs less safe.
   3.5. The record contains scant rebuttal from manufacturers to the argument that a more open repair ecosystem would allow consumers to have their goods repaired more quickly or repair them in a timely manner themselves.
   3.6. The report evaluates manufacturers' explanations for repair restrictions and finds that that the record contains scant evidence to support them.
4. All major agricultural equipment manufacturers have similar or the same solutions, testimony of John Deere and other dealers before the North Carolina Agriculture and Forestry Study Commission, October 2022.
   4.1. John Deere Customer Service ADVISOR withholds capabilities provided in Dealer Service ADVISOR.
   4.2. Most of the technology in tractors are emission system related.
5. There is a decades long shortage of technicians. Testimony of Diane Benck, West Side Tractor Sales Co., see exhibit 6, page20. Additionally, John Deere has engineered their equipment which requires a greater number of technicians, see exhibit 7, page 21.
6. User manuals are incomplete. For example, John Deere's repair manual TM 153519 dated 24-APR-19 for the S760 series combine has no reference to emissions repair instructions in the 2,170 pages. References made to ECU reprograming but require, deceptively, only "Service ADVISOR," not Dealer Service ADVISOR, see exhibit 8, see page 22. Error codes often direct the equipment owner to see the dealer, see exhibit 9, page 23.
7. John Deere regularly refers to some unknown US EPA regulation that they, John Deere, are restricted from allowing equipment owners to repair their emission systems.

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[1] https://www.ftc.gov/system/files/documents/reports/nixing-fix-ftc-report-congress-repair-restrictions/nixing_the_fix_report_final_5521_630pm-508_002.pdf

7.1. Testimony of Grant Suhre, manager of customer support for the US and Canada for John Deere before the Nebraska Senate Judiciary Committee, 25-Feb-2021 in part stated "the reason we have one exemption to this is reprogramming is that we're required as a manufacturer to protect the emissions controls. We're liable to the EPA under the Clean Air Act to ensure that the emissions controls remain functional and perform."[2]

7.2. In a letter to the Security and Exchange Commission, dated November 9th, 2021, on page 8[3], Jahmy Hindman, John Deere's Chief Technology Officer represented, "Mr. Hindman acknowledged two percent of repairs that involve software and used the diesel engine as examples where, if modified, the characteristics of the emissions of the engine, a regulated device, could have a negative consequence of the environmental emissions that the engine produces" as justification for not providing information and tools (software) necessary to maintain and repair emission systems. Additionally, John Deere correctly claims that the Clean Air Act that "dealers can also be held liable for CAA violations if the emissions tampering is not recognized and reversed" but uses this fact as a justification for withholding mandatory tools and information, see exhibit 11, on page 30.

8. The US EPA on July 17th, 2015, argued against the repair exemption to a TPM from the Act's anti-circumvention provision, see exhibit 7. [Please note that the US Copyright office granted the exemption in 2015[4], 2018[5], and 2021[6], with regards to repair of agricultural equipment, § 201.40 Exemption to prohibition against circumvention, part (b) (13).] The letter falsely asserted . . .
   8.1. It would hinder its ability to enforce the tampering prohibition
   8.2. Questioned the need by farmers
   8.3. EPA predicted that the exemptions would allow users to modify that software for purposes other than those the proponents envision.
9. Nearly identical electronic control systems are used in-use highway vehicles and engines where those industry manufactures have made emission systems repair information and tools safely available for almost a decade as per 40 CFR § 86 heavy

[2] https://www.nebraskalegislature.gov/FloorDocs/107/PDF/Transcripts/Judiciary/2021-02-25.pdf, page 52
[3] https://www.sec.gov/divisions/corpfin/cf-noaction/14a-8/2021/greencenturydeere111221-14a8.pdf, page 8 of PDF.
[4] https://www.federalregister.gov/documents/2015/10/28/2015-27212/exemption-to-prohibition-on-circumvention-of-copyright-protection-systems-for-access-control
[5] https://www.federalregister.gov/documents/2018/10/26/2018-23241/exemption-to-prohibition-on-circumvention-of-copyright-protection-systems-for-access-control
[6] https://www.federalregister.gov/documents/2021/10/28/2021-23311/exemption-to-prohibition-on-circumvention-of-copyright-protection-systems-for-access-control

duty diesel engines. I note with interest that some engines are used in both nonroad and in-use highway vehicles.

10. Manufacturers have complied with European Union regulations for access to these information and tools.

What Relief and Enforcement am I Requesting for the Repair of Emissions Systems on Nonroad Agricultural Equipment.

I am making these requests in order to help safeguard agriculture as a critical industry by empowering agricultural equipment owners to repair their emission systems consistent with Executive Order 14017, to eliminate unfair anticompetitive restrictions on third-party repair as noted in Executive Order 14036, and require manufacturers to provide a complete Software Bill of Materials (SBOM) as per the policy of the United States and referenced in Executive Order 14028 for emission control systems.

A. Enhance and clarify regulations

A.1. Cross reference engine families' certifications with specific products of manufacturers and associated operator's and repair manuals or information which would allow for validation of 40 CFR §1039.125 (f) and other such sections that focus on requirements of manufactures to inform and support equipment owners.

A.2. Rewrite 40 CFR §1039.125 (f) to align with 42 USC §7521 (c) (3) (A).

A.3. Rewrite 40 CFR §1068.101 (b) to further clarify a manufacturer's responsibility and possible fines associated with not providing information and tools, including software.

A.4. Update 40 CFR §1039 so that it is as robust as 40 CFR §86.

A.5. Define the term "Emergency" for agriculture as per section 40 CFR §1039.665 to accommodate possible harvest interruptions and appropriate record keeping and notification requirements.

A.6. Reduce the threshold for reporting defects and recalling engines and equipment in section 40 CFR §1039.801 to 25 units or 5% when equipment is used for harvesting crops.

A.7. Include active-duty military equipment or equipment used in theater in the definition of "Emergency Equipment" in 40 CFR §1039.801.

A.8. Consider a third-party audit requirement, rather than a manufacturer "unconditionally certify" that all the engines in the engine family comply with the requirements of this part, other referenced parts of the CFR, and the Clean Air Act" and all products that use the certified engine families of 40 CFR 1039 (w) approved by the EPA. I note a third-party audit is now required as a condition of the EPA's ENERGY STAR Program.

A.9. Write new regulations that require manufacturers to provide a complete Software Bill of Materials (SBOM) as per the policy of the United States and referenced in Executive Order 14028 for emission control systems.

B. Make public comments and official notices

B.1. Notify manufacturers immediately and publicly that they must comply with the Clean Air Act 202 (m) (5) such that " No such information may be withheld under section 7542(c) of this title if that information is provided (directly or indirectly) by the manufacturer to franchised dealers or other persons engaged in the repair, diagnosing, or servicing of motor vehicles or motor vehicle engines" and that any representations to the contrary is false and misleading. In the case of John Deere this would mean access to Dealer Level Service ADVISOR and the Dealer Technical Assistance Center (DTAC) including all Program Improvement Programs (PIPs).

B.2. Inform the Security and Exchange Commission (SEC) and the Federal Trade Commission (FTC) that US EPA does NOT require withholding of emission systems information and tools.

C. **Take action to enforce the Clean Air Act and regulations**

C.1. Suspend future certifications for 2023 until manufacturers are in compliance with the Clean Air Act section 202 (m) (5) and the rewritten regulations.

C.2. Direct John Deere and other manufactures to provide yield data for all combines that needed emission repair over the last 5 years in order to quantify the financial impact on agricultural producers.

C.3. Fine John Deere and others for with holding information as per 40 CFR §1068.101 for each engine certified for use in the US.

C.4. Require manufacturers to notify equipment owners of all 'Product Improvements' and extend warranty coverage period for known issues.

Exhibits

Exhibits	
1) 42 USC §7521, §7522 and §7541 highlights and regulations	15
2) 42 USC §1068.5 Good Engineering Judgment	17
3) History of 42 USC §1039.125 (f)	18
4) Sample Required Emission-Related Information and Listings	19
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Clean Air Act Statute and EPA Regulations

Statute citations:[1]

42 U.S.C., United States Code, 2013 Edition
Title 42 - THE PUBLIC HEALTH AND WELFARE
CHAPTER 85 - AIR POLLUTION PREVENTION AND CONTROL
SUBCHAPTER II - EMISSION STANDARDS FOR MOVING SOURCES
Part A - Motor Vehicle Emission and Fuel Standards,
From the U.S. Government Publishing Office, www.gpo.gov

§7521. Emission standards for new motor vehicles or new motor vehicle engines,

(m) Emissions control diagnostics, (5) Information availability . . .

The Administrator, by regulation, shall require (subject to the provisions of section 7542(c) of this title regarding the protection of methods or processes entitled to protection as trade secrets) manufacturers to provide promptly to any person engaged in the repairing or servicing of motor vehicles or motor vehicle engines, and the Administrator for use by any such persons, with any and all information needed to make use of the emission control diagnostics system prescribed under this subsection and such other information including instructions for making emission related diagnosis and repairs. No such information may be withheld under section 7542(c) of this title if that information is provided (directly or indirectly) by the manufacturer to franchised dealers or other persons engaged in the repair, diagnosing, or servicing of motor vehicles or motor vehicle engines. Such information shall also be available to the Administrator, subject to section 7542(c) of this title, in carrying out the Administrator's responsibilities under this section.

§7522. Prohibited acts

(a) Enumerated prohibitions

The following acts and the causing thereof are prohibited—

(1) in the case of a manufacturer of new motor vehicles or new motor vehicle engines for distribution in commerce, the sale, or the offering for sale, or the introduction, or delivery for introduction, into commerce, or (in the case of any person, except as provided by regulation of the Administrator), the importation into the United States, of any new motor vehicle or new motor vehicle engine, manufactured after the effective date of regulations under this part which are applicable to such vehicle or engine unless such vehicle or engine is covered by a certificate of conformity issued (and in effect) under regulations prescribed under this part or part C in the case of clean-fuel vehicles (except as provided in subsection (b) of this section);

(2)(A) for any person to fail or refuse to permit access to or copying of records or to fail to make reports or provide information required under section 7542 of this title;

(B) for any person to fail or refuse to permit entry, testing or inspection authorized under section 7525(c) of this title or section 7542 of this title;

(C) for any person to fail or refuse to perform tests, or have tests performed as required under section 7542 of this title;

(D) for any manufacturer to fail to make information available as provided by regulation under section 7521(m)(5) of this title; [emphasis added]

[1] https://www.govinfo.gov/content/pkg/USCODE-2013-title42/html/USCODE-2013-title42-chap85-subchapII-partA.htm

§7541. Compliance by vehicles and engines in actual use

(c) Nonconforming vehicles; plan for remedying nonconformity; instructions for maintenance and use; label or tag,

(3)(A) The manufacturer shall furnish with each new motor vehicle or motor vehicle engine written instructions for the proper maintenance and use of the vehicle or engine by the ultimate purchaser and such instructions shall correspond to regulations which the Administrator shall promulgate. The manufacturer shall provide in boldface type on the first page of the written maintenance instructions notice that maintenance, replacement, or repair of the emission control devices and systems may be performed by any automotive repair establishment or individual using any automotive part which has been certified as provided in subsection (a)(2) of this section. [emphasis added]

Regulation citations:[2]

Subpart B - Prohibited Actions and Related Requirements

§1068.101 What general actions does this regulation prohibit?

(b) The following prohibitions apply to everyone with respect to the engines and equipment to which this part applies:

> (6) Warranty, recall, and maintenance instructions. You must meet your obligation to honor your emission-related warranty under § 1068.115, including any commitments you identify in your application for certification. You must also fulfill all applicable requirements under subpart F of this part related to emission-related defects and recalls. You must also provide emission-related installation and maintenance instructions as described in the standard-setting part. Failure to meet these obligations is prohibited. Also, except as specifically provided by regulation, you are prohibited from directly or indirectly communicating to the ultimate purchaser or a later purchaser that the emission-related warranty is valid only if the owner has service performed at authorized facilities or only if the owner uses authorized parts, components, or systems. We may assess a civil penalty up to $44,539 for each engine or piece of equipment in violation. [emphasis added]

(f) The specification of prohibitions and penalties in this part does not limit the prohibitions and penalties described in the Clean Air Act. Additionally, a single act may trigger multiple violations under this section and the Act. We may pursue all available administrative, civil, or criminal remedies for those violations even if the regulation references only a single prohibited act in this section.

§1068.110 Other provisions for engines/equipment in service.

(a) Aftermarket parts and service. As the certifying manufacturer, you may not require anyone to use your parts or service to maintain or repair an engine or piece of equipment, unless we approve this in your application for certification. It is a violation of the Clean Air Act for anyone to manufacture any part if one of its main effects is to reduce the effectiveness of the emission controls. See § 1068.101(b)(2).

(e) Warranty and maintenance. Owners are responsible for properly maintaining their engines/equipment; however, owners may make warranty claims against the manufacturer for all expenses related to diagnosing and repairing or replacing emission-related parts, as described in § 1068.115. Manufacturers may ask to limit diagnosis and repair to authorized service facilities, provided this does not limit their ability to meet their warranty obligations under § 1068.115. [emphasis added]

[2] https://www.ecfr.gov/current/title-40/chapter-I/subchapter-U/part-1068

This content is from the eCFR and is authoritative but unofficial.

Title 40 - Protection of Environment
Chapter I - Environmental Protection Agency
Subchapter U - Air Pollution Controls
Part 1068 - General Compliance Provisions for Highway, Stationary, and Nonroad Programs

Authority: 42 U.S.C. 7401-7671q.

Source: 73 FR 59344, Oct. 8, 2008, unless otherwise noted.

Subpart A - Applicability and Miscellaneous Provisions

§ 1068.5 How must manufacturers apply good engineering judgment?

(a) You must use good engineering judgment for decisions related to any requirements under this chapter. This includes your applications for certification, any testing you do to show that your certification, production-line, and in-use engines/equipment comply with requirements that apply to them, and how you select, categorize, determine, and apply these requirements.

(b) If we send you a written request, you must give us a written description of the engineering judgment in question. Respond within 15 working days of receiving our request unless we allow more time.

(c) We may reject your decision if it is not based on good engineering judgment or is otherwise inconsistent with the requirements that apply, based on the following provisions:

(1) We may suspend, revoke, or void a certificate of conformity if we determine you deliberately used incorrect information or overlooked important information, that you did not decide in good faith, or that your decision was not rational.

(2) If we believe a different decision would better reflect good engineering judgment, but none of the provisions of paragraph (c)(1) of this section apply, we will tell you of our concern (and its basis). You will have 30 days to respond to our concerns, or more time if we agree that you need it to generate more information. After considering your information, we will give you a final ruling. If we conclude that you did not use good engineering judgment, we may reject your decision and apply the new ruling to similar situations as soon as possible.

(d) We will tell you in writing of the conclusions we reach under paragraph (c) of this section and explain our reasons for them.

(e) If you disagree with our conclusions, you may file a request for a hearing with the Designated Compliance Officer as described in subpart G of this part. In your request, specify your objections, include data or supporting analysis, and get your authorized representative's signature. If we agree that your request raises a substantial factual issue, we will hold the hearing according to subpart F of this part.

Exhibit 3

40 CFR 1039.125 (f)

What maintenance instructions must I give to buyers?

Today 10/22/2022

No	Date	Text	Age	Ref	URL	Comments
1	6/29/2004	(f) *Source of parts and repairs.* State clearly on the first page of your written maintenance instructions that a repair shop or person of the owner's choosing may maintain, replace, or repair emission-control devices and systems.	18.33	69 FR 39213	https://www.federalregister.gov/documents/2004/06/29/04-11293/control-of-emissions-of-air-pollution-from-nonroad-diesel-engines-and-fuel	
2	7/13/2005	***(no change noted)***	17.29	70 FR 40463	https://www.federalregister.gov/documents/2005/07/13/05-11534/test-procedures-for-testing-highway-and-nonroad-engines-and-omnibus-technical-amendments	
3	9/18/2007	(f) *Source of parts and repairs.* State clearly on the first page of your written maintenance instructions that a repair shop or person of the owner's choosing may maintain, replace, or repair emission-control devices and systems.	15.10	72 FR 53130	https://www.federalregister.gov/documents/2007/09/18/E7-18161/nonroad-diesel-technical-amendments-and-tier-3-technical-relief-provision	
4	10/8/2008	***(no change noted)***	14.05	73 FR 59191	https://www.federalregister.gov/documents/2008/10/08/E8-21093/control-of-emissions-from-nonroad-spark-ignition-engines-and-equipment	
5	4/30/2010	***(no change noted)***	12.49	75 FR 22989	https://www.federalregister.gov/documents/2010/04/30/2010-2534/control-of-emissions-from-new-marine-compression-ignition-engines-at-or-above-30-liters-per-cylinder	
6	8/8/2014	***(no change noted)***	8.21	79 FR 46373	https://www.federalregister.gov/documents/2014/08/08/2014-18738/emergency-vehicle-rule-scr-maintenance-and-regulatory flexibility-for-nonroad-equipment	
7	10/25/2016	(f) *Source of parts and repairs.* State clearly in your written maintenance instructions that a repair shop or person of the owner's choosing may maintain, replace, or repair emission-control devices and systems.	5.99	81 FR 74134	https://www.federalregister.gov/documents/2016/10/25/2016-21203/greenhouse-gas-emissions-and-fuel-efficiency-standards-for-medium--and-heavy-duty-engines-and	https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-phase-2-greenhouse-gas-emissions-standards#additional-resources
8	Current - eCFR	***(f) Source of parts and repairs.*** State clearly in your written maintenance instructions that a repair shop or person of the owner's choosing may maintain, replace, or repair emission-control devices and systems.	N/A	eCFR	https://www.ecfr.gov/current/title-40/chapter-I/subchapter-U/part-1039/subpart-B/section-1039.125#p-1039.125(f)	

Exhibit 4

Air, Fuel, Coolant, and Exhaust Maintenance

Required Emission-Related Information

Service Provider John Deere 5100ML, etc. Operator's Manual, page 161 of PDF

A qualified repair shop or person of the owner's choosing may maintain, replace, or repair emission control devices and systems with original or equivalent replacement parts. However, warranty, recall, and all other services paid for by John Deere must be performed at an authorized John Deere service center.

DX,EMISSIONS,REQINFO-19-12JUN15

Recommended Dealer Performed Service

Check Engine Coolant Properties

MAINTENANCE INTERVAL
Annually

Ask your John Deere dealer to check engine coolant properties. Use Cool-Gard™ II only if additional coolant is required.

Flush Cooling System and Replace Thermostat

MAINTENANCE INTERVAL
Every 4500 Hours if Cool-Gard™ II is used. Machine must be initially filled and only serviced with properly diluted Cool-Gard™ II coolant.
Every 2000 Hours if Cool-Gard™ II is not used.

