

JD954, JD1104, JD1204-A, JD1354-A, and JD1404-A Tractors

(Serial No. 512125 (JD954) -)
(Serial No. 510023 (JD1104) -)
(Serial No. 511589 (JD1204-A) -)
(Serial No. 510201(JD1354-A) -)
(Serial No. 512891(JD1404-A, 4045 Engine) -)
(Serial No. 512911 (JD1404-A, 6068 Engine) -)



JOHN DEERE

OPERATOR'S MANUAL

**JD954, JD1104, JD1204-A, JD1354-A,
and JD1404-A Tractors**

OMSU54857 ISSUE L1 (ENGLISH)

John Deere (Tianjin) Co., Ltd.

China Edition
PRINTED IN U.S.A.

Introduction

Foreword

READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so may result in personal injury or equipment damage. This manual and safety signs on your machine also are available in other languages (see an authored John Deere dealer to order).

THIS MANUAL SHOULD BE CONSIDERED a permanent part of your machine and should remain with the machine when you sell it.

MEASUREMENTS in this manual are given in both metric and customary U.S. unit equivalents. Use only correct replacement parts and fasteners. Metric and inch fasteners may require a specific metric or inch wrench.

RIGHT-HAND AND LEFT-HAND sides are determined by facing the direction of forward travel.

WRITE PRODUCT IDENTIFICATION NUMBERS (PIN) in the Specification or Identification Numbers section. Accurately record all the numbers to help in tracing the machine should it be stolen. Your dealer also needs these numbers when you order parts. File the identification numbers in a secure place off the machine.

SETTING FUEL DELIVERY BEYOND PUBLISHED factory specifications or otherwise overpowering will result in loss of warranty protection for this machine.

BEFORE DELIVERING THIS MACHINE, your dealer performed a predelivery inspection. After operating for

the first 100 hours, schedule an after-sale inspection with your dealer to ensure best performance.

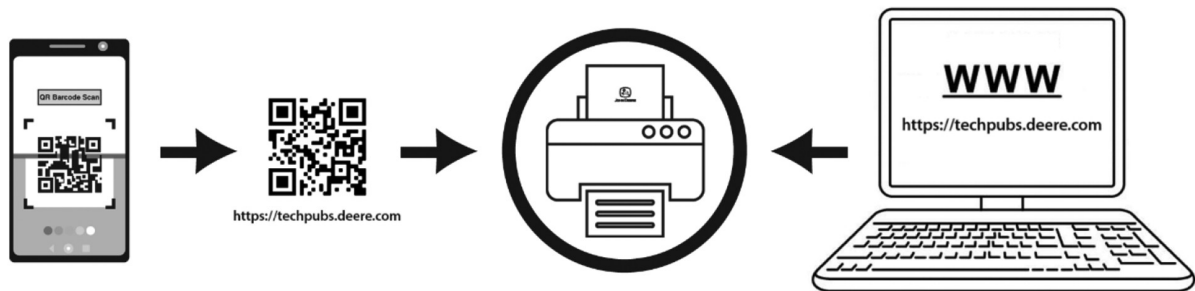
All tractors comply with the enterprise standard Q/12 JDTW 003—2018.

THIS TRACTOR IS DESIGNED SOLELY for use in plowing, raking, rototilling, seeding, intertilling, field transporting, or similar operations ("INTENDED USE"). Use in any other way is considered as contrary to the intended use. The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service, and repair as specified by the manufacturer also constitute essential elements for the intended use.

THIS TRACTOR SHOULD BE OPERATED, serviced, and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times. Any arbitrary modifications carried out on this tractor will relieve the manufacturer of all liability for any resulting damage or injury.

If you are not the original owner of this machine, it is in your interest to contact a local authored John Deere dealer to inform them of this unit's serial number. This helps John Deere notify you of any issues or product improvements.

Download Instructions



Instructions, manuals, and other documents may be downloaded at [www.techpubs.deere.com](https://techpubs.deere.com). Scanning the QR code on a mobile device will route to the site automatically.

Les instructions, les manuels et autres documents peuvent être téléchargés à cette adresse: [www.techpubs.deere.com](https://techpubs.deere.com). Scanner le QR code via un appareil mobile mène automatiquement au site.

Istruzioni, manuali e altri documenti possono essere scaricati su [www.techpubs.deere.com](https://techpubs.deere.com). La scansione del codice QR su un dispositivo portatile indirizza automaticamente al sito.

Anleitungen, Handbücher und andere Dokumente können unter [www.techpubs.deere.com](https://techpubs.deere.com) heruntergeladen werden. Durch Scannen des QR-Codes mit einem Mobilgerät wird man automatisch zur Webseite weitergeleitet.

Las instrucciones, los manuales y otros documentos se pueden descargar en [www.techpubs.deere.com](https://techpubs.deere.com). Al escanear el código QR en un dispositivo móvil, se abrirá automáticamente el sitio web.

Instruções, manuais e outros documentos podem ser baixados em [www.techpubs.deere.com](https://techpubs.deere.com). A leitura do código QR em um dispositivo móvel levará você automaticamente para o site.

Инструкции, руководства и другие документы можно загрузить на странице [www.techpubs.deere.com](https://techpubs.deere.com). Сканирование QR-кода на мобильном устройстве будет автоматически отправлять на сайт.

How to Search Parts Information

All parts information are accessible by two pathways :

Parts Catalog Website

1. Navigate to



CPA0010189—UN—31MAR21

Parts Catalog Website

<https://partscatalog.deere.com/jdrc/>

- Input the product identification number (PIN), model, part number, or equipment in the search field.



CPA0010191—UN—31MAR21

Search Field

A—Search Field

NOTE: Recommend to use PIN for searching. Using model, part number, or equipment causes multiple results.

- The product parts catalog shows up.



CPA0010190—UN—01APR21

Result

John Deere Official WeChat Public Platform

- Scan QR Code and access John Deere official WeChat public platform.



CPA0010180—UN—25MAR21

QR Code of John Deere

- To get parts catalog search field, follow the steps :



CPA0010186—UN—01APR21

Step 1



CPA0010187—UN—31MAR21

Step 2



Step 3

CPA0010188—UN—31MAR21

3. Input the product identification number (PIN), model, part number, or equipment in the search field.



Search Field

CPA0010192—UN—26MAR21

A—Search Field

NOTE: Recommend to use PIN for searching. Using model, part number, or equipment causes multiple results.

4. Click the search result.



Result

CPA0010182—UN—01APR21

LG70251,000238F-19-02APR21

Contents

	Page		Page
General Information			
Product View	00-1	Service Tires Safely	00A-16
Trademarks	00-1	Service Front-Wheel Drive Tractor Safely	00A-16
Glossary of Terms	00-2	Tightening Wheel Retaining Bolts/Nuts	00A-16
Regions and Country Versions	00-3	Avoid High-Pressure Fluids	00A-16
Machine Overview	00-4	Do Not Open High-Pressure Fuel System	00A-17
Safety			
Recognize Safety Information	00A-1	Store Attachments Safely	00A-17
Understand Signal Words	00A-1	Decommissioning — Proper Recycling and	
Follow Safety Instructions	00A-1	Disposal of Fluids and Components	00A-17
Prepare for Emergencies	00A-1	Emergency Measures	00A-18
Wear Protective Clothing	00A-2	Safety Signs	
Protect Against Noise	00A-2	Replace Safety Signs	00B-1
Handle Fuel Safely—Avoid Fires	00A-2	Operator's Manual Safety Sign	00B-1
Handle Starting Fluid Safely	00A-2	Use Seat Belt Safety Sign	00B-1
Fire Prevention	00A-3	Keep Away from Rotating PTO	00B-2
In Case of Fire	00A-3	Riders Safety Sign	00B-2
Avoid Static Electricity Risk When Refueling	00A-4	Keep Away from 3-Point Hitch	00B-2
Keep ROPS Installed Properly	00A-4	Keep Away from High Temperature Coolant	00B-3
Use Foldable ROPS and Seat Belt Properly	00A-4	Fight Fire and Open Flame	00B-3
Stay Clear of Rotating Drivelines	00A-5	Controls and Instruments	
Use Steps and Handholds Correctly	00A-5	Tractor Controls - Front Console	10-1
Read Operator's Manuals for ISOBUS		Tractor Controls - Right-Hand Side	10-3
Controllers	00A-5	Tractor Controls - Left-Hand Side	10-4
Use Seat Belt Properly	00A-6	Electrical Device Controls	10-4
Operating the Tractor Safely	00A-6	Instrument Cluster	10-6
Avoid Backover Accidents	00A-7	Information Display	10-8
Limited Use in Forestry Operation	00A-7	Operating Engine	
Keep Riders Off Machine	00A-7	Before Starting Engine	20-1
Use Safety Lights and Devices	00A-8	Operate Key Switch	20-2
Transport Towed Equipment at Safe Speeds	00A-8	Start Engine	20-2
Use Caution on Slopes, Uneven Terrain, and		Check Indicators and Gauges	20-3
Rough Ground	00A-9	Change Engine Speeds	20-4
Freeing a Mired Machine	00A-9	Recommended Engine Speeds and	
Avoid Contact with Agricultural Chemicals	00A-10	Operational Procedures	20-4
Handle Agricultural Chemicals Safely	00A-10	Stop Engine	20-5
Handling Batteries Safely	00A-11	Air Intake, Fuel, Coolant, and Exhaust	
Avoid Heating Near Pressurized Fluid Lines	00A-11	Operation	
Remove Paint Before Welding or Heating	00A-12	Fill Fuel Tank	30-1
Handle Electronic Components and Brackets		Electrical and Lighting Operation	
Safely	00A-12	Light Switch	40-1
Practice Safe Maintenance	00A-12	Light Switch (Option)	40-1
Avoid Hot Exhaust	00A-13	Use Headlights and Worklight	40-2
Clean Exhaust Filter Safely	00A-13	High-Beam Headlights Indicator	40-3
Work In Ventilated Area	00A-14	Use Tail Lights and Warning Lights	40-3
Support Machine Properly	00A-14	Use Turn Signals	40-4
Prevent Machine Runaway	00A-14	Use Cab Light	40-5
Park Machine Safely	00A-15		
Transport Tractor Safely	00A-15		
Service Cooling System Safely	00A-15		
Service Accumulator Systems Safely	00A-15		

Continued on next page

Original Instructions. All information, illustrations and specifications in this manual are based on the latest information available at the time of publication. The right is reserved to make changes at any time without notice.

COPYRIGHT © 2021
DEERE & COMPANY
Moline, Illinois
All rights reserved.
Previous Editions
Copyright © 2017,2018,2019,2020

	Page		Page
Drivetrain Operation		Wheels and Tires Operation	
Gear Selection	50-1	Service Tires Safely	80-1
Transmission Operation		Check Implement-to-Tire Clearance	80-1
Operate Transmission	50A-1	Check Tire Inflation Pressure	80-1
Shift Transmission	50A-2	Tire Inflation Pressure Chart	80-2
High/Low Split-Shift Feature	50A-4	Front and Rear Tire Combinations-MFWD	80-2
Stop Tractor	50A-5	Jack Up Tractor—Lifting Points	80-3
MFWD and Front Axle Operation		Tighten Wheel/Axle Hardware Correctly	80-4
Operate Mechanical Front-Wheel Drive (MFWD)	50B-1	Tighten Bolts—MFWD Axle	80-4
Differential and Rear Axle Operation		Tighten Bolts—Rear Axle	80-4
Differential Lock	50C-1	Tread Settings — MFWD Axle	80-6
Power Take-off (PTO) Operation		Tread Settings—Multi-Position Rear Wheels	80-6
Change Reversible PTO Stub Shaft	50D-1	Check Toe-In-MFWD Axle	80-8
Change 760/1000 rpm PTO Stub Shaft (1404 Wet Clutch Only)	50D-2	Adjusting Toe-In-MFWD Axle	80-8
Attach PTO-Driven Implement	50D-3	Ballast	
Operate Tractor PTO	50D-3	Plan for Maximum Productivity	80A-1
PTO Speed Selection—760/830 rpm PTO	50D-5	Select Ballast Carefully	80A-1
Adjust PTO Clutch Operating Rod	50D-5	Determine Maximum Rear Ballast	80A-1
Unplug Baler Rotary Feeder for Dry Clutch PTO	50D-5	Determine Maximum Front Ballast	80A-2
Steering and Brake Operation		Use Cast Iron Weights	80A-2
Steering Stop Adjustment (MFWD Axle)	60-1	Additional Equipment	
Use Brakes	60-2	Additional Equipment Operation	80B-1
Hydraulics Operation		Operator Station Operation	
Open Center Hydraulic System	70-1	Use Seat Belt	90-1
Warm Transmission-Hydraulic System Oil	70-1	Adjust Seat	90-1
Hitch and Drawbar Operation		Adjust Steering Wheel	90-1
Rear Hitch Components	70A-1	Use Emergency Exit	90-2
Prepare Implement	70A-2	Open Windows	90-2
Rockshaft Control Lever	70A-2	Open Door	90-2
Use Rockshaft Position Control	70A-2	Sun Visor	90-3
Set Position Control Lever Stop	70A-3	Adjust Blower Speed (If Equipped)	90-3
Use Draft Control	70A-4	Temperature Control	90-3
Adjust Rockshaft Rate-of-Drop	70A-4	Deice, Demist, or Defrost Windshield	90-3
Rockshaft Control Lever—Downforce	70A-5	Optimize A/C and Heater Performance	90-4
Attach Implements to 3-Point Hitch	70A-5	Operate Windshield Wiper and Washer	90-4
Adjust Stabilizer Bar	70A-6	Toolbox Location	90-5
Adjust Sway Chains (If Equipped)	70A-7	Transport and Storage	
Level Hitch	70A-7	Operator Training Required	100-1
Adjust Lateral Float	70A-8	Observe Maximum Travel Speeds	100-1
Observe Drawbar Load Limitations	70A-9	Drive Tractor on Roads	100-1
Use Swinging Drawbar	70A-9	Tow Tractor	100-3
Proper Use of Drawbar	70A-9	Tractor Storage	100-3
Wagon Hitch	70A-9	Remove Tractor from Storage	100-4
Selective Control Valve Operation		Maintenance Intervals	
Connect Cylinder Hoses	70B-1	Maintenance Interval Chart	200-1
Reconnect Hoses Under Pressure	70B-1	Service Tractor Safely	200-2
Use Correct Hose Tips	70B-2	Observe Service Intervals	200-2
SCV Control Lever and Coupler Identification	70B-2	Service Daily Before Start-Up	200-4
Operate SCV Control Levers	70B-2	Additional Service Information	200-4
Match Tractor Power to Implement	70B-3	Fuels, Lubricants, and Coolants	
		Handle Fuel Safely—Avoid Fires	200A-1
		Handle Fluids Safely—Avoid Fires	200A-1
		Cold Weather Operation	200A-1
		Hot Weather Operation	200A-1
		Diesel Fuel	200A-1
		Lubricity of Diesel Fuel	200A-2
		Handling and Storing Diesel Fuel	200A-3

	Page		Page
Testing Diesel Fuel	200A-3	Front Grille, Side Screens, Radiator, and Oil Cooler Cleaning	230-10
Alternative and Synthetic Lubricants	200A-3		
Lubricant Storage	200A-3		
Diesel Engine Break-In Oil — Non-Emissions Certified and Certified Tier 1, Tier 2, Tier 3, Stage I, Stage II, and Stage III	200A-3	Electrical and Lighting Maintenance	
Diesel Engine Oil — Tier 3 and Stage IIIA	200A-4	Electrical Service Precautions	240-1
Engine Oil and Filter Service Intervals — Tier 3 and Stage IIIA — OEM Applications	200A-5	Use Booster Battery	240-1
Diesel Engine Oil Service Interval for Operation at High Altitude	200A-6	Clean Battery	240-1
Oil Filters	200A-6	Replace Alternator/Fan Belt	240-2
Fuel Filters	200A-6	Remove Battery	240-2
Heavy Duty Diesel Engine Coolant	200A-6	Service Battery	240-2
John Deere COOL-GARD™ II Coolant Extender	200A-7	Battery Replacement Specifications	240-3
Transmission and Hydraulic Oil	200A-7	Charge Battery	240-3
MFWD Front Axle Housing Oil	200A-8	Check Battery Condition	240-3
MFWD Wheel Hub Oil	200A-8	Access Fuses and Relays	240-4
Multipurpose Extreme Pressure (EP) Grease ..	200A-8	Starter Wiring Connections	240-4
Mixing of Lubricants	200A-9	Fusible Link Location	240-4
		Fuse Size and Function	240-5
As Required Maintenance		Relay Size and Function	240-6
As Required Maintenance	200B-1	Adjust Headlights	240-6
Wash Machine After Unloading	200B-1	Aim Headlights	240-6
		Replace Headlight Bulbs	240-6
Controls and Instruments Maintenance		Replace Front Turn Signal Bulb	240-7
Controls and Instruments Maintenance	210-1	Replace Tail Light/Rear Turn Signal/Brake Light Bulbs	240-7
		Replace Worklight Bulb	240-7
Engine Maintenance		Replace Cab Light Bulb	240-8
Open Hood	220-1		
Use Correct Lubricant	220-1	Drive Train Maintenance	
Check Engine Oil Level	220-1	Use Correct Transmission/Hydraulic Filter Element	250-1
Change Engine Oil and Filter	220-2	Check Neutral Start System	250-1
Adjust Hand Throttle Friction	220-2		
Break-In Service		Transmission Maintenance	
Engine Operation—Break-In Check	220A-1	Check Transmission/Hydraulic System Oil Level	250A-1
During the First 10 Hours of Operation:	220A-1	Change Transmission/Hydraulic System Oil	250A-1
After the First 50 Hours of Operation:	220A-1	Replace Transmission/Hydraulic Oil Filter	250A-2
After the First 100 Hours of Operation:	220A-1		
Air Intake, Fuel, Coolant, and Exhaust Maintenance		MFWD and Front Axle Maintenance	
Service Air Cleaner	230-1	Lubricate MFWD Front Axle Steering Spindles	250B-1
Replace Primary Elements of Air Cleaner	230-2	Lubricate MFWD Front Axle Pivot Pins	250B-1
Replace Secondary Elements of Air Cleaner	230-2	Lubricate MFWD Front Axle	250B-2
Check Air Intake System	230-3	Lubricate MFWD Drive Shaft	250B-2
Check Hoses and Hose Clamps for Tightness	230-4	Check MFWD Wheel Hub Oil Level	250B-3
Clean Engine Crankcase Vent Tube	230-5	Check MFWD Axle Housing Oil Level	250B-3
Do Not Modify Fuel System	230-5	Change MFWD Wheel Hub Oil	250B-4
Drain Water and Sediment from Fuel Filters and Water Separator	230-5	Change MFWD Front Axle Housing Oil	250B-5
Drain Water and Sediment from Fuel Tank	230-6		
Replace Water Separator	230-6	Differential and Rear Axle Maintenance	
Replace Primary Fuel Filter	230-6	Lubricate Rear Axle Bearings	250C-1
Replace Secondary Fuel Filter	230-7		
Check Coolant Level	230-7	Power Take Off (PTO) Maintenance	
Check Cooling System for Leaks	230-8	Lubricate PTO Stub Shaft	250D-1
Flush Cooling System	230-8		
Deaerate Cooling System	230-9	Steering and Brake Maintenance	
Bleed Fuel System	230-10	Check Brake Pedal	260-1
		Adjust Clutch Pedal Free Travel	260-1
		Hydraulics Maintenance	
		Hydraulics Maintenance	270-1
		Warm Transmission-Hydraulic System Oil	270-1

	Page	Page
Hitch and Drawbar Maintenance		
Lubricate 3-Point Hitch Components	270A-1	
Lubricate Hitch Valve	270A-1	
Check and Tighten Hydraulic Cylinders	270A-1	
Selective Control Valve Maintenance		
Check Selective Control Valve	270B-1	
Wheels and Tires Maintenance		
Loose Hardware Inspection	280-1	
Inspect Tires	280-1	
Check Tractor Before Paddy Field Work		
Quarterly	280-1	
Maintenance Tractor During Paddy Field		
Work Quarterly	280-2	
Service Tractor After Paddy Field Work		
Quarterly	280-3	
Ballasting Maintenance		
Measure Rear Wheel Slip—Manually	280A-1	
Ballast Front End for Transport	280A-1	
Install Rear Cast Iron Weights	280A-2	
Additional Equipment Maintenance		
Additional Equipment Maintenance	280B-1	
Operator Station Maintenance		
Keep Cab Protection System Installed		
Properly	290-1	
Inspect Seat Belt	290-1	
Clean Cab Air Filters (Option 1)	290-2	
Clean Cab Air Filters (Option 2)	290-3	
Service Air-Conditioning System	290-4	
Air-Conditioning System - Instruction for		
Starting up the Air-Conditioning		
Compressor	290-5	
Troubleshooting		
Engine Troubleshooting	300-1	
Transmission Troubleshooting	300-4	
Hydraulic System Troubleshooting	300-5	
Brakes Troubleshooting	300-5	
Rockshaft and 3-Point Hitch Troubleshooting	300-5	
Hydraulic Cylinders Troubleshooting	300-7	
Electrical System Troubleshooting	300-7	
Clutch Troubleshooting	300-8	
Steering System Troubleshooting	300-8	
Front and Rear Axle Troubleshooting	300-9	
Specifications		
Machine Dimensions and Weights	400-1	
Machine Specifications	400-1	
Ground Speeds	400-3	
Metric Bolt and Screw Torque Values	400-7	
Unified Inch Bolt and Screw Torque Values	400-8	
Identification Numbers		
Identification Plates	400A-1	
Record Tractor/Environment Information		
Serial Number	400A-1	
Record MFWD Front Axle Serial Number	400A-1	
Record Engine Serial Number	400A-2	
Record Transmission Serial Number	400A-2	
Service Records		
As Required, Daily or 10 Hour, and Every 50		
Hour Service Chart	500-1	
Every 250 Hour Service Chart	500-2	
Every 500 Hour, 1000 Hour or Annual, Every		
Two Year or 2000 Hour Service Chart	500-2	

General Information

Product View



John Deere 6B Tractor

CPA0004671—UN—01DEC17

NOTE: Tractor shown has optional equipment.

YN00044,0000F24-19-11JAN18

Trademarks

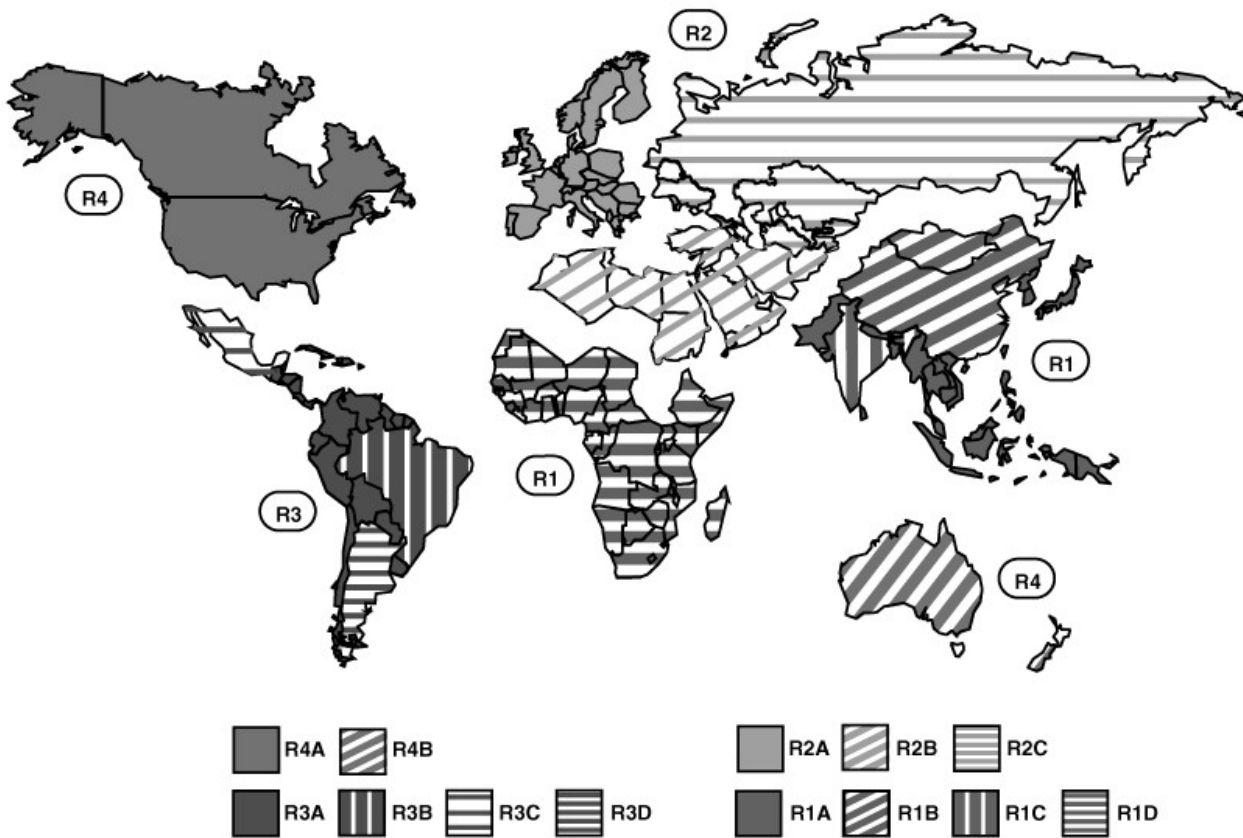
Trademarks	
AutoTrac™	Trademark of Deere & Company
Bio Hy-Gard™	Trademark of Deere & Company
Break-In Plus™	Trademark of Deere & Company
Break-In™	Trademark of Deere & Company
COOL-GARD™	Trademark of Deere & Company
CoolScan™	Trademark of Deere & Company
GREASE-GARD™	Trademark of Deere & Company
GreenStar™	Trademark of Deere & Company
Hy-Gard™	Trademark of Deere & Company
Oilscan™	Trademark of Deere & Company
Plus-50™	Trademark of Deere & Company
PowrReverser™	Trademark of Deere & Company
Roll-Gard™	Trademark of Deere & Company
SERVICEGARD™	Trademark of Deere & Company
TEFLON®	Trademark of Du Pont Co.
Torq-Gard™	Trademark of Deere & Company
StarFire™	Trademark of Deere & Company

HL70592,0000556-19-14MAR16

Glossary of Terms

ITEM	ABBREVIATION	DESCRIPTION
Accessory	ACC	Secondary electrical system
Air Conditioning	A/C	System used for cooling the air in the cab
Alternating Current	AC	Electrical current that reverses its direction at regularly recurring intervals
Charge Air Cooler	CAC	A device used for cooling compressed intake air
Controller Area Network	CAN	A communication system linking on-board electronics
Chassis Control Unit	CCU	Computerized system for the tractor monitoring
Cold Cranking Amperes	CCA	Battery capability to perform during cold-weather operation
Direct Current	DC	Electrical current flowing in one direction only
Forward	FWD	Direction of movement
Forward-Neutral-Reverse	FNR	Abbreviation
Gallons per Minute	gpm	Amount of fluid displaced over a period of one minute
Heating, Ventilating, and Air Conditioning	HVAC	Abbreviation
High-Pressure Common Rail	HPCR	Abbreviation
Ignition	IGN	Control for starting and stopping the tractor
Instrument Cluster Control Unit	ICC	Computerized system used to control instrument cluster functions
International Standards Organization	ISO	Standards organization
Left-Hand	LH or L-H	Abbreviation
Liquid Crystal Display	LCD	A technology used for displaying information
Manifold Air Pressure	MAP	Air Pressure measured at engine air intake
Mechanical	Mech or MECH	Abbreviation
Mechanical Front Wheel Drive	MFWD	A mechanically powered front axle
Negative	Neg (—)	Electrical Ground Circuit
Number	No.	Abbreviation
Open Operator Station	OOS	Abbreviation
Positive	Pos (+)	Charged part of an electrical circuit
Potentiometer	POT	A device used to vary electrical voltage
PowrReverser™	PR	3-speed gear case, 4-speed range box, and 2 directional clutch pack with the electrohydraulic shuttle shift
Power Take-Off	PTO	Abbreviation
PowerTech™ E	PTE	Electronically controlled fuel injection
Product Identification Number	PIN	Serial number relating to tractor identification
Pulse-Width-Modulation	PWM	Method of controlling electrical signals
Region 1	R1	Asian Region
Reverse	Rev	Direction of movement
Revolutions per Minute	rpm	Abbreviation
Right-Hand	RH or R-H	Abbreviation
Roll-Over Protective Structure	ROPS	Abbreviation
Selective Control Valve	SCV	Device used to control remote hydraulic functions
Specification	Spec	Abbreviation
Three-Point Hitch	3 PT	Abbreviation
Transmission	Trans	Abbreviation
Voltage (Volts)	V	Abbreviation

Regions and Country Versions



RXA0150915—UN—01FEB16

R1—Asia and Sub-Saharan Africa

R1A—Far East, Sri Lanka, and Pakistan

R1B—China

R1C—India

R1D—Sub-Saharan Africa

R2—Europe, North Africa, Mid East, CIS

R2A—European Union (EU 28+)

R2B—North Africa and North Middle East (NANME)

R2C—Common Wealth of Independent States (CIS)

R3—Central and South America

R3A—Latin America (JDLA)

R3B—Brazil

R3C—Mexico

R3D—Argentina

R4—North America

R4A—USA and Canada

R4B—Oceania (Australia and New Zealand)

Regions 1, 2 and 3 equipment is traditionally manufactured with Economic Commission for Europe (ECE) features or systems.

Region 4 equipment is traditionally manufactured with Society of Automotive Engineers (SAE) features or systems.

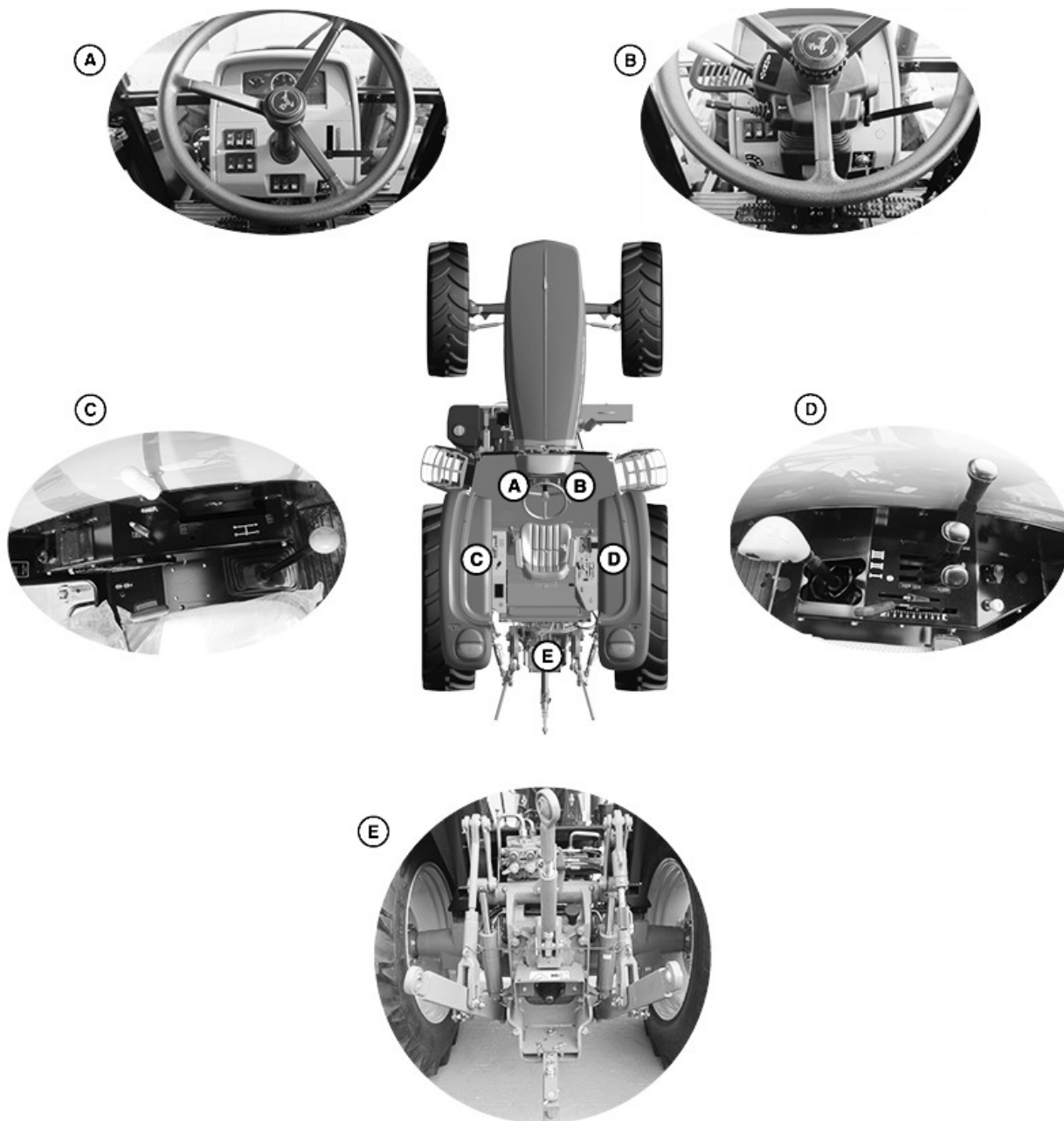
Drive and signal lighting, traffic signs, safety signs, and braking features are some of the systems that differ between ECE and SAE. For example, Text-Free (pictorial only) safety signs are used for ECE while Texts with Picture safety signs are used on SAE.

Use information previous, if equipment information is identified by regions, countries, trade federations, industry standards, or governmental regulations.

CO00263,000190B-19-06JUL18

Machine Overview

IMPORTANT: READ THIS MANUAL carefully to learn how to operate and service your machine correctly. Failure to do so could result in personal injury or equipment damage.



A—Front Console Controls (standard)
B—Front Console Controls (premium)
C—Left Side Controls

D—Right Side Controls
E—Rear Hitch

CPA0005140—UN—24JAN18

Operating the Machine Introduction:

- Sit in the operator's seat and fasten seat belt.
- Start engine. (See Engine Operation section.)
- Turn on lights or signals as required. (See Electrical and Lighting Operation section.)
- Move machine by operating transmission. (See Transmission Operation section.)

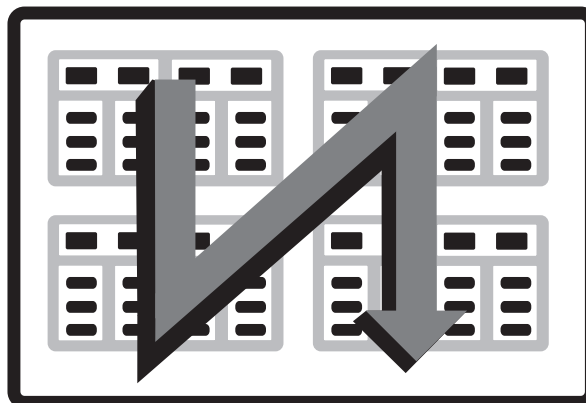
- Use steering and brakes as required. (See Steering and Brake Operation section.)
- Activate features and implements as required. (See Operational sections.)

The Operator's Manual content flows as sequential reading down one column of text and graphic then over to the top of the next column as shown.

Preliminary Overview

Using the following list as a reminder to inspect items before operation. Detailed operation and service information is available in Operational and Maintenance sections.

- Review manual and machine for safety information and safety signs.
- Review manual for proper operation, adjustment, and service.
- Review manual for engine and drivetrain operations. (Throttles, brakes, steering, transmission gears, MFWD, and differential Lock.)
- Review manual for control devices (hitch, hydraulic, and electrical).
- Review manual for regular lubrication points and intervals.
- Check for visual signs of leaks, damage, failures, and flats.
- Prepare machine hardware, fuel, fluids, lubricants, air, and daily maintenance.
- Check and prepare implements or attachments according to implement or attachment Operator's Manuals.



Sequential Reading

W28329—UN—18OCT17

CO00263,000190C-19-06JUL18

Using this Manual:

The information provided in this manual is divided into sections. The sections organization are organized by typical machine features or functional systems. These sections are identified at the top of each page. Specific information within each section is organized into modules. These modules are enclosed in boxes and a heading at the top left identifies the main modules. Page numbers identify the section as well as the number of the page in the section.

By reviewing this manual frequently you will learn which section to turn to for specific information. For example:

- Safety information is at the beginning
- Operation of all features and systems are in the first half of the manual
- Maintenance Intervals are in the middle of the manual
- Maintenance of all the features and systems are in the second half of the manual,
- Specifications are at the end

A detailed table of contents appears before Safety information and there is an alphabetical index at the very end of the manual.

Safety

Recognize Safety Information



T81389—UN—28JUN13

This is a safety-alert symbol. When you see this symbol on your machine or in this manual, be alert to the potential for personal injury.

Follow recommended precautions and safe operating practices.

DX,ALERT-19-29SEP98

Understand Signal Words



▲ WARNING

▲ CAUTION

TS187—19—30SEP88

DANGER; The signal word DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

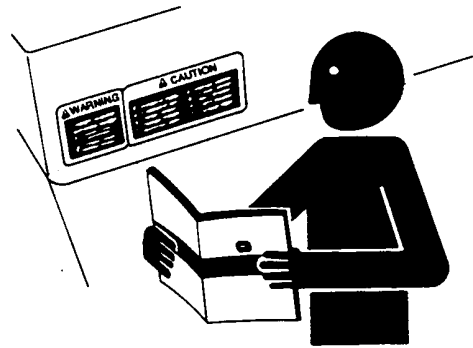
WARNING; The signal word WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION; The signal word CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury. CAUTION may also be used to alert against unsafe practices associated with events which could lead to personal injury.

A signal word—DANGER, WARNING, or CAUTION—is used with the safety-alert symbol. DANGER identifies the most serious hazards. DANGER or WARNING safety signs are located near specific hazards. General precautions are listed on CAUTION safety signs. CAUTION also calls attention to safety messages in this manual.

DX,SIGNAL-19-05OCT16

Follow Safety Instructions



TS201—UN—15APR13

Carefully read all safety messages in this manual and on your machine safety signs. Keep safety signs in good condition. Replace missing or damaged safety signs. Be sure new equipment components and repair parts include the current safety signs. Replacement safety signs are available from your John Deere dealer.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

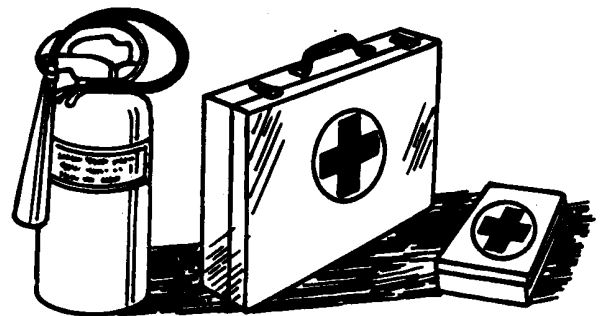
Learn how to operate the machine and how to use controls properly. Do not let anyone operate without instruction.

Keep your machine in proper working condition. Unauthorized modifications to the machine may impair the function and/or safety and affect machine life.

If you do not understand any part of this manual and need assistance, contact your John Deere dealer.

DX,READ-19-16JUN09

Prepare for Emergencies



TS291—UN—15APR13

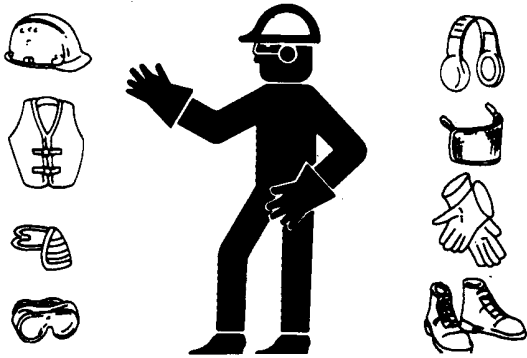
Be prepared if a fire starts.

Keep a first aid kit and fire extinguisher handy.

Keep emergency numbers for doctors, ambulance service, hospital, and fire department near your telephone.

DX,FIRE2-19-03MAR93

Wear Protective Clothing



TS206—UN—15APR13

Wear close fitting clothing and safety equipment appropriate to the job.

Operating equipment safely requires the full attention of the operator. Do not wear radio or music headphones while operating machine.

DX,WEAR2-19-03MAR93

Protect Against Noise



TS207—UN—23AUG88

There are many variables that affect the sound level range, including machine configuration, condition and maintenance level of the machine, ground surface, operating environmental, duty cycles, ambient noise, and attachments.

Exposure to loud noise can cause impairment or loss of hearing.

Always wear hearing protection. Wear a suitable hearing protective device such as earmuffs or earplugs to protect against objectionable or uncomfortable loud noises.

DX,NOISE-19-03OCT17

Handle Fuel Safely—Avoid Fires



TS202—UN—23AUG88

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

Use only an approved fuel container for transporting flammable liquids.

Never fill fuel container in pickup truck with plastic bed liner. Always place fuel container on ground before refueling. Touch fuel container with fuel dispenser nozzle before removing can lid. Keep fuel dispenser nozzle in contact with fuel container inlet when filling.

Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.

DX,FIRE1-19-12OCT11

Handle Starting Fluid Safely



TS1356—UN—18MAR92

Starting fluid is highly flammable.

Keep all sparks and flame away when using it. Keep starting fluid away from batteries and cables.

To prevent accidental discharge when storing the pressurized can, keep the cap on the container, and store in a cool, protected location.

Do not incinerate or puncture a starting fluid container.

Do not use starting fluid on an engine equipped with glow plugs or an air intake heater.

DX,FIRE3-19-14MAR14

Fire Prevention

To reduce the risk of fire, your tractor should be regularly inspected and cleaned.

- Birds and other animals may build nests or bring other flammable materials into the engine compartment or onto the exhaust system. The tractor should be inspected and cleaned prior to the first use each day.
- A build up of grass, crop material and other debris may occur during normal operation. This is especially true when operating in very dry conditions or conditions where airborne crop material or crop dust is present. Any such build up must be removed to ensure proper machine function and to reduce the risk of fire. The tractor must be inspected and cleaned periodically throughout the day.
- Regular and thorough cleaning of the tractor combined with other routine maintenance procedures listed in the Operator's Manual greatly reduce the risk of fire and the chance of costly downtime.
- Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.
- Check fuel lines, tank, cap, and fittings frequently for damage, cracks or leaks. Replace if necessary.

Follow all operational and safety procedures posted on the machine and the Operator's Manual. Be careful of hot engine and exhaust components during inspection and cleaning. Before carrying out any inspection or cleaning, always shut OFF the engine, place the transmission in PARK or set parking brake, and remove the key. Removal of the key will prevent others from starting the tractor during inspection and cleaning.

DX,WW,TRACTOR,FIRE,PREVENTION-19-12OCT11

In Case of Fire



TS227—UN—15APR13



CAUTION: Avoid personal injury.

Stop machine immediately at the first sign of fire. Fire may be identified by the smell of smoke or sight of flames. Because fire grows and spreads rapidly, get off the machine immediately and move safely away from the fire. Do not return to the machine! The number one priority is safety.

Call the fire department. A portable fire extinguisher can put out a small fire or contain it until the fire department arrives; but portable extinguishers have limitations. Always put the safety of the operator and bystanders first. If attempting to extinguish a fire, keep your back to the wind with an unobstructed escape path so you can move away quickly if the fire cannot be extinguished.

Read the fire extinguisher instructions and become familiar with their location, parts, and operation before a fire starts. Local fire departments or fire equipment distributors may offer fire extinguisher training and recommendations.

If your extinguisher does not have instructions, follow these general guidelines:

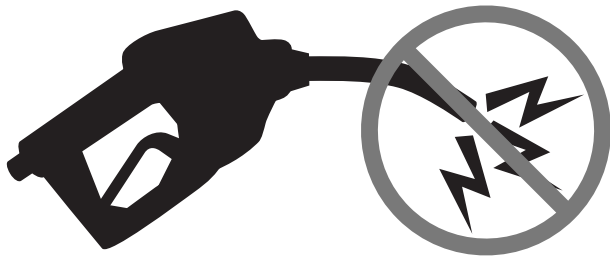
1. Pull the pin. Hold the extinguisher with the nozzle pointing away from you, and release the locking mechanism.
2. Aim low. Point the extinguisher at the base of the fire.
3. Squeeze the lever slowly and evenly.
4. Sweep the nozzle from side-to-side.

DX,FIRE4-19-22AUG13

Avoid Static Electricity Risk When Refueling



RG22142—UN—17MAR14



RG21992—UN—21AUG13

The removal of sulfur and other compounds in Ultra-Low Sulfur Diesel (ULSD) fuel decreases its conductivity and increases its ability to store a static charge.

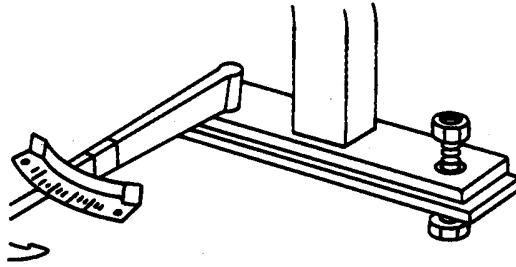
Refineries may have treated the fuel with a static dissipating additive. However, there are many factors that can reduce the effectiveness of the additive over time.

Static charges can build up in ULSD fuel while it is flowing through fuel delivery systems. Static electricity discharge when combustible vapors are present could result in a fire or explosion.

Therefore, it is important to ensure that the entire system used to refuel your machine (fuel supply tank, transfer pump, transfer hose, nozzle, and others) is properly grounded and bonded. Consult with your fuel or fuel system supplier to ensure that the delivery system is in compliance with fueling standards for proper grounding and bonding practices.

DX,FUEL,STATIC,ELEC-19-12JUL13

Keep ROPS Installed Properly



TS212—UN—23AUG88

Make certain all parts are reinstalled correctly if the roll-over protective structure (ROPS) is loosened or removed for any reason. Tighten mounting bolts to proper torque.

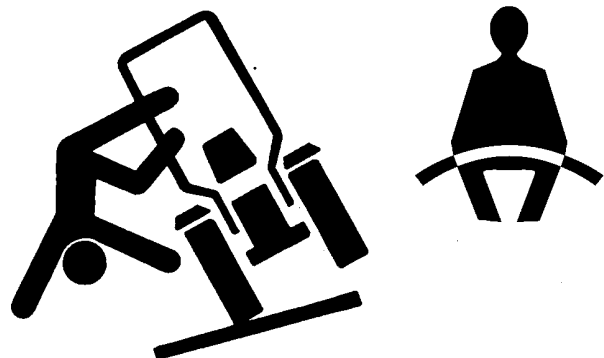
The protection offered by ROPS will be impaired if ROPS is subjected to structural damage, is involved in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged ROPS should be replaced, not reused.

The seat is part of the ROPS safety zone. Replace only with John Deere seat approved for your tractor.

Any alteration of the ROPS must be approved by the manufacturer.

DX,ROPS3-19-12OCT11

Use Foldable ROPS and Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

- If this machine is equipped with a foldable rollover protective structure (ROPS), keep the ROPS in the fully extended and locked position. USE a seat belt when you operate with a ROPS in the fully extended position.
 - Hold the latch and pull the seat belt across the body.
 - Insert the latch into the buckle. Listen for a click.
 - Tug on the seat belt to make sure that the belt is securely fastened.

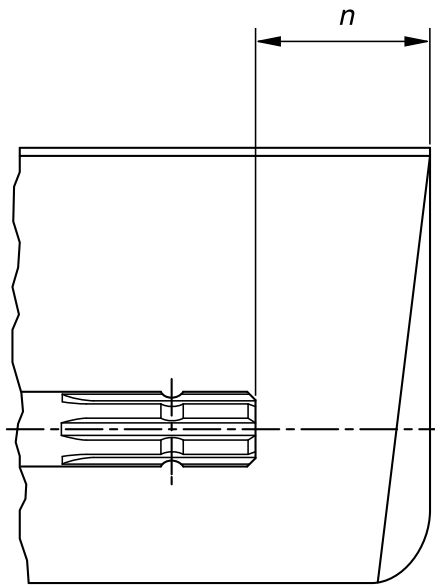
- Snug the seat belt across the hips.
- If this machine is operated with the ROPS folded (for example, to enter a low building), drive with extreme caution. DO NOT USE a seat belt with the ROPS folded.
- Return the ROPS to the raised, fully extended position as soon as the machine is operated under normal conditions.

DX,FOLDROPS-19-22AUG13

Stay Clear of Rotating Drivelines



TS1644—UN—22AUG95



H96219—UN—29APR10

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

Do not install any adapter device between the tractor

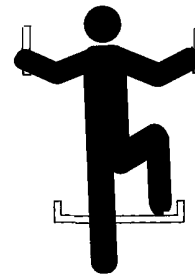
and the primary implement PTO drive shaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft and the added adaptor device as outlined in the table.

PTO Type	Diameter	Splines	n ± 5 mm (0.20 in.)
1	35 mm (1.378 in.)	6	85 mm (3.35 in.)
2	35 mm (1.378 in.)	21	85 mm (3.35 in.)
3	38 mm (1.496 in.)	8	85 mm (3.35 in.)

CO00263,00009C0-19-23JAN18

Use Steps and Handholds Correctly



T133468—UN—15APR13

Prevent falls by facing the machine when getting on and off. Maintain 3-point contact with steps, handholds, and handrails.

Use extra care when mud, snow, or moisture present slippery conditions. Keep steps clean and free of grease or oil. Never jump when exiting machine. Never mount or dismount a moving machine.

DX,WW,MOUNT-19-12OCT11

Read Operator's Manuals for ISOBUS Controllers

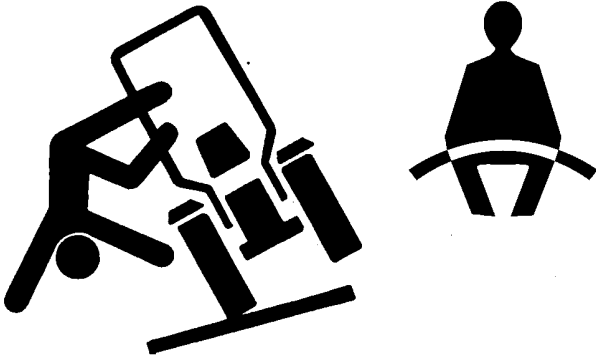
In addition to GreenStar™ Applications, this display can be used as a display device for any ISOBUS Controller that meets ISO 11783 standard. This includes capability to control ISOBUS implements. When used in this manner, information and control functions placed on the display are provided by the ISOBUS Controller and are the responsibility of the ISOBUS Controller manufacturer. Some of these functions could pose a hazard to either the operator or a bystander. Read the Operator's Manual provided by the ISOBUS Controller manufacturer and observe all safety messages in manual and on ISOBUS Controller product prior to use.

GreenStar is a trademark of Deere & Company

NOTE: ISOBUS refers to the ISO Standard 11783

DX,WW,ISOBUS-19-15JUL15

Use Seat Belt Properly



TS1729—UN—24MAY13

Avoid crushing injury or death during rollover.

This machine is equipped with a rollover protective structure (ROPS). USE a seat belt when you operate with a ROPS.

- Hold the latch and pull the seat belt across the body.
- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure that the belt is securely fastened.
- Snug the seat belt across the hips.

Replace entire seat belt if mounting hardware, buckle, belt, or retractor show signs of damage.

Inspect seat belt and mounting hardware at least once a year. Look for signs of loose hardware or belt damage, such as cuts, fraying, extreme or unusual wear, discoloration, or abrasion. Replace only with replacement parts approved for your machine. See your John Deere dealer.

DX,ROPS1-19-22AUG13

Operating the Tractor Safely

You can reduce the risk of accidents by following these simple precautions:

- Use your tractor only for jobs it was designed to perform, for example, pushing, pulling, towing, actuating, and carrying a variety of interchangeable equipment designed to conduct agricultural work.
- Operators must be mentally and physically capable of accessing the operator's station and/or controls, and operating the machine properly and safely.
- Never operate machine when distracted, fatigued, or impaired. Proper machine operation requires the operator's full attention and awareness.

- This tractor is not intended to be used as a recreational vehicle.
- Read this operator's manual before operating the tractor and follow operating and safety instructions in the manual and on the tractor.
- Follow operation and ballasting instructions found in the operator's manual for your implements/ attachments, such as front loaders.
- Follow the instructions outlined in the operator's manual of any mounted or trailed machinery or trailer. Do not operate a combination of tractor-machine or tractor-trailer unless all instructions have been followed.
- Make sure that everyone is clear of machine, attached equipment, and work area before starting engine or operation.
- Stay clear of the three-point linkage and pickup hitch (if equipped) when controlling them.
- Keep hands, feet, and clothing away from power-driven parts.

Driving Concerns

- Never get on or off a moving tractor.
- Complete any required training prior to operating vehicle.
- Keep all children and nonessential personnel off tractors and all equipment.
- Never ride on a tractor unless seated on a John Deere approved seat with a seat belt.
- Keep all shields/guards in place.
- Use appropriate visual and audible signals when operating on public roads.
- Move to side of road before stopping.
- Reduce speed when turning, applying individual brakes, or operating around hazards on rough ground or steep slopes.
- Stability degrades when attached implements are at high position.
- Couple brake pedals together for road travel.
- Pump brakes when stopping on slippery surfaces.
- Regularly clean fenders and fender valances (mud flaps) if installed. Remove dirt before driving on public roadways.

Heated and Ventilated Operator's Seat

- An overheated seat heater can cause a burn injury or damage to the seat. To reduce the risk of burns, use caution when using the seat heater for extended periods of time, especially if the operator cannot feel temperature change or pain to the skin. Do not place objects on the seat, such as a blanket, cushion, cover, or similar item, which can cause the seat heater to overheat.

Towing Loads

- Be careful when towing and stopping heavy loads.

Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor or are towed too fast can cause loss of control.

- Consider the total weight of the equipment and its load.
- Hitch towed loads only to approved couplings to avoid rearward upset.

Parking and Leaving the Tractor

- Before dismounting, shut off SCVs, disengage PTO, stop engine, lower implements/attachments to ground, place implement/attachment control devices in neutral, and securely engage park mechanism, including the park pawl and park brake. In addition, if the tractor is left unattended, remove key.
- Leaving transmission in gear with engine off will NOT prevent the tractor from moving.
- Never go near an operating PTO or an operating implement.
- Wait for all movement to stop before servicing machinery.

Common Accidents

Unsafe operation or misuse of the tractor can result in accidents. Be alert to hazards of tractor operation.

The most common accidents involving tractors are:

- Tractor rollover
- Collisions with motor vehicles
- Improper starting procedures
- Entanglement in PTO shafts
- Falling from tractor
- Crushing and pinching during hitching

DX,WW,TRACTOR-19-08MAY19

Avoid Backover Accidents



PC10857XW—UN—15APR13

Before moving machine, be sure that all persons are clear of machine path. Turn around and look directly for best visibility. Use a signal person when backing if view is obstructed or when in close quarters.

Do not rely on a camera to determine if personnel or obstacles are behind the machine. The system can be limited by many factors including maintenance practices, environmental conditions, and operating range.

DX,AVOID,BACKOVER,ACCIDENTS-19-30AUG10

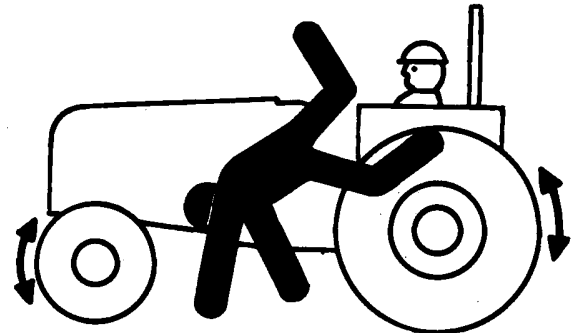
Limited Use in Forestry Operation

The intended use of John Deere tractors when used in forestry operations is limited to tractor-specific applications like transport, stationary work such as log splitting, propulsion, or operating implements with PTO, hydraulic, or electrical systems.

These are applications where normal operation does not present a risk of falling or penetrating objects. Any forestry applications beyond these applications, such as forwarding and loading, requires fitment of application-specific components including Falling Object Protective Structure (FOPS) and/or Operative Protective Structures (OPS). Contact John Deere dealer for special components.

DX,WW,FORESTRY-19-12OCT11

Keep Riders Off Machine



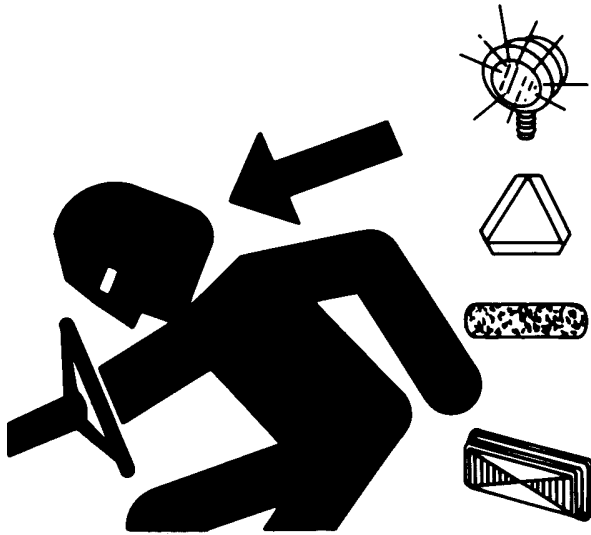
TS290—UN—23AUG88

Only allow the operator on the machine. Keep riders off.

Riders on machine are subject to injury such as being struck by foreign objects and being thrown off of the machine. Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.

DX,RIDER-19-03MAR93

Use Safety Lights and Devices



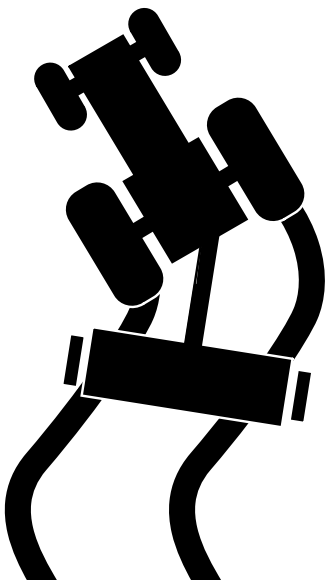
TS951—UN—12APR90

Prevent collisions between other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Use headlights, flashing warning lights, and turn signals day and night. Follow local regulations for equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost. An implement safety lighting kit is available from your John Deere dealer.

DX,FLASH-19-07JUL99

Transport Towed Equipment at Safe Speeds



TS1686—UN—27SEP06

Do not exceed the maximum transport speed. This towing unit may be capable of operating at transport speeds that exceed the maximum allowable transport speed for towed implements.

Before transporting a towed implement, determine from signs on the implement or information provided in the implement's operator manual the maximum transport speed. Never transport at speeds that exceed the implement's maximum transport speed. Exceeding the implement's maximum transport speed can result in:

- Loss of control of the towing unit/implement combination
- Reduced or no ability to stop during braking
- Implement tire failure
- Damage to the implement structure or its components

Implements shall be equipped with brakes if the maximum fully loaded weight is greater than 1500 kg (3307 lbs) and greater than 1.5 times the weight of the towing unit.

Example: Implement mass is 1600 kg (3527 lbs) and towing unit mass is 1600 kg (3527 lbs), example implement is not required to have brakes.

Implements without brakes: Do not transport at speeds greater than 32 km/h (20 mph).

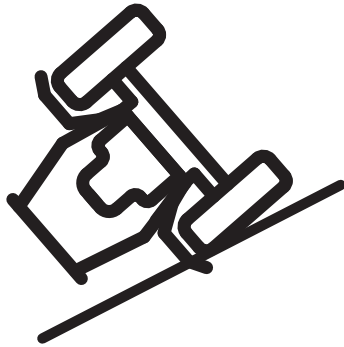
Implements with brakes:

- If the manufacturer does not specify a maximum transport speed, do not tow at speeds greater than 40 km/h (25 mph).
- When transporting at speeds up to 40 km/h (25 mph) the fully loaded implement must weigh less than 4.5 times the towing unit weight.
- When transporting at speeds between 40—50 km/h (25—31 mph) the fully loaded implement must weigh less than 3.0 times the towing unit weight.

When towing a trailer, become familiar with the braking characteristics and ensure the compatibility of the tractor/trailer combination in regard to the deceleration rate.

DX,TOW1-19-28FEB17

Use Caution on Slopes, Uneven Terrain, and Rough Ground



RXA0103437—UN—01JUL09

Avoid holes, ditches, and obstructions which cause the tractor to tip, especially on slopes. Avoid sharp uphill turns.

Driving forward out of a ditch, mired condition, or up a steep slope could cause the tractor to tip over rearward. Back out of these situations if possible.

Danger of overturn increases greatly with narrow tread setting, at high speed.

Not all conditions that can cause a tractor to overturn are listed. Be alert for any situation in which stability may be compromised.

Slopes are a major factor related to loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on all slopes requires extra caution.

Uneven terrain or rough ground can cause loss-of-control and tip-over accidents, which can result in severe injury or death. Operation on uneven terrain or rough ground requires extra caution.

Never drive near the edge of a gully, drop-off, ditch, steep embankment, or a body of water. The machine could suddenly roll over if a wheel goes over the edge or the ground caves in.

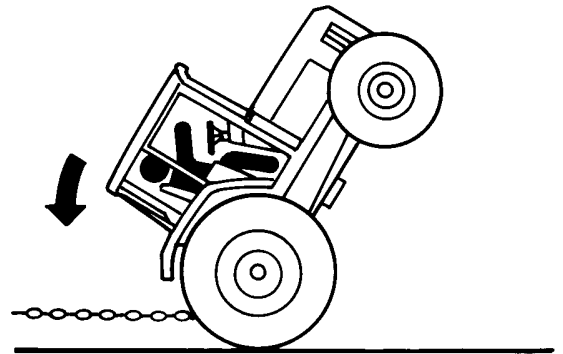
Choose a low ground speed so you will not have to stop or shift while on a slope.

Avoid starting, stopping, or turning on a slope. If the tires lose traction, disengage the PTO and proceed slowly, straight down the slope.

Keep all movement on slopes slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.

DX,WW,SLOPE-19-28FEB17

Freeing a Mired Machine



TS1645—UN—15SEP95



TS263—UN—23AUG88

Attempting to free a mired machine can involve safety hazards such as the mired tractor tipping rearward, the towing tractor overturning, and the tow chain or tow bar (a cable is not recommended) failing and recoiling from its stretched condition.

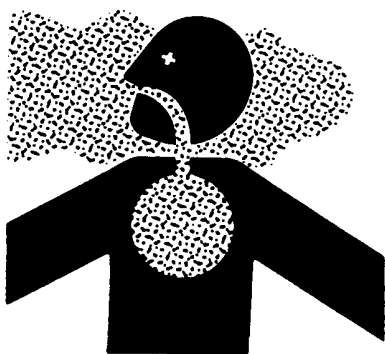
Back your tractor out if it gets mired down in mud. Unhitch any towed implements. Dig mud from behind the rear wheels. Place boards behind the wheels to provide a solid base and try to back out slowly. If necessary, dig mud from the front of all wheels and drive slowly ahead.

If necessary to tow with another unit, use a tow bar or a long chain (a cable is not recommended). Inspect the chain for flaws. Make sure all parts of towing devices are of adequate size and strong enough to handle the load.

Always hitch to the drawbar of the towing unit. Do not hitch to the front pushbar attachment point. Before moving, clear the area of people. Apply power smoothly to take up the slack; a sudden pull could snap any towing device causing it to whip or recoil dangerously.

DX,MIRE-19-07JUL99

Avoid Contact with Agricultural Chemicals



TS220—UN—15APR13



TS272—UN—23AUG88

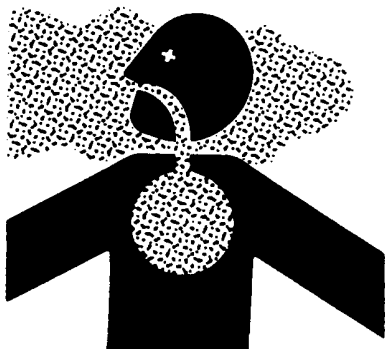
This enclosed cab does not protect against inhaling vapor, aerosol or dust. If pesticide use instructions require respiratory protection, wear an appropriate respirator inside the cab.

Before leaving the cab, wear personal protective equipment as required by the pesticide use instructions. When re-entering the cab, remove protective equipment and store either outside the cab in a closed box or some other type of sealable container or inside the cab in a pesticide resistant container, such as a plastic bag.

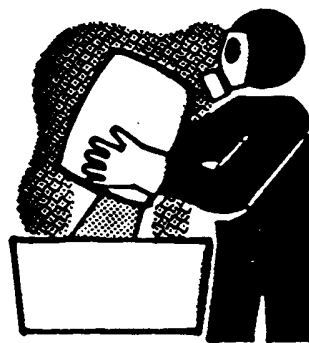
Clean your shoes or boots to remove soil or other contaminated particles prior to entering the cab.

DX,CABS-19-25MAR09

Handle Agricultural Chemicals Safely



TS220—UN—15APR13



A34471

A34471—UN—11OCT88

Chemicals used in agricultural applications such as fungicides, herbicides, insecticides, pesticides, rodenticides, and fertilizers can be harmful to your health or the environment if not used carefully.

Always follow all label directions for effective, safe, and legal use of agricultural chemicals.

Reduce risk of exposure and injury:

- Wear appropriate personal protective equipment as recommended by the manufacturer. In the absence of manufacturer's instructions, follow these general guidelines:
 - Chemicals labeled **'Danger'**: Most toxic. Generally require use of goggles, respirator, gloves, and skin protection.
 - Chemicals labeled **'Warning'**: Less toxic. Generally require use of goggles, gloves, and skin protections.
 - Chemicals labeled **'Caution'**: Least toxic. Generally require use of gloves and skin protection.
- Avoid inhaling vapor, aerosol or dust.
- Always have soap, water, and towel available when working with chemicals. If chemical contacts skin, hands, or face, wash immediately with soap and water. If chemical gets into eyes, flush immediately with water.
- Wash hands and face after using chemicals and before eating, drinking, smoking, or urination.
- Do not smoke or eat while applying chemicals.
- After handling chemicals, always bathe or shower and change clothes. Wash clothing before wearing again.
- Seek medical attention immediately if illness occurs during or shortly after use of chemicals.
- Keep chemicals in original containers. Do not transfer chemicals to unmarked containers or to containers used for food or drink.
- Store chemicals in a secure, locked area away from human or livestock food. Keep children away.
- Always dispose of containers properly. Triple rinse

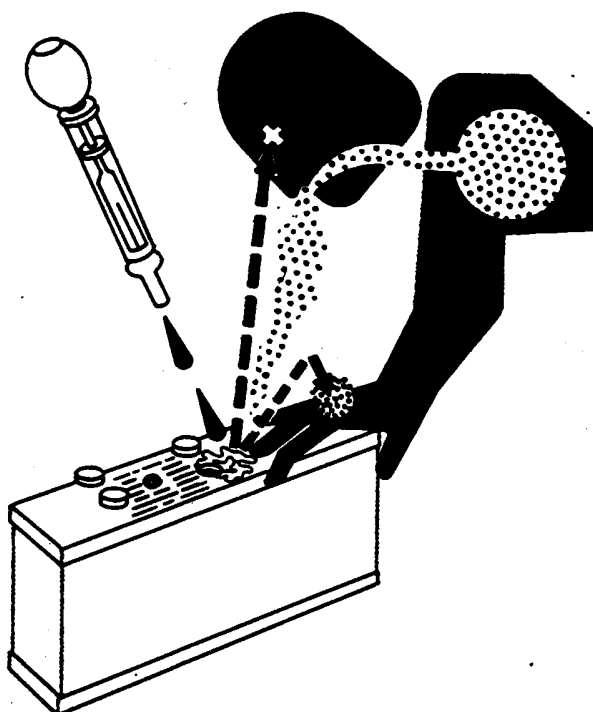
empty containers and puncture or crush containers and dispose of properly.

DX,VW,CHEM01-19-24AUG10

Handling Batteries Safely



TS204—UN—15APR13



TS203—UN—23AUG88

Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace grounded clamp last.

Sulfuric acid in battery electrolyte is poisonous and

strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid hazards by:

- Filling batteries in a well-ventilated area
- Wearing eye protection and rubber gloves
- Avoiding use of air pressure to clean batteries
- Avoiding breathing fumes when electrolyte is added
- Avoiding spilling or dripping electrolyte
- Using correct battery booster or charger procedure.

If acid is spilled on skin or in eyes:

1. Flush skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush eyes with water for 15—30 minutes. Get medical attention immediately.

If acid is swallowed:

1. Do not induce vomiting.
2. Drink large amounts of water or milk, but do not exceed 2 L (2 qt.).
3. Get medical attention immediately.

WARNING: Battery posts, terminals, and related accessories contain lead and lead compounds, chemicals known to the State of California to cause cancer and reproductive harm. **Wash hands after handling.**

DX,VW,BATTERIES-19-02DEC10

Avoid Heating Near Pressurized Fluid Lines

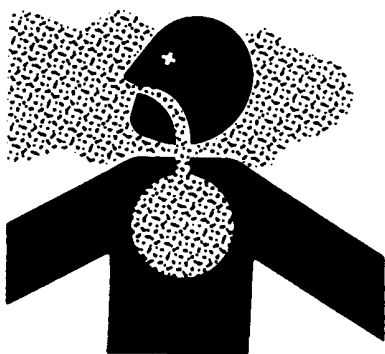


TS953—UN—15MAY90

Flammable spray can be generated by heating near pressurized fluid lines, resulting in severe burns to yourself and bystanders. Do not heat by welding, soldering, or using a torch near pressurized fluid lines or other flammable materials. Pressurized lines can accidentally burst when heat goes beyond the immediate flame area.

DX,TORCH-19-10DEC04

Remove Paint Before Welding or Heating



TS220—UN—15APR13

Avoid potentially toxic fumes and dust.

Hazardous fumes can be generated when paint is heated by welding, soldering, or using a torch.

Remove paint before heating:

- Remove paint a minimum of 100 mm (4 in.) from area to be affected by heating. If paint cannot be removed, wear an approved respirator before heating or welding.
- If you sand or grind paint, avoid breathing the dust. Wear an approved respirator.
- If you use solvent or paint stripper, remove stripper with soap and water before welding. Remove solvent or paint stripper containers and other flammable material from area. Allow fumes to disperse at least 15 minutes before welding or heating.

Do not use a chlorinated solvent in areas where welding will take place.

Do all work in an area that is well ventilated to carry toxic fumes and dust away.