Have your John Deere dealer flush the cooling system, replace thermostat, and fill the system with Cool-Gard™ II.

Drain and Flush Fuel Tank

MAINTENANCE INTERVAL
Every 300 Hours

If excessive amounts of water or dirt are found in the fuel filter and water separator, ask your John Deere dealer to drain and flush fuel tank.

GS25068,0005A0F-19-05OCT18

Check Engine and Exhaust Compartments for Debris

IMPORTANT: Directing pressurized water at electronic/electrical components, connectors, bearings and hydraulic seals, fuel injection pump or other sensitive components can cause product malfunctions. Reduce pressure and spray at a 45 to 90 degree angle.

Directing pressurized air at electronic/electrical components or connectors can cause buildup of static electricity and product malfunctions.

Never steam clean or pour cold water on an injection pump that is operating or hot. Pump could seize.

1. Shut off engine and allow to cool.
2. Open and raise engine hood.
3. Remove any crop or debris within engine and exhaust compartments, especially around turbocharger, exhaust manifold, and exhaust aftertreatment system.
4. Reinstall all shields. Close and securely latch hood.

DP51502,0002EA5-19-01NOV17

Clean Diesel Particulate Filter (DPF)

1. When exhaust filter and warning light indicators are illuminated, ensure that exhaust filter cleaning is set to “Auto”.
2. Operate machine above 1200 rpm to allow an automatic exhaust filter cleaning to occur.
3. If indicators remain illuminated after an automatic cleaning has occurred, additional cleaning is required. Perform parked exhaust filter cleaning (if system allows). (See Air, Fuel, Coolant, and Exhaust Operation section for procedure.)
4. If a parked exhaust filter cleaning has been performed and exhaust filter and warning light indicators are still illuminated, contact your John Deere dealer.

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John Deere Equipment Models 1999+ and Ops Manuls

										Blank	0	STD	0.25			
			Inclusive		*Note: There are multiple editions of manuals, most recent listed, North America versions, English editions*					None	130	Avg	75%			
			Start	End			US EPA Cert		Choosing	Total		Choosing	CARB	Year	Referance of
No.	Type	Model ID	Date	Date	Ops Manual ID	Title - First line(s)	Family	Model	Page	Pages	Percent	First Page	Warning	Copyright	ECU Yes/No
1	Sprayer	6700	1999	2009	OMN200815 Issue I0	6700 Self-Propelled Sprayer	{no reference}	{no reference}	None	374	N/A	No	Yes	2000	No
2	Tractor	990	2000	2007	OMLVU10907 C0	Compact Utility Tractor with Gear Transmission 990	{not listed}	{not listed}	None	184	N/A	No	Yes	2000	No
3	Tractor	5105	2000	2007	OMRE72817 Issue J5	5105 and 5205 Tractors	WJDXLO2.9018	3029TF180	None	248	N/A	No	Yes	2005	No
4	Tractor	5205	2000	2007	OMRE72817 Issue J5	5105 and 5205 Tractors	WJDXLO2.9018	3029TF180	None	248	N/A	No	Yes	2005	No
5	Tractor	4010	2002	2005	OMR30680 H1	4010 DIESEL AND GASOLINE WHEEL TRACTORS	{not listed}	{not listed}	None	84	N/A	No	No	None	No
6	Tractor	4110	2002	2005	OMLVU13326 I3	Compact Utility Tractors 4110 and 4115	{not listed}	{not listed}	None	204	N/A	No	No	2003	No
7	Tractor	4115	2002	2005	OMLVU13326 I4	Compact Utility Tractors 4110 and 4116	{not listed}	{not listed}	None	205	N/A	No	No	2004	No
8	Tractor	6220	2002	2006	OMAL162071 Issue G5	6120, 6120L, 6220, 6220L, 6320, 6320L, 6420, 6420L and 6520L Tractors	{no reference}	{no reference}	None	358	N/A	No	Yes	2005	Yes
9	Tractor	6603	2002	2007	OMRE226033 ISSUE H3	6403 and 6603 Tractors	{no reference}	{no reference}	None	252	N/A	No	Yes	2013	No
10	Tractor	9120	2002	2007	OMAR228220 Issue A7	9120, 9220, 9320, 9420, 9520 and 9620 Tractors	{no reference}	{no reference}	None	418	N/A	No	Yes	2007	Yes
11	Tractor	9420	2002	2007	OMAR228220 Issue A7	9120, 9220, 9320, 9420, 9520 and 9620 Tractors	{no reference}	{no reference}	None	418	N/A	No	Yes	2007	Yes
12	Tractor	9420T	2002	2007	OMAR228229 Issue H6	9320T, 9420T, 9520Tand 9620T Tractors	{no reference}	{no reference}	None	340	N/A	No	Yes	2006	Yes
13	Tractor	2210	2003	2005	OMLVU14661 G3	Compact Utility Tractor 2210	{not listed}	{not listed}	None	80	N/A	No	Yes	2002	No
14	Tractor	5103	2003	2008	OMRE268160 ISSUE L8	5103, 5203, 5303 and 5403 Tractors	WJDXLO2.9018	3029TF180	None	204	N/A	No	Yes	2006	No
15	Tractor	5203	2003	2008	OMRE268160 ISSUE L8	5103, 5203, 5303 and 5403 Tractors	WJDXLO2.9018	3029TF180	None	204	N/A	No	Yes	2006	No
16	Tractor	5303	2003	2008	OMRE268160 ISSUE L8	5103, 5203, 5303 and 5403 Tractors	WJDXLO2.9018	3029TF180	None	204	N/A	No	Yes	2006	No
17	Tractor	7220	2003	2007	OMAR224647 Issue K6	7220, 7320, 7420 and 7520 Tractors	{no reference}	{no reference}	None	372	N/A	No	Yes	2006	No
18	Tractor	7320	2003	2007	OMAR224647 Issue K6	7220, 7320, 7420 and 7520 Tractors	{no reference}	{no reference}	None	372	N/A	No	Yes	2006	No
19	Tractor	7420	2003	2007	OMAR224647 Issue K6	7220, 7320, 7420 and 7520 Tractors	{no reference}	{no reference}	None	372	N/A	No	Yes	2006	No
20	Tractor	7520	2003	2007	OMAR224647 Issue K6	7220, 7320, 7420 and 7520 Tractors	{no reference}	{no reference}	None	372	N/A	No	Yes	2006	No
21	Combine	9560	2004	2006	OMH219418 Issue H5	9560 and 9660 Combines	{no reference}	{no reference}	None	586	N/A	No	Yes	2006	Yes
22	Combine	9560 STS	2004	2007	OMH225687 Issue B7	9560 STS Combine	{no reference}	{no reference}	None	670	N/A	No	Yes	2007	Yes
23	Sprayer	4920	2004	2006	OMN300349 Issue J5	4920 Self-Propelled Sprayer	{no reference}	{no reference}	None	544	N/A	No	Yes	2005	Yes
24	Tractor	4120	2004	2013	OMLVU17927 J7	Compact Utility Tractor 4120, 4320, 4520, 4720	{no reference}	{no reference}	None	116	N/A	No	Yes	2007	No
25	Tractor	4320	2004	2013	OMLVU17927 J8	Compact Utility Tractor 4120, 4320, 4520, 4721	{no reference}	{no reference}	None	117	N/A	No	Yes	2008	No
26	Tractor	4520	2004	2013	OMLVU17927 J9	Compact Utility Tractor 4120, 4320, 4520, 4722	{no reference}	{no reference}	None	118	N/A	No	Yes	2009	No
27	Tractor	4720	2004	2013	OMLVU17927 J10	Compact Utility Tractor 4120, 4320, 4520, 4723	{no reference}	{no reference}	None	119	N/A	No	Yes	2010	No
28	Tractor	7720	2004	2006	OMAR188670 Issue I5	7720, 7820 and 7920 Tractors	{no reference}	{no reference}	None	486	N/A	No	Yes	2005	Yes
29	Tractor	7820	2004	2006	OMAR188670 Issue I5	7720, 7820 and 7920 Tractors	{no reference}	{no reference}	None	486	N/A	No	Yes	2005	Yes
30	Sprayer	4720	2005	2007	OMN300549 Issue K6	4720 Self-Propelled Sprayer	{no reference}	{no reference}	None	540	N/A	No	Yes	2006	Yes
31	Tractor	3120	2005	2008	OMLVU19809 L8	Compact Utility Tractor 3120, 3320, 3520, 3720	{not listed}	{not listed}	None	120	N/A	No	Yes	2007	No
32	Tractor	3520	2005	2013	OMLVU19809 L10	Compact Utility Tractor 3120, 3320, 3520, 3722	{not listed}	{not listed}	None	122	N/A	No	Yes	2009	No
33	Tractor	3720	2005	2013	OMLVU19809 L11	Compact Utility Tractor 3120, 3320, 3520, 3723	{not listed}	{not listed}	None	123	N/A	No	Yes	2010	No
34	Tractor	5225	2005	2008	OMRE260579 ISSUE I0	5225, 5325, 5425, 5525 and 5625 Tractors	{no reference}	{no reference}	None	154	N/A	No	Yes	2020	No
35	Tractor	5325	2005	2008	OMRE260579 ISSUE I0	5225, 5325, 5425, 5525 and 5625 Tractors	{no reference}	{no reference}	None	154	N/A	No	Yes	2020	No
36	Tractor	5425	2005	2008	OMRE260579 ISSUE I0	5225, 5325, 5425, 5525 and 5625 Tractors	{no reference}	{no reference}	None	154	N/A	No	Yes	2020	No
37	Tractor	5525	2005	2008	OMRE260579 ISSUE I0	5225, 5325, 5425, 5525 and 5625 Tractors	{no reference}	{no reference}	None	154	N/A	No	Yes	2020	No
38	Tractor	2305	2006	2010	OMLVU23228 B0	Compact Utility Tractors 2305	{not listed}	{not listed}	None	80	N/A	No	Yes	2010	No
39	Tractor	2320	2006	2012	OMLVU16740 E2	Compact Utility Tractor 2320	{not listed}	{not listed}	None	92	N/A	No	Yes	2009	No
40	Tractor	2520	2006	2012	OMLVU19796 E2	Compact Utility Tractors 2520	{not listed}	{not listed}	None	88	N/A	No	Yes	2008	No
41	Tractor	3320	2006	2008	OMLVU19809 L9	Compact Utility Tractor 3120, 3320, 3520, 3721	{not listed}	{not listed}	None	121	N/A	No	Yes	2008	No
42	Tractor	8130	2006	2009	OMAR287583 ISSUE A9	8130, 8230, 8330, 8430 and 8530	{no reference}	{no reference}	None	414	N/A	No	Yes	2009	Yes
43	Tractor	8230	2006	2009	OMAR287583 ISSUE A9	8130, 8230, 8330, 8430 and 8530	{no reference}	{no reference}	None	414	N/A	No	Yes	2009	Yes
44	Tractor	8330	2006	2009	OMAR287583 ISSUE A9	8130, 8230, 8330, 8430 and 8530	{no reference}	{no reference}	None	414	N/A	No	Yes	2009	Yes
45	Tractor	8430	2006	2009	OMAR287583 ISSUE A9	8130, 8230, 8330, 8430 and 8530	{no reference}	{no reference}	None	414	N/A	No	Yes	2009	Yes
46	Tractor	8530	2006	2009	OMAR287583 ISSUE A9	8130, 8230, 8330, 8430 and 8530	{no reference}	{no reference}	None	414	N/A	No	Yes	2009	Yes
47	Tractor	8230T	2006	2009	OMAR287619 ISSUE L8	8230T, 8330T and 8430T Series Tractors	{no reference}	{no reference}	None	302	N/A	No	Yes	2008	Yes
48	Tractor	8330T	2006	2009	OMAR287619 ISSUE L8	8230T, 8330T and 8430T Series Tractors	{no reference}	{no reference}	None	302	N/A	No	Yes	2008	Yes
49	Tractor	8430T	2006	2009	OMAR287619 ISSUE L8	8230T, 8330T and 8430T Series Tractors	{no reference}	{no reference}	None	302	N/A	No	Yes	2008	Yes
50	Sprayer	4830	2007	2014	OMN405418 ISSUE L1	4730 and 4830 Self-Propelled Sprayer	{no reference}	{no reference}	None	474	N/A	No	Yes	2011	Yes
51	Sprayer	4930	2007	2011	OMN401971 ISSUE F0	4930 Self-Propelled Sprayer	{no reference}	{no reference}	None	574	N/A	No	Yes	2010	Yes
52	Tractor	5625	2007	2007	OMRE260579 ISSUE I0	5225, 5325, 5425, 5525 and 5625 Tractors	{no reference}	{no reference}	None	154	N/A	No	Yes	2020	No
53	Tractor	7430	2007	2012	OMAL171429 ISSUE A2	Premium Tractors 7130, 7230, 7330, 7430 and 7530	{no reference}	{no reference}	None	350	N/A	No	Yes	2012	Yes
54	Tractor	7730	2007	2011	OMRE325992 ISSUE C1	7630, 7730, 7830 and 7930 Tractors	{no reference}	{no reference}	None	444	N/A	No	Yes	2011	Yes
55	Tractor	7830	2007	2011	OMRE325992 ISSUE C1	7630, 7730, 7830 and 7930 Tractors	{no reference}	{no reference}	None	444	N/A	No	Yes	2011	Yes
56	Tractor	7930	2007	2011	OMRE325992 ISSUE C1	7630, 7730, 7830 and 7930 Tractors	{no reference}	{no reference}	None	444	N/A	No	Yes	2011	Yes
57	Tractor	9230	2007	2011	OMRE325893 ISSUE C1	9230, 9330, 9430, 9530 and 9630 Tractors	{no reference}	{no reference}	None	428	N/A	No	Yes	2011	Yes
58	Tractor	9330	2007	2011	OMRE325893 ISSUE C2	9230, 9330, 9430, 9530 and 9630 Tractors	{no reference}	{no reference}	None	429	N/A	No	Yes	2012	Yes
59	Tractor	9430	2007	2011	OMRE325893 ISSUE C2	9230, 9330, 9430, 9530 and 9630 Tractors	{no reference}	{no reference}	None	429	N/A	No	Yes	2012	Yes
60	Tractor	9530	2007	2011	OMRE325893 ISSUE C2	9230, 9330, 9430, 9530 and 9630 Tractors	{no reference}	{no reference}	None	429	N/A	No	Yes	2012	Yes
61	Tractor	9630	2007	2011	OMRE325893 ISSUE C2	9230, 9330, 9430, 9530 and 9630 Tractors	{no reference}	{no reference}	None	429	N/A	No	Yes	2012	Yes
62	Tractor	9430T	2007	2011	OMRE325897 ISSUE C1	9430T, 9530T and 9630T Tractors	{no reference}	{no reference}	None	362	N/A	No	Yes	2011	Yes
63	Tractor	9530T	2007	2011	OMRE325897 ISSUE C1	9430T, 9530T and 9630T Tractors	{no reference}	{no reference}	None	362	N/A	No	Yes	2011	Yes
64	Tractor	9630T	2007	2011	OMRE325897 ISSUE C1	9430T, 9530T and 9630T Tractors	{no reference}	{no reference}	None	362	N/A	No	Yes	2011	Yes
65	Combine	9570 STS	2008	2011	OMHXE13768 ISSUE G9	9570 STS Combine	{no reference}	{no reference}	None	520	N/A	No	Yes	2009	Yes
66	Combine	9670 STS	2008	2011	OMHXE22997 ISSUE G0	9670 STS and 9770 STS Combines	{no reference}	{no reference}	None	558	N/A	No	Yes	2010	Yes
67	Combine	9770 STS	2008	2011	OMHXE22997 ISSUE G1	9670 STS and 9770 STS Combines	{no reference}	{no reference}	None	559	N/A	No	Yes	2011	Yes
68	Combine	9870 STS	2008	2011	OMHXE22999 ISSUE G0	9870 STS Combine	{no reference}	{no reference}	None	534	N/A	No	Yes	2010	Yes
69	Sprayer	4730	2008	2014	OMN405418 ISSUE L1	4730 and 4830 Self-Propelled Sprayer	{no reference}	{no reference}	None	474	N/A	No	Yes	2011	Yes
70	Tractor	2720	2008	2012	OMLVU19798 E2	Compact Utility Tractors 2720	{not listed}	{not listed}	None	88	N/A	No	Yes	2009	No
71	Tractor	3005	2008	2013	OMLVU19591 E2	Compact Utility Tractor 3005	{not listed}	{not listed}	None	96	N/A	No	Yes	2009	No
72	Tractor	4005	2008	2012	OMLVU19594 E2	Compact Utility Tractor 4005	{not listed}	{not listed}	None	100	N/A	No	Yes	2009	No
73	Tractor	4105	2008	2015	OMLVU23475 E2	Compact Utility Tractors 4105	{not listed}	{not listed}	None	92	N/A	No	Yes	2010	No
74	Tractor	6230	2008	2012	OMAL171426 ISSUE A2	Premium Tractors 6230, 6330 and 6430	{no reference}	{no reference}	None	298	N/A	No	Yes	2012	Yes
75	Tractor	6430	2008	2012	OMAL171426 ISSUE A2	Premium Tractors 6230, 6330 and 6430	{no reference}	{no reference}	None	298	N/A	No	Yes	2012	Yes
76	Tractor	7130	2008	2012	OMAL171429 ISSUE A2	Premium Tractors 7130, 7230, 7330, 7430 and 7530	{no reference}	{no reference}	None	350	N/A	No	Yes	2012	Yes
77	Tractor	7230	2008	2012	OMAL171429 ISSUE A2	Premium Tractors 7130, 7230, 7330, 7430 and 7530	{no reference}	{no reference}	None	350	N/A	No	Yes	2012	Yes
78	Tractor	7330	2008	2012	OMAL171429 ISSUE A2	Premium Tractors 7130, 7230, 7330, 7430 and 7530	{no reference}	{no reference}	None	350	N/A	No	Yes	2012	Yes
79	Tractor	6120L	2008	2008	OMAL162071 Issue G5	6120, 6120L, 6220, 6220L, 6320, 6320L, 6420, 6420L and 6520L Tractors	{no reference}	{no reference}	None	358	N/A	No	Yes	2005	Yes
80	Combine	T670	2009	2021	OMZ105768 Issue A9	Combines T670	{no reference}	{no reference}	None	336	N/A	No	Yes	2008	Yes
81	Tractor	6330	2009	2011	OMAL171426 ISSUE A2	Premium Tractors 6230, 6330 and 6430	{no reference}	{no reference}	None	299	N/A	No	Yes	2013	Yes
82	Tractor	7630	2009	2012	OMRE325992 ISSUE C1	7630, 7730, 7830 and 7930 Tractors	{no reference}	{no reference}	None	444	N/A	No	Yes	2011	Yes
83	Tractor	3032E	2009	2021	OMLVU31846 ISSUE H6	3025E, 3032E, and 3038E	{no reference}	{no reference}	87	144	60%	No	Yes	2016	Yes
84	Tractor	3038E	2009	2021	OMLVU31846 ISSUE H6	3025E, 3032E, and 3038E	{no reference}	{no reference}	87	144	60%	No	Yes	2016	Yes
85	Tractor	5045D	2009	2014	OMSJ301049 ISSUE L3	5045D and 5055D Tractors (North America, Mexico and Australia) (December 2013)	WJDXLO2.9018	3029TF180	None	204	N/A	No	Yes	2013	Yes
86	Tractor	5045E	2009	2021	OMSJ42016 ISSUE E1	5045E, 5055E, 5065E and 5075E FT4 (MY18-) Tractors	MJDXL09,0319	6090HFA03	None	330	N/A	No	Yes	2021	Yes
87	Tractor	5055D	2009	2014	OMSJ301049 ISSUE L4	5045D and 5055D Tractors (North America, Mexico and Australia) (December 2013)	WJDXLO2.9018	3029TF180	None	205	N/A	No	Yes	2014	Yes
88	Tractor	5055E	2009	2021	OMSJ42016 ISSUE E1	5045E, 5055E, 5065E and 5075E FT4 (MY18-) Tractors	MJDXL09,0320	6090HFA03	None	330	N/A	No	Yes	2021	Yes
89	Tractor	5065E	2009	2021	OMSJ42016 ISSUE E1	5045E, 5055E, 5065E and 5075E FT4 (MY18-) Tractors	MJDXL09,0321	6090HFA03	None	330	N/A	No	Yes	2021	Yes
90	Tractor	5065M	2009	2012	OMSJ10032 ISSUE I0	5065M and 5075M (IT4), 5085M, 5095M, 5095MH, 5105M and 5105ML (Tier 3) Tractors	{no reference}	{no reference}	None	202	N/A	No	Yes	2020	No
91	Tractor	5075E	2009	2021	OMSJ42016 ISSUE E1	5045E, 5055E, 5065E and 5075E FT4 (MY18-) Tractors	MJDXL09,0322	6090HFA03	None	330	N/A	No	Yes	2021	Yes
92	Tractor	5075M	2009	2021	OMSJ14569 ISSUE H5	5065M and 5075M (IT4)	{no reference}	{no reference}	None	192	N/A	No	Yes	2015	No
93	Tractor	5083E	2009	2012	OMSJ12914 ISSUE C4	5083E Limited, 5093E Limited and 5101E Limited (Tier 3) Tractors	{no reference}	{no reference}	None	126	N/A	No	Yes	2011	No
94	Tractor	5085M	2009	2014	OMSU43612 ISSUE H5	5085M, 5100M, 5100MH, 5100ML, 5115M, and 5115ML (FT4) Tractors	EJDXL13.530	613HFC09A	None	362	N/A	No	Yes	2015	No
95	Tractor	5093E	2009	2012	OMSJ12914 ISSUE C4	5083E Limited, 5093E Limited and 5101E Limited (Tier 3) Tractors	{no reference}	{no reference}	None	126	N/A	No	Yes	2011	No
96	Tractor	5095M	2009	2013	OMTR124423 ISSUE H2	5095M, 5105M, 5120M, and 5130M (FT4) Tractors	MJDXL09.0319	6090HFA03	198	320	62%	No	Yes	2022	Yes