Dispose of paint and solvent properly.

DX,PAINT-19-24JUL02

Handle Electronic Components and Brackets Safely



TS249—UN—23AUG88

Falling while installing or removing electronic

components mounted on equipment can cause serious injury. Use a ladder or platform to easily reach each mounting location. Use sturdy and secure footholds and handholds. Do not install or remove components in wet or icy conditions.

If installing or servicing a RTK base station on a tower or other tall structure, use a certified climber.

If installing or servicing a global positioning receiver mast used on an implement, use proper lifting techniques and wear proper protective equipment. The mast is heavy and can be awkward to handle. Two people are required when mounting locations are not accessible from the ground or from a service platform.

DX,WW,RECEIVER-19-24AUG10

Practice Safe Maintenance



TS218—UN—23AUG88

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate, service, or adjust machine while it is moving. Keep hands, feet, and clothing away from power-driven parts. Disengage all power and operate controls to relieve pressure. Lower equipment to the ground. Stop the engine. Remove the key. Allow machine to cool.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed.

Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

On self-propelled equipment, disconnect battery ground cable (-) before making adjustments on electrical systems or welding on machine.

On towed implements, disconnect wiring harnesses from tractor before servicing electrical system components or welding on machine.

Falling while cleaning or working at height can cause serious injury. Use a ladder or platform to easily reach each location. Use sturdy and secure footholds and handholds.

DX,SERV-19-28FEB17

Avoid Hot Exhaust



RG17488—UN—21AUG09

Servicing machine or attachments with engine running can result in serious personal injury. Avoid exposure and skin contact with hot exhaust gases and components.

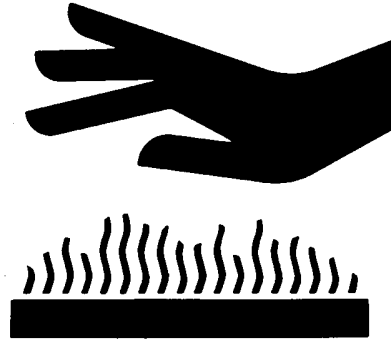
Exhaust parts and streams become very hot during operation. Exhaust gases and components reach temperatures hot enough to burn people, ignite, or melt common materials.

DX,EXHAUST-19-20AUG09

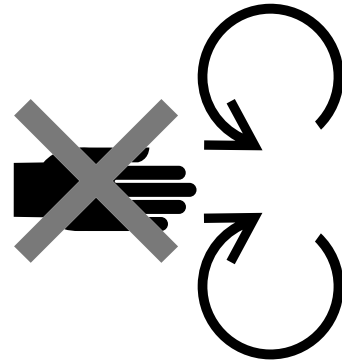
Clean Exhaust Filter Safely



TS227—UN—15APR13



TS271—UN—23AUG88



TS1693—UN—09DEC09



TS1695—UN—07DEC09

During exhaust filter cleaning operations, the engine may run at elevated idle and hot temperatures for an extended period of time. Exhaust gases and exhaust filter components reach temperatures hot enough to burn people, or ignite or melt common materials.

Keep machine away from people, animals, or structures which may be susceptible to harm or damage from hot exhaust gases or components. Avoid potential fire or explosion hazards from flammable materials and vapors near the exhaust. Keep exhaust outlet away from people and anything that can melt, burn, or explode.

Closely monitor machine and surrounding area for smoldering debris during and after exhaust filter cleaning.

Adding fuel while an engine is running can create a fire or explosion hazard. Always stop engine before refueling machine and clean up any spilled fuel.

Always make sure that engine is stopped while hauling machine on a truck or trailer.

Contact with exhaust components while still hot can result in serious personal injury.

Avoid contact with these components until cooled to safe temperatures.

If service procedure requires engine to be running:

- Only engage power-driven parts required by service procedure
- Ensure that other people are clear of operator station and machine

Keep hands, feet, and clothing away from power-driven parts.

Always disable movement (neutral), set the parking brake or mechanism and disconnect power to attachments or tools before leaving the operator's station.

Shut off engine and remove key (if equipped) before leaving the machine unattended.

DX,EXHAUST,FILTER-19-12JAN11

Work In Ventilated Area



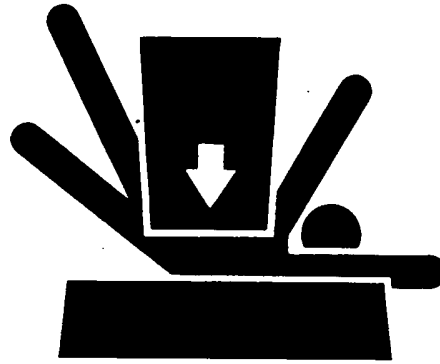
TS220—UN—15APR13

Engine exhaust fumes can cause sickness or death. If it is necessary to run an engine in an enclosed area, remove the exhaust fumes from the area with an exhaust pipe extension.

If you do not have an exhaust pipe extension, open the doors and get outside air into the area.

DX,AIR-19-17FEB99

Support Machine Properly



TS229—UN—23AUG88

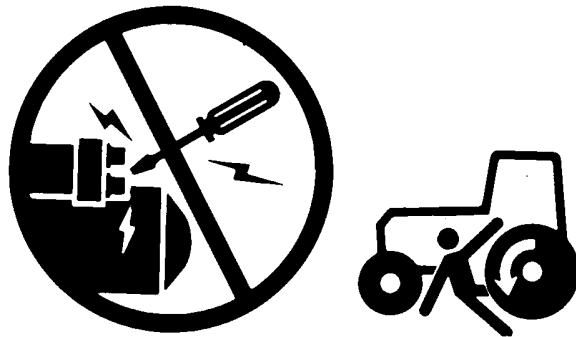
Always lower the attachment or implement to the ground before you work on the machine. If the work requires that the machine or attachment be lifted, provide secure support for them. If left in a raised position, hydraulically supported devices can settle or leak down.

Do not support the machine on cinder blocks, hollow tiles, or props that may crumble under continuous load. Do not work under a machine that is supported solely by a jack. Follow recommended procedures in this manual.

When implements or attachments are used with a machine, always follow safety precautions listed in the implement or attachment operator's manual.

DX,LOWER-19-24FEB00

Prevent Machine Runaway



TS177—UN—11JAN89

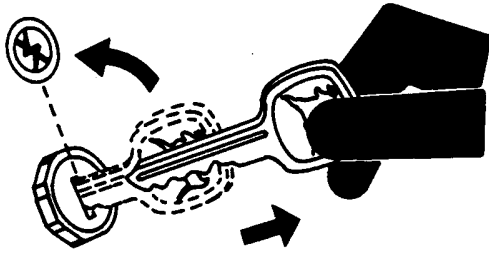
Avoid possible injury or death from machinery runaway.

Do not start engine by shorting across starter terminals. Machine will start in gear if normal circuitry is bypassed.

NEVER start engine while standing on ground. Start engine only from operator's seat, with transmission in neutral or park.

DX,BYPAS1-19-29SEP98

Park Machine Safely



TS230—UN—24MAY89

Before working on the machine:

- Lower all equipment to the ground.
- Stop the engine and remove the key.
- Disconnect the battery ground strap.
- Hang a "DO NOT OPERATE" tag in operator station.

DX,PARK-19-04JUN90

Service Cooling System Safely



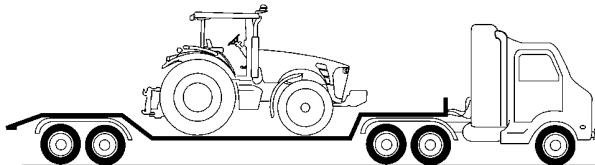
TS281—UN—15APR13

Explosive release of fluids from pressurized cooling system can cause serious burns.

Shut off engine. Only remove filler cap when cool enough to touch with bare hands. Slowly loosen cap to first stop to relieve pressure before removing completely.

DX,WW,COOLING-19-19AUG09

Transport Tractor Safely



RXA0103709—UN—01JUL09

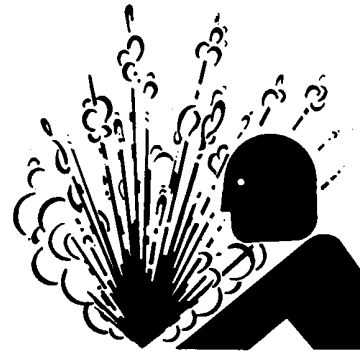
A disabled tractor is best transported on a flatbed carrier. Use chains to secure the tractor to the carrier. The axles and tractor frame are suitable attachment points.

Before transporting the tractor on a low-loader truck or flatbed rail wagon, make sure that the hood is secured over the tractor engine and that doors, roof hatch (if equipped) and windows are properly closed.

Never tow a tractor at a speed greater than 10 km/h (6 mph). An operator must steer and brake the tractor under tow.

DX,WW,TRANSPORT-19-19AUG09

Service Accumulator Systems Safely



TS281—UN—15APR13

Escaping fluid or gas from systems with pressurized accumulators that are used in air conditioning, hydraulic, and air brake systems can cause serious injury. Extreme heat can cause the accumulator to burst, and pressurized lines can be accidentally cut. Do not weld or use a torch near a pressurized accumulator or pressurized line.

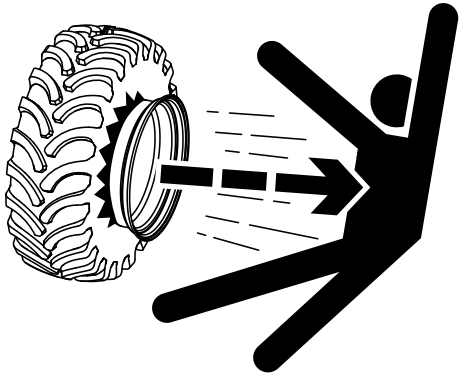
Relieve pressure from the pressurized system before removing accumulator.

Relieve pressure from the hydraulic system before removing accumulator. Never attempt to relieve hydraulic system or accumulator pressure by loosening a fitting.

Accumulators cannot be repaired.

DX,WW,ACCLA2-19-22AUG03

Service Tires Safely



RXA0103438—UN—11JUN09

Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure. Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

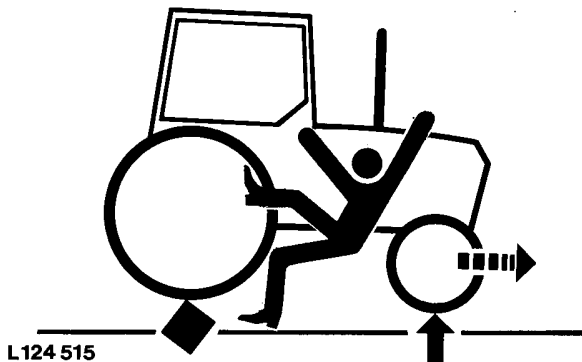
When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims, or missing lug bolts and nuts.

Wheels and tires are heavy. When handling wheels and tires use a safe lifting device or get an assistant to help lift, install, or remove.

DX,WW,RIMS-19-28FEB17

Service Front-Wheel Drive Tractor Safely



L124 515

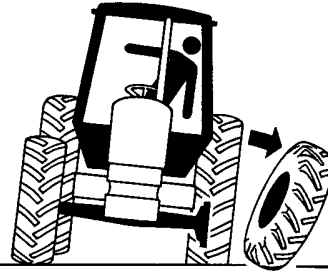
L124515—UN—06AUG94

When servicing front-wheel drive tractor with the rear wheels supported off the ground and rotating wheels by engine power, always support front wheels in a similar manner. Loss of electrical power or transmission hydraulic system pressure will engage the front driving wheels, pulling the rear wheels off the support if front

wheels are not raised. Under these conditions, front drive wheels can engage even with switch in disengaged position.

DX,WW,MFWD-19-19AUG09

Tightening Wheel Retaining Bolts/Nuts



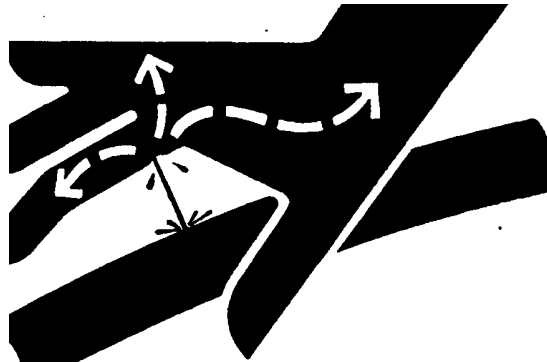
L124 516

L124516—UN—03JAN95

Torque wheel retaining bolts/nuts at the intervals specified in section Break-In Period and Service.

DX,WW,WHEEL-19-12OCT11

Avoid High-Pressure Fluids



X9811—UN—23AUG88

Inspect hydraulic hoses periodically – at least once per year – for leakage, kinking, cuts, cracks, abrasion, blisters, corrosion, exposed wire braid or any other signs of wear or damage.

Replace worn or damaged hose assemblies immediately with John Deere approved replacement parts.

Escaping fluid under pressure can penetrate the skin causing serious injury.

Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.

Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any

fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available in English from Deere & Company Medical Department in Moline, Illinois, U.S.A., by calling 1-800-822-8262 or +1 309-748-5636.

DX,FLUID-19-12OCT11

Do Not Open High-Pressure Fuel System



TS1343—UN—18MAR92

High-pressure fluid remaining in fuel lines can cause serious injury. Do not disconnect or attempt repair of fuel lines, sensors, or any other components between the high-pressure fuel pump and nozzles on engines with High Pressure Common Rail (HPCR) fuel system.

Only technicians familiar with this type of system can perform repairs. (See your John Deere dealer.)

DX,WW,HPCR1-19-07JAN03

Store Attachments Safely



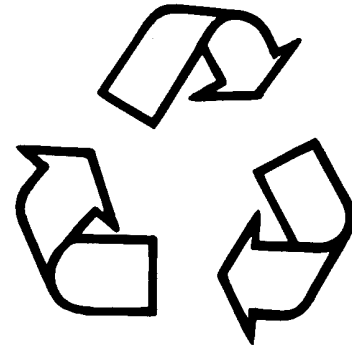
TS219—UN—23AUG88

Stored attachments such as dual wheels, cage wheels, and loaders can fall and cause serious injury or death.

Securely store attachments and implements to prevent falling. Keep playing children and bystanders away from storage area.

DX,STORE-19-03MAR93

Decommissioning — Proper Recycling and Disposal of Fluids and Components



TS1133—UN—15APR13

Safety and environmental stewardship measures must be taken into account when decommissioning a machine and/or component. These measures include the following:

- Use appropriate tools and personal protective equipment such as clothing, gloves, face shields or glasses, during the removal or handling of objects and materials.
- Follow instructions for specialized components.
- Release stored energy by lowering suspended machine elements, relaxing springs, disconnecting the battery or other electrical power, and releasing pressure in hydraulic components, accumulators, and other similar systems.
- Minimize exposure to components which may have residue from agricultural chemicals, such as fertilizers and pesticides. Handle and dispose of these components appropriately.
- Carefully drain engines, fuel tanks, radiators, hydraulic cylinders, reservoirs, and lines before recycling components. Use leak-proof containers when draining fluids. Do not use food or beverage containers.
- Do not pour waste fluids onto the ground, down a drain, or into any water source.
- Observe all national, state, and local laws, regulations, or ordinances governing the handling or disposal of waste fluids (example: oil, fuel, coolant, brake fluid); filters; batteries; and, other substances or parts. Burning of flammable fluids or components in other than specially designed incinerators may be prohibited by law and could result in exposure to harmful fumes or ashes.
- Service and dispose of air conditioning systems appropriately. Government regulations may require a certified service center to recover and recycle air conditioning refrigerants which could damage the atmosphere if allowed to escape.
- Evaluate recycling options for tires, metal, plastic, glass, rubber, and electronic components which may be recyclable, in part or completely.

- Contact your local environmental or recycling center, or your John Deere dealer for information on the proper way to recycle or dispose of waste.

DX,DRAIN-19-01JUN15

Emergency Measures

Emergency measure when engine coasters:

Measures when “coaster”, the main measures are fuel cut-off or air cut-off to shut down engine. The emergency measures are: First is release throttle and apply service brake; second is plug air intake hose; third is disconnect high pressure fuel hose to cut off fuel supplying.

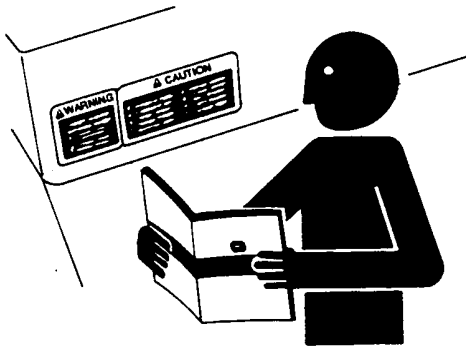
Emergency measure when machine head springs:

Release clutch to avoid machine roll back.

CP00612,0002056-19-30OCT14

Safety Signs

Replace Safety Signs



TS201—UN—15APR13

Replace missing or damaged safety signs. Use this operator's manual for correct safety sign placement.

There can be additional safety information contained on parts and components sourced from suppliers that is not reproduced in this operator's manual.

DX,SIGNS-19-18AUG09

necessary information for safe machine operation and explanation of safety signs. Carefully observe all safety rules to avoid any accidents.

CO00263,000190D-19-06JUL18

Use Seat Belt Safety Sign



CPA0001397—UN—22APR15

Seat Belt

Operator's Manual Safety Sign



CPA0001550—UN—28APR15

B-Post (left side)



Decal

PUC1613—UN—03NOV08

⚠ CAUTION: Avoid crushing injury or death during rollover.

Use foldable ROPS and seat belt properly.

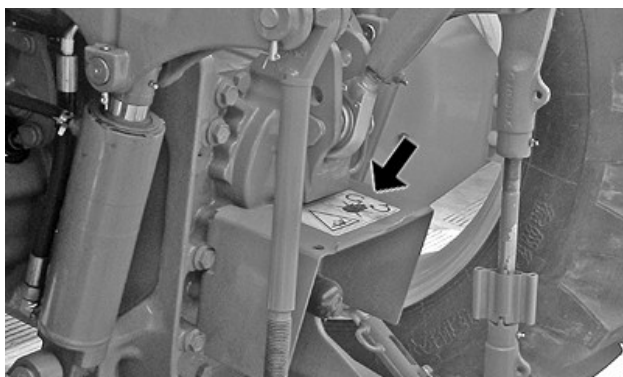
- If this machine is equipped with a roll-over protective structure (ROPS), use a seat belt when you operate with ROPS.
- Hold the latch and pull the seat belt across the body.
- Insert the latch into the buckle. Listen for a click.
- Tug on the seat belt latch to make sure that the belt is securely fastened.
- Snug the seat belt across the hips.
- If this machine is operated with the ROPS folded (for example, to enter a low building), drive with extreme caution. **DO NOT USE** a seat belt with the ROPS folded.
- Return the ROPS to the raised, fully extended position as soon as the machine is operated under normal conditions.

CO00263,000190E-19-06JUL18

⚠ CAUTION: Avoid the risk of injury.

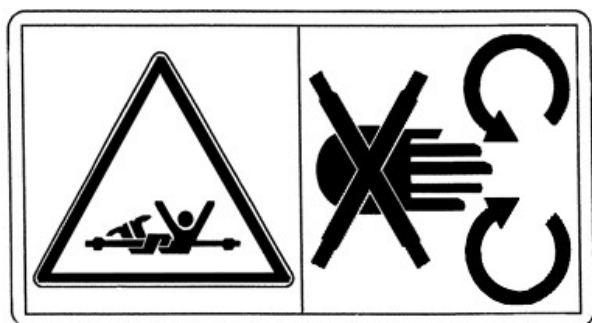
This Operator's Manual contains important and

Keep Away from Rotating PTO



CPA0001756—UN—26AUG15

On PTO Shield



PUC1619—UN—21NOV08

Decal

CAUTION: Avoid entanglement.

Stay away from rotating components. Shut off the engine and wait until all components have stopped turning.

YN00044,0000EFE-19-03JAN18



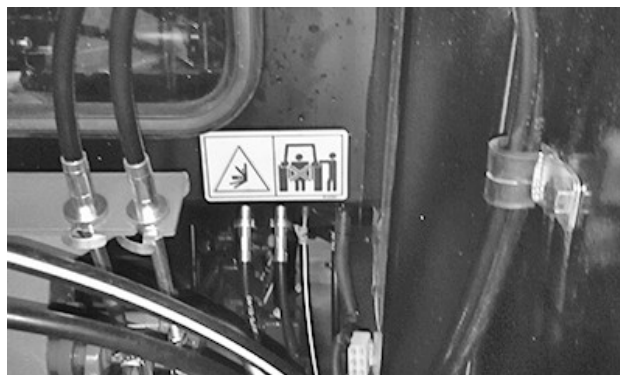
PUC1615—UN—03NOV08

CAUTION: Avoid falling and being struck.

Keep riders off. Riders on machine are subject to injury such as being hit by foreign objects and being thrown off the machine. Riders also obstruct the operator's view, resulting in the machine being operated in an unsafe manner.

CO00263,000190F-19-06JUL18

Keep Away from 3-Point Hitch



CPA0002481—UN—04JAN16

Rear of Tractor

Riders Safety Sign



CPA0002029—UN—30SEP15

Left-Hand Fender



PUC1633—UN—27NOV08

Decal

CAUTION: Avoid crushing.

When attaching or detaching to an implement, there is a

risk of crushing in the area between the tractor and implement. When attaching to the hitch, stay clear of the area where the 3-point hitch rises and do not permit anyone to be in the area.

CO00263,0001910-19-06JUL18

Keep Away from High Temperature Coolant



CPA0007291—UN—19NOV18



Decal

CPA0007294—UN—19NOV18

CAUTION: Avoid scalding.

Coolant is under high pressure. Before removing the cap, allow sufficient time for the cooling system to cool down and for pressure to drop.

Shut off the engine, open the hood and wait until the cooling system has cooled down. Do not open the cap unless the hoses of the cooling system are cool enough to be touched with your bare hand. First open the cap only far enough to allow the pressure to drop, then unscrew it completely.

YN00044,0000F01-19-20NOV18

Fight Fire and Open Flame



CPA0003052—UN—07FEB17



Decal

CPA0003051—UN—07FEB17

CAUTION: Fuel is highly flammable, so handle it with care. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

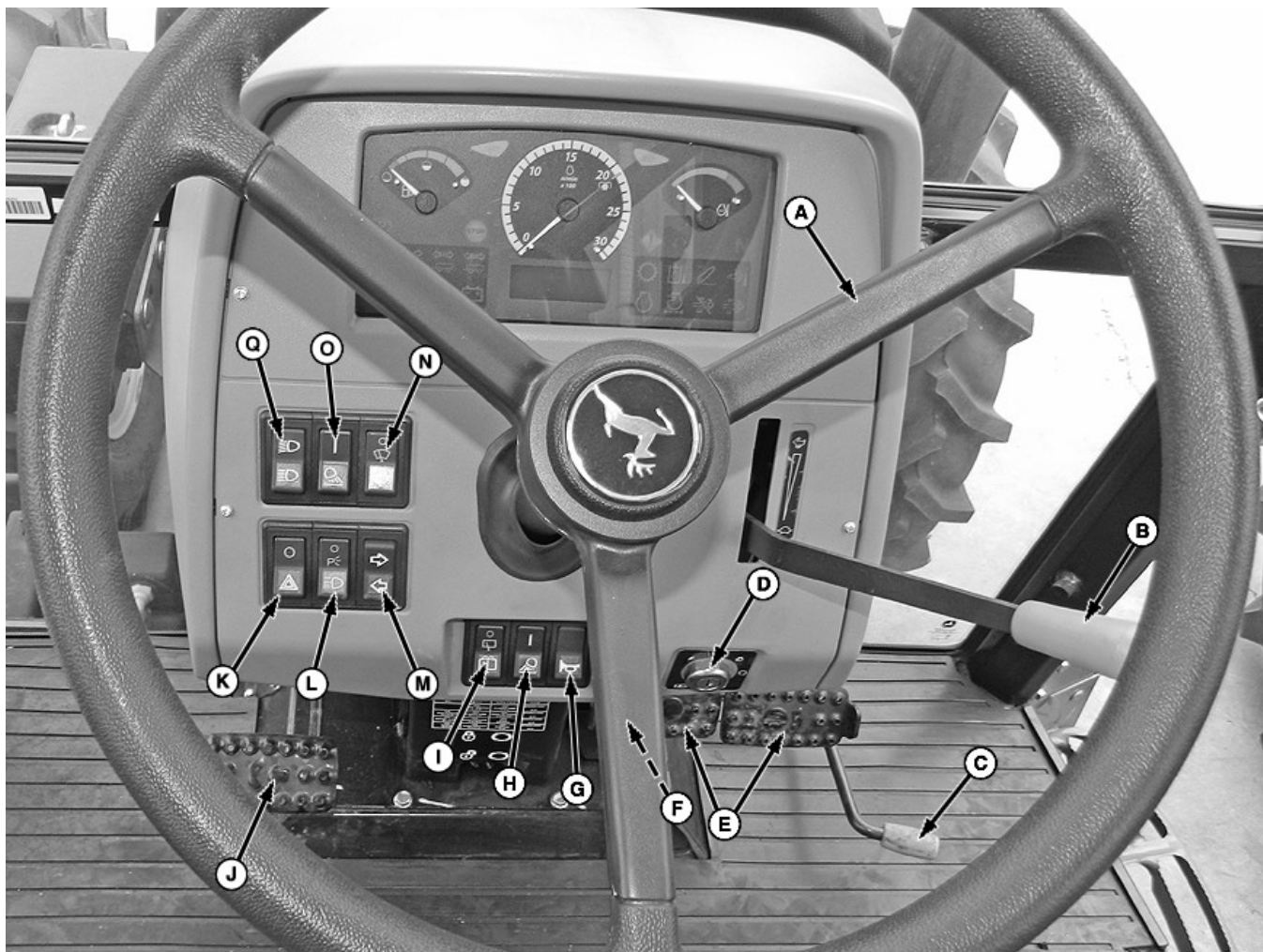
Prevent fires by keeping machine clean of accumulated trash, grease, and debris.

Always clean up spilled fuel.

CO00263,0001911-19-06JUL18

Controls and Instruments

Tractor Controls - Front Console

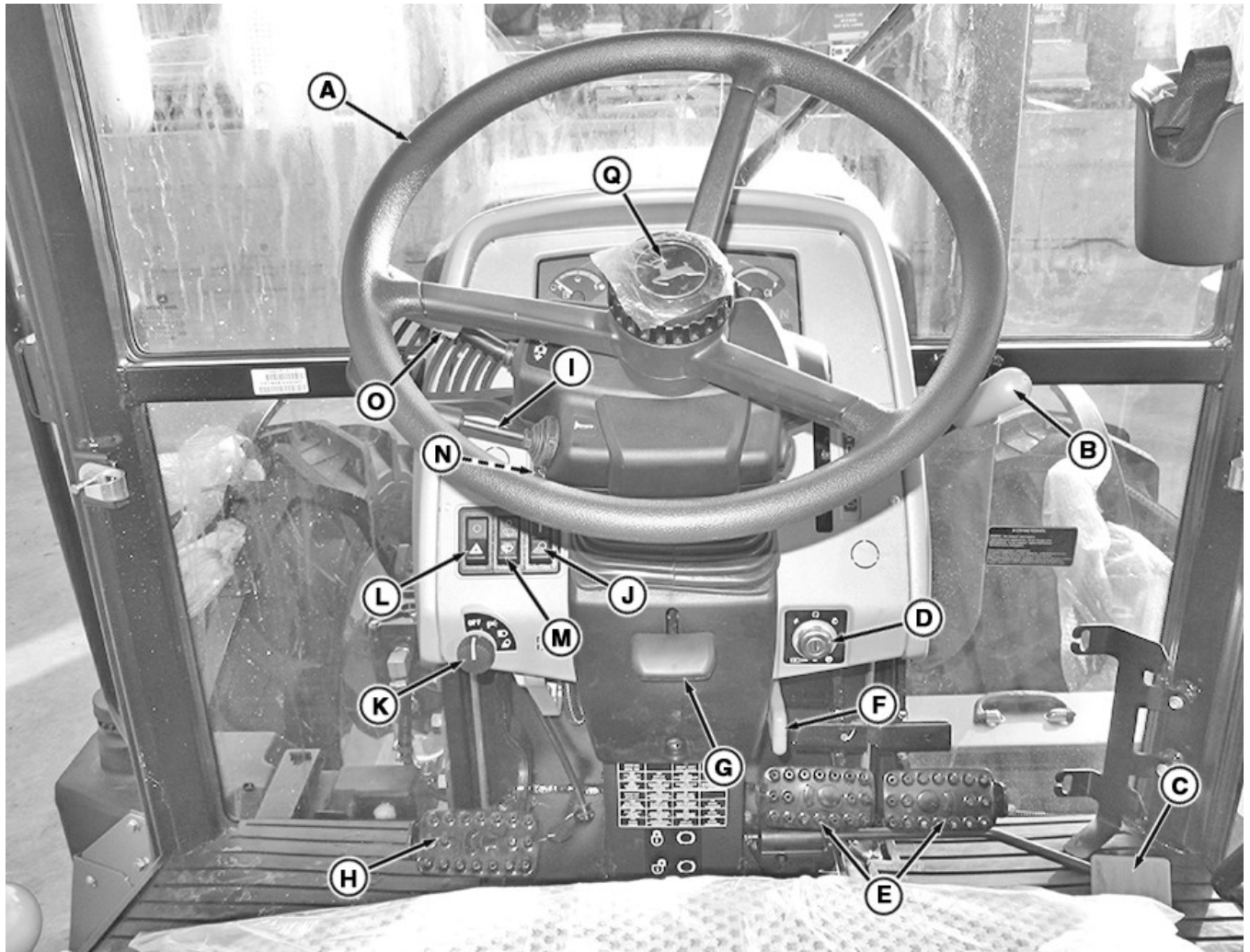


CPA0002068—UN—19OCT15

Tractor Controls (Fixed Steering Column)

A—Steering Wheel
B—Hand Throttle
C—Foot Throttle
D—Key Switch
E—Brake Pedals (2 used)
F—Parking Brake Lever
G—Horn Switch
H—Front Worklight Switch

I—Rear Windshield Wiper Switch
J—Clutch Pedal
K—Warning Light Switch
L—Light Switch
M—Turn Signal Switch
N—Front Windshield Wiper Switch
O—Rear Worklight Switch
Q—High/Low Beam Switch



CPA0003008—UN—18OCT16

Tractor Controls (Tiltable and Telescopic Steering Column)

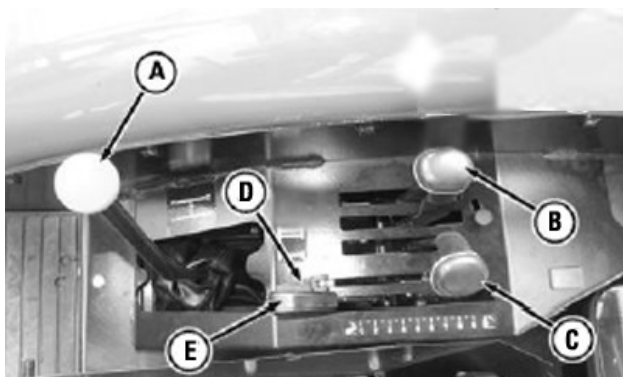
A—Steering Wheel
B—Hand Throttle
C—Foot Throttle
D—Key Switch
E—Brake Pedals (2 used)
F—Parking Brake Lever
G—Steering Wheel Adjusting handle
H—Clutch Pedal

I—Multiple Signal Lever
J—Front Worklight Switch
K—Light Switch
L—Warning Light Switch
M—Front Windshield Wiper Switch
N—Rear Windshield Wiper Switch
O—Power Reverser Lever
Q—Adjusting Cap

NOTE: Steering wheel adjustment refer to Operator Station Operation section.

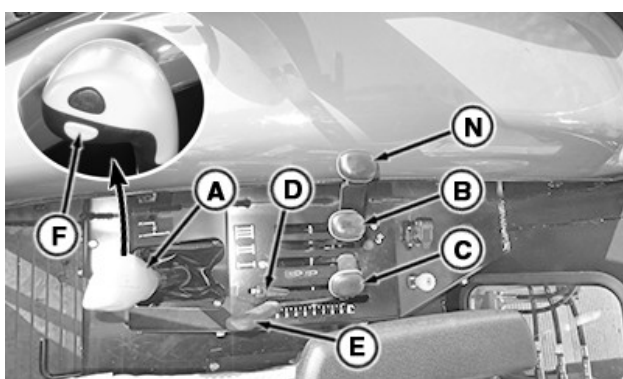
CO00263,00009FD-19-24JAN18

Tractor Controls - Right-Hand Side



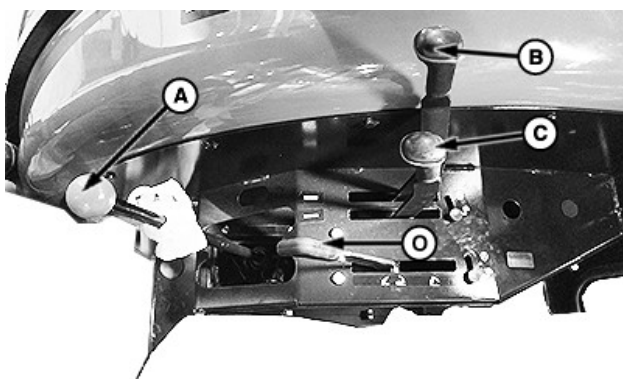
CPA0001107—UN—10NOV14

Right-Hand Side Controls (12F/4R transmission)



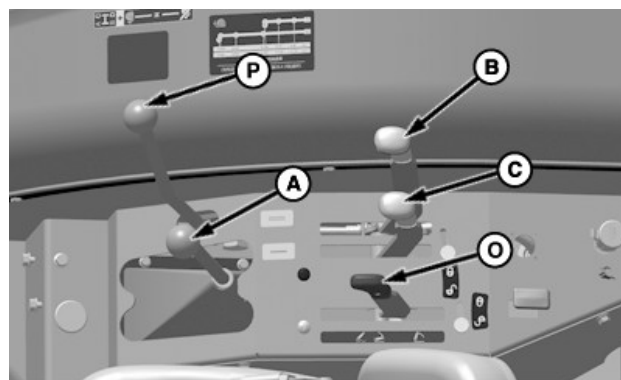
CPA0003009—UN—19OCT16

Right-Hand Side Controls (24F/8R and /24F/12R transmission)



CPA0004407—UN—08NOV17

Right-Hand Side Controls (12F/4R transmission, option)



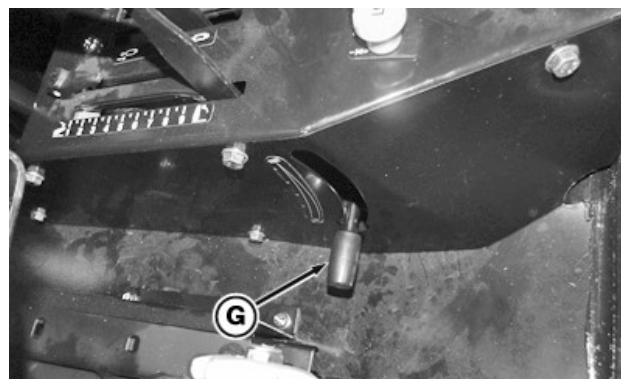
CPA0005304—UN—27FEB18

Right-Hand Side Controls (18F/6R transmission, option)



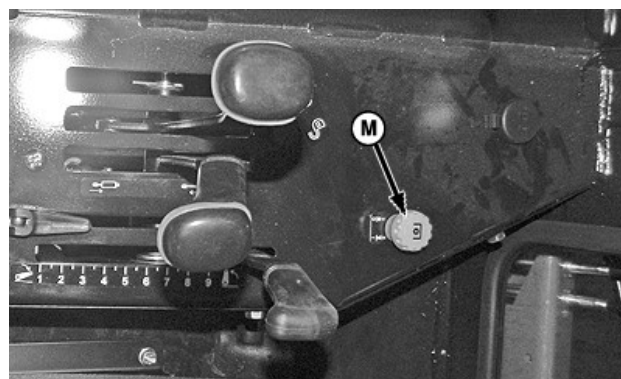
PY16722—UN—17NOV12

Differential Lock Pedal



CPA0002310—UN—23NOV15

Draft Control Knob



CPA0002039—UN—15OCT15

PTO Switch (wet clutch)

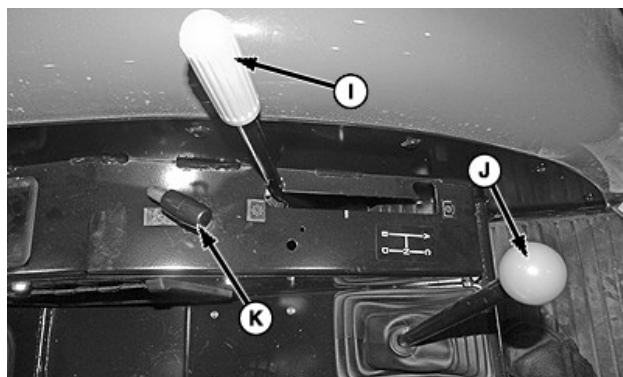
- A—Gear-Shift Lever
- B—SCV II Lever
- C—SCV I Lever
- D—Position Control Lever Stop
- E—Position Control Lever
- F—High/Low Speed Shift Button
- G—Draft Control Knob
- L—Differential Lock Pedal
- M—PTO Switch (Wet Clutch)
- N—SCV III Lever
- O—Downforce Rockshaft Control Lever
- P—Creeper Lever

- H—Rate-of-Drop Knob
- I—PTO Control Lever (Dry Clutch)
- J—Range-Shift Lever
- K—MFWD Lever

CO00263,0001C67-19-20DEC18

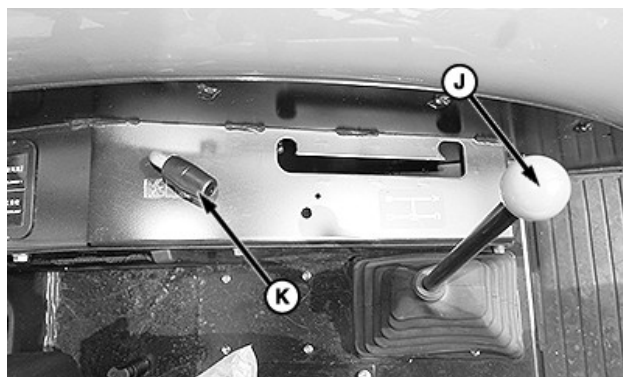
CO00263,0001C60-19-20DEC18

Tractor Controls - Left-Hand Side



CPA0002057—UN—22OCT15

Left-Hand Side Controls (Dry Clutch)



CPA0004536—UN—23NOV17

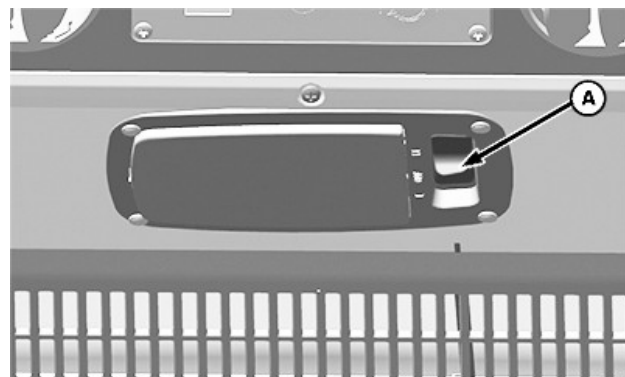
Left-Hand Side Controls (Wet Clutch)



CPA0002058—UN—19OCT15

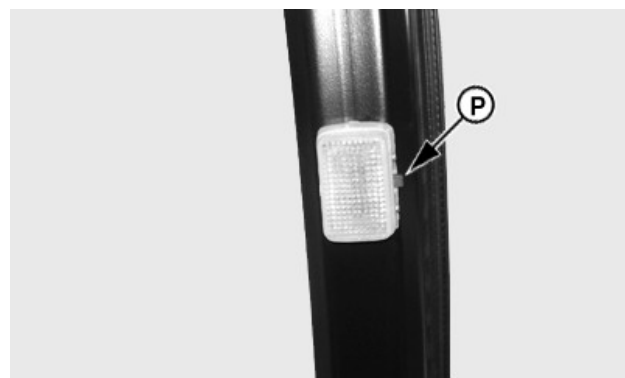
Rate-to-Drop Knob

Electrical Device Controls



CPA0006196—UN—06JUL18

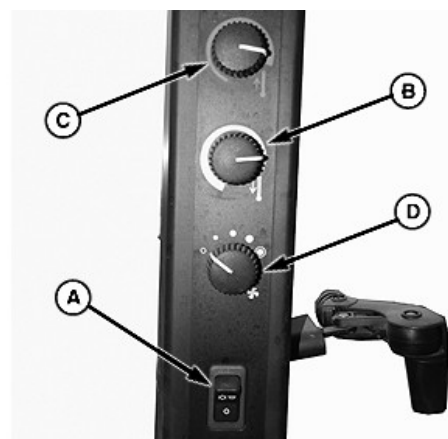
Dome Light Switch (option 1)



PUC2400—UN—29SEP09

Cab Light Switch (option 2)

- A—Dome Light Switch
- P—Cab Light Switch

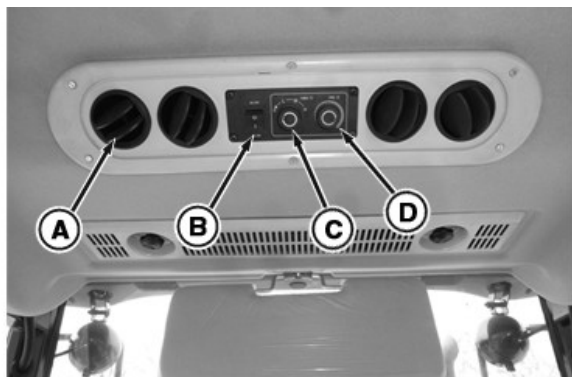


CPA0000172—UN—08JUN13

Air Conditioner Controls (option 1)

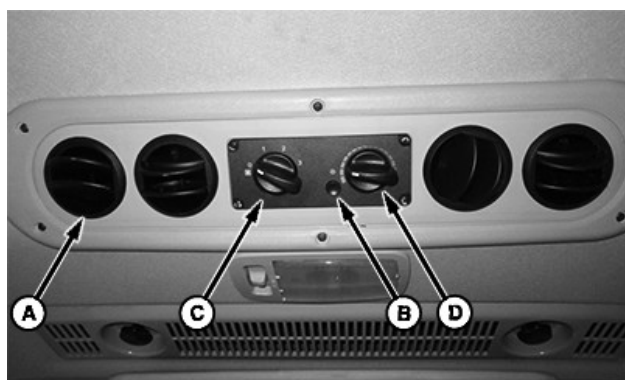
- A—Air Conditioning and Deicing Switch
- B—Air Conditioning Temperature Control Knob

- C—Heater Temperature Control Knob
- D—Blower Speed Control Knob



CPA0001461—UN—29MAR15

Air Conditioner Controls (option 2)



CPA0010521—UN—01DEC21

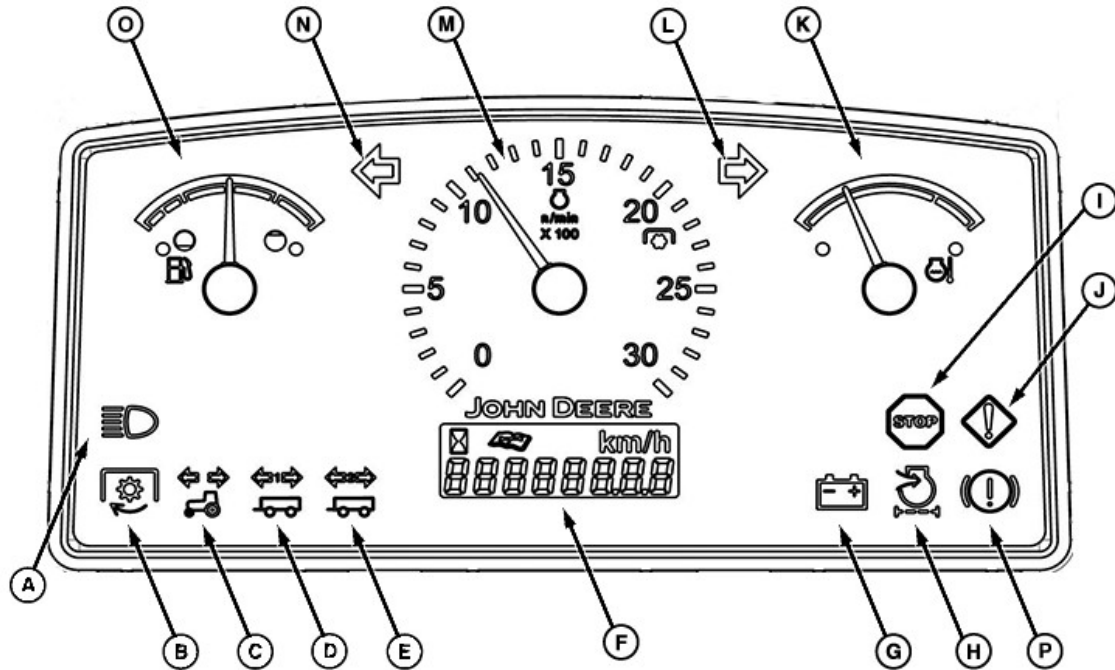
Air Conditioner Controls (option 3)

- A—Louver (4 used)
- B—Air Conditioning Switch
- C—Blower Speed Control Knob
- D—Temperature Control Knob

CO00263,00021F8-19-01DEC21

Instrument Cluster

Dry Clutch Transmission

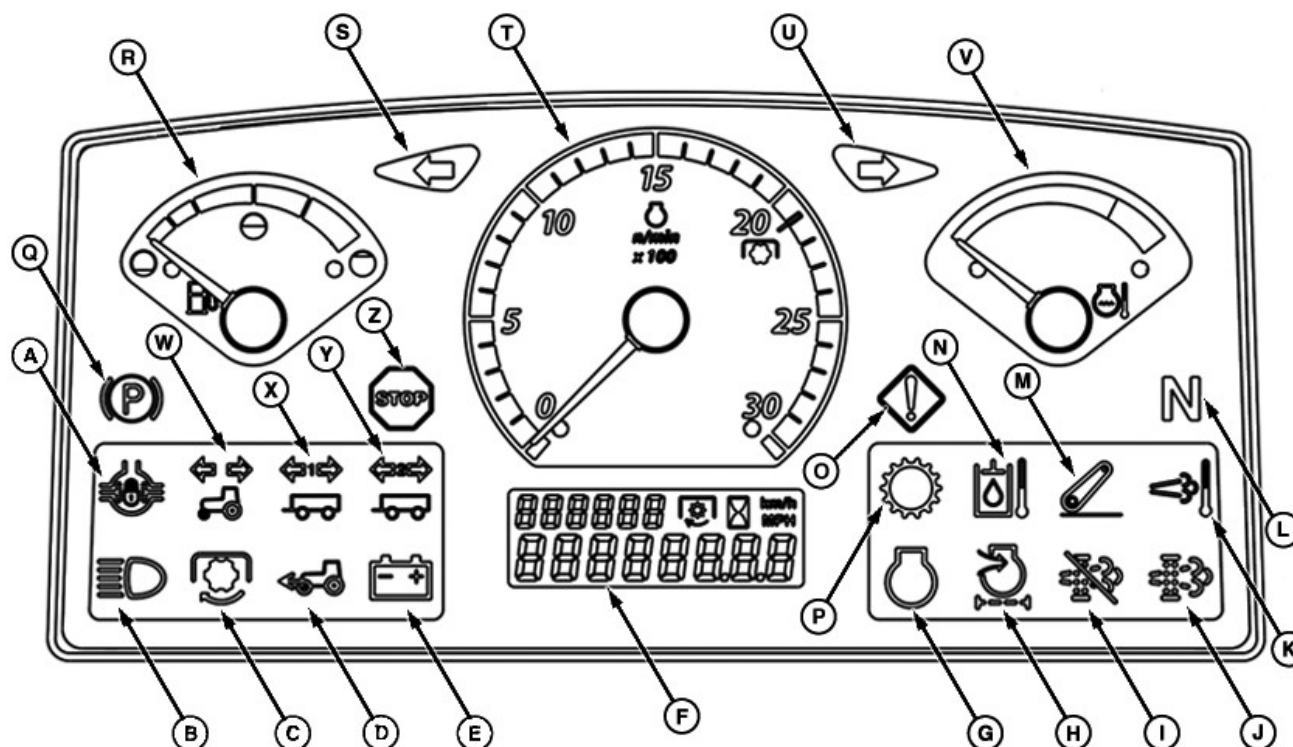


CPA0007290—UN—14NOV18

A—High Beam Indicator
 B—PTO Engaged Indicator
 C—Vehicle Indicator
 D—Trailer 1 Indicator
 E—Trailer 2 Indicator
 F—Information Display
 G—Charging System Indicator
 H—Air Restriction Indicator

I—STOP Indicator
 J—Service Alert Indicator
 K—Engine Coolant Temperature Gauge
 L—Right Turn Indicator
 M—Tachometer
 N—Left Turn Indicator
 O—Fuel Level Gauge
 P—Pneumatic Brake Pressure Indicator

Wet Clutch Transmission



CPA0005184—UN—23JAN18

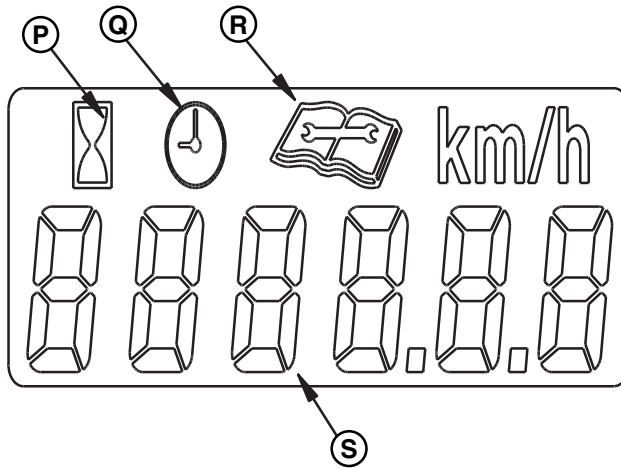
A—Differential Lock Indicator—Not Available
 B—High Beam Indicator
 C—PTO Engaged Indicator
 D—MFWD Engaged Indicator—Not Available
 E—Charging System Indicator
 F—Information Display
 G—Engine Information Indicator
 H—Air Restriction Indicator
 I—Exhaust Filter Disabled Indicator—Not Available
 J—Exhaust Filter Indicator—Not Available
 K—High Exhaust Temperature Indicator—Not Available
 L—Neutral Indicator
 M—Electrohydraulic Hitch Indicator—Not Available

N—Hydraulic Oil Temperature
 O—Service Alert Indicator
 P—Transmission Information Indicator
 Q—Park Brake Indicator
 R—Fuel Level Gauge
 S—Left Turn Indicator
 T—Tachometer
 U—Right Turn Indicator
 V—Engine Coolant Temperature Gauge
 W—Vehicle Indicator
 X—Trailer 1 Indicator
 Y—Trailer 2 Indicator
 Z—STOP Indicator

CO00263,0000A01-19-14NOV18

Information Display

Display for Dry Clutch



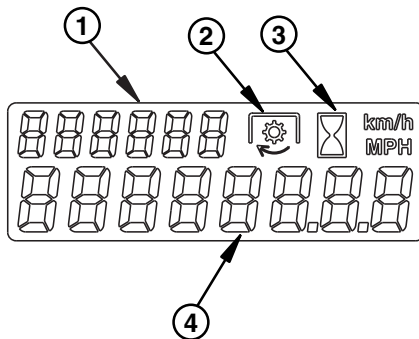
PY14922—UN—01FEB13

Display for Dry Clutch

- P—Engine Hour Meter**
Q—Job Timer—Not Available
R—Service Indicator—Not Available
S—Vehicle Information Display

Vehicle Information Display (S) displays hours when tractor speed is less than 1 km/h. If a DTC code is activated, the vehicle information display (S) displays DTC code.

Display for Wet Clutch



PY14921—UN—01FEB13

For Wet Clutch Transmission

- 1—Information Display**
2—PTO Icon—Not Available
3—Hour Meter Icon
4—Vehicle Information Display

Vehicle Information Display (4) displays hours when tractor speed is less than 0.1 km/h; displays speed when speed is above 0.1 km/h.

Information Display (1) displays the working mode of transmission:

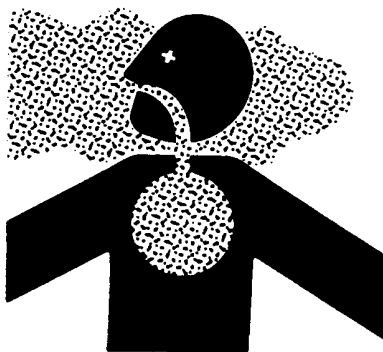
- HI indicates high-speed mode
- Lo indicators low-speed mode

- R indicators reverse mode

YN00044,0000F6B-19-12JAN18

Operating Engine

Before Starting Engine

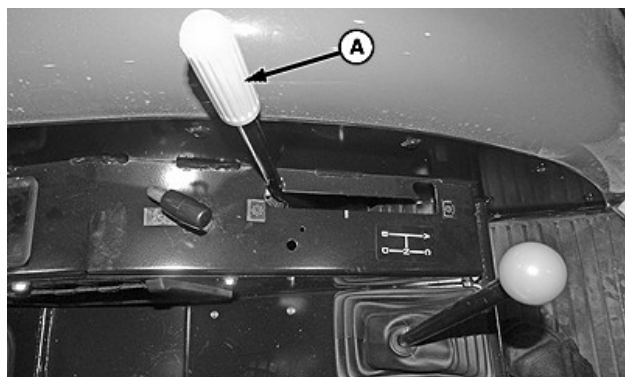


TS220—UN—15APR13

CAUTION: Prevent asphyxiation. Engine exhaust fumes can cause sickness or death to you and others.

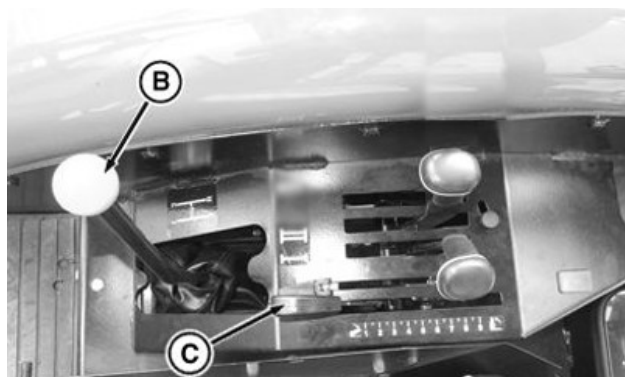
If you have to operate engine in a building, adequate ventilation is necessary. Either use an exhaust pipe extension to remove the exhaust fumes or open doors and windows to bring enough outside air into the area.

1. Check fuel gauge to be sure that tractor has plenty of fuel.



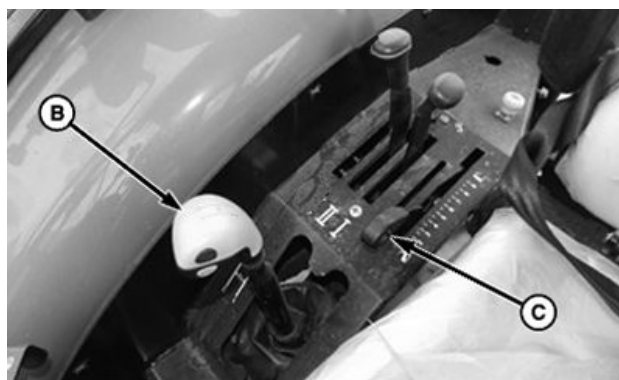
CPA0002055—UN—22OCT15

Left-Hand



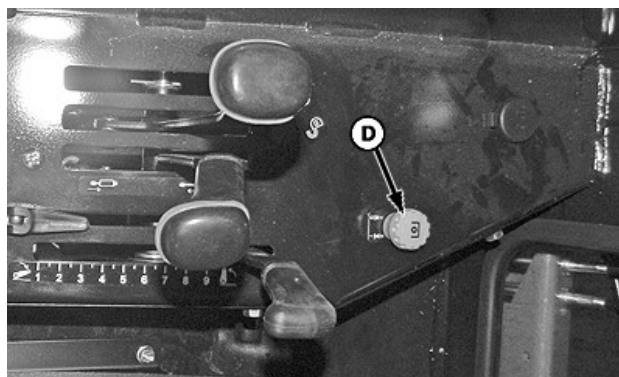
CPA0001109—UN—10NOV14

Right-Hand (12F/4R transmission)



CPA0001110—UN—10NOV14

Right-Hand (24F/8R and 24F/12R transmission)



CPA0002038—UN—15OCT15

Right-Hand Side (wet clutch)

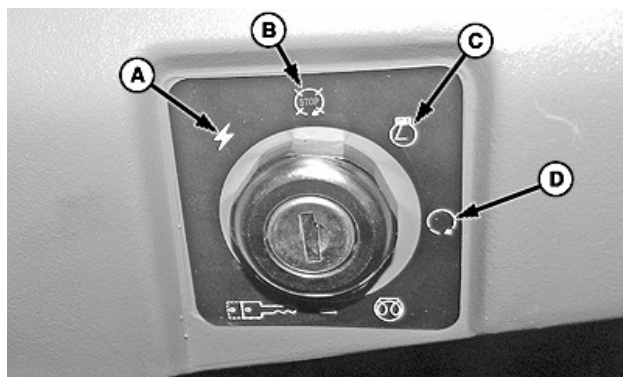
- A—PTO Control Lever (dry clutch)
- B—Gear-shift Lever
- C—Rockshaft Position Control Lever
- D—PTO Switch (wet clutch)

2. Place gear-shift lever (B) in neutral "N" position. PTO control lever (A) is in disengaged (rear-most) position or PTO switch (D) is raised. Starter does not operate if the gear-shift lever (B) and PTO control lever (A) /PTO switch (D) are not in these positions.
3. Place the rockshaft position control lever (C) in lower (forward) position.
4. Check charging system indicator and engine information indicator on the instrument cluster. They glow when the key switch is turned to ON position.

If any indicator does not function properly, see an authorized John Deere dealer.

CO00263,0001914-19-06JUL18

Operate Key Switch



CPA0004425—UN—21NOV17

A—ACCESSORY Position
B—OFF Position
C—IGNITION Position
D—START Position

NOTE: Accessory position (A) is optional.

ACCESSORY position (A) - Push key in and turn to ACCESSORY position for accessory operation.

OFF position (B) - Turn key to OFF position from ACCESSORY position (A) or IGNITION position (C) to stop engine and turn off electrical accessories.

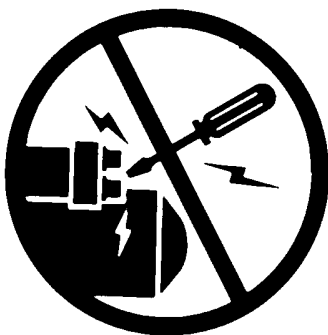
IGNITION position (C) - After turning key to START position and releasing key, key returns to IGNITION position. IGNITION position enables power on circuit and allow engine to run.

START position (D) - Turn the key to START position when starting engine. The key returns to IGNITION position when it is released.

IMPORTANT: Turn key to IGNITION position and check gauges and indicators before selecting START position.

CO00263,0001915-19-06JUL18

Start Engine



TS177—UN—11JAN89

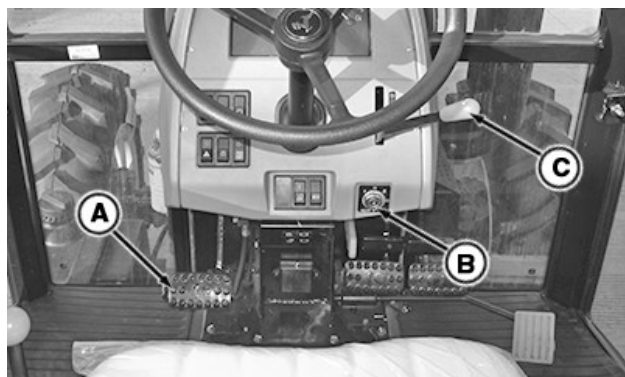
CAUTION: Avoid possible injury or death from a machine runaway.

If the normal circuitry is bypassed, machine starts in gear and moves. **DO NOT** start engine by shorting across starter terminals.

CAUTION: Set the park brake before starting engine.

Start engine only from seat with transmission in neutral. Never start engine while standing on ground.

IMPORTANT: DO NOT run a cold engine at full throttle.



CPA0002993—UN—18OCT16

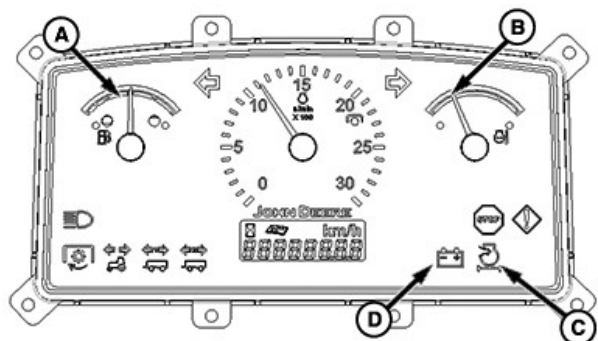
A—Clutch Pedal
B—Key Switch
C—Hand Throttle

1. Increase engine speed by pushing hand throttle (C) forward (1/3 of lever travel) as indicated by fast/slow decal.
2. Make sure that the gear-shift lever is in neutral ("N") position) and that PTO control lever is in the disengaged position (dry clutch) or is raised (wet clutch).
3. Depress clutch pedal (A) and the turn key switch (B) fully clockwise to START position. Release key when engine starts.
4. If the key is released before engine starts, wait until starter and engine stop turning before trying again.

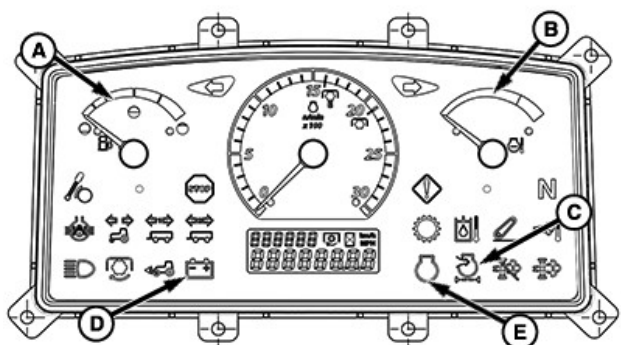
IMPORTANT: DO NOT operate starter more than 10 seconds at a time. If engine does not start, wait at least 2 minutes for the starter motor to cool before trying again. If engine does not start in three attempts, refer to Troubleshooting section.

CO00263,0001916-19-06JUL18

Check Indicators and Gauges



CPA0004864—UN—12JAN18
Instrument Cluster (Dry Clutch)



CPA0004865—UN—12JAN18
Instrument Cluster (Wet Clutch)

- A—Fuel Level Gauge
- B—Coolant Temperature Gauge
- C—Air Restriction Indicator
- D—Charging System Indicator
- E—Engine Information Indicator

IMPORTANT: Indicators on cluster protect you and your machine from dangers. Check charging system indicator (D) and engine information indicator (E) status. Stop engine and determine the root cause if you find the charging system indicator (D) or engine information indicator (E) remains on. Check coolant temperature gauge (B). If it goes into the red zone, stop engine and determine the cause.

Fuel Level Gauge (A)

Stop to refuel before fuel level gauge (A) reaches empty mark.

IMPORTANT: Use diesel fuel only. (See Fuels, Lubricants, and Coolant section for fuel specifications.)

If the tractor runs out of fuel and does not start in several attempts, air must be bled from the fuel system. (See Bleed Fuel System in Maintenance—Fuel System section).

Coolant Temperature Gauge (B)

The needle on coolant temperature gauge (B) rises as engine warms up. If the needle reaches red zone, stop engine and determine the cause.

CAUTION: DO NOT remove radiator cap until coolant cools down. Always loosen radiator cap slowly to relieve any excess pressure.

Check coolant level in the surge tank when engine cools. Also check front grille, radiator, and radiator side screens for plugging. Check fan belt tension. If the problem is not corrected, see your John Deere dealer.

Air Restriction Indicator (C)

Air restriction indicator (C) lights up if air cleaner becomes plugged. Service air cleaner as soon as possible.

Air restriction indicator lights up momentarily when key is turned to START position and goes off when engine starts.

Charging System Indicator (D)

Charging system indicator (D) lights up when alternator output is low. Indicator lights when key is turned to START position and goes off when engine starts.

If charging system indicator stays lit for longer than 5 seconds in normal operation, stop engine and check for cause.

If loose or broken fan belt is not the cause, see an authorized John Deere dealer.

Engine Information Indicator

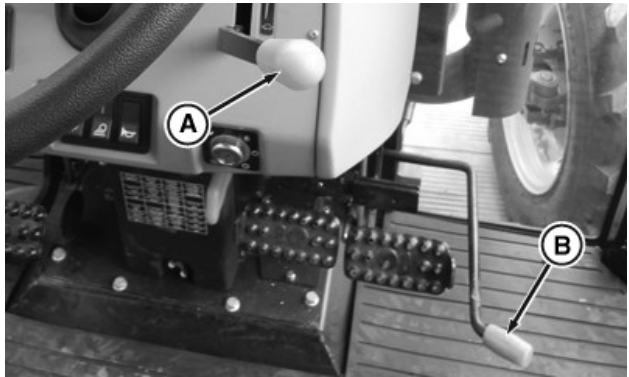
If engine oil pressure falls below minimum, engine information indicator (E) lights and stays lit.

IMPORTANT: NEVER operate engine without sufficient oil pressure. If the engine information indicator lights and stays on for longer than 5 seconds under the normal operating conditions, stop engine and check for cause.

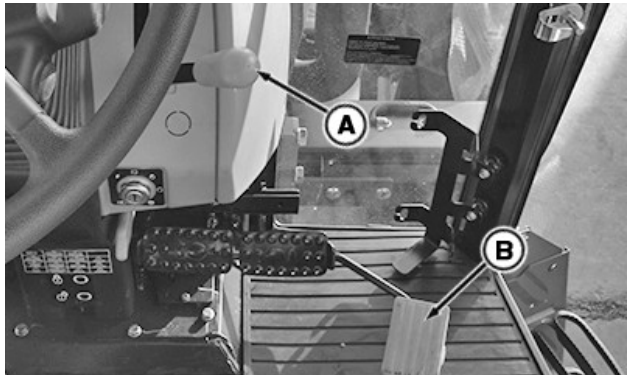
If low oil level is not the cause, see an authorized John Deere dealer.

CO00263,0001917-19-06JUL18

Change Engine Speeds



PY16734—UN—19NOV12



CPA0002991—UN—18OCT16

Premium

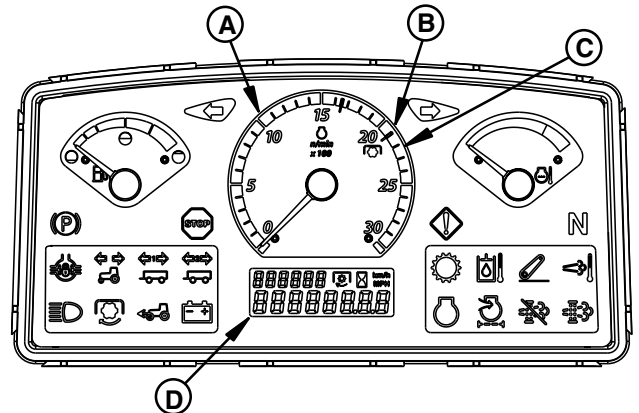
A—Hand Throttle
B—Foot Throttle

To increase or decrease engine speed, use hand throttle (A). Engine maintains set speed until hand throttle is moved again. With lever all the way up, the maximum speed is attained. With lever all the way down, the minimum speed is attained. The engine speed is indicated by the fast/slow decal on dashboard.

When increasing the engine speed temporarily, use foot throttle (B). Engine speed returns to the prior speed as soon as foot throttle is released.

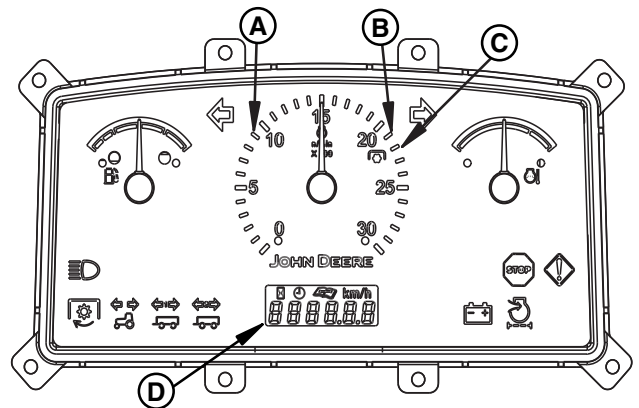
CO00263,00009C7-19-23JAN18

Recommended Engine Speeds and Operational Procedures



PY14906—UN—31JAN13

Instrument Cluster (wet clutch)



PY14911—UN—31JAN13

Instrument Cluster (dry clutch)

A—Revolution Counter
B—2100 rpm Mark
C—2200 rpm Mark
D—Hour Meter

Revolution counter (A) shows engine revolutions per minute, read in hundreds.

Hour meter (D) shows operating engine hours in full hours and tenths.

Warm Up Engine

Do not place the tractor under full load until it is properly warmed up.

1. Idle engine at about 1500 rpm for several minutes.
2. Run engine at about 1900 rpm and under light load until engine reaches normal operation condition.

Avoid Idling Engine

Running Engine at the low idle speed for a long time results in high fuel consumption and causes a buildup of carbon in the engine.

If the tractor must be left with the engine running more than 3 or 4 minutes, set the engine speed to 1200 rpm.

Observe Engine Work and Idle Speeds

Low idle speed is:

- 825—875 rpm

At light or no load, full throttle speed increases to:

- 2325—2375 rpm

Normal working speed is:

- 1600—2200 rpm

Only operate the engine in full load within normal working speed range.

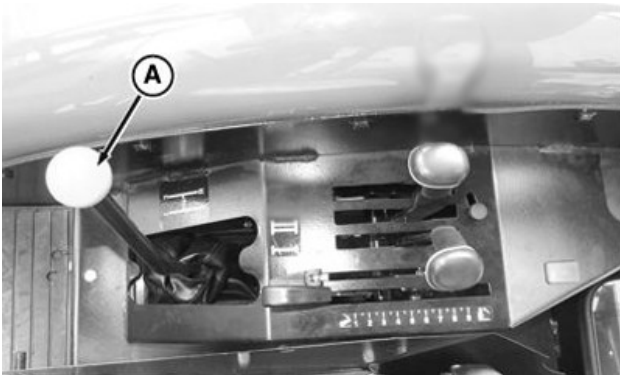
Restart Stalled Engine

IMPORTANT: Be sure to observe the following, or damage to turbocharger and booster could occur.