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			Inclusive		*Note: There are multiple editions of manuals, most recent listed, North America versions, English editions*				None	130	Avg	75%			
			Start	End			US EPA Cert		Choosing	Total		Choosing	CARB	Year	Referance of
No.	Type	Model ID	Date	Date	Ops Manual ID	Title - First line(s)	Family	Model	Page	Pages	Percent	First Page	Warning	Copyright	ECU Yes/No
97	Tractor	5101E	2009	2013	OMSJ12914 ISSUE C4	5083E Limited, 5093E Limited and 5101E Limited (Tier 3) Tractors	{no reference}	{no reference}	None	126	N/A	No	Yes	2011	No
98	Tractor	5105M	2009	2012	OMTR124423 ISSUE H2	5095M, 5105M, 5120M, and 5130M (FT4) Tractors	MJDXL09.0319	6090HFA03	198	320	62%	No	Yes	2022	Yes
99	Tractor	6100D	2009	2012	OMRE283529 ISSUE K0	6100D, 6110D, 6115D, 6125D, 6130D and 6140D Tractors	{no reference}	{no reference}	None	294	N/A	No	Yes	2010	Yes
100	Tractor	6115D	2009	2015	OMSU38638 ISSUE H4	6105D, 6115D, 6130D and 6140D Interim Tier IV Tractors,	{no reference}	{no reference}	None	300	N/A	No	Yes	2013	Yes
101	Tractor	6130D	2009	2015	OMSU38638 ISSUE H4	6105D, 6115D, 6130D and 6140D Interim Tier IV Tractors,	{no reference}	{no reference}	None	300	N/A	No	Yes	2014	Yes
102	Tractor	6140D	2009	2015	OMSU38638 ISSUE H4	6105D, 6115D, 6130D and 6140D Interim Tier IV Tractors,	{no reference}	{no reference}	None	300	N/A	No	Yes	2014	Yes
103	Sprayer	4630	2010	2015	OMKK19656 ISSUE C4	4630 Self-Propelled Sprayer	{no reference}	{no reference}	None	454	N/A	No	Yes	2014	Yes
104	Tractor	8245R	2010	2010	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
105	Tractor	8270R	2010	2010	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
106	Tractor	8295R	2010	2010	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
107	Tractor	8295RT	2010	2010	OMAR276060 ISSUE C1	8295RT, 8320RT and 8345RT Tractors	{no reference}	{no reference}	None	396	N/A	No	Yes	2011	Yes
108	Tractor	8320R	2010	2010	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
109	Tractor	8320RT	2010	2010	OMAR276060 ISSUE C1	8295RT, 8320RT and 8345RT Tractors	{no reference}	{no reference}	None	396	N/A	No	Yes	2011	Yes
110	Tractor	8345R	2010	2010	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
111	Tractor	8345RT	2010	2010	OMAR276060 ISSUE C1	8295RT, 8320RT and 8345RT Tractors	{no reference}	{no reference}	None	396	N/A	No	Yes	2011	Yes
112	Tractor	1023E	2011	2021	OMLVU24604	Compact Utility Tractors 1023E, 1026R	Yanmar B	Yanmar D	None	84	N/A	No	Yes	2011	Yes
113	Tractor	7215R	2011	2013	OMRE560402 ISSUE B3	7200R, 7215R, 7230R, 7260R and 7280R Tractors	{no reference}	{no reference}	None	602	N/A	No	Yes	2013	Yes
114	Tractor	7230R	2011	2020	OMRE560402 ISSUE B3	7200R, 7215R, 7230R, 7260R, and 7280R	{no reference}	{no reference}	None	602	N/A	No	Yes	2013	Yes
115	Tractor	8235R	2011	2014	OMRE564172 ISSUE B3	8235R, 8260R, 8285R, 8310R, 8335R and 8360R Tractors	{no reference}	{no reference}	None	522	N/A	No	Yes	2013	Yes
116	Tractor	8260R	2011	2014	OMRE564172 ISSUE B3	8235R, 8260R, 8285R, 8310R, 8335R and 8360R Tractors	{no reference}	{no reference}	None	522	N/A	No	Yes	2013	Yes
117	Tractor	8310R	2011	2014	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
118	Tractor	8310RT	2011	2014	OMRE560341 ISSUE A3	8310RT, 8335RT and 8360RT Tractors	{no reference}	{no reference}	None	434	N/A	No	Yes	2013	Yes
119	Tractor	8335R	2011	2014	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
120	Tractor	8335RT	2011	2014	OMRE560341 ISSUE A3	8310RT, 8335RT and 8360RT Tractors	{no reference}	{no reference}	None	434	N/A	No	Yes	2013	Yes
121	Tractor	8360R	2011	2014	OMRE564172 ISSUE B3	8235R, 8260R, 8285R, 8310R, 8335R and 8360R Tractors	{no reference}	{no reference}	None	522	N/A	No	Yes	2013	Yes
122	Tractor	8360RT	2011	2014	OMRE560341 ISSUE A3	8310RT, 8335RT and 8360RT Tractors	{no reference}	{no reference}	None	434	N/A	No	Yes	2013	Yes
123	Combine	S660	2012	2017	OMHXE75764 (G4)	S650, S660, S670, S680 and S690 Combines	{no reference}	{no reference}	None	802	N/A	No	Yes	2014	Yes
124	Combine	S670	2012	2017	OMHXE75764 (G4)	S650, S660, S670, S680 and S690 Combines	{no reference}	{no reference}	None	802	N/A	No	Yes	2014	Yes
125	Combine	S680	2012	2017	OMHXE75764 (G4)	S650, S660, S670, S680 and S690 Combines	{no reference}	{no reference}	None	802	N/A	No	Yes	2014	Yes
126	Combine	S690	2012	2017	OMHXE75764 (G4)	S650, S660, S670, S680 and S690 Combines	{no reference}	{no reference}	None	802	N/A	No	Yes	2014	Yes
127	Sprayer	4940	2012	2014	OMKK13308 ISSUE B3	4940 Self-Propelled Sprayer	{no reference}	{no reference}	None	606	N/A	No	Yes	2013	Yes
128	Tractor	5100M	2012	2021	OMSU54598 ISSUE I7	5075M, 5090M, 5100M, 5100MH, 5100ML, 5115M, and 5115ML (FT4) Tractors	EJDXL13,5300	6135HFC09A	242	390	62%	No	Yes	2017	Yes
129	Tractor	6115R	2012	2015	OMAL212532 ISSUE K3	6105R, 6115R and 6125R Tractors	{no reference}	{no reference}	None	492	N/A	No	Yes	2013	Yes
130	Tractor	6125R	2012	2015	OMAL212532 ISSUE K3	6105R, 6115R and 6125R Tractors	{no reference}	{no reference}	None	492	N/A	No	Yes	2013	Yes
131	Tractor	6140R	2012	2015	OMAL211531 ISSUE F4	Tractors 6140R, 6150R, 6150RH, 6170R, 6190R and 6210R	{no reference}	{no reference}	None	554	N/A	No	Yes	2014	Yes
132	Tractor	6170R	2012	2014	OMAL211531 ISSUE F4	Tractors 6140R, 6150R, 6150RH, 6170R, 6190R and 6210R	{no reference}	{no reference}	None	554	N/A	No	Yes	2014	Yes
133	Tractor	6190R	2012	2014	OMAL211531 ISSUE F4	Tractors 6140R, 6150R, 6150RH, 6170R, 6190R and 6210R	{no reference}	{no reference}	None	554	N/A	No	Yes	2014	Yes
134	Tractor	6210R	2012	2014	OMAL211531 ISSUE F4	Tractors 6140R, 6150R, 6150RH, 6170R, 6190R and 6210R	{no reference}	{no reference}	None	554	N/A	No	Yes	2014	Yes
135	Tractor	9360R	2012	2014	OMRE560318 ISSUE B3	9360R, 9410R, 9460R, 9510R and 9560R Tractors	{no reference}	{no reference}	None	518	N/A	No	Yes	2013	Yes
136	Tractor	9410R	2012	2014	OMRE560318 ISSUE B3	9360R, 9410R, 9460R, 9510R and 9560R Tractors	{no reference}	{no reference}	None	518	N/A	No	Yes	2013	Yes
137	Tractor	9460R	2012	2014	OMRE560318 ISSUE B3	9360R, 9410R, 9460R, 9510R and 9560R Tractors	{no reference}	{no reference}	None	518	N/A	No	Yes	2013	Yes
138	Tractor	9460RT	2012	2014	OMRE560321 ISSUE B3	9460RT, 9510RT and 9560RT Scraper Tractors	{no reference}	{no reference}	None	452	N/A	No	Yes	2013	Yes
139	Tractor	9510R	2012	2014	OMRE560318 ISSUE B3	9360R, 9410R, 9460R, 9510R and 9560R Tractors	{no reference}	{no reference}	None	518	N/A	No	Yes	2013	Yes
140	Tractor	9510RT	2012	2014	OMRE560321 ISSUE B3	9460RT, 9510RT and 9560RT Scraper Tractors	{no reference}	{no reference}	None	452	N/A	No	Yes	2013	Yes
141	Tractor	9560R	2012	2014	OMRE560318 ISSUE B3	9360R, 9410R, 9460R, 9510R and 9560R Tractors	{no reference}	{no reference}	None	518	N/A	No	Yes	2013	Yes
142	Tractor	9560RT	2012	2014	OMRE560321 ISSUE B3	9460RT, 9510RT and 9560RT Scraper Tractors	{no reference}	{no reference}	None	452	N/A	No	Yes	2013	Yes
143	Tractor	1025R	2013	2021	OMLVU28480 ISSUE H5	1023E and 1025R Compact Utility Tractos	{no reference}	{no reference}	74	128	58%	No	Yes	2015	No
144	Tractor	2025R	2013	2021	OMLVU28128 ISSUE I5	2025R and 2032R Compact	{no reference}	{no reference}	78	132	59%	No	Yes	2015	No
145	Tractor	2032R	2013	2021	OMLVU28128 ISSUE I5	2025R and 2032R Compact	{no reference}	{no reference}	78	132	59%	No	Yes	2015	No
146	Tractor	5085E	2013	2017	OMSJ14615 ISSUE H5	5085E and 5100E (IT4)	{no reference}	{no reference}	158	256	62%	No	Yes	2015	Yes
147	Tractor	5100E	2013	2021	OMSJ14615 ISSUE H5	5085E and 5100E (IT4)	{no reference}	{no reference}	158	256	62%	No	Yes	2015	Yes
148	Tractor	6105D	2013	2015	OMSU38638 ISSUE H4	6105D, 6115D, 6130D and 6140D Interim Tier IV Tractors,	{no reference}	{no reference}	None	300	N/A	No	Yes	2013	Yes
149	Combine	S650	2014	2017	OMHXE75764 (G4)	S650, S660, S670, S680 and S690 Combines	{no reference}	{no reference}	None	802	N/A	No	Yes	2014	Yes
150	Sprayer	R4030	2014	2021	OMKK41820 ISSUE H8	R4030, R4038, and R4045 Self-Propelled Sprayer/Spreader	EJDXL13,5301	6135HFC09A	658	866	76%	No	Yes	2018	Yes
151	Sprayer	R4038	2014	2021	OMKK41820 ISSUE H8	R4030, R4038, and R4045 Self-Propelled Sprayer/Spreader	EJDXL13,5301	6135HFC09A	658	866	76%	No	Yes	2018	Yes
152	Tractor	6105M	2014	2016	OMAL213158 ISSUE F4	6105M, 6115M, 6125M, and 6140M	{no reference}	{no reference}	None	430	N/A	No	Yes	2014	Yes
153	Tractor	6105R	2014	2015	OMAL212532 ISSUE K3	6105R, 6115R and 6125R Tractors	{no reference}	{no reference}	None	492	N/A	No	Yes	2013	Yes
154	Tractor	6115M	2014	2016	OMAL213158 ISSUE F4	6105M, 6115M, 6125M, and 6140M	{no reference}	{no reference}	None	430	N/A	No	Yes	2014	Yes
155	Tractor	6125M	2014	2016	OMAL213158 ISSUE F4	6105M, 6115M, 6125M, and 6140M	{no reference}	{no reference}	None	430	N/A	No	Yes	2014	Yes
156	Tractor	6140M	2014	2015	OMAL229717 ISSUE J2	Tractors 6130M, 6140M, and 6145M	MJDXL09.0319	6090HFA03	490	688	71%	No	Yes	2022	Yes
157	Tractor	6170M	2014	2015	OMAL213190 ISSUE F4	6150M and 6170M Tractors	{no reference}	{no reference}	None	386	N/A	No	Yes	2013	Yes
158	Tractor	7210R	2014	2020	OMRE592218 ISSUE H8	7R Tractors	EJDXL13.5300	6135HFC09A	521	548	95%	No	Yes	2018	Yes
159	Tractor	7250R	2014	2020	OMRE592218 ISSUE H8	7R Tractors	EJDXL13.5300	6135HFC09A	521	548	95%	No	Yes	2018	Yes
160	Tractor	7270R	2014	2020	OMRE592218 ISSUE H8	7R Tractors	EJDXL13.5300	6135HFC09A	521	548	95%	No	Yes	2018	Yes
161	Tractor	7290R	2014	2020	OMRE592218 ISSUE H8	7R Tractors	EJDXL13.5300	6135HFC09A	521	548	95%	No	Yes	2018	Yes
162	Sprayer	R4045	2015	2021	OMKK41820 ISSUE H8	R4030, R4038, and R4045 Self-Propelled Sprayer/Spreader	EJDXL13,5301	6135HFC09A	658	866	76%	No	Yes	2018	Yes
163	Tractor	6110M	2015	2017	OMAL219620 ISSUE D0	6110M, 6120M, 6130M and 6145M Tractors	EJDXL13.5300	6135HFC09A	610	872	70%	No	Yes	2020	Yes
164	Tractor	6110R	2015	2021	OMAL225932 ISSUE L1	6110R, 6120R and 6130R Tractors	MJDXL09,0319	6090HFA03	574	792	72%	No	Yes	2021	Yes
165	Tractor	6120M	2015	2017	OMAL219620 ISSUE D0	6110M, 6120M, 6130M and 6145M Tractors	EJDXL13.5300	6135HFC09A	610	872	70%	No	Yes	2020	Yes
166	Tractor	6120R	2015	2021	OMAL225932 ISSUE L1	6110R, 6120R and 6130R Tractors	MJDXL09,0319	6090HFA03	574	792	72%	No	Yes	2021	Yes
167	Tractor	6130M	2015	2017	OMAL219620 ISSUE D0	6110M, 6120M, 6130M and 6145M Tractors	EJDXL13.5300	6135HFC09A	610	872	70%	No	Yes	2020	Yes
168	Tractor	6130R	2015	2021	OMAL225932 ISSUE L1	6110R, 6120R and 6130R Tractors	MJDXL09,0319	6090HFA03	574	792	72%	No	Yes	2021	Yes
169	Tractor	6145M	2015	2017	OMAL219620 ISSUE D0	6110M, 6120M, 6130M and 6145M Tractors	EJDXL13.5300	6135HFC09A	610	872	70%	No	Yes	2020	Yes
170	Tractor	6145R	2015	2021	OMAL218252 ISSUE K6	6145R, 6155R, 6155RH, 6175R, 6195R and 6215R Tractors	EJDXL13.5300	6135HFC09A	595	780	76%	No	Yes	2016	Yes
171	Tractor	6155M	2015	2017	OMAL219652 ISSUE D0	6155M, 6175M and 6195M Tractors	EJDXL13.5300	6135HFC09A	483	710	68%	No	Yes	2020	Yes
172	Tractor	6155RH	2015	2021	OMAL218252 ISSUE K6	6145R, 6155R, 6155RH, 6175R, 6195R and 6215R Tractors	EJDXL13.5300	6135HFC09A	595	780	76%	No	Yes	2016	Yes
173	Tractor	6175M	2015	2021	OMAL219652 ISSUE D0	6155M, 6175M and 6195M Tractors	EJDXL13.5300	6135HFC09A	483	710	68%	No	Yes	2020	Yes
174	Tractor	6175R	2015	2021	OMAL218252 ISSUE K6	6145R, 6155R, 6155RH, 6175R, 6195R and 6215R Tractors	EJDXL13.5300	6135HFC09A	595	780	76%	No	Yes	2016	Yes
175	Tractor	6195M	2015	2021	OMAL219652 ISSUE D0	6155M, 6175M and 6195M Tractors	EJDXL13.5300	6135HFC09A	483	710	68%	No	Yes	2020	Yes
176	Tractor	6215R	2015	2021	OMAL218252 ISSUE K6	6145R, 6155R, 6155RH, 6175R, 6195R and 6215R Tractors	EJDXL13.5300	6135HFC09A	595	780	76%	No	Yes	2016	Yes
177	Tractor	8245R	2015	2020	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
178	Tractor	8270R	2015	2020	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
179	Tractor	8295R	2015	2020	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
180	Tractor	8320R	2015	2020	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
181	Tractor	8320RT	2015	2020	OMRE591961 (H8)	8RT Series Tractors (Serial No. 920001-)	EJDXL13.5300	6135HFC09A	381	408	93%	No	Yes	2018	Yes
182	Tractor	8345R	2015	2020	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
183	Tractor	8345RT	2015	2020	OMRE591961 (H8)	8RT Series Tractors (Serial No. 920001-)	EJDXL13.5300	6135HFC09A	381	408	93%	No	Yes	2018	Yes
184	Tractor	8370R	2015	2020	OMRE592061 (H8)	8245R, 8270R, 8295R, 8320R, 8335R, 8345R and 8370R Tractors	EJDXL13.5300	6135HFC09A	504	532	95%	No	Yes	2018	Yes
185	Tractor	8370RT	2015	2020	OMRE591961 (H8)	8RT Series Tractors (Serial No. 920001-)	EJDXL13.5300	6135HFC09A	381	408	93%	No	Yes	2018	Yes
186	Tractor	9370R	2015	2021	OMRE569049 (H5)	9370R, 9420R, 9470R, 9520R, 9570R AND 9620R tractors	EJDXL13.5300	6135HFC09A	542	578	94%	No	Yes	201?	Yes
187	Tractor	9420R	2015	2021	OMRE569049 (H5)	9370R, 9420R, 9470R, 9520R, 9570R AND 9620R tractors	EJDXL13.5300	6135HFC09A	542	578	94%	No	Yes	201?	Yes
188	Tractor	9470R	2015	2021	OMRE569049 (H5)	9370R, 9420R, 9470R, 9520R, 9570R AND 9620R tractors	EJDXL13.5300	6135HFC09A	542	578	94%	No	Yes	201?	Yes
189	Tractor	9470RT	2015	2021	OMRE596897 (H0)	9RT Tractors (Serial No. 921001-)	EJDXL13.5301	6135HFC09A	366	404	91%	No	Yes	2020	Yes
190	Tractor	9520R	2015	2021	OMRE569049 (H5)	9370R, 9420R, 9470R, 9520R, 9570R AND 9620R tractors	EJDXL13.5300	6135HFC09A	542	578	94%	No	Yes	201?	Yes
191	Tractor	9520RT	2015	2021	OMRE596897 (H0)	9RT Tractors (Serial No. 921001-)	EJDXL13.5301	6135HFC09A	366	404	91%	No	Yes	2020	Yes
192	Tractor	9570R	2015	2021	OMRE569049 (H5)	9370R, 9420R, 9470R, 9520R, 9570R AND 9620R tractors	EJDXL13.5300	6135HFC09A	542	578	94%	No	Yes	201?	Yes

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			Inclusive		*Note: There are multiple editions of manuals, most recent listed, North America versions, English editions*				None	130	Avg		75%			
			Start	End			US EPA Cert		Choosing	Total		Choosing	CARB	Year	Referance of
No.	Type	Model ID	Date	Date	Ops Manual ID	Title - First line(s)	Family	Model	Page	Pages	Percent	First Page	Warning	Copyright	ECU Yes/No
193	Tractor	9570RT	2015	2021	OMRE596897 (H0)	9RT Tractors (Serial No. 921001-)	EJDXL13.5301	6135HFC09A	366	404	91%	No	Yes	2020	Yes
194	Tractor	9620R	2015	2021	OMRE569049 (H5)	9370R, 9420R, 9470R, 9520R, 9570R AND 9620R tractors	EJDXL13.5300	6135HFC09A	542	578	94%	No	Yes	2017	Yes
195	Sprayer	R4023	2016	2021	OMKK32686 ISSUE F6	R4023 Self-Propelled Sprayer	EJDXL13.5300	6135HFC09A	362	548	66%	No	Yes	2016	Yes
196	Tractor	6155R	2016	2021	OMAL218252 ISSUE K6	6145R, 6155R, 6155RH, 6175R, 6195R and 6215R Tractors	EJDXL13.5300	6135HFC09A	595	780	76%	No	Yes	2016	Yes
197	Tractor	6195R	2016	2021	OMAL218252 ISSUE K6	6145R, 6155R, 6155RH, 6175R, 6195R and 6215R Tractors	EJDXL13.5300	6135HFC09A	595	780	76%	No	Yes	2016	Yes
198	Tractor	7310R	2016	2020	OMRE592218 ISSUE H8	7R Tractors	EJDXL13.5300	6135HFC09A	521	548	95%	No	Yes	2018	Yes
199	Tractor	9470RX	2016	2021	OMRE596861 (H0)	9RX Tractors (Serial No. 811001-)	EJDXL13.5300	6135HFC09A	362	400	91%	No	Yes	2020	Yes
200	Tractor	9520RX	2016	2021	OMRE596861 (H0)	9RX Tractors (Serial No. 811001-)	EJDXL13.5300	6135HFC09A	362	400	91%	No	Yes	2020	Yes
201	Tractor	9570RX	2016	2021	OMRE596861 (H0)	9RX Tractors (Serial No. 811001-)	EJDXL13.5300	6135HFC09A	362	400	91%	No	Yes	2020	Yes
202	Tractor	9620RX	2016	2021	OMRE584633	9RX Tractors (Serial No. 800000-)	EJDXL13.5300	6135HFC09A	495	532	93%	No	Yes	2016	Yes
203	Tractor	2038R	2017	2021	OMLVU31185 ISSUE H8	2032R and 2038R	{no reference}	{no reference}	92	160	58%	No	Yes	2018	Yes
204	Tractor	3025E	2017	2021	OMLVU31846 ISSUE H6	3025E, 3032E, and 3038E	{no reference}	{no reference}	87	144	60%	No	Yes	2016	Yes
205	Tractor	3033R	2017	2021	OMLVU29135 ISSUE E4	3033R, 3039R and 3046R	{no reference}	{no reference}	116	180	64%	No	Yes	2014	Yes
206	Tractor	3039R	2017	2021	OMLVU29135 ISSUE E4	3033R, 3039R and 3046R	{no reference}	{no reference}	116	180	64%	No	Yes	2015	Yes
207	Tractor	3046R	2017	2021	OMLVU29135 ISSUE E4	3033R, 3039R and 3046R	{no reference}	{no reference}	116	180	64%	No	Yes	2016	Yes
208	Tractor	4044M	2017	2021	OMLVU32267 ISSUE H6	4044M, 4044R, 4052M, 4052R, 4066M, and 4066R	{no reference}	{no reference}	144	218	66%	No	Yes	2016	Yes
209	Tractor	4044R	2017	2021	OMLVU32267 ISSUE H6	4044M, 4044R, 4052M, 4052R, 4066M, and 4066R	{no reference}	{no reference}	144	218	66%	No	Yes	2016	Yes
210	Tractor	4052M	2017	2021	OMLVU32267 ISSUE H6	4044M, 4044R, 4052M, 4052R, 4066M, and 4066R	{no reference}	{no reference}	144	218	66%	No	Yes	2016	Yes
211	Tractor	4052R	2017	2021	OMLVU32267 ISSUE H6	4044M, 4044R, 4052M, 4052R, 4066M, and 4066R	{no reference}	{no reference}	144	218	66%	No	Yes	2016	Yes
212	Tractor	4066M	2017	2021	OMLVU32267 ISSUE H6	4044M, 4044R, 4052M, 4052R, 4066M, and 4066R	{no reference}	{no reference}	144	218	66%	No	Yes	2016	Yes
213	Tractor	4066R	2017	2021	OMLVU32267 ISSUE H6	4044M, 4044R, 4052M, 4052R, 4066M, and 4066R	{no reference}	{no reference}	144	218	66%	No	Yes	2016	Yes
214	Tractor	5075GN	2017	2021	OMER444695 ISSUE B9	5075GV, 5090GV, 5075GN, 5090GN, 5100GN, and 5075GL Tractors	EJDXL13.5300	6135HFC09A	None	332	N/A	No	Yes	2019	Yes
215	Tractor	5075GV	2017	2021	OMER444695 ISSUE B9	5075GV, 5090GV, 5075GN, 5090GN, 5100GN, and 5075GL Tractors	EJDXL13.5301	6135HFC09A	None	332	N/A	No	Yes	2019	Yes
216	Tractor	5090GN	2017	2021	OMER444695 ISSUE B9	5075GV, 5090GV, 5075GN, 5090GN, 5100GN, and 5075GL Tractors	EJDXL13.5302	6135HFC09A	None	332	N/A	No	Yes	2019	Yes
217	Tractor	5090GV	2017	2021	OMER444695 ISSUE B9	5075GV, 5090GV, 5075GN, 5090GN, 5100GN, and 5075GL Tractors	EJDXL13.5303	6135HFC09A	None	332	N/A	No	Yes	2019	Yes
218	Tractor	5090M	2017	2021	OMSU54598 ISSUE I7	5075M, 5090M, 5100M, 5100MH, 5100ML, 5115M, and 5115ML (FT4) Tractors	EJDXL13.5304	6135HFC09A	242	390	62%	No	Yes	2017	Yes
219	Tractor	5090R	2017	2021	OMSU53451 ISSUE D8	5090R, 5100R, 5115R, and 5125R (FT4)	EJDXL13.5305	6135HFC09A	192	312	62%	No	Yes	2018	Yes
220	Tractor	5100GN	2017	2021	OMER444695 ISSUE B9	5075GV, 5090GV, 5075GN, 5090GN, 5100GN, and 5075GL Tractors	EJDXL13.5306	6135HFC09A	None	332	N/A	No	Yes	2019	Yes
221	Tractor	5100ML	2017	2021	OMSU54598 ISSUE I7	5075M, 5090M, 5100M, 5100MH, 5100ML, 5115M, and 5115ML (FT4) Tractors	EJDXL13.5307	6135HFC09A	242	390	62%	No	Yes	2017	Yes
222	Tractor	5100R	2017	2021	OMSU53451 ISSUE D8	5090R, 5100R, 5115R, and 5125R (FT4)	EJDXL13.5308	6135HFC09A	192	312	62%	No	Yes	2018	Yes
223	Tractor	5115M	2017	2021	OMSU54598 ISSUE I7	5075M, 5090M, 5100M, 5100MH, 5100ML, 5115M, and 5115ML (FT4) Tractors	EJDXL13.5309	6135HFC09A	242	390	62%	No	Yes	2017	Yes
224	Tractor	5115ML	2017	2021	OMSU54598 ISSUE I7	5075M, 5090M, 5100M, 5100MH, 5100ML, 5115M, and 5115ML (FT4) Tractors	EJDXL13.5310	6135HFC09A	242	390	62%	No	Yes	2017	Yes
225	Tractor	5115R	2017	2021	OMSU53451 ISSUE D8	5090R, 5100R, 5115R, and 5125R (FT4)	EJDXL13.5311	6135HFC09A	192	312	62%	No	Yes	2018	Yes
226	Tractor	5125R	2017	2021	OMSU53451 ISSUE D8	5090R, 5100R, 5115R, and 5125R (FT4)	EJDXL13.5312	6135HFC09A	192	312	62%	No	Yes	2018	Yes
227	Tractor	8400R	2017	2020	OMRE591961 (H8)	8RT Series Tractors (Serial No. 920001-)	EJDXL13.5300	6135HFC09A	381	408	93%	No	Yes	2018	Yes
228	Combine	S760	2018	2021	OMDXE11176 (F1)	S760, S770, S780, and S790 Combines	MJDXL09.0319	6090HFA03	604	740	82%	No	Yes	2021	Yes
229	Combine	S770	2018	2021	OMDXE11176 (F1)	S760, S770, S780, and S790 Combines	MJDXL09.0319	6090HFA03	604	740	82%	No	Yes	2021	Yes
231	Combine	S790	2018	2021	OMDXE11176 (F1)	S760, S770, S780, and S790 Combines	MJDXL09.0319	6090HFA03	604	740	82%	No		2021	Yes
232	Sprayer	DTS10	2018	2020	{UNAVAILABLE}	"Error downloading content file"	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
233	Sprayer	STS10	2018	2020	{UNAVAILABLE}	Technical Manual - All inclusive	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)	(N/A)
234	Sprayer	STS12	2018	2020	OMKK90551	STS12, STS16, STS20 Self-Propelled	MJDXL09.0319	6090HFA03	383	560	68%	No	Yes	2021	Yes
235	Sprayer	STS14	2018	2020	OMKK90551	STS12, STS16, STS20 Self-Propelled	MJDXL09.0319	6090HFA03	383	560	68%	No	Yes	2021	Yes
236	Sprayer	STS16	2018	2020	OMKK90551	STS12, STS16, STS20 Self-Propelled	MJDXL09.0319	6090HFA03	383	560	68%	No	Yes	2021	Yes
237	Tractor	5090EL	2018	2021	OMSU54538 ISSUE C1	5090E, 5090EL, and 5100E (FT4) Tractors	MJDXL09.0320	6090HFA03	169	300	56%	No	Yes	2021	Yes
238	Tractor	5100MH	2018	2019	OMSU54598 ISSUE I7	5075M, 5090M, 5100M, 5100MH, 5100ML, 5115M, and 5115ML (FT4) Tractors	EJDXL13.5300	6135HFC09A	242	390	62%	No	Yes	2017	Yes
239	Tractor	9420RX	2018	2021	OMRE596861 (H0)	9RX Tractors (Serial No. 811001-)	EJDXL13.5300	6135HFC09A	362	400	91%	No	Yes	2020	Yes
240	Sprayer	R4044	2019	2021	OMKK51056 ISSUE H8	R4030, R4038, R4044, and R4045 Self-Propelled Sprayer/Spreader	JJDXL09.0308	6090C1550A	477	652	73%	No	Yes	2018	Yes
241	Tractor	5090E	2019	2021	OMSU54538 ISSUE C1	5090E, 5090EL, and 5100E (FT4) Tractors	MJDXL09.0320	6090HFA03	169	300	56%	No	Yes	2021	Yes
242	Tractor	6135E	2019	2019	OMSU65872 ISSUE C2	6105E, 6120E, 6120EH and 6135E Final Tier IV Tractors	FJDXL04.5305	4045HP073	170	288	59%	No	Yes	2022	Yes
243	Tractor	3025D	2020	2021	OMSJ32078 ISSUE A1	3025D, 3035D and 3043D Tractors,	{no reference}	{no reference}	None	176	N/A	No	Yes	2021	Yes
244	Tractor	3035D	2020	2021	OMSJ32078 ISSUE A1	3025D, 3035D and 3043D Tractors,	{no reference}	{no reference}	None	176	N/A	No	Yes	2021	Yes
245	Tractor	6230R	2020	2021	OMAL228760 ISSUE L1	6230R and 6250R	MJDXL09.0320	6090HFA03	407	588	69%	No	Yes	2021	Yes
246	Tractor	6250R	2020	2021	OMAL228760 ISSUE L1	6230R and 6250R	MJDXL09.0320	6090HFA03	407	588	69%	No	Yes	2021	Yes
247	Tractor	7R210	2020	2021	OMTA22619 ISSUE G1	7R Tractors	MJDXL09.0320	6090HFA03	451	476	95%	No	Yes	2021	Yes
248	Tractor	7R230	2020	2021	OMTA17289 ISSUE H0	7R 210, 7R 230, 7R 250, 7R 270, 7R 290, 7R 310, 7R 330	JJDXL09.0308	6090C1550A	453	476	95%	No	Yes	2020	Yes
249	Tractor	7R250	2020	2021	OMTA17289 ISSUE H0	7R 210, 7R 230, 7R 250, 7R 270, 7R 290, 7R 310, 7R 330	JJDXL09.0308	6090C1550A	453	476	95%	No	Yes	2020	Yes
250	Tractor	7R270	2020	2021	OMTA17289 ISSUE H0	7R 210, 7R 230, 7R 250, 7R 270, 7R 290, 7R 310, 7R 330	JJDXL09.0308	6090C1550A	453	476	95%	No	Yes	2020	Yes
251	Tractor	7R290	2020	2021	OMTA17289 ISSUE H0	7R 210, 7R 230, 7R 250, 7R 270, 7R 290, 7R 310, 7R 330	JJDXL09.0308	6090C1550A	453	476	95%	No	Yes	2020	Yes
252	Tractor	7R310	2020	2021	OMTA17289 ISSUE H0	7R 210, 7R 230, 7R 250, 7R 270, 7R 290, 7R 310, 7R 330	JJDXL09.0308	6090C1550A	453	476	95%	No	Yes	2020	Yes
253	Tractor	7R330	2020	2021	OMTA17289 ISSUE H0	7R 210, 7R 230, 7R 250, 7R 270, 7R 290, 7R 310, 7R 330	JJDXL09.0308	6090C1550A	453	476	95%	No	Yes	2020	Yes
254	Tractor	8R230	2020	2021	OMRE593195 (J1)	8R Tractors (Serial No. 200001-)	MJDXL09.0319	6090HFA03	475	500	95%	No	Yes	2021	Yes
255	Tractor	8R250	2020	2021	OMRE593195 (J1)	8R Tractors (Serial No. 200001-)	MJDXL09.0319	6090HFA03	475	500	95%	No	Yes	2021	Yes
256	Tractor	8R280	2020	2021	OMRE593195 (J1)	8R Tractors (Serial No. 200001-)	MJDXL09.0319	6090HFA03	475	500	95%	No	Yes	2021	Yes
257	Tractor	8R310	2020	2021	OMRE593195 (J1)	8R Tractors (Serial No. 200001-)	MJDXL09.0319	6090HFA03	475	500	95%	No	Yes	2021	Yes
258	Tractor	8R340	2020	2021	OMRE593195 (J1)	8R Tractors (Serial No. 200001-)	MJDXL09.0319	6090HFA03	475	500	95%	No	Yes	2021	Yes
259	Tractor	8R370	2020	2021	OMRE593195 (J1)	8R Tractors (Serial No. 200001-)	MJDXL09.0319	6090HFA03	475	500	95%	No	Yes	2021	Yes
260	Tractor	8R410	2020	2021	OMRE593195 (J1)	8R Tractors (Serial No. 200001-)	MJDXL09.0319	6090HFA03	475	500	95%	No	Yes	2021	Yes
261	Tractor	8RT310	2020	2021	OMRE593061 (J1)	8RT Series Tractors (Serial No. 927001-)	MJDXL09.0319	6090HFA03	347	372	93%	No	Yes	2021	Yes
262	Tractor	8RT340	2020	2021	OMRE593061 (J1)	8RT Series Tractors (Serial No. 927001-)	MJDXL09.0319	6090HFA03	347	372	93%	No	Yes	2021	Yes
263	Tractor	8RT370	2020	2021	OMRE593061 (J1)	8RT Series Tractors (Serial No. 927001-)	MJDXL09.0319	6090HFA03	347	372	93%	No	Yes	2021	Yes
264	Tractor	8RT410	2020	2021	OMRE593061 (J1)	8RT Series Tractors (Serial No. 927001-)	MJDXL09.0319	6090HFA03	347	372	93%	No	Yes	2021	Yes
265	Tractor	8RX310	2020	2021	OMRE593193 (J1)	8RX Tractors (Serial No. 804001-)	MJDXL09.0319	6090HFA03	372	396	94%	No	Yes	2021	Yes
266	Tractor	8RX340	2020	2021	OMRE593193 (J1)	8RX Tractors (Serial No. 804001-)	MJDXL09.0319	6090HFA03	372	396	94%	No	Yes	2021	Yes
267	Tractor	8RX370	2020	2021	OMRE593193 (J1)	8RX Tractors (Serial No. 804001-)	MJDXL09.0319	6090HFA03	372	396	94%	No	Yes	2021	Yes
268	Tractor	8RX410	2020	2021	OMRE593193 (J1)	8RX Tractors (Serial No. 804001-)	MJDXL09.0319	6090HFA03	372	396	94%	No	Yes	2021	Yes
269	Combine	X91000	2021	2021	OMHXE162878 ISSUE L0	X9 1000 and X9 1100 Combines	EJDXL13.5300	6135HFC09A	512	616	83%	No	Yes	2020	Yes
270	Combine	X91100	2021	2021	OMHXE162878 ISSUE L0	X9 1000 and X9 1100 Combines	EJDXL13.5301	6135HFC09A	512	616	83%	No	Yes	2020	Yes
271	Tractor	5075GL	2021	2021	OMER444695 ISSUE B9	5075GV, 5090GV, 5075GN, 5090GN, 5100GN, and 5075GL Tractors	EJDXL13.5302	6135HFC09A	None	332	N/A	No	Yes	2019	Yes
272	Tractor	5125ML	2021	2021	OMSU55509 ISSUE F0	5100ML, 5115ML, and 5125ML	EJDXL13.5303	6135HFC09A	161	280	58%	No	Yes	2020	Yes
273	Tractor	7R 350	2021	2021	OMTA28704 ISSUE G2	7R Tractors	MJXL09.0319	60HFA03	438	460	95%	No	Yes	2022	Yes
274	Tractor	9R390	2021	2021	OMTR118884	9RT Tractors (Serial No. 925011-)	MJDXL09.0319	6090HFA03	332	356	93%	No	Yes	2021	Yes
275	Tractor	9R440	2021	2021	OMTR118884	9RT Tractors (Serial No. 925011-)	MJDXL09.0319	6090HFA03	332	356	93%	No	Yes	2021	Yes
276	Tractor	9R440	2021	2021	OMTR118884	9RT Tractors (Serial No. 925011-)	MJDXL09.0319	6090HFA03	332	356	93%	No	Yes	2021	Yes
277	Tractor	9RT470	2021	2021	OMTR118884	9RT Tractors (Serial No. 925011-)	MJDXL09.0319	6090HFA03	332	356	93%	No	Yes	2021	Yes
278	Tractor	9RT520	2021	2021	OMTR118884	9RT Tractors (Serial No. 925011-)	MJDXL09.0319	6090HFA03	332	356	93%	No	Yes	2021	Yes
279	Tractor	9RT570	2021	2021	OMTR118884	9RT Tractors (Serial No. 925011-)	MJDXL09.0319	6090HFA03	332	356	93%	No	Yes	2021	Yes