If engine stops running due to overload, immediately restart engine. A running engine causes oil and coolant to circulate, which prevents abnormal heat buildup. If engine stalls but does not stop running due to overload, run at low idle for 1 or 2 minutes in order to dissipate heat buildup.

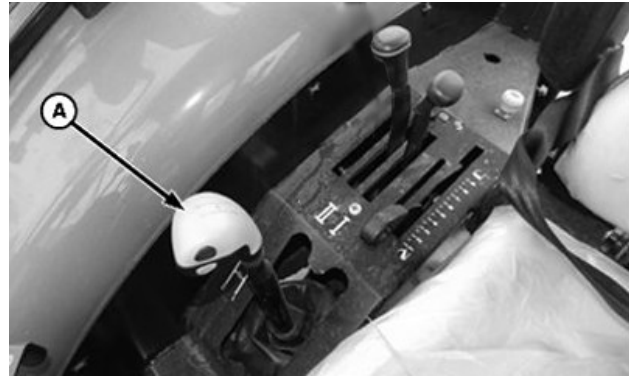
CO00263,0001918-19-06JUL18

Stop Engine



CPA0001111—UN—10NOV14

12F/4R Transmission

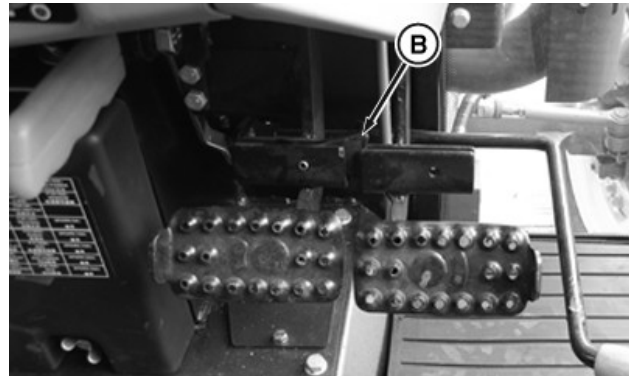


CPA0001112—UN—10NOV14

24F/8R and 24F/12R Transmission

A—Gear-shift Lever

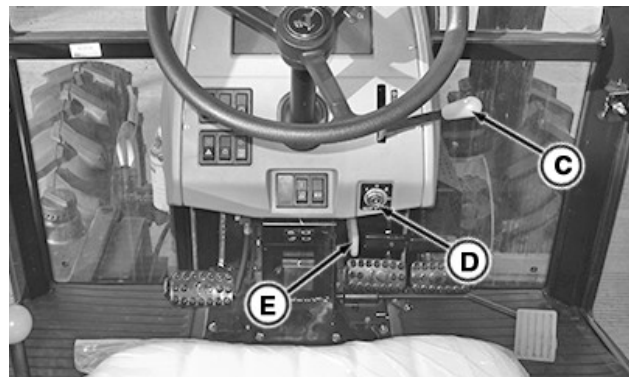
1. Stop the tractor and shut off engine. Put gear-shift lever (A) in neutral ("N") position.



PY16736—UN—19NOV12

B—Brake Pedal Locking Bar

2. Lock brake pedals together with brake pedal locking bar (B).



CPA0002994—UN—18OCT16

C—Hand Throttle Lever

D—Key Switch

E—Park Brake Lever

3. Set park brake by pressing down brake pedals and pulling up park brake lever (E).

IMPORTANT: Cooling of engine parts is provided by engine oil. Stopping a hot engine suddenly could damage parts by overheating or lack of lubrication.

4. Reduce load, and slow down the engine speed to around 1200—1300 rpm. Run engine for another 3—5 minutes before stopping engine.
5. Turn key switch (D) to the STOP position.

 **CAUTION: To prevent operation by untrained personnel, always remove the key from the key switch.**

CO00263,0001919-19-06JUL18

Air Intake, Fuel, Coolant, and Exhaust Operation

Fill Fuel Tank



TS202—UN—23AUG88



CPA0005185—UN—25JAN18

A—Fuel Tank Filler Cap

CAUTION: Handle fuel with care: It is highly flammable. DO NOT refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine.
Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

Fill fuel tank through the filler cap (A) of the fuel tank . To prevent condensation in the tank as moist air cools, fill fuel tank at end of each day operation.

Fuel Tank — Specification

JD954 Tractor—Capacity. 150 L (39.62 gal)

JD1104, JD1204-A, JD1354-A,
and JD1404-A (4045 engine)

Tractors—Capacity. 220 L (58.12 gal)

JD1404-A (6068 engine)

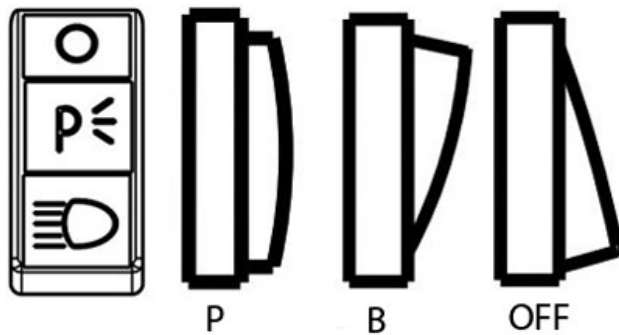
Tractor—Capacity. 255 L (67.36 gal)

NOTE: Add John Deere fuel flow improver, or equivalent to fuel or bulk storage tank. Fuel flow improver or equivalent reduces fuel gelling and controls wax separation during cold weather.

CO00263,0001909-19-06JUL18

Electrical and Lighting Operation

Light Switch



P—Park Position
B—Road Position
OFF—OFF Position

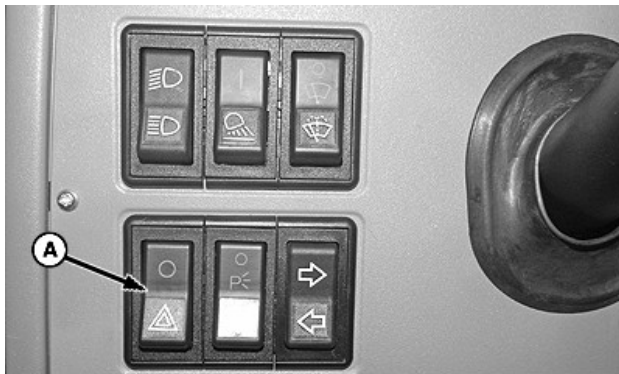
CPA0002067—UN—19OCT15

Light Switch			
Function	Headlights	Front Position lights	Rear Tail/Stop Lights
OFF	OFF	OFF	OFF
PARK	OFF	ON	ON
ROAD	ON	ON	ON

Tractor light switch has three positions: OFF, Park, and Road

Pressing light switch to the three different positions, Headlights, Front Position Lights, and Rear Tail/Stop Lights are activated or deactivated as shown in the table previous.

Warning Light Switch



A—Warning Light Switch

CPA0002062—UN—19OCT15

Warning light switch (A) is only used to switch ON warning lights.

High/Low Beam Switch



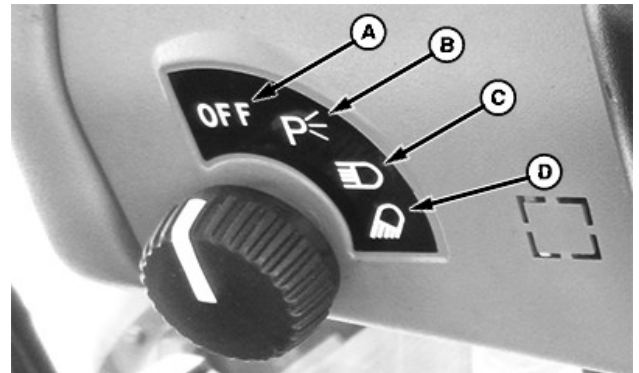
CPA0002063—UN—19OCT15

A—High/Low Beam Switch

High/Low beam switch (A) is used to choose bright headlights or dim headlights and is only effective when light switch is in ROAD position.

CO00263,0001908-19-05JUL18

Light Switch (Option)



CPA0005137—UN—17JAN18

A—OFF Position
B—Park Position
C—Road Position
D—Work Position

Light Switch			
Function	Headlights	Front/Rear Position Lights	Rear Floodlight
OFF	OFF	OFF	OFF
PARK	OFF	ON	OFF
ROAD	ON	ON	OFF
WORK	ON	ON	ON

Tractor light switch has four positions: OFF, Park, Road, and Work

Turning light switch to the four different positions, Headlights, Front/Rear Position Lights, and Rear Worklights are activated or deactivated as shown in the table previous.

Warning Light Switch

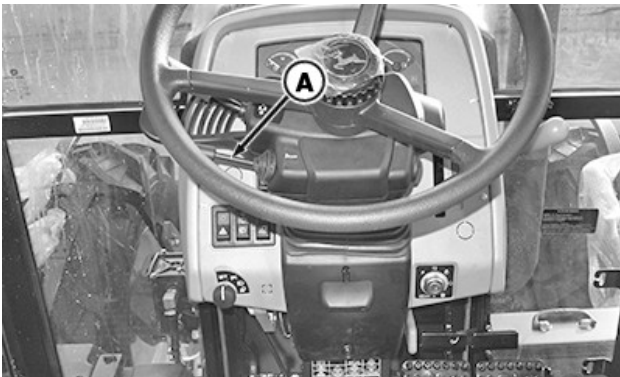


CPA0002984—UN—18OCT16

A—Warning Light Switch

Warning light switch (A) is only used to switch ON warning lights.

Multiple Signal Lever



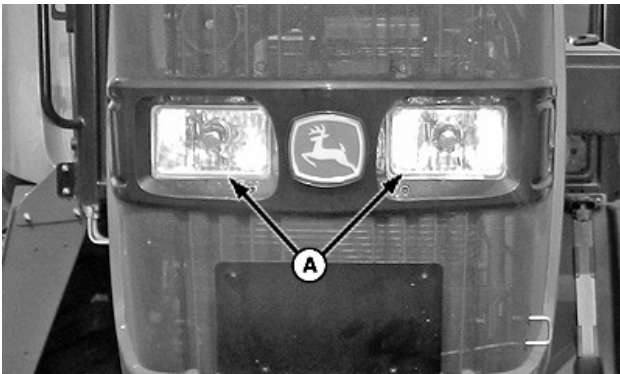
CPA0002985—UN—18OCT16

A—Multiple Signal Lever

Multiple signal lever (A) is used to switch ON turn lights, high/low beam, and horn.

CO00263,0001907-19-05JUL18

Use Headlights and Worklight



CPA0002059—UN—19OCT15

Headlights



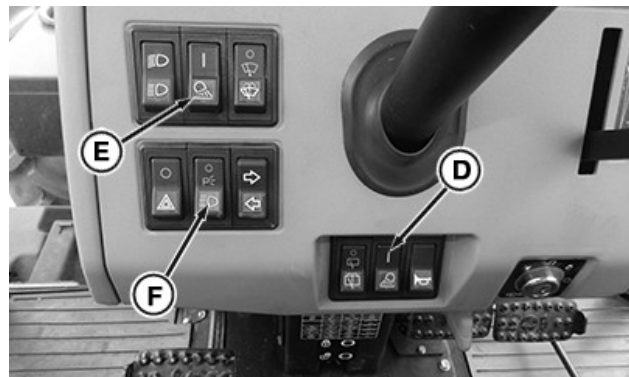
PY17020—UN—05OCT12

Front Worklights



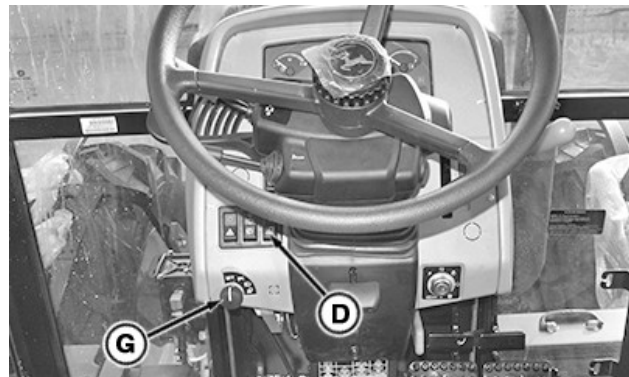
CPA0002413—UN—07DEC15

Rear Worklights



CPA0002414—UN—07DEC15

Front Worklight Switch (Fixed steering Column)



CPA0002986—UN—18OCT16

Front Worklight Switch (Tiltable and Telescopic Steering Column)

- A—Headlights (2 used)
- B—Front Worklights (2 used or 4 used)
- C—Rear Worklights (2 used)
- D—Front Worklights Switch
- E—Rear Worklights Switch
- F—Light Switch
- G—Light Switch

CAUTION: Bright lights could blind drivers of other vehicles as they approach. Use high-low beam lights properly when driving on the road. Never use worklight when transporting.

Set high/low-beam headlights switch to high-beam position when driving on a highway.

Always turn the high/low-beam headlights switch to low-beam position for oncoming vehicles.

Keep headlights adjusted properly. (See Electrical and Lighting Maintenance section.)

IMPORTANT: Rear-facing worklights can blind or confuse other driver approaching from behind. When driving or transporting tractor on public roads, use headlights only, never use worklights.

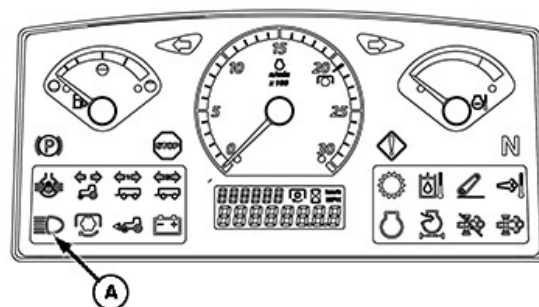
Front worklights (B) are ON when front worklights switch (D) is switched ON.

Rear worklights (C) are ON when rear worklights switch (E) is switched ON.

For the optional model, rear worklights (C) are ON when light switch (G) is switched WORK position.

Worklights are for field work only and cannot be used on roads.

CO00263,0001906-19-05JUL18



CPA0005138—UN—17JAN18

Instrument Cluster (dry clutch)

A—High-Beam Indicator

High-beam indicator (A) glows when light turned to ROAD position and high-low beam switch is switched to high-beam position.

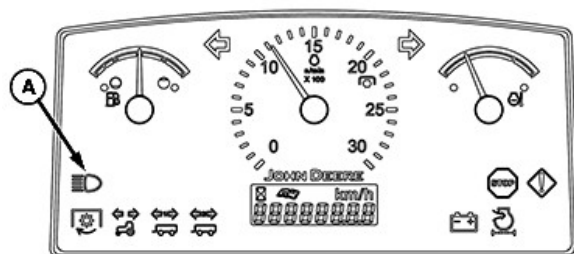
CO00263,0001905-19-05JUL18

Use Tail Lights and Warning Lights

CAUTION: Prevent collisions between the other road users, slow moving tractors with attachments or towed equipment, and self-propelled machines on public roads. Frequently check for traffic from the rear, especially in turns, and use turn signal lights.

Follow local regulations for the equipment lighting and marking. Keep lighting and marking visible, clean, and in good working order. Replace or repair lighting and marking that has been damaged or lost. A safety lighting kit of the implement is available from an authorized John Deere dealer.

High-Beam Headlights Indicator

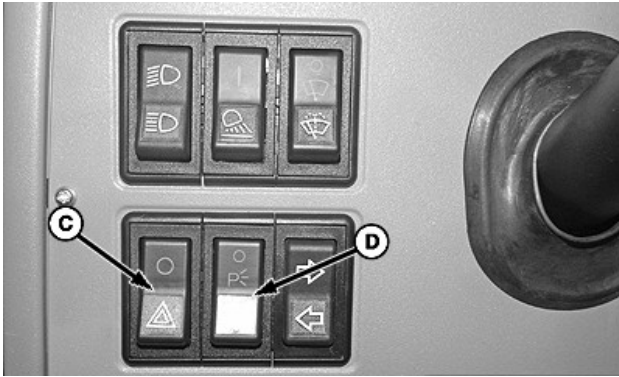


CPA0005139—UN—18JAN18

Instrument Cluster (wet clutch)



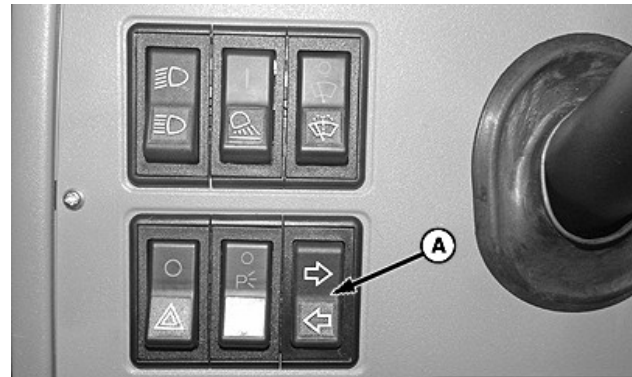
PY17021—UN—05OCT12



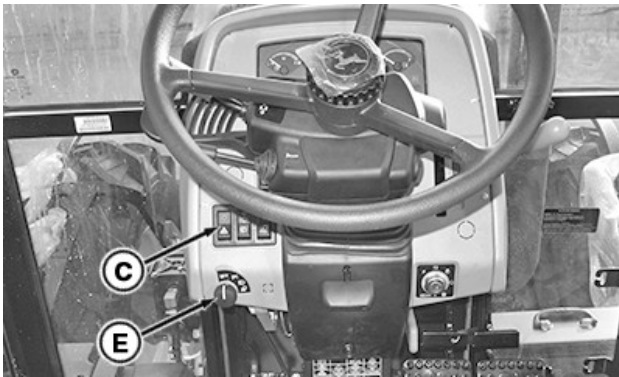
CPA0002065—UN—19OCT15

Switch (Fixed steering Column)

Use Turn Signals



CPA0002066—UN—19OCT15



CPA0002987—UN—18OCT16

Switch (Tiltable and Telescopic Steering Column)



CPA0002988—UN—18OCT16

- A—Warning Lights (2 used)
- B—Tail Lights (2 used)
- C—Warning Light Switch
- D—Light Switch
- E—Light Switch

Tail lights (B) are ON when the light switch (D or E) is in PARK position or ROAD position.

Be sure that tail light lenses are clean before driving on a road, so other drivers can see them easily.

Warning lights can be turned ON or OFF using warning light switch (C).

Flashing warning lights do not indicate turn intention to other vehicles. Switch off the warning lights before operating the turn-signal lights.

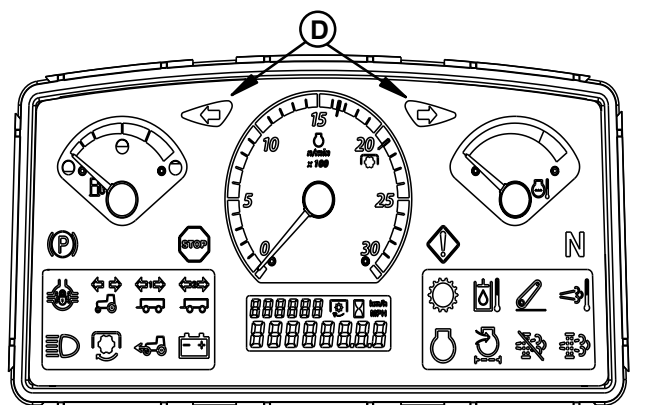
CO00263,0001904-19-05JUL18



PY17022—UN—05OCT12

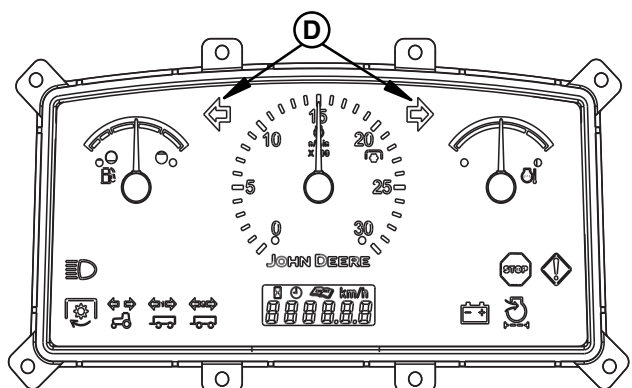


PY17023—UN—05OCT12



Instrument Cluster (wet clutch)

PY14899—UN—31JAN13



Instrument Cluster (dry clutch)

PY14916—UN—01FEB13

- A—Turn-Signal Switch
- B—Front Turn-Signal Lights (2 used)
- C—Rear Turn-Signal Lights (2 used)
- D—Turn-Signal Indicators (2 used)
- E—Multiple Signal Lever

IMPORTANT: Turn-signal switch is not functional when warning lights are flashing. Switch off warning lights with the warning light switch before operating turn-signal switch.

Option 1:

Press the turn-signal switch (A) to left-hand turn position (down) to indicate the left-hand turn.

Press the turn-signal switch (A) to right-hand turn position (up) to indicate the right-hand turn.

Option 2:

Horizontal:

h

Push forward multiple signal lever (E), right turn lights can be turned ON.

Pull backward multiple signal lever (E), left turn lights can be turned ON. Center position is OFF.

Vertical:

Push downward multiple signal lever (E), high beam can be turned ON.

Pull upward multiple signal lever (E), high/low beam can wink alternating. It can be automatically reset after releasing the multiple signal lever (E). It is called overtaking light generally.

Press the end face of the multiple signal lever (E), horn can be turned ON. It can be automatically reset after releasing the multiple signal lever (E).

Turn-signal indicators (D) on the instrument panel flash to indicate signal turn direction.

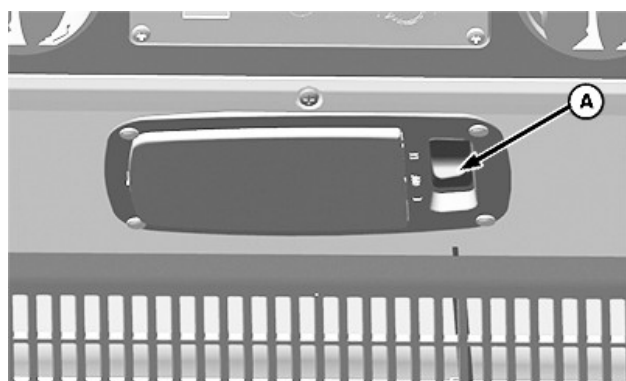
NOTE: Be sure to return the turn-signal switch (A) or multiple function lever (E) manually to center position after turning.

CO00263,0001903-19-05JUL18

Use Cab Light

IMPORTANT: Before exiting cab, make sure that cab light switch is in OFF position. Failure to do so causes battery to lose its charge.

Dome Light (Option 1)



CPA0006196—UN—06JUL18

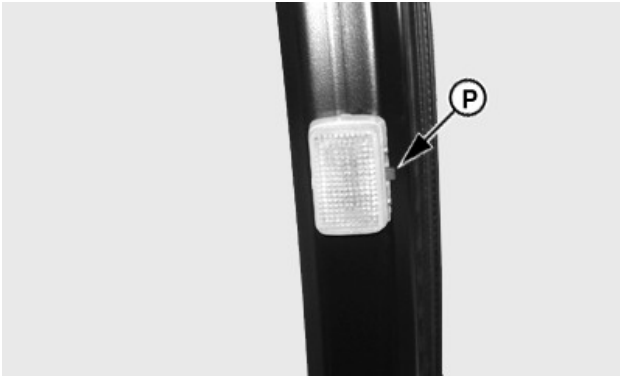
Dome Light (on the top of the cab)

A—Dome Light Switch

Dome light switch has three positions:

- **ON I** - Signal Light ON
- **ON II** - Dual Lights ON
- **OFF** - Light OFF

Cab Light (Option 2)



PUC2400—UN—29SEP09

Cab Light (on the left-side of the A-post)

P—Cab Light Switch

Cab light switch has two positions:

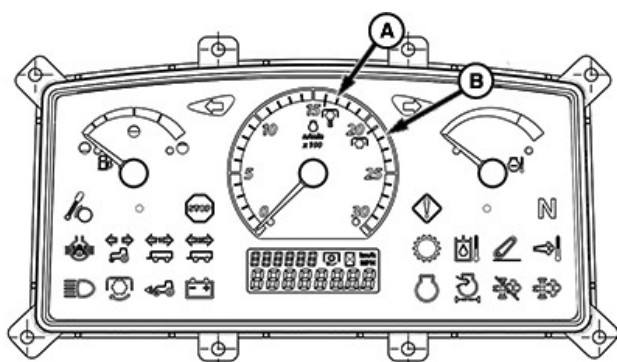
ON - Light ON

OFF - Light OFF

CO00263,0001929-19-06JUL18

Drivetrain Operation

Gear Selection



CPA0004866—UN—12JAN18

Working Speed Range

A—1600 rpm Mark
B—2200 rpm Mark

IMPORTANT: To extend drive train life and avoid excessive soil compaction and rolling resistance when using ballast, operate one gear lower than normal.

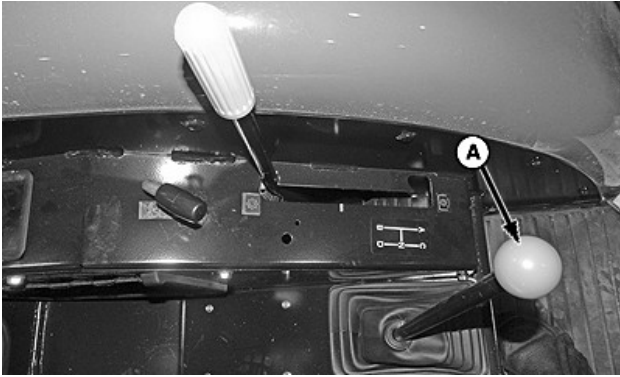
The tractor works in any gear with engine speeds between 1600 and 2200 rpm. Within these limits, the engine can work under full load. For light load operation, use a higher gear and lower engine speed to save fuel and reduce wear.

CO00263,000191A-19-06JUL18

Transmission Operation

Operate Transmission

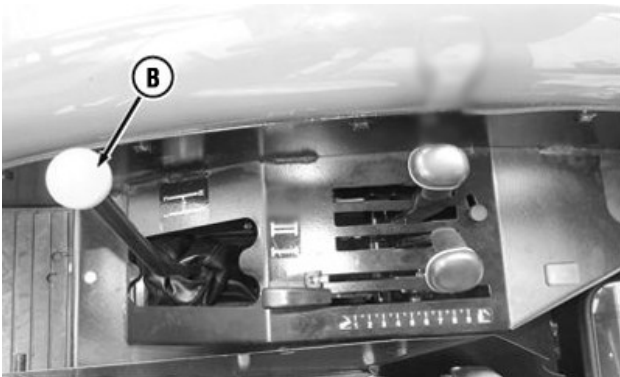
12F/4R Transmission



CPA0002082—UN—22OCT15

A—Range-Shift Lever

Range-shift lever (A) provides four forward speed ranges: A, B, C, and D.



CPA0001113—UN—10NOV14

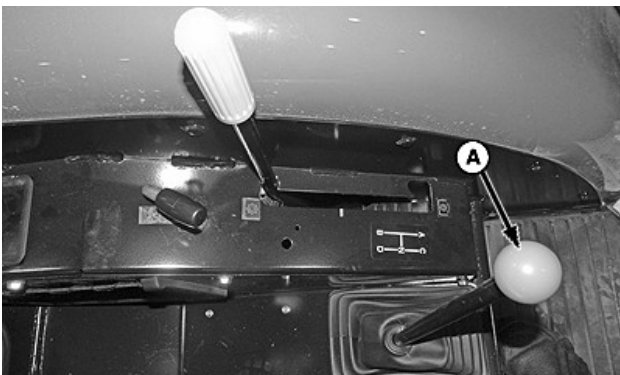
B—Gear-Shift Lever

Gear-shift lever (B) provides three forward speeds: 1st, 2nd, and 3rd, plus one reverse speed.

Use range and gearshift lever in different combinations. Twelve forward speeds and four reverse speeds can be obtained.

To start the engine, put gearshift lever (B) in neutral ("N") position.

18F/6R Transmission

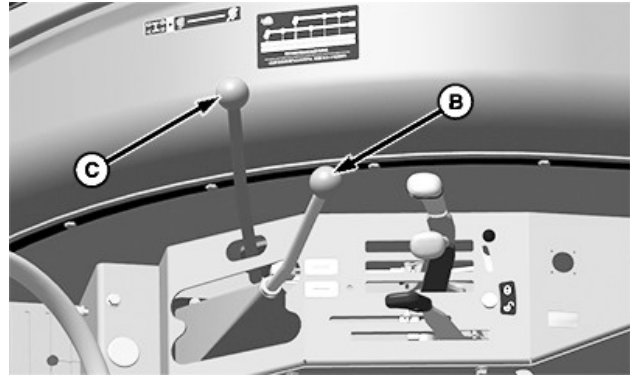


CPA0002082—UN—22OCT15

A—Range-Shift Lever

Range-shift lever (A) provides four forward speed ranges (A, B, C, and D) when creeper lever disengages.

Range-shift lever (A) provides two forward speed ranges (A and B) when creeper lever engages.



CPA0007791—UN—19DEC18

B—Gearshift Lever

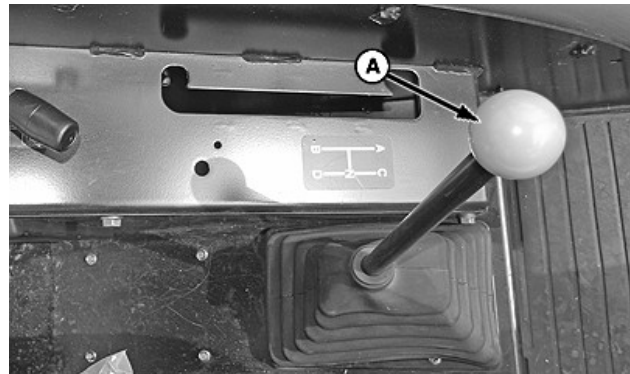
C—Creeper Lever

Gearshift lever (B) provides three forward speeds (1st, 2nd, and 3rd), plus one reverse speed whether the creeper lever (C) engages or not.

Use creeper lever, range-shift lever, and gearshift lever in different combinations. Eighteen forward speeds and six reverse speeds can be obtained.

To start the engine, put gearshift lever in neutral ("N") position.

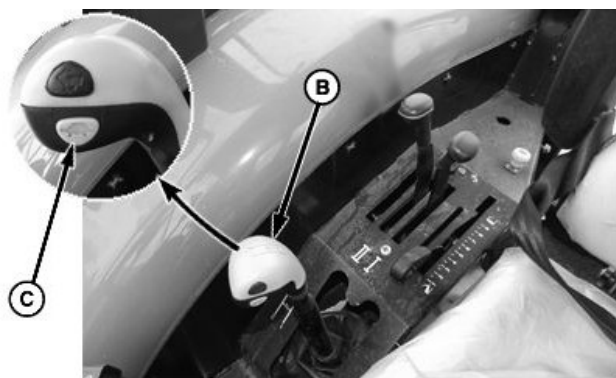
24F/8R Transmission



CPA0002054—UN—19OCT15

A—Range-Shift Lever

Range-shift lever (A) provides four forward speed ranges: A, B, C, and D.



CPA0001114—UN—10NOV14

B—Gearshift Lever
C—High/Low Speed Shift Button

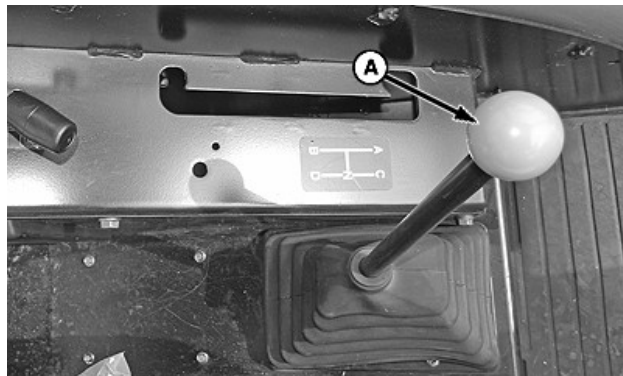
Gearshift lever (B) provides three forward speeds: 1st, 2nd, and 3rd, plus one reverse speed.

High/low speed shift button (C) is used to obtain the higher or lower ground speeds.

Use range shift lever, gearshift lever, and high/low gearshift lever in different combinations. Twenty-four forward speeds, and eight reverse speeds can be obtained.

To start the engine, put gearshift lever (B) in neutral ("N") position.

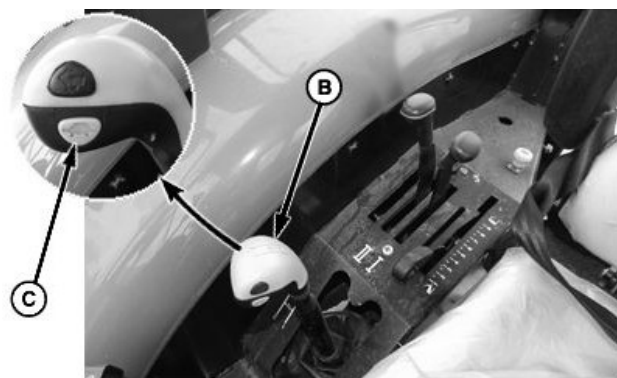
24F/12R Transmission



CPA0002054—UN—19OCT15

A—Range-Shift Lever

Range-shift lever (A) provides four forward speed ranges: A, B, C, and D.

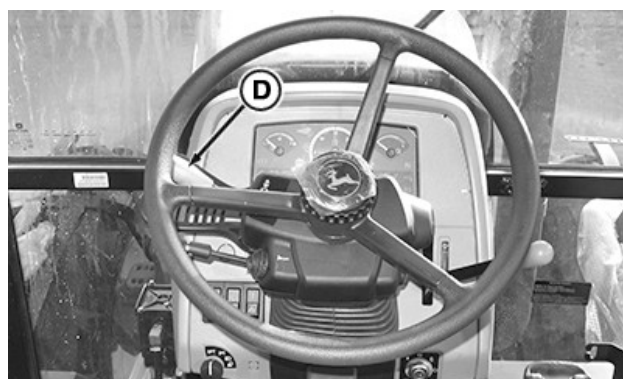


CPA0001114—UN—10NOV14

B—Gearshift Lever
C—High/Low Speed Shift Button

Gearshift lever (B) provides three forward speeds: 1st, 2nd, and 3rd.

High/low speed shift button (C) is used to obtain the higher or lower ground speeds.



CPA0002998—UN—18OCT16

D—Power Reverser Lever

Power reverser lever (D) provides travel direction (forward or reverse).

IMPORTANT: DO NOT operate power reverser lever (D) when the tractor ground speed is more than 16 km/h.

Use range shift lever, gearshift lever, high/low gearshift lever, and Power Reverse lever in different combinations. Twenty-four forward speeds and 12 reverse speeds can be obtained.

Put gearshift lever in neutral ("N") position when starting the engine.

CO00263,0002114-19-31MAY19

Shift Transmission

12F/4R Transmission

Range Shift: If the tractor is equipped with collar shift transmission, it must come to a **complete stop** when shifting into any speed range.

If the tractor is equipped with synchronizer gearshift, tractor must come to a **complete stop** when shifting into A or B speed range. If shifting into C or D speed range, **DO NOT** stop tractor.

1. Lower engine rpm to idle speed.



A—Clutch Pedal

2. Depress clutch pedal (A) fully.
3. Select desired speed range (A, B, C, and D).
4. Take up load gradually by slowly releasing the clutch pedal.
5. Increase engine speed once shift is completed.

Gear (speed) Shift: If the tractor is equipped with collar shift transmission, it must come to a **complete stop** when shifting gears.

If the tractor is equipped with synchronizer gearshift, changing gears can be made **on-the-go**, without stopping.

1. Depress clutch pedal fully.
2. Select desired speed (1, 2, 3, and R).
3. Take up load gradually by slowly releasing the clutch pedal.

18F/6R Transmission

Range Shift: If the tractor is equipped with collar shift transmission, it must come to a **complete stop** when shifting into any speed range.

If the tractor is equipped with synchronizer gearshift, tractor must come to a **complete stop** when shifting into A or B speed range. If shifting into C or D speed range, **DO NOT** stop tractor.

1. Lower engine rpm to idle speed.



CPA0002999—UN—18OCT16

A—Clutch Pedal

2. Depress clutch pedal (A) fully.
3. Select desired speed range (A, B, C, or D)

NOTE: Depress the clutch pedal fully when engaging or disengaging creeper lever.

NOTE: Rang A and range B are available when the creeper lever is engaged.

4. Take up load gradually by slowly releasing the clutch pedal.
5. Increase engine speed once shift is completed.

Gear (speed) Shift: If the tractor is equipped with collar shift transmission, it must come to a **complete stop** when shifting gears.

If the tractor is equipped with synchronizer gearshift, changing gears can be made **on-the-go**, without stopping.

1. Depress clutch pedal fully.
2. Select desired speed (1, 2, 3, and R).
3. Take up load gradually by slowly releasing the clutch pedal.

24F/8R Transmission

High/Low Speed Shift: Select high or low ground speed configuration. High or low ground speed can be selected without depressing the clutch pedal and can be made **on-the-go**, without stopping.

Range Shift: When shifting into A or B speed range, tractor must come to a **complete stop**. If shifting into C or D speed range, **DO NOT** stop tractor.

1. Lower engine rpm to idle speed.



CPA0002999—UN—18OCT16

A—Clutch Pedal

2. Depress clutch pedal (A) fully.
3. Select desired speed range (A, B, C, and D).
4. Take up load gradually by slowly releasing the clutch pedal.
5. Increase engine speed once shift is completed.

Gear (speed) Shift: Changing gears can be made **on-the-go**, without stopping.

1. With the tractor in motion, depress the clutch pedal (A) fully.
2. Select desired speed (1, 2, 3), plus one reverse speed.
3. Take up load gradually by slowly releasing the clutch pedal.

24F/12R Transmission



CPA0003000—UN—18OCT16

A—Clutch Pedal

High/Low Speed Shift: Select high or low ground speed configuration. High or low ground speed can be selected without depressing the clutch pedal (A) and can be made **on-the-go**, without stopping.

Range Shift: When shifting into A or B speed range, tractor must come to a **complete stop**. If shifting into C or D speed range, **DO NOT** stop tractor.

1. Lower engine rpm to idle speed.
2. Depress clutch pedal (A) fully.
3. Select desired speed range (A, B, C, and D).

4. Take up load gradually by slowly releasing the clutch pedal.
5. Increase engine speed once shift is completed.

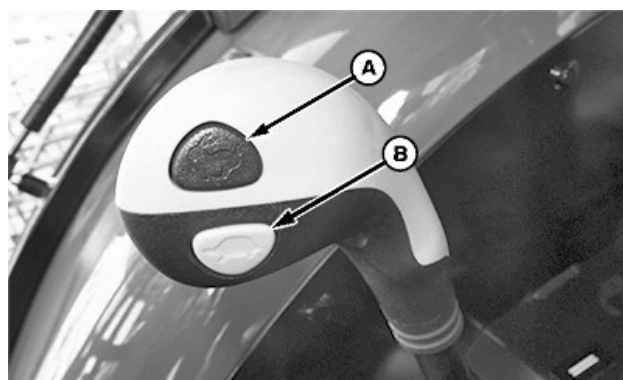
Gear (speed) Shift: Changing gears can be made **on-the-go**, without stopping.

1. With the tractor in motion, depress the clutch pedal (A) fully.
2. Select desired speed (1, 2, 3).
3. Take up load gradually by slowly releasing the clutch pedal.

Power Reverser Lever: With tractor stopped, select desired travel direction (forward or reverse). Travel direction change can be done without depressing the clutch pedal.

CO00263,0001C64-19-20DEC18

High/Low Split-Shift Feature



CPA0005136—UN—16JAN18

High/Low Switches

- A—High Speed Switch
- B—Low Speed Switch

Press the high speed switch (A) and low speed switch (B) can up-shift and down-shift within the selected range and gear.

“H” appears when high-speed is selected in the instrument cluster. And “L” appears in the instrument cluster when low speed is selected.

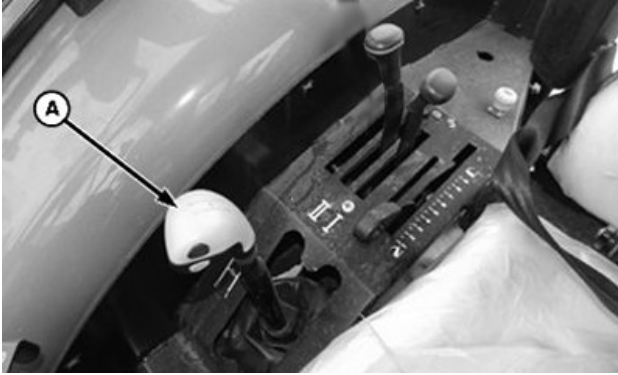
CO00263,00009CD-19-24JAN18

Stop Tractor

⚠ CAUTION: Leaving transmission off with engine cannot prevent tractor from moving. Always set park brake before leaving operation station.

4. Turn the key to OFF position and remove.

CO00263,0000AB3-19-09MAR18



CPA0001112—UN—10NOV14

24F/8R and 24F/12R Transmission (12F/4R transmission is similar)



CPA0003002—UN—18OCT16

24F/8R and 24F/12R Transmission (12F/4R transmission is similar)

- A—Gear-Shift Lever
- B—Hand Throttle
- C—Parking Brake Lever

1. Place the gear-shift lever (A) in neutral, "N", and depress brake pedals until tractor stops, and pull up park brake lever (C).
2. Lower all implements to the ground. (See Hitch and Drawbar Operation section.)

IMPORTANT: Engine oil cool parts of engine, turbocharger, and so on. Stopping a hot engine suddenly can damage these parts by overheating or lack of lubrication.

3. Pull hand throttle (B) down to low idle position. Allow engine to idle for 1 to 2 min.

⚠ CAUTION: To prevent operation by untrained personnel, always remove the key from the key switch

MFWD and Front Axle Operation

Operate Mechanical Front-Wheel Drive (MFWD)

Use mechanical front-wheel drive (MFWD) as required for better traction.

- Raise implement slightly.
- Disengage any ground-engaging tool in use.

CO00263,000191D-19-06JUL18

CAUTION: Mechanical front-wheel drive greatly increases traction. When using this option on slopes, extra caution is needed. Compared to 2WD, front-wheel drive maintains traction on steeper slopes, increasing the possibility of a tip-over.

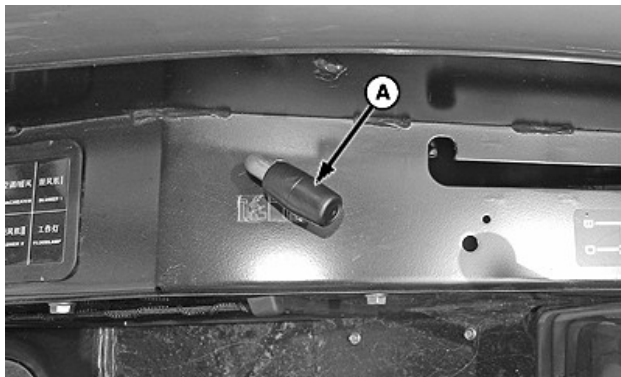
Be careful when driving on icy, wet, or gravel surfaces. To avoid skidding and to prevent loss of steering control, reduce speed and be sure that the tractor is properly ballasted. Front-wheel drive provides better control under these road conditions.

IMPORTANT: To extend front tire life, engage front-wheel drive only when needed in the field. Front wheels turn slightly faster than rear wheels with MFWD engaged and wear quickly in MFWD mode. Engage MFWD on hard surfaces only when it is necessary.

DO NOT install tire chains on front wheels; chains can strike and damage tractor.

While towing an implement and pushing the MFWD lever to disengage, front-wheel drive is likely to resist disengagement. If this situation occurs, relieve the load from the power train first. See step 3.

MFWD can be engaged or disengaged while in motion.



CPA0002053—UN—19OCT15

A—MFWD Control Lever

1. To engage, pull up MFWD control lever (A).
2. To disengage, push MFWD control lever down.
3. If the lever does not go down easily, relieve the load from the power train. Perform one or more of the following:
 - Reduce speed and drive tractor straight ahead for a few feet.
 - Stop tractor, then drive it briefly in reverse.

Differential and Rear Axle Operation

Differential Lock

⚠ CAUTION: DO NOT operate tractor at high speed or attempt to turn when the differential lock is engaged.

IMPORTANT: To prevent damage to drivetrain, DO NOT engage differential lock when one wheel is spinning and the other is stopped.



PY16741—UN—20NOV12

A—Differential Lock Pedal

When one wheel starts to lose traction, stop the tractor and engage differential lock by depressing differential lock pedal (A). Tractor wheels must be stopped or turning at the same speed before engaging differential lock. If possible, engage differential lock before entering conditions where tires are likely to slip.

Unequal traction keeps the lock engaged. When traction equalizes, lock disengages itself by spring action. If lock does not disengage, depress one brake pedal and then the other.

If tires repeatedly slip, then get traction, and then slip again, hold differential lock pedal (A) in the engaged position.

CO00263,000191E-19-06JUL18

Power Take-off (PTO) Operation

Change Reversible PTO Stub Shaft

CAUTION: Avoid personal injury. PTO shaft becomes hot in operation. Allow shaft to cool down before handling it.

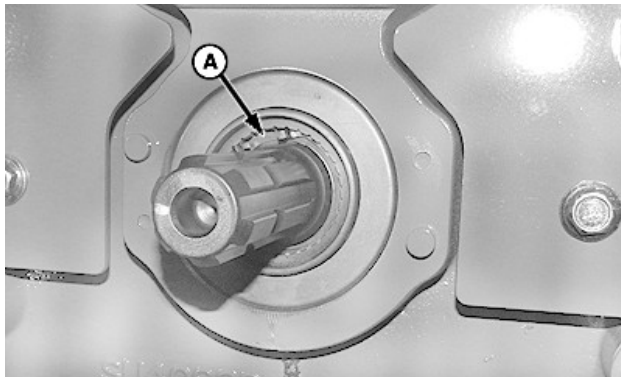
IMPORTANT: Operate PTO at 540 rpm only when the implement power requirement does not exceed 56 kW (75 hp).

Operating PTO at lower speeds under heavy load could damage PTO. If the implement power requirement is above 57 kW (76 hp) up to 110 kW (147 hp), switch PTO shaft to 1000 rpm end.

NOTE: The 1000 rpm shaft end has 21 splines and the 540 rpm shaft has six splines. Consult implement operator's manual and determine shaft suitability. Select suitable PTO speed by implement power requirement.

NOTE: If a 760/830 rpm PTO is installed on your machine, then the shift is not reversible.

Remove PTO Stub Shaft:



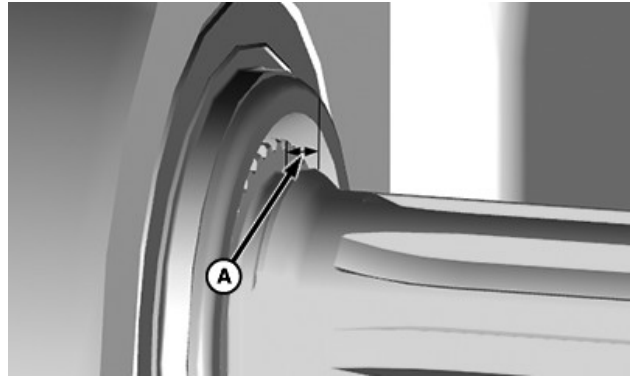
CPA0002033—UN—07MAR17

A—Snap Ring

1. Rotate the ends of the snap ring (A) until they are aligned with flat section on shaft. Remove snap ring (A) and pull out PTO stub shaft.
2. Clean stubs shaft thoroughly. Coat splines with John Deere High-Temperature/Extreme-Pressure/Non-Clay grease.

Test PTO Gear Position:

1. Tightly push the PTO stub shaft into PTO drive cradle until a contact is felt. Keep the six splines end of PTO stub shaft facing outside in the test.



CPA0004423—UN—20NOV17

A—Distance

2. Measure distance (A) with suitable tools. Keep off hands from the PTO stub shaft while measuring.

Specification

Distance—Distance. 5.3±0.9 mm

3. If distance (A) does not meet specification, adjust gear position by rotating PTO stub shaft with suitable tools.
4. Measure distance (A). If the distance still does not meet specification, repeat step 3.

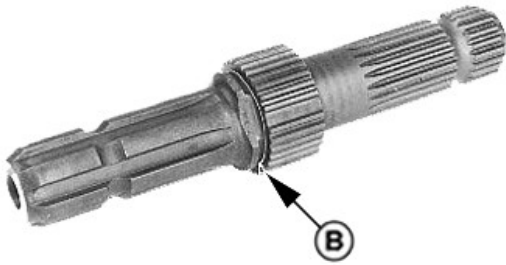
IMPORTANT: Make sure distance (A) meets specification before installing the PTO stub shaft. Not meeting the requirement causes wrong PTO speed output and seriously damages the PTO system.

Install 540 rpm PTO:

1. Check PTO stub shaft condition. Make sure that the PTO stub shaft is coated properly.
2. Push the PTO stub shaft into drive cradle with six splines end facing outside.



CPA0004424—UN—26NOV17



PUC1118—UN—16JAN08

B—Snap Ring Groove

3. Keep pushing the stub shaft until the snap ring groove (B) on PTO drive cradle is visible. Rotate shaft back and forth while installing, to make sure that it is seated correctly in housing.
4. Keep pushing the stub shaft, install the snap ring in position.
5. Try to rotate the PTO stub shaft. Shaft is correctly engaged when strong effort is required to turn it.

Install 1000 rpm PTO:

1. Check PTO stub shaft condition. Make sure that the PTO stub shaft is coated properly.
2. Push the PTO stub shaft into drive cradle with 21 splines end facing outside until the snap ring groove (B) is visible. Rotate shaft back and forth while installing, to make sure that it is seated correctly in housing.
3. Install the snap ring in position.
4. Try to rotate the PTO stub shaft. Shaft is correctly engaged when strong effort is required to turn it.

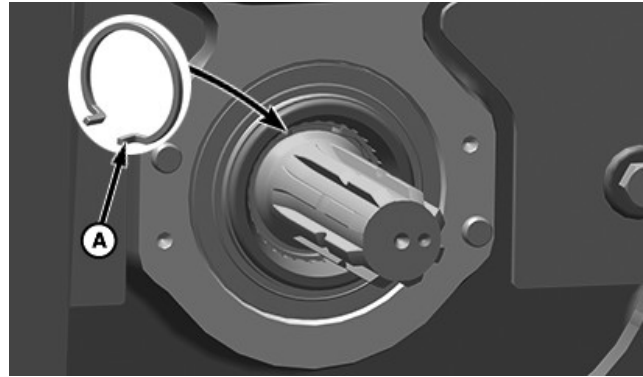
NOTE: Always check the PTO stub shaft end after installation. Make sure that the correct PTO speed is selected.

CO00263,00009D2-19-24JAN18

Change 760/1000 rpm PTO Stub Shaft (1404 Wet Clutch Only)

CAUTION: Avoid personal injury. PTO shaft becomes hot in operation. Allow shaft to cool down before handling it.

Remove PTO Stub Shaft:

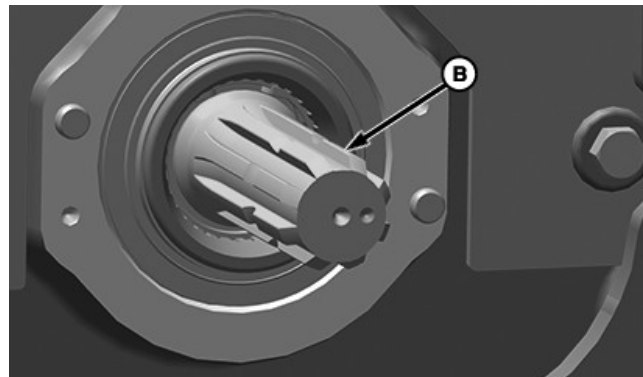


CPA0010082—UN—06AUG20

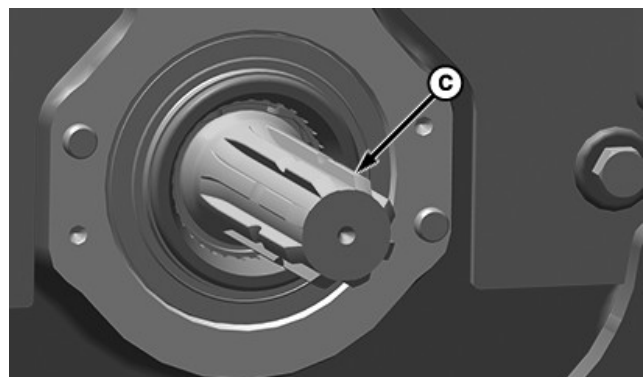
A—Snap Ring

1. Clamp the two ends of snap ring (A) tightly with special tool and pull out the snap ring.
2. Pull out the PTO stub shaft.

Distinguish the 760 and 1000 rpm PTO stub shaft:



CPA0010083—UN—06AUG20



CPA0010084—UN—06AUG20

B—760 rpm PTO Stub Shaft C—1000 rpm PTO Stub Shaft

1. 760 rpm PTO stub shaft (B) has two bores in the spline end.
2. 1000 rpm PTO stub shaft (C) has only one bore in the spline end.
3. Select suitable PTO speed per implement power requirement. Consult implement operator's manual and determine shaft suitability.

Install PTO Stub Shaft:

1. Check PTO stub shaft condition. Clean stubs shaft thoroughly. Coat splines with John Deere high-temperature/extreme-pressure/non-clay grease.
2. Push the PTO stub shaft into drive cradle with spline end facing outside.
3. Rotate shaft while installing. Make sure that the shaft is seated correctly in housing.
4. Install the snap ring (A) in position.
5. Try to rotate the PTO stub shaft. Shaft is correctly engaged when strong effort is required to turn it.

NOTE: Always check the PTO stub shaft end after installation. Make sure that the correct PTO speed is selected.

XL68979,0000322-19-17AUG20

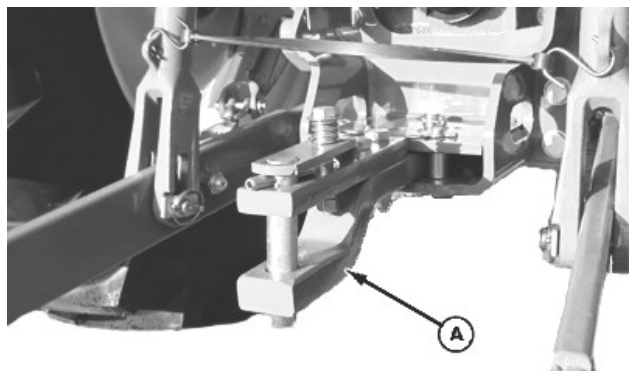
Attach PTO-Driven Implement

1. Attach implement to tractor before connecting PTO driveline. Raise hitch to upward position if it is not to be used.

CAUTION: To avoid injury, stop engine before attaching implement or working in area of the implement hitch.

2. Put gear-shift lever in neutral ("N") position. Lock and depress brake pedals, and set park brake.
3. Pull down hand throttle all the way and allow engine to idle for 1 to 2 minutes.

IMPORTANT: Remove clevis assembly on drawbar when using PTO-driven equipment.



CPA0005186—UN—25JAN18

A—Drawbar

4. Attach implement to drawbar (A).
5. If implement is connected to 3-point hitch, make sure that the drawbar is not interfered with other components. Remove it if necessary.
6. With engine off, turn shaft slightly by hand if necessary to line up splines. Connect driveline to

PTO shaft. Pull out on shaft to be sure that drive line is locked to PTO shaft.

7. Check carefully for any interference and make sure that hitch is raised to the upper position if it is not used.

CO00263,000191F-19-06JUL18

Operate Tractor PTO

NOTE: If the PTO clutch lever or PTO switch is engaged, engine does not start.

1. If a 760/830 rpm PTO is installed on your tractor, check the 760/830 rpm PTO lever position to ensure that the right PTO speed is selected. See PTO Speed Selection—760/830 rpm PTO in this section.



CPA0003006—UN—18OCT16

Tiltable and Telescopic Steering Column (fix steering column is similar)

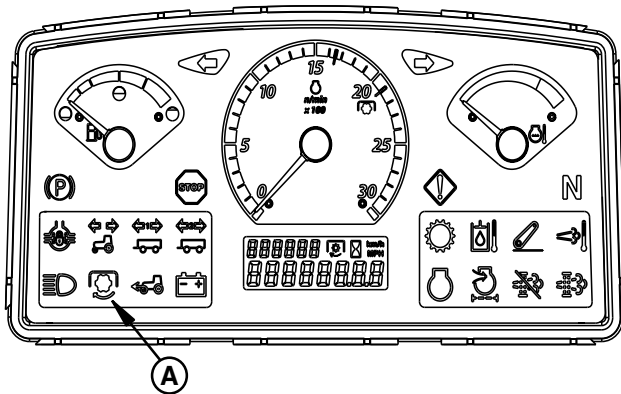
A—Clutch Pedal
B—Hand Throttle

2. Depress clutch pedal (A), start engine and push hand throttle (B) forward until engine speed is sufficient to start PTO implement.

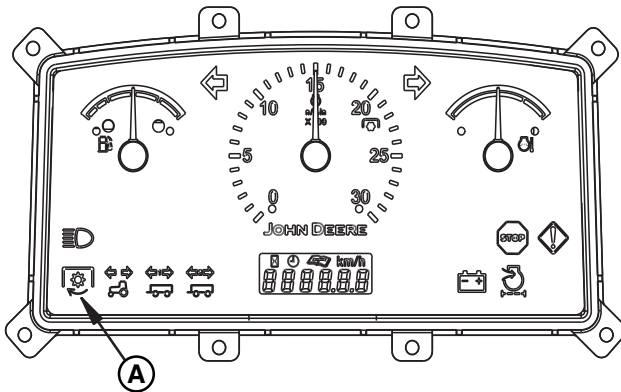
For **540/1000 rpm PTO speed**, increase engine speed to 2100 rpm

For **760/830 rpm PTO speed**, increase engine speed to 2200 rpm

Power Take-off (PTO) Operation



PY14914—UN—31JAN13
Instrument Cluster (wet clutch)



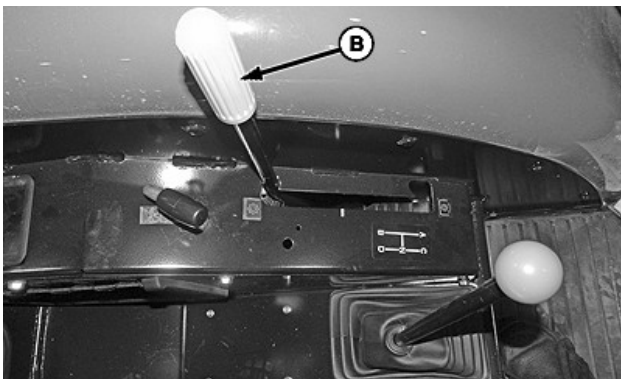
PY14912—UN—31JAN13
Instrument Cluster (dry clutch)

- A—PTO Indicator
- B—PTO Control Lever
- C—PTO switch

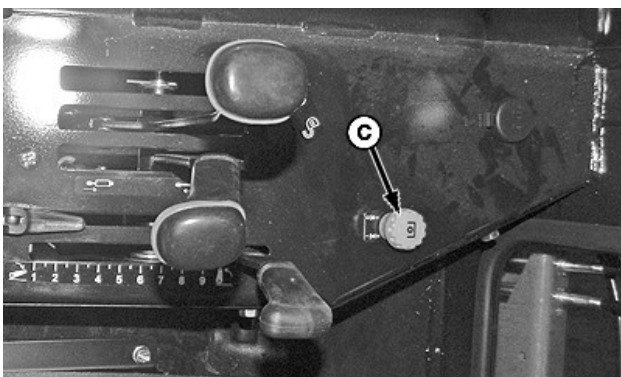
3. Move PTO control lever (B) forward or raise PTO switch (C). PTO indicator (A) lights when PTO is engaged.
4. Increase engine speed to rated 2100 rpm for 540/1000 rpm PTO operation and 2200 rpm for 760/830 rpm PTO operation.
5. Pull PTO control lever back or press PTO switch to disengage PTO.

CAUTION: Turn the key switch OFF to stop engine. Set park brake. Make sure that all mechanisms have stopped before cleaning out machine and adjusting PTO-driven implement.

CO00263,0001920-19-06JUL18



CPA0002049—UN—22OCT15
PTO Control Lever (dry clutch)



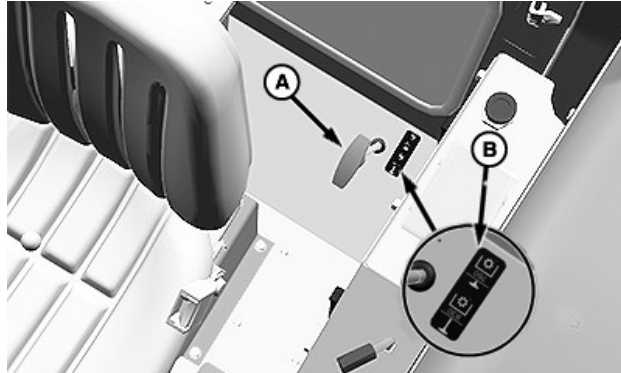
CPA0002037—UN—15OCT15
PTO Switch (wet clutch)

PTO Speed Selection—760/830 rpm PTO

NOTE: If your tractor has a 760/830 rpm PTO, check the PTO speed shift lever (A) every time before using PTO.

CAUTION: DO NOT adjust PTO speed when PTO is running!

1. Disengage PTO. For more details, see Operator Tractor PTO in this section.



A—PTO Speed Shift Lever
B—PTO Speed Label

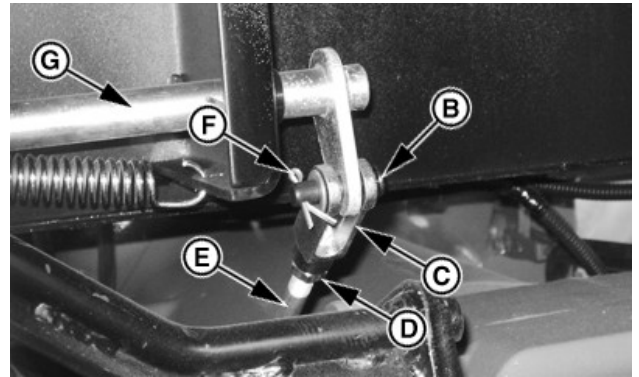
CPA0004418—UN—29OCT17

2. Adjust PTO speed shift lever (A) to desired position. Refer to the PTO speed label (B) for output speed setting information.

PTO Speed	
Pull up	830 rpm
Press Down	760 rpm

CO00263,0001921-19-06JUL18

1. Place PTO control lever (A) in disengaged position (rear position).



PUC2495—UN—06OCT09

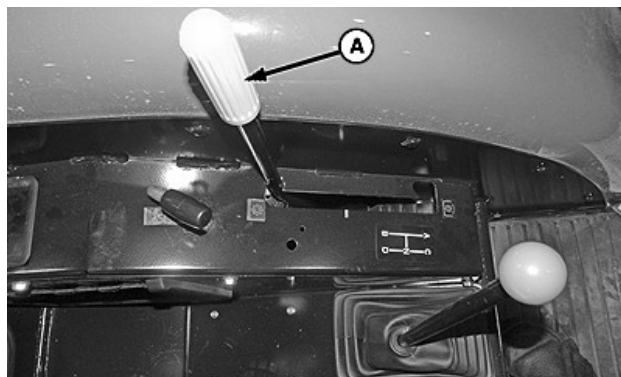
B—Pin Shaft
C—Yoke
D—Lock Nut
E—Rod
F—Cotter Pin
G—PTO Clutch Operating Rod

2. Remove cotter pin (F) and pin shaft (B).
3. Remove yoke (C) from PTO clutch operating rod (G).
4. Loosen lock nut (D). Turn yoke (C) (clockwise or counterclockwise as necessary) until its hole aligns with the hole of PTO clutch operating rod (G).
5. Turn yoke (C) half turn, counterclockwise, to allow half a turn of free play.
6. Align holes on yoke (C) and PTO clutch operating rod (G), by pushing rod (E) forward.
7. Reinstall yoke (C) to PTO clutch operating rod (G), tighten up lock nut, and reinstall pin shaft (B) and cotter pin (F).

CO00263,0001922-19-06JUL18

Adjust PTO Clutch Operating Rod

NOTE: The adjusting mechanism is at left-hand side, below cab.



A—PTO Control Lever

CPA0002046—UN—22OCT15

Unplug Baler Rotary Feeder for Dry Clutch PTO

IMPORTANT: Unplugging the baler rotary feeder as needed when the baler is driven by the tractor with dry clutch PTO.

Make dry clutch PTO and baler work normally base on following procedures.

1. Stop tractor.
2. Disengage PTO.
3. Lower the drop door under the baler rotary feeder.

NOTE: More details on how to lower/raise the drop door refer to additional baler Operator's Manual.

4. Engage the dry clutch PTO quickly, and ensure that the PTO is engaged in place. At the same time, check the situation of the baler rotary feeder.

DO NOT engage dry clutch PTO again If it cannot run freely. Stop the engine and clear the plugged section in the baler by the proper tools. Restart the engine, engage the dry clutch PTO quickly, and ensure that the baler rotary feeder can work freely.

IMPORTANT: DO NOT engage dry clutch PTO slowly under any circumstances.

IMPORTANT: Clear the plugged sections. Ensure that the tools cannot be left in the baler.

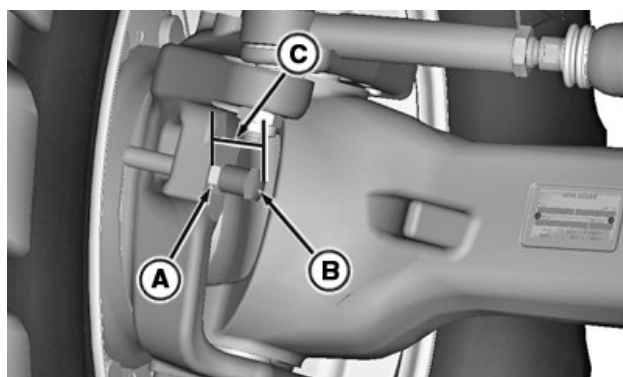
5.Raise the drop door in the place.

NOTE: Details on baler operation refer to additional baler Operator's Manual.

CO00263,0001DF8-19-16SEP20

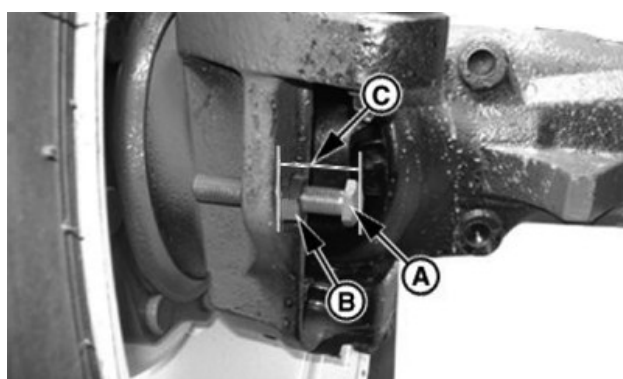
Steering and Brake Operation

Steering Stop Adjustment (MFWD Axle)



CPA0002314—UN—07FEB17

For JD1204-A, JD1354-A, and JD1404-A Tractors



CPA0003056—UN—07FEB17

For JD954, JD1104, and JD1204-A(option) Tractors

- A—Adjusting Screw
- B—Lock Nut
- C—Adjustment Dimension

Front wheel steering angle must be kept within certain limits according to tire size and tread width. Set adjustment dimension (C) by turning adjusting screw (A). Tighten lock nut (B) to specification. Refer to one of the Rim and Wheel disk positions tables for reference.

Specification

Lock Nut—Torque. 200 N·m (150 lb·ft)

NOTE: Make sure adjustment dimension (C) is set to same value on right-hand and left-hand wheels.

This adjustment applies only to tractors equipped with front-wheel drive (MFWD).

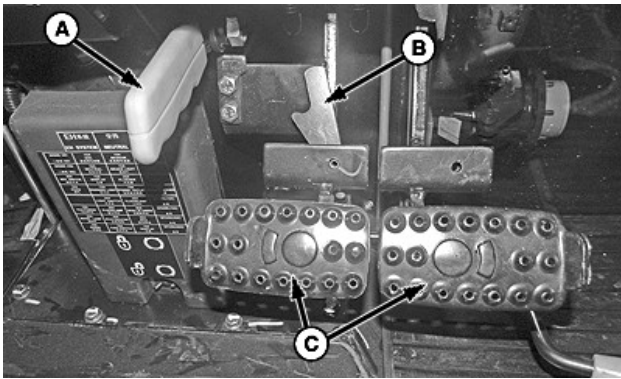
All these data for the front wheel tread are in relation to the factory setting.

Adjust the dimension C for different wheel tread. Make sure that there is no interference with tractor parts in any position when front wheels are turned and front axle is swayed.

Rim and Wheel Disk Positions					
	JD954	JD1104	JD1204-A	JD1354-A	JD1404-A
Tire Size	Adjustment dimension (C)				
11.2-24 PR-1	60 mm (2.36 in)		60 mm (2.36 in)		
12.4-24	55 mm (2.16 in)	55 mm (2.16 in)	55 mm (2.16 in)		55 mm (2.16 in)
13.6-24	70 mm (2.75 in)	70 mm (2.75 in)			
14.9-24			38 mm (1.5 in)	38 mm (1.5 in)	38 mm (1.5 in)
14.9-24 R2			38 mm (1.5 in)	38 mm (1.5 in)	38 mm (1.5 in)

CO00263,0001923-19-06JUL18

Use Brakes



CPA0002083—UN—20OCT15

- A—Park Brake Lever
B—Brake Pedal Locking Bar
C—Brake Pedals (2 used)

⚠ CAUTION: Before operating tractor on a road, lock the pedals together with brake pedal locking bar (B). Use brakes lightly and cautiously at transport speeds.

Do not lock brake pedals (C) together for field work. Instead, apply the right brake pedal lightly to assist in making sharp right-hand turns and left pedal for left-hand turns.

To stop the tractor completely, lock brake pedals together with brake pedal locking bar (B) after the tractor completely stops. Depress brake pedals (C) and pull up park brake lever (A). Park brake lever (A) keeps brake pedals down. To release the park brake lever, push down briefly on brake pedals (C). Park brake lever (A) drops down on its own.

IMPORTANT: To prevent unnecessary wear, NEVER “ride” the brakes by resting a foot on the pedals.

Reduce speed if towed load is not equipped with brakes and weighs more than the tractor. Avoid hard braking applications. Consult implement operator's manual for recommended transport speeds.

Use additional caution when transporting towed loads under adverse conditions, and when turning or stopping on inclines.

YN00044,0000E99-19-28NOV17

Hydraulics Operation

Open Center Hydraulic System

IMPORTANT: Tractor hydraulic system design is known as an open center system. This type of hydraulic system is **NOT COMPATIBLE** with continuous hydraulic motor applications such as those used in: vacuum blower motors, centrifugal sprayer pumps, hydraulically driven rakes or other similar applications. In such cases, the use of a PTO-driven hydraulic pump is strongly recommended. Anytime one of the above applications is considered, consult your nearest John Deere dealer or service facility.

Failure to observe this application information will likely cause serious damage to tractor hydraulic system.

CP00834,0001F6D-19-20OCT15

NOTE: Hydraulic oil filter (A) is on the right-hand for the dry clutch machine, or at the rear for the wet clutch machine.

Hydraulic system is slow to function when tractor is started in cold weather, because the cold oil does not pass through hydraulic oil filter (A) easily.

Steering is also slow until system warms up.

Hydraulic system functions normally when oil warms up.

To warm up the oil in the system, proceed as follows:

1. Depress clutch pedal, start engine and idle at about 1000 rpm.

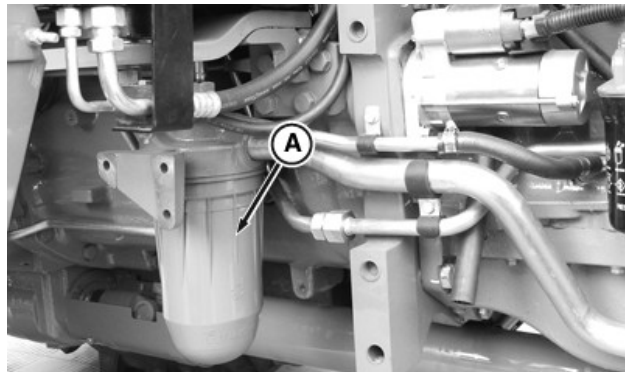
IMPORTANT: In order to prevent damaging hydraulic pump or relief valve, **DO NOT** exceed 3 minutes warm-up time with steering wheel held in full left or right turn position.

2. Turn and hold steering wheel in full left or full right position, for no more than 3 min.

CO00263,0001924-19-06JUL18

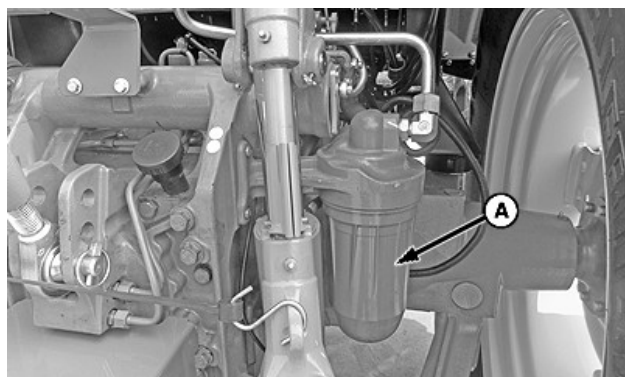
Warm Transmission-Hydraulic System Oil

CAUTION: Overheating of hydraulic oil causes malfunction of hydraulic components and possible personal injury. To prevent hydraulic oil from overheating, **DO NOT** hold the SCV in the extend or retract position for an extended time.



PY16756—UN—23NOV12

Right-Hand Side (dry clutch)



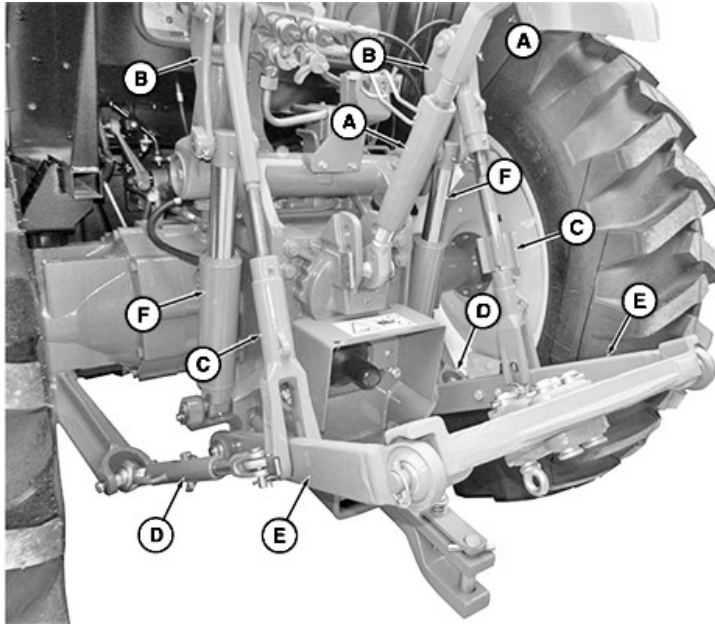
CPA0001700—UN—27JUL15

Rear of Tractor (wet clutch))

A—Hydraulic Oil Filter

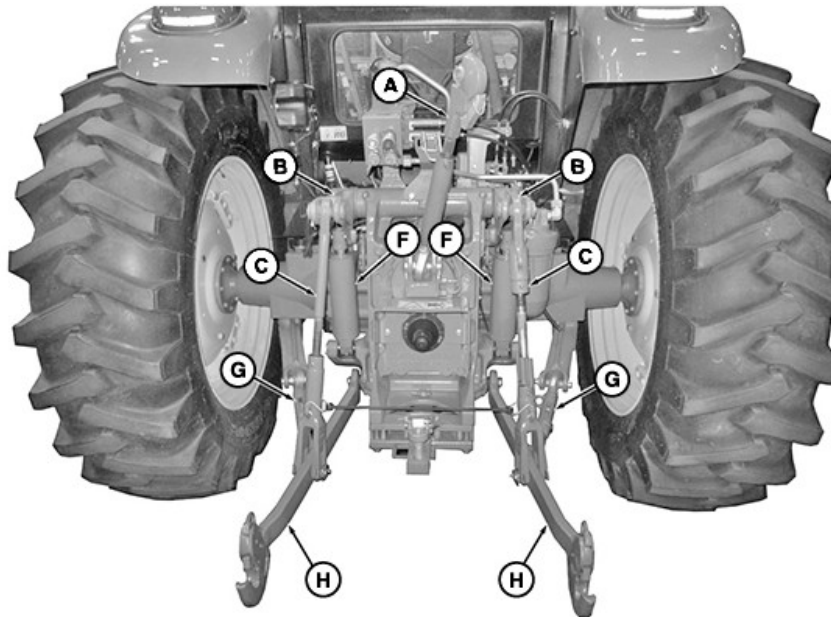
Hitch and Drawbar Operation

Rear Hitch Components



Rear Hitch Components (four cylinder engine)

CPA0005193—UN—28JAN18



Rear Hitch Components (six cylinder engine)

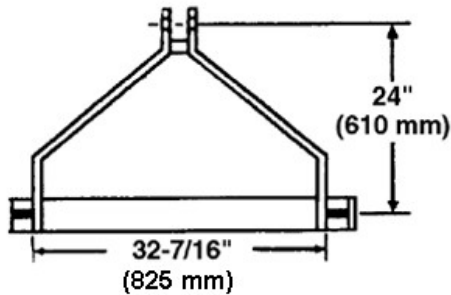
CPA0005194—UN—28JAN18

A—Center Link
B—Lift Arms (2 used)
C—Lift Links (2 used)
D—Sway Chains or Stabilizer Bars (2 used)

E—Draft Links (2 used, fixed ball type)
F—Hitch Cylinders (2 used)
G—Stabilizer Bars (2 used)
H—Draft Links (2 used, hook type)

CO00263,0000A12-19-26JAN18

Prepare Implement



Implement Mast

PUC1571—UN—30NOV07

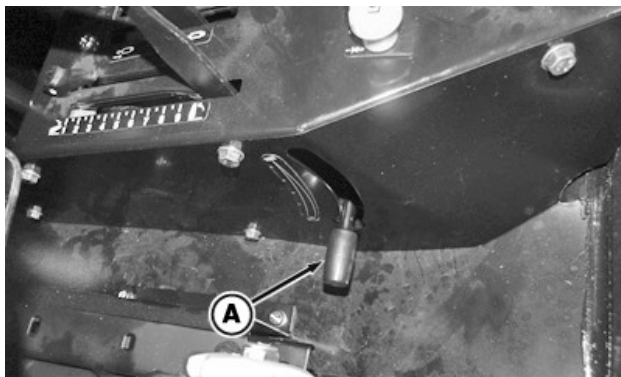
Category II implements have the top pin hole of the implement mast located 610 mm (24 in) above the lower pin holes. Drill another hole in top mast or extend top mast if necessary.

Mast Height	Width Between Lower Pins	Pin Size	
		Lower	Top
610 mm (24 in)	825 mm (32-7/16 in)	28 mm (1-1/8 in)	25.5 mm (1 in)

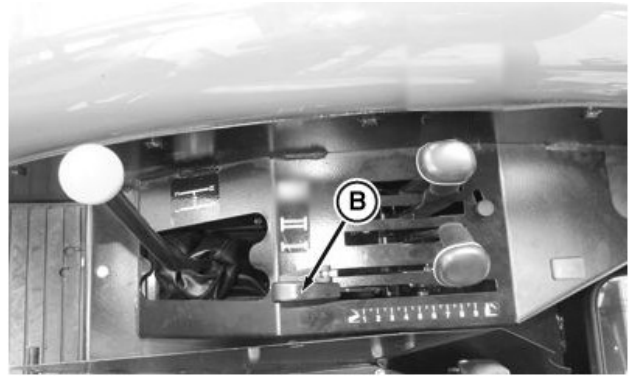
CO00263,0001925-19-06JUL18

Rockshaft Control Lever

NOTE: This section is only for tractor without downforce rockshaft.



CPA0002311—UN—23NOV15



CPA0001117—UN—10NOV14

A—Draft Control Lever
B—Position Control Lever

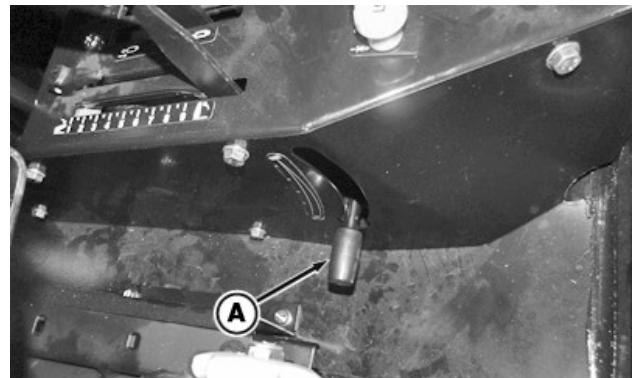
Position control lever (B) and draft control lever (A) controls the rockshaft.

Position control lever (B) raises the hitch when pulled rearward, and lowers the hitch when moved forward. (See details in this section)

Draft control lever (A) controls hitch position relative to draft loads. (See details in this section.)

CO00263,00009DA-19-24JAN18

Use Rockshaft Position Control



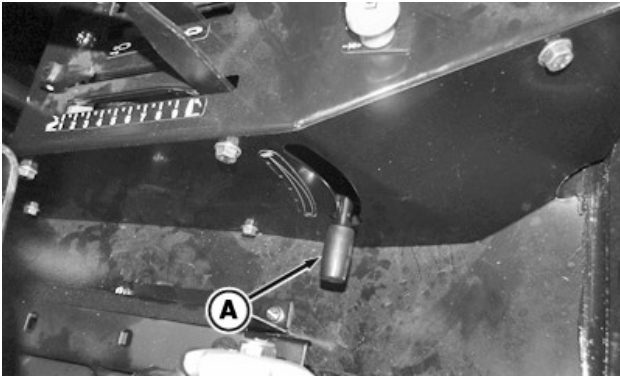
CPA0002311—UN—23NOV15

A—Draft Control Lever

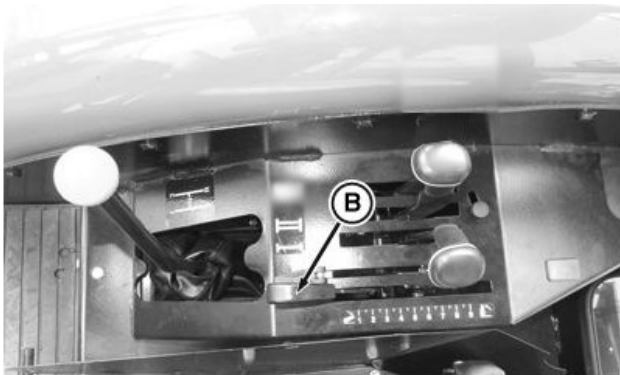
CAUTION: To prevent unexpected movement of rockshaft, pull draft control lever (A) all the way upward before attaching an implement.

NOTE: This section is only for tractors without downforce.

To prevent the rockshaft from adjusting automatically with draft load, pull draft control lever (A) all the way upward, especially when attaching implement to tractor.



CPA0002311—UN—23NOV15



CPA0001117—UN—10NOV14

On Right-Hand Side



B—Position Control Lever

Use position control lever (B) for hitch movement and depth control. Position control can be used for the following applications:

CONSTANT DEPTH USE: Implement is on level terrain or not engaged the ground, such as spreaders or sprayers. Place position control lever (B) at depth desired.

P9043—UN—01AUG00

TRANSPORT AND FIELD TURNAROUND: Position control lever (B) must be moved fully rearward.

FLOAT OPERATION: Use position control for implement with skids or depth gauge wheels designed to carry full implement weight. Push position control lever all the way forward, and pull draft control lever all the way upward so implement can follow the ground contour.

NOTE: Lift links can be adjusted for the implement float. (See Adjust Lateral Float in this section.)

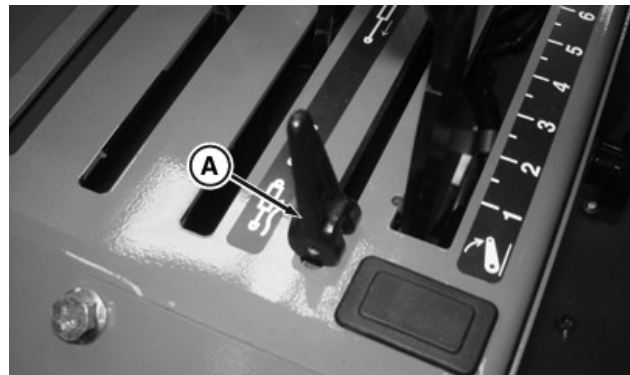
CO00263,00009DB-19-24JAN18

Set Position Control Lever Stop

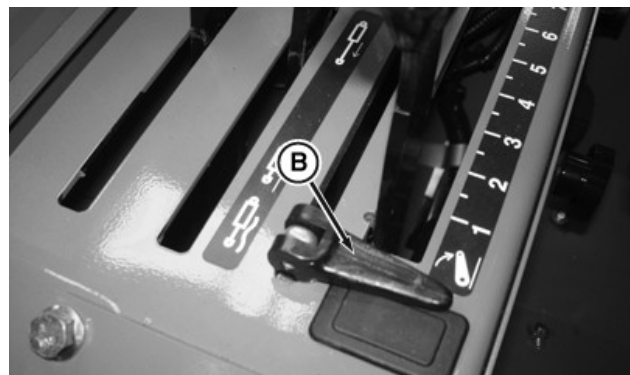
NOTE: This section is only for tractors without downforce rockshaft.

NOTE: Use position control lever stop when operating depth or height repeats often.

1. Determine the proper depth or height by operating the implement for a few minutes.



PY15226—UN—31MAY12



PY15225—UN—31MAY12

A—Position Control Lever Stop

B—Position Control Lever in Down Position

2. Raise the position control lever stop (A) and slide against the position control lever. Lock the position

control lever stop in position by pressing position control lever in down position (B).

CO00263,00009DC-19-24JAN18

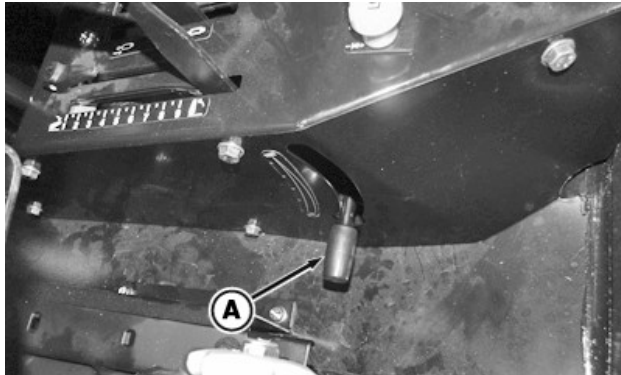
Use Draft Control

NOTE: This section is only for tractors without downforce rockshaft.

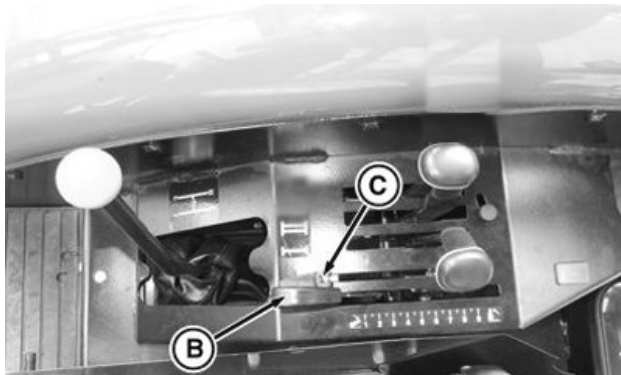
The rockshaft is equipped with the variable draft control system.

Use draft load sensing for the following conditions:

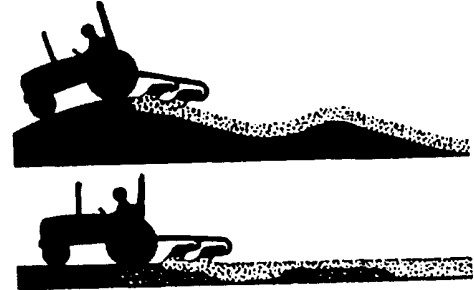
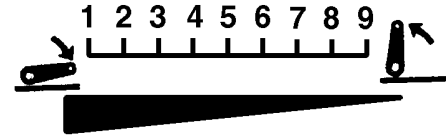
- Operating with a fully mounted implement in uneven terrain. To maintain a nearly constant depth, the implement rises and lowers following the ground contours.
- Operating in varying soil conditions. When getting through a tough spot, the implement can raise slightly. You do not have to shift gears in this condition.



CPA0002311—UN—23NOV15



CPA0001132—UN—10NOV14



P9066—UN—11SEP00

A—Draft Control Lever
B—Position Control Lever
C—Position Control Lever Stop

Draft control lever (A) controls amount of load required before hitch responds. If you place the knob all the way up, there is no draft sensing. Increase the required draft load by pushing down the knob. Draft load can override the position set by the position control lever (B).

For draft load sensing operation:

- Initially, place the position control lever (B) in its fully forward position, and place the draft control lever (A) in the top (least draft) position.
- With tractor moving, pull position control lever (B) backward to set implement operating depth. Set the position control lever stop (C). When the tractor begins to slip, push the draft control lever (A) down until desired draft sensing level is obtained.
- Position control lever (B) can also be raised slightly to override the draft control setting. To avoid getting stuck, perform this action in adverse conditions.
- Position control lever (B) can be moved fully rearward to raise the hitch at the end of the field.

CO00263,00009DD-19-24JAN18

Adjust Rockshaft Rate-of-Drop

CAUTION: Excessive rate-of-drop damages equipment or injures to the machine operator. Fully lowering implement requires at least 2 sec.

NOTE: This section is only for tractors without downforce.

Rockshaft drops faster when a heavy implement is attached. Adjust rate-of-drop knob so that it is slow enough to be safe and prevent implement damage.



CPA0002050—UN—19OCT15
On Left-Rear Side of Seat

A—Rate-of-Drop Knob

Rockshaft rate-of-drop knob (A) is located behind the seat. Turn knob clockwise to slow rockshaft drop, and counterclockwise to speed up rate-of-drop.

To lock rockshaft in position, turn rate-of-drop knob (A) clockwise to the stop.

To unlock the rockshaft, turn the rate-of-drop knob (A) counterclockwise and reset the rate of drop per instructions.

CO00263,00009DE-19-24JAN18

Rockshaft Control Lever—Downforce



CPA0004416—UN—26NOV17

A—Rockshaft Control Lever

Use rockshaft control lever (A) to control rockshaft.

Raise the hitch by pulling the rockshaft control lever all the way backward. When the hitch reaches to the end position or lifting pressure reaches its limit, rockshaft control lever (A) returns to neutral position automatically;

Lower the hitch by pushing the rockshaft control lever (A) forward (not fully position). Release the rockshaft control lever (A) causes it returns to neutral position automatically, and lifter stops to drop;

To keep the hitch on "floating", push the rockshaft

control lever (A) to fully forward position, hitch lowers to the end position and remains "floating".

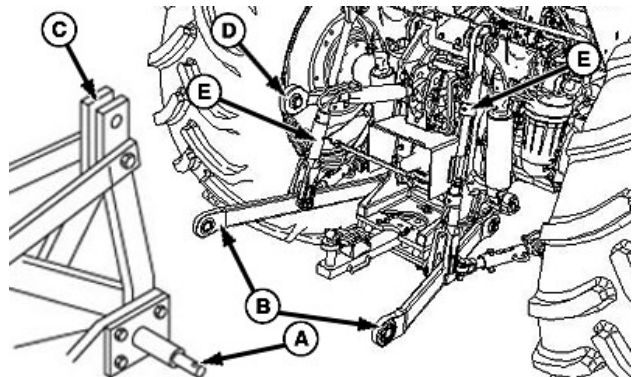
CO00263,00009DF-19-24JAN18

Attach Implements to 3-Point Hitch

1. Avoid interference to drawbar. If necessary, move the drawbar forward or remove it. Check for any other potential interference for the drawbar.

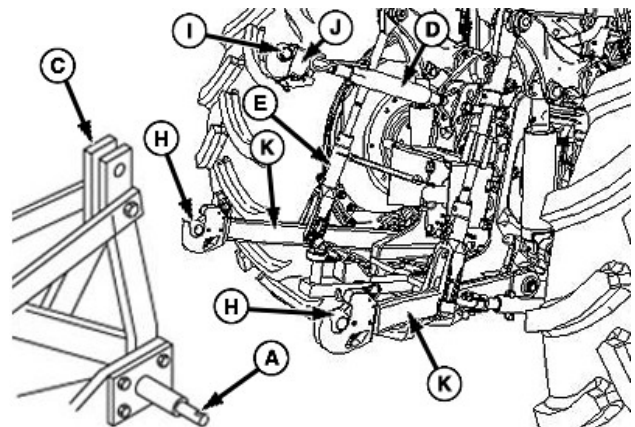
CAUTION: Prevent unexpected movement of rockshaft by placing draft sensing knob all the way top before attaching implement to hitch.

2. Back tractor to implement until hitch points align. Place gearshift lever in neutral, "N". Lock and depress brake pedals, and pull up park brake lever.
3. Pull down the hand throttle all the way and allow engine to idle for 1—2 min, then shut off engine.



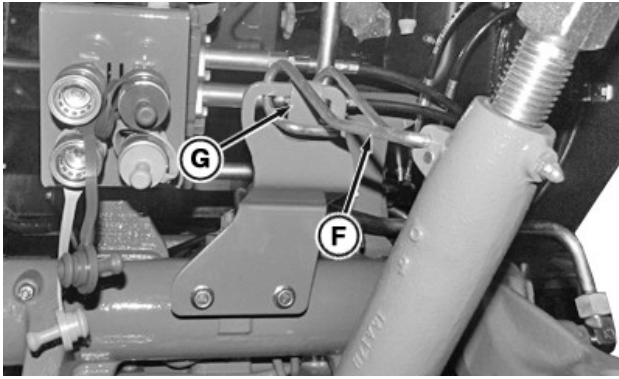
CPA0001731—UN—29JUL15

Option 1



CPA0001687—UN—20AUG15

Option 2



CPA0002308—UN—23NOV15

- A—Implement Hitch Pins (2 used)
- B—Draft Links (2 used)
- C—Implement Top Mast
- D—Center Link
- E—Lift Links (2 used)
- F—Center Link Locking Clip
- G—Tab
- H—Balls (2 used)
- I—Ball
- J—Automatic Hook
- K—Draft Links (hook type, 2 used)

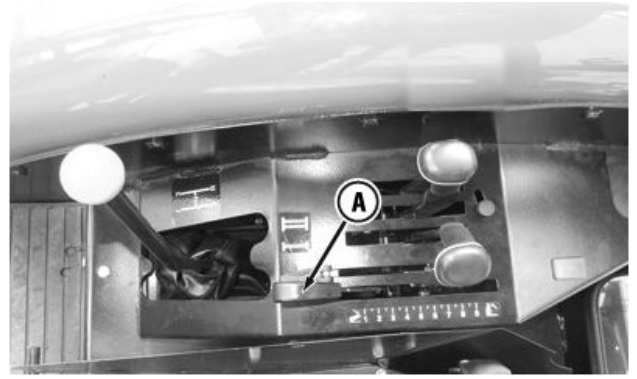
NOTE: Place balls (H and I) on the draft links (K) and automatic hook (J) only when using implement.

4. Slip draft links (B or K) over the implement hitch pins (A) on both sides and retain with locking pins.

NOTE: Locking pins can be stored on the draft links through holes in sway the chain ears when not in use.

5. Remove center link (D) from the transport hook, lift center link locking clip (F) and rotate the tab (G) to rear of clip.
6. Attach center link (D) or automatic hook (J) and implement top mast (C). Retain with pin and locking pin.
7. Adjust center link (D) and lift links (E) as necessary. (See Leveling Hitch in this section.)

⚠ CAUTION: Avoid bodily injury or machine damage when use attachments. Check the full range of operation for interference, binding, or PTO separation.



CPA0001118—UN—10NOV14

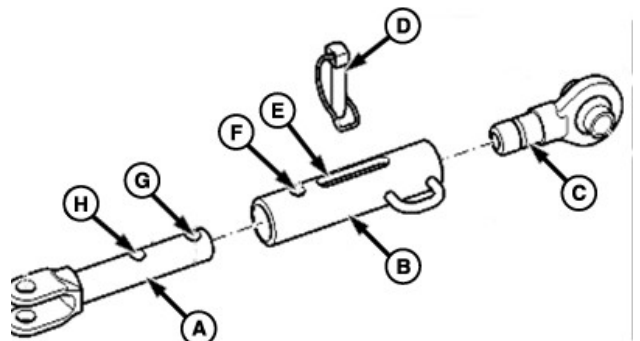
Position Control Lever

A—Position Control Lever

8. Use the rockshaft position control lever (A) to lower or raise implement slowly and check for any interference.

CO00263,00009E0-19-24JAN18

Adjust Stabilizer Bar



CPA0003521—UN—27MAR17



CPA0003520—UN—27MAR17

rod (I) to 0 mm (0 in) by adjusting adjuster when equips wider implement.

YN00044,0000E7E-19-09NOV17



CPA0003523—UN—27MAR17

Position 1



CPA0003524—UN—27MAR17

Position 2

- A—Rod
- B—Adjuster
- C—Threaded Rod
- D—Lock Pin
- E—Adjust Hole E
- F—Adjust Hole F
- G—Adjust Hole G
- H—Adjust Hole H
- I—Dimension of Bare Thread of Threaded Rod

The stabilizer bars are used to adjust the lateral sway of implements (draft links). Adjust length of stabilizer bars by routing stabilizer adjuster (B). Insert lock pin (D) into adjust holes (F and H) to set as position 1, then the stabilizer bar cannot sway. Insert lock pin into adjust holes (E and G) to set as position 2, then the stabilizer bar can sway in a certain range.

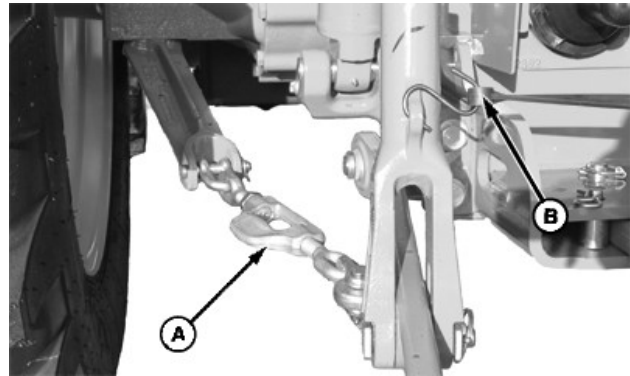
Select position 1 or position 2 on basis of work condition. Recommend setting as position 1 when road travel, or equips with rotary cultivator or hay mower. Recommend setting as position 2 when equips with plough or harrow, tractor will perform better performance.

Recommended adjustment method:

- Try to adjust dimension of bare thread of threaded rod (I) to 25 mm (0.98 in) by adjusting adjuster when equips with implement of category II.
- Try to adjust dimension of bare thread of threaded

Adjust Sway Chains (If Equipped)

NOTE: Check implement operator's manual for instructions on the permission of side sway.



CPA0005196—UN—28JAN18

- A—Sway chain strainer (2 used)
- B—Strap

Take up chain slack with the sway chain strainer (A) as needed.

IMPORTANT: DO NOT shorten chains too short which prevents the hitch raises completely. Hydraulic relief valve opens if the chain prevents hitch from rising, causing excessive oil heating and pump or equipment damage.

NOTE: Use strap (B) to keep draft links clear of rear tires when draft links are not attached to implement.

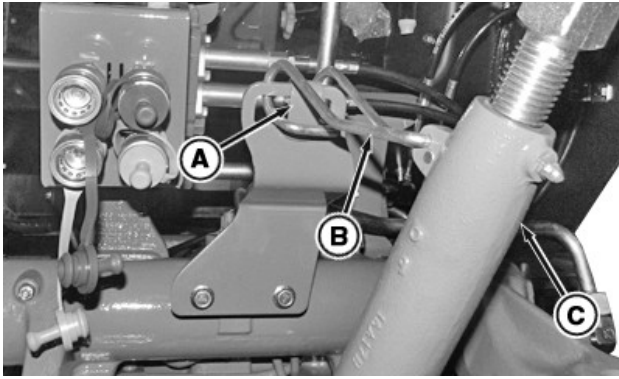
CO00263,0000A13-19-26JAN18

Level Hitch

1. Lower implement to take off hitch weight.

IMPORTANT: DO NOT attempt to extend the center link beyond limits of locking clip or to raise lift links past the stops. Link body threads could be damaged.

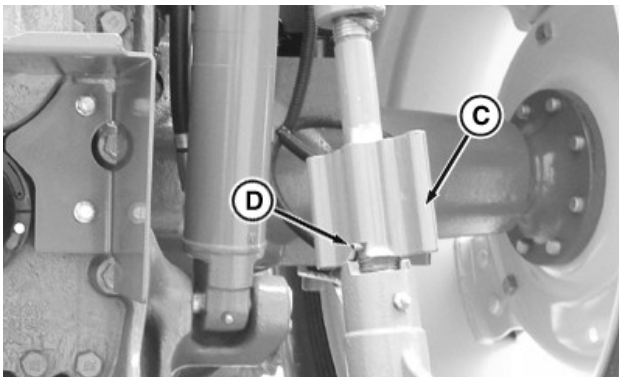
NOTE: Maximum adjustment range of the center link can only be obtained if the ends are positioned equally within the body when attached to an implement.



CPA0002309—UN—23NOV15

A—Tab
B—Locking Clip
C—Center Link Body

2. Adjust center link to level implement front-to-rear. Unlatch locking clip (B). Rotate center link body (C) clockwise to lengthen center link or counterclockwise to shorten it. Minimum length is 570 mm (22.4 in) and maximum length, 720 mm (28.3 in). Be sure to latch locking clip (B) again after every adjustment.



PY16755—UN—23NOV12

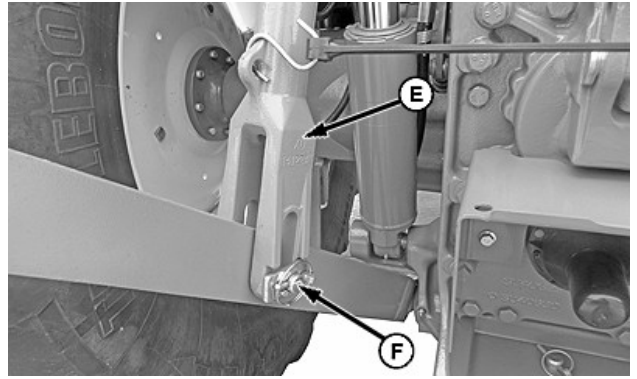
C—Locking Handle
D—Roll Pin

3. Adjust right-hand lift link to level implement side-to-side. Lift locking handle (C) and turn 1/4 turn to engage slot onto roll pin (D) in center portion of lift link.

Turn locking handle (C) clockwise to raise draft link.

Turn locking handle (C) counterclockwise to lower draft link.

After adjustment, lift handle and turn it to engage slot onto lower body and to prevent change of adjustment during operation.



CPA0001695—UN—27JUL15

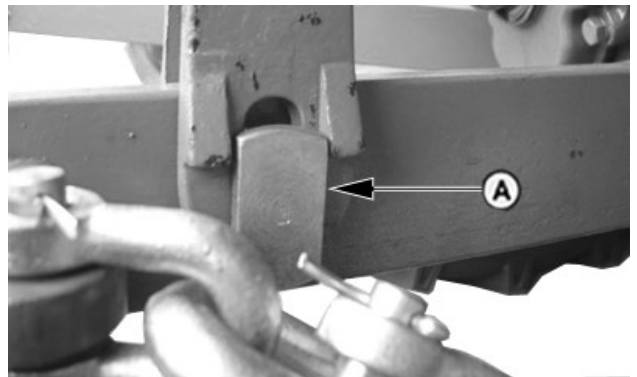
E—Lower End Assembly
F—Lower Link Pin

4. The left-hand lift link is also adjustable in length. To change length, remove lower link pin (F) and rotate lower end assembly (E) clockwise to shorten, or counterclockwise to lengthen. Then reinstall the pin and locking pin.

Adjust left-hand and right-hand lift links to accommodate various tire sizes or implement heights. For greatest range of up and down hitch motion, set lift links so that when fully lowered, draft link balls are approximately 178 mm (7 in) off the ground.

CO00263,00009E2-19-24JAN18

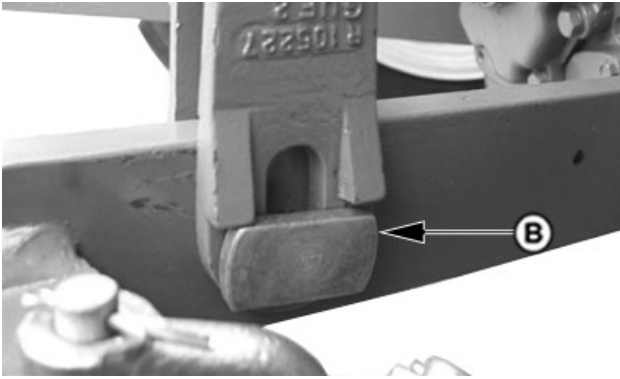
Adjust Lateral Float



PUC1157—UN—10OCT07

A—Pin in Vertical (Float) Position

To allow the draft link to raise slightly as implement follows the ground contour, place the pin in vertical (float) position (A).



- A—Spring Lock Clip
- B—Retaining Pin
- C—Spacer

To allow drawbar to swing sideways, remove spring lock clip (A). Pull retaining pin (B) down and remove spacer (C). If full swing of drawbar is needed, remove opposite side pin and spacer.

This is helpful when turning under load.

IMPORTANT: Install spring lock clip, retaining pin, and spacer to prevent drawbar from swinging free during transport of towed loads.

Install spring lock clip, retaining pin, and spacer at all other times.

N400041,0003506-19-12JAN17

B—Pin in Horizontal (Rigid) Position

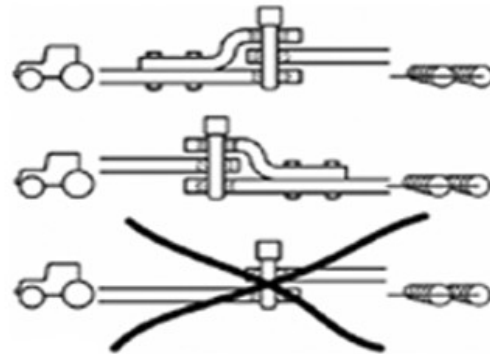
To hold implement rigid, place the pin in horizontal (rigid) position (B).

Use lift arm pins in the vertical (float) position for hitch-mounted implements. A particular application is a cultivator or mower, equipped with ground gauging skids or wheels which causes the implement to twist relative to the tractor.

Use lift arm pins in the horizontal (rigid) position for implements such as plows and ground engaging implements that do not twist relative to the tractor.

CO00263,00009E3-19-24JAN18

Proper Use of Drawbar



PUC1443—UN—24OCT07

IMPORTANT: Comply with local traffic regulations when using the drawbar. Use suitable, approved hitch pins only. Combine drawbars as shown only.

CP00613,00005E6-19-08JUN13

Observe Drawbar Load Limitations

IMPORTANT: Certain heavy equipment, such as a loaded single-axle trailer, can place excessive strain on drawbar. Strain is greatly increased by speed and rough ground.

Static vertical load on drawbar should not exceed specification.

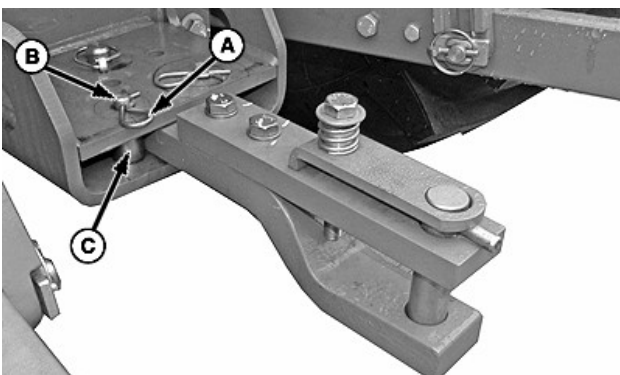
Drive slowly with heavy loads.

Specification

Static Vertical Load—Capacity 1200 kg (2646 lb)

CO00263,00009E4-19-24JAN18

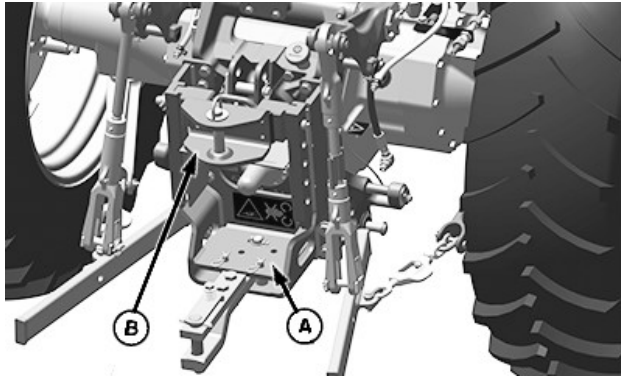
Use Swinging Drawbar



CPA0002104—UN—25OCT15

Wagon Hitch

Wagon hitch (A) is designed for towing and can adjust the height of the hitch coupling (B) according to the purpose.



CPA0007287—UN—14NOV18

A—Wagon Hitch
B—Hitch Coupling

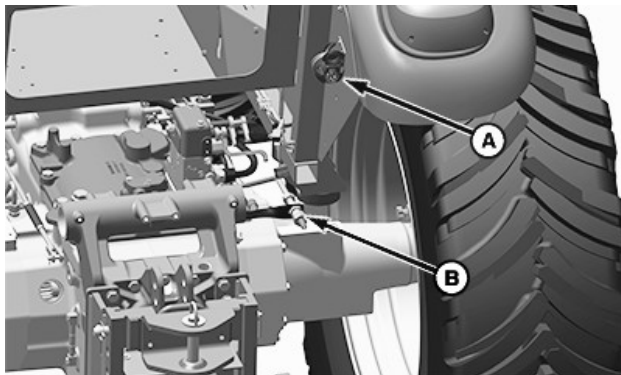
Observe Wagon Hitch Load Limitations

IMPORTANT: Certain heavy equipment, such as a loaded single-axle trailer, can place excessive strain on the trailer hitch. Strain is greatly increased by speed and rough ground. Vertical load on trailer hitch must not exceed specification.

Drive slowly with heavy loads.

Specification

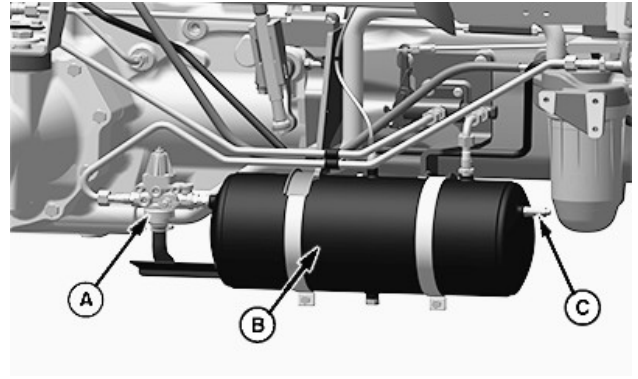
Max Vertical Load on
Road—Capacity. 2000 kg (4409 lb)
Horizontal Wagon Draft Force
(D Value)—Capacity. 56 kN



CPA0007288—UN—13NOV18

A—Trailer Electrical Connector
B—Air Trailer Brake Fitting

The tractor provides a trailer electrical connector (A) to the trailer and an air trailer brake fitting (B) for the trailer with an air brake system.



CPA0007289—UN—13NOV18

A—Regulating Valve
B—Air Tank
C—Safety Valve

After starting the engine, the air pump will inflate the air tank (B), and the tank pressure is controlled by the regulating valve (A). Safety valve (C) is for protection.

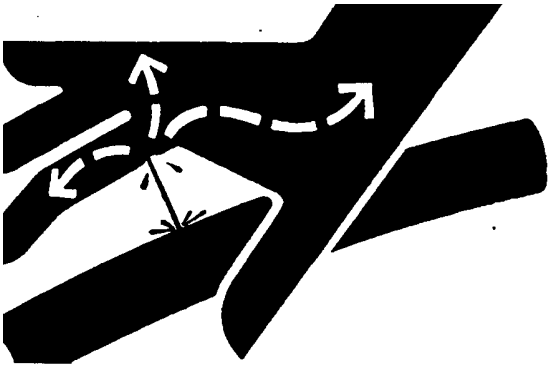
LG70251,0001743-19-19NOV18

Selective Control Valve Operation

Connect Cylinder Hoses

⚠ CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure. Search for leaks with a piece of cardboard placed under connections. Protect hands and body from high-pressure fluids.

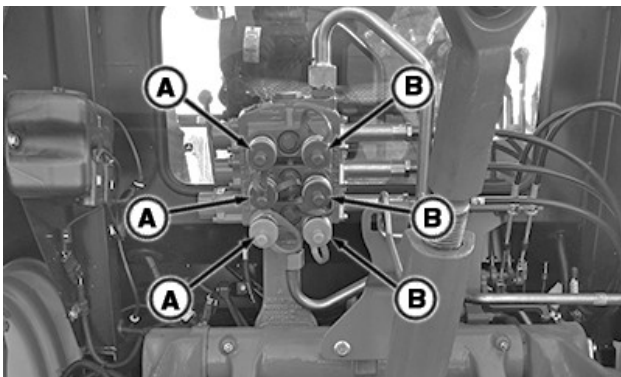
If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours, or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere and Company Medical Department in Moline, Illinois, USA.



X9811—UN—23AUG88

IMPORTANT: Hydraulic hoses can fail due to physical damage, kinks, age, and exposure to the elements. Check hoses regularly. Replace damaged hoses.

1. Remove dust cups (if equipped) from hose ends.
2. Pull dust plugs from couplers.
3. Make sure that hose ends and coupler receptacles are clean and dry.



CPA0003005—UN—18OCT16

Hose Coupler (three sets shown, two sets is similar)

A—Supply Hose Coupler (2 or 3 used)

B—Return Hose Coupler (2 or 3 used)

4. Return hose couplers (B) receive cylinder return hose.
5. Supply hose couplers (A) receive cylinder supply hose.
6. To connect each hose, push the coupler sleeve forward and push hose tip firmly into coupler receptacle. Release the sleeve and pull lightly on hose to make sure that positive connection was made.

⚠ CAUTION: Hoses that have been reversed when connecting pose a serious hazard. If SCV lever is pushed all the way forward to float or regenerate position, implement would drop suddenly, potentially causing serious injury or death. Therefore, never attempt to use float or regenerate position before you have performed the following verification step.

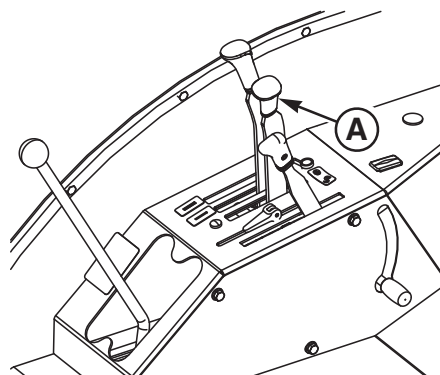
7. To make sure that hoses have been connected to correct receptacle, pull SCV I lever slightly back of center. This should raise implement. If implement lowers instead of rising, hoses are reversed and need to be connected correctly.

CO00263,00009E5-19-24JAN18

Reconnect Hoses Under Pressure

If hoses pull from tractor accidentally during use, clean hose tips and coupler receptacles before proceeding to reconnect. Then use following procedure:

IMPORTANT: Implement must be raised slightly to reset coupler check valves, before it can be lowered.



CPA0002313—UN—07DEC15

A—SCV Lever

1. Raise any attached implement slightly by pulling back SCV lever (A).
2. Push SCV lever (A) forward to lower implement and relieve line pressure.

- Reconnect hoses (See Connect Cylinder Hoses in this section).

CO00263,00009E9-19-24JAN18

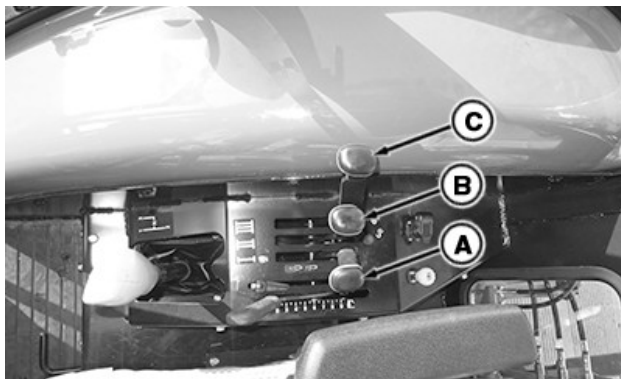
Use Correct Hose Tips

Tractors are equipped with selective control valves (SCV). The coupler receptacles accept a standard hose tip as recommended by ISO and SAE. Adapters to allow connecting older John Deere hose tips to the ISO couplers in your tractor are available from your John Deere dealer.

CP00834,0001F6F-19-20OCT15

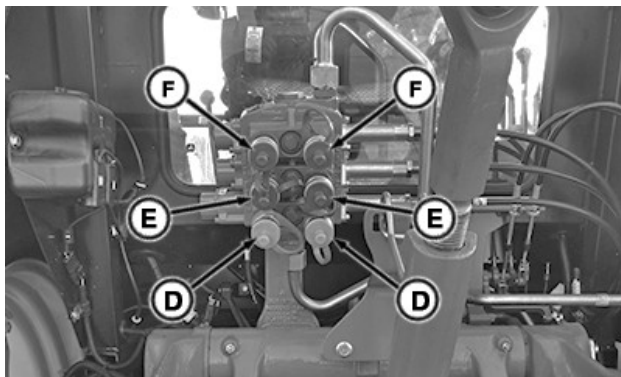
SCV Control Lever and Coupler Identification

SCV levers control oil flow to hydraulic hose couplers at the rear of tractor.



CPA0003003—UN—18OCT16

SCV Control Levers (three sets shown, two sets is similar)



CPA0003004—UN—12JAN17

SCV Coupler (three sets shown, two sets is similar)

- A—SCV I Lever
- B—SCV II Lever
- C—SCV III Lever
- D—SCV I Couplers (2 used)
- E—SCV II Couplers (2 used)
- F—SCV III Couplers (2 used)

SCV I lever (A) operates SCV I couplers (D).

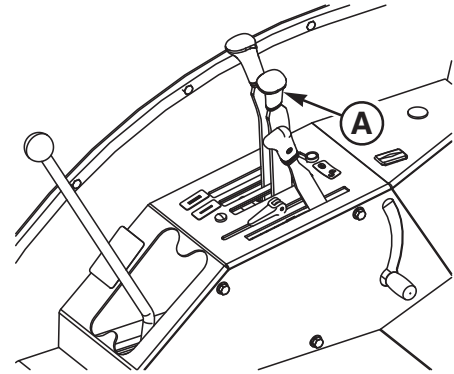
SCV II lever (B) operates SCV II couplers (E).

SCV III lever (C) operates SCV III couplers (F).

CO00263,00009E7-19-24JAN18

Operate SCV Control Levers

Neutral Position

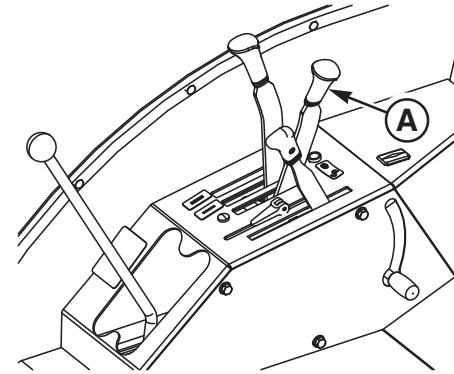


CPA0002313—UN—07DEC15

A—SCV Lever (neutral position)

Spring pressure returns the SCV lever (A) to neutral position (unless lever is fully forward, in the “float” position). When the SCV lever is centered, the cylinder is hydraulically locked in neutral position.

Extend Position

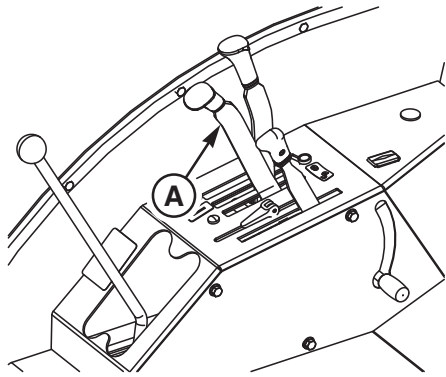


CPA0002410—UN—07DEC15

A—SCV Lever (extend position)

Pull the SCV lever (A) slightly to rear of neutral and hold it against spring pressure. Which extends cylinder connected to SCV coupler and normally raises implement. SCV lever returns to neutral when released. When the cylinder piston protrudes, oil supply port is connected to SCV quick coupler (supply coupler) for raising implement.

Retract Position



CPA0002409—UN—07DEC15

A—SCV Lever (retract position)

Push SCV lever (A) slightly forward of neutral and hold it against spring pressure. Which retracts cylinder connected to SCV couplers and normally lowers implement. SCV lever returns to neutral when released. When the cylinder piston retracts, oil return port is connected to SCV quick coupler for descending the implement.

operator. Cylinder float position is only available in tractors equipped with triple SCV.

CO00263,00009EA-19-24JAN18

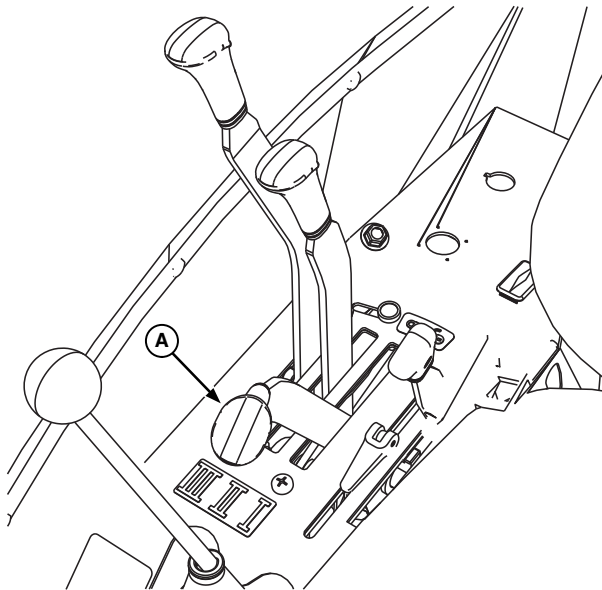
Match Tractor Power to Implement

IMPORTANT: Tractor power is supposed to match the size of certain implements. Excessive power can damage an implement, and too large an implement can damage the tractor. (Refer to your implement operator's manual for minimum and maximum power requirements before attaching an implement.)

CO00263,00009E8-19-24JAN18

Float Position

NOTE: The floating position is only available for SCV I of the triple rear SCV.



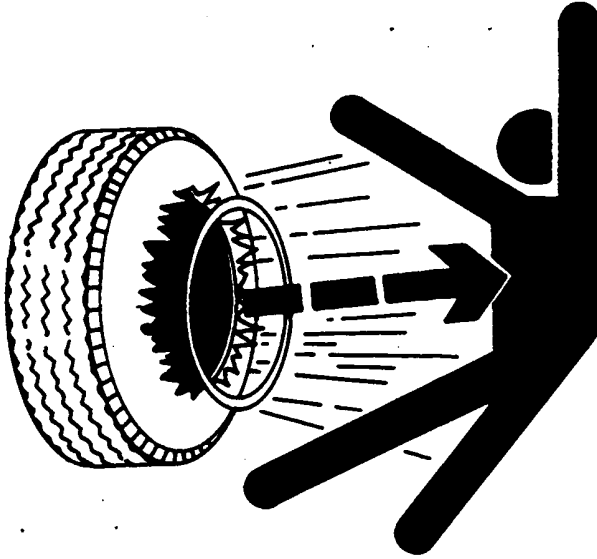
CPA0004534—UN—21NOV17

A—SCV Lever (float position)

Push SCV lever (A) all the way forward, past detent. The detent keeps lever from going back to neutral position, until operator pulls SCV lever back. When the SCV lever is in this position, known as "float", cylinder pressure allows attached implement to follow the ground contour automatically without input from the

Wheels and Tires Operation

Service Tires Safely



TS211—UN—15APR13

CAUTION: Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.

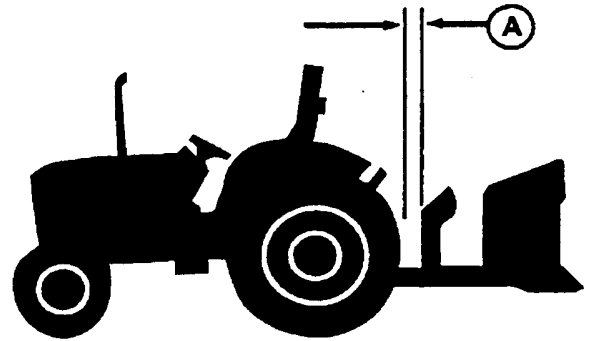
Never weld or heat a wheel and tire assembly. The heat can cause an increase in air pressure resulting in a tire explosion. Welding can structurally weaken or deform the wheel.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

Check wheels for low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

DX,RIM1-19-27OCT08

Check Implement-to-Tire Clearance



M47177—UN—31JAN92

A—Clearance

IMPORTANT: Check for adequate clearance (A) between outside diameter of the tire and implement with hitch in raised position.

When large diameter rear tires are installed on a tractor with a 3-point hitch, a quick coupler or similar device may be required to provide adequate implement-to-tire clearance.

CP00834,0001F2F-19-18OCT15

Check Tire Inflation Pressure

Check tires daily for damage or noticeably low pressure.

At least every 100 hours of operation, check inflation pressure with a gauge. Use an accurate gauge having 10 kPa (0.1 bar) (1 psi) graduations.

If tires contain liquid ballast, use a special air-water gauge and measure with valve stem at bottom.

NOTE: When furrow plowing or during hillside operation, tire pressure can be increased 28 kPa (0.28 bar) (4 psi) ABOVE maximum to prevent tire wrinkling or buckling.

IMPORTANT: Over-inflation reduces performance and increases strain on both tire and rim. Always check inflation pressure with an accurate tire gauge to prevent over-inflation.

NOTE: Following inflation information applies to both front and rear tires and Tire Inflation Pressure Chart.

1. All inflation pressures are calculated for 30 km/h (18.6 mph) or 40 km/h (24.8 mph) travel speeds.
2. Operation of tires at the inflation pressures listed on chart will result in optimum tractive performance of the tire/vehicle system.
3. Inflation pressures less than 80 kPa (12 psi) should be monitored regularly because of the increased risk

of low pressure air leaks (especially due to leaking valve cores).

4. Tractors operating on steep side slopes should increase inflation pressures 28 kPa (4 psi) above the values listed to compensate for lateral weight transfer.
5. Tires run as singles in high traction conditions sometimes experience bead slip if the bead was not fully seated or if too much lubricant was used to mount the tire. Increasing the inflation pressure will compensate for this condition but will not cause reduced traction. Consult your tire dealer if this problem occurs.

6. If higher load capacities are needed, contact your John Deere dealer for tire manufacturer's load and inflation table information.

N400041.0003566-19-12JAN17

Tire Inflation Pressure Chart

IMPORTANT: The pressures indicated in the charts are for reference and can vary depending on the supplier of the tires. For more precise information, consult the supplier of the tires.

Front Tires	Pressure										
	psi	9	12	14	17	20	23	26	29	30	33
	Bar	0.6	0.8	1	1.2	1.4	1.6	1.8	2.0	2.1	2.3
	Maximum Load (kg)										
12.4-24		645	765	870	965	1060	1145	1225	1305	1340	1415
13.6-24		745	880	1000	1115	1220	1320	1415	1505	1545	/
14.9-24		925	1095	1250	1390	1520	1645	1760	/	/	/
11.2-24 PR-1		705	835	950	1055	1155	1250	1340	/	/	/
14.9-24 R-2		925	1095	1250	1390	1520	1645	1760	/	/	/
Rear Tires	Pressure										
	psi	9	12	14	17	20	23	26	29	30	33
	Bar	0.6	0.8	1	1.2	1.4	1.6	1.8	2.0	2.1	2.3
	Maximum Load (kg)										
16.9-34		1285	1525	1735	1930	2115	2285	2450	2605	/	/
18.4-34		1570	1860	2120	2355	2580	2790	2990	/	/	/
18.4-38		1665	1970	2245	2495	2730	2955	3165	/	/	/
16.9-34 PR-1		1585	1875	2135	2375	2600	2810	3010	/	/	/
18.4-38 R2		1665	1970	2245	2500	2735	2955	3165	/	/	/

N400041.0003567-19-13JAN17

Front and Rear Tire Combinations-MFWD

Chart shows combinations of front and rear tires in an MFWD system:

Rear Tire Size	Front Tire Size	JD954	JD1104	JD1204-A	JD1354-A	JD1404-A
16.9-34	12.4-24	Optional				
18.4-34	13.6-24	Standard		—		
18.4-38	14.9-24	—		Standard		
16.9-34 PR-1	11.2-24 PR-1	Optional				—
18.4-38 R-2	14.9-24 R-2	—		Optional		

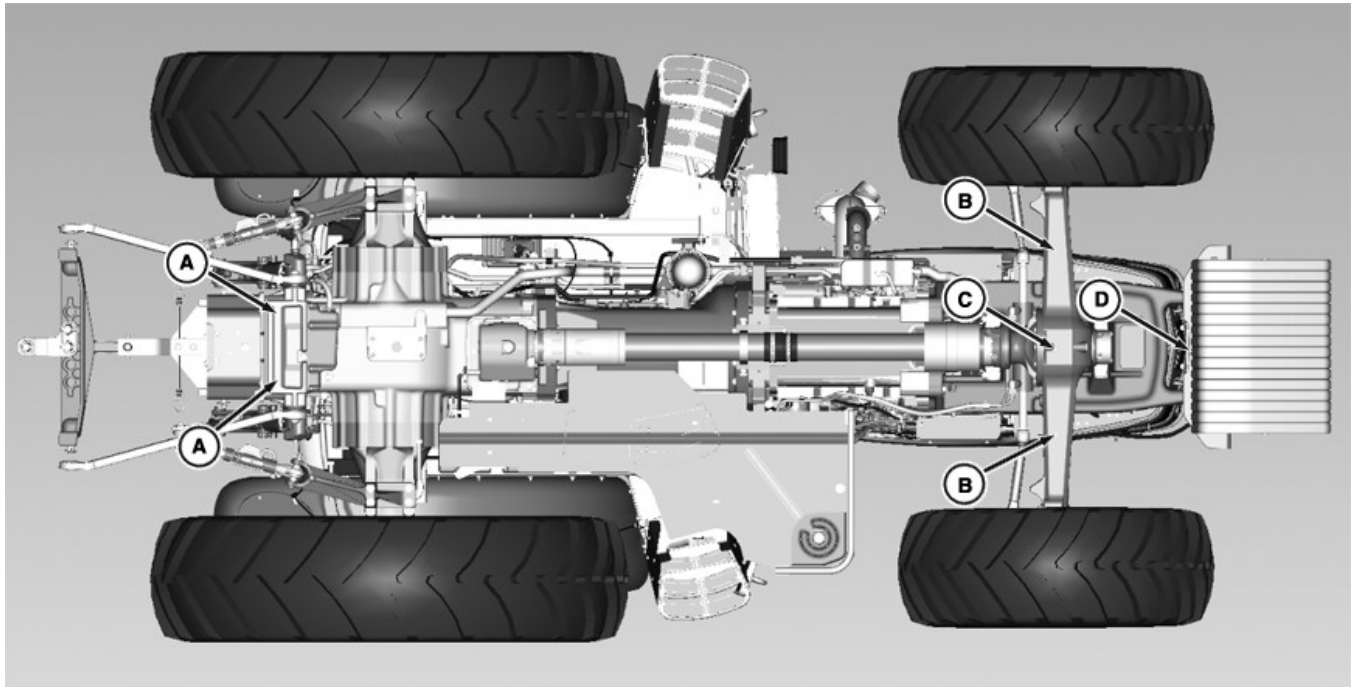
CO00263.00009AF-19-16JAN18

Jack Up Tractor—Lifting Points

NOTE: Remove front ballast weights before lifting front end of tractor.

for jacking up the tractor. Use a stable jack with sufficient lifting force. See Machine Dimensions and Weights in Specifications section.

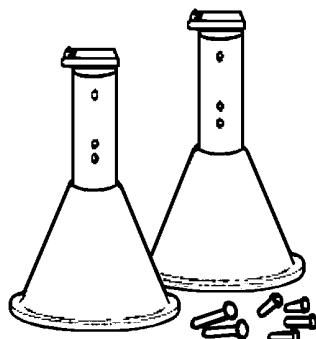
This illustration shows the recommended lifting points



CPA0003046—UN—22DEC16

A—Rear of Tractor Lift Point
B—Front of Tractor Lift Point

C—Center of Axle Lift Point (use wooden wedges to prevent axle from tilting)
D—Front End of Tractor under the Basic Weight



JT07211

JT07211—UN—14DEC06

JT02043 and JT02044 Support Stands



LX1049890

LX1049890—UN—11FEB11

Example

JT02043—Support Stand, 482—736 mm (19—29 in)
JT02044—Support Stand, 863—1117 mm (34—44 in)

CAUTION: Use approved lifting equipment only.
Jack up tractor on firm, level ground only.

Before doing any further work on the tractor, first secure it using suitable support stands. The special John Deere tools shown can be used for this purpose. These support stands are available from your John Deere dealer.

YN00044,0000E87-19-15NOV17

Tighten Wheel/Axle Hardware Correctly

CAUTION: Never operate the tractor with a loose rim, wheel, hub, or axle.

Anytime hardware is loosened, tighten to the specified torque.

Tighten Front Wheel/Axle Hardware Correctly

Follow checking procedures after adjusting the tread setting.

1. Torque the hardware to the specification after adjusting the tread setting. (see Tighten Bolts—MFWD Axle in Section 80)
2. Check and torque the hardware per the guideline.
 - Torque the hardware after 3 hours and 10 hours in the first working week.
 - Torque the hardware once a day during 100 working hours after the first working week.
 - Torque the hardware every 250 hours regularly.

Tighten Rear Wheel/Axle Hardware Correctly

1. Torque the hardware to the specification after adjusting the tread setting. (see Tighten Bolts—Rear Axle in Section 80)
2. Tighten the hardware to specifications after driving tractor about 100 m (109 yd). (see Tighten Bolts—Rear Axle in Section 80)
3. Check and torque the hardware per the guideline.
 - Torque the hardware after 3 hours and 10 hours in the first working week.
 - Torque the hardware once a day during 100 working hours after the first working week.
 - Torque the hardware every 250 hours regularly.

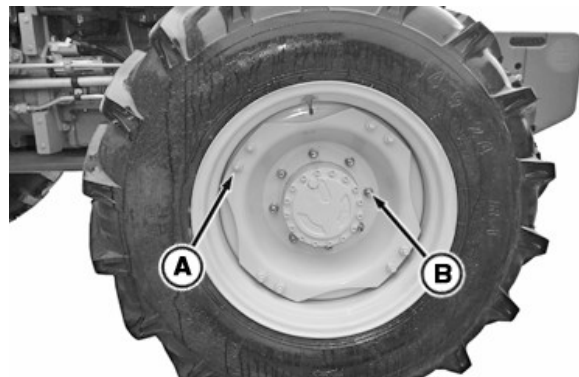
CO00263,00021EA-19-24NOV21

Tighten Bolts—MFWD Axle



PUC2497—UN—06OCT09

For JD1204-A, JD1354-A, and JD1404-A Tractors



CPA0002312—UN—25NOV15

For JD954, JD1104 and JD1204-A(option) Tractors

A—Wheel Rim-to-Disk Bolt (8 used)
B—Wheel Disk-to-Axle Flange Bolt (8 used)

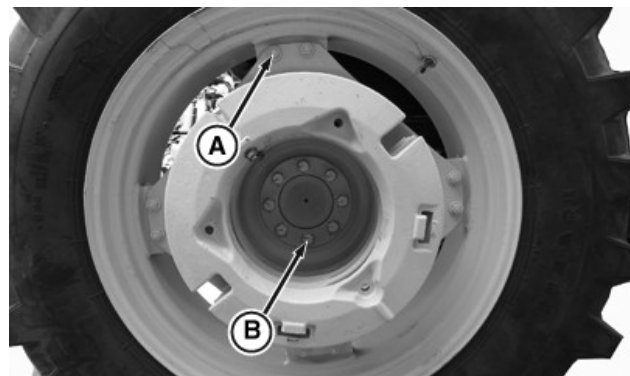
Tighten bolts to specifications in the following locations:

Specification

Wheel Rim-to-Disk Bolt—Torque.	290 N·m (214 lb·ft)
Wheel Disk-to-Axle Flange Bolt—Torque.	310 N·m (229 lb·ft)

YN00044,0000E6D-19-10NOV17

Tighten Bolts—Rear Axle



PY17068—UN—05OCT12

A—Wheel Rim-to-Disk Bolt (8 used)

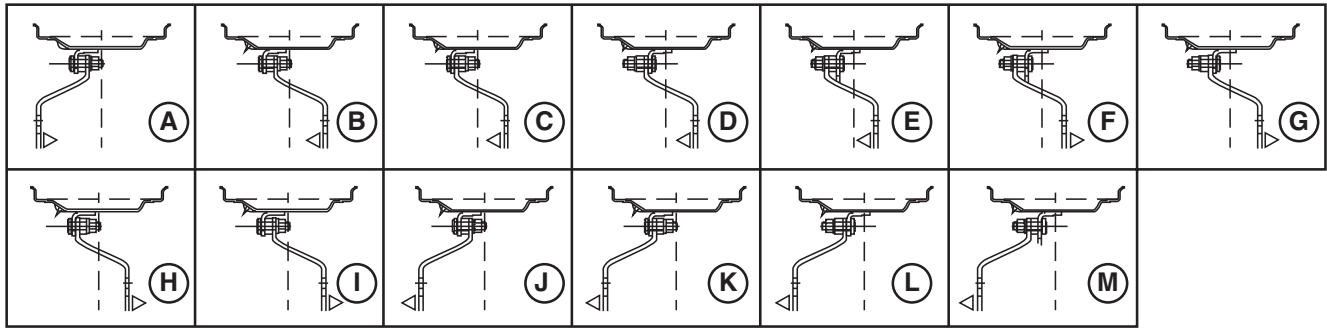
B—Wheel Disk-to-Axle Flange Bolt (8 used)

Tighten bolts in the following locations to specifications:

Specification	
Wheel Rim-to-Disk	
Bolt—Torque.	310 N·m (229 lb·ft)
Wheel Disk-to-Axle Flange	
Bolt—Torque.	530 N·m (391 lb·ft)

CO00263,000221A-19-10DEC21

Tread Settings — MFWD Axle



CPA0001381

CPA0001381—UN—19OCT17

Wheel tread can be adjusted by replacing or reversing the wheel rims. In addition, the complete wheel can be installed on the other side of the tractor. In doing so, maintain the direction of tire rotation. Measure wheel tread as close as possible to the running surface of the

wheels. Flanges are available in different widths, so select the appropriate table.

CAUTION: Driving with narrower wheel tread (B, C, D, and E) greatly increases the possibility of roll-over.