Skill, Upskill, and Reskill: Analyzing New Investments in Workforce Development

Statement of Diane Benck, General Operations Manager and Owner, West Side Tractor Sales Co.

On Behalf of Associated Equipment Distributors before the U.S. House of Representatives Small Business Committee's Innovation, Entrepreneurship and Workforce Development Subcommittee

March 31, 2022

Chairman Crow, Ranking Member Kim, and other distinguished members of this subcommittee, it is my pleasure to appear before you today both as an owner and executive of a construction equipment dealership directly impacted by the skilled workforce shortage and on behalf of Associated Equipment Distributors (AED).

I am the General Operations Manager and co-Owner of West Side Tractor Sales Co., a Lisle, Ill.-based company. West Side Tractor's story is truly one that could only happen in the United States of America. My parents established the company in 1962 with three employees and a pick-up truck full of parts. In 1987, my two brothers and I took over operations of West Side Tractor, and today with the third generation of family directly involved in the business, we employ 325 workers at 11 locations servicing Northern Illinois, Southern Michigan and Indiana. We are the authorized John Deere construction and forestry distributor for this territory.

I am currently a member of the Board of Directors for The AED Foundation. I also served as the first Chairwoman of AED in 2018, the association's top volunteer leadership position.

AED is the international trade association representing companies that sell, rent, service and manufacture construction, forestry, agriculture, energy, mining, material handling and industrial equipment and related supplies. Established in 1919, our nearly 800 members, including more than 440 equipment dealerships, generate $60 billion in revenue annually, employ 125,000 workers and operate more than 5,300 locations across North America. Most AED members are small, family-owned, multigenerational companies.

The AED Foundation (AEDF) is dedicated to addressing the equipment industry's workforce challenges by accrediting heavy equipment maintenance and technology programs, promoting careers at equipment dealerships and commissioning research reports to advance the importance of workforce development to policymakers, educators, the media, and other stakeholders.

I appreciate the opportunity to come before the subcommittee to discuss:

1) The impact of the shortage of skilled workers on the equipment industry and my company;
2) What AED and The AED Foundation are doing to close the industry's skills gap; and
3) Recommendations to address the workforce shortage.

The Impact of the Skilled Workforce Shortage

Operating a capital-intensive small business comes with many challenges, including dealing with inflation, supply chain issues and an everchanging tax and regulatory environment. However, the one consistent

obstacle, that has impacted every equipment dealer for decades, is the lack of skilled workers, particularly service technicians.

In 2016, the AED Foundation released a study by public policy researchers at the College of William & Mary quantifying the economic impact of the technician shortage. The report included a comprehensive AED member survey to gather industry-specific data, which found the technician shortage is costing AED members approximately $2.4 billion per year in lost revenue and economic opportunity. More than 50 percent of AED members said the skills gap had hindered dealership growth and increased costs and inefficiencies. But the technician shortage isn't just a problem for dealers, it's also a problem for all the economic sectors AED members serve: Almost 75 percent of survey respondents said the technician shortage made it difficult to meet customer demand.

Unfortunately, since the 2016 study, all indications are that the shortage has only gotten worse. A similar study by the College of William & Mary released in 2020, prior to the COVID-19 pandemic, found during the subsequent five years, AED members would need to fill 73,500 equipment technician vacancies.

The research reports affirmed what those of us in the equipment industry live with every day: The lack of qualified workers is costing our businesses revenue, which could be used to further expand and invest, and its causing inefficiencies for our customers, as equipment oftentimes can't be repaired or maintained as expeditiously as demanded.

A typical service technician at an equipment dealership can easily make six figures, depending on experience and location. At West Side Tractor, our Illinois-based apprentices start more than $22 an hour and quickly escalate to $45 within four years, not including comprehensive benefits and other incentives. At West Side Tractor, we could easily increase our technician workforce by 20 percent, if we could find qualified workers.

Most service technicians attend a two-year technical college degree program that focuses on heavy equipment technology. Traditionally, the occupation was stereotyped "dirty". However, with recent innovations, today's heavy equipment is on the cutting edge of technology, requiring technicians to work with computers to diagnose and fix problems. In fact, when you include technical education with our manufacturer-mandated and in-house training, a typical service technician logs similar classroom hours to someone with a baccalaureate degree from a university.

AED and the AED Foundation's Activities

There's no one-sized-fits all approach to tackling the equipment industry's workforce challenges. However, AED, primarily through The AED Foundation, is undertaking an ambitious initiative to create a strong and robust pipeline of skilled workers.

By 2025, the AED Foundation will have 100 accredited heavy equipment service technology programs across the country. These AED Foundation accredited programs are the industry gold-standard that having high-quality degree programs that provide effective and comprehensive instruction in safety/administration, electrical/electronic, hydraulics/hydrostatics, power trains, diesel engines and fuel systems, and heating/air-conditioning. Additionally, the AED Foundation will accredit 150 high school programs. The goal by 2025 is to have an additional 10,000 skilled technicians entering the workforce.

AED and The AED Foundation will also continue its leadership role in informing educators, students, parents, and the media about the enormous opportunities in the equipment industry. The Infrastructure Investment and Jobs Act (IIJA)/the bipartisan infrastructure law provides long-term investments in

infrastructure that will require construction equipment, and of course, the maintenance and repair of critical machinery. A career in the equipment industry has never looked brighter.

Finally, the AED Foundation will continue to produce research reports to ensure policymakers, the media and the general public understand the negative impact the workforce shortage is having on small, family-owned businesses.

Recommendations to Address the Workforce Shortage

First, and foremost, there remains a stigma in this country about the skilled trades. Parents encourage their children to go to four-year colleges and universities, and teachers and school counselors often reenforce the message. Students end up graduating with enormous debt and skills that don't match what employers demand. AED will continue to deliver the message—the skilled trades are a rewarding and lucrative career.

In Congress, lawmakers should pursue policies that invest in career and technical education programs and incentivize students to pursue vocational education. The Perkins Act is critical to the funding of technical education programs across the nation and developing the career and technical skills of secondary and postsecondary students. Unfortunately, Perkins Act funding hasn't kept pace with the demand or the nation's needs. Congress should consider increasing funding for the Perkins Act to help educate the next generation of skilled workers.

Currently, Federal Pell Grants are not available to postsecondary career and technology education students in short-term certificate programs that provide industry-based credentials and ultimately employment in high-wage, high-skill industry sectors or careers. As a result, many students across the country do not have access to high-quality, short-term career and technical education programs. The bipartisan Jumpstarting Our Businesses by Supporting Students Act (Jobs Act/H.R. 2037) would make high-quality programs that are at least 150 clock hours and eight weeks in length Pell-eligible, opening the door to career and technical education for many more students.

Finally, I think it's important to note that education is inherently a state, regional and local issue. What's good for Illinois isn't necessarily what's best for Colorado or California. Consequently, it's vital that industry work closely with local educators and policymakers to ensure resources are dedicated to educating students for in-demand careers.

Conclusion

The skilled workforce shortage continues to be the equipment industry's greatest challenge. It hinders growth and economic opportunity, creates inefficiencies, and impacts the country's competitiveness. As a nation, it's imperative that we steer the next generation to careers in the skilled trades. There's no one-sized-fits-all approach, but public policy, career and technical education investments, and reversing the mindset that everyone must pursue a bachelor's degree will help close the skills gap and expand the pool of skilled workers to fill in-demand jobs.

John Deere Control of Repairs – a Brief Description

Exhibit 7

By Willie Cade, 27-July-2021, V 5.0

Executive Summary: Given the dramatic transformation of farm equipment from mechanically enabled devices to software defined products manufactures now exclusively control the most essential repairs via a software system of "payloads." A payload file may be required to complete a physical fix. This new paradigm and potential for abuse require legislative intervention to level the playing field and prevent cybersecurity vulnerabilities.

Definitions:

1) **Payloads**: Mandatory software information (electronic file), with unique device characteristics, only created by corporate John Deere (not dealers) and is compulsory to operate the equipment. Some repairs require John Deere to create a new payload for the replacement part after physical placement. Absent this work by John Deere the repair is non-functional. This software file is based on a collection of electronic serial numbers as kept in a proprietary John Deere database, only accessible to current John Deere employees and delivered electronically to dealer technicians. Payloads must be requested electronically via DL-JDSA.
2) **Dealer Level - John Deere Service Advisor - current version 5.2 (DL-JDSA):** A software program written by John Deere and provided only to verified technicians, validated in real time, and currently employed by an authorized John Deere Dealer. The software is a Windows PC tool used on a laptop that enables the technician to test equipment systems and diagnose issues, calibrate parts, and request/deliver new payloads. The computer transfers the file(s) through the equipment via the CANBus.
3) **Customer Level - John Deere Service Advisor - current version 5.2 (CL-JDSA):** A modified version of the DL-JDSA available to equipment owners that only allows for limited issue identification not calibration nor to request/deliver new payloads from corporate John Deere. If a new payload is required to complete the repair, this software is not enabled to deliver the files necessary to complete the fix. Testing capabilities of this software is limited. Current price is between $2,500 to $5,000 annually.
4) **Mechanical Enabled:** Products engineered with mechanical and electro-mechanical controls.
5) **Software Defined:** Products engineered that can be controlled by microprocessors and software.
6) **Calibration:** Tolerance levels for parts controlled by microprocessors and software.
7) **Controllers:** Microprocessors and software in combination that direct actions of the equipment.
8) **Electronic Serial Numbers:** Unique part serial numbers in the form of software digits that are used by controllers, microprocessors, and software.
9) **CANBus:** Low voltage communication and control system within the equipment.
10) **Voltage Controlled:** Actions taken based on feedback voltages.

The Repair Process:

1. Diagnoses
    1. A John Deere Dealer Technician determines the source of the problem. This is done by using DL-JDSA testing procedures. Equipment owners who have CL-JDSA can also diagnose a limited set of issues.
2. Parts replacement
    1. Replacement parts not controlled by the equipment's microprocessors and software can be replaced using traditional methods. ***Estimated to be 50% of all repairs.***
    2. Replacement parts that require calibration can only be incorporated into the equipment using DL-JDSA ***Estimated at 50% of repairs.***
    3. Replacement parts that are controlled by the equipment's microprocessors and software can require a new payload obtained exclusively via DL-JDSA. ***Estimated 15 to 20% of all repairs require this additional step***. These new parts often have electronic serial numbers or are voltage controlled. Additionally, a new payload may be needed if there are slight changes to a replacement part(s) specification(s).
3. Software Modification
    1. Non-controlled parts do not require DL-JDSA software for installation.
    2. Parts requiring calibration can have the unit's software updated by DL-JDSA, but **not** CL-JDSA.
    3. Payloads must be requested using specific replacement part serial numbers and the unit serial number using exclusively DL-JDSA directly from corporate John Deere.

Remove and Install Moisture Sensor Assembly

NOTE: Procedure shown with the ActiveVision™ camera.

1. Turn battery disconnect switch to OFF position.
2. Disconnect connectors (A).

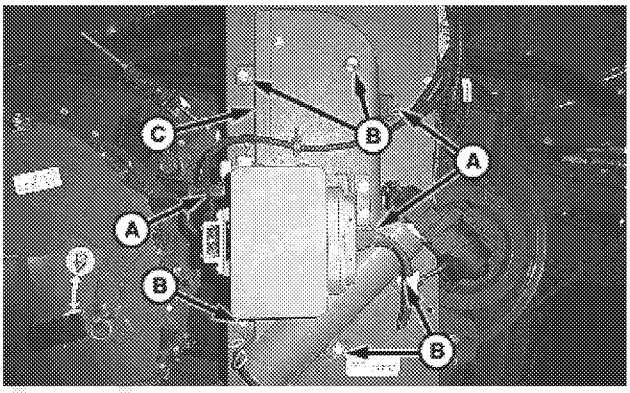
IMPORTANT: Avoid damage to delicate parts from assembly being dropped. Support assembly when removing final cap screw.

3. Remove cap screws (B), and moisture sensor assembly (D).
4. Repair or replace parts as necessary.

IMPORTANT: Avoid an improper seal. All parts and mounting surfaces must be clean of debris.

5. Install moisture sensor assembly (C) using cap screws (B).
6. Connect connectors (A).

ActiveVision is a trademark of Deere & Company



H125436 —UN—05DEC18

A—Connector (3 used)
B—Cap Screw (4 used)
C—Moisture Sensor Assembly

7. Turn battery disconnect switch to ON position.

OUO6083,0001869 -19-05DEC18-1/1

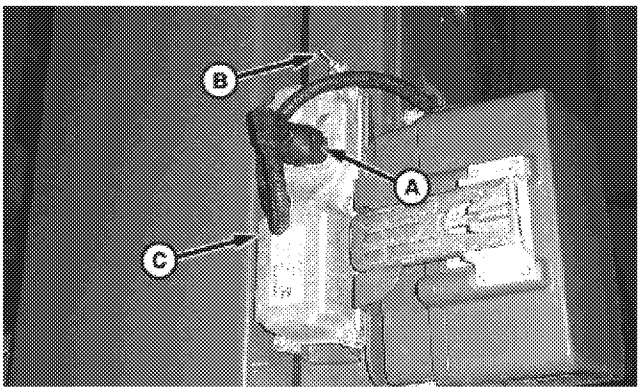
Remove and Install Grain Moisture Sensor

1. Turn battery disconnect switch to OFF position.
2. Disconnect connector (A).
3. Remove wing nut (B).
4. Remove sensor (C) from module.
5. Replace as necessary.

IMPORTANT: Avoid an improper seal. All parts and mounting surfaces must be clean of debris.