TREAD WIDTH mm (in)													
Rims and Wheel Disk Positions													
Tire Size	A	B	C	D	E	F	G	H	I	J	K	L	M
11.2-24 PR-1	1421 (55.94) Not applica- ble	1533 (60.35) Not applica- ble	1563 (61.54) Not applica- ble	1595 (62.80) Not applica- ble	1625 (63.98)	1729 (68.07)	1759 (69.25)	1791 (70.51)	1821 (71.69)	1933 (76.10)	1963 (77.28)	1995 (78.54)	2025 (79.72)
12.4-24	1421 (55.94) Not applica- ble	1533 (60.35) Not applica- ble	1563 (61.54) Not applica- ble	1595 (62.80) Not applica- ble	1625 (63.98)	1729 (68.07)	1759 (69.25)	1791 (70.51)	1821 (71.69)	1933 (76.10)	1963 (77.28)	1995 (78.54)	2025 (79.72)
13.6-24	1432 (56.38) Not applica- ble	1544 (60.79) Not applica- ble	1574 (61.97) Not applica- ble	1606 (63.23) Not applica- ble	1636 (64.41) Not applica- ble	1740 (68.50)	1770 (69.69)	1802 (70.94)	1832 (72.13)	1944 (76.54)	1974 (77.72)	2006 (78.98)	2036 (80.16)
14.9-24	1432 (56.38) Not applica- ble	1544 (60.79) Not applica- ble	1574 (61.97) Not applica- ble	1606 (63.23) Not applica- ble	1636 (64.41) Not applica- ble	1740 (68.50)	1770 (69.69)	1802 (70.94)	1832 (72.13)	1944 (76.54)	1974 (77.72)	2006 (78.98)	2036 (80.16)
14.9-24 R-2	1432 (56.38) Not applica- ble	1544 (60.79) Not applica- ble	1574 (61.97) Not applica- ble	1606 (63.23) Not applica- ble	1636 (64.41) Not applica- ble	1740 (68.50)	1770 (69.69)	1802 (70.94)	1832 (72.13)	1944 (76.54)	1974 (77.72)	2006 (78.98)	2036 (80.16)

CO00263,0000A0E-19-26JAN18

Tread Settings—Multi-Position Rear Wheels

Wheel tread on rear axle with multi-position wheels can

be adjusted by repositioning or exchanging the rims or by reversing the wheel disks.

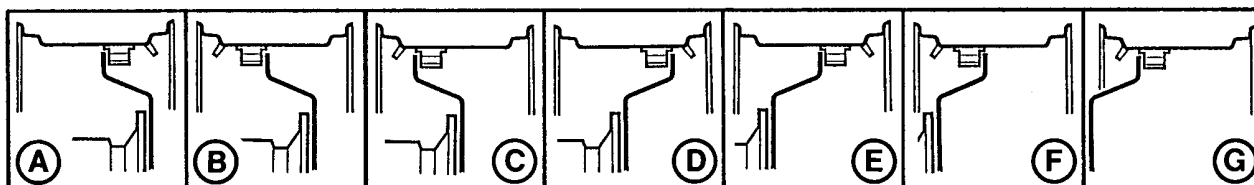
Wheel tread can also be adjusted by exchanging the complete wheel to the opposite side of the tractor. (This maneuver permits the change from disk dished-in to

disk dished-out operations without disassembling the wheel.) When changing rear wheels from one side to the other, the arrow on side wall of tire should point in the direction of forward rotation.

The relationship of the wheel disk and rim in obtaining

the different tread settings is shown in the diagrams on the following page.

A study of these diagrams before attempting to change tread settings will save unnecessary labor.



LX012555

LX012555—UN—27JUN96

IMPORTANT: After setting wheel spacing, tighten rim-to-disk and disk-to-flange bolts. Drive tractor 100 m and tighten again.

CAUTION: For JD954, JD1104, JD1204-A, and JD1354-A tractors, driving with wheel tread (B and C) will greatly increase the possibility of rollover.

For JD1404-A tractor, driving with wheel treads (B, C, and D) will greatly increase the possibility of rollover.

Specification

Multi-Position Rear Wheels
Rim-to-Disk Bolts—Torque. 310 N·m (229 lb·ft)
Multi-Position Rear Wheels
Disk-to-Flange Bolts—Torque. 550 N·m (406 lb·ft)

TREAD WIDTH (centerline-to-centerline) mm (in)		
Diagram	Tire Sizes	Tire Sizes
	16.9-34 PR-1, 16.9-34, 18.4-34	18.4-38, 18.4-38 R-2
A	N/A	N/A
B	1513 (59.57)	1510 (59.45)
C	1613 (63.50)	1620 (63.78)
D	1713 (67.44)	1710 (67.32)
E	1813 (71.38)	1820 (71.65)
F	1913 (75.31)	1910 (75.20)
G	2013 (79.25)	2020 (79.53)

YN00044,0000E8C-19-17NOV17

Check Toe-In-MFWD Axle

1. Disengage MFWD and park tractor on smooth, level surface. Steer front wheels straight ahead. Stop engine.

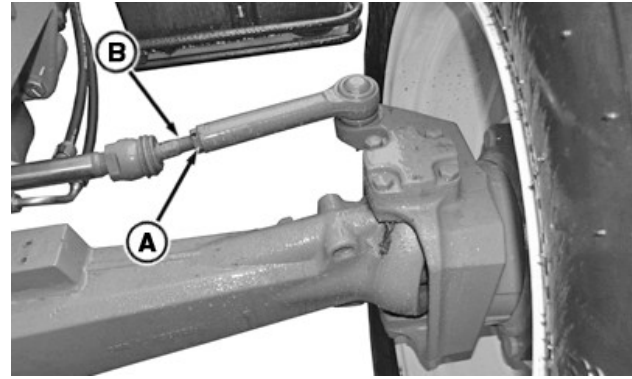


CPA0002085—UN—20OCT15

A—Distance

2. Measure distance (A) between centerline of tires at hub level in front of axle, using an outside bar of each tire or an inside bar of each tire. Record measurement and mark the tires.
3. Move tractor back about 1 m (3 ft), so mark is at hub level behind the axle. Again, measure distance between tires at same point on tire. Record measurement.
4. Determine the difference between front and rear measurements. The front measurement should be smaller than rear that is "toe in". Toe-in should be 0—7 mm. Adjust toe-in if necessary. (See Adjust Toe-In in this section.)

CO00263,0000A15-19-29JAN18



CPA0002315—UN—25NOV15

For JD954, JD1104, and JD1204-A(option) Tractors ;

A—Lock Nut (2 used)
B—Inner Rod (2 used)

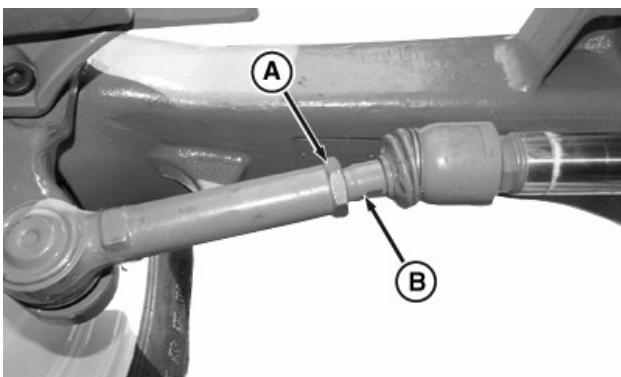
1. Loosen lock nuts (A) on right-hand and left-hand tie rod.
2. Lengthen or shorten the tie rod as needed. Adjust each side by rotating inner rod (B). Obtain toe-in of 0—7 mm (0—0.27 in).
3. Tighten lock nuts after adjustment.

Specification

Tie Rod Jam Nut—Torque. 120—150 N·m (88—110 lb·ft)

CO00263,00009EF-19-24JAN18

Adjusting Toe-In-MFWD Axle



PY17071—UN—05OCT12

For JD1204-A, JD1354-A, and JD1404-A Tractors

Ballast

Plan for Maximum Productivity

Proper ballasting is an important factor in tractor performance. Maximum productivity can be achieved only if tractor weight is appropriate for the job.

John Deere provides additional information on performance ballasting in two of the manuals in the series "Fundamentals of Machine Operations".

(See John Deere Service Literature Available in this manual.):

- "Tractors" provides information on determining correct tractor weight and ballast selection.
- "Machinery Management" provides information on implement matching and increasing productivity.
- Your John Deere dealer can assist you with information on these subjects.

CO00263,00009AD-19-16JAN18

Select Ballast Carefully

Match amount of ballast needed for each job. What is right for one job is possibly wrong for another job. Ballast for traction and stability.

Factors determining amount of ballast:

- Soil surface—loose or firm
- Type of implement—integral/semi-integral or towed
- Travel speed—slow or fast
- Tractor power output—partial or full load
- Tire size

Ballast MFWD-Equipped Tractors

Ideal tire slippage for MFWD-equipped tractors is 8—12%. To reduce the wheel slip to this level, more weight is needed on the front than with two-wheel-drive tractors. The ideal weight split is 40% front, 60% rear, of total tractor weight.

Match Ballast to Work Load

Use no more ballast than necessary, and remove ballast when it is no longer needed.

Rather than weighing tractor down to pull heavy loads, try to reduce load. Pulling a lighter load at a higher speed is more economical and more efficient.

Too Little Ballast		Too Much Ballast	
1.	Excessive wheel slip	1.	Increased load
2.	Power loss due to churning soil	2.	Shortens transmission life
3.	Tire wear	3.	Power loss due to carrying extra weight
4.	Fuel waste	4.	Tire strain
5.	Lower productivity	5.	Soil compaction
		6.	Fuel waste
		6.	Lower productivity

Ballast Limitations

Ballast is limited by either tire capacity or tractor capacity. Do not exceed the load capacity for each tire (see Wheels and Tires Operation section). If more weight is required for traction, use a larger single tire.

Ballast can be added as either liquid or cast iron.

Check for Correct Ballast

The best way to check for correct ballast is to measure amount of travel reduction (slip) of the drive wheels. Under normal conditions, slip rate is 8—12% for MFWD tractors.

Place more weights if drive wheels continue slipping. Remove excess weight if the slip is below the minimum percentage.

NOTE: Available weights for tractors please refer to Ballasting Maintenance section.

CO00263,00009AE-19-16JAN18

Determine Maximum Rear Ballast

IMPORTANT: Do not overload tires. If maximum weight shown in chart is not enough for safety, reduce load or install heavier ply tires.

Too much ballast will cause excessive soil compaction and rolling resistance, and shorten drive train life. Ballast should never exceed the weight required to provide traction for continuous full power loads in third gear. Remove ballast if tractor engine labors when pulling heavy loads in the first three gears.

Rear wheel ballast should never be such that the engine cannot support full load at rated engine speed, while the tractor is moving at 7 km/h (4.3 mph). If the engine labors or stalls below 7 km/h (4.3 mph), this indicates there is too much ballast on the rear wheels.

Chart shows carrying capacity per tire.

MAXIMUM LOAD PER WHEEL		
Tire Size Bias Ply Tires	Ply Rating	Capacity kg (lb)
16.9-34 PR-1	10	2605 (5743 lb)
16.9-34	10	2605 (5743 lb)
18.4-34	10	2990 (6592 lb)
18.4-38	10	3165 (6978 lb)
18.4-38 PR-2	10	3165 (6978 lb)

N400041,00035BC-19-13JAN17

Determine Maximum Front Ballast

Use appropriate front ballast for a particular operating condition. Remove ballast when it is no longer needed.

Chart shows carrying capacity per tire.

IMPORTANT: Do not overload tires. If maximum weight shown in chart is not enough for safety, reduce load or install tires with a higher load rating.

MAXIMUM LOAD PER WHEEL		
Tire Size	Ply Rating	Capacity kg (lb)
11.2-24 PR-1	6	1045 (2304 lb)
12.4-24	8	1415 (3120 lb)
13.6-24	8	1545 (3406 lb)
14.9-24	8	1760 (3880 lb)
14.9-24 PR-2	8	1760 (3880 lb)

N400041,00035BD-19-13JAN17

Use Cast Iron Weights

Cast iron weights are available for rear wheels. They can be installed on the inside or outside of wheel. See your John Deere dealer for more information and recommendations on weight use and placement.

Specification

Cast Iron Weights—Weight. 55 kg (121 lb)

YN00044,0000E9D-19-29NOV17

Additional Equipment

Additional Equipment Operation

Operate attachments or implements refer to relevant Operator's Manual.

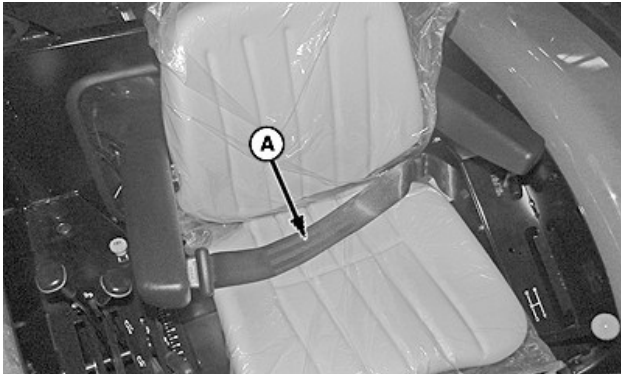
CP00834,00028EA-19-08DEC17

Operator Station Operation

Use Seat Belt

CAUTION: There is a serious risk of injury due to collision, crushing or being thrown out during a collision or when tipping over.

When driving, always wear the seat belt.



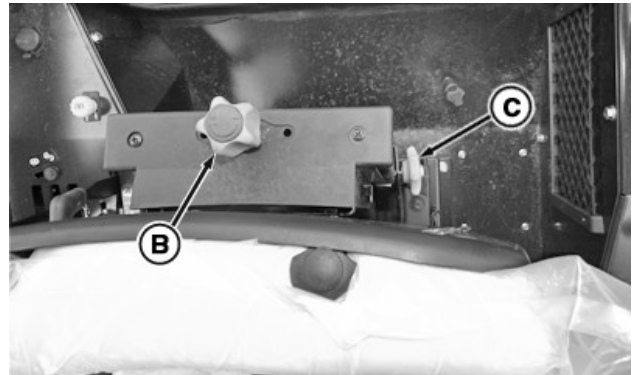
A—Seat Belt

To retain the operator properly, seat belt (A) must fit snugly across abdomen. Seat belt (A) extends as necessary to fit comfortably.

Inspect seat belt (A) and mounting hardware annually. (See Operator Station Maintenance section.)

CO00263,00009F0-19-24JAN18

1. **Position adjustment:** Push the seat position adjusting handle (A) outward, adjust seat back or forth relatively on baseboard. Release the handle and lock the seat after adjusting.



CPA0002305—UN—19NOV15

Back Side of Seat

- B—Seat Comfort Adjusting Knob
C—Seat Height Adjusting Knob

2. **Weight adjustment:** The operator's seat must be adjusted based on the operator's weight. Turn seat weight adjusting knob (B) clockwise or counterclockwise until you are satisfied
3. **Height adjustment:** Loosen seat height adjusting knob (C). Adjust the seat to the required height, then lock the seat height knob.

CO00263,00009F1-19-24JAN18

Adjust Seat

CAUTION: Do not adjust the seat while driving.

NOTE: Use this instruction as a guideline. Since everybody is different, determine the final setting by personal preferences. Adjust the seat that suits the operator best.

There are three seat adjustments available:



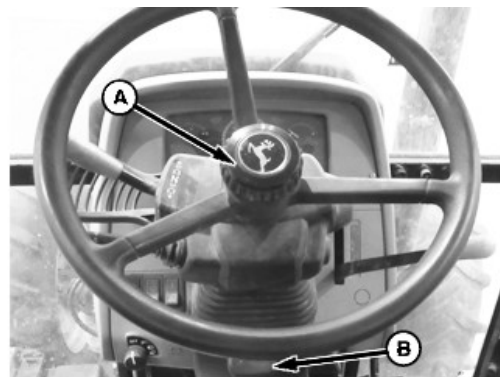
CPA0002069—UN—19OCT15

Left Side of Seat

A—Seat Position Adjusting Handle

Adjust Steering Wheel

NOTE: The adjustable steering wheel is available for tiltable and telescopic steering wheel only.



CPA0005131—UN—16JAN18

- A—Height Adjustment Ring
B—Angle Adjustment Lever

Tilt: Lift angle adjustment lever (B) and move steering column to the desired angle. Release lever to lock into position.

Wheel Height (Telescoping): Loosen height adjust ring

(A) and raise or lower steering wheel to desired height. Tighten ring to lock into position.

CO00263,0000948-19-15JAN18

Use Emergency Exit

Right-Hand Emergency Exit (If Equipped)



PUC2425—UN—29SEP09

Right-Hand Side

A—Retaining Pin

Remove retaining pin (A) to get access to the right-hand emergency exit.

CAUTION: Panel falls out when retaining pin (A) is removed. Make sure that nobody is near to the right-hand emergency exit.

Rear Emergency Exit

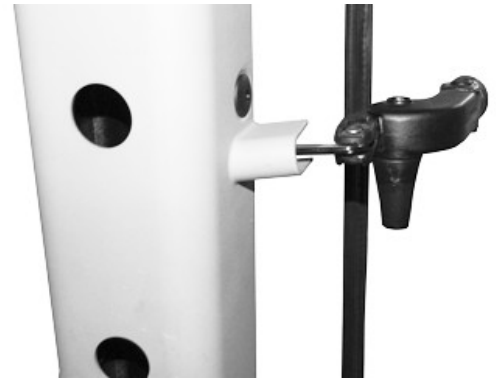


CPA0005132—UN—16JAN18

In an emergency situation, if the cab door or sides of cab are blocked, the rear window opening provides a large exit path.

CO00263,0000949-19-15JAN18

Open Windows



PY17027—UN—05OCT12

Right-Side Window Shown



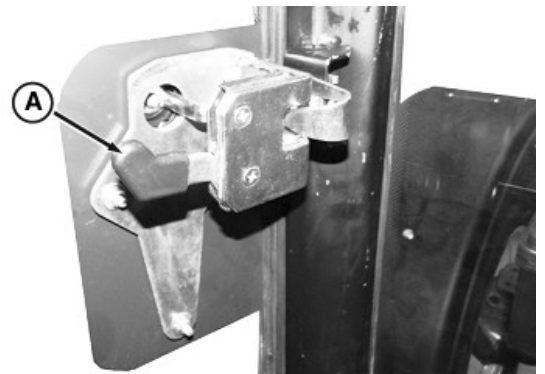
PY17028—UN—05OCT12

Rear Window

Open left and right side, and rear windows for better ventilation.

CO00263,000086D-19-12JAN18

Open Door

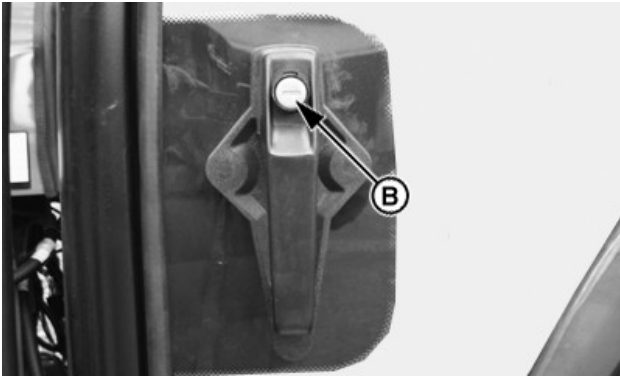


PY17048—UN—05OCT12

Inside Cab

A—Handle

Press handle (A) down from inside of cab and push door.



PUC2424—UN—29SEP09

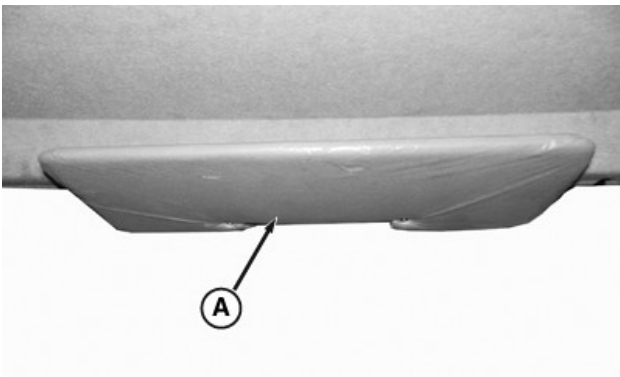
Outside Cab

B—Knob

Press knob (B) from outside of cab and pull door.

CO00263,00009F2-19-24JAN18

Sun Visor



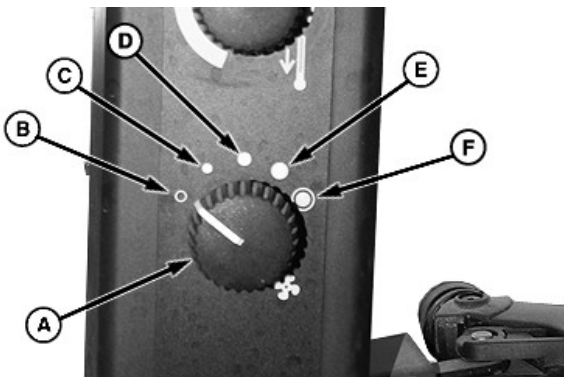
PY17047—UN—05OCT12

A—Sun Visor

Cab is equipped with sun visor (A).

CO00263,000086F-19-12JAN18

Adjust Blower Speed (If Equipped)



CPA0000171—UN—08JUN13

A—Blower Speed Control Knob

B—Off

C—Low

D—Medium

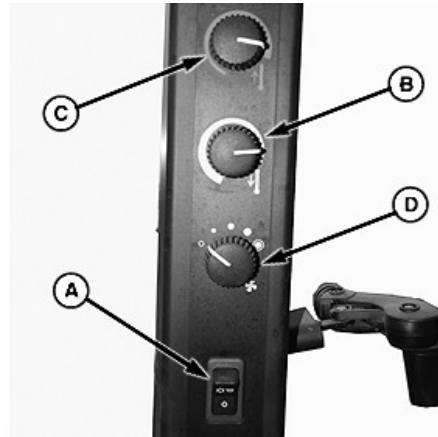
E—High

F—Purge

Turn the blower speed control knob (A) to desired setting. Use purge (F) setting for rapid cab cool down.

CO00263,0000870-19-12JAN18

Temperature Control



CPA0000172—UN—08JUN13

A—Air Conditioning and Deicing Switch

B—Air Conditioning Temperature Control Knob

C—Heater Temperature Control Knob

D—Blower Speed Control Knob

Push top half of the air conditioning and deicing switch (A) to turn air conditioning and deicing ON and push bottom half to turn it OFF.

Adjust air conditioning temperature, turn air conditioning temperature control knob (B).

Adjust heater temperature, turn heater temperature control knob (C).

CO00263,0000871-19-12JAN18

Deice, Demist, or Defrost Windshield

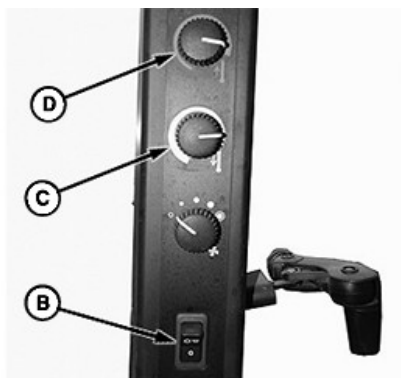


CPA0002415—UN—07DEC15

A—Front Vent (2 used)

1. Aim two front vents (A) toward windshield.

NOTE: Closing middle and rear vents will help to clear the windshield faster.



CPA0005190—UN—28JAN18

B—Deicing Switch
C—Air Conditioner Temperature Control Knob
D—Heater Temperature Control Knob

2. Press top half of deicing switch (B) and turn air conditioner temperature control knob (C) to full counterclockwise position.
3. Turn heater temperature control knob (D) clockwise to obtain desired temperature.

CO00263,0000A10-19-26JAN18

D—Heater Temperature Control Knob

Adjust individual vents to target heating or cooling:

- Position front vents (A) toward legs and mid-body.
- Position middle vents (B) toward your head.
- Position rear vents (C) toward your back.

NOTE: For maximum cooling effect, turn heater temperature control knob (D) to full counterclockwise position.

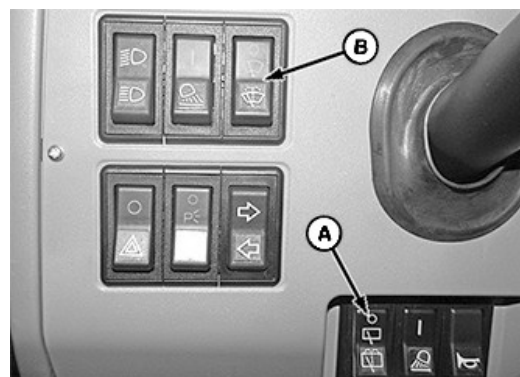
Position all vents (A, B, and C) down to heat the floor and feet.

CO00263,0000A0F-19-26JAN18

Operate Windshield Wiper and Washer

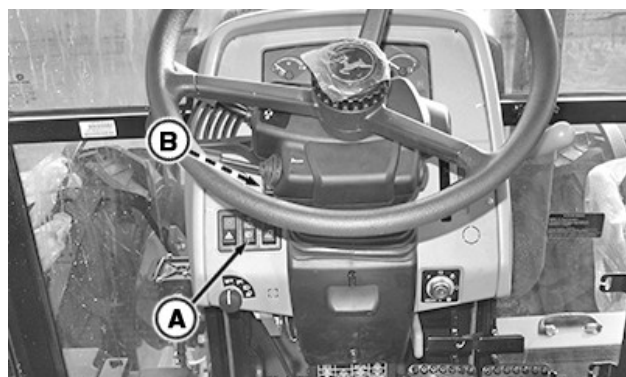
NOTE: Rear Wiper and Rear washer are optional.

NOTE: Front washer is optional.



CPA0005192—UN—28JAN18

Option 1



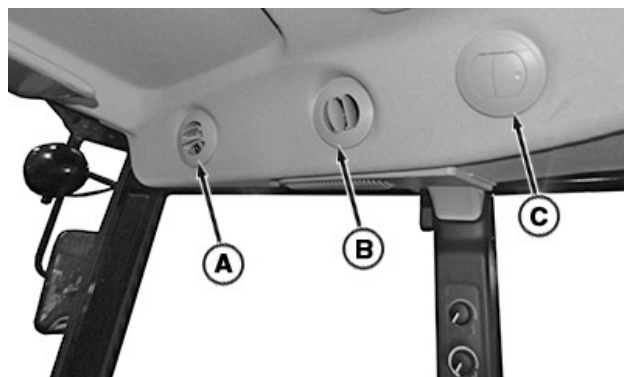
CPA0002989—UN—19OCT16

Option 2

A—Front Wiper Switch
B—Rear Wiper Switch

Operate wiper and washer with wiper switches (A and B).

Optimize A/C and Heater Performance



CPA0002416—UN—07DEC15



CPA0005191—UN—28JAN18

A—Front Vent
B—Middle Vent
C—Rear Vent

1. Wiper OFF - Press the wiper switch (A or B) to upward position.
2. Wiper ON - Press the wiper (A or B) switch to middle position.
3. Washer ON - Press the wiper switch (A or B) to downward position. The switch returns to middle position when released.



CPA0004420—UN—07NOV17

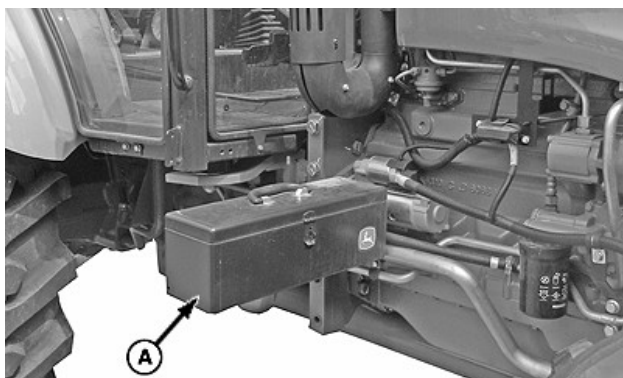
Rear, Left-Hand Side

A—Washer Fluid Reservoir

Fill washer fluid reservoir (A) with non-freezing windshield washer fluid. Washer fluid reservoir is located behind the cab on the inside of the left rear fender.

CO00263,0000A11-19-26JAN18

Toolbox Location



CPA0001691—UN—24JUL15

A—Toolbox

Toolbox (A) is on right side of the front cab.

CO00263,0000875-19-12JAN18

Transport and Storage

Operator Training Required

- Study Operating Engine section of this manual before operating tractor.
- Operate tractor in an open, unobstructed area under the direction of an experienced operator.
- Learn use of all controls.
- Operator experience is required to learn moving, stopping, turning, and other characteristics of tractor.

CO00263,000088B-19-12JAN18

Observe Maximum Travel Speeds

CAUTION: DO NOT exceed safe travel speeds under any circumstances. Always reduce speed when driving under adverse weather, slope, or surface conditions.

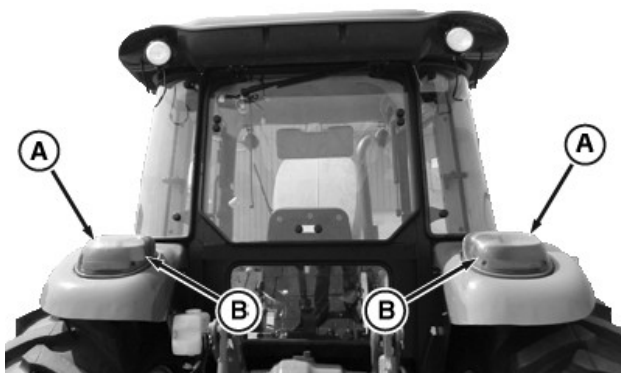
Maximum travel speed is 30 km/h (18.5 mph) for an unballasted, unloaded tractor, or when towing loads that weigh less than the tractor.

Reduce speed to 16 km/h (10 mph) when towing loads that weigh more than the tractor.

CO00263,000094A-19-15JAN18

Drive Tractor on Roads

CAUTION: Observe the following precautions when operating on a road.



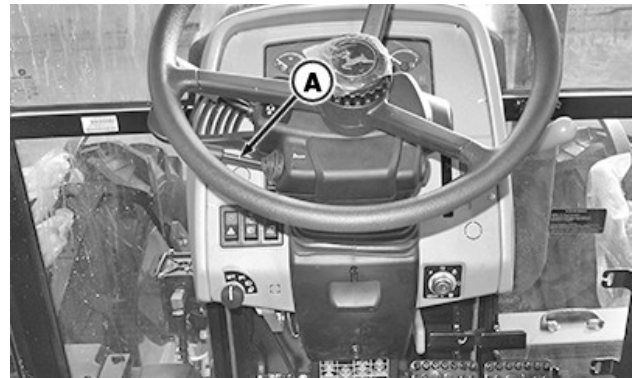
PY17021—UN—05OCT12

A—Warning Lights (2 used)
B—Tail Lights (2 used)

1. Before operating tractor on highway be sure the tail lights (B) and warning lights (A) work properly. Install reflectors, and auxiliary lighting equipment as required for safety and by local regulations.

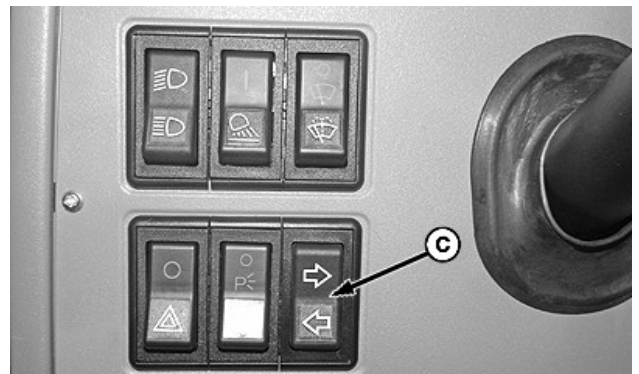
CAUTION: Never operate floodlights (if equipped) when transporting tractor. Clear bright lights at the rear of the tractor could confuse drivers of other vehicles as they approach from behind. Use only headlights for transporting.

IMPORTANT: Refer to Lights section for detailed description of lighting operations and functions.



CPA0002985—UN—18OCT16

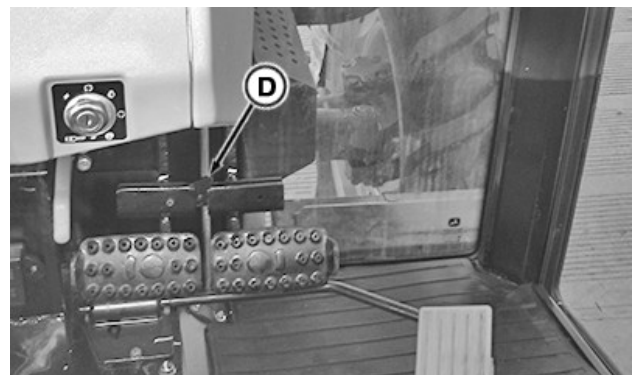
Option 1



CPA0002077—UN—20OCT15

A—Multiple Signal Lever
C—Turn Signal Switch

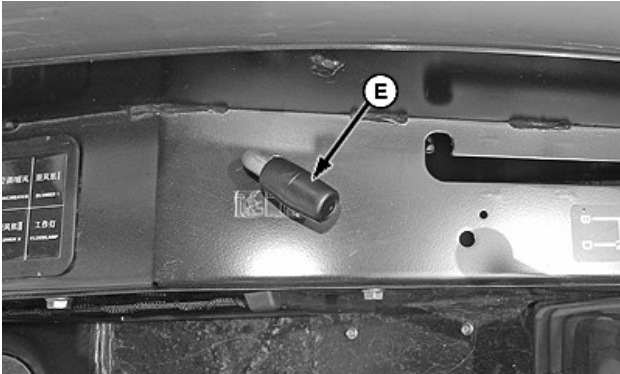
2. Use turn signals when turning. Be sure to return turn signal switch (C) or multiple signal lever (A) to center position after turning.



CPA0003011—UN—18OCT16

D—Brake Pedal Locking Bar

3. Before driving on a road, couple brake pedals together using brake pedal locking bar (D). Avoid hard applications of brakes.



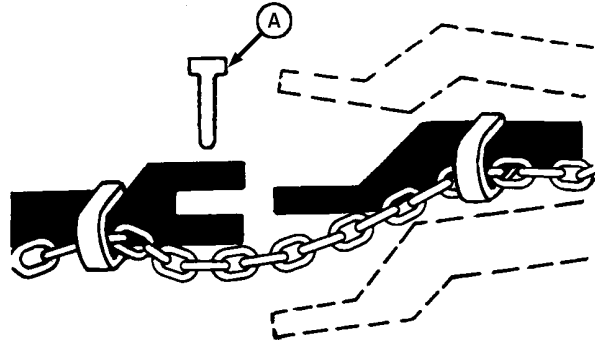
E—MFWD Lever

4. Disengage mechanical front wheel drive when transporting on hard surface. To disengage, press MFWD level (E).
5. Drive slow enough to maintain safe control at all times. Slow down for hillsides, rough ground, and sharp turns, especially when transporting heavy, rear-mounted equipment.
6. Before going down a hill, shift to a gear low enough to control speed without using brakes. Never coast down the hill with clutch disengaged which overspeeds the clutch disk and cause severe clutch damage.
7. When transporting downhill on icy or graveled grades, be alert for skids which could result in loss of steering control. To decrease chance of skids, reduce speed and be sure that tractor has proper ballast.

CAUTION: A safety chain helps drawn equipment and prevents it accidentally separates from the drawbar. Use appropriate adapter parts, attach the chain to the tractor drawbar support or other specified anchor location. Provide only enough slack in the chain for permitting turning. See your John Deere dealer for a chain with a strength rating equal to or greater than the gross weight of the towed machine. Do not only use safety chain for towing.

IMPORTANT: Safety chain is provided for transport only. Do not only use safety chain for pulling or towing implements or other items not attached to drawbar.

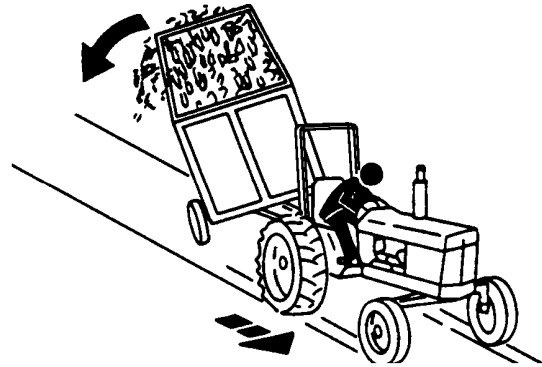
8. Transporting Towed Loads:



A—Drawbar Pin

LV4421—UN—02NOV99

Lock drawbar pin (A) in place, and use safety chain for safety.



LV4042—UN—09JUL99

CAUTION: Stopping distance increases with speed and weight of towed loads, and on slopes. Towed loads with or without brakes that are too heavy for the tractor, or are towed too fast, can cause loss of control. Consider the total weight of the equipment and its load.

Observe these recommended maximum road speeds, or local speed limits for a safe driving:

For towed equipment without brakes, make sure that the running speed is less than 32 km/h (20 mph) and tow loads less than 1.5 times the tractor weight.

For towed equipment with brakes, make sure that the running speed is less than 40 km/h (25 mph) and do not tow loads more than 4.5 times the tractor weight.

Make sure that the load does not exceed the recommended weight ratio. Add ballast to recommended maximum for tractor, lighten the load, or get a heavier towing unit. The tractor must be heavy and powerful enough with adequate braking power for the towed load. Use additional caution when towing loads under adverse surface conditions, when turning, and on inclines.

9. Use caution when operating tractor at transport

speeds. Reduce speed if towed load weighs more than tractor and is not equipped with brakes. (See towed equipment operator's manual for recommended transport speeds.)

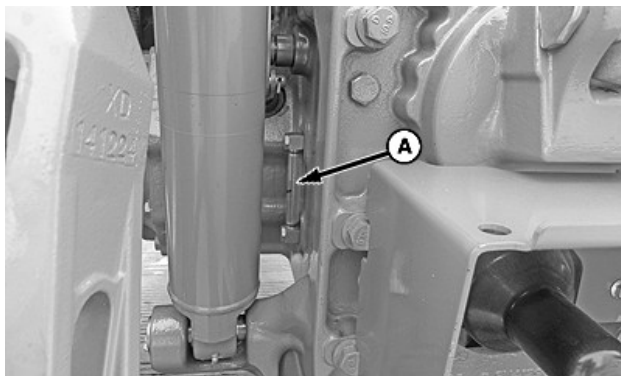
10. Use additional caution when transporting towed loads under adverse surface conditions, when turning and on inclines.
11. Heavy towed or rear mounted implements sways in transport. Excessive swaying results in loss of steering control. Drive slowly and avoid quick turns of the steering wheel. Refer to your implement operator's manual regarding maximum travel speed limitations.

CO00263,00009F5-19-24JAN18

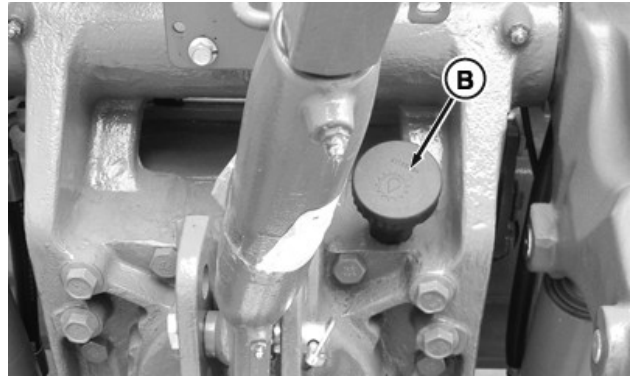
Tow Tractor

IMPORTANT: To avoid transmission and drive train component damage, **NEVER** attempt to start tractor by towing. Engine will not start.

- If possible, operate engine above 1250 rpm to provide lubrication, power steering, and power brakes. Have an operator steer and brake tractor.
- **DO NOT** tow a tractor faster than 8 km/h (5 mph). **DO NOT** exceed 3 km/h (2 mph) for the first 10 min in below freezing temperatures.
- Check transmission-hydraulic oil level. Add 1 L (1 qt) for each 90 mm (3-1/2 in) front wheels are raised off the ground. **DO NOT** raise wheels more than 305 mm (12 in). Drain excess oil after transporting.



CPA0001698—UN—27JUL15



PY14923—UN—18FEB13

A—Transmission/Hydraulic System Sight Glass
B—Hydraulic Oil Fill Port

1. Be sure that transmission/hydraulic system oil is to the full level line on transmission/hydraulic system sight glass (A). If tractor is to be towed with front wheels raised, add 1 liter (1 qt) of oil to hydraulic oil fill port (B) for each 90 mm (3-1/2 in) the wheels are raised. **DO NOT** raise front wheels more than 305 mm (12 in) above ground.

NOTE: After transporting tractor, drain oil that was added for towing.

2. Tap brake pedals to make sure that differential lock is not engaged.
3. Make sure that PTO is disengaged.
4. Place gearshift lever in neutral.

After Towing

Drain excess transmission/hydraulic oil to lower level back to full.

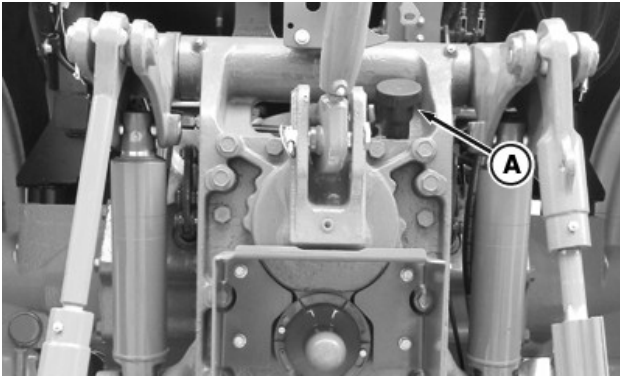
CO00263,000088E-19-12JAN18

Tractor Storage

IMPORTANT: Any time tractor does not use for several months, use this procedure to minimize corrosion and deterioration. Use an AR41785 Engine Storage Kit and an extra 0.95 L (1 qt) of AR41870 Corrosion Inhibitor.

1. Service air cleaner. (See Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)
2. If coolant has been in tractor for 2 years, flush cooling system. (See Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)

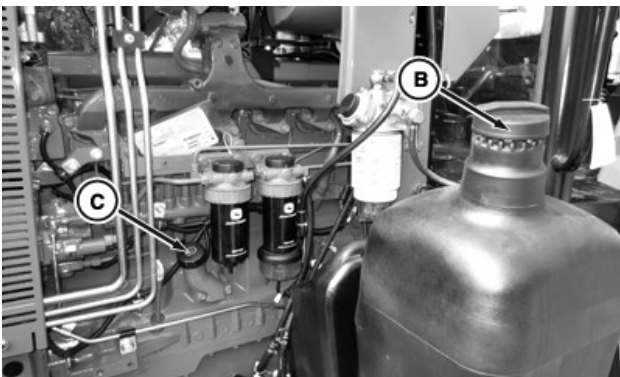
Add 50 percent antifreeze water mixture. Test coolant for adequate cold-weather protection.
3. Change engine oil and filter. (See Engine Maintenance section.)
4. Drain fuel and add back 4 L (1 gal) of fuel. Then add 0.4 L (12 oz) corrosion inhibitor.



PY14834—UN—01JAN13

A—Transmission Oil Filler Cap

5. Remove transmission oil filler cap (A) and add 0.25 L (8 oz) of the corrosion inhibitor to the transmission/hydraulic system.
6. Depress clutch and start engine. Run engine until it reaches operating temperature. Also raise and lower rockshaft several times. Shut off engine.



CPA0004595—UN—29NOV17

B—Fuel Tank Filler Cap
C—Engine Oil Filler Cap

7. Remove fuel tank filler cap (B) and add 0.5 L (16 oz) inhibitor into the fuel tank.
8. Remove engine oil filler cap (C) and add 0.5 L (16 oz) inhibitor to the engine crankcase.
9. Remove air intake hose at the manifold. Pour 0.1 L (3 oz) inhibitor into manifold and replace hose. Pull hand throttle back to low idle position. Crank engine only a few revolutions.
10. Loosen alternator/fan belt after it has cooled.
11. Remove and clean battery. Store in a cool, dry place. Keep it charged.¹
12. Tie or block clutch pedal in the disengaged position.
13. If they are extended, coat exposed metal surfaces such as the adjustable front axles, with grease or a corrosion inhibitor.
14. Use tape to seal dust unloader valve, exhaust pipe,

¹ Disconnect battery ground cable for short-term storage periods (20 to 90 days).

crankcase filter/aspirator, fuel cap, and transmission/hydraulic system filler/cap.

15. Cover dash with opaque material to prevent gauges from fading.
16. Raise tires off ground. Protect them from heat and sunlight.
17. Thoroughly clean tractor. Touch up any painted surfaces that are scratched or chipped.
18. If the tractor must be stored outside, cover it with a waterproof material.

CO00263,00009F6-19-24JAN18

Remove Tractor from Storage

1. Lower tires to ground, check tire inflation pressure. (See Wheels, Tires, and Treads section.)
2. Unseal all openings sealed in Tractor Storage. (See Tractor Storage in this section.)
3. Install battery.
4. Remove ties or block which secured clutch pedal down.
5. Check levels of engine oil, transmission/hydraulic oil, and engine coolant. Add fluids as needed.
6. Drain a small amount of fuel from fuel tank to purge any moisture condensation that has collected.
7. Fill fuel tank.
8. Perform all appropriate services listed in Maintenance and Service Intervals section, as dictated by elapsed storage period.
9. Check instruments and indicators by turning key switch to RUN position.

IMPORTANT: DO NOT operate starter more than 20 seconds at a time, and wait at least 2 minutes for starter to cool before trying again.



CPA0002079—UN—20OCT15

A—Hand Throttle

10. Pull hand throttle (A) all the way down, depress clutch pedal, make sure that gearshift lever is in

neutral, "N", and PTO control lever is in disengaged position.

11. Start engine. Operate engine at low idle for several minutes. Wait until engine reaches operating temperature and check all systems before placing tractor under load.

CO00263,00009F7-19-24JAN18

Maintenance Intervals

Maintenance Interval Chart

Item	As Re-quired	10 Hours/ Daily	50 Hours/ Weekly	First 100 Hours	Every 200 Hours	Every 250 Hours	Every 500 Hours	Every 1000 Hours/ Annual-ly	Every 2000 Hours/ Two Years	Every 5000 Hours/ Five Years
Inspect air intake system	. ^a									
Clean grille screens, radiator, oil cooler, radiator screen, and air conditioner condenser	•									
Bleed fuel system	. ^b									
Charge battery	•									
Replace headlight element	•									
Replace tail and turn bulbs	•									
Replace worklight element	•									
Adjust headlights	•									
Warm transmission-hydraulic system oil	•									
Check selective control valve	•									
Check engine oil level		•								
Check coolant level		•								
Drain water and sediment from fuel filters and water separator		•								
Check transmission-hydraulic oil level		•								
Clean battery			•							
Check battery condition			•							
Lubricate MFWD front axle steering spindles			. ^c							
Lubricate front axle pivot pins			. ^c							
Lubricate MFWD front axle			. ^c							
Lubricate MFWD drive shaft			•							
Lubricate hitch components			. ^c							
Lubricate Hitch Valve					•					
Loose hardware inspection						•				
Check MFWD axle wheel hub oil level						•				
Check MFWD axle housing oil level						•				
Drain water and sediment from fuel tank						•				
Check neutral start system						•				
Adjust brake pedal free travel						•				
Adjust clutch pedal free travel						•				
Service air cleaner						. ^d				
Clean cab air filters						. ^d				
Keep cab protection system installed properly						•				
Check and Tighten Hydraulic Cylinders							•			
Replace fuel filters and water separator							•			
Tighten hose clamps							•			
Check cooling system for leaks							•			
Lubricate rear axle bearings							. ^e			
Replace transmission-hydraulic oil filter				•			•			

Maintenance Intervals

Item	As Re- quired	10 Hours/ Daily	50 Hours/ Weekly	First 100 Hours	Every 200 Hours	Every 250 Hours	Every 500 Hours	Every 1000 Hours/ Annual- ly	Every 2000 Hours/ Two Years	Every 5000 Hours/ Five Years
Change engine oil and filter				•			• ^f			
Change MFWD axle wheel hub oil				•				•		
Change MFWD axle housing oil				•				•		
Change transmission-hydraulic oil								•		
Clean engine crankcase vent tube								•		
Replace air intake filters								• ^d		
Inspect seat belt								•		
Flush cooling system									• ^g	
Adjust engine valve clearance									• ^h	
Test or replace thermostat										• ⁱ
Replace crankshaft vibration damper										• ^h

^aService more often if operated in dusty conditions.

^bSee your John Deere dealer for service.

^cDaily / 10 Hours if operated in wet or muddy conditions

^dInterval can vary according to operating conditions

^eWeekly / 50 Hours if operated in wet or muddy conditions

^fIf PLUS-50 oil and a John Deere filter are not used, lower this service interval to 250 hours.

^g Check coolant every year as required, can be extended to 5000 hours or 5 years if John Deere COOL-GARD is used. Check coolant every year as required, can be extended to 6000 hours or 6 years if John Deere COOL-GARD II is used.

^h See an authorized John Deere dealer for service.

ⁱ See an authorized John Deere dealer for service

CO00263,0002218-19-10DEC21

Service Tractor Safely

Disengage power to implements and stop engine before making any repairs or adjustments.

Do not overspeed engine.

Keep the vehicle and implements in good operating condition.

Keep safety devices in place and in working condition.

Keep all nuts, bolts, and screws tight to be sure the equipment is in safe working condition.

Before you work on any part of the engine, stop the engine and let it cool. Hot engine parts can burn skin on contact.

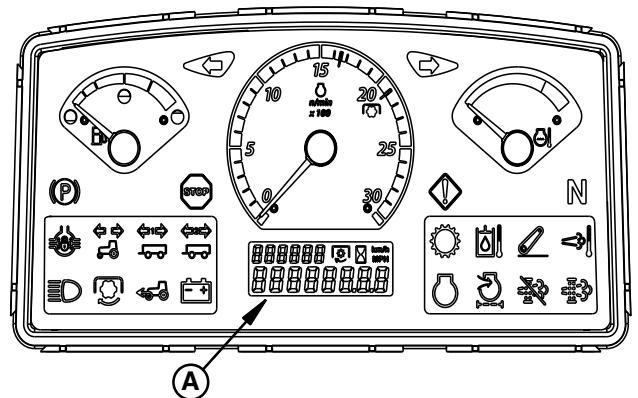
Never start engine unless gearshift lever is in neutral position.

Be careful to prevent clothing, jewelry, or long hair from getting caught in the fan blades, drive belts, or any other moving engine parts.

Unauthorized modifications to the machine can impair performance or safety and affect machine life.

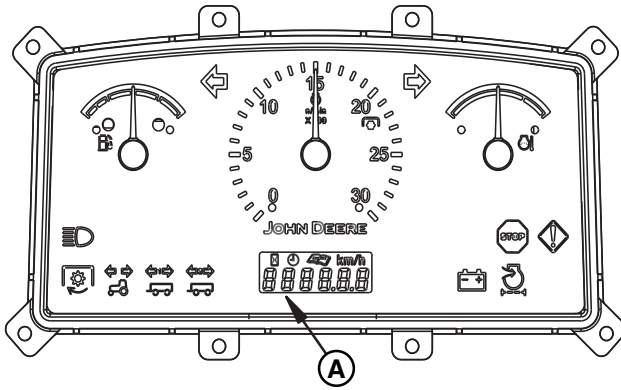
CO00263,00009F8-19-24JAN18

Observe Service Intervals



Instrument Cluster (wet clutch)

PY14907—UN—01FEB13



PY14913—UN—31JAN13

Instrument Cluster (dry clutch)

A—Hour Meter

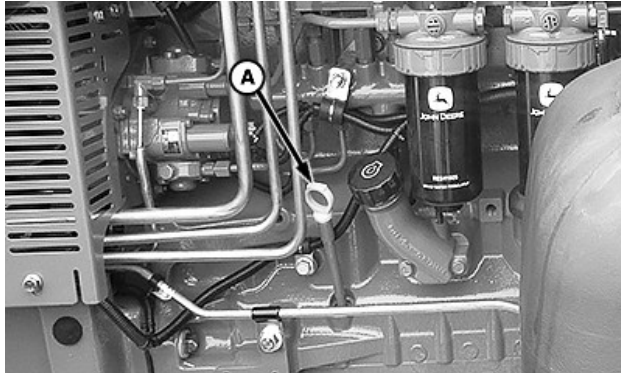
Use hour meter (A) as a guide, perform all services at the hourly intervals indicated on the following pages. Keep a service record on charts provided in the Lubrication and Maintenance Record Charts section.

IMPORTANT: Recommended service intervals are for average conditions. Service more often if tractor is operated under adverse conditions.

CO00263,0000894-19-12JAN18

Service Daily Before Start-Up

NOTE: Park tractor on level ground before checking.

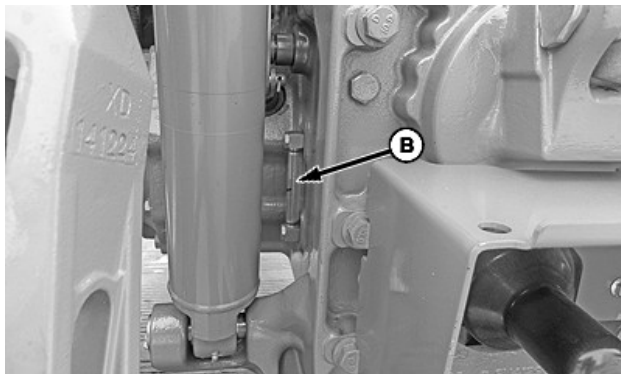


CPA0004346—UN—13SEP17

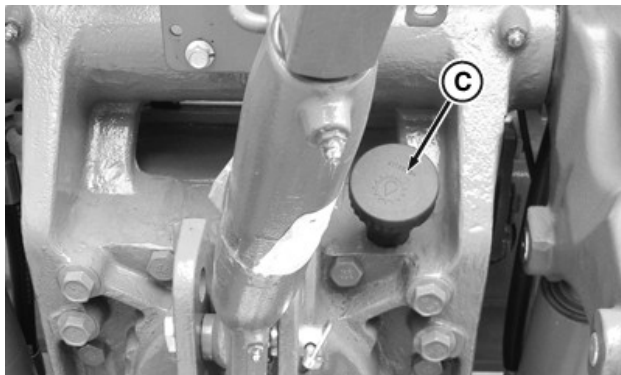
A—Engine Oil Level Dipstick

1. Check engine oil level. Clean the engine oil level dipstick (A) and reinsert fully. Withdraw it and check oil level. The safe engine oil level is between the upper and lower marks of the dipstick. (See Engine Maintenance section.)

Do not operate the engine if oil level is under minimum mark. In this case, add oil to maintain oil level. (See Fuels, Lubricants, and Coolants section.)



CPA0001729—UN—28JUL15



PY16727—UN—17NOV12

B—Transmission/Hydraulic Oil Level Sight Glass

C—Transmission/Hydraulic Oil Fill Port

2. Check hydraulic oil level through transmission/hydraulic oil level sight glass (B). If oil level is low,

add oil through transmission/hydraulic oil fill port (C). (See Transmission Maintenance section.)



CPA0001719—UN—27JUL15

G—Surge Tank

3. Check coolant level in surge tank (G). (See Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)

IMPORTANT: If operating in extremely wet or muddy conditions, lubricate several additional components daily as well. (See Maintenance Intervals section.)

N400041,0003A70-19-29JAN18

Additional Service Information

This is not a detailed service manual. It contains only information needed for operation and routine maintenance. If you want more detailed service information, order a Technical Manual through your John Deere dealer.

CO00263,0000895-19-12JAN18

Fuels, Lubricants, and Coolants

Handle Fuel Safely—Avoid Fires



TS202—UN—23AUG88

Handle fuel with care: it is highly flammable. Do not refuel the machine while smoking or when near open flame or sparks.

Always stop engine before refueling machine. Fill fuel tank outdoors.

Prevent fires by keeping machine clean of accumulated trash, grease, and debris. Always clean up spilled fuel.

Use only an approved fuel container for transporting flammable liquids.

Never fill fuel container in pickup truck with plastic bed liner. Always place fuel container on ground before refueling. Touch fuel container with fuel dispenser nozzle before removing can lid. Keep fuel dispenser nozzle in contact with fuel container inlet when filling.

Do not store fuel container where there is an open flame, spark, or pilot light such as within a water heater or other appliance.

DX,FIRE1-19-12OCT11

Handle Fluids Safely—Avoid Fires



TS227—UN—15APR13

When you work around fuel, do not smoke or work near heaters or other fire hazards.

Store flammable fluids away from fire hazards. Do not incinerate or puncture pressurized containers.

Make sure machine is clean of trash, grease, and debris.

Do not store oily rags; they can ignite and burn spontaneously.

DX,FLAME-19-29SEP98

Cold Weather Operation

IMPORTANT: Viscosity grade selection is critical for cold weather operation of the transmission. Preheat procedures are required when operating transmission at temperatures lower than the oil's MINIMUM critical temperature.

NOTE: See TRANSMISSION AND HYDRAULIC OIL, in this section, for MINIMUM viscosity grade for a given transmission operating temperature.

Warm-Up Procedures

If preheating transmission with Auxiliary Source, preheat transmission oil to MINIMUM temperature before operating.

As an Alternate Procedure, operate tractor with transmission in neutral for approximately 20 minutes, or until oil has warmed to MINIMUM temperature as recommended above.

CO00263,0000897-19-12JAN18

Hot Weather Operation

NOTE: See TRANSMISSION AND HYDRAULIC OIL, in this section, for correct viscosity grade for a given transmission operating temperature.

Use higher than normal viscosity grade under following conditions:

- Ambient temperatures consistently above 30° C (86° F).
- Frequent stop-and-go driving in hot weather.
- Repeated climbing of high grades in hot weather.

CO00263,0000898-19-12JAN18

Diesel Fuel

Consult your local fuel distributor for properties of the diesel fuel available in your area.

In general, diesel fuels are blended to satisfy the low temperature requirements of the geographical area in which they are marketed.

Diesel fuels specified to EN 590 or ASTM D975 are recommended. Renewable diesel fuel produced by hydrotreating animal fats and vegetable oils is basically identical to petroleum diesel fuel. Renewable diesel that

meets EN 590, ASTM D975, or EN 15940 is acceptable for use at all percentage mixture levels.

Required Fuel Properties

In all cases, the fuel shall meet the following properties:

Cetane number of 40 minimum. Cetane number greater than 47 is preferred, especially for temperatures below -20°C (-4°F) or elevations above 1675 m (5500 ft.).

Cloud Point should be below the expected lowest ambient temperature or **Cold Filter Plugging Point** (CFPP) should be a maximum 10°C (18°F) below the fuel cloud point.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

Diesel fuel quality and sulfur content must comply with all existing emissions regulations for the area in which the engine operates. DO NOT use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm).

Materials such as copper, lead, zinc, tin, brass and bronze should be avoided in fuel handling, distribution and storage equipment as these metals can catalyze fuel oxidation reactions which can lead to fuel system deposits and plugged fuel filters.

E-Diesel fuel

DO NOT use E-Diesel (Diesel fuel and ethanol blend). Use of E-Diesel fuel in any John Deere machine may void the machine warranty.

 **CAUTION: Avoid severe injury or death due to the fire and explosion risk from using E-Diesel fuel.**

Sulfur Content for Interim Tier 4, Final Tier 4, Stage III A and B, Stage IV, and Stage V Engines Above 560 kW

- Use ONLY diesel fuel with a maximum of 500 mg/kg (500 ppm) sulfur content.

Sulfur Content for Interim Tier 4, Final Tier 4, Stage III B, Stage IV Engines, and Stage V Engines

- Use ONLY ultra low sulfur diesel (ULSD) fuel with a maximum of 15 mg/kg (15 ppm) sulfur content.

Sulfur Content for Tier 3 and Stage III A Engines

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 1000—2000 mg/kg (1000—2000 ppm) REDUCES the oil and filter change interval.
- BEFORE using diesel fuel with sulfur content greater than 2000 mg/kg (2000 ppm), contact your John Deere dealer.

Sulfur Content for Tier 2 and Stage II Engines

- Use of diesel fuel with sulfur content less than 2000 mg/kg (2000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content 2000—5000 mg/kg (2000—5000 ppm) REDUCES the oil and filter change interval.¹
- BEFORE using diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm), contact your John Deere dealer.

Sulfur Content for Other Engines

- Use of diesel fuel with sulfur content less than 5000 mg/kg (5000 ppm) is RECOMMENDED.
- Use of diesel fuel with sulfur content greater than 5000 mg/kg (5000 ppm) REDUCES the oil and filter change interval.

IMPORTANT: Do not mix used diesel engine oil or any other type of lubricating oil with diesel fuel.

Improper fuel additive usage may cause damage on fuel injection equipment of diesel engines.

DX,FUEL1-19-13JUL20

Lubricity of Diesel Fuel

Most diesel fuels manufactured in the United States, Canada, and the European Union have adequate lubricity to ensure proper operation and durability of fuel injection system components. However, diesel fuels manufactured in some areas of the world may lack the necessary lubricity.

IMPORTANT: Make sure the diesel fuel used in your machine demonstrates good lubricity characteristics.

Fuel lubricity should pass a maximum scar diameter of 0.52 mm as measured by ASTM D6079 or ISO 12156-1. A maximum scar diameter of 0.45 mm is preferred.

If fuel of low or unknown lubricity is used, add John Deere Fuel-Protect Diesel Fuel Conditioner (or equivalent) at the specified concentration.

Lubricity of BioDiesel Fuel

Fuel lubricity can improve significantly with BioDiesel blends up to B20 (20% BioDiesel). Further increase in lubricity is limited for BioDiesel blends greater than B20.

DX,FUEL5-19-07FEB14

¹ See DX,ENOIL12,OEM, DX,ENOIL12,T2,STD, or DX,ENOIL12,T2,EXT for more information on Engine Oil and Filter Service Intervals.

Handling and Storing Diesel Fuel

⚠ CAUTION: Reduce the risk of fire. Handle fuel carefully. DO NOT fill the fuel tank when engine is running. DO NOT smoke while you fill the fuel tank or service the fuel system.

Fill the fuel tank at the end of each day's operation to prevent water condensation and freezing during cold weather.

Keep all storage tanks as full as practical to minimize condensation.

Ensure that all fuel tank caps and covers are installed properly to prevent moisture from entering. Monitor water content of the fuel regularly.

When using biodiesel fuel, the fuel filter may require more frequent replacement due to premature plugging.

Check engine oil level daily prior to starting engine. A rising oil level may indicate fuel dilution of the engine oil.

IMPORTANT: The fuel tank is vented through the filler cap. If a new filler cap is required, always replace it with an original vented cap.

When fuel is stored for an extended period or if there is a slow turnover of fuel, add a fuel conditioner to stabilize the fuel. Keeping the free water drained and treating the bulk fuel storage tank quarterly with a maintenance dose of a biocide will prevent microbial growth. Contact your fuel supplier or John Deere dealer for recommendations.

DX,FUEL4-19-13JAN18

Testing Diesel Fuel

A fuel analysis program can help to monitor the quality of diesel fuel. The fuel analysis can provide critical data such as calculated cetane index, fuel type, sulfur content, water content, appearance, suitability for cold weather operations, bacteria, cloud point, acid number, particulate contamination, and whether the fuel meets ASTM D975 or equivalent specification.

Contact your John Deere dealer for more information on diesel fuel analysis.

DX,FUEL6-19-13JAN18

Alternative and Synthetic Lubricants

Conditions in certain geographical areas may require lubricant recommendations different from those printed in this manual.

Some John Deere brand coolants and lubricants may not be available in your location.

Consult your John Deere dealer to obtain information and recommendations.

Synthetic lubricants may be used if they meet the performance requirements as shown in this manual.

The temperature limits and service intervals shown in this manual apply to John Deere branded fluids or fluids that have been tested and/or approved for use in John Deere equipment.

Re-refined base stock products may be used if the finished lubricant meets the performance requirements.

DX,ALTER-19-13JAN18

Lubricant Storage

Your equipment can operate at top efficiency only when clean lubricants are used.

Use clean containers to handle all lubricants.

Store lubricants and containers in an area protected from dust, moisture, and other contamination. Store containers on their side to avoid water and dirt accumulation.

Make certain that all containers are properly marked to identify their contents.

Properly dispose of all old containers and any residual lubricant they may contain.

DX,LUBST-19-11APR11

Diesel Engine Break-In Oil — Non-Emissions Certified and Certified Tier 1, Tier 2, Tier 3, Stage I, Stage II, and Stage III

New engines are filled at the factory with either John Deere Break-In™ or John Deere Break-In Plus™ Engine Oil. During the break-in period, add John Deere Break-In™ or Break-In Plus™ Engine Oil, respectively, as needed to maintain the specified oil level.

Operate the engine under various conditions, particularly heavy loads with minimal idling, to help seat engine components properly.

If John Deere Break-In™ Engine Oil is used during the initial operation of a new or rebuilt engine, change the oil and filter at a maximum of 100 hours.

If John Deere Break-In Plus™ Engine Oil is used, change the oil and filter at a minimum of 100 hours and a maximum equal to the interval specified for John Deere Plus-50™ II or Plus-50™ oil.

After engine overhaul, fill the engine with either John Deere Break-In™ or Break-In Plus™ Engine Oil.

*Break-In is a trademark of Deere & Company.
Break-In Plus is a trademark of Deere & Company
Plus-50 is a trademark of Deere & Company.*

If John Deere Break-In™ or Break-In Plus™ Engine Oil is not available, use an SAE 10W-30 viscosity grade diesel engine oil meeting one of the following and change the oil and filter at a maximum of 100 hours of operation:

- API Service Classification CE
- API Service Classification CD
- API Service Classification CC
- ACEA Oil Sequence E2
- ACEA Oil Sequence E1

IMPORTANT: Do not use Plus-50™ II, Plus-50™, or engine oils meeting any of the following for the initial break-in of a new or rebuilt engine:

API CK-4	ACEA E9
API CJ-4	ACEA E7
API CI-4 PLUS	ACEA E6
API CI-4	ACEA E5
API CH-4	ACEA E4
API CG-4	ACEA E3
API CF-4	
API CF-2	
API CF	

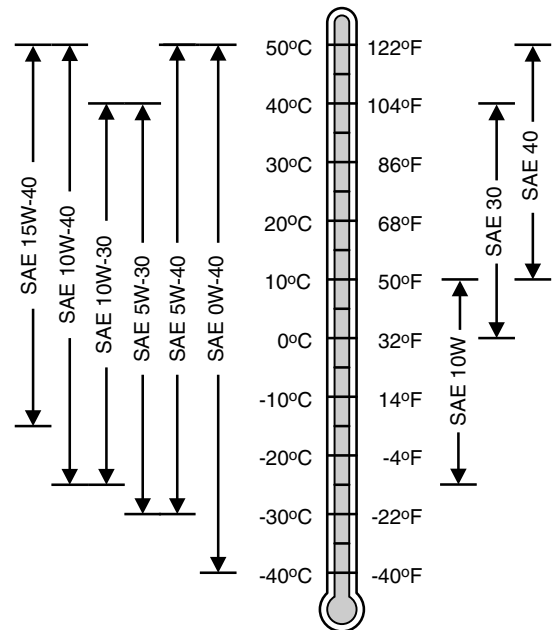
These oils do not allow the engine to break in properly.

John Deere Break-In Plus™ Engine Oil can be used for all John Deere diesel engines at all emission certification levels.

After the break-in period, use John Deere Plus-50™ II, John Deere Plus-50™, or other diesel engine oil as recommended in this manual.

DX,ENOIL4-19-02NOV16

Diesel Engine Oil — Tier 3 and Stage IIIA



TS1743—UN—25APR19

Oil Viscosities for Air Temperature Ranges

Failure to follow applicable oil standards and drain intervals can result in severe engine damage that might not be covered under warranty. Warranties, including the emissions warranty, are not conditioned on the use of John Deere oils, parts, or service.

Use oil viscosity based on the expected air temperature range during the period between oil changes.

John Deere Plus-50™ II oil is preferred.

John Deere Plus-50™ is also recommended.

John Deere Torq-Gard™ is also allowed.

Other oils may be used if they meet one or more of the following standards:

- API Service Category CK-4
- API Service Category CJ-4
- API Service Category CI-4 PLUS
- API Service Category CI-4
- ACEA Oil Sequence E9
- ACEA Oil Sequence E7
- ACEA Oil Sequence E6
- ACEA Oil Sequence E5
- ACEA Oil Sequence E4

Multi-viscosity diesel engine oils are preferred.

Diesel fuel quality and fuel sulfur content must comply with all existing emissions regulations for the area in which the engine operates.

*Plus-50 is a trademark of Deere & Company
Torq-Gard is a trademark of Deere & Company*

DO NOT use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm).

DX,ENOIL11-19-23APR19

Engine Oil and Filter Service Intervals — Tier 3 and Stage IIIA — OEM Applications

Recommended oil and filter service intervals are based on a combination of oil pan capacity, type of engine oil and filter used, and sulfur content of the diesel fuel. Actual service intervals also depend on operation and maintenance practices.

Approved Oil Types:

- “Plus-50 Oils” include John Deere Plus-50™ II and John Deere Plus-50™
- “Other Oils” include John Deere Torq-Gard™, API CK-4, API CJ-4, API CI-4 PLUS, API CI-4, ACEA E9, ACEA E7, ACEA E6, ACEA E5, and ACEA E4

Use oil analysis to evaluate the condition of the oil and to aid in selection of the proper oil and filter service interval. Contact your John Deere dealer or other qualified service provider for more information on engine oil analysis.

Change the oil and oil filter at least once every 12 months even if the hours of operation are fewer than the otherwise recommended service interval.

Diesel fuel sulfur content affects engine oil and filter service intervals.