6. Install in reverse order and tighten wing nut (B) to specification.

Specification	
Wing Nut—Torque	3 N·m (26 lb·in)



H125435 —UN—04DEC18

A—Connector
B—Wing Nut
C—Grain Moisture Sensor

OUO6083,0001866 -19-04DEC18-1/1

Exhibit 9

Error Code "Dealer Repair" Counts 8530 Tractor Operator's Manual

"Have your John Deere dealer repair as soon as possible."
"have your John Deere dealer repair immediately."
"contact you John Deere dealer"
or "Have your John Deere dealer repair."

Line	Page	Error Codes	Not Dealer	Dealer	Percent	Notes on error code solutions
1	358	49	5	44	90%	
2	359	38	4	34	89%	e.g. "Operator not in seat," "restart"
3	360	13	0	13	100%	
4	361	37	0	37	100%	See your John Deere dealer as this code could effect braking performance.
5	362	44	2	42	95%	Take secondary hand brake off before continuing.
6	363	34	1	33	97%	Fuel Level Low. Check fuel level.
7	364	8	0	8	100%	Alert to Indicate Operator Not Present With Rear PTO On.
8	365	44	0	44	100%	Tempature High, **Solution = ""**
9	366	2	0	2	100%	Tempature High, **Solution = ""**
10	367	42	0	42	100%	
11	368	46	2	44	96%	Engine Speed Derate.
12	369	39	0	39	100%	
13	370	39	1	38	97%	Hook up last used implement and cycle key switch ON and OFF to reset
14	371	11	0	11	100%	HV I Not in Neutral Position, **Solution = ""**
15	372	29	0	29	100%	Warm up hydraulic system., Slow engine., CU Idler Speed Low at Startup
16	373	39	4	35	90%	Park Brake Pressure Low in Come Home Mode. Stop tractor.
17	374	34	2	32	94%	Operator Not Seated/Transmission In Neutral.
18	375	3	0	3	100%	
19	376	40	6	34	85%	Reduce load on engine., Check transmission/hydraulic oil level., PTP Programming.
20	377	10	1	9	90%	PTP Programming.
21	378	30	30	0	0%	SCV Can Controller (SCC) Diagnostic Trouble Codes
22	379	11	11	0	0%	
23	380	31	0	31	100%	
24	381	17	9	8	47%	desired position., "TEC Programming."
25	382	16	1	15	94%	VLC Programming. (full text of "solution")
Total	**25**	**706**	**79**	**627**	**88.8%**	

Exhibit 10

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
GENERAL COUNSEL

July 17, 2015

Jacqueline C. Charlesworth
General Counsel and Associate Register of Copyrights
United States Copyright Office, Library of Congress
101 Independence Avenue, S.E.
Washington, D.C. 20559-6000

Re: Section 1201 Rulemaking (Docket No. 2014-07}
Proposed Exemption for Vehicle Software
U.S. Environmental Protection Agency Views

VIA E-MAIL and FIRST CLASS MAIL

Dear Ms. Charlesworth:

Thank you for your May 12, 2015 letter to Avi S. Garbow, General Counsel of the U.S. Environmental Protection Agency ("Agency" or "EPA"), notifying him about the rulemaking the U.S. Copyright Office is conducting under the Digital Millennium Copyright Act {"DMCA") and inviting the Agency to submit its views. I am responding on behalf of the General Counsel and appreciate the opportunity to convey the Agency's concerns with the possible outcome of this rulemaking.

The DMCA prohibits persons from circumventing "technological protection measures" ("TPMs") that restrict access to copyrighted works. 17 U.S.C. § 1201{a). It also authorizes the Librarian of Congress, upon your office's recommendation, to exempt certain TPMs from this "anti-circumvention" provision to allow uses of the protected works that would not otherwise be copyright infringement. 17 U.S.C. § 1201(c). In this year's rulemaking, the latest in a series of triennial rulemakings your office conducts under section 1201(c)(l), you are considering whether the Librarian should exempt TPMs that control access to computer programs installed in cars, trucks and agricultural machinery. 79 Fed. Reg. 73856-72, Notice of proposed rulemaking (Dec. 12, 2014).

The notice of proposed rulemaking seeks comment on two classes of TPM protected computer programs installed on motor vehicles. The Agency is concerned that exempting those

TPMs from the DMCA's anti-circumvention provision would enable actions that could slow or reverse gains made under the Clean Air Act {"CAA").

Regulations adopted by EPA under sections 202 and 213 of the CAA, 42 U.S.C. §§ 7521 and 7547, are responsible for a significant reduction in harmful emissions from motor vehicles. Computer programs installed on motor vehicles, controlling engine operations and minimizing emissions under a variety of conditions, have been critical to achieving the reduction, now over 90 percent since the passage of the 1990 Clean Air Act amendments. One such computer program, the Electronic Control Module, continuously monitors the vehicle engine and emission control system and dictates, among other things, the engine's fueling and timing strategies for purposes of complying with the CAA and its regulations. TPMs for Electronic Control Modules make it difficult for anyone other than the vehicle manufacturer to obtain access to the software.

The proposed exemptions would allow the owners of personal and commercial vehicles and of agricultural machinery, or persons acting on the owners' behalf, to bypass TPMs restricting access to vehicle software "for purposes of lawful diagnosis and repair, or aftermarket personalization, modification or other improvement" {Proposed Class 21) and "for purposes of researching the security or safety of such vehicles" {Proposed Class 22). 79 Fed. Reg. at 73869. Exemption proponents[1] maintain that the exemptions will allow vehicle owners to "personalize, improve or repair" and to "tinker with"2 their vehicles, farmers to modify the efficiency and functionality of agricultural machinery,3 and researchers to discover programming errors that pose safety risks or make a vehicle vulnerable to remote attackers[4].

The purposes cited by proponents for these two classes of exemptions are reasonable - at least in the abstract – but EPA predicts that the exemptions would allow users to modify that software for purposes other than those the proponents envision. Based on the information EPA has obtained in the context of enforcement activities, the majority of modifications to engine software are being performed to increase power and/or boost fuel economy. These kinds of modifications will often increase emissions from a vehicle engine, which would violate section 203{a) of the CAA, commonly known as the "tampering prohibition".[5]

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[1] In response to the Copyright Office's Notice of Inquiry, 79 Fed. Reg. 55687 (Sept. 17, 2014), the Electronic Frontier Foundation "EFF") and the Intellectual Property & Technology Law Clinic of the University of Southern California ("USC") submitted petitions to exempt vehicle software TPMs.

[2] Petition of EFF [Vehicle Software - Modification and Repair] at 2

[3] Petition of USC [Vehicle Software - Modification] at 3.

[4] Petition of EFF [Vehicle Software - Safety Research] at 4,5.

[5] Under Section 203(a)(3) of the CAA, it is a violation of federal law:

> "for any person to remove or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title prior to its sale and

EPA is also concerned that the exemptions would hinder its ability to enforce the tampering prohibition. Under section 203(a), the Agency has taken enforcement action against third-party vendors who sell or install equipment that can "bypass, defeat, or render inoperative" software designed to enable vehicles to comply with CAA regulations. EPA can curb this practice more effectively if circumventing TPMs remains prohibited under the DMCA.

The Agency also questions whether there is a real need for the exemptions. Car makers are already required to provide access for lawful diagnosis and repair.[6] In EPA's view, whether or not they are designed for this purpose, the TPMs prevent unlawful tampering of important motor vehicle software.

The DMCA lists a number of factors for the Librarian to consider in determining whether to exempt a TPM from the Act's anti-circumvention provision. Those factors appear to have little bearing on whether the Librarian should grant the exemptions for vehicle software TPMs to allow for the uses identified in the December 12th Notice of proposed rulemaking. For example, neither exemption would advance the purposes for which the fair use exception has traditionally applied, 17 U.S.C. § 1201((a)(C)(iii), nor have any effect on the market for the software, 17 U.S.C. § 1201((a)(C)(iv), The exemption would, though, make it easier to enable wrongdoing under another statute, which your office properly views as another "factor that may be appropriate for the Librarian to consider in evaluating this exemption." 79 Fed. Reg. at 73858.

For all of these reasons, EPA urges you not to recommend the exemptions described in Proposed Class 21 and Proposed Class 22. Any benefit in exempting motor vehicle TPMs, allowing lawful owners to make non-infringing uses of the underlying software, is exceeded by the risk that lawful owners could, intentionally or not, modify that software in a way that would increase emissions regulated under the CAA.

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delivery to the ultimate purchaser, or for any person knowingly to remove or render inoperative any such device or element of design after such sale and delivery to the ultimate purchaser; or for any person to manufacture or sell, or offer to sell, or install, any part or component intended for use with, or as part of, any motor vehicle or motor vehicle engine, where a principal effect of the part or component is to bypass, defeat, or render inoperative any device or element of design installed on or in a motor vehicle or motor vehicle engine in compliance with regulations under this title, and where the person knows or should know that such part or component is being offered for sale or installed for such use or put to such use."

42 u.s.c. § 7522(a).

[6] 40 C.F.R. 86.1806-0S(f). See also Memorandum of Understanding and Right to Repair Agreement, a nationwide agreement among automakers, after-market part suppliers, and auto repair businesses to provide necessary access to vehicle software for repair purposes.

We welcome the opportunity to speak directly with your office so we can provide more details regarding EPA's concerns. I will contact you to arrange that meeting with EPA experts on CAA vehicle emissions regulations. In the meantime, if you have any questions, please don't hesitate to contact me.

Sincerely,

Geoff Cooper
Assistant General Counsel
Cooper.geoff@epa.gov
(202) 564-5451

cc: Avi S. Garbow, General Counsel, EPA
John B. Morris, Associate Director and Director of Internet Policy, NTIA
Annette Hebert, California Air Resources Board

Deere & Company
One John Deere Place, Moline, IL 61265 USA
Phone: +1 (309) 765-5161
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E-mail: DaviesToddE@JohnDeere.com

Todd E. Davies
Associate General Counsel & Corporate Secretary
Global Law Services Group

November 9, 2021

VIA EMAIL (shareholderproposals@sec.gov)

Office of Chief Counsel
Division of Corporation Finance
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: *Shareholder Proposal to Deere & Company by The Green Century Funds*

Ladies and Gentlemen:

In our letter, dated October 15, 2021 (the "No-Action Request"), we requested that the Staff of the Division of Corporation Finance of the Securities and Exchange Commission concur with our view that Deere & Company ("Deere") could exclude the shareholder proposal and supporting statement (the "Proposal") submitted by Green Century Funds (the "Proponent") from the proxy materials to be distributed by Deere in connection with its 2022 annual meeting of shareholders.

Attached is a letter, dated November 8, 2021 ("Proponent's Withdrawal Letter"), from the Proponent to Deere withdrawing the Proposal. In reliance on the Proponent's Withdrawal Letter, we hereby withdraw the No-Action Request, and we will exclude the Proposal from our proxy materials.

If you have any question with respect to this matter, please feel free to contact me at (309) 765-5161 or by email at DaviesToddE@JohnDeere.com.

Sincerely,

Todd E. Davies
Corporate Secretary
Deere & Company

Public

CC:

Hilary Stubben
Deere & Company
Email: StubbenHilaryA@JohnDeere.com

Robert M. Hayward, P.C.
Kirkland & Ellis LLP
Email: robert.hayward@kirkland.com

Ana Sempertegui
Kirkland & Ellis LLP
Email: ana.sempertegui@kirkland.com

Andrea Ranger, Shareholder Advocate
Green Century Capital Management, Inc.
Email: aranger@greencentury.com

Enclosures: Letter from the Proponent

Public

November 8, 2021

Todd E. Davies
Corporate Secretary
Deere & Company
One John Deere Place
Moline, Illinois 61265-8098

Re: Shareholder proposal for 2022 Annual Shareholder Meeting

Dear Mr. Davies,

Green Century Capital Management, Inc. is the investment advisor, agent, manager and representative of the Green Century Funds, and we are writing to withdraw our proposal for Deere's annual shareholder meeting in 2022.

Right-to-Repair issues continue to be an area of concern for our firm and the investors we represent. To that end, we look forward to continued dialogue to better understand the Company's position in light of the mounting regulatory, legal, and public pressure surrounding this particular topic.

With kind regards,

Leslie Samuelrich
President
Green Century Capital Management

cc: U.S. Securities and Exchange Commission via email: shareholderproposals@sec.gov

October 15, 2021

VIA EMAIL (shareholderproposals@sec.gov)
Office of Chief Counsel
Division of Corporation Finance
U.S. Securities and Exchange Commission
100 F Street, N.E.
Washington, D.C. 20549

Re: *Shareholder Proposal to Deere & Company by The Green Century Funds*

Ladies and Gentlemen:

This letter is submitted on behalf of Deere & Company, a Delaware corporation (the "Company"), pursuant to Rule 14a-8(j) under the Securities Exchange Act of 1934, as amended (the "Exchange Act"), to notify the Securities and Exchange Commission (the "Commission") of the Company's intention to exclude a shareholder proposal and related supporting statement (the "Proposal") submitted by The Green Century Funds (the "Proponent"), from its proxy materials for its 2022 Annual Meeting of Shareholders (the "2022 Proxy Materials"). The Company received the Proposal on September 7, 2021. For the reasons set forth below, we request confirmation that the Division of Corporation Finance (the "Staff") will not recommend to the Commission that enforcement action be taken if the Company excludes the Proposal from its 2022 Proxy Materials in reliance on the provisions of Rule 14a-8(i)(10) and Rule 14a-8(i)(7) under the Exchange Act, as described below.

In accordance with Staff Legal Bulletin No. 14D (Nov. 7, 2008) ("SLB 14D"), this letter and its attachments are being e-mailed to the Staff at shareholderproposals@sec.gov. As required by Rule 14a-8(j), this letter and its attachments are concurrently being sent to the Proponent as notice of the Company's intent to omit the Proposal from its 2022 Proxy Materials no later than eighty (80) calendar days before the Company currently intends to file its definitive 2022 Proxy Materials with the Commission. Rule 14a-8(k) and SLB 14D provide that shareholder proponents are required to send companies a copy of any correspondence that the proponents elect to submit to the Commission or Staff. Accordingly, we hereby notify the Proponent that if the Proponent elects to submit additional correspondence to the Commission or the Staff in response to this letter, a copy of that correspondence should be concurrently provided to the undersigned on behalf of the Company.

THE PROPOSAL

The Proposal sets forth the following proposed resolution for the vote of the Company's shareholders at the 2022 Annual Meeting of Shareholders:

> Resolved: Shareholders request that the Board issue a report, at reasonable cost and omitting proprietary information, on the emerging state and federal Right to Repair legislation and the Company's explanation of underlying issues giving rise to those policy proposals.

In addition, the supporting statement thereto ("Supporting Statement") states that "[t]he report should, at Board discretion, assess, among other issues:

- The benefits or harms of making all dealership repair materials available to customers and independent mechanics;
- Implications of state and federal Right to Repair laws for the company's finances and operations;
- Reputational risks associated with customer dissatisfaction giving rise to the legislation."

A copy of the Proposal and the Supporting Statement is attached to this letter as Exhibit A.

BASES FOR EXCLUSION

As discussed more fully below, the Company believes it may properly omit the Proposal from its 2022 Proxy Materials pursuant to:

- Rule 14a-8(i)(10) because the Proposal already has been substantially implemented; and
- Rule 14a-8(i)(7) because the Proposal deals with matters relating to the Company's ordinary business operations.

ANALYSIS

I. The Proposal May Be Excluded Under Rule 14a-8(i)(10) Because It Already Has Been Substantially Implemented

The Proposal requests that the Board issue a report that (1) describes "the emerging state and federal Right to Repair legislation," and (2) explains "the underlying issues giving rise to those policy proposals." The objective of the Proposal is to provide investors with insight into the status and motivations behind proposed--but not-yet-enacted--right to repair legislation and the benefits or harms of making all dealership repair materials available to customers and independent mechanics. As explained in more detail below, publicly available sources on the Company's website and other public disclosures contain information sufficient to substantially implement the essential objective of the Proposal.

A. Background on Rule 14a-8(i)(10)

Rule 14a-8(i)(10) permits a company to exclude a shareholder proposal from its proxy materials "[i]f the company has already substantially implemented the proposal." The Commission stated in 1976 that the predecessor to Rule 14a-8(i)(10) was "designed to avoid the possibility of shareholders having to consider matters which already have been favorably acted upon by the management." Exchange Act Release No. 12598 (July 7, 1976). "[A] determination that the [c]ompany has substantially implemented the proposal depends upon whether [the company's] particular policies, practices and procedures compare favorably with the guidelines of the proposal." *Texaco, Inc.* (avail. Mar. 6, 1991, *recon. granted* Mar. 28, 1991). In other words, substantial implementation under Rule 14a-8(i)(10) requires a company's actions to have satisfactorily addressed the proposal's underlying concerns and its essential objective, but it does not require that the concerns and objective be addressed in the exact way, or using the exact means, requested by the shareholder proponent. *See, e.g.*, *PG&E Corporation* (avail. Mar. 10, 2010) (concurring with the exclusion of a proposal seeking a "semiannual report disclosing specific information concerning the company's charitable contributions" where the company's existing disclosures on its website and corporate charitable contributions program substantially implemented the proposal, and the Staff noted that the company's "policies, practices and procedures compare[d] favorably with the guidelines of the proposal"); *see also Wal-Mart Stores, Inc.* (AFL-CIO Reserve Fund et al.) (avail. Mar. 30, 2010) (concurring with the exclusion of a proposal under Rule 14a-8(i)(10) where "Wal-Mart's policies, practices and procedures compare favorably with the guidelines of the proposal and that Wal-Mart has, therefore, substantially implemented the proposal").

As particularly relevant here, the Staff consistently has concurred with the exclusion of shareholder proposals requesting reports where the company has already publicly disclosed the subject matter or contents of the requested report on its website. *See, e.g.*, *Entergy Corp.* (avail. Feb. 14, 2014) (concurring with the exclusion under Rule 14a-8(i)(10) of a proposal calling for a report "on policies the company could adopt to take additional near-term actions to reduce its greenhouse gas emissions" where the company already provided environmental sustainability disclosures on its website and in a separate report).

Moreover, for a proposal to be omitted under this exclusion, the action or event rendering it substantially implemented need not be originated or caused by the company. Commission statements and Staff precedent under Rule 14a-8(i)(10) confirm that the standard for determining whether a proposal has been "substantially implemented" is not dependent on the means by which implementation is achieved. For example, when it initially adopted the predecessor to Rule 14a-8(i)(10), the Commission specifically determined not to require that the substance of a proposal be implemented "by action of management" to support exclusion, acknowledging that "mootness can be caused for reasons other than the actions of management, such as statutory enactments, court decisions, business changes and supervening corporate events." Adoption of Amendments Relating to Proposals by Security Holders, Exchange Act Release No. 34-12999 (Nov. 22, 1976).