- Use of diesel fuel with sulfur content less than 1000 mg/kg (1000 ppm) is **RECOMMENDED**
- Use of diesel fuel with sulfur content 1000—2000 mg/kg (1000—2000 ppm) **REDUCES** the oil and filter service interval
- **BEFORE** using diesel fuel with sulfur content greater than 2000 mg/kg (2000 ppm), contact your John Deere dealer or qualified service provider
- **DO NOT** use diesel fuel with sulfur content greater than 10 000 mg/kg (10 000 ppm)

NOTE: The 500-hour extended oil and filter change interval is only allowed if all of the following conditions are met:

- Engine equipped with an extended drain interval oil pan
- Use of diesel fuel with sulfur content less than 2000 mg/kg (2000 ppm) for PowerTech™ Plus engines or 5000 mg/kg (5000 ppm) for PowerTech™ engine
- Use of John Deere Plus-50™ II or John Deere Plus-50™ oil
- Use of an approved John Deere oil filter

IMPORTANT: To avoid engine damage:

- **Reduce oil and filter service intervals by 50% when using biodiesel blends greater than B20. Oil analysis may allow longer service intervals**
- **Use only approved oil types**

	Tier 3 and Stage IIIA —PowerTech™ Plus				Tier 3 and Stage IIIA —PowerTech™		
	Oil Pan Size (L/kW)				Oil Pan Size (L/kW)		
Oil pan capacity	Greater than or equal to 0.10	Greater than or equal to 0.12	Greater than or equal to 0.14	Greater than or equal to 0.22	Greater than or equal to 0.10	Greater than or equal to 0.12	Greater than or equal to 0.14
Fuel Sulfur	Less than 1000 mg/kg (1000 ppm)				Less than 1000 mg/kg (1000 ppm)		
Plus-50 Oils	375 hours	500 hours	500 hours	500 hours	375 hours	500 hours	500 hours
Other Oils	250 hours	250 hours	250 hours	250 hours	250 hours	250 hours	250 hours
Fuel Sulfur	1000—2000 mg/kg (1000—2000 ppm)				1000—2000 mg/kg (1000—2000 ppm)		
Plus-50 Oils	300 hours	300 hours	500 hours	500 hours	300 hours	400 hours	500 hours
Other Oils	200 hours	200 hours	250 hours	250 hours	200 hours	200 hours	250 hours
Fuel Sulfur	2000—5000 mg/kg (2000—5000 ppm)				2000—5000 mg/kg (2000—5000 ppm)		
Plus-50 Oils	Not Recommended Contact John Deere dealer (dealer refers to DTAC solution)				275 hours	350 hours	500 hours
Other Oils	Not Recommended Contact John Deere dealer (dealer refers to DTAC solution)				150 hours	175 hours	250 hours
Fuel Sulfur	5000—10 000 mg/kg (5000—10 000 ppm)				5000—10 000 mg/kg (5000—10 000 ppm)		
Plus-50 Oils	Not Recommended Contact John Deere dealer (dealer refers to DTAC solution)				187 hours	250 hours	250 hours
Other Oils	Not Recommended Contact John Deere dealer (dealer refers to DTAC solution)				125 hours	125 hours	125 hours

Oil analysis may extend the service interval of “Other Oils”, to a maximum not to exceed the interval for Plus-50 Oils. Oil analysis means taking a

	Tier 3 and Stage IIIA —PowerTech™ Plus	Tier 3 and Stage IIIA —PowerTech™
series of oil samples at 50-hour increments beyond the normal service interval until either the data indicates the end of useful oil life or the maximum service interval of John Deere Plus-50 oils is reached.		

PowerTech is a trademark of Deere & Company

DX,ENOIL13,T3,OEM-19-13JAN18

Diesel Engine Oil Service Interval for Operation at High Altitude

To avoid excessive oil degradation and potential engine damage, reduce oil and filter service intervals to 50% of the original recommended values when operating engines at altitudes above **1675 m (5500 ft)**.

Oil analysis may allow longer service intervals.

Use only approved oil types.

Example of Original Hours	Corresponding High Altitude Hours
125	60
150	75
175	85
200	100
250	125
275	135
300	150
350	175
375	185
400	200
500	250

DX,ENOIL,SERV,HIALT-19-11NOV14

Oil Filters

Filtration of oils is critically important for proper operation and lubrication. John Deere brand oil filters have been designed and produced specifically for John Deere applications.

John Deere filters adhere to engineering specifications for quality of the filter media, filter efficiency rating, strength of the bond between the filter media and the element end cap, fatigue life of the canister (if applicable), and pressure capability of the filter seal. Non-John Deere branded oil filters might not meet these key John Deere specifications.

Always change oil filters regularly as specified in this manual.

DX,FILT1-19-11APR11

Fuel Filters

The importance of fuel filtration cannot be overemphasized with modern fuel systems. The

combination of increasingly restrictive emission regulations and more efficient engines requires fuel system to operate at much higher pressures. Higher pressures can only be achieved using fuel injection components with very close tolerances. These close manufacturing tolerances have significantly reduced capacities for debris and water.

John Deere brand fuel filters have been designed and produced specifically for John Deere engines.

To protect the engine from debris and water, always change engine fuel filters as specified in this manual.

DX,FILT2-19-14APR11

Heavy Duty Diesel Engine Coolant

The engine cooling system is filled to provide year-round protection against corrosion and cylinder liner pitting, and winter freeze protection to -37°C (-34°F). If protection at lower temperatures is required, consult your John Deere dealer for recommendations.

IMPORTANT: Avoid machine damage, DO NOT mix different coolants. Replace all system coolant when seriously lack of coolant. Could add distilled, deionized, or demineralized water when coolant lack is less than 1 L (0.26 gal).

The following engine coolants are preferred:

- John Deere COOL-GARD™ II Premix
- John Deere COOL-GARD II PG Premix

Use John Deere COOL-GARD II PG Premix when a non-toxic coolant formulation is required.

Additional Recommended Coolants

The following engine coolant is also recommended:

- John Deere COOL-GARD II Concentrate in a 40–60% mixture of concentrate with quality water.

John Deere COOL-GARD II Premix, COOL-GARD II PG Premix, and COOL-GARD II Concentrate coolants do not require use of supplemental coolant additives.

Other Coolants

John Deere COOL-GARD II and COOL-GARD II PG coolants might not be available in the geographical area where service is performed.

COOL-GARD is a trademark of Deere & Company

If these coolants are unavailable, use a coolant concentrate or prediluted coolant intended for use with heavy duty diesel engines and with a minimum of the following chemical and physical properties:

- Is formulated with a quality nitrite-free additive package.
- Provides cylinder liner cavitation protection according to either the John Deere Cavitation Test Method or a fleet study run at or above 60% load capacity
- Protects the cooling system metals (cast iron, aluminum alloys, and copper alloys such as brass) from corrosion

The additive package must be part of one of the following coolant mixtures:

- ethylene glycol or propylene glycol base prediluted (40—60%) heavy duty coolant
- ethylene glycol or propylene glycol base heavy duty coolant concentrate in a 40—60% mixture of concentrate with quality water

Water Quality

Water quality is important to the performance of the cooling system. Distilled, deionized, or demineralized water is recommended for mixing with ethylene glycol and propylene glycol base engine coolant concentrate.

IMPORTANT: Do not use cooling system sealing additives or antifreeze that contains sealing additives.

Do not mix ethylene glycol and propylene glycol base coolants.

Do not use coolants that contain nitrites.

CO00263,000089B-19-12JAN18

John Deere COOL-GARD™ II Coolant Extender

Some coolant additives gradually deplete during engine operation. For COOL-GARD™ II pre-mix and COOL-GARD II Concentrate, replenish coolant additives between drain intervals by adding COOL-GARD II Coolant Extender.

COOL-GARD II Coolant Extender should not be added unless indicated by COOL-GARD II Test Strips. These test strips provide a simple, effective method to check the freeze point, additive levels, and pH of your engine coolant.

Test the coolant solution at intervals of 12 months and whenever excessive coolant is lost through leaks or overheating.

IMPORTANT: Do not use COOL-GARD II Test Strips with COOL-GARD II PG.

COOL-GARD II Coolant Extender is a chemically matched additive system for use with all COOL-GARD II coolants. COOL-GARD II Coolant Extender is not intended for use with nitrite-containing coolants.

IMPORTANT: Do not add a supplemental coolant additive when the cooling system is drained and refilled with any of the following:

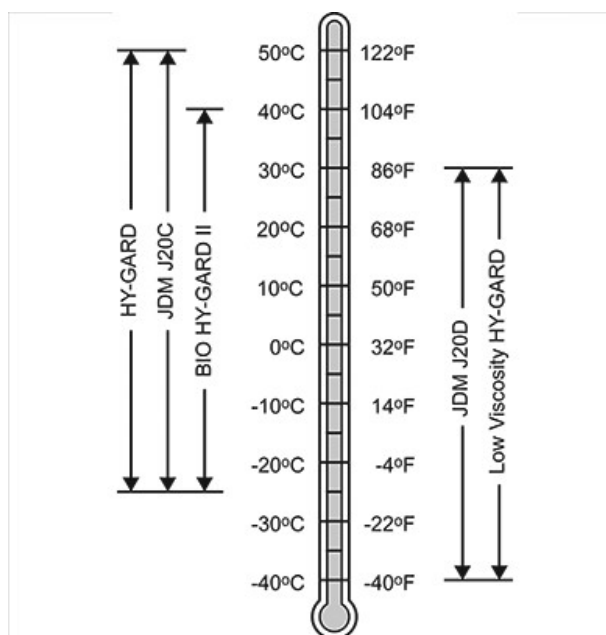
- John Deere COOL-GARD II
- John Deere COOL-GARD II PG

The use of non-recommended supplemental coolant additives can result in additive drop-out, gelation of the coolant, or corrosion of cooling system components.

Add the recommended concentration of COOL-GARD II Coolant Extender. DO NOT add more than the recommended amount.

DX,COOL16-19-15MAY13

Transmission and Hydraulic Oil



RG30204—UN—08MAR18

Oils for Air Temperature Ranges

Use oil viscosity based on the expected air temperature range during the period between oil changes.

The following oils are preferred:

- John Deere Hy-Gard™
- John Deere Low Viscosity Hy-Gard™

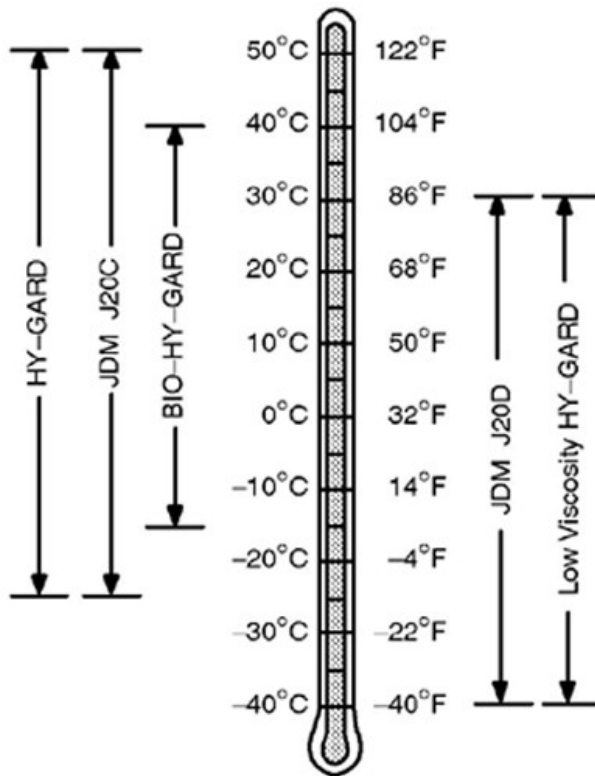
Other oils may be used if they meet one of the following:

- John Deere Standard JDM J20C
- John Deere Standard JDM J20D

Use John Deere Bio Hy-Gard™ II oil when a biodegradable fluid is required.²

DX,ANTI-19-01JAN18

MFWD Front Axle Housing Oil



PUC1578—19—26MAR08

Depending upon the expected air temperature range during the drain interval, use proper oil viscosity.

The following oils are recommended:

- John Deere HY-GARD
- John Deere HY-GARD - LOW VISCOSITY

Greatwall Hydraulic/Transmission/Braking.

Other oils may be used if they meet one of the following:

- John Deere JDM J20C

Bio Hy-Gard is a trademark of Deere & Company

² Bio Hy-Gard II meets or exceeds the minimum biodegradability of 80% within 21 days according to CEC-L-33-T-82 test method. Bio Hy-Gard II should not be mixed with mineral oils, because this reduces the biodegradability and makes proper oil recycling impossible.

- John Deere JDM J20D

N400041,0003A67-19-24JAN18

MFWD Wheel Hub Oil

Depending upon the expected air temperature range during the drain interval, use proper oil viscosity.

The following oils are recommended:

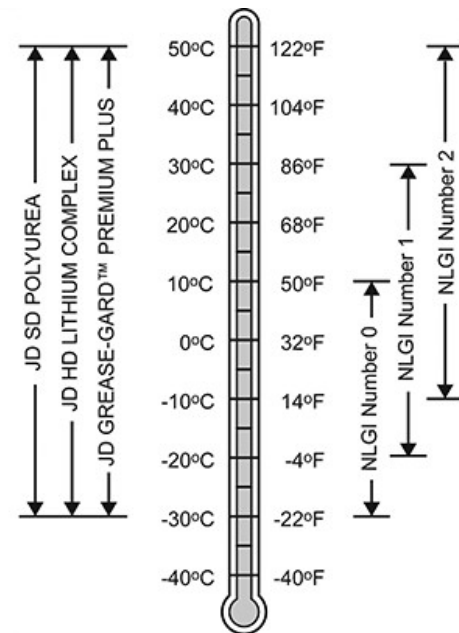
- John Deere GL-5
- John Deere EXTREME-GARD

Other GL-5 Service Classification oils that comply with API may also be used.

CO00263,000089D-19-12JAN18

Multipurpose Extreme Pressure (EP) Grease

IMPORTANT: For automated lubrication systems different ambient air temperatures need to be considered.



RG30199—UN—08MAR18

Greases for Air Temperature Ranges

Use grease based on NLGI consistency numbers and the expected air temperature range during the service interval.

John Deere SD Polyurea Grease is preferred.

The following greases are also recommended:

- John Deere HD Lithium Complex Grease

- John Deere Grease-Gard™ Premium Plus

Other greases may be used if they meet the following:

- NLGI Performance Classification GC-LB
- ISO-L-X-BDHB 2 or DIN KP 2 N-10 Lithium Complex, Non-Synthetic Base Oil (100 to 220 mm²/s @ 40°C)

IMPORTANT: Some types of thickeners, base oils, and additives used in greases are not compatible with others. Mixing greases should be avoided. Consult your grease supplier before mixing different types of grease.

DX,GREA1-19-13JAN18

Mixing of Lubricants

In general, avoid mixing different brands or types of oil. Oil manufacturers blend additives in their oils to meet certain specifications and performance requirements.

Mixing different oils can interfere with the proper functioning of these additives and degrade lubricant performance.

Consult your John Deere dealer to obtain specific information and recommendations.

DX,LUBMIX-19-18MAR96

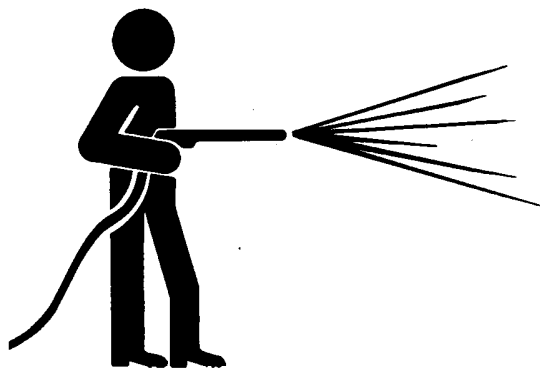
As Required Maintenance

As Required Maintenance

Service machine for as required maintenance items refer to maintenance sections.	• Inspect Engine air intake system in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.
	• Clean grille screens, radiator, oil cooler, radiator screen and A/C condenser in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.
	• Bleed fuel system in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.
	• Charge battery in Electrical and Lighting Maintenance section.
	• Replace headlight element in Electrical and Lighting Maintenance section.
	• Replace tail and turn bulbs in Electrical and Lighting Maintenance section.
	• Replace worklight element in Electrical and Lighting Maintenance section.
	• Adjust headlights in Electrical and Lighting Maintenance section.
	• Warm transmission-hydraulic system oil in Hydraulics Maintenance section.
	• Check selective control valve in Selective Control Valve Maintenance section.

N400041.0003A69-19-25JAN18

Wash Machine After Unloading



T6642EJ—UN—18OCT88

IMPORTANT: Reduce corrosion from road salt and sea salt. Promptly wash equipment delivered by truck during winter months or delivered by cargo ship.

Avoid malfunction or damage to machine components. Do not direct high-pressure spray at electronic or electrical components and connectors, bearings, hydraulic seals, fuel injection pumps, or other sensitive components. Reduce water pressure to wash sensitive components.

Avoid water penetration behind seals and similar components. Do not direct spray on these components at an angle less than 45°.

Avoid discoloration of machine paint. Do not use strong soaps, chemical detergents, or cleaning agents that contain acids, caustics, or abrasives. Do not allow cleaning agents to dry on machine. Promptly rinse machine after washing with a cleaning agent.

Use a top-to-bottom wash sequence. Wash behind panels and in hidden areas where salt can accumulate during transport.

If a cleaning agent is used, the agent must be the correct concentration. Do not allow cleaning agent to dry on machine, promptly rinse from top to bottom. Your John Deere dealer has cleaners which are compatible with your equipment and which are recommended to remove protective shipping coatings.

Incorrect detergent, excessive concentration, a delay in rinsing, or incomplete rinsing can discolor paint after delivery.

DX,WASH-19-14MAR14

Controls and Instruments Maintenance

Controls and Instruments Maintenance

Service controls and instruments refer to Controls and Instruments section.

CO00263,000089F-19-12JAN18

Engine Maintenance

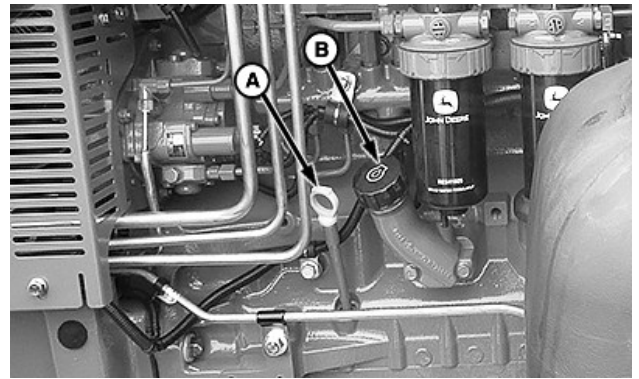
Open Hood



A—Latch Handle

Pull latch handle (A) and lift hood up.

N400041,0003A62-19-24JAN18



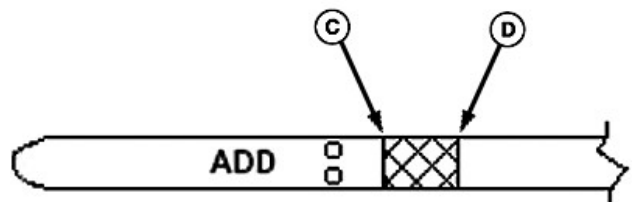
CPA0004347—UN—13SEP17

John Deere 6068 Engine

Use Correct Lubricant

IMPORTANT: Use only lubricants meeting specifications outlined in Fuels, Lubricants, and Coolants section when performing tractor service.

CO00263,00008A3-19-12JAN18



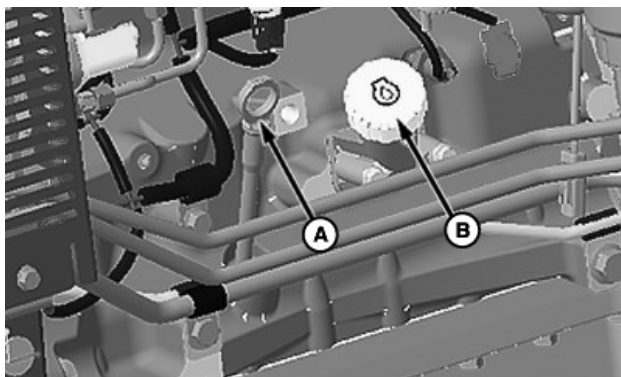
CPA0002115—UN—26OCT15

Engine Oil Dipstick

Check Engine Oil Level

Service Interval — Daily or 10 Hours

1. If engine has not been running, start engine and let it run at low idle for 2—3 min. Stop engine and wait 2—3 min for oil to drain back into the oil sump.
2. If engine has been running, turn down speed to low idle and let it run for 2—3 min. Stop engine and wait 2—3 min.



CPA0004342—UN—13SEP17

John Deere 4045 Engine



PUC1885—UN—13FEB09

Engine Oil Dipstick

- A—Engine Oil Dipstick
- B—Engine Oil Filler Cap
- C—Low-Level Mark
- D—High-Level Mark

3. Check engine oil level. Remove and wipe off engine oil dipstick (A), and reinsert it fully. Pull out the engine oil dipstick (A) and check the oil level.

NOTE: Remove left-hand side screen, if necessary.

4. Safe operating range is between the low-level mark (C) and high-level mark (D) on dipstick. Do not operate engine when oil level is below the low-level mark (C).

- Remove the engine oil filter cap (B) and add seasonal viscosity grade oil. (See Fuels, Lubricants, and Coolant section for oil specifications.)

N400041,0003A63-19-26JAN18

Change Engine Oil and Filter

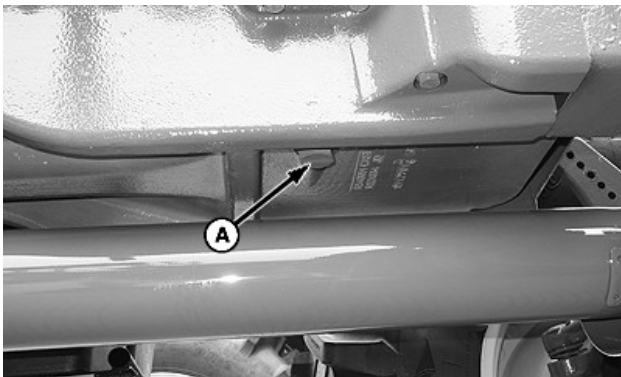
SERVICE INTERVAL

Initial — 100 Hours

Regular — 250 Hours*

Regular — 500 Hours

* If PLUS 50 oil and a John Deere filter are not used, lower this service interval to 250 hours



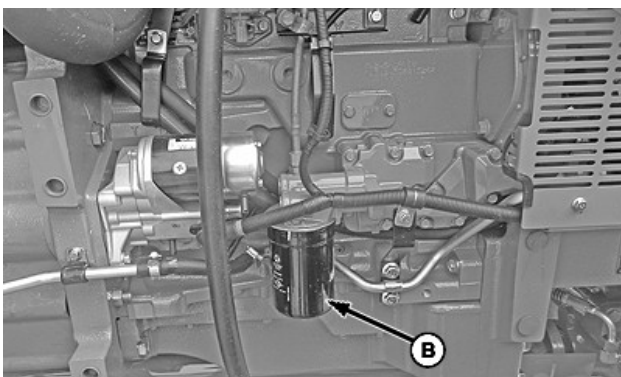
CPA0001717—UN—27JUL15

Bottom View

A—Drain Plug

- Run engine to heat oil. Turn off engine.
- Remove drain plug (A) and drain oil.

NOTE: Embossment of the oil filter gasket should match the groove of the filter seat.



CPA0001701—UN—27JUL15

Right-Hand Side

B—Engine Oil Filter

- Replace engine oil filter (B) when changing oil. Check oil filter gasket and replace it as necessary.

Apply a film of oil on the oil filter gasket and install filter. Hand tighten plus 1/2 turn.

- Install and tighten drain plug.

- Add seasonal viscosity grade oil. (See Fuels, Lubricants, and Coolant section.)

Specification

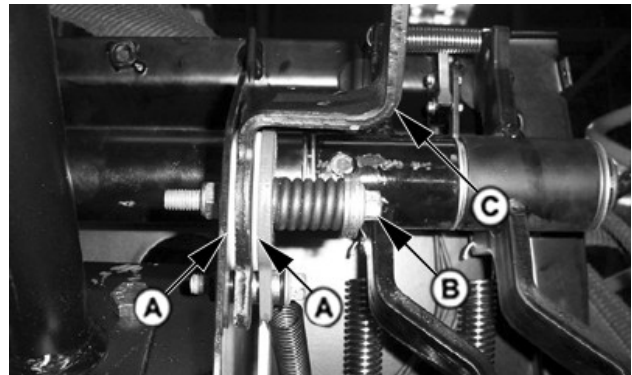
Engine Crankcase

Oil—Capacity. 15 L (3.96 gal) for JD954, JD1104, JD1204-A, JD1354-A, and JD1404-A (4045 engine) Tractors
17 L (4.49 gal) for JD1404-A (6068 engine) Tractor

CO00263,0001DFC-19-04SEP20

Adjust Hand Throttle Friction

Service Interval —As Required



PUC1224—UN—17JAN08

A—Friction Plates

B—Lock Nut

C—Hand Throttle Lever

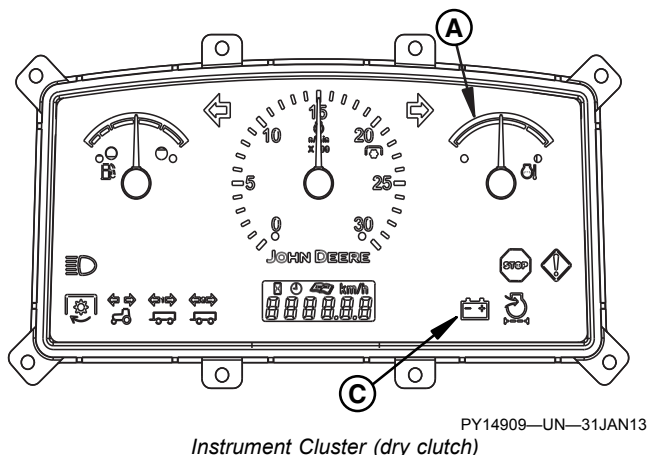
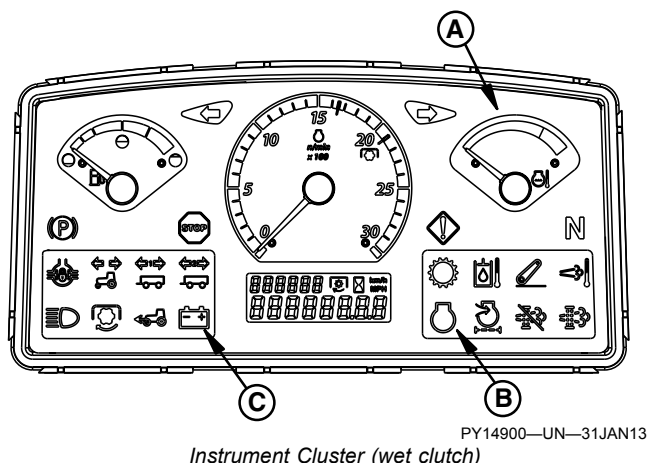
- When the throttle lever becomes too loose and fails to keep constant engine speed, friction plates (A) need to be adjusted.
- Tighten lock nut (B) until hand throttle lever (C) moves easily but stays in place throughout range of travel.
- Linkage is located under dashboard, right of the steering column.

N400041,0003A65-19-24JAN18

Break-In Service

Engine Operation—Break-In Check

IMPORTANT: The engine is ready for normal operation. Be extra cautious during the first 100 hour, until you become thoroughly familiar with the sound and feel of your new tractor. Stay extra attentive and alert.



- A—Coolant Temperature Gauge
- B—Engine Information Indicator
- C—Charging System Indicator

Warm up tractor carefully. Check charging system indicator (C), engine information indicator (B), and coolant temperature gauge (A).

Avoid unnecessary engine idling (5 minutes).

Check engine oil, coolant, transmission/hydraulic, and the fluid levels of mechanical front wheel drive frequently. Watch for fluid leaks.

NOTE: If engine oil must be added, use seasonal viscosity grade oil. Use only lubricants meeting specifications given in the Fuels, Lubricants, and Coolant section.

During the First 10 Hours of Operation:

IMPORTANT: Keep wheel hardware tight to avoid tractor damage. Check torque on wheel bolts before operating, twice during first 10 hours of operation, after 50 hours of operation, and periodically thereafter.

Use engine oil meeting John Deere specifications. (See Diesel Engine Oil in Fuels, Lubricants, and Coolants section.)

Perform service listed for 10 hours in the service interval chart. (See Maintenance Intervals section.)

Tighten wheel bolts. (See Wheels and Tires Operation section.)

LG70251,00017E3-19-27DEC18

After the First 50 Hours of Operation:

Tighten wheel bolts. (See Wheels and Tires Operation section.)

Check alternator/fan belt tension.

Tighten air intake hose clamps. (See Check Air Intake System, in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)

Check cooling system hose clamps. (See Check Hoses and Hose Clamps for Tightness, in Air Intake, Fuel, Coolant, and Exhaust Maintenance section.)

Check brake linkage and brake pedal adjustment. (See Adjust Brake Pedal Free Play in Steering and Brake Maintenance section.)

Check clutch linkage and clutch pedal adjustment. (See Adjust Clutch Pedal Free Play, in Steering and Brake Maintenance section.)

Check PTO clutch linkage. (See Adjust PTO Clutch Operating Rod, in Power Take-off (PTO) Operation section.)

Perform service listed for 50 hours and 10 hours in Service Interval Chart. (See Maintenance Intervals section.)

LG70251,00017E4-19-27DEC18

After the First 100 Hours of Operation:

IMPORTANT: If the tractor was used under light load conditions during first 100 hours, refill with only specified engine oil for an additional 100 hours to allow engine to break in properly. (See Diesel Engine Oil in Fuels, Lubricants, and Coolant section.)

Replace transmission/hydraulic oil filter element. (See

LG70251,00017E6-19-27DEC18

Replace Transmission/Hydraulic Oil Filter, in Transmission Maintenance section.)

Change engine oil and filter. (See Change Engine Oil and Filter, in Engine Maintenance section.)

Change MFWD axle oil. (See Check MFWD Front Axle Housing Oil, in MFWD and Front Axle Maintenance section.)

Change MFWD wheel hub oil. (See Change MFWD Wheel Hub Oil, in MFWD and Front Axle Maintenance section.)

Perform 100 hours Service, 10 hours Service, and 50 hours Service.

LG70251,00017E5-19-27DEC18

Air Intake, Fuel, Coolant, and Exhaust Maintenance

Service Air Cleaner

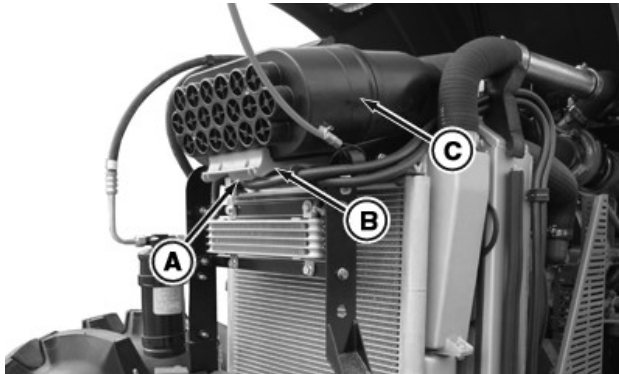
Service Interval—250 hours

A dual element air cleaner is standard. A dirty primary element is indicated when air filter restriction indicator on the instrument panel illuminates. A dirty element can result in loss of power or excessive smoke.

Clean the primary element when the indicator on the instrument panel illuminates or every 250 hours.

CAUTION: Wear appropriate personal protective equipment including, but not limited to, eye, ear, and respiratory protection during any cleaning operation.

1. Raise the hood.



CPA0002353—UN—26NOV15



CQ274950—UN—03JUL06

A—Lock
B—Handle
C—Cover

2. Pull the lock (A) and push the handle (B) downwards.
3. Push the cover (C) upwards.



CQ294107—UN—08AUG12

4. Pull out the primary filter element. Do not use excessive force.
5. Place the primary filter element with the dirty end down.
6. Working from the top down, clap and rotate the primary filter.
7. Repeat the clapping sequence for about ten times or until it is obvious that most of the dust has been removed.
8. Check the rubber seal around the filter element for cracks and holes. Replace if the element shows any imperfections.

IMPORTANT: Never clean a dirty secondary filter element.

9. Secondary filter element (B) only be removed when being replaced. Observe the secondary filter element condition, replace if damage or crack.



CQ294107—UN—08AUG12

10. Reinstall the primary element with the rubber seal first (arrows on label pointing into the filter housing). Push in all the way.

IMPORTANT: If the primary filter is not damaged and indicator on the instrument panel remains illuminated, replace both filters.

11. Close cover and lock handle.
12. Lower the hood.

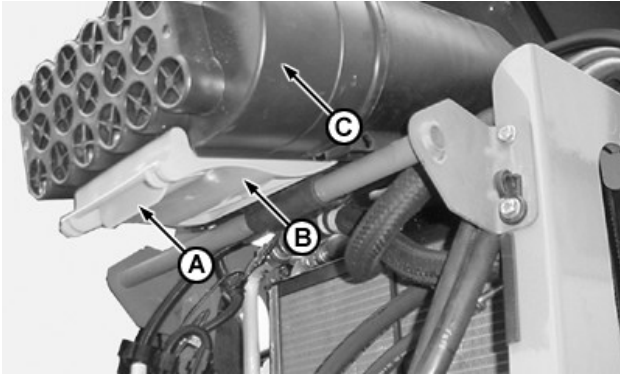
LG70251,000246C-19-04AUG21

Replace Primary Elements of Air Cleaner

Service Interval—1500 hours*

** Interval can vary according to operating conditions.*

1. Raise the hood.



CQ228000—UN—04NOV04



CQ274950—UN—03JUL06

A—Lock
B—Handle
C—Cover

2. Pull the lock (A) and push the handle (B) downwards.
3. Push the cover (C) upwards.

IMPORTANT: Filter Maintenance is required when the indicator illustrates. Replace Primary Filter Element after six times cleaning or after 1500 h, whichever comes first.



CQ294107—UN—08AUG12

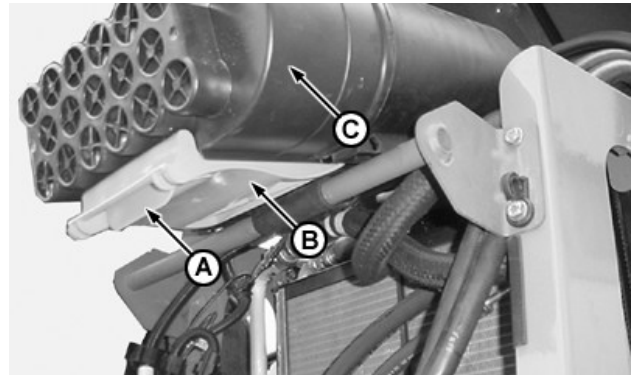
4. Pull out the primary filter element. Do not use excessive force.
5. Install the new primary element with rubber seal first (arrows on label pointing into filter housing). Push in all the way.
6. Close cover and lock handle.
7. Lower hood.

LG70251,000246E-19-04AUG21

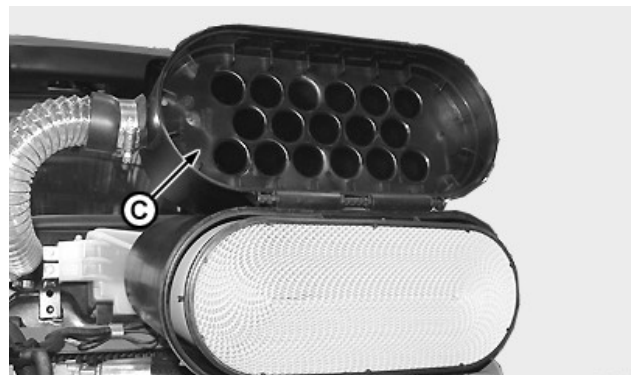
Replace Secondary Elements of Air Cleaner

**Service Interval—4500 Hours or Every Fourth Replacement of Primary Filter Element
Whichever comes first.**

1. Raise the hood.



CQ228000—UN—04NOV04



CQ274950—UN—03JUL06

A—Lock
B—Handle
C—Cover

2. Pull the lock (A) and push the handle (B) downwards.
3. Push the cover (C) upwards.



CQ294107—UN—08AUG12

4. Pull out the primary filter element. Do not use excessive force.

IMPORTANT: Never clean the secondary filter element. Replace the secondary filter element at every fourth replacement of primary filter element or every 4500 h.



CQ294106—UN—08AUG12

5. Pull out secondary filter element using handle on the filter frame.
6. Install new secondary element. Push in all the way.



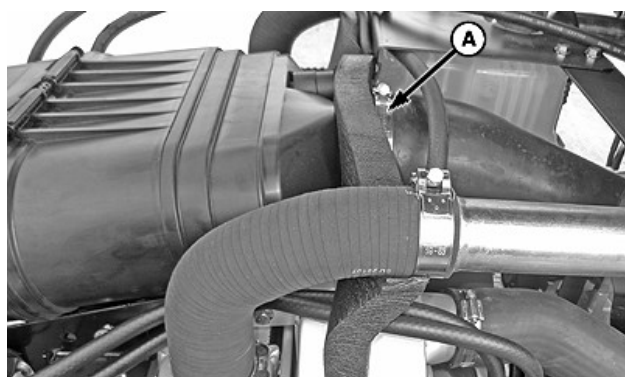
CQ294107—UN—08AUG12

7. Install the primary element with rubber seal first (arrows on label pointing into filter housing). Push in all the way.
8. Close cover and lock handle.
9. Lower hood.

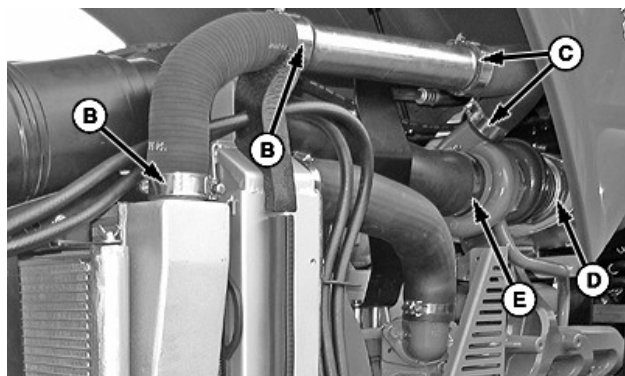
LG70251,000246D-19-04AUG21

Check Air Intake System

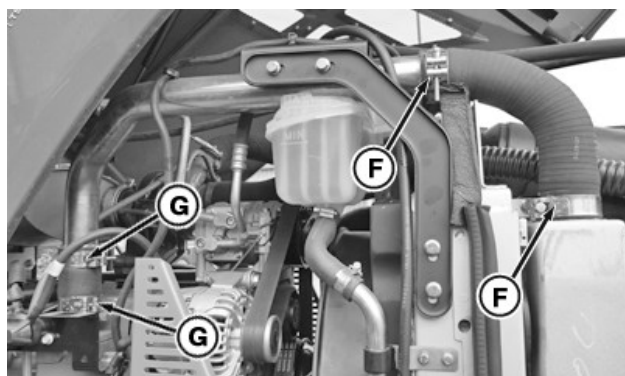
Service Interval—As Required



CPA0001724—UN—28JUL15



CPA0001725—UN—28JUL15



CPA0002355—UN—29NOV15

- A—Air Cleaner Outlet Hose Clamp
- B—Charged Air Cooler Inlet Hose Clamps (2 used)
- C—Turbocharger Outlet Hose Clamps (2 used)
- D—Turbine Outlet (exhaust gas) Clamp
- E—Turbocharger Inlet Hose Clamp
- F—Charged Air Cooler Outlet Hose Clamps (2 used)
- G—Engine Air Inlet Hose Clamps (2 used)

Check air intake system clamps (A, B, C, D, E, F, and G) for tightness.

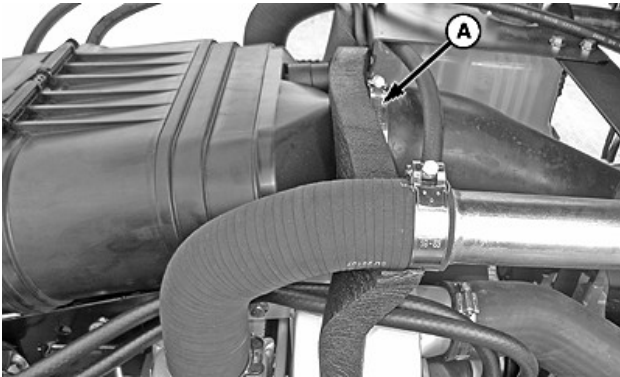
CO00263,00008AA-19-12JAN18

Check Hoses and Hose Clamps for Tightness

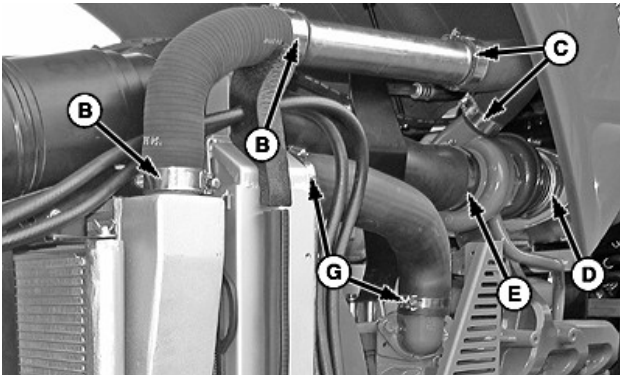
Service Interval—500 Hours

Check the following system hose clamps for tightness:

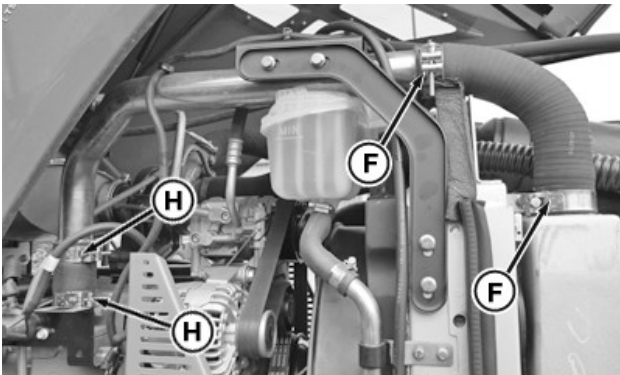
- Engine Air Induction System
- Engine Cooling System
- Hydraulic System
- Fuel System



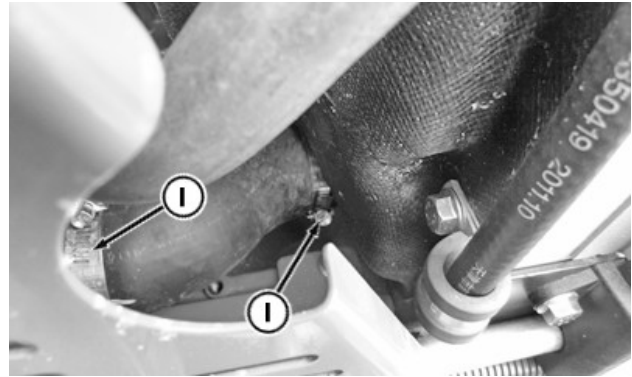
CPA0001724—UN—28JUL15



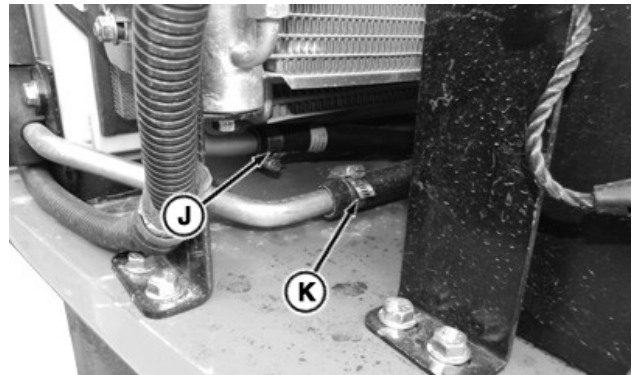
CPA0001727—UN—28JUL15



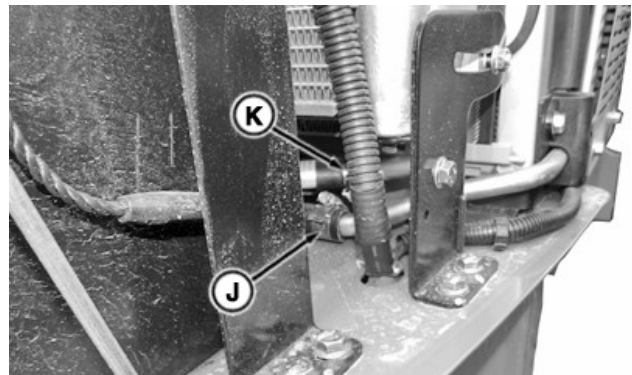
CPA0002366—UN—01DEC15



CPA0002367—UN—02DEC15



CPA0002368—UN—01DEC15



CPA0002365—UN—01DEC15

- A—Air Cleaner Outlet Hose Clamp
- B—Charged Air Cooler Inlet Hose Clamps (2 used)
- C—Turbocharger Outlet Hose Clamp (2 used)
- D—Turbine Outlet (exhaust gas) Clamp
- E—Turbocharger Inlet Hose Clamp
- F—Charged Air Cooler Outlet Hose Clamps (2 used)
- G—Radiator Inlet Hose Clamp (2 used)
- H—Engine Inlet Hose Clamps (2 used)
- I—Radiator Outlet Hose Clamps (2 used)
- J—Hydraulic Oil Cooler Outlet Clamps (2 used)
- K—Hydraulic Oil Cooler Inlet Clamps (2 used)

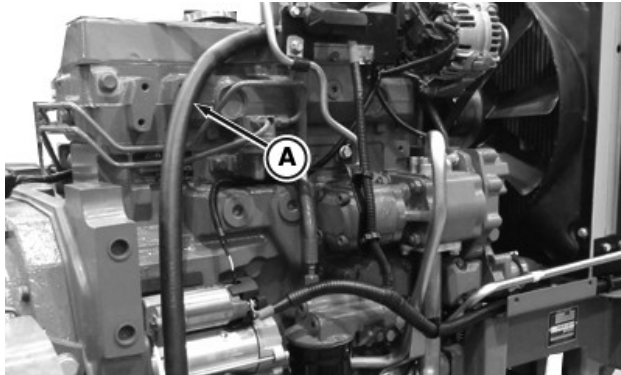
Check all hoses for cracks which could cause leaks or possible failure. Replace as necessary.

N400041.0003A57-19-29JAN18

Clean Engine Crankcase Vent Tube

Service Interval—1000 Hours

CAUTION: Reduce compressed air to less than 210 kPa (2 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment, including eye protection.



Right-Hand Side

PY14872—UN—07JAN13

A—Crankcase Vent Tube

- Remove crankcase vent tube (A) from engine. Wash in solvent or blow clean with compressed air.
- Install breather cap of vent tube to the engine. Be sure that the vent tube is not kinked or pinched.

N400041,0003A58-19-29JAN18

Do Not Modify Fuel System

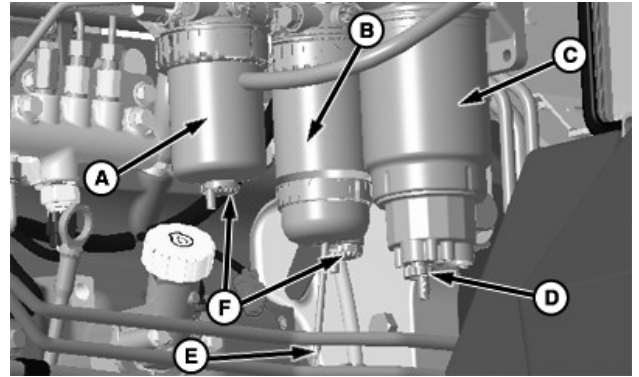
IMPORTANT: Modification or alteration of the injection pump, the injection pump timing, or the fuel injectors in ways not recommended by the manufacturer will terminate the warranty obligation to the purchaser. (See warranty information inside front cover.)

DO NOT attempt to service injection pump or fuel injectors yourself. Special training and special tools are required. (See your John Deere dealer.)

CO00263,00008AD-19-12JAN18

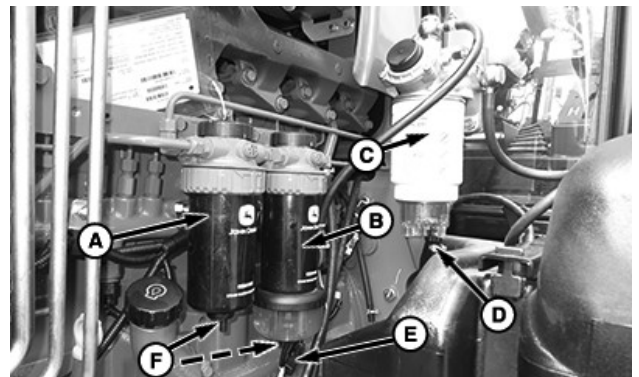
Drain Water and Sediment from Fuel Filters and Water Separator

Service Interval—Daily / 10 Hours



CPA0004349—UN—13SEP17

For Four Cylinders Engine



CPA0004355—UN—13SEP17

For Six Cylinders Engine

A—Secondary Fuel Filter
B—Primary Fuel Filter
C—Water Separator
D—Drain Port
E—Wiring Harness
F—Drain Port (2 used)

1. Disconnect wiring harness (E).
2. Connect small hoses to end of drain ports (D and F).
3. Place a suitable container under drain ports.
4. Open drain ports to drain moisture and sediment.
5. Close drain ports when fuel runs clear.
6. Remove drain hoses and connect wiring harness.

N400041,0003A59-19-29JAN18

Drain Water and Sediment from Fuel Tank

Service Interval—250 Hours



Bottom of Fuel Tank

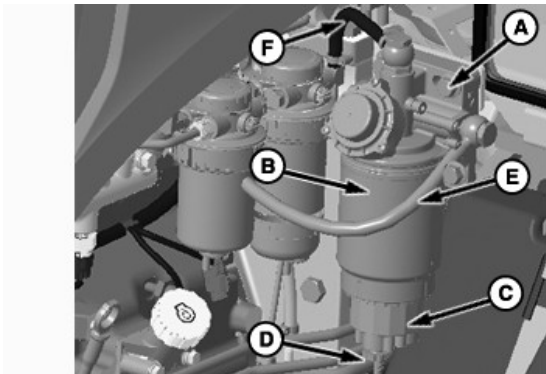
A—Drain Plug

- Locate drain plug (A) in left front corner of fuel tank, at the bottom.
- Place suitable container under drain plug and loosen plug. When fuel starts to run clear, tighten drain plug.

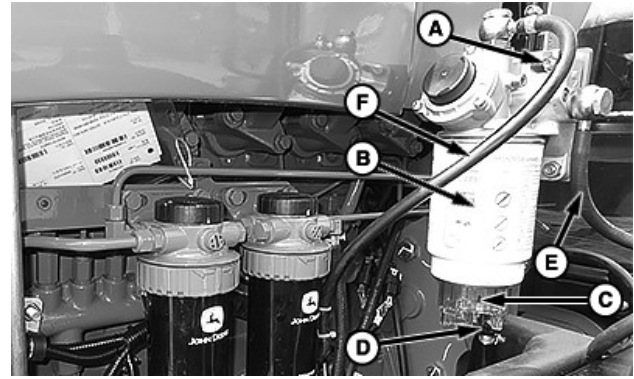
N400041,0003A71-19-29JAN18

Replace Water Separator

Service Interval—500 Hours



CPA0004344—UN—25JAN18
For Four-Cylinder Engine



CPA0004350—UN—13SEP17
For Six-Cylinder Engine

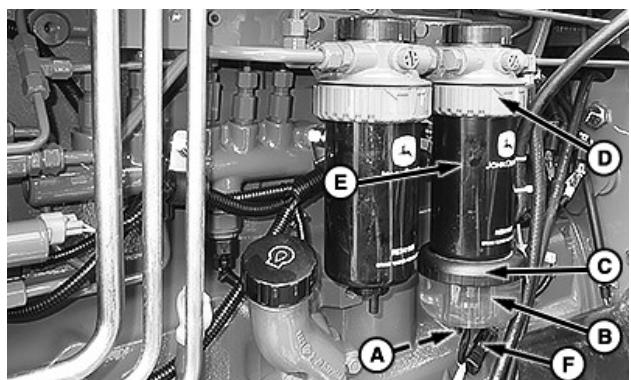
A—Cap Screw (3 used)
B—Water Separator
C—Water Separator Bowl
D—Drain Valve
E—Fuel Hose
F—Fuel Hose

1. Connect a drain line to drain valve (D) and place a suitable container under the drain line.
2. Open drain valve (D) and drain fuel from the water separator (B).
3. Loosen fuel hoses (E and F) on the end of the water separator (B), remove cap screws (A), and remove water separator (B).
4. Inspect fuel hoses for cracks, breaks, or other signs of leaking. Replace as necessary.
5. Remove, inspect, clean, and dry water separator bowl (C). Replace as necessary.
6. Discard old water separator.
7. Install water separator bowl on the new water separator.
8. Install new water separator on the machine. Tighten cap screws.
9. Connect fuel hoses.
10. Bleed fuel system. (See Bleed Fuel System in this section.)

N400041,0003A5A-19-24JAN18

Replace Primary Fuel Filter

Service Interval—500 Hours



CPA0004353—UN—13SEP17

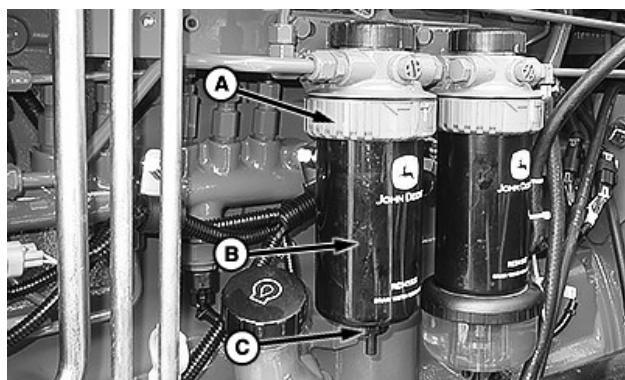
- A—Drain Port
- B—Water Separator Bowl
- C—Bottom Retaining Ring
- D—Top Retaining Ring
- E—Primary Fuel Filter
- F—Wiring Harness

1. Connect a drain line to drain port (A) and place a suitable container under drain.
2. Open drain port (A) and drain fuel from filter.
3. Loosen bottom retaining ring (C). Remove water separator bowl (B). Disconnect wiring harness (F).
4. Loosen top retaining ring (D) and remove primary fuel filter (E) and filter seal.
5. Discard old filter. Inspect filter seal for cracks, breaks, or other signs of leaking. Replace as necessary.
6. Clean and dry water separator bowl. Replace as necessary.
7. Install water separator bowl on the new primary fuel filter. Tighten retaining ring until it snaps into place. Do not overtighten.
8. Install new primary fuel filter and filter seal on machine. Tighten retaining ring until it snaps into place. Do not overtighten.
9. Connect wiring harness.
10. Bleed fuel system. (See Bleed Fuel System in this section.)

N400041,0003A5B-19-24JAN18

Replace Secondary Fuel Filter

Service Interval—500 Hours



CPA0004354—UN—13SEP17

- A—Retaining Ring
- B—Secondary Fuel Filter
- C—Drain Port

1. Connect a drain line to drain port (C) and place a suitable container under drain.
2. Open drain port (C) and drain fuel from filter.
3. Loosen retaining ring (A), remove secondary fuel filter (B) and filter seal.
4. Discard old filter. Inspect filter seal for cracks, breaks, or other signs of leaking. Replace as necessary.
5. Install new filter and seal. Tighten retaining ring until it snaps into place. Do not overtighten.
6. Bleed fuel system. (See Bleed Fuel System in this section.)

N400041,0003A5C-19-24JAN18

Check Coolant Level

Service Interval—10 Hours

CAUTION: DO NOT remove tank cap until coolant is cold. Always remove tank cap slowly to relieve any excess pressure.



CPA0004419—UN—07NOV17

- A—Surge Tank

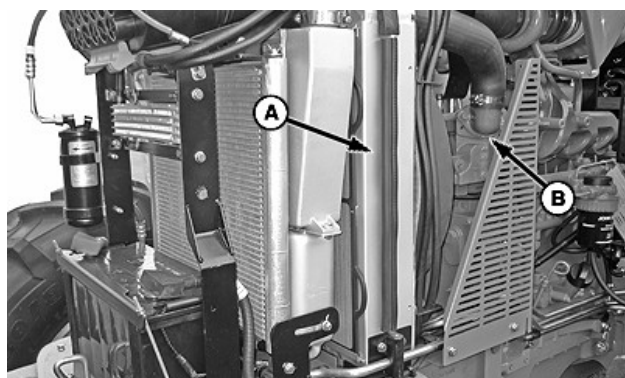
Check and be sure that coolant level is between HIGH (MAX) and LOW (MIN) marks on tank. If coolant level is

below LOW (MIN) mark, add coolant to surge tank (A) to bring level up to HIGH (MAX) mark. (See Fuels, Lubricants, and Coolant section.)

N400041,0003A5D-19-24JAN18

Check Cooling System for Leaks

Service Interval—500 Hours



CPA0001733—UN—29JUL15

A—Radiator
B—Thermostat Housing Gasket

1. Check all around base of radiator (A) for pinholes or any area where coolant might be leaking.
2. Inspect area around thermostat housing gasket (B) for any sign of coolant leakage.



CPA0001720—UN—27JUL15

C—Surge Tank

3. Inspect surge tank (C) for possible cracks or any sign of coolant leakage.

CO00263,0000A18-19-29JAN18

Flush Cooling System

Service Interval—Every 2 Years or 2000 Hours^{ab}

^a Check coolant every year as required, can be extended to 5000 hours or 5 years if John Deere COOL-GARD is used.

^b Check coolant every year as required, can be extended to 6000 hours or 6 years if John Deere COOL-GARD II is used.

For efficient operation, drain old coolant, flush the entire system, and fill with clean antifreeze solution at least once every 2 years.

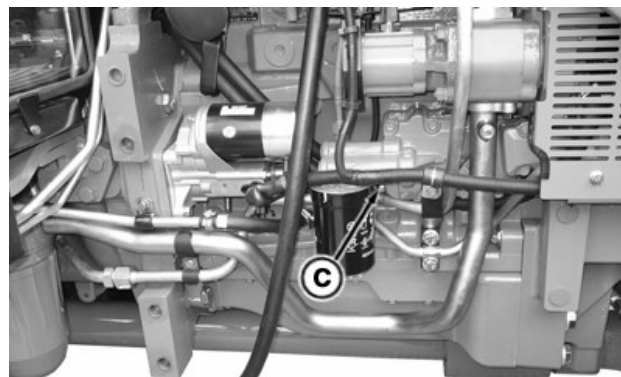
⚠ CAUTION: DO NOT remove radiator cap or drain coolant until coolant is cold. Always loosen radiator cap slowly to relieve any excess pressure.



CPA0005197—UN—29JAN18



PY14854—UN—07JAN13

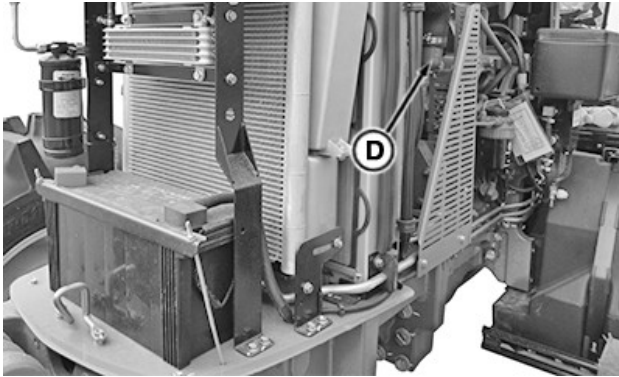


CPA0002402—UN—03DEC15

A—Surge Tank Cap
B—Radiator Drain Cock
C—Engine Block Drain Cock

1. Remove surge tank cap (A). Open radiator drain cock (B) on radiator and attach a drain hose. Route hose to container and drain coolant from radiator. Open engine block drain cock (C) and drain coolant from the engine block.

IMPORTANT: Thermostat must be removed to ensure a thorough flush.



D—Thermostat Housing

CPA0002403—UN—03DEC15

2. Remove thermostat housing (D), remove thermostat and install thermostat housing (without thermostat). Tighten thermostat housing bolts to specification.

Specification

Thermostat Housing

Bolts—Torque. 70 N·m (52 lb·ft)

3. Flush system with water - Close all drain valves/plugs and fill system with clean water. Run engine about 10 min to stir up possible rust or sediment. Stop engine and drain water from system before rust and sediment settle.
4. Flush system with radiator cleaner - Close all drain valve/plugs and fill the cooling system with a good commercial radiator cleaner and water. Stop engine and immediately drain system.
5. Flush system with water - Close all drain valves/plugs and fill with clean water to flush the system. Run the engine about 10 min, then drain out flushing water.
6. Remove thermostat housing and clean off the gasket material. Apply gasket sealant to the new gasket and install thermostat housing. Tighten thermostat housing bolts to specification.

Specification

Thermostat Housing

Bolts—Torque. 70 N·m (52 lb·ft)

7. Fill with fresh coolant - Close all drain valves/plugs and fill with a mixture of antifreeze, soft water, and coolant conditioner as specified in Fuels, Lubricants, and Coolant section.



CPA0004419—UN—07NOV17

A—Surge Tank

8. Check coolant level. Fill radiator until coolant level of the surge tank (A) is between MAX and MIN marks on the surge tank. Run the engine until operating temperature is reached. Let the engine cool (preferably overnight) and recheck the coolant level. Coolant level with a cold engine should be at the MIN mark on the surge tank.
9. When filling the cooling system, it may require several operating/cooling periods to stabilize the coolant level in the system. If bring coolant to the correct level, add additional coolant.

CO00263,0000A29-19-29JAN18

Deaerate Cooling System

Machine leads massive air into cooling system after user change coolant or open cooling system for reasons. In order to protect engine, deaerate cooling system as following instruction:

1. Fill system up to the MAX mark with prescribed coolant. (Coolant level at the surge tank or overflow tank)
2. Start engine and run it for 5 minutes.
3. Shut off engine and check the coolant level. Add coolant up to the MAX level, if necessary.
4. Start engine and run coolant up to 98~100°C by using hydraulic or mechanic engine load. After reaching this temperature shut-down the engine.
5. Let engine and cooling system cool until coolant temperature is equal to ambient temperature.
6. Check coolant level and fill up to the MAX mark if necessary.

N400041,0003A6A-19-29JAN18

Bleed Fuel System

Service Interval—As Required

CAUTION: Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving system pressure before disconnecting pressurized lines. Search for leaks with a piece of cardboard. Protect hands and body from high-pressure fluids.

If an accident occurs, see a doctor immediately. Any fluid injected into the skin must be surgically removed within a few hours or gangrene can result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source. Such information is available from Deere & Company Medical Department in Moline, Illinois, U.S.A.



X9811—UN—23AUG88

Any time the fuel system has been opened up for service (lines disconnected or filters removed), bleed air from the system.

To Bleed the System at the Filter, Perform the Following Steps:

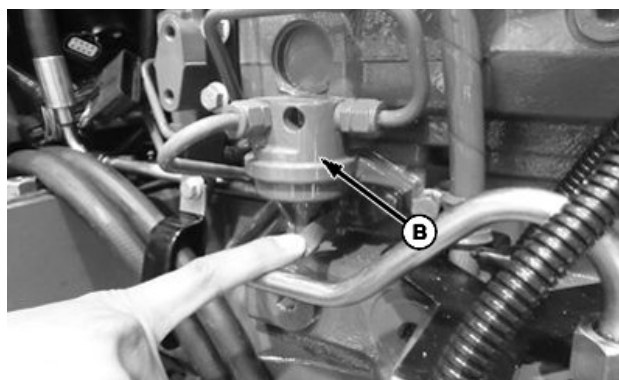


CPA0004348—UN—13SEP17

6068 Engine Shown (4045 engine is similar)

A—Bleed Vent Screw (2 used)

1. Loosen bleed vent screws (A) in filter two full turns by hand on the fuel filter bases.



CPA0002139—UN—29OCT15

Right-Hand

B—Hand Primer

- a. Operate hand primer (B) until fuel flow is free from bubbles.
- b. Tighten bleed vent screws securely, continue operating hand primer until pumping action is not felt. Leave hand primer in the up position, away from the cylinder block.



CPA0004357—UN—13SEP17

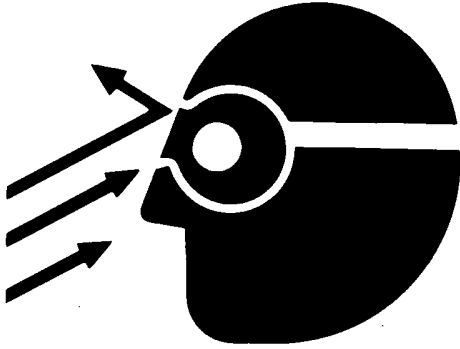
C—Drain Tap

- c. If equipped with the drain tap (C), operate it until fuel flow is free from bubbles.
2. Start engine and check for leaks.

CO00263,0000A1A-19-29JAN18

Front Grille, Side Screens, Radiator, and Oil Cooler Cleaning

Service Interval—As Required



TS266—UN—23AUG88

CAUTION: Reduce compressed air to less than 210 kPa (2 bar) (30 psi) when using for cleaning purposes. Clear area of bystanders, guard against flying chips, and wear personal protection equipment, including eye protection.

3. Clean oil cooler (D) and intercooler (E) as necessary.
4. If a more thorough cleaning is necessary, clean radiator from behind with compressed air or water. Straighten any bent fins.

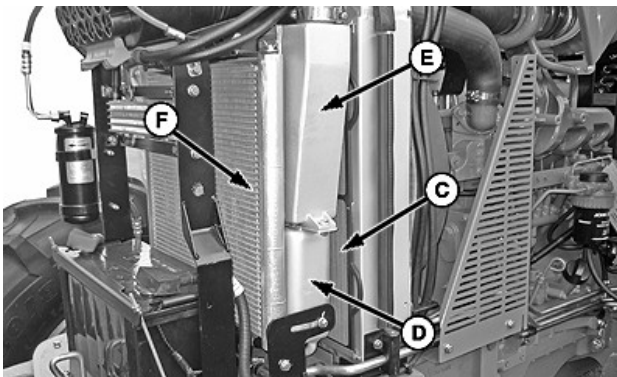
CO00263,0000A2A-19-29JAN18



CPA0001141—UN—27NOV14

A—Front Grille
B—Side Screen (2 used)

1. Whenever trash builds up on the front grille (A) or side screens (B), stop engine and brush clean.



CPA0001732—UN—29JUL15

C—Radiator Cleaning Screen
D—Oil Cooler
E—Intercooler
F—Condenser

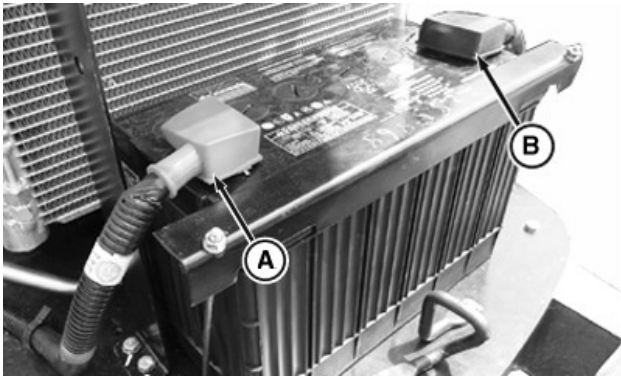
2. Raise engine hood and see if trash has built up on radiator screen. If so, carefully remove and clean radiator cleaning screen (C) using a brush or compressed air.

Electrical and Lighting Maintenance

Electrical Service Precautions



TS204—UN—15APR13



A—Positive (+) Battery Cable
B—Negative (-) Battery Cable

CAUTION: Keep all sparks and flames away from batteries, as gas given off by electrolyte is explosive. When using a booster battery, follow instructions in Operating the Engine section.

To avoid shocks and burns, disconnect negative (-) battery cable (B) before servicing any part of the electrical system, then remove positive (+) battery cable (A) if removing battery.

Keep all electrical shields in place.

If need disconnect battery power for whole machine power-off protection or repair operation, need to wait for 30 seconds after key switch is turned off, to ensure the data storage of ECU.

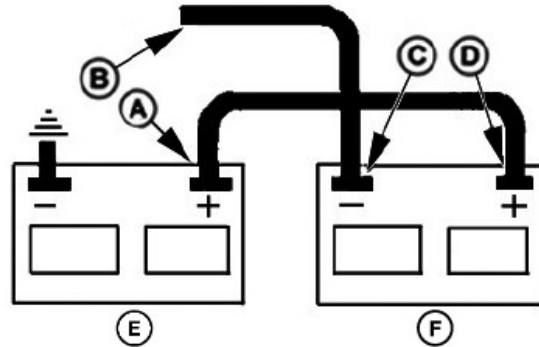
N400041,0003A45-19-24JAN18

Use Booster Battery

- CAUTION:** Battery gas is explosive:
- DO NOT smoke while charging battery
 - Keep all flames and sparks away
 - DO NOT charge a frozen battery
 - DO NOT connect booster battery negative cable to negative (-) terminal on vehicle you

are trying to start. Instead, use clean ground spot the on engine or tractor structural member.

1. Access battery.



CPA0008316—UN—15MAY19

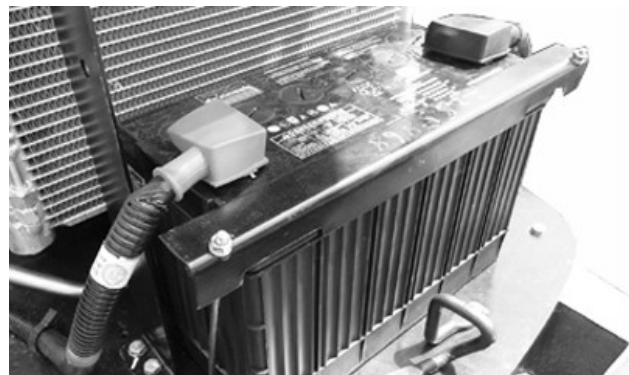
- A—Tractor Battery Positive (+) Post
B—Engine Ground
C—Booster Battery Negative (-) Post
D—Booster Battery Positive (+) Post
E—Vehicle Battery
F—Booster Battery

2. Connect positive (+) booster cable to the booster battery positive (+) post (D).
3. Connect the other end of positive (+) booster cable to the tractor battery positive (+) post (A).
4. Connect negative (-) booster cable to the booster battery negative (-) post (C).
5. Connect the other end of negative (-) booster cable to engine ground (B), away from battery and starter.

CO00263,0002115-19-31MAY19

Clean Battery

Service Interval—50 Hours



PY17082—UN—09OCT12

To access battery, see procedure in this section.

Put gear shift lever in neutral, "N", lock brake pedals together. Depress brake pedals and set parking brake.

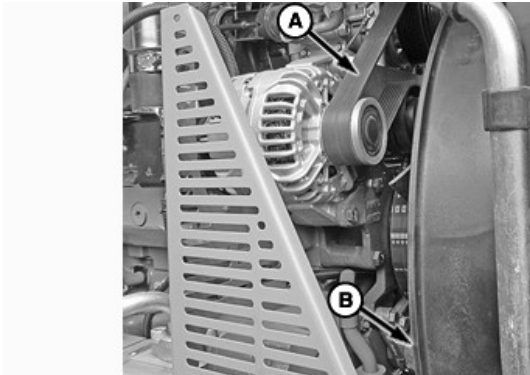
Pull hand throttle all the way down and allow engine to idle for 1 to 2 min. Turn engine off.

Wipe battery with a damp cloth. Clean and tighten connections, if needed.

CO00263,00008BB-19-12JAN18

Replace Alternator/Fan Belt

1. Raise hood.
2. Disconnect negative (-) cable at battery.



CPA0001809—UN—25JAN18

A—Belt
B—Tensioner

3. Use a wrench to turn the tensioner (B) clockwise to loosen belt (A).
4. Remove belt from drive pulley. Belt can be pulled around the fan to remove.
5. Install new belt in reverse order of removal.