B. The Proposal Already Has Been Substantially Implemented Through Prior Statements, Publications, and Disclosures by the Company and/or Third Parties

1. Third Parties Already Report on Proposed State and Federal Right to Repair Legislation and Explanations for the Proposed Legislation

As an initial matter, much of what the Proposal requests, a description of proposed state and federal "right to repair" legislation and an explanation of the underlying issues related to the proposals, are widely available to the public in the form of publications by third parties. For example, organizations such as R2RSolutions[1], The Repair Coalition[2], the Northeast Equipment Dealers Association[3], and U.S. PIRG[4] provide information regarding legislation introduced in various states. Some of these publications also describe the policy justifications offered by the authors and proponents of various proposed right to repair legislation, including the underlying issues giving rise to the proposals. *See, e.g.*, https://www.repair.org/policy and https://uspirg.org/feature/usp/right-repair.

The Staff has noted that a determination that the company has substantially implemented the proposal depends upon whether the method of substantial implementation "compares favorably with the guidelines of the proposal." *See, e.g.*, *Walgreen Co.* (avail. Sept. 26, 2013). The third-party sources noted above are examples of publicly available information that compares favorably with the guidelines of the proposal, and directly address the proposal's underlying concerns and its essential objective. Therefore, an investor desiring information about the status and underlying issues of right to repair initiatives already has access to that information, without the need for any further action from the Company.

2. The Company Already Has Published or Disclosed Its Assessment of Underlying Issues Related to Right to Repair Proposals

The Company also has previously provided its own assessment of underlying issues related to right to repair proposals in statements on its website and in other public disclosures, including the Company's strong commitment to its customers' right to repair their equipment and an explanation of the harms to the Company, its customers, and the public that the Company seeks to avoid by limiting access to its embedded software code. The Company's website newsroom[5] contains information directed to investors, customers, and the general public about the Company's stance regarding ownership and repairability of its products. On that page, the Company explains that "John Deere supports a customer's right to safely maintain, diagnose and repair their own equipment," that to facilitate repair, the Company "provides the tools, parts, information guides, training videos and manuals needed for farmers to work on their machines, including remote access for technicians to provide long-distance help." The Company further explains on that page, however, that it "does not support the right to modify embedded software due to risks associated with the safe operation of the equipment, emissions compliance and engine performance."

1 https://r2rsolutions.org/news/update-tracking-right-repair-legislation-across-50-states/
2 https://www.repair.org/legislation
3 https://www.ne-equip.org/legislative-update/
4 https://uspirg.org/blogs/blog/usp/half-us-states-looking-give-americans-right-repair
5 https://www.deere.com/en/our-company/news-and-announcements/newsroom/right-to-safely-repair/

Further, the Company has a dedicated Repair web page[6] to help its customers "repair [their] own equipment in [their] own shop, and on [their] own time." On this page the Company explains that its equipment is different from a cell phone, that "[its] combines can weigh 15 tons or more and are manufactured with over 18,500 parts" and that "[t]he same software that drives improved productivity, efficiency, and sustainability, also controls important safety and environmental features" which is "why modifying software in [its] equipment is a no-go for [the Company] — and why [its] dealer network, and its highly skilled technicians, provide additional tools and resources when needed."

The page also provides links to a video of "a conversation on right to repair with Julian Sanchez," the Company's Director of Emerging Technology, and an interview with Chief Technology Officer, Jahmy Hindman, regarding the Company's position on right to repair and an assessment of how an unfettered right to modify could affect customer safety, the environment, and regulatory compliance. These interviews are easily accessible by any interested investor. In the interview with Mr. Hindman[7], Mr. Hindman emphasized that the Company "ha[s] and remain[s] committed to enabling customers to repair the products that they buy" and that the "reality is that 98 percent of the repairs that customers want to do on John Deere products today, they can do." Further, he confirmed that the Company "make[s] the service manuals available" and "make[s] the parts available." Mr. Hindman acknowledged two percent of repairs that involve software and used the diesel engine as examples where, if modified, the characteristics of the emissions of the engine, a regulated device, could have a negative consequence of the environmental emissions that the engine produces.

Additionally, in its July 18, 2021 letter to Chair Lina Khan of the Federal Trade Commission ("FTC"), which is publicly available on the FTC website at ftc.gov[8] and is attached hereto as Exhibit B, the Company provided information regarding its assessment of right to repair issues, including:

- That the Company "fully support[s] [its] customers' right to maintain, diagnose, and repair their equipment and avoid unanticipated, unproductive, and costly downtime";

- That "Deere customers and independent service organizations today can acquire service parts, operating and repair manuals, product guides, service demonstrations, fleet management information, on-board diagnostics, and electronic field diagnostic tools from a vast network of over 2000 authorized John Deere dealers";

- That, in the Company's view, the "enormous variety of manufactured consumer and capital goods, their diverse uses and applications, the extent of intellectual property incorporated, the variety of distribution and service models in place, and the range of potential risks

6 https://www.deere.com/en/our-company/news-and-announcements/newsroom/repair/

7 Interview available at: https://www.theverge.com/22533735/john-deere-cto-hindman-decoder-interview-right-to-repair-tractors.

8 Available at: https://www.ftc.gov/system/files/documents/public_events/1591782/july_21_comments_combined.pdf (See pp. 108–110)

associated with use and misuse, all support a deliberate policy approach that accounts for these product-specific considerations";

- That, "[w]hile Deere supports its customers' right to repair their equipment, Deere does not support the right to modify the embedded software code in machines," as "[a]llowing access to embedded software code – the 'right to modify' – would create significant environmental and safety risks to operators and bystanders, through illegal tampering and unauthorized hacking of safety controls, engine performance, and emissions controls required for Clean Air Act ("CAA") compliance";

- That an "unfettered right to modify the embedded software code in equipment would … encourage the unlawful circumvention of long-established copyright and intellectual property protections"; and

- That "access to software for purposes of reprogramming is needed in less than two percent of all repairs" and, because of the continually evolving nature of the technology, "software reprogramming, when required, can increasingly be done remotely," alleviating "the need for an authorized technician to manually perform the reprogramming in person."

These public disclosures address the Proposal's underlying concerns and its essential objectives by providing the Company's own assessment of the underlying issues raised by proposed right to repair legislation, as well as the benefits of providing customers with the tools, knowledge, and assistance needed to conduct their own repairs and the costs of any proposed requirement mandating that the Company open its embedded software code to modification.

The Staff has consistently permitted exclusion of shareholder proposals seeking reports where the company's disclosures contain comparable, albeit not identical, information to that requested by a proponent. For example, in *Exelon Corp.* (avail. Feb. 26, 2010), the Staff concurred with the exclusion under Rule 14a-8(i)(10) of a proposal that requested a report on different aspects of the company's political contributions when the company had already adopted its own set of corporate political contribution guidelines and issued a political contributions report that, together, provided "an up-to-date view of the [c]ompany's policies and procedures with regard to political contributions". Also, in *Wal-Mart Stores, Inc.* (avail. Mar. 30, 2010), the Staff concurred with the company's exclusion of a shareholder proposal where the company's existing Global Sustainability Report, which was available on the company's website, substantially implemented the proposal's request for the company to adopt six principles for national and international action to stop global warming, even though the Global Sustainability Report set forth only four principles. *See also Caterpillar, Inc.* (avail. Mar. 11, 2008) (concurring with the company's exclusion of a shareholder proposal requesting that the company prepare a global warming report where the company had already published a report that contained information relating to its environmental initiatives). Just as in those cases, the Company's publicly available statements, publications, and disclosures together with the third-party sources have directly addressed the Proposal's essential objective, even if it is addressed in a different manner than specified in the Proposal.

II. The Proposal May Be Excluded Under Rule 14a-8(i)(7) Because It Deals With Matters Relating To The Company's Ordinary Business

In addition to being excludable because it has been substantially implemented, the Proposal may be excluded under Rule 14a-8(i)(7) because it deals with matters relating to the Company's ordinary business. The Proposal asks the Board to provide a report on subjects relating to customer and mechanic access to repair materials, which is a clear example of a proposal that may be excluded because it concerns the Company's day-to-day management. Further, the Proposal asks the Board to conduct routine legal analysis of the potential risks posed by proposed, but not-yet-enacted, state and federal legislation, a matter which could not, as a practical matter, be the subject of direct shareholder oversight. In addition, despite the Proponent's attempt to frame the Proposal as related to an issue that has received some media and legislative attention, the subject matter of that issue is the access to repair materials, a matter directly related to the Company's relationship with its customers, which does not transcend the Company's ordinary business operations. Finally, the Proposal seeks to micromanage the Company because it probes too deeply into matters of a complex nature upon which shareholders, as a group, are not in a position to make an informed judgment.

A. Background on Rule 14a-8(i)(7)

Rule 14a-8(i)(7) permits a company to exclude a shareholder proposal if it "deals with a matter relating to the company's ordinary business operations." According to the Commission, the term "ordinary business" refers to matters that are not necessarily "ordinary" in the common meaning of the word; instead, the term "is rooted in the corporate law concept providing management with flexibility in directing certain core matters involving the company's business and operations." Exchange Act Release No. 34-40018 (May 21, 1998) (the "1998 Release"). In the 1998 Release, the Commission stated that the underlying policy of the ordinary business exclusion is "to confine the resolution of ordinary business problems to management and the board of directors, since it is impracticable for shareholders to decide how to solve such problems at an annual shareholders meeting," and identified two central considerations that underlie this policy. The first is that "[c]ertain tasks are so fundamental to management's ability to run a company on a day-to-day basis that they could not, as a practical matter, be subject to direct shareholder oversight." The second consideration is related to "the degree to which the proposal seeks to 'micro-manage' the company by probing too deeply into matters of a complex nature upon which shareholders, as a group, would not be in a position to make an informed judgment." *Id.* (citing Exchange Act Release No. 12999 (Nov. 22, 1976)). The Proposal implicates both of these considerations.

B. The Proposal May Be Excluded Because It Relates to the Company's Customer Relationships and Routine Legal Analysis and Risk Assessment

The Proposal relates to the extent to which the Company makes repair materials available to its customers and independent mechanics servicing customer equipment, a matter squarely implicating the Company's relationships with its customers. The Staff has consistently concurred with the exclusion of shareholder proposals under Rule 14a-8(i)(7), where, as here, they relate to a company's customer relationships. *See, e.g., JPMorgan Chase & Co.* (Feb. 21, 2019) (concurring

with the exclusion of a proposal under Rule 14a-8(i)(7) that requested the company to report on the impact of the company's overdraft policies to its customers); *AT&T Inc.* (Dec. 28, 2016) (concurring with the exclusion of a proposal under Rule 14a-8(i)(7) that requested the company provide free tools to customers to block robocalls); *Ford Motor Co.* (Feb. 13. 2013) (concurring with the exclusion under Rule 14a-8(i)(7) of a proposal that requested removal of dealers that provided poor customer service, noting that "[p]roposals concerning customer relations are generally excludable under rule 14a-8(i)(7)"); *The Coca-Cola Co.* (Jan. 21, 2009, *recon. denied* Apr. 21, 2009) (concurring with the exclusion of a proposal under Rule 14a-8(i)(7) that requested a report on how the company could provide information to customers regarding the company's products, noting that the proposal "relat[ed] to Coca-Cola's ordinary business operations (i.e., marketing and consumer relations)"). Moreover, a shareholder proposal being framed in the form of a request for a report does not change the nature of the proposal. The Commission has long held that a proposal requesting the preparation of a report may be excludable under Rule 14a-8(i)(7) where the subject matter of the report involves the ordinary business of the issuer. *See* Exchange Act Release No. 34-20091 (Aug. 16, 1983).

In addition, the Proposal requests an analysis of the financial, regulatory, legal and reputational risks facing the Company from proposed right to repair legislation. Such routine legal and risk analysis, part of management's day-to-day responsibilities, is not a proper subject for shareholder oversight. For example, in *McDonald's Corp.* (avail. Mar. 22, 2019) ("McDonald's 2019"), the Staff concurred with the exclusion of a proposal asking the company to "disclose the economic risks" it faced from "campaigns targeting the [c]ompany over concerns about cruelty to chickens" because the proposal "focuse[d] primarily on matters relating to the [c]ompany's ordinary business operations." *See also, e.g.*, *FedEx Corp.* (July 14, 2009) (concurring with the exclusion of a proposal under Rule 14a-8(i)(7) seeking a report on compliance with state and federal laws regarding the classification of employees and independent contractors as relating to the company's "ordinary business operations (i.e., general legal compliance program)"); *Amazon.com, Inc.* (Oxfam America, Inc.) (avail. Apr. 3, 2019) (concurring with the exclusion of a proposal under Rule 14a-8(i)(7) urging the company's board of directors to conduct human rights impact assessments for certain food products that the company sells that purportedly present a high risk of adverse human rights impacts); *Exxon Mobil Corp.* (avail. Mar. 6, 2012) (concurring with the exclusion of a proposal under Rule 14a-8(i)(7) requesting the board to prepare a report on "environmental, social, and economic challenges associated with the oil sands," as involving ordinary business matters for an oil company).

The Staff also has repeatedly concurred with the exclusion under Rule 14a-8(i)(7) of shareholder proposals seeking an assessment of the impact of proposed and current government regulation on a company's ordinary business matters. For example, in *General Electric Co.* (avail. Jan. 30, 2007), the proposal requested a report on legislative initiatives affecting the company, including the company's plans to "reduc[e] the impact on the [c]ompany of: unmeritorious litigation (lawsuit/tort reform); unnecessarily burdensome laws and regulations (e.g., Sarbanes-Oxley reform); and taxes on the [c]ompany (i.e., tax reform)." The Staff concurred with the exclusion of the proposal under Rule 14a-8(i)(7) because it involved evaluating the impact of government regulation on the company. *See also Yahoo! Inc.* (avail. Apr. 5, 2007) (concurring with the exclusion of a proposal under Rule 14a-8(i)(7) calling for an evaluation of the impact on the company of expanded government regulation of the Internet).

Similar to the proposals in the cited letters, the Proposal seeks an assessment of risks posed by, and the impact of state and federal legislation on, ordinary business matters; thus, it should be considered excludable.

C. The Proposal Does Not Have a Sufficient Nexus to a Significant Policy Issue that Transcends the Company's Ordinary Business Operations

The Proposal does not have a sufficient nexus to a significant policy issue that transcends the Company's ordinary business operations. Staff Legal Bulletin No. 14E (Oct. 27, 2009) states that "[i]n those cases in which a proposal's underlying subject matter transcends the day-to-day business matters of the company and raises policy issues so significant that it would be appropriate for a shareholder vote, the proposal generally will not be excludable under Rule 14a-8(i)(7) as long as a sufficient nexus exists between the nature of the proposal and the company." The Staff reaffirmed this position in Note 32 of Staff Legal Bulletin No. 14H (Oct. 22, 2015), explaining that "[w]hether the significant policy exception applies depends, in part, on the connection between the significant policy issue and the company's business operations," and later stated in Staff Legal Bulletin No. 14K (Oct. 16, 2019) that it "believe[s] the focus of an argument for exclusion under Rule 14a-8(i)(7) should be on whether the proposal deals with a matter relating to that company's ordinary business operations or raises a policy issue that transcends that company's ordinary business operations."("SLB 14K").

The Staff has made clear that the mere fact that a proposal is framed to invoke issues that, in different contexts, have been found to implicate significant policy issues is not sufficient to render a proposal non-excludable. For example, in *McDonald's 2019*, the Staff concurred with the exclusion of a proposal that referred to the humane treatment of animals but was focused on the economic risks associated with any decreased sales of chicken and the related customer relations efforts. Similarly, in *Walmart Inc.* (avail. Mar. 6, 2020) ("Walmart 2020"), the Staff concurred with the exclusion under Rule 14a-8(i)(7) of a proposal requesting a report "on the use of contractual provisions requiring employees of Walmart to arbitrate employment-related claims" where the proposal's supporting statement raised issues including discrimination, sexual harassment, and wage theft. The company argued that the proposal's invocation of such issues was insufficient to preclude exclusion given the proposal's focus on the company's management of its workforce. *See also Walmart Inc.* (avail. Apr. 8, 2019) ("Walmart 2019") (concurring in the exclusion of a proposal under Rule 14a-8(i)(7) requesting a report evaluating the risk of discrimination that may result from the company's policies and practices for hourly workers taking absences from work for personal or family illness because it related "generally to the [c]ompany's management of its workforce, and [did] not focus on an issue that transcends ordinary business matters"); *JPMorgan Chase & Co.* (avail. Mar. 9, 2015) (concurring with the exclusion of a proposal under Rule 14a-8(i)(7) requesting the company to amend its human rights-related policies "to address the right to take part in one's own government free from retribution" because the proposal related to the company's "policies concerning its employees").

Despite the Proponent's attempt to frame the Proposal as related to an issue that has received some media and legislative attention, the subject matter of that issue is the access to repair materials that agricultural equipment manufacturers, such as the Company, must provide to

customers and independent mechanics, a matter directly related to the Company's relationship with its customers. That does not transcend the Company's ordinary business operations--it *is* the Company's ordinary business operations. As such, this Proposal is even less focused on a significant policy issue than the proposals deemed excludable in *McDonald's 2019*, *Walmart 2020* and *JPMorgan Chase & Co.*, which invoked policy issues --such as the animal welfare, discrimination, and human rights-- that were not entirely rooted in company business choices.

The Staff has found that when a proposal does not have a sufficient nexus to a company's business, the proposal is excludable under Rule 14-8(i)(7) even if it does focus on a significant policy issue. *See, e.g.*, *Viacom Inc.* (December 18, 2015) (concurring in exclusion of a proposal requesting that the company issue a report assessing the company's policy responses to public concerns regarding linkages of food and beverage advertising to impacts on children's health). In Staff Legal Bulletin No. 14J (Oct. 23, 2018) ("SLB 14J"), the Staff provided non-exclusive factors that could be analyzed to determine whether an issue is sufficiently significant in relation to the company. Those factors include, among others, (i) whether the company has already addressed the issue in some manner, including the differences – or the delta – between the proposal's specific request and the actions the company has already taken, and an analysis of whether the delta presents a significant policy issue for the company, and (ii) the extent of shareholder engagement on the issue and the level of shareholder interest expressed through that engagement.

As noted above, the Company is strongly committed to its customers' right to repair the equipment that they have purchased. To that end, the Company has taken extensive steps to make parts, instructions, and additional repair materials available to customers and mechanics and to facilitate independent repairs. The Company's Repair website[9] provides information with multiple options to secure parts for tractors, lawn mowers, agricultural equipment and more, including John Deere genuine parts, remanufactured parts and alternative parts; operator manuals including safety, operating, and service information; technical manuals outlining service and repair information; component technical manuals describing component removal and installation; step-by-step DIY maintenance videos; and information sheets on how to maintain, service or repair equipment. The Company also makes diagnostic codes visible on equipment displays so that customers can see the cause of the issue. As a result, customers can conduct approximately 98% of repairs without the need for licensed dealer assistance. Moreover, the Company already has explained, publicly and in detail, the legal, regulatory, safety, and intellectual property reasons why it does not support a right to modify embedded software. These steps have greatly diminished the significance of the policy issue raised by the Proposal to the Company's business.

D. The Proposal May Be Excluded Under Rule 14a-8(i)(7) Because It Seeks to Micro-Manage the Company

In addition to interfering with management's day-to-day operations, the Proposal seeks to "micro-manage" the Company by "probing too deeply into matters of a complex nature upon which shareholders, as a group, would not be in a position to make an informed judgment." *See* 1998 Release. The 1998 Release states that "[t]his consideration may come into play in a number of circumstances, such as where the proposal involves intricate detail, or seeks to impose specific

[9] Available at: https://www.deere.com/en/our-company/news-and-announcements/newsroom/repair/

time-frames or methods for implementing complex policies." In addition, SLB 14K clarified that in considering arguments for exclusion based on micromanagement, the Staff looks to see "whether the proposal…imposes a specific strategy, method, action, outcome or timeline for addressing an issue, thereby supplanting the judgment of management and the board." Furthermore, the Staff noted that if a proposal "potentially limit[s] the judgment and discretion of the board and management, the proposal may be viewed as micromanaging the company." *Id.*

Here, the Proposal attempts to supplant the judgment of the Board and of management related to its assessment and oversight of financial, operational, "regulatory, legal, and reputational risks" to the Company by requesting that the Board prepare a report that would require a survey of proposed legislation introduced in at least 24 states and in the U.S. Congress, as well as of legislative materials, press reports, and statements from third parties regarding "underlying issues giving rise to" proposed legislation that would impact only 2% of repairs of equipment that customers cannot conduct independently. As noted previously, the Company is strongly committed to its customers' right to repair their equipment, and as a result, customers can conduct approximately 98% of repairs independently. Repairs that cannot be conducted independently involve modification of embedded software, which would create significant environmental and safety risks to operators and bystanders, through illegal tampering and unauthorized hacking of safety controls, engine performance, and emissions controls required for CAA compliance.

In addition, the Proposal concerns matters that cannot be properly evaluated without an extremely complex and interrelated assessment of legal and regulatory issues, product safety, quality, and reliability, software integrity, environmental concerns, the Company's intellectual property protection needs, and strategic decisions. *See* Part I.B.2, *supra*. Such a complex assessment is the province of management and the Board, not shareholders. In Staff Legal Bulletin No. 14J (Oct. 23, 2018), the Staff explained that micromanagement may apply to proposals that call for a study or report and that it would consider the underlying substance of the matters addressed by the study or report to determine whether a proposal involves intricate detail, or seeks to impose specific timeframes or methods for implementing complex policies.

Therefore, the Proposal unduly limits the ability of management and the Board to manage complex matters with a level of flexibility necessary to fulfill their fiduciary duties to the Company's shareholders and is excludable under the micromanagement prong of Rule 14a-8(i)(7).

CONCLUSION

For the reasons discussed above, we believe that the Company may properly omit the Proposal from its 2022 Proxy Materials under Rule 14a-8(i)(7) and Rule 14a-8(i)(10). As such, we respectfully request that the Staff concur with our view and not recommend enforcement action to the Commission if the Company omits the Proposal from its 2022 Proxy materials. Should the

Staff have any questions regarding this matter, please feel free to contact me at (309) 765-5161 or by email at DaviesToddE@JohnDeere.com.

Sincerely,

Todd E. Davies, Corporate Secretary
Deere & Company

CC:

Hilary Stubben
Deere & Company
Email: StubbenHilaryA@JohnDeere.com

Robert M. Hayward, P.C.
Kirkland & Ellis LLP
Email: robert.hayward@kirkland.com

Ana Sempertegui
Kirkland & Ellis LLP
Email: ana.sempertegui@kirkland.com

Andrea Ranger, Shareholder Advocate
Green Century Capital Management, Inc.
Email: aranger@greencentury.com

Enclosures: Exhibit A
Exhibit B

EXHIBIT A

September 2, 2021

Todd E. Davies
Corporate Secretary
Deere & Company
One John Deere Place
Moline, Illinois 61265-8098

Re: Shareholder proposal for 2022 Annual Shareholder Meeting

Dear Mr. Davies,

Green Century Capital Management, Inc. (Green Century) is the investment advisor, agent, manager and representative of the Green Century Funds. Green Century Capital Management Inc. is filing the enclosed shareholder proposal on behalf of the Green Century Balanced Fund (the "Proposal") to be included in the proxy statement of Deere & Company (DE) (the "Company") for its 2022 annual meeting of shareholders, in accordance with Rule 14a-8 of the General Rules and Regulations of the Securities and Exchange Act of 1934 (17 C.F.R. § 240.14a-8).

Per Rule 14a-8, the Green Century Balanced Fund is the beneficial owner of at least $25,000 worth of Deere's stock. We have held the requisite number of shares for over one year, and we will continue to hold sufficient shares in the Company through the date of the Company's 2022 annual shareholders' meeting. Verification of ownership from a DTC participating bank is enclosed.

We are available to meet with the Company via teleconference September 16, 17, and 20 between 12 p.m. 3 p.m. or on September 22 between 9 a.m. and 12 p.m. All times listed are in the Central Time Zone.

Due to the importance of the issue and our need to protect our rights as shareholders, we are filing the enclosed proposal for inclusion in the proxy statement for a vote at the next shareholders' meeting.

We welcome the opportunity to discuss the subject of the enclosed proposal with company representatives. Please direct all correspondence to Andrea Ranger, Shareholder Advocate at Green Century Capital Management. She may be reached at aranger@greencentury.com and 617-482-0800.

We would appreciate confirmation of receipt of this letter via email.

Thank you for your attention to this matter.

Sincerely,

Leslie Samuelrich
President
The Green Century Funds
Green Century Capital Management, Inc.

UMB >100

September 2, 2021

Leslie Samuelrich
President, Green Century Capital Management, Inc.
President, Green Century Funds
114 State Street, Suite 200, Boston, MA 02109

This letter is to confirm that as of September 2, 2021, UMB Bank, N.A. 2450, a DTC participant, in its capacity as custodian, held 8,712 shares of Deere & Company (DE) Stock on behalf of the Green Century Balanced Fund. These shares are held in the Bank's position at the Depository Trust Company registered to the nominee name of Cede & Co.

Further, this is to confirm that the position in Deere & Company (DE) Stock held by the bank on behalf of the Green Century Balanced Fund has been held continuously for a period of more than one year, including the period commencing prior to September 2, 2020 and through September 2, 2021. During that year prior to and including September 2, 2021 the holdings continuously exceeded $25,000 in market value.

Sincerely,

Mandee Crawford

Mandee Crawford
Vice President
UMB Bank, NA

UMB Bank, n.a.

928 Grand Boulevard
Kansas City, Missouri 64106

umb.com

Member FDIC

Whereas: Deere & Company ("Deere") customers rely heavily on timely equipment repair to be successful agricultural producers. Yet according to a wide range of media reports, farmer testimony, and research and analysis, Deere restricts access to certain repair materials, which can result in costly downtime for customers and lead to material risks for the Company.

These restrictions to independent repair may cause Deere to be exposed to increased regulatory risks from growing support for "Right to Repair " legislation, which requires agricultural equipment manufacturers to provide access to diagnostic software, parts, instructions, and additional repair materials in order to ensure competition and choice in repair markets. In 2021, a total of 24 states debated Right to Repair legislation, and similar legislation, called the Fair Repair Act, was introduced in Congress.

Additionally, new rulemaking by the Federal Trade Commission (FTC) on anti-competitive repair practices may expose Deere to serious legal risks. In July 2021, President Biden signed an executive order calling for the FTC to develop rules on "unfair anticompetitive restrictions on third-party repair… imposed by powerful manufacturers that prevent farmers from repairing their own equipment." Should the FTC determine that Deere's repair policies are anticompetitive, it could choose to bring a lawsuit. Because of the size of Deere's market share, the Company could also be subject to lawsuits on tying arrangements.

Withholding certain repair materials from farmers and independent repair businesses has generated negative media coverage in a wide range of high-profile outlets. Stories in the Wall Street Journal, National Public Radio, CBS Sunday Morning and many other leading outlets have critiqued Deere's stance, and given voice to customers who feel mistreated by the Company.

Company representatives argue that Deere provides materials to support almost all equipment repairs, yet the regulatory, legal, and reputational risks posed to the Company continue to escalate. Investors seek insight into the value of limiting access to the remaining repair materials versus the risks that the Company is incurring by withholding them.

Resolved: Shareholders request that the Board issue a report, at reasonable cost and omitting proprietary information, on the emerging state and federal Right to Repair legislation and the Company's explanation of underlying issues giving rise to those policy proposals.

Supporting Statement: The report should, at Board discretion, assess, among other issues:

- The benefits or harms of making all dealership repair materials available to customers and independent mechanics;
- Implications of state and federal Right to Repair laws for the company's finances and operations;
- Reputational risks associated with customer dissatisfaction giving rise to the legislation.

EXHIBIT B

Deere & Company World Headquarters
One John Deere Place, Moline, IL 61265 USA

Cory J. Reed
President, Worldwide Agriculture & Turf Division
Production & Precision Ag
Regions 3 & 4

18 July 2021

The Honorable Lina Khan
Chair
U.S. Federal Trade Commission
600 Pennsylvania Ave, NW
Washington, DC 202580

RE: Right to Repair and July 21 Open Commission Meeting

Dear Chair Khan:

On behalf of Deere & Company ("Deere"), I am pleased to submit the following comments in response to the Federal Trade Commission's ("the Commission") consideration of whether to issue a statement of policy on "repair restrictions."

For 184 years, Deere has demonstrated its commitment to customers by providing high-quality equipment, technologies, and solutions that enhance productivity. This commitment includes fully supporting our customers' right to maintain, diagnose, and repair their equipment and avoid unanticipated, unproductive, and costly downtime.

In the FTC's May 2021 report ("report") titled *Nixing the Fix: An FTC Report to Congress on Repair Restrictions*, the Commission noted that it intends to work to "ensure that consumers and independent repair shops have appropriate access to replacement parts, instructions, and diagnostic software." Through our extensive offerings of repair materials, diagnostic tools, and parts, Deere is already meeting this goal.

In fact, Deere customers and independent service organizations ("ISO") today can acquire service parts, operating and repair manuals, product guides, service demonstrations, fleet management information, on-board diagnostics, and electronic field diagnostic tools from a vast network of over 2000 authorized John Deere dealers.

The Commission's *Nixing the Fix* report also acknowledges the wide disparity among categories of capital goods and consumer products and devices that could be affected by new policy in this area. The report concluded that it is "unlikely that there is a one-size-fits-all approach that will adequately address this issue." Deere agrees with the Commission. The enormous variety of manufactured consumer and capital goods, their diverse uses and applications, the extent of intellectual property incorporated, the variety of distribution and service models in place, and the range of potential risks associated with use and misuse, all support a deliberate policy approach that accounts for these product-specific considerations.

Deere urges the Commission to consider the following critical points as it contemplates whether to issue a new right to repair policy statement:

Repair vs. Software Modification

While Deere supports its customers' right to repair their equipment, Deere does not support the right to modify the embedded software code in machines. Allowing access to embedded software code – the "right to modify" – would create significant environmental and safety risks to operators and bystanders, through illegal tampering and unauthorized hacking of safety controls, engine performance, and emissions controls required for Clean Air Act ("CAA") compliance. Moreover, access to software for purposes of reprogramming is needed in less than two

percent of all repairs. It is also important to note that technology continues to evolve such that software reprogramming, when required, can increasingly be done remotely. This alleviates the need for an authorized technician to manually perform the reprogramming in person.

Clean Air Act Emissions Controls

Section 203(a)(3) of the CAA and Section 1068.101(b) of Title 40, Code of Federal Regulations prohibit tampering with the emissions controls that non-road equipment manufacturers are required to install on their products. In a December, 2020 enforcement alert, the Environmental Protection Agency ("EPA") noted how disabling or removing emissions controls from vehicles harms air quality and presents a threat to public health.[1] This is particularly concerning in light of a 2019 survey of 770 equipment dealers across the United States that found that 33 percent of dealers had observed unauthorized modifications of equipment brought into their dealership for service in the previous 24 months.[2] Of those, 45 percent responded that the modifications they observed included those that removed, impaired, or disabled EPA-mandated emissions controls. In addition to the environmental and safety concerns that such modifications present, dealers can also be held liable for CAA violations if the emissions tampering is not recognized and reversed.

Intellectual Property Interests

The FTC's report notes in footnote 18 that manufacturers' intellectual property considerations were outside the scope of that report and therefore were not addressed. Yet Congress, through the Digital Millennium Copyright Act and amendments, has recognized these important rights and has tasked the U.S. Copyright Office with defining the circumstances in which exceptions to the prohibition on accessing software code embedded in equipment would apply. The Copyright Office, through its triennial review process, regularly considers petitions from the public to expand or limit this exception. The Copyright Office regulations have balanced these varied interests by consistently holding that the exception should extend only to "lawful" modifications that do not undermine federal emissions controls, jeopardize operator safety, or infringe upon legitimate intellectual property rights.[3] An unfettered right to modify the embedded software code in equipment would disrupt this balance and encourage the unlawful circumvention of long-established copyright and intellectual property protections.

Safety

Software modification also has significant implications for equipment operator and bystander safety. Authorized John Deere dealers are contractually required to ensure that all machines sold or repaired are done so with the highest level of safeguarding for the end user and public. Requiring equipment manufacturers to provide unfettered access to embedded software code would enable and encourage modification of software in a way that bypasses certain safety protocols, while also potentially creating unsafe equipment as a byproduct. This is particularly problematic because such modifications can be untraceable, and in some cases, irreparable. In any case, they would be detectable only after injury or harm has occurred. It is not an overstatement to say that multi-ton construction and agricultural equipment pose far higher safety risks to users and bystanders than does a mobile phone or other consumer device.

Service Parts

Through Deere's extensive network of more than 2,000 dealer locations across the United States, customers and ISOs already have access to service parts so they can conduct the vast majority of repairs they may choose to undertake on their own. Equipment owners and ISOs today can purchase Deere service parts directly from John Deere dealers, as can any retail customer. In fact, Deere dealers today sell more parts through the retail parts counter than through their service bays. In addition, customers and ISOs may purchase home maintenance kits and other maintenance parts directly from Deere through the online John Deere Store.

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[1] *Aftermarket Defeat Devices and Tampering are Illegal and Undermine Vehicle Emissions Controls*, EPA Office of Enforcement and Compliance Assurance, December 2020

[2] *Modifications to Safety and Emissions Features in Off-Road Equipment*, Equipment Dealers Association, April 2019

[3] §201.40(b)(9) of Title 37, Code of Federal Regulations

Conclusion

As the FTC considers policies to ensure the rights of owners and ISOs to repair heavy equipment, the Commission must recognize the substantial public and private interests already addressed in federal law that may be affected. Any contemplated changes to FTC policy should be subject to rigorous and transparent public review and comment that reflects all these interests. And any new policy must recognize the critical distinction between repair and modification. Deere opposes a right to modify embedded software code. However, we support our customers' right to repair their own equipment, and we work every day to provide the tools, materials, and guidance that allow our customers to reduce downtime and increase productivity.

Sincerely,

Cory J. Reed
President, Worldwide Agriculture & Turf Division
Production & Precision Ag
Regions 3 & 4

Willie Cade

DeereFacts

3642 N Springfield Ave
Chicago, IL 60618 USA

773-562-3377
willie@graceful.solutions

CEO Graceful Solutions
A Chicago based real estate development and management consulting firm specializing in twenty first century data centers that are more verdant and serve the community

Regional Director and Board Member of Repair.org Advocating for Right to Repair legislation. I am the bord member focusing on agriculture issues. Member of the Nebraska Farm Bureau.

YouTuber Channel: DeereFacts
Educational content about Right to Repair so Producers own their equipment and it doesn't own them. (https://www.youtube.com/channel/UCL8mrwisvetDcBG7cy4wiSw)

Voting member of several electronic sustainability standards.
Actively participating in the creation of ULE 110 3.0. Have participated in 3 other sustainability focus consensus standards, R2, NSF 487 and IEEE 1601.1.

Founder and Chief Executive Officer PC Rebuilders & Recyclers (Founded in 2000) home of the Computers for Schools Program
Mission: To contribute to sustainability and to bridge the digital divide by reusing or recycling used computing equipment. Business closed June 2017

Original Microsoft Authorized Refurbisher (MAR):
Chosen by Microsoft as one of the first Community Microsoft Authorized Refurbisher of five in the United States.

Conference founder
Electronics Reuse Conference: ERC (formerly: International Computer Refurbisher Summit) since 2004. In 2012 ERC expanded internationally.

P.A.C.E. Stakeholder and Co-Chair of Environmentally Sound Testing, Refurbishment and Repair of Used Computing Equipment Project Group
The Partnership for Action on Computing Equipment of the Secretariat of the Basel Convention of the United Nations Environmental Program.

Adjunct Faculty, University of Illinois Urbana/Champaign
Designed and taught "Sustainable Life Cycle Design" in the Department of Art and Design. Co-Principal investigator on several National Science Foundation grants.

Provided testimony before the House Committee on Science and Technology for the 111th Congress on electronic reuse

Winner of the Jim Lynch award
The computer refurbishment industry's highest honor.

Appointee to Caterpillar's external sustainability advisory board, (retired)
Advisor to promote their mission of enabling economic growth through infrastructure and energy development, and to provide solutions that support communities and protect the planet. Participated in the creation of Caterpillar's 5th value; sustainability.

Co-author of 9 academic papers on Sustainability of Used Electronics. Our first publication was in 2015. We have also submitted 4 additional full conference papers. Researcher of software vulnerabilities.

Chair of the Board of Montgomery Place. (retired) A retirement facility owned by the Episcopal Diocese of Chicago. After first year of membership I was name treasure and then became Chairman. (I forgot **not** to ask questions)

Personal
Education: BS Chemistry with honors, University of Hawaii—Manoa, Language studies at La Sorbonne Université—Paris, Amateur standup comedian, avid Airbnb host of a 1905 Pullman Palace car and Level 1 WISE certified Cell repair tech. Grandson of Theo Brown famed John Deere engineer who accumulate 158 patients and served on the board of directors of John Deere for 30 years. Auctioneer for charity fund raisers. Parent to four grown children, and very proud grandfather of two. A granddaughter and grandson. Married to Carol Cade for 43+ years.