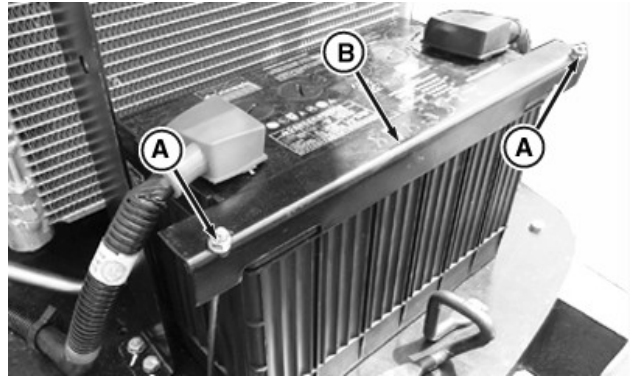
N400041,0003A48-19-29JAN18

Remove Battery

1. Gain access to battery.

CAUTION: To avoid sparks, disconnect negative (ground) cable first and connect it last.

2. Disconnect negative (-) battery cable, then positive (+) battery cable.



PY17083—UN—09OCT12

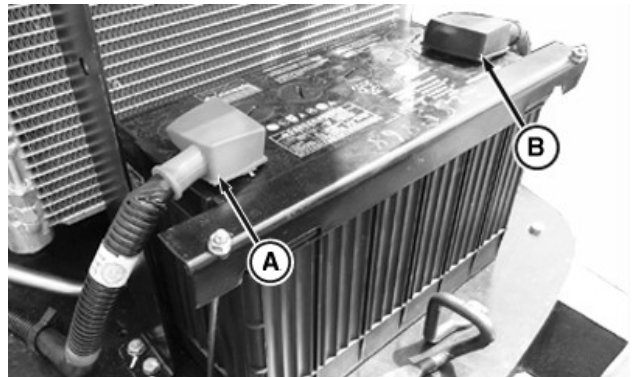
A—Nuts (2 used)
B—Hold-Down Bracket

3. Loosen nuts (A) and rotate hold-down bracket (B) downward, freeing battery.
4. Lift and slide battery from machine.

N400041,0003A49-19-29JAN18

Service Battery

Service Interval—As Required



PY17081—UN—09OCT12

A—Positive (+) Battery Terminal
B—Negative (-) Battery Terminal

1. Keep battery clean by wiping with a damp cloth. Keep terminals (A and B) clean and tight. To remove any corrosion, wash terminals with a solution of four parts water to one part baking soda.

CAUTION: To avoid sparks, disconnect negative (ground) cable first and connect it last.

2. Keep battery fully charged, especially during cold weather. If a battery charger is connected, attach positive cable to positive (+) battery terminal (A). Connect the negative (-) battery charger cable to a good ground on the tractor frame.
3. Coat terminals with a small amount of grease.

N400041,0003A4A-19-24JAN18

Battery Replacement Specifications

When replacing battery, use John Deere battery or equivalent. See your John Deere dealer.

	Specification
Battery—Volts.....	12 V
Cold Cranking Amps at -18 °C (0 °F).....	960 A

CO00263,00008BF-19-12JAN18

Charge Battery

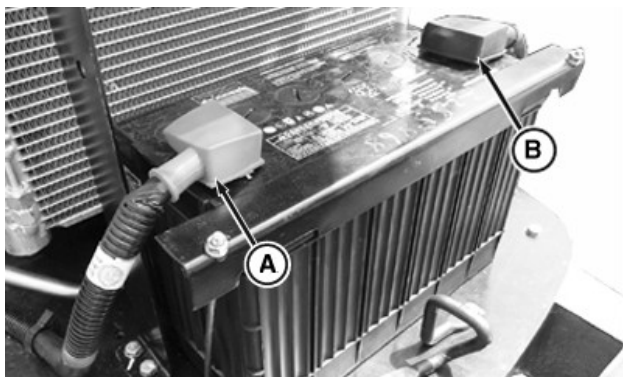
Service Interval—As Required

Keep battery fully charged, especially during cold weather.

CAUTION: Gas given off by battery is explosive. Keep sparks and flames away from battery. Before connecting or disconnecting a battery charger, turn off charger. Make last connection and disconnection at a point away from battery.



TS204—UN—15APR13



PY17081—UN—09OCT12

A—Positive (+) Battery Terminal
B—Negative (-) Battery Terminal

1. With charger OFF, attach positive battery charger lead to positive (+) battery terminal (A). Attach negative charger lead to the tractor frame, away from the battery.

2. Turn charger ON and recharge the battery, following instructions of the battery manufacturer for using charger. Check battery condition as described.
3. To disconnect the battery charger, turn charger OFF. Remove negative charger lead first, then positive lead.

N400041,0003A4B-19-29JAN18

Check Battery Condition

Service Interval—50 Hours

CAUTION: Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check the battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace it last.



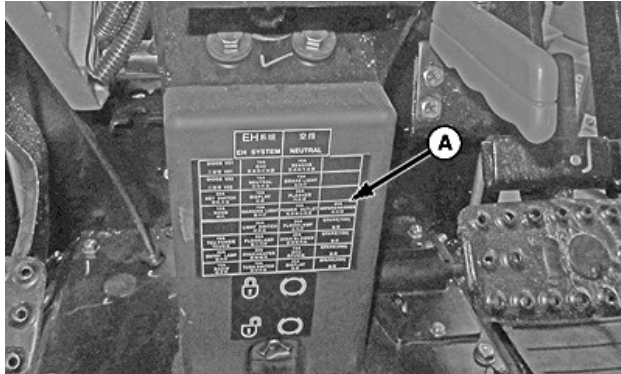
TS204—UN—15APR13

1. Use a battery hydrometer to check specific gravity of the electrolyte in each cell. Charge battery if reading is below 1.215. Replace battery if difference between cells is more than 0.050 or if battery will not charge above 1.225.
2. Always correct specific gravity reading for electrolyte temperature variation. Add 0.004 to the reading obtained in step 1 for every 10°F above 80°F (add 0.007 to the reading for every 10° above 27°C). Subtract at same rate if electrolyte temperature is below 80°F (27°C). Correct specific gravity of a fully charged battery is 1.265 to 1.280.
3. A battery is considered fully charged when three consecutive hydrometer readings taken at hourly intervals show no rise in specific gravity.

N400041,0003A4C-19-24JAN18

Access Fuses and Relays

Fuses



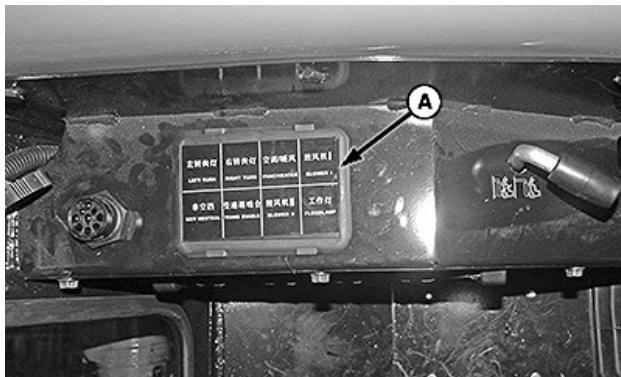
CPA0001801—UN—02SEP15

A—Fuse Box

Fuse Rating	Color
5 A	Brown
10 A	Red
15 A	Blue
20 A	Yellow
30 A	Green

IMPORTANT: DO NOT replace the original fuse with the higher rated fuse or machine damage occurs. If the original size fuse cannot carry electrical load and continues to blow, have the electrical system checked by your John Deere dealer.

Relays



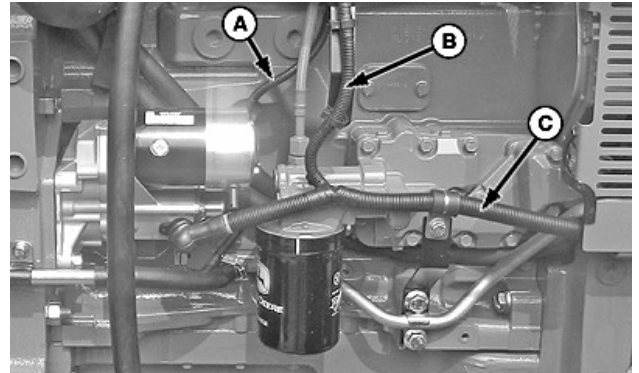
CPA0002419—UN—10DEC15

All electrical circuits are protected by fuses in the fuse box (A). Amperage rating is marked on each fuse, and fuses are color coded to make correct replacement easier.

N400041,0003A4D-19-24JAN18

Starter Wiring Connections

IMPORTANT: Disconnect battery negative (ground) cable before servicing any part of the electrical system. Restore all other connections before connecting ground cable.



CPA0001715—UN—27JUL15

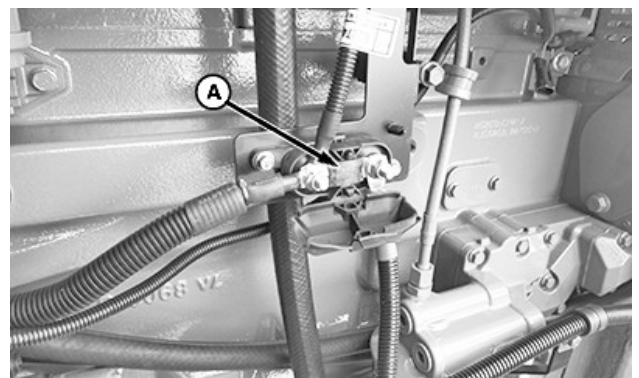
A—Solenoid Wire
B—Alternator Cable
C—Large Battery Cable

1. Connect large battery cable (C) and alternator cable (B) to large solenoid post.
2. Connect solenoid wire (A) to the small solenoid terminal.

N400041,0003A4E-19-29JAN18

Fusible Link Location

Electrical circuits are protected by a fusible link.



CPA0005134—UN—16JAN18

A—Fusible Link

Raise hood. Fusible link (A) is on the right-hand side of engine.

N400041,0003A4F-19-24JAN18

Fuse Size and Function

Single Fuse Block

20A KEY SWITCH 钥匙开关	10A DISPLAY 仪表	20A FLASHER 闪光器	15A BRAKE LIGHT 制动灯
10A HORN 喇叭	30A LIGHT SWITCH 灯开关	30A FLOODLAMP 工作灯	SPARE(10A) 备用
20A ENTRY LAMP 室内灯	20A WIPER 雨刮器	10A ECU ECU供电	SPARE(20A) 备用
DIODE V01 二极管 V01	10A DISPLAY 仪表	10A TURN SWITCH 转向开关	SPARE(30A) 备用

CPA0002041

CPA0002041—UN—25OCT17

Single Fuse Block

Double Fuse Block

DIODE V01 二极管 V01	10A ECH 变速箱控制器	10A SENSOR 变速箱传感器	30A (option) SOCKET BAT (option) 插座电源 - 电瓶 (选装)
DIODE V02 二极管 V02	10A NEUTRAL 空挡开关	15A BRAKE LIGHT 制动灯	30A (option) SOCKET BAT (option) 插座电源 - 钥匙 (选装)
20A KEY SWITCH 钥匙开关	10A DISPLAY 仪表	20A FLASHER 闪光器	15A (option) HEAD LIGHT (option) 前大灯 (选装)
10A HORN 喇叭	15A WARNING LIGHT 警示灯	15A POWER OUTLET 电源输出插座	20A WIPER & WASHER 雨刮器
	30A LIGHT SWITCH 灯开关	20A FLOODLAMP 工作灯	SPARE (10A) 备用
10A TCU POWER TCU供电	30A FLOODLAMP 前工作灯	20A HVAC BLOWER 空调鼓风机	SPARE (15A) 备用
20A ENTRY LAMP 室内灯	30A HVAC/HEATER 空调/暖风	10A ECU ECU供电	SPARE (20A) 备用
10A RADIO 收音机	10A TURN SWITCH 转向开关	10A DISPLAY 仪表	SPARE (30A) 备用

CPA0005203—UN—28JAN18

Double Fuse Block

N400041,0003A68-19-26JAN18

Relay Size and Function

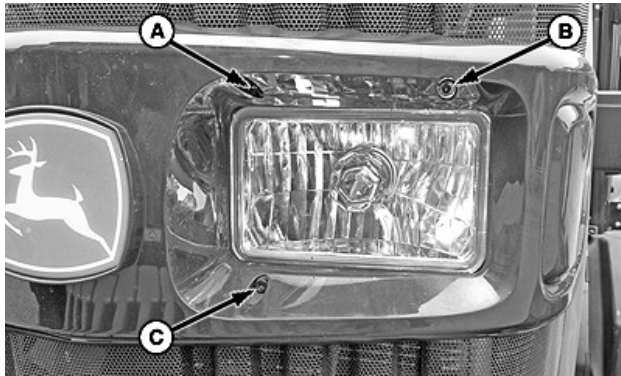
左转向灯 LEFT TURN	右转向灯 RIGHT TURN	空调/暖风 HVAC/HEATER	鼓风机I BLOWER I
非空挡 NOT NEUTRAL	变速箱啮合 TRANS ENABLE	鼓风机II BLOWER II	工作灯 FLOODLAMP

CPA0002418—UN—10DEC15
CO00263,00008C6-19-12JAN18

Adjust Headlights

Service Interval—As Required

IMPORTANT: Apply penetrating spray lubricant to the threads of top and bottom adjusting screws before starting procedure. If this is not done, it will be hard to turn adjusting screws in either direction.



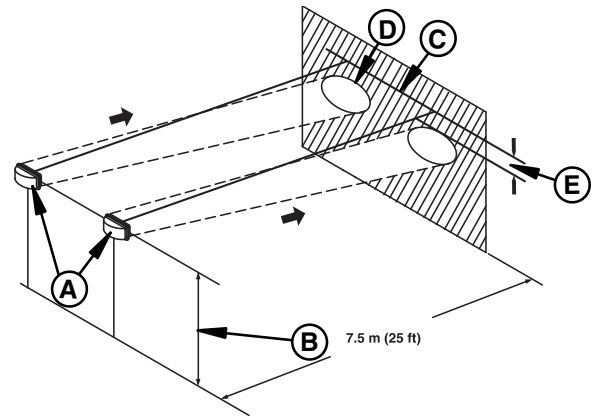
CPA0001723—UN—27JUL15

A—Headlight Mounting Screw
B—Headlight Mounting Screw
C—Headlight Mounting Screw

1. Turn headlight mounting screws (A and B) clockwise to the lower beam or counterclockwise to raise beam.
2. To adjust beam in toward center of tractor, turn headlight mounting screw (B) clockwise and headlight mounting screws (A and C) counterclockwise an equal number of turns on each screw.
3. To adjust beam out from center of tractor, turn headlight mounting screws (A and C) clockwise and headlight mounting screw (B) counterclockwise an equal number of turns on each screw.

CO00263,0000A2D-19-29JAN18

Aim Headlights



PY49023—UN—27OCT17

A—Headlights (2 used)
B—Distance from Center of Headlight to Ground
C—Horizontal Line on Wall
D—Border of Bright Area
E—10% of Distance

1. Park tractor on a level surface with headlights (A) 7.5 meters (25 ft) from a vertical wall.
2. Measure the distance (B) from the center of a headlight to the ground.
3. Mark a horizontal line (C) on the wall, the same distance from the ground as (B).
4. Set headlights on low beam and observe bright areas on the wall.
5. Adjust headlights so the upper border of bright area (D) is at least 10% of distance (B) below line (C).
6. To adjust headlights, see Adjust Headlights in this section.

CO00263,0000B71-19-26APR18

Replace Headlight Bulbs

Service Interval—As Required

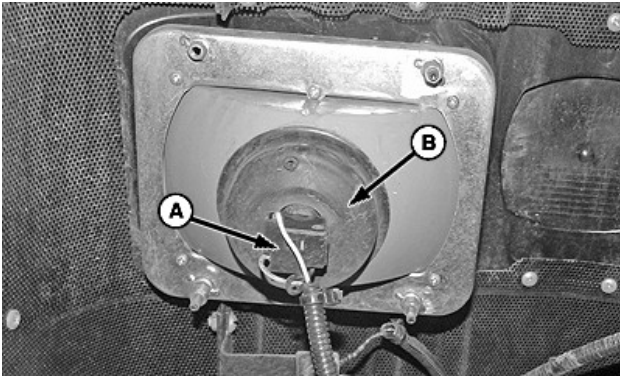
CAUTION: A halogen bulb is pressurized and may shatter. Protect bulb against abrasions and scratches.

To guard against personal injury, wear protective eyeglasses and clothing when handling bulb. Turn power off when installing and before removing bulb. Dispose of the bulb with care.

Allow bulb to cool before removing.

Read and follow all bulb manufacturer's installation instructions.

1. Open engine hood.



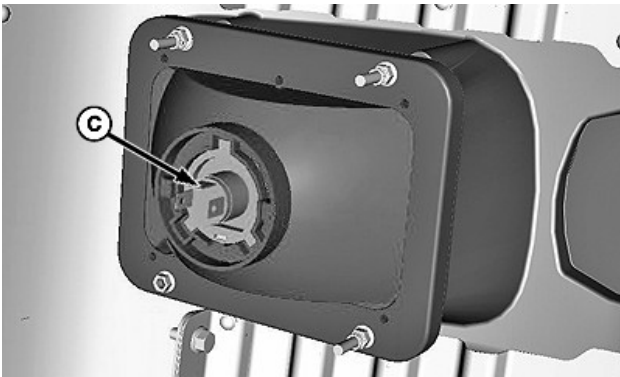
CPA0002080—UN—20OCT15

2. Remove bulbs from socket.
3. Mount new bulbs, as needed.
4. Mount light cover and tighten screws (A).

N400041,0003A51-19-24JAN18

Replace Tail Light/Rear Turn Signal/Brake Light Bulbs

Service Interval—As Required



CPA0002081—UN—20OCT15

A—Connector
B—Seal
C—Bulb

2. Disconnect connector (A).
3. Remove seal (B).
4. Remove bulb (C) and replace with new bulb.
5. Connect connector and close engine hood.

CO00263,00008C9-19-29JAN18

Replace Front Turn Signal Bulb

Service Interval—As Required



CPA0002045—UN—18OCT15

A—Screw (4 used)

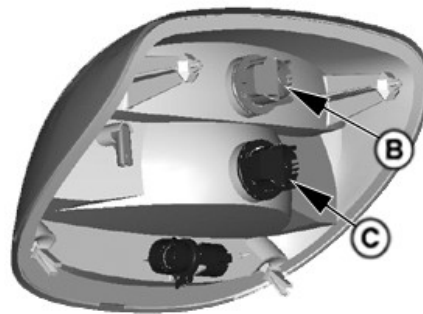
1. Remove screws (A) and light cover.



PY17086—UN—09OCT12

A—Screw (2 used)

1. Remove screws (A) and lens.



PUC1599—UN—01APR08

B—Warning Light Bulb
C—Tail Light Bulb

2. Remove warning light bulb (B).
3. Remove tail light bulb (C).
4. Install new bulbs, as necessary.
5. Install lens and screws.

CO00263,0000A1C-19-29JAN18

Replace Worklight Bulb

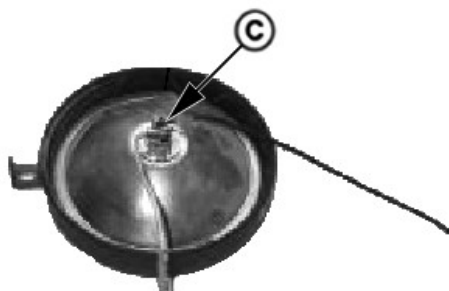
Service Interval—As Required



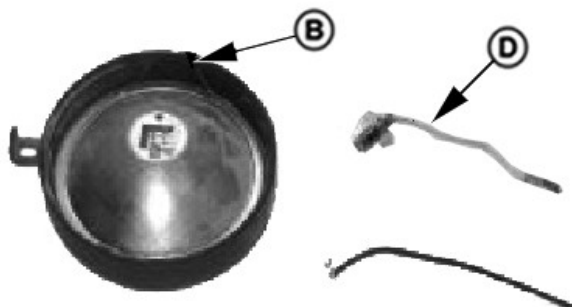
CPA0002047—UN—19OCT15

A—Screw

1. Remove screw (A).



PUC1522—UN—02NOV07



PUC1523—UN—02NOV07

B—Retaining Ring
C—Screw
D—Bulb Assembly

2. Remove screw (A). Open retaining ring (B), disconnect connector and remove screw (C).
3. Remove bulb assembly (D), and install new bulb.
4. Reinstall in reverse order.

CO00263,0000A2E-19-29JAN18



CPA0005133—UN—16JAN18

A—Cab Light Cover
B—Cab Light Bulb

1. Pry out cab light cover (A).
2. Remove cab light bulb (B), and install a new bulb.
3. Reinstall in reverse order.

CO00263,0000A1E-19-29JAN18

Replace Cab Light Bulb

Service Interval—As Required

Drive Train Maintenance

Use Correct Transmission/Hydraulic Filter Element

To protect systems, replace transmission/hydraulic oil filter with a John Deere service filter element. Minimum and maximum performance specifications are printed on John Deere filters. Other filters may be used if they meet these performance specifications.

See Lubrication and Maintenance section for recommended filter change intervals.

CO00263,00008D0-19-12JAN18

Check Neutral Start System

Service Interval—250 Hours

Your John Deere tractor is equipped with interlocks to prevent inadvertent movement when engine is started. Different setting of the neutral start system exists on machines with different configuration. Select test process based on your machine configuration.

CAUTION: Unexpected movement of machine happens during test and can cause injury to others and machine. Avoid possible injury or death from a machine runaway.

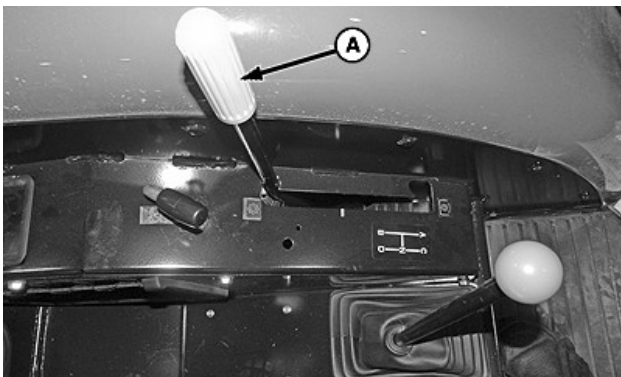
CAUTION: Set park brake before starting the engine.

CAUTION: If either of the following conditions is present, contact your John Deere dealer and repair the neutral start system.

IMPORTANT: Do not start the engine at full throttle.

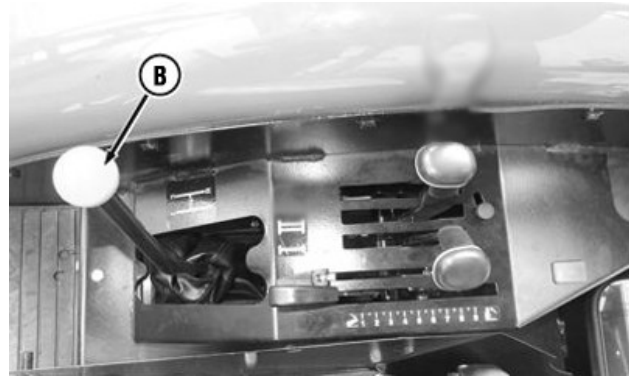
Dry Clutch Transmission:

1. Park the tractor on level ground, set park brake on. Stop the engine.
2. Check all around the tractor. Avoid possible injury or death from a machine runaway.



CPA0002046—UN—22OCT15

PTO Control Lever (dry clutch)



CPA0001113—UN—10NOV14

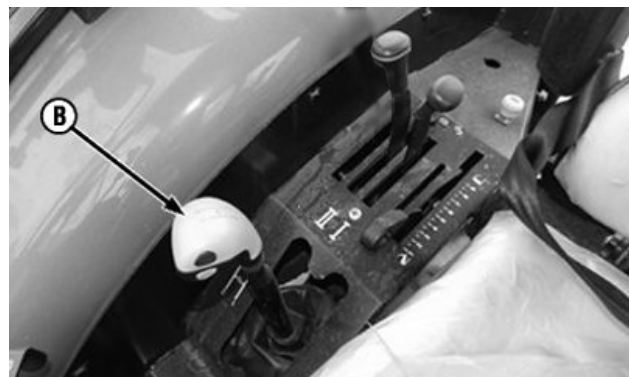
12F/4R Transmission

A—PTO Control Lever (dry clutch)
B—Speed Shift Lever

3. Move PTO control lever (A) to engaged (front) position. Set speed shift lever (B) in gear position. Try to start the engine. The engine must not start.
4. Keep the PTO control lever (A) in engaged (front) position. Set speed shift lever (B) in neutral position. Try to start the engine. The engine must not start.
5. Move the PTO control lever (A) to disengaged (rear) position. Set the speed shift lever (B) in gear position. Try to start the engine. The engine must not start.
6. Keep the PTO control lever (A) in disengaged (rear) position. Set the speed shift lever (B) in neutral position. Try to start the engine. The engine starts.
7. If the tractor reacts in an unexpected way, contact your John Deere dealer and repair the neutral start system.
8. Stop engine.

Wet Clutch Transmission without Power Reverse :

1. Park the tractor on level ground, set park brake on. Stop the engine.
2. Check all around the tractor. Avoid possible injury or death from a machine runaway.



CPA0001126—UN—10NOV14

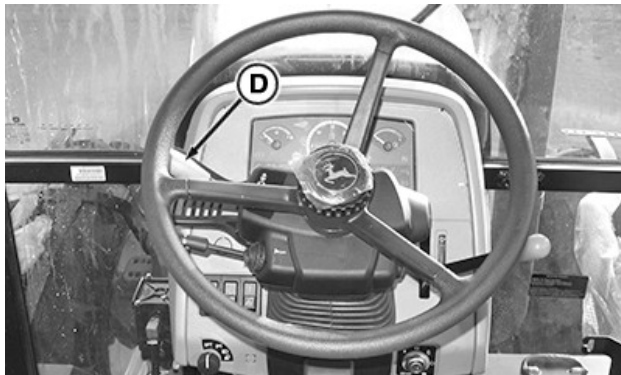
24F/8R Transmission

B—Speed Shift Lever

3. Set the speed shift lever (B) to gear (not in neutral) position. Try to start engine. The engine cannot start.
4. Set the speed shift lever (B) in neutral position. Try to start engine. The engine starts.
5. If the tractor reacts in an unexpected way, contact your John Deere dealer and repair the neutral start system
6. Stop engine.

Wet Clutch Transmission with Power Reverse :

1. Park the tractor on level ground, set park brake on. Stop the engine.
2. Check around of the tractor. Avoid possible injury or death from a machine runaway.



CPA0002998—UN—18OCT16

24F/12R Transmission

D—Power Reverser Lever

3. Set the power reverser lever(D) in forward or reverse (not in neutral) position. Try to start engine. The engine cannot start.
4. Set the power reverser lever(D) in neutral position. Try to start engine. The engine starts.
5. If the tractor reacts in an unexpected way, contact your John Deere dealer and repair the neutral start system.
6. Stop engine.

CO00263,0001D85-19-09JAN19

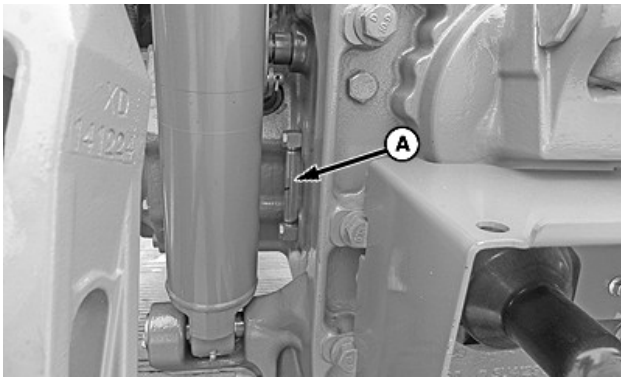
Transmission Maintenance

Check Transmission/Hydraulic System Oil Level

Check oil level at sight glass, daily.

IMPORTANT: Routine checks prevent downtime. The operator can aid in preventive maintenance by documenting all leak and malfunction problems. Since the transmission operates in oil and by means of oil, it is important to keep oil clean and at the correct level at all times.

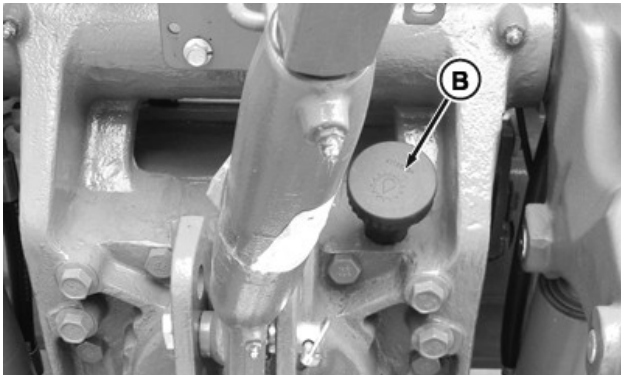
1. Park on level ground. Put gearshift lever in neutral "N", lock brake pedals together. Depress pedals and set park brake.
2. Make sure that rockshaft is positioned all the way down. (See Hitch and Drawbar Operation section.)
3. Pull hand throttle all the way and allow engine to idle for 5 min. Turn off engine.
4. Wait a minimum of 5 min for oil to settle.



CPA0001698—UN—27JUL15

A—Hydraulic Oil Sight Glass

5. Check level at hydraulic oil sight glass (A). Level should be between upper and lower lines on the sight glass.



PY14923—UN—18FEB13

B—Hydraulic Oil Fill Port

6. Add oil to the hydraulic oil fill port (B) if level is low. (See Transmission and Hydraulic Oil in Fuels, Lubricants, and Coolant section.)

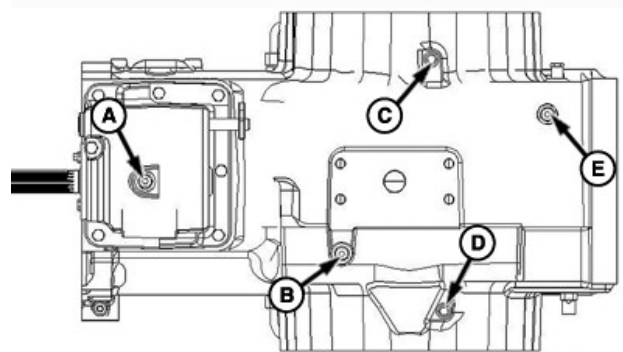
7. Inspect and thoroughly clean fill port cap vents before installing cap.

CO00263,0000A20-19-29JAN18

Change Transmission/Hydraulic System Oil

Service Interval—1000 Hours

1. Move rockshaft lever full forward to lower hitch all the way down.



CPA0005198—UN—25JAN18

View From Below

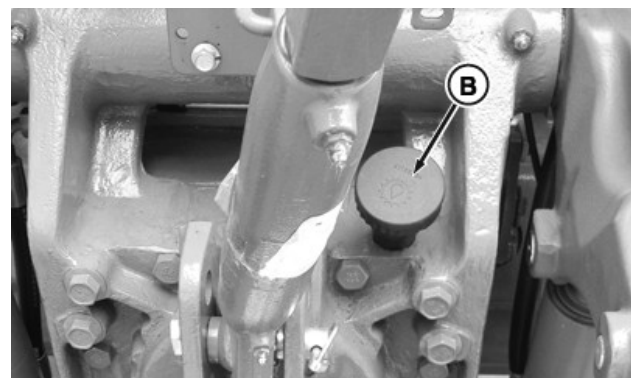
A—MFWD Axle Drop Gear Box Drain Plug
B—Transmission Main Case Drain Plug
C—Left-Side Final Drive Drain Plug
D—Right-Side Final Drive Drain Plug
E—PTO Case Drain Plug

2. Remove drain plugs (A—E).
3. Replace transmission-hydraulic oil filter. (See Replace Transmission/Hydraulic Oil Filter section.)

NOTE: Always dispose of used oil in accordance with applicable laws and regulations.

4. Install all plugs.

IMPORTANT: Do not overfill transmission. This will cause overheating and result in transmission damage.



PY14923—UN—18FEB13

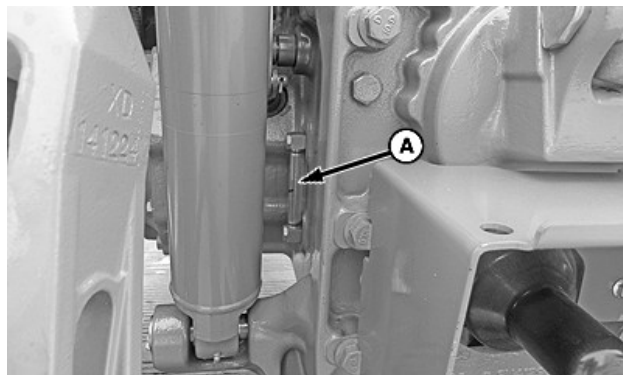
B—Filler Cap

- Remove filler cap (B) and fill system with oil as specified in Fuels, Lubricants, and Coolant section.

Specification

Transmission-Hydraulic

Oil—Capacity. 60 L
(15.85 gal)



CPA0001698—UN—27JUL15

A—Sight Glass

- Check oil level at sight glass (A) after filling.
- Install filler cap.
- Start engine and operate for five minutes.
- Shut off engine and check oil level. Add oil if necessary.

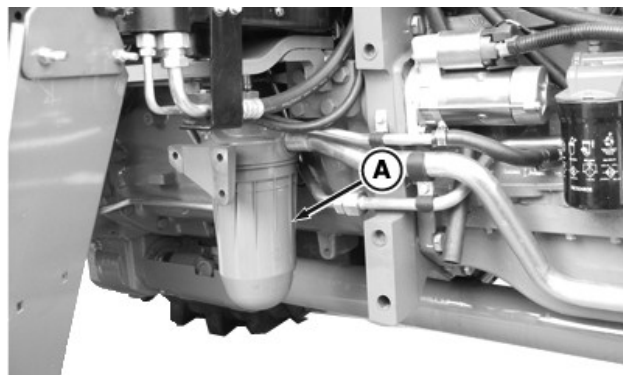
CO00263,0000A21-19-29JAN18

Replace Transmission/Hydraulic Oil Filter

Service Interval—500 Hours
Initial, First 100 Hours

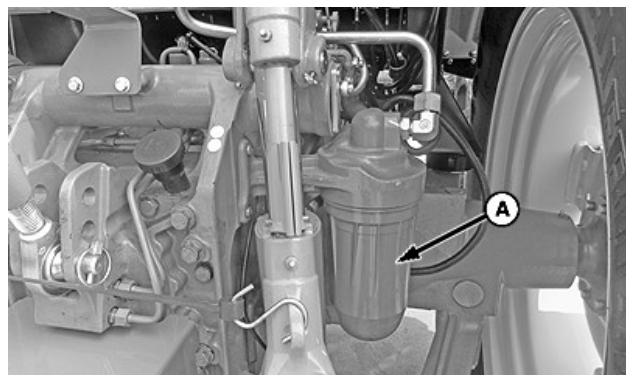
NOTE: Hydraulic oil filter is on the right-hand side or rear of tractor.

Replace hydraulic filter housing and filter as a complete assembly.



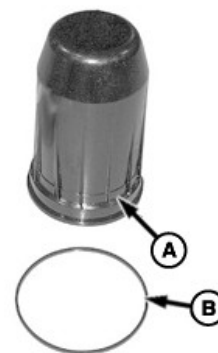
PY14843—UN—03JAN13

Right-Hand Side (dry clutch)



CPA0001700—UN—27JUL15

Rear of Tractor (wet clutch)



CPA0005199—UN—25JAN18

A—Filter Housing Assembly B—Filter O-Ring Seal

- Remove filter housing assembly (A) and filter O-ring seal (B).
- Discard filter housing assembly (A) and filter O-ring seal (B).
- Inspect new filter housing assembly and filter O-ring seal for any possible damage.
- Apply hydraulic oil to the new filter O-ring seal (B) and install on filter housing assembly.
- Install new filter housing assembly and tighten to specification.

Specification

Filter Housing

Assembly—Torque. 24 N·m (212 lb·in)

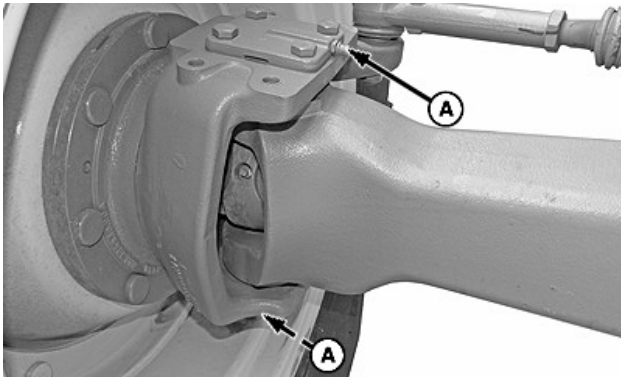
- Run engine for five minutes.
- Shut off engine and check oil level. Add hydraulic oil as required. (See Check Transmission-Hydraulic Oil Level in this section.)

N400041,0003A43-19-25JAN18

MFWD and Front Axle Maintenance

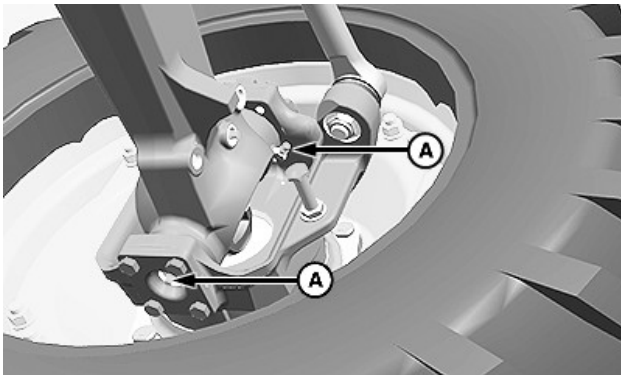
Lubricate MFWD Front Axle Steering Spindles

Service Interval—50 Hours
Extremely Wet or Muddy Conditions—10 Hours



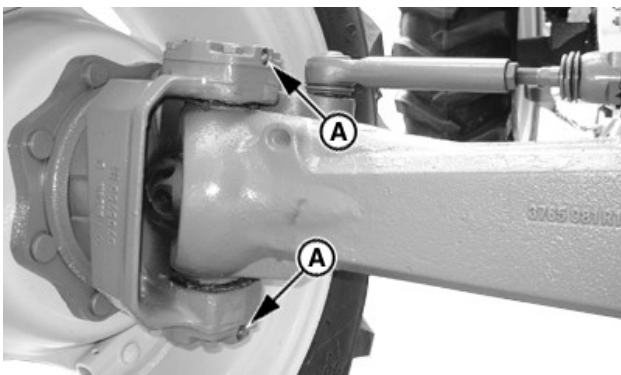
CPA0002087—UN—21OCT15

For 6120B, 6135B Tractors



CPA0004535—UN—21NOV17

For 6120B (Option)



PUC2545—UN—08OCT09

For 6095B, 6110B Tractors

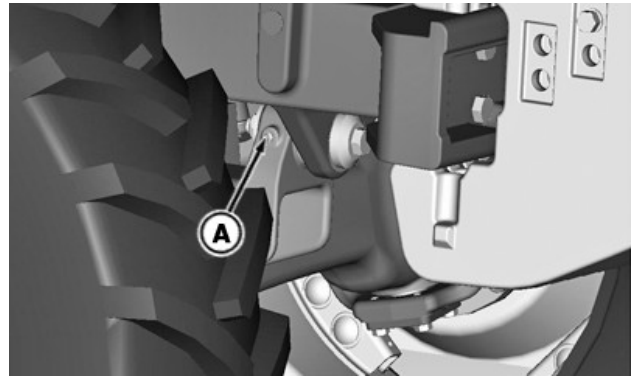
A—Lube Fittings (4 used)

Apply several pumps of grease to steering spindle lube fittings (A), on both left and right sides.

N400041,0003A3D-19-10DEC18

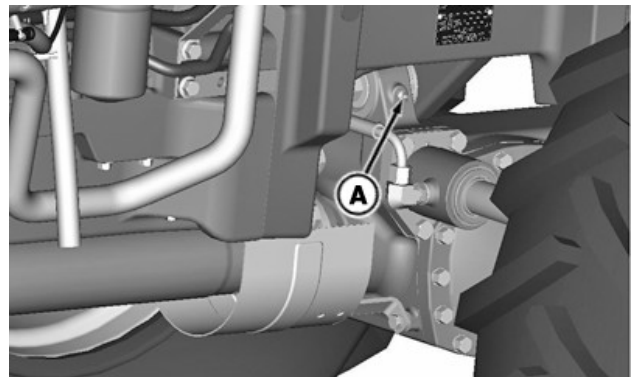
Lubricate MFWD Front Axle Pivot Pins

Service Interval—50 Hours
Extremely Wet or Muddy Conditions—10 Hours



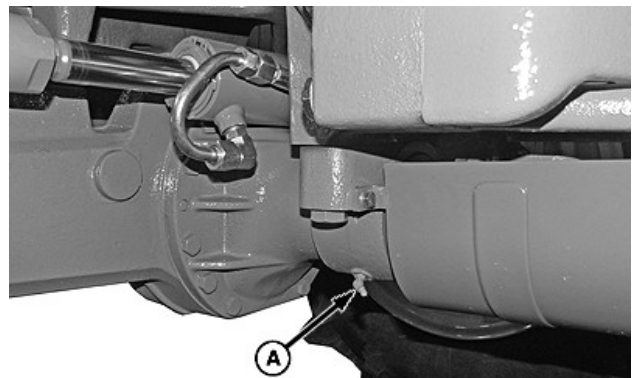
CPA0002381—UN—02DEC15

For JD1204-A, JD1354-A, and JD1404-A Tractors



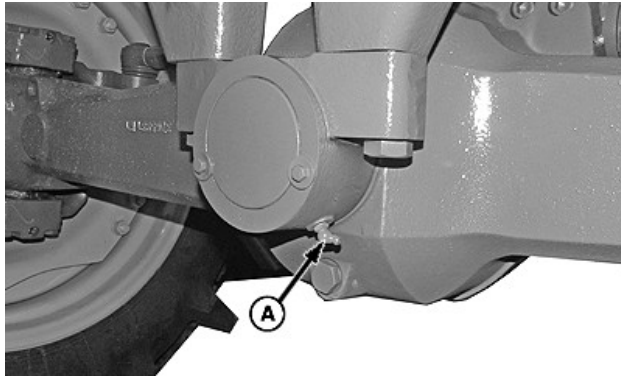
CPA0002382—UN—02DEC15

For JD1204-A, JD1354-A, and JD1404-A Tractors



CPA0002092—UN—22OCT15

For JD954, and JD1104 Tractors



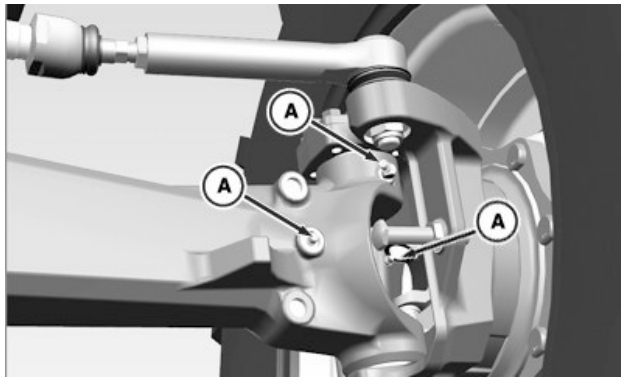
CPA0002093—UN—22OCT15
For JD954, and JD1104 Tractors

1. Apply several pumps of grease to lube fittings (A) on the front axle universal joint, both left and right sides.
2. Each lube fitting can only be accessed from the front by turning wheels until fitting is exposed.
3. When one fitting is exposed the opposite side fitting is not accessible, so after lubricating one side, wheels must be turned all the way opposite to access lube fitting on the other side. (See Fuels, Lubricants, and Coolant section.)

N400041,0003A3F-19-29JAN18

Lubricate MFWD Drive Shaft

Service Interval—50 Hours

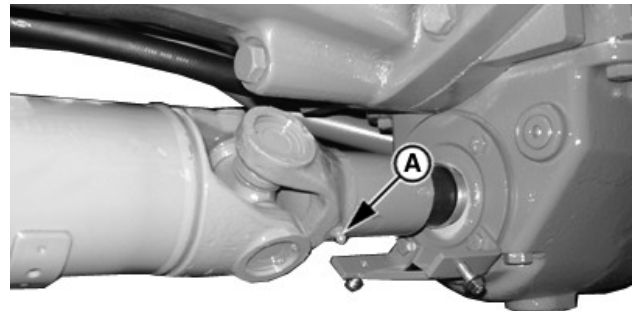


CPA0004532—UN—25JAN18
For Paddy Axle Model

A—Lube Fittings (as necessary)

MFWD front axle has two separate pivot pins. Use appropriate grease on lube fittings (A). (See Fuels, Lubricants, and Coolant section.)

N400041,0003A3E-19-24JAN18



PUC2549—UN—08OCT09
Shield Removed

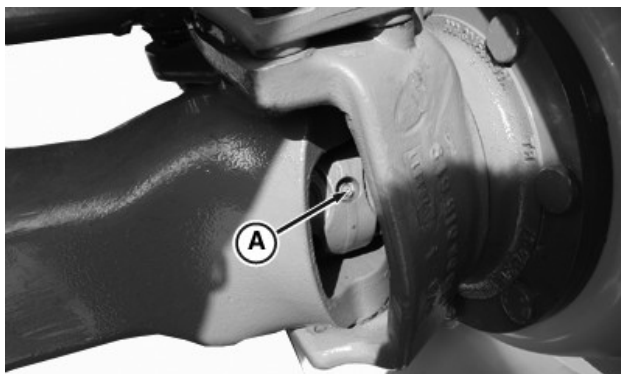
A—Lube Fitting

Apply several pumps of grease to lube fitting (A) on MFWD shaft U-joint.

N400041,0003A40-19-24JAN18

Lubricate MFWD Front Axle

Service Interval—50 Hours
Extremely Wet or Muddy Conditions—10 Hours



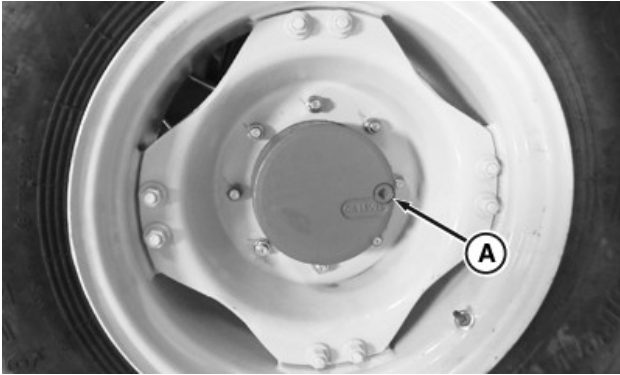
PY17080—UN—05OCT12
For JD1204-A, JD1354-A, and JD1404-A Tractors

A—Lube Fitting (2 used)

Check MFWD Wheel Hub Oil Level

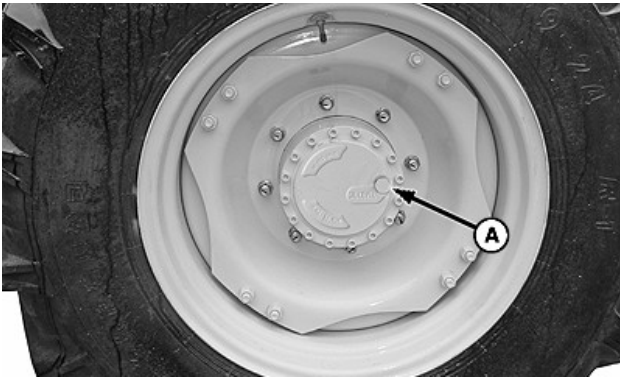
Service Interval—250 Hours

1. Move tractor to the level surface.
2. Drive tractor forward until the words “OIL LEVEL” are horizontal.



PY17109—UN—09OCT12

For JD1204-A, JD1354-A, and JD1404-A Tractors



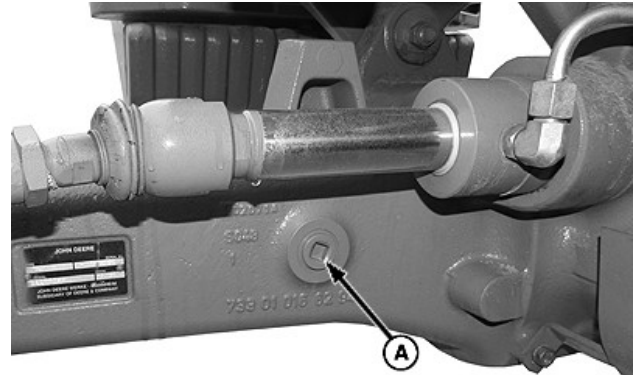
CPA0002094—UN—22OCT15

For JD954, and JD1104 Tractors

A—Wheel Hub Oil Plug

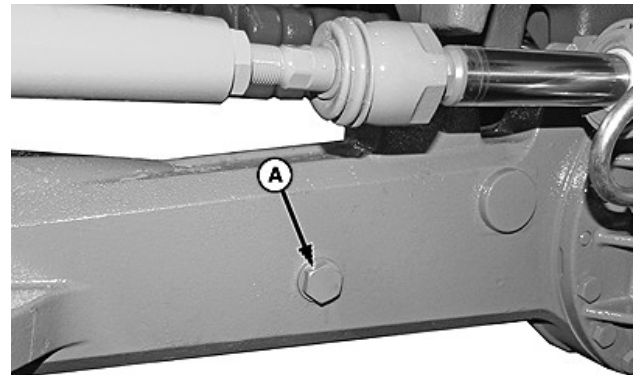
3. Remove wheel hub oil plug (A). Make sure that oil level is just below the plug hole.
4. If oil level is low, add oil through the same hole. (See MFWD Axle and Wheel Hub Oil in Fuels, Lubricants, and Coolant section.)

CO00263,0000A2F-19-29JAN18



CPA0002088—UN—21OCT15

For JD1204-A, JD1354-A, and JD1404-A Tractors



CPA0002089—UN—22OCT15

For JD954, and JD1104 Tractors

A—Oil Check Plug

2. Remove oil check plug (A) to check oil level in the axle housing. Make sure that oil level is just below the plug hole.
3. If oil level is low, add oil. (See Fuels, Lubricants, and Coolant section.)
4. If oil level is low, add oil through the same hole. (See Fuels, Lubricants, and Coolant section.)

CO00263,0000A23-19-29JAN18

Check MFWD Axle Housing Oil Level

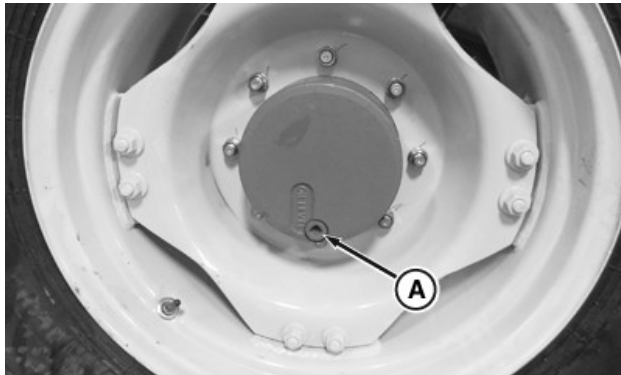
Service Interval—250 Hours

1. Park tractor on the level surface.

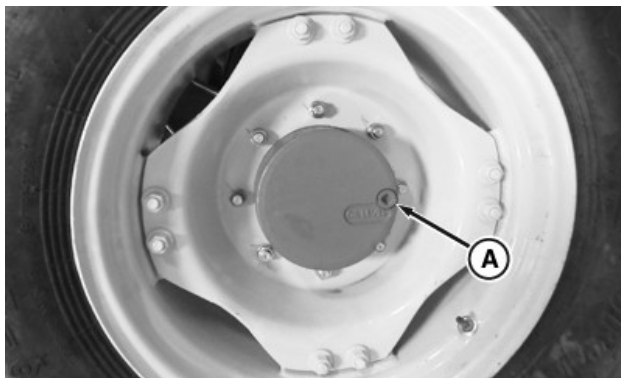
Change MFWD Wheel Hub Oil

Service Interval—1000 Hours
Initial, First 100 Hours

1. Move tractor to the level surface.



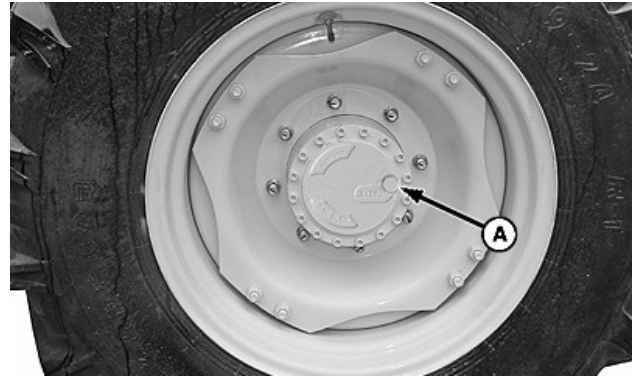
PY17108—UN—09OCT12
Position to Drain (for JD1204-A, JD1354-A, and JD1404-A tractors)



PY17109—UN—09OCT12
Position to Fill (for JD1204-A, JD1354-A, and JD1404-A tractors)



CPA0002095—UN—22OCT15
Position to Drain (for JD954, and JD1104 tractors)



CPA0002094—UN—22OCT15
Position to Fill (for JD954, and JD1104 tractors)

A—Drain/Fill Plug

2. Drive tractor forward until the drain/fill plug (A) is at the lowest point (position to drain). Remove plug and allow hub oil to drain completely.
3. Drive tractor back until the drain/fill plug (A) is positioned horizontally and words OIL LEVEL parallel to ground (position to fill).
4. Add MFWD wheel hub oil through the fill hole until oil level is just below the edge of hole. Install plug and tighten to specification. (See Fuels, Lubricants, and Coolant section.)
5. Repeat procedure on the opposite wheel hub.

MFWD Wheel Hub — Specification

Oil—Capacity. 1.1 L (37 oz) for JD954 and JD1104 Tractors
0.8 L (27 oz) for JD1204-A, JD1354-A and JD1404-A tractor

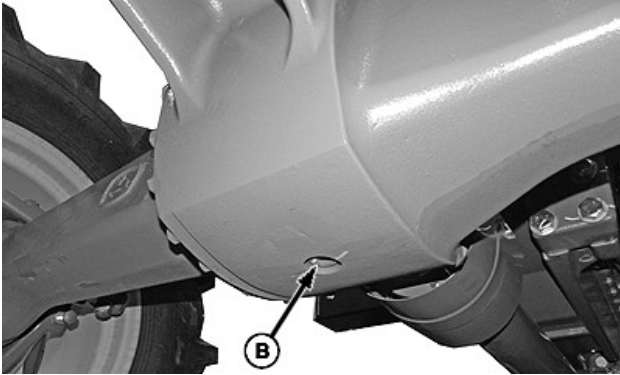
Drain/Fill Plug—Torque. 150 N·m (110 lb·ft)

CO00263,0000B73-19-27APR18

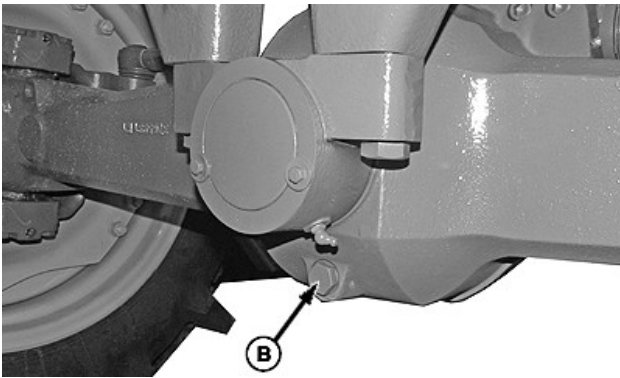
Change MFWD Front Axle Housing Oil

Service Interval—1000 Hours
Initial, First 100 Hours

1. Park tractor on the level surface, lock brake pedals together. Depress brake pedals and set park brake.



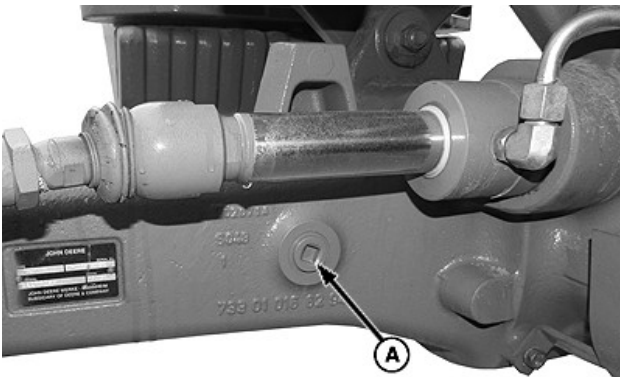
CPA0002091—UN—22OCT15
 For JD1204-A, JD1354-A, and JD1404-A Tractors



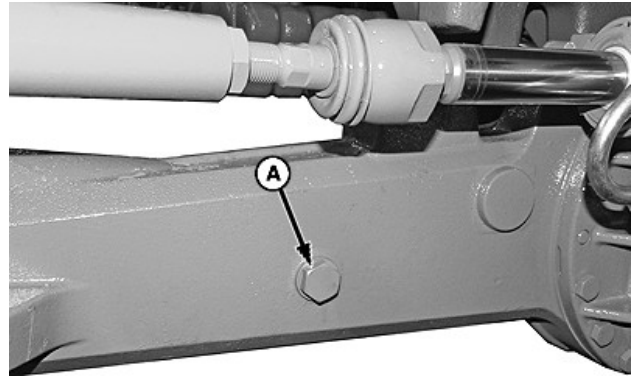
CPA0002090—UN—22OCT15
 For JD954, and JD1104 Tractors

A—Inspection/Fill Plug
B—Drain Plug

2. Remove housing drain plug (B). Allow oil to drain. Install drain plug and tighten to specification.



CPA0002088—UN—21OCT15
 For JD1204-A, JD1354-A, and JD1404-A Tractors



CPA0002089—UN—22OCT15
 For JD954, and JD1104 Tractors

A—Inspection/Fill Plug
B—Drain Plug

3. Remove inspection/fill plug (A).
4. Add MFWD axle oil through the fill hole until oil level becomes even with the lower edge of hole. (See Fuels, Lubricants, and Coolant section.)
5. Install the fill plug and tighten to specification.

MFWD Axle — Specification

Oil—Capacity 5.5 L (1.45 gal) for JD954 and JD1104 Tractors
 5 L (1.32 gal) for JD1204-A, JD1354-A, and JD1404-A Tractor

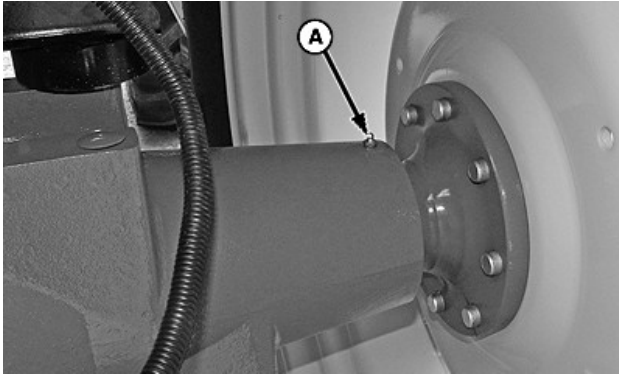
Fill and Drain Plugs—Torque. 150 N·m (110 lb·ft)

CO00263,0000B74-19-27APR18

Differential and Rear Axle Maintenance

Lubricate Rear Axle Bearings

Service Interval—500 Hours Extremely Wet or Muddy Conditions—50 Hours
--



CPA0002096—UN—22OCT15

A—Rear Axle Lube Fitting (2 used)

Lubricate rear axle lube fittings (A), both sides, with several shots of grease. (See Fuels, Lubricants, and Coolant section.)

N400041,0003A3C-19-24JAN18

Power Take Off (PTO) Maintenance

Lubricate PTO Stub Shaft

1. Place tractor in PARK position and SHUT OFF engine. Remove key.

IMPORTANT: If the 21-splined end (1000 rpm) needs to face out, the snap ring can be assembled after the PTO shaft is inserted PTO housing.

If the 21-splined end (1000 rpm) needs to face out, the snap ring can be assembled after the PTO shaft is inserted PTO housing.

3. Clean PTO shaft thoroughly and coat with grease. Make sure the end bore (C) is clean.

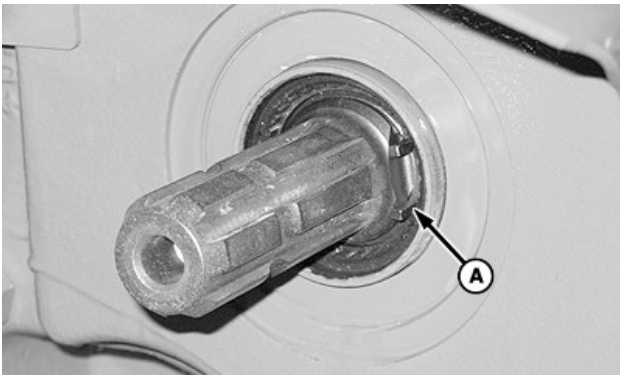
4. Insert PTO shaft back into the PTO housing:

- If the 6-splined end (540 rpm) needs to face out, put the snap ring in the groove of the shaft. Align the ends to the access flat before the shaft is in the PTO housing. Move the shaft with the snap ring in the PTO housing until the snap ring snaps into the groove.
- If the 21-splined end (1000 rpm) needs to face out, the snap ring can be assembled after the PTO shaft is inserted PTO housing.

N400041,0003A3B-19-29JAN18



TS1644—UN—22AUG95



P15236—UN—06FEB08



LV12604—UN—26APR05

A—Snap Ring
B—Stub Shaft
C—Bore

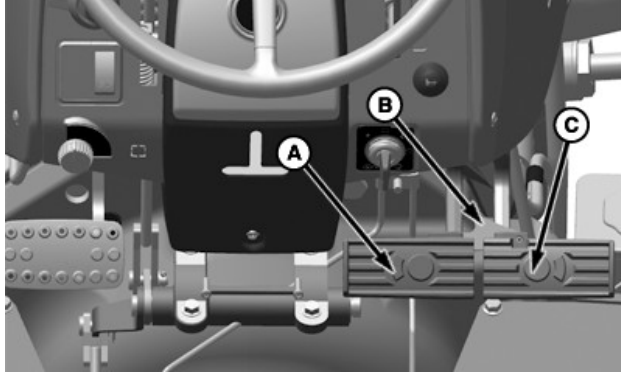
2. Remove the snap ring (A) with the PTO shaft (B). If the 6-splined end is facing out, align the snap ring ends with the access flat first.

Steering and Brake Maintenance

Check Brake Pedal

IMPORTANT: Any noticeable pedals drift downward from initial point of resistance (solid pedal) indicates brake leakage. See your John Deere dealer.

1. Machine must be in the park with the engine shutoff to check brakes for correct function.

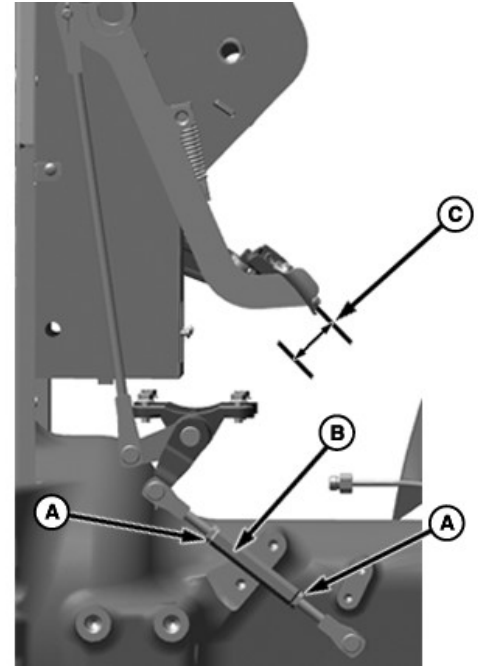


N4A0004855—UN—26MAR18

A—Left Brake Pedal
B—Latch Bar
C—Right Brake Pedal

2. Position latch bar (B) to allow brake pedals to operate separately.
3. Pump the left brake pedal (A) and right brake pedal (C) individually. Pedals have a solid feel. If pedals do not feel solid, see your John Deere dealer.
4. Check to make sure that pedals do not settle to end of stroke within 10 seconds after being applied. If leakage exceeds this rate, or if one pedal settles faster than the other, see your John Deere dealer.

N400041,0003A39-19-28MAR18



N4A0004856—UN—26MAR18

A—Lock Nuts (2 Used)
B—Turnbuckle
C—Clutch Pedal Free Play

Measure clutch pedal free play (C) before clutch engagement is felt. Adjust linkage to specification.

Specification

Clutch Pedal Free

Travel—Distance. 15 — 25 mm
(0.59 — 0.98 in)

To adjust linkage, loosen both lock nuts (A) and rotate turnbuckle (B) to increase or decrease free travel. When free travel is correct, tighten lock nuts (A).

N400041,0003A3A-19-20MAR18

Adjust Clutch Pedal Free Travel

Service Interval —250 Hours

Hydraulics Maintenance

Hydraulics Maintenance

Use Transmission Maintenance section for servicing hydraulic oil and filters.

CO00263,00008E1-19-15JAN18

Warm Transmission-Hydraulic System Oil

Service Interval—As Required

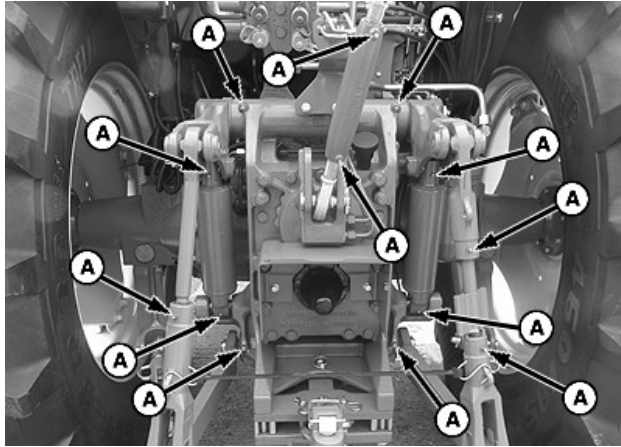
Warm hydraulic system oil. (See Warm Transmission-Hydraulic System Oil in Hydraulics Operation section.)

CO00263,00008E2-19-15JAN18

Hitch and Drawbar Maintenance

Lubricate 3-Point Hitch Components

Service Interval—50 Hours
Extremely Wet or Muddy Conditions—10 hours

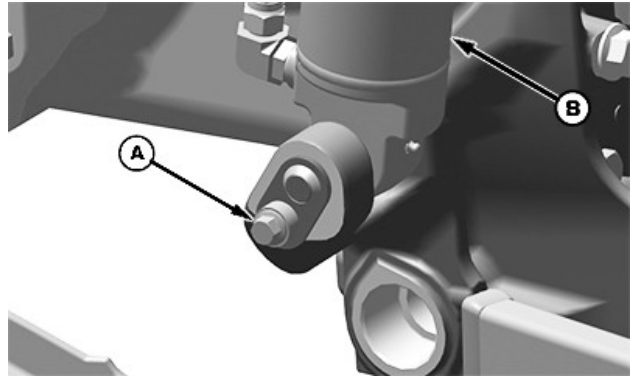


CPA0001690—UN—24JUL15

A—Lube Fittings (13 used)

Lubricate 3-point hitch links at lube fittings (A) with several pumps of grease. (See Fuels, Lubricants, and Coolants section.)

N400041,0003C4E-19-22MAY18



CPA0010519—UN—29NOV21

Tighten Hydraulic Cylinder (left-hand side shown, right-hand side is similar)

A—Screw (2 used)
B—Hydraulic Cylinder (2 used)

Check hydraulic cylinders (B) and tighten screws (A) to specification:

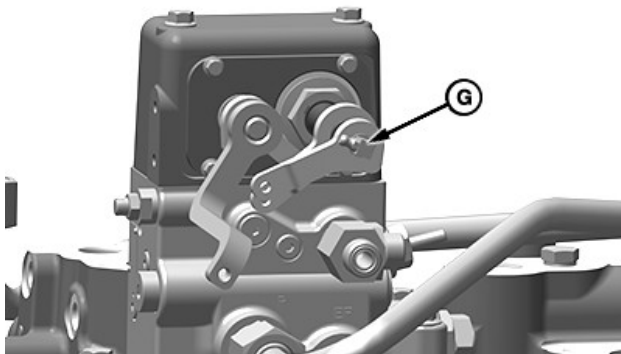
Specification

Screw to Hydraulic
Cylinder—Torque. 76 N·m (56 lb·ft)

CO00263,00021EE-19-30NOV21

Lubricate Hitch Valve

Service Interval—Every 200 Hours



CPA0010462—UN—04NOV21

G—Lube Fitting

NOTE: The lube fitting (G) is optional.

Apply lithium grease to the lube fitting (G).

CO00263,000221B-19-10DEC21

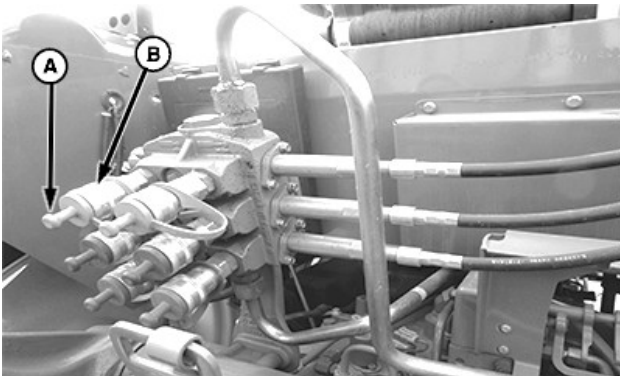
Check and Tighten Hydraulic Cylinders

Service Interval—Every 500 Hours

Selective Control Valve Maintenance

Check Selective Control Valve

Service Interval—As Required



CPA0007712—UN—10DEC18

A—Dust Cover (4 used)
B—Quick-Coupler (4 used)

- Check dust covers (A) for damage, replace as needed.
- Clean quick-couplers (B).
- Check coupler receptacles for oil leakage. Consult your dealer if this problem occurs.

N400041,0003A37-19-10DEC18

Wheels and Tires Maintenance

Loose Hardware Inspection

Service Interval—50 Hours

Inspect loose hardware as below specifications.

Specification

MFWD Axle Rim-to-Disk	
Bolts—Torque.	290 N·m (214 lb·ft)
MFWD Axle Disk-to-Flange	
Bolts—Torque.	310 N·m (229 lb·ft)
Multi-Position Rear Wheels	
Rim-to-Disk Bolts—Torque.	310 N·m (229 lb·ft)
Multi-Position Rear Wheels	
Disk-to-Flange Bolts—Torque.	530 N·m (391 lb·ft)

CO00263,00021F5-19-01DEC21

Inspect Tires

Service Interval—50 Hours

1. Check tires daily for damage or noticeably low pressure.
2. Have any cuts or breaks repaired as soon as possible.
3. Protect tires from exposure to sunlight, petroleum products, and chemicals.
4. Drive carefully. Try to avoid rocks and sharp objects.

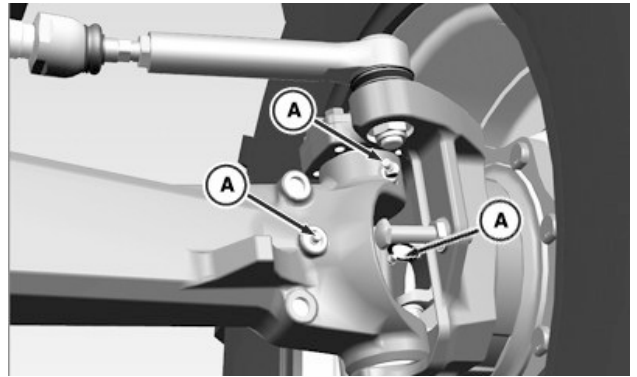
IMPORTANT: Minimum pressures may be used only for light loads and only if tractor has no added weight. If you install ballast or mounted implements, or if you pull heavy loads, increase pressure.

5. Check tires with an accurate gauge having 10 kPa (0.1 bar) (1 psi) graduations. If tires contain liquid ballast, use a special air-water gauge and measure with valve stem positioned toward bottom.

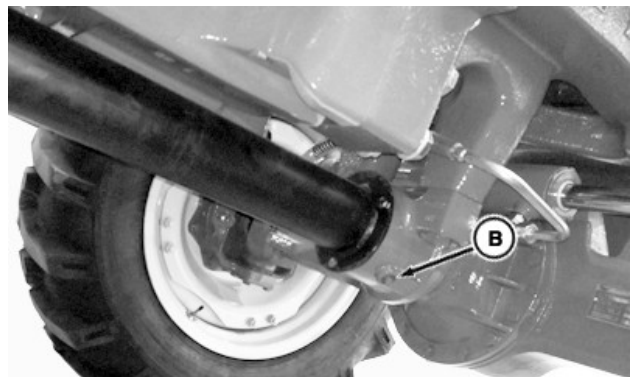
Refer to Tire Inflation Pressure Chart in Wheels, Tires, and Treads section.

N400041,0003A1F-19-16JAN18

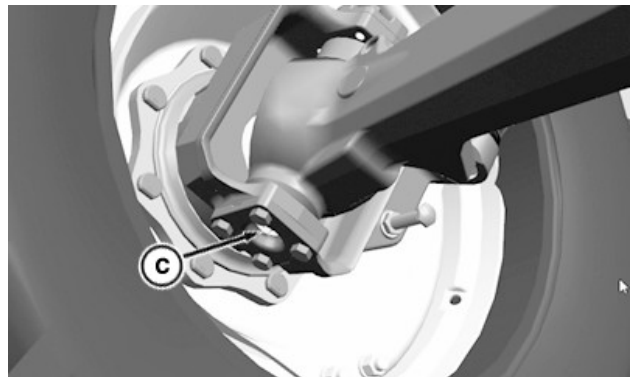
Check Tractor Before Paddy Field Work Quarterly



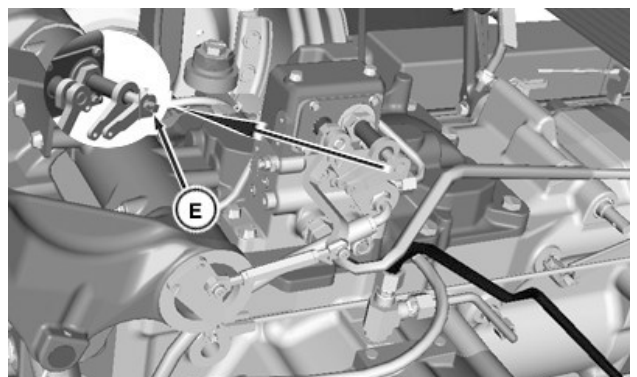
CPA0004532—UN—25JAN18



CPA0004539—UN—25JAN18



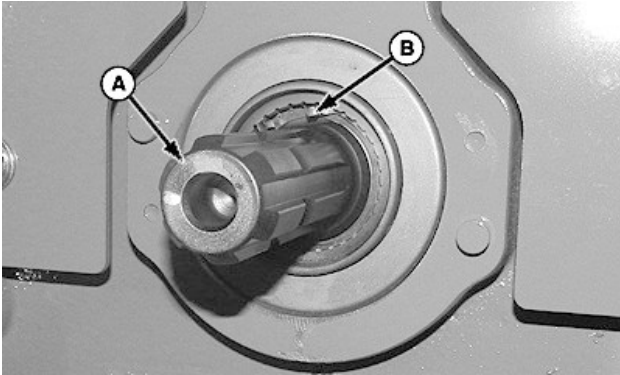
CPA0004541—UN—25JAN18



CPA0003047—UN—25JAN18

- A—Front Axle Lube Fittings (3 used)
B—Lube Fitting
C—Lube Fitting
E—Hydraulic Control Level Lube Fitting

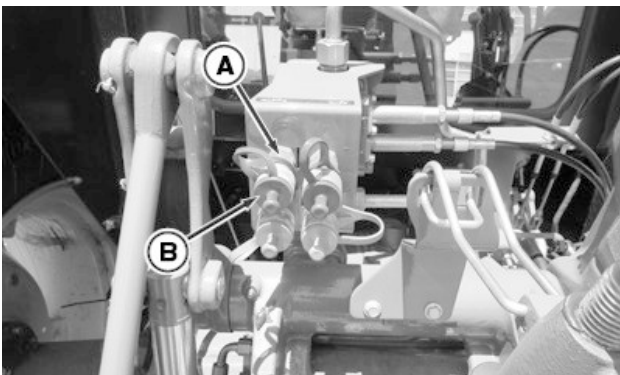
1. Check all oil seals and other washer sealings, replace as necessary.



CPA0002061—UN—25JAN18

A—PTO
B—Snap Ring

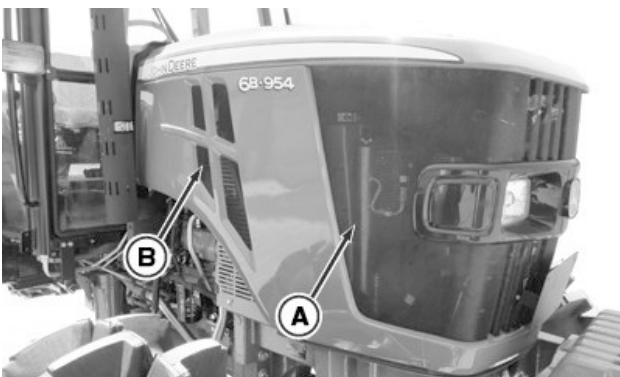
2. Remove snap ring (B) and PTO (A). Apply appropriate grease inside. Install PTO (A) and snap ring (B).



CPA0001679—UN—25JAN18

A—Quick Coupler Socket (4 used)
B—Dust Plug (4 used)

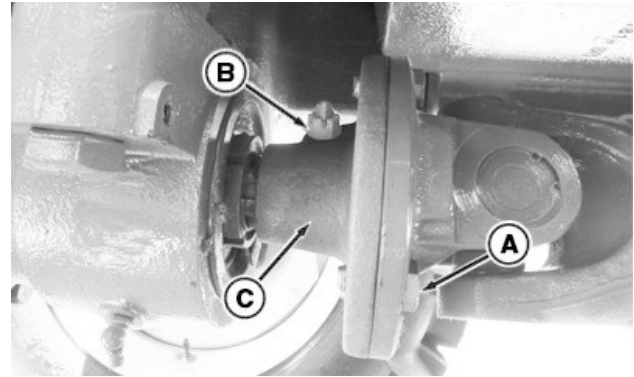
3. Check dust plugs (B) of SCV quick coupler sockets (A) whether they are secure. Tie up quick coupler sockets to avoid mud and water.



CPA0001680—UN—25JAN18

A—Front Grille
B—Side Screen (2 used)

4. No trash builds up on the front grille (A) and side screens (B), and keep pore clear.



CPA0001681—UN—25JAN18

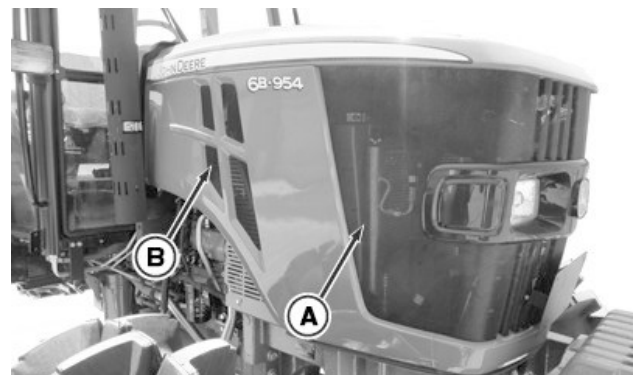
For JD954, and JD1104 Tractors

A—Screw (4 used)
B—Nut
C—Spline Cover

5. Remove front shield located front axle spline shaft, remove screws (A), nut (B), and spline cover (C). Apply appropriate grease to spline, and install them.
6. To keep possible corrosion during paddy field work, apply appropriate grease to some outside parts, mainly contain front axle cardan shaft, spline cover connecting screws, front axle pivot pin front screws, transfer case output shaft, front wheel locknut, and rear wheel locknut.

N400041.0003A20-19-24JAN18

Maintenance Tractor During Paddy Field Work Quarterly



CPA0001680—UN—25JAN18

A—Front Grille
B—Side Screen (2 used)

1. During paddy field work, avoid lifting engine hood, clean weeds, and mud on the front grille (A) and side screens (B) to keep pore clear. Incorrect use and untimely service effect cooling system's performance.
2. Clean sundries and mud on the front axle steering spindle, driveshaft, driveshaft export and export point, and PTO to avoid washer sealing damage.

3. Apply appropriate grease to lube fittings timely.
(Suggest performing 10 hr or after work.)
4. Remove rear ballast and lighten front ballast based on work load and application. Avoid muddy feet deeply when the tractor is equipped light load implements, such as rotary tiller, paddy harrow.

N400041,0003A21-19-24JAN18

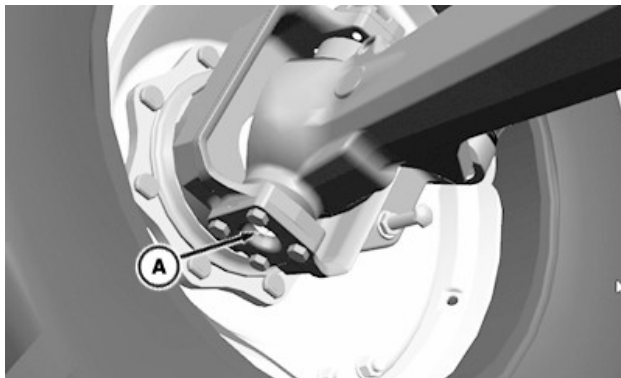
C—Lube Fitting (3 used)

2. Apply appropriate grease to lube fittings (A, B, and C).

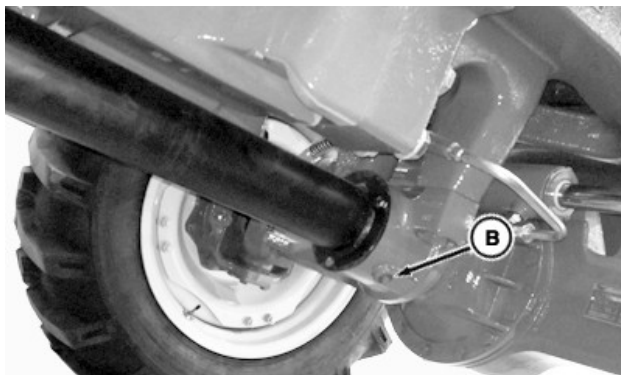
N400041,0003A22-19-29JAN18

Service Tractor After Paddy Field Work Quarterly

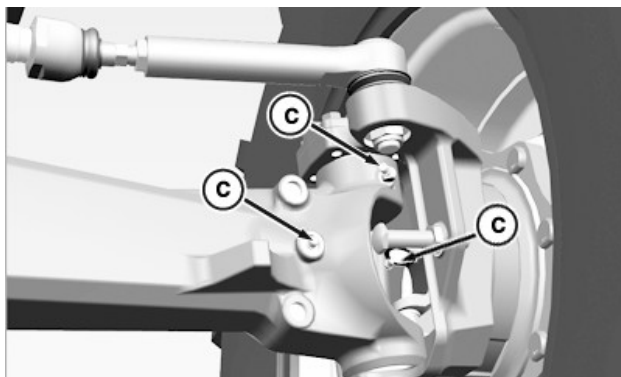
1. After paddy field work ending quarterly, thoroughly clean water tank, front axle, PTO, and so on, and do homologous service, and add homologous anti-rust grease.



CPA0004540—UN—25JAN18



CPA0004539—UN—25JAN18

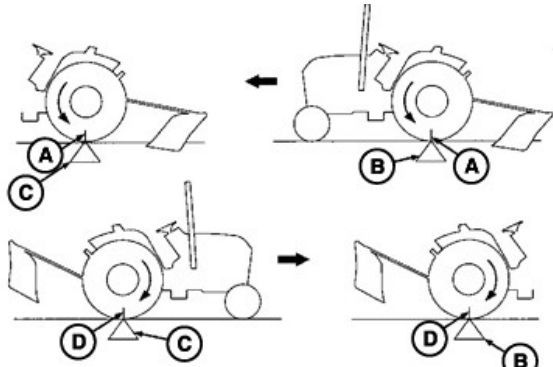


CPA0004533—UN—25JAN18

A—Lube Fitting
B—Lube Fitting

Ballasting Maintenance

Measure Rear Wheel Slip—Manually



N4A0004749—UN—11JAN18

- A—Initial Tire Mark
B—Ground Starting Point
C—10 Revolutions Ground Mark
D—Second Tire Mark

1. Place initial tire mark (A) on a rear tire which is easily observed (a chalk mark is recommended).
2. With tractor working and implement lowered, mark ground starting point (B) on the ground at the place where initial tire mark (A) meets the ground.
3. Mark the ground again where initial tire mark (A) completes 10 revolutions ground remark (C).
4. With implement raised, return in the opposite direction. At the second mark on 10 revolutions ground remark (C), mark second tire mark (D).
5. While driving the tractor along the same path (implement raised), count the tire revolutions required to reach ground starting point (B).
6. Use the non-loaded wheel revolutions count in "Wheel Slippage Chart", to determine slippage.

NOTE: Ideal wheel slippage is 8-12 % for MFWD tractors.

7. Adjust ballast or load to give correct slippage.

NOTE: Available horsepower is greatly reduced when wheel slip drops below minimum percentage.

WHEEL SLIPPAGE CHART		
7	30	Add Ballast

N400041.0003A34-19-25JAN18

Ballast Front End for Transport

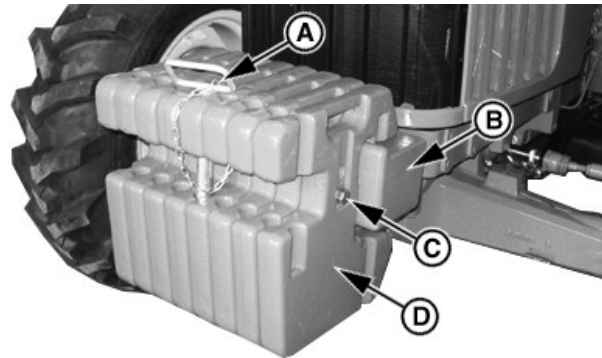
CAUTION: Additional front ballast is needed for transporting rear-mounted implements. When implement is raised, drive slowly over rough ground, regardless of how much ballast is used.

Weights are heavy. Use proper lifting equipment.

Specification

Additional Weight (JD954, JD1204-A [Option], and JD1404-A [Option] Tractor)—Weight. 40 kg (88.18 lb)
Additional Weight (JD1104, JD1204-A, JD1354-A, and JD1404-A Tractors)—Weight. 47 kg (103.61 lb)

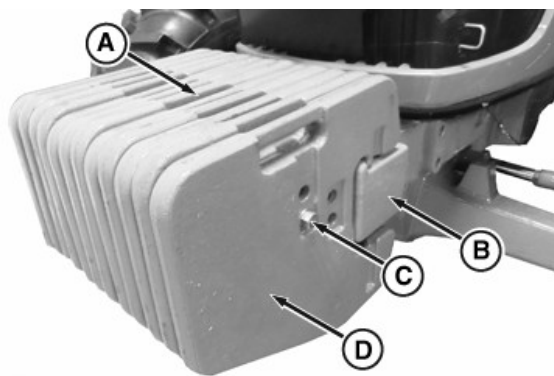
- One basic weight (front ballast bracket) and up to eight additional weights can be installed for JD954 tractor.
- One basic weight (front ballast bracket) and up to 12 additional weights can be installed for JD1104 tractor.
- One basic weight (front ballast bracket) and up to 16 additional weights can be installed for JD1204-A, JD1354-A, and JD1404-A tractors.



PUC2846—UN—28JAN10

40 kg (88.18 lb) Ballast

WHEEL SLIPPAGE CHART		
Non-Loaded Wheel Revolutions (Step 5)	Estimated % Slip	Recommended Action
10	0	Remove Ballast
9-1/2	5	Remove Ballast
9	10	CORRECT BALLAST
8-1/2	15	CORRECT BALLAST
8	20	Add Ballast
7-1/2	25	Add Ballast



PY17065—UN—05OCT12

47 kg (103.61 lb) Ballast

- A—Ballast Center
- B—Front Ballast Bracket
- C—Ballast Retaining Bolt (2 used)
- D—Additional Weight

1. Install weights in pairs, one on each side of the ballast center (A).
2. To hold weights in place, install ballast retaining bolts (C) through holes from side-to-side. Tighten with proper torque in specification.

Specification

Ballast Retaining Bolt—Torque. 230 N·m (170 lb·ft)

N400041,0003A35-19-29JAN18

Install Rear Cast Iron Weights

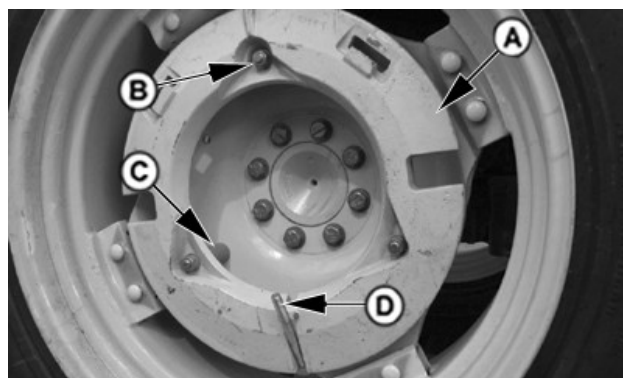
CAUTION: Rear weights weigh 55 kg (121 lb) each. Handle with care! Use appropriate equipment or have the job done by your John Deere dealer.

When installing or removing additional weights, always adjust wheels with one retainer jaw on the top. It prevents weights from falling when retaining bolt is removed.

IMPORTANT: For JD954 tractors, maximum number of weights that can be installed on rear is one on each side wheel.

For , JD1104, JD1204-A and JD1354-A, JD1404-A tractors, maximum number of weights that can be installed on rear is four on each side wheel.

NOTE: Spacers are required only when weights fit into rim dish. If weights do fit, spacers are optional.



PUC1556—UN—25NOV07

- A—First Weight
- B—First Weight Retaining Bolts, Washers, and Nuts (3 sets used)
- C—Spacers (3 used per weight)
- D—Additional Weight Retaining Bolt, Washer, and Nut

1. Attach first weight (A) to wheel disk, use three spacers (C) if necessary, with first weight retaining bolts, washers, and nuts (B). Install bolts through the first weight and the rim. Install washers and nuts tighten onto the rim. Installing hardware with this procedure makes it easy to check regularly for tightness.
2. To install additional weights, position wheel such that one of the retainer jaws is at the top. Hang next weight in retainer jaw, secure with additional weight retaining bolt, washer, and nut (D) as shown. Proceed in similar fashion with any additional weights, up to the maximum allowable limit.
3. Tighten all bolt retaining nuts to specification. Tighten again after a few hours of service. Check tightness regularly.

Specification

Retaining Bolts—Torque. 230 N·m (170 lb·ft)

N400041,0003A36-19-24JAN18

Additional Equipment Maintenance

Additional Equipment Maintenance

Service additional equipment refer to additional equipment Operator's manual.

N400041,0003A27-19-16JAN18

Operator Station Maintenance

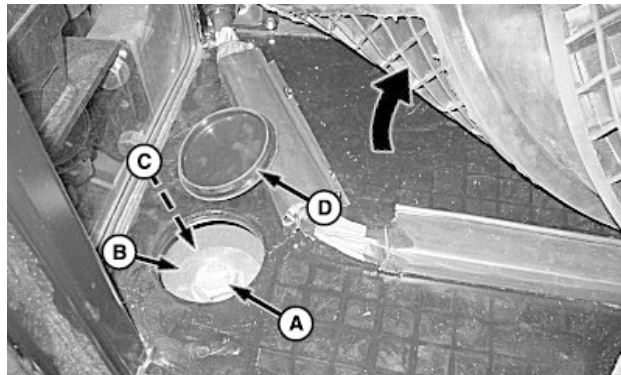
Keep Cab Protection System Installed Properly

Service Interval—250 Hours

CAUTION: Make certain all parts are installed correctly if cab protection system is loosened or removed for any reason. Tighten mounting cap screws to specification.

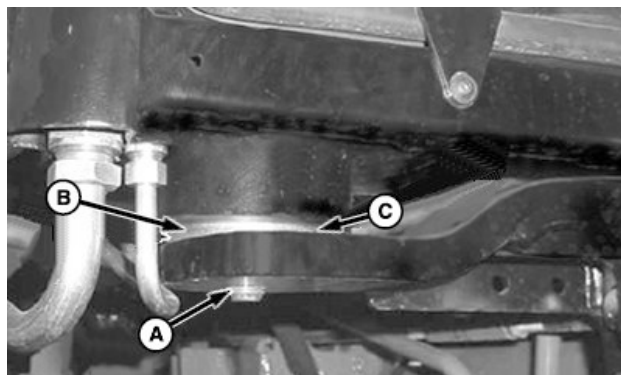
The protection offered by cab protection system will be impaired if cab protection system is subjected to structural damage, as in an overturn incident, or is in any way altered by welding, bending, drilling, or cutting. A damaged cab protection system should be replaced, not reused. Any alteration to the cab protection system must be approved by the manufacturer.

When installation of equipment on a machine necessitates loosening or removing cab protection system, mounting cap screws should be tightened to specification



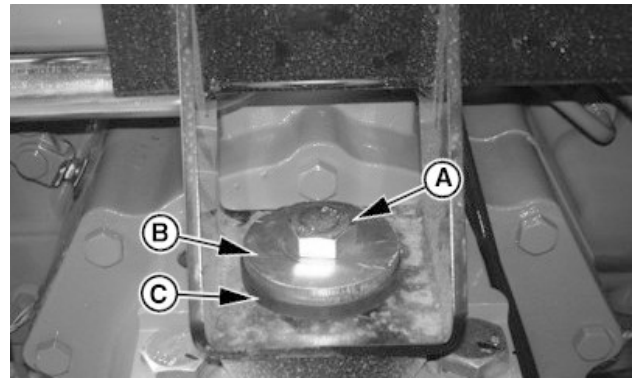
CPA0005201—UN—25JAN18

Front Cab Mount (Left-Hand Side)



CPA0005202—UN—25JAN18

Front Cab Mount (Right-Hand Side)



CPA0005200—UN—25JAN18

Rear Cab Mount (Left-Hand Side)

A—Cap Screw
B—Washer
C—Isolator
D—Plug

Lift up rubber floor mat and pry out plugs (D) to access FRONT mounting hardware.

Check front and rear mounting hardware (A—C) for proper torque.

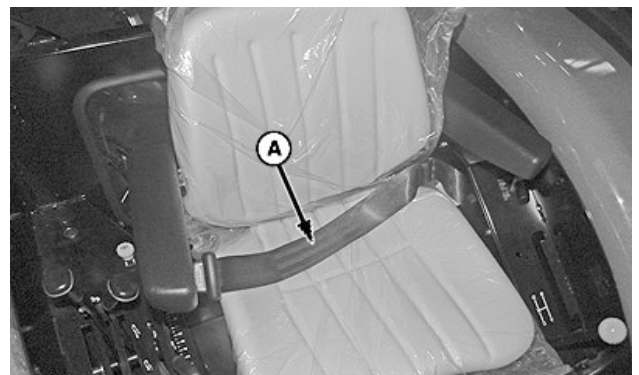
Specification

Cab Protection System
Mounting Cap Screws—Torque. 220 N·m
(162 lb·ft)

N400041.0003A30-19-29JAN18

Inspect Seat Belt

Service Interval—Annually



CPA0002048—UN—25JAN18

A—Seat Belt

1. Inspect seat belt (A) and mounting hardware in your machine at least once a year.
2. If the belt shows signs of cuts, fraying, extreme or unusual wear, discoloration, abrasion, damage to the buckle or retractor, the entire seat belt should be replaced immediately.
3. For your safety, replace belt system only with

replacement parts approved for your machine, obtained from your John Deere dealer.

CO00263,0000A31-19-29JAN18

Clean Cab Air Filters (Option 1)

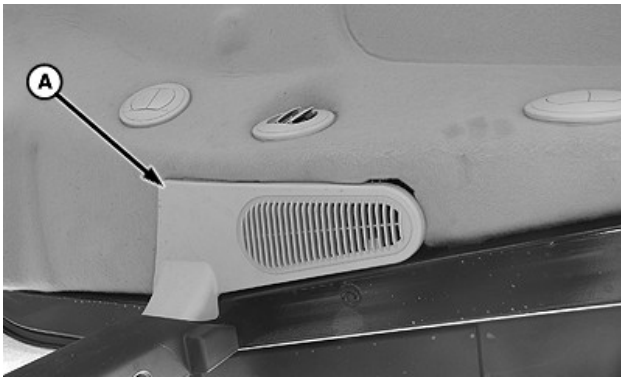
Service Interval—250 Hours*

** Interval can vary according to operating conditions*

CAUTION: Air filters are not designed to filter out harmful chemicals. Follow the instructions in the implement operator's manual and the instructions given by the chemical manufacturer when using agricultural chemicals.

Recirculation Filters (Inside Cab)

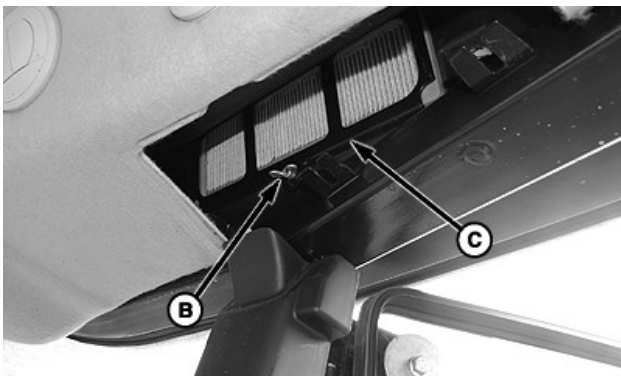
NOTE: There are filters on *BOTH* sides of cab. Left-hand side is shown.



CPA0000180—UN—20JUN13

A—Cover

1. Pry off cover (A). (Pull down along window.)



CPA0000181—UN—20JUN13



CPA0000182—UN—20JUN13

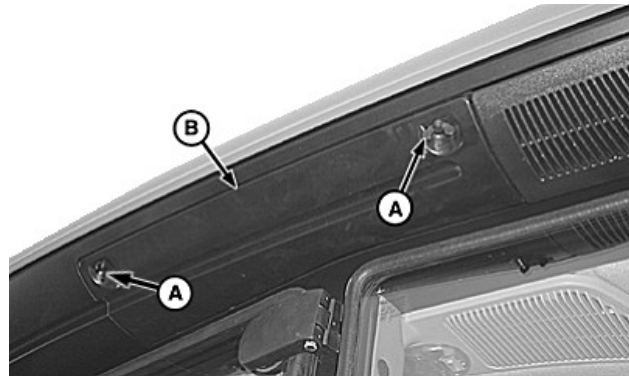
B—Wing Screw
C—Filter Retainer
D—Filter

2. Remove wing screw (B), filter retainer (C), and filter (D).
3. Inspect filter for holes or damage. Inspect rubber seal for cracks or wear. Replace as necessary.

NOTE: Do not clean filter with water or compressed air and replace as necessary.

4. Replace filter when it becomes dirty. Shorten the service interval of the filter when tractor works under the dirty condition.
5. Install filter with the rubber seal toward the filter retainer.
6. Install retainer, wing screw, and cover.
7. Repeat procedure on the opposite side.

Fresh Air Filters (Outside Cab)

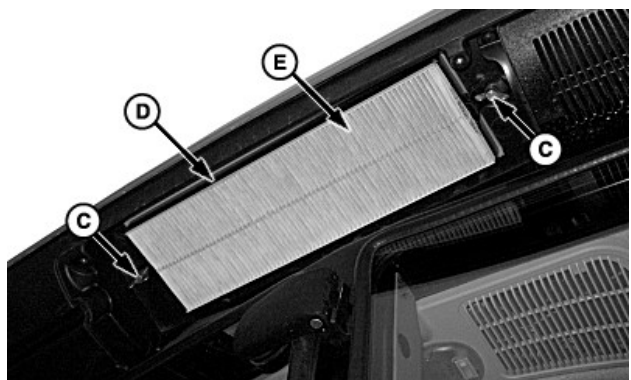


P14491—UN—30OCT07

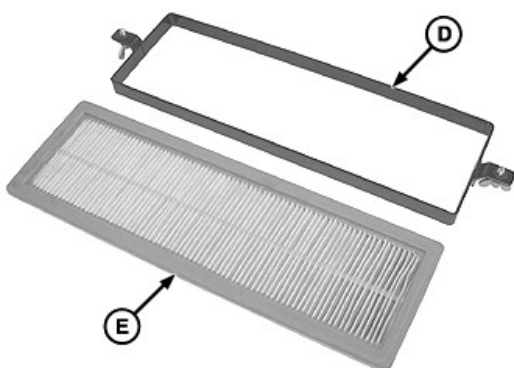
Under Roof, Above Cab Door

A—Wing Screws (2 used)
B—Filter Cover

1. Remove two wing screws (A) and filter cover (B).



P14489—UN—30OCT07



P14492—UN—30OCT07

C—Wing Screws (2 used)
D—Filter Retainer
E—Filter

2. Remove wing screws (C), filter retainer (D), and filter (E).
3. Inspect filter for holes or damage. Inspect rubber seal for cracks or wear. Replace as necessary.

NOTE: Do not clean filter with water or compressed air, replace as necessary.

4. Replace filter when it becomes dirty. Shorten the service interval of the filter when tractor works under the dirty condition.
5. Install filter with the rubber seal toward cab.
6. Install retainer and wing screws.
7. Install cover and wing screws.
8. Repeat procedure on the opposite side.

CO00263,0001900-19-05JUL18

Clean Cab Air Filters (Option 2)

Service Interval—250 Hours*

* Interval can vary according to operating conditions.

CAUTION: Air filters are not designed to filter out harmful chemicals. Follow the instructions in the implement operator's manual and the instructions given by the chemical manufacturer when using agricultural chemicals.

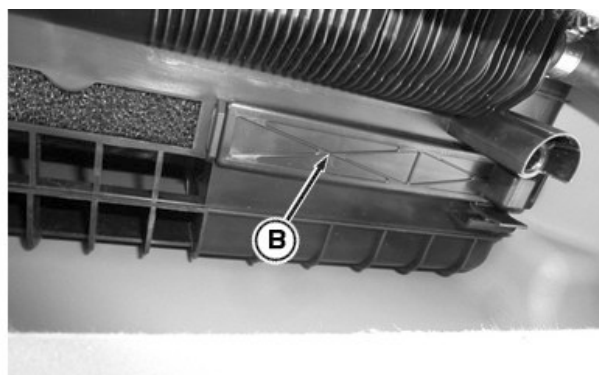
NOTE: There are three filters on the front top inside of the cab.



CPA0001465—UN—30MAR15

A—Knob Screws (2 used)

1. Remove two knob screws (A) and take off the grille.

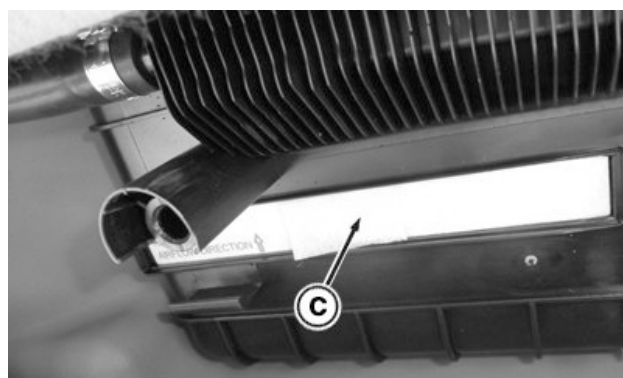


CPA0001466—UN—07MAR18

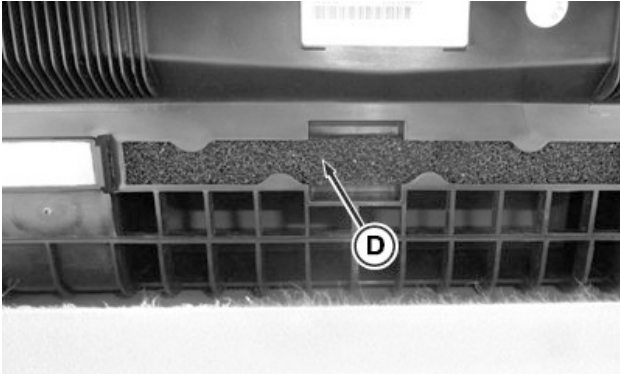
Air filter Cover (right-hand side is shown, left-hand side is similar)

B—Air Filter Cover (2 used)

2. Remove the air filter covers (B).



CPA0001467—UN—07MAR18

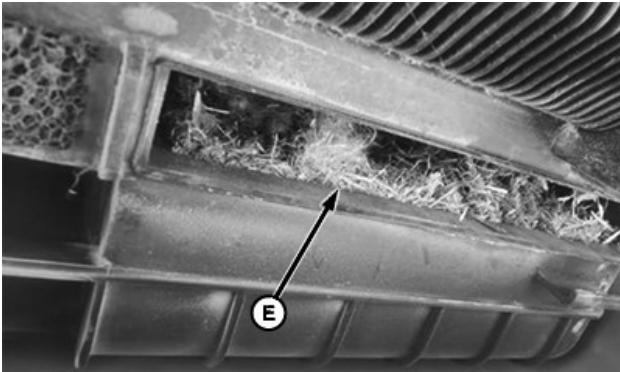


C—Filter (2 used)
D—Filter

CPA0001468—UN—07MAR18

3. Remove filters (C) and filter (D).

NOTE: Do not clean filter with water or compressed air, replace as necessary.



CPA0010194—UN—15JUL21

Clear Debris (right-hand side is shown, left-hand side is similar)

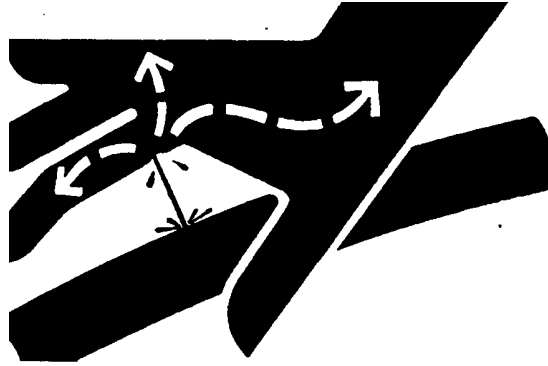
E—Debris

4. Clear the debris (E) from the surrounding area after removing filters (C).
5. Inspect the filter for holes or damage and replace as necessary.
6. Replace the filter when it becomes dirty. Shorten the service interval of the filter when the tractor works under the dirty condition.
7. Reinstall filters in reverse order.

C000263,0002129-19-15JUL21

Service Air-Conditioning System

Service Interval —As Required



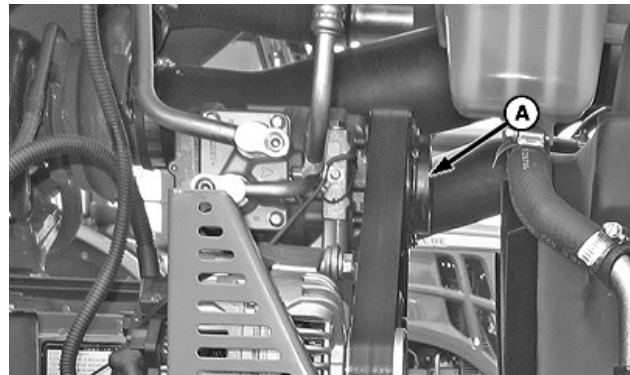
X9811—UN—23AUG88

CAUTION: Refrigerant is under pressure. Improper servicing causes refrigerant to penetrate eyes and skin or cause burns.

IMPORTANT: R-134a refrigerant must be used. This operation requires special equipment and procedures. See an authorized John Deere dealer.

NOTE: Some oil seepage from the compressor shaft seal is normal.

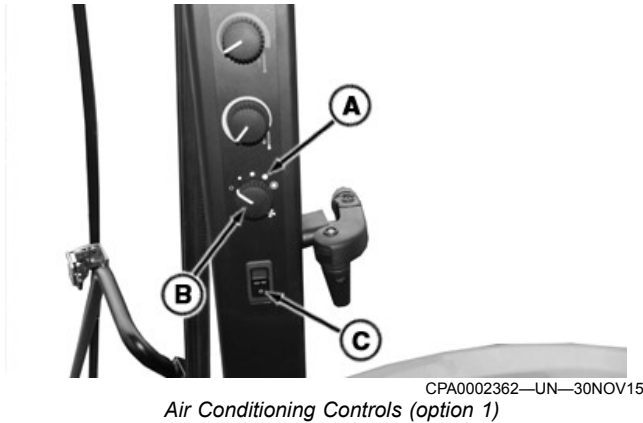
Check the following if air conditioner is not cool or the cooling is intermittent.



CPA0001730—UN—28JUL15

A—Clutch Cover

- If the clutch of the air compressor slips after the tractor is in storage, the air compressor is stuck. Stop engine and turn key switch to OFF position. Remove three cap screws and clutch cover (A). Rotate clutch hub back and forth to free compressor.
- Air Conditioning (option 1)

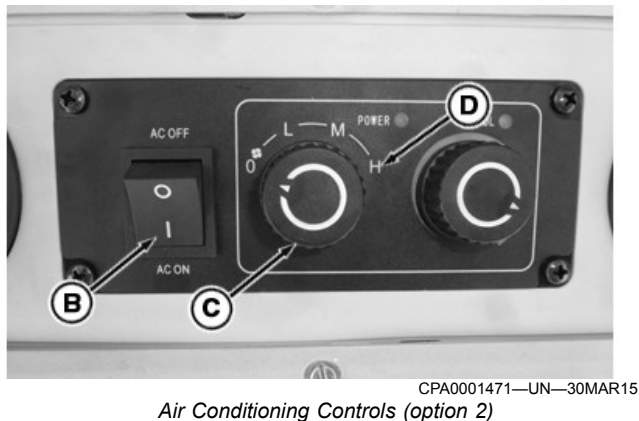


Air Conditioning Controls (option 1)

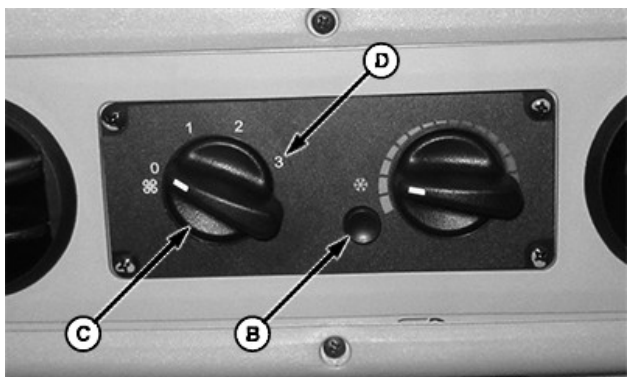
- A—High Position
B—Blower Control Knob
C—Air-conditioning and Defrost Switch

Run engine at 2000 rpm. Push top half of the air-conditioning and defrost switch (C) and set blower control knob (B) to high position (A). If air flow is not cool, see an authorized John Deere dealer.

• Air Conditioning (option 2)



Air Conditioning Controls (option 2)



Air Conditioning Controls (optional controls in option 2)

- B—Air-conditioning Switch
C—Blower Control Knob
D—High Position

Run engine at 2000 rpm. Push down the air-conditioning switch (B) and set blower control knob

(C) to high position (D). If air flow is not cool, see an authorized John Deere dealer.

- If the cooling is intermittent, clean front grille, side vents, radiator, and condenser. If this problem is not solved, see an authorized John Deere dealer.
- Inspect operator enclosure (cab) filters for restriction. (See Clean Cab Air Filters [Option 1] or Clean Cab Air Filters [Option 2] in this section). If this problem persists, see an authorized John Deere dealer.

CO00263,00021FA-19-01DEC21

Air-Conditioning System - Instruction for Starting up the Air-Conditioning Compressor

NOTE: Carry out following procedures whenever the air conditioning system is replaced or cleaned if the system is not used for more than 1 month.

NOTE: Do not switch on the compressor while the engine is running until the step 5 has been reached.

1. Open all the air vents/louvers
2. Start the engine and stabilize the low idle speed
3. Set the blower to maximum power
4. Set the air-conditioning to maximum 'Cold'.
5. Switch on the air conditioning system and continuously run the compressor at low idle speed for at least 3 minutes. When the time is up, the compressor spreads the oil throughout the refrigerant system.
6. After finishing step 5, operator can run the engine at the desired speed.

CO00263,000194A-19-30JUL18

Troubleshooting

Engine Troubleshooting

Symptom	Problem	Solution
Engine cannot start (starter cranks)	No fuel	Check fuel tank
	Air in the fuel tank	Bleed fuel tank
	Fuel pump hand primer left raised	Push primer down
	Battery voltage is too low	Check and charge battery
	Crankcase oil too heavy	Use oil of proper viscosity
	Improper type of fuel	Consult fuel supplier; use proper type fuel for operating conditions
	Water, dirt, or air in the fuel system	Drain, flush, fill, and bleed system
	Clogged fuel filter	Replace filter element
	Dirty or faulty injectors	See your John Deere dealer
	Air filter jammed	Check and repair air filter
	ECU failure	See your John Deere dealer
	Low ambient temperature	Use start aid
	Injector circuit failure	Check wiring harness connector on the engine. See your John Deere dealer if you cannot determine the root cause
Engine cannot start (starter does not crank)	Neutral start system failure	Check starting procedure Check start neutral start system See your John Deere dealer if you cannot determine the cause
	Starter jammed or failed	See your John Deere dealer
	Electrical system failure	Check cable connections on starter, alternator, and starter relay Check fuse conditions See your John Deere dealer if you cannot determine the cause
	Battery voltage is too low	Check and charge battery
	Insufficient oil	Add oil
Engine knocks		

Troubleshooting

Symptom	Problem	Solution
Engine runs irregularly or stalls frequently	Incorrect injection pump timing	See your John Deere dealer
	Low coolant temperature	See your John Deere dealer
	Engine overheating	See "Engine Overheats"
	Low coolant temperature	See your John Deere dealer
	Clogged fuel filter	Replace filter element
	Water, dirt, or air in the fuel system	Drain, flush, fill, and bleed system
	Dirty or faulty injectors	Have John Deere dealer check injectors
Below normal engine temperature	Improper type of fuel	Use proper fuel
	Defective temperature gauge or sender	Check gauge and sender
Lack of power	Engine overloaded	Reduce load or shift to lower gear
	Low high idle speed	See your John Deere dealer
	Intake air restriction	Service air cleaner
	Clogged fuel filter	Replace filter element
	Improper type of fuel	Use proper fuel
	Overheated engine	See "Engine Overheats"
	Below normal engine temperature	See your John Deere dealer
	Improper valve clearance	See your John Deere dealer
	Dirty or faulty injectors	Have John Deere dealer check injectors
	Incorrect injection pump timing	See your John Deere dealer
	Turbocharger not functioning	See your John Deere dealer
	Restricted fuel line	See your John Deere dealer
	Restricted return line	See your John Deere dealer
	Improper ballast	Adjust ballast to load
Low oil pressure	Low oil level	Add oil

Troubleshooting

Symptom	Problem	Solution
High oil consumption	Improper type of oil	Drain, fill crankcase with oil of proper viscosity and quality
	Crankcase oil too light	Use proper viscosity oil
	Oil leaks	Check for leaks in lines, around gaskets and drain plugs
Engine emits black or gray exhaust smoke	Restricted crankcase vent tube	Clean vent tube
	Improper type of fuel	Use proper fuel
	Clogged or dirty air cleaner	Service air cleaner
	Engine overloaded	Reduce load or shift to a low gear
	Injection nozzles dirty	See your John Deere dealer
	Defective turbocharger	See your John Deere dealer
Engine emits white smoke	Incorrect engine timing	See your John Deere dealer
	Improper type fuel	Use proper fuel
	Engine out of time	See your John Deere dealer
	Defective thermostat	Replace thermostat
	Defective injection nozzles	See your John Deere dealer
	Turbocharger not functioning	See your John Deere dealer
	Cold start advance or light load advance not functioning	See your John Deere dealer
	Cold engine	Bring engine to operating temperature
Engine overheats	Dirty radiator core or grille screens	Remove all trash
	Engine overloaded	Shift to lower gear or reduce load
	Low engine oil level	Check oil level. Add oil as required
	Low coolant level	Fill radiator to the proper level, check radiator, and hoses for loose connection or leaks
	Faulty radiator cap	Replace cap
	Loose or defective fan belt	Adjust belt tension
	Cooling system needs flushing	Flush cooling system

Symptom	Problem	Solution
High fuel consumption	Defective thermostat	See your John Deere dealer
	Defective temperature gauge or sender	See your John Deere dealer
	Improper type of fuel	Use the proper fuel type
	Incorrect grade of fuel	Use correct grade of fuel
	Clogged or dirty air cleaner	Service air cleaner
	Engine overloaded	Reduce load or shift to a lower gear
	Improper valve clearance	See your John Deere dealer
	Injection nozzles dirty	See your John Deere dealer
	Incorrect engine timing	See your John Deere dealer
	Implement improperly adjusted	See implement operator's manual
	Low engine temperature	See your John Deere dealer
	Excessive ballast	Adjust ballast to load
	Restricted air intake system	Check system
	Plugged crankcase vent tube	Clean vent tube
	Defective turbocharger	See your John Deere dealer

N400041,000389C-19-17NOV17

Transmission Troubleshooting

Symptom	Problem	Solution
Transmission oil overheats	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic oil filter	Replace filter
	Internal hydraulic leak	See your John Deere dealer
	Dirty or clogged oil cooler	Clean or flush oil cooler
Low transmission oil pressure	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic oil filter	Replace filter
	Failed pressure relief valve	Check valve, replace if necessary

Troubleshooting

Symptom	Problem	Solution
Transmission stuck in neutral or it is hard to shift ant gear	Speed shift linkage stuck or rusty	Clean or lubricate the speed shift lever linkages
	Interlock cable misadjusted	Adjust interlock cable per technical repair manual

CP00613,0000668-19-08JUN13

Hydraulic System Troubleshooting

Symptom	Problem	Solution
Entire hydraulic system fails to function	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic filter	Replace filter
	High-pressure internal leak	See your John Deere dealer
	Hydraulic pump not plumbed correctly	See your John Deere dealer
Hydraulic oil overheats	Low oil supply	Fill system with correct oil
	Clogged transmission/hydraulic oil filter	Replace filter
	Internal hydraulic leak	See your John Deere dealer
	Hitch feedback linkage improperly adjusted	Reset linkage. See your John Deere dealer
	Dirty or clogged oil cooler	Clean or flush oil cooler

CP00613,0000669-19-08JUN13

Brakes Troubleshooting

Symptom	Problem	Solution
No solid pedal feel	Pedals adjusted incorrectly	See your John Deere dealer
Pedal settles	Rear brake piston seal leaking	See your John Deere dealer
Excessive pedal travel	Pedals adjusted incorrectly	See your John Deere dealer
Brakes drag during transport	Brakes out of adjustment	See your John Deere dealer

CP00613,000066A-19-08JUN13

Rockshaft and 3-Point Hitch Troubleshooting

Symptom	Problem	Solution
Insufficient transport clearance	Center link too long	Adjust center link

Symptom	Problem	Solution
	Lift links too long	Adjust lift links
	Implement not level	Level implement
	Implement not properly adjusted	See implement operator's manual
	Front of center link in upper holes	Move center link to lower holes
	Sway chains adjusted too short	Lengthen sway chains
Hitch drops slowly	Rockshaft rate-of-drop control not properly set	Adjust rate-of-drop control knob
Hitch fails to lift or lifts slowly	Excessive load on hitch	Reduce load
	Low oil level	Fill system with proper oil
	Hydraulic oil too cold	Allow oil to warm
	Transmission/hydraulic oil filter clogged	Replace filter
Implement will not operate at desired depth	Lift links too short	Adjust lift links
	Lack of penetration	See implement operator's manual
	Improper setting of limit stop	Reset limit stop
	Improper setting of draft control knob	See Rockshaft and 3-Point Hitch section
Insufficient or no hitch response to draft load	Front attachment of center link in upper holes	Move center link attachment to lower bracket holes
	Draft control knob in "Min" position	Push knob down
	Lift links too short	Adjust lift links
	Lack of penetration	See implement operator's manual
	Rate-of-drop too slow	Adjust rate-of-drop control knob
Hitch too responsive	Front attachment on center link in lower bracket holes	Move center link attachment to upper bracket holes
	Improper draft sensing adjustment	Pull knob upward
Hitch drops too fast	Rate-of-drop set too fast	Adjust rate-of-drop control knob

Troubleshooting

Symptom	Problem	Solution
Rockshaft control levers “drift” Levers too loose.	Friction disks are loose	Adjust rockshaft control lever friction. See procedures in “Rockshaft and 3-Point Hitch” section or see your John Deere dealer

JL31334,0000CB6-19-24NOV15

Hydraulic Cylinders Troubleshooting

Symptom	Problem	Solution
Direction of cylinder travel is reversed	Improper hose connections	Reverse hose connections
Hoses will not couple	Improper hose male tips	Replace tip with ISO standard tips
Cylinder will not lift load	Excessive load	Reduce load
	Hoses not completely installed	Attach hoses correctly
	Incorrect remote cylinder size	Use correct size cylinder
Direction of travel reverses on II SCV	SCV lever moved to regenerate position	Reverse hose couplings

CP00613,000066C-19-08JUN13

Electrical System Troubleshooting

Symptom	Problem	Solution
Battery will not charge	Loose or corroded connections	Clean and tighten connections
	Sulfated or worn-out battery	Check electrolyte level and specific gravity
	Loose or defective alternator/fan belt	Adjust belt tension or replace belt
Charging system indicator glows with engine running	Low engine speed	Increase speed
	Defective battery	Check electrolyte level and specific gravity
	Defective alternator	See your John Deere dealer
	Slipping alternator/fan belt	Adjust belt tension
Starter inoperative	Shift lever in gear	Move shift lever to neutral
	PTO lever in engaged position	Move PTO lever to disengaged position
	Low battery output	See your John Deere dealer

Troubleshooting

Symptom	Problem	Solution
Starter cranks slowly	Blown fuse	Replace fuse
	Low battery output	Check electrolyte level and specific gravity
	Crankcase oil too heavy	Use proper viscosity oil
	Loose or corroded connections	Clean and tighten battery connection
Light system does not function; rest of electrical system functions	Blown fuse	Replace fuse
Entire electrical system does not function	Fusible link blown	See your John Deere dealer
	Faulty battery connections	Clean and tighten connections
	Sulfated or worn-out battery	Check electrolyte level and specific gravity
	Blown fuse	Replace fuse
Relays sticking or nonfunctional; repeated failures	Failed diodes	See your John Deere dealer

CP00613,000066D-19-08JUN13

Clutch Troubleshooting

Symptom	Problem	Solution
Clutch slipping	Oil on friction plate or pressure plate	Clean with fuel
	Friction plate wear	Replace friction plate
	Spring force reducing	Replace spring
	Clutch pedal free play is small or no free play	Adjust clutch pedal free play
Clutch separation is not completely, noise during shifting	Clutch pedal free play is too large.	Adjust clutch pedal free play
	End of the three clutch fingers are not at same plane	Adjust clutch fingers
	Clutch driven disc end play is large	Replace driven disc assembly

CP00612,000207E-19-04NOV14

Steering System Troubleshooting

Symptom	Problem	Solution
Oil Leakage	Cap screws at mounting surface are looseness	Tighten cap screws

Troubleshooting

Symptom	Problem	Solution
Hard steering	Seal rings wear	Replace seal rings
	Washers wear	Replace washers
	Non-return flap valve in steering valve is locked by mass	Clean steering valve
	Air in steering system	Bleed air
Steering failures	Steering cylinder leakage or steering system leakage	Check and repair leakage
	Leaf springs wear	Replace leaf springs
	Pin or universal driving shaft opening wear	Replace pin or universal driving shaft
	Rotor and universal driving shaft relative position is wrong	Reassemble
No handed steering	Gap between rotor and stator is large	Replace rotor and stator

CP00612,000207F-19-04NOV14

Front and Rear Axle Troubleshooting

Symptom	Problem	Solution
Middle drive of front axle is noisy	Driving bevel gear bearing end play is too large	Adjust end play
	Gear engagement is abnormal	Adjust gear engagement
	Differential shaft wear	Replace differential shaft
	Planetary gears or washers wear	Replace planetary gears or washers
	Differential bearing wear	Replace differential bearing
Front drive axle final drive is noisy	Final drive gear engagement is not good	Adjust gear engagement
	Bearing wear	Replace bearing
Front drive axle leakage	Seal ring wear	Replace seal wear
Rear axle final drive is noisy	Gear surface wear	Replace gear
	Bearing wear	Replace bearing

CP00612,0002080-19-04NOV14

Specifications

Machine Dimensions and Weights

NOTE: Specifications and design subject to change without notice.

Tractor Model	JD954	JD1104	JD1204-A	JD1354-A	JD1404-A (4 Cylinder)	JD1404-A (6 Cylinder)
VEHICLE DIMENSIONS						
Overall Length, mm (in)	4500 (177.17)	4780 (188.12)				4900 (192.91)
	—	4670 (183.86)				—
Overall Width, mm (in)	1945-2445 (76.57-96.26)	1980-2480 (77.95-97.64)	2180-2480 (85.83-97.64)			
Overall Height (to Top of Cab), mm (in)	2715 (106.89) (with 16.9-34 rear wheel)					
	2745 (108.07) (with 18.4-34 rear wheel)					
	2795 (110.04) (with 18.4-38 rear wheel)					
Wheelbase, mm (in)	2310 (90.94)	2560 (100.79)				2677 (105.40)
GROUND CLEARANCE						
MFWD Differential Bottom, mm (in)	380 (14.96) (with 12.4-24 front wheel)					
	420 (16.14) (with 13.6-24 front wheel)					
	450 (17.72) (with 14.9-24 front wheel)					
Drawbar Pin Bottom, mm (in)	330 (12.99) (with 16.9-34 rear wheel)					
	360 (14.17) (with 18.4-34 rear wheel)					
	410 (16.14) (with 18.4-38 rear wheel)					
WEIGHT AND BALLAST						
Minimum Operating Weight, kg (lb)	4414 (9731)	4592 (10124)	4640 (10229)	4820 (10626)		4860 (10714)
Maximum Front Ballasts, kg (lb)	320 (705.48)	564 (1243.41)	752 (1657.88)			
Maximum Rear Ballasts, kg (lb)	440 (970.03)					
TURNING RADIUS (Disengage Brakes)						
MFWD ON, Minimum, m (ft)	4.5 (14.76)	5.5 (18.04)				6 (19.69)
MFWD OFF, Minimum, m (ft)	4 (13.12)	5 (16.4)				5.5 (18.04)
DRAIN AND REFILL CAPACITIES						
Fuel Tank L (gal)	150 (39.62)	220 (58.12)				255 (67.36)
Transmission Case, L (gal)	60 (15.65)					
Crankcase, including Filter, L (gal)	15 (3.96)					17 (4.49)
MFWD Axle Housing, L (gal)	5.5 (1.45)		5 (1.32)			
MFWD Wheel Hub, L (gal)	1.1 (0.29), Each Side		0.8 (0.21), Each Side			
Cooling System, L (gal)	18 (4.76)					23 (6.08)
Air conditioning System , g	1800, R-134a					
TRACTION PROPERTIES						
Maximum Drawbar Force, kN	≥ 31	≥ 36	≥ 39	≥ 42		
Maximum Drawbar Power, kW	≥ 53	≥ 61	≥ 66.5	≥ 75	≥ 77.5	

CO00263,0001DFB-19-04SEP20

Machine Specifications

NOTE: Specifications and design subject to change without notice.

Tractor Model	JD954	JD1104	JD1204-A	JD1354-A	JD1404-A (4 Cylinder)	JD1404-A (6 Cylinder)
ENGINE AND ENGINE AUXILIARIES						
Engine Type	Inline, High-Pressure Common Rail					
Engine Model	4045HCP25	4045HCP05	4045HCP10	4045HCP20	4045HCP23	6068HCP01

Specifications

Tractor Model	JD954	JD1104	JD1204-A	JD1354-A	JD1404-A (4 Cylinder)	JD1404-A (6 Cylinder)
Air Inlet Type	Turbocharged Inter-cooled					
Cooling Type	Circulating Water Cooling					
Number of Cylinders	4					6
Bore x Stroke, mm x mm (in x in)	106.5 x 127 (4.19 x 5)					
Displacement, L	4.5					6.8
Engine Power at Rated Speed, kW (hp)	69.9 (95)	80.9 (110)	88.2 (120)	99.3 (135)	103.1 (140)	
Rated Engine Speed, rpm	2200					
Maximum Engine Torque, N·m (lb·ft)	405 (299)	504 (372)	532 (393)	556 (410)		602 (444)
Speed at Maximum Torque, rpm	1400	1600				
Slow Idle, rpm	825-875					
Fast Idle, rpm	2325-2375					
Air Cleaner Type	Dry Type with Safety Element					
ELECTRICAL SYSTEM						
Battery Voltage (V)	12					
Alternator Amperage	90					
Safety Start Type	Neutral Start					
STEERING AND BRAKING SYSTEM						
Steering System Type	Hydraulic Steering					
Steering Pump Type	Open Center and Non-reaction					
Braking System Type	Mechanical					
TRANSMISSION						
Gears Forward X Gears Reverse (Option 1)	—	—	24F/8R			
Gears Forward X Gears Reverse (Option 2)	12F/4R					
Gears Forward X Gears Reverse (Option 3)	—	—	24F/12R			
Gears Forward X Gears Reverse (Option 4)	12F/4R (A gear adjusted)					
Gears Forward X Gears Reverse (Option 5)	—	—	18F/6R			
Gears Forward X Gears Reverse (Option 6)	—	—	18F/6R (A gear adjusted)			
HYDRAULIC SYSTEM						
Type	Open Center , Separated					
Hydraulic Pump	Gear Pump					
System Pressure, MPa	19 - 20					
Control Modes (Option 1)	Position control, Draft sensing control, Rate of drop					
Control Modes (Option 2)	—		Position Control	—	Position Control	—
Lift Cylinder Dia. mm (in)	70 (2.76)	80 (3.15) / 70 (2.76) (Option)				
Hydraulic Output Device	Dual SCV or Triple SCV					
Hitch Type	Rear Hitch Valve					
	—	—	Downforce (Option)	—	Downforce (Option)	—
POWER TAKE-OFF (PTO)						
Type	Independent					
Outer Spline Specifications, mm (in)	6/21 Spline: ϕ35 (1.38)					
Speed, rpm	540/1000					
Transmission Ratio	(112:29)/(95:46)					
Outer Spline Specifications, mm (in) (Option 1)	8 Spline: ϕ38 (1.50)	—				

Specifications

Tractor Model	JD954	JD1104	JD1204-A	JD1354-A	JD1404-A (4 Cylinder)	JD1404-A (6 Cylinder)
Speed, rpm (Option 1)	840	—				
Transmission Ratio (Option 1)	102:39	—				
Outer Spline Specifications, mm (in) (Option 2)	—		8 Spline: ϕ38 (1.50)	—	8 Spline: ϕ38 (1.50)	—
Speed, rpm (Option 2)	—		760/830	—	760/830	—
Transmission Ratio (Option 2)	—		(55:19)/ (102:39)	—	(55:19)/(102:39)	—
PTO Output Power, kW	≥ 64	≥73	≥77	≥84.4	≥87.6	
THREE-POINT HITCH						
Hitch Type	Category II					
Lower Link Type	Fixed Ball Type					Hook Type
Lateral Sway Control	Sway Chain					—
	Stabilizer Bar					
Lift Capacity@610mm, kN	≥25 (with 70 mm cylinders)			—	≥25 (with 70 mm cylinders)	—
	—	—	≥30 (with 80 mm cylinders)			
Drawbar Type	Category II					

CO00263,0001C65-19-20DEC18

Ground Speeds

NOTE: Ground speeds for engine speed at 2200 rpm.

12F/4R		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
A	1	2.7	1.68	2.9	1.80	3.1	1.93
A	2	3.9	2.42	4.2	2.61	4.4	2.73
A	3	5.2	3.23	5.6	3.48	5.8	3.60
B	1	5.6	3.48	6.0	3.73	6.3	3.91
B	2	7.9	4.91	8.6	5.34	9.0	5.59
B	3	10.6	6.59	11.4	7.08	12.0	7.46
C	1	9.4	5.84	10.1	6.28	10.6	6.59
C	2	13.4	8.33	14.4	8.95	15.2	9.44
C	3	17.8	11.06	19.2	11.93	20.2	12.55
D	1	14.4	8.95	15.5	9.63	16.3	10.13
D	2	20.5	12.74	22.1	13.73	23.2	14.42
D	3	27.3	16.96	29.4	18.27	30.9	19.20
A	R	-5.3	-3.29	-5.7	-3.54	-6.0	-3.73
B	R	-10.9	-6.77	-11.7	-7.27	-12.3	-7.64
C	R	-18.4	-11.43	-19.8	-12.30	-20.8	-12.92
D	R	-28.1	-17.46	-30.3	-18.83	-31.9	-19.82

Specifications

18F/6R		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
A	1	2.7	1.68	2.9	1.80	3.1	1.93
A	2	3.9	2.42	4.2	2.61	4.4	2.73
A	3	5.2	3.23	5.6	3.48	5.8	3.60
B	1	5.6	3.48	6.0	3.73	6.3	3.91
B	2	7.9	4.91	8.6	5.34	9.0	5.59
B	3	10.6	6.59	11.4	7.08	12.0	7.46
C	1	9.4	5.84	10.1	6.28	10.6	6.59
C	2	13.4	8.33	14.4	8.95	15.2	9.44
C	3	17.8	11.06	19.2	11.93	20.2	12.55
D	1	14.4	8.95	15.5	9.63	16.3	10.13
D	2	20.5	12.74	22.1	13.73	23.2	14.42
D	3	27.3	16.96	29.4	18.27	30.9	19.20
CA ^a	1	0.21	0.13	0.23	0.14	0.24	0.15
CA ^a	2	0.30	0.19	0.32	0.20	0.34	0.21
CA ^a	3	0.40	0.25	0.43	0.27	0.45	0.28
CB ^a	1	0.43	0.27	0.46	0.29	0.49	0.30
CB ^a	2	0.61	0.38	0.66	0.41	0.69	0.43
CB ^a	3	0.81	0.50	0.87	0.54	0.92	0.57
A	R	-5.3	-3.29	-5.7	-3.54	-6.0	-3.73
B	R	-10.9	-6.77	-11.7	-7.27	-12.3	-7.64
C	R	-18.4	-11.43	-19.8	-12.30	-20.8	-12.92
D	R	-28.1	-17.46	-30.3	-18.83	-31.9	-19.82
CRA ^b		-0.41	-0.25	-0.44	-0.27	-0.46	-0.29
CRB ^b		-0.84	-0.52	-0.90	-0.56	-0.95	-0.59

^aForward with creeper

^bBackward with creeper

24F/8R		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
A	1 L	2.3	1.43	2.4	1.49	2.6	1.62
A	1H	2.7	1.68	2.9	1.80	3.0	1.86
A	2 L	3.3	2.05	3.5	2.17	3.6	2.24
A	2H	3.9	2.42	4.2	2.61	4.2	2.61
A	3 L	4.4	2.73	4.6	2.86	4.8	2.98
A	3H	5.2	3.23	5.5	3.42	5.7	3.54
B	1 L	4.7	2.92	5.0	3.11	5.2	3.23
B	1H	5.6	3.48	5.9	3.67	6.2	3.85
B	2 L	6.7	4.16	7.1	4.41	7.4	4.60
B	2H	8.0	4.97	8.4	5.22	8.8	4.47
B	3 L	8.9	5.53	9.5	5.90	9.9	6.15
B	3H	10.6	6.59	11.2	6.96	11.7	7.27
C	1 L	7.9	4.91	8.4	5.22	8.8	5.47
C	1H	9.4	5.84	10.0	6.21	10.4	6.46
C	2 L	11.3	7.02	12.0	7.46	12.5	7.77
C	2H	13.4	8.33	14.3	8.89	14.9	9.26
C	3 L	15.0	9.32	16.0	9.94	16.7	10.38
C	3H	17.8	11.06	18.9	11.74	19.7	12.24
D	1 L	12.2	7.58	12.9	8.02	13.5	8.39
D	1H	14.4	8.95	15.3	9.51	16.0	9.94

Specifications

24F/8R		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
D	2 L	17.4	10.81	18.4	11.43	19.2	11.93
D	2H	20.6	12.80	21.8	13.55	22.8	14.17
D	3 L	23.0	14.29	24.5	15.22	25.5	15.84
D	3H	27.3	16.96	29.0	18.02	30.2	18.77
A	RL	-4.5	-2.80	-4.8	-2.98	-5.0	-3.11
A	RH	-5.3	-3.29	-5.7	-3.54	-5.9	-3.67
B	RL	-9.2	-5.72	-9.8	-6.09	-10.2	-6.34
B	RH	-10.9	-6.77	-11.6	-7.21	-12.1	-7.52
C	RL	-15.5	-9.63	-16.5	-10.25	-17.2	-10.69
C	RH	-18.4	-11.43	-19.5	-12.12	-20.4	-12.68
D	RL	-23.8	-14.79	-25.3	-15.72	-26.3	-16.34
D	RH	-28.2	-17.52	-29.9	-18.58	-31.2	-19.39

24F/12R		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
A	1 L	2.3	1.43	2.4	1.49	2.6	1.62
A	1H	2.7	1.68	2.9	1.80	3.0	1.86
A	2 L	3.3	2.05	3.5	2.17	3.6	2.24
A	2H	3.9	2.42	4.1	2.55	4.3	2.67
A	3 L	4.4	2.73	4.6	2.86	4.8	2.98
A	3H	5.2	3.23	5.5	3.42	5.7	3.54
B	1 L	4.7	2.92	5.0	3.11	5.2	3.23
B	1H	5.6	3.48	5.9	3.67	6.2	3.85
B	2 L	6.7	4.16	7.1	4.41	7.4	4.60
B	2H	7.9	4.91	8.5	5.28	8.8	4.47
B	3 L	8.9	5.53	9.5	5.90	9.9	6.15
B	3H	10.6	6.59	11.2	6.96	11.7	7.27
C	1 L	7.9	4.91	8.4	5.22	8.8	5.47
C	1H	9.4	5.84	10.0	6.21	10.4	6.46
C	2 L	11.3	7.02	12.0	7.46	12.5	7.77
C	2H	13.4	8.33	14.3	8.89	14.9	9.26
C	3 L	15.0	9.32	16.0	9.94	16.7	10.38
C	3H	17.8	11.06	18.9	11.74	19.7	12.24
D	1 L	12.1	7.52	12.9	8.02	13.5	8.39
D	1H	14.4	8.95	15.3	9.51	16.0	9.94
D	2 L	17.3	10.75	18.4	11.43	19.2	11.93
D	2H	20.5	12.74	21.8	13.55	22.8	14.17
D	3 L	23.0	14.29	24.5	15.22	25.5	15.84
D	3H	27.3	16.96	29.0	18.02	30.2	18.77
A	R1	-2.5	-1.55	-2.6	-1.62	-2.8	-1.74
A	R2	-3.5	-2.17	-3.8	-2.36	-4.0	-2.49
A	R3	-4.7	-2.92	-5.0	-3.11	-5.3	-3.29
B	R1	-5.1	-3.17	-5.4	-3.36	-5.8	-3.60
B	R2	-7.3	-4.54	-7.7	-4.78	-8.2	-5.10
B	R3	-9.6	-5.97	-10.2	-6.34	-10.9	-6.77
C	R1	-8.6	-5.34	-9.1	-5.65	-9.7	-6.03

Specifications

24F/12R		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
C	R2	-12.2	-7.58	-13.0	-8.08	-13.8	-8.57
C	R3	-16.2	-10.07	-17.3	-10.75	-18.4	-11.43
D	R1	-13.1	-8.14	-14.0	-8.70	-14.9	-9.26
D	R2	-18.7	-11.62	-19.9	-12.37	-21.2	-13.17
D	R3	-24.9	-15.47	-26.5	-16.47	-28.2	-17.52

12F/4R (Rang A adjusted)		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
A	1	3.5	2.17	3.7	2.30	3.9	2.42
A	2	4.9	3.04	5.3	3.29	5.6	3.47
A	3	6.6	4.10	7.0	4.35	7.4	4.60
B	1	5.6	3.48	6.0	3.73	6.3	3.91
B	2	7.9	4.91	8.6	5.34	9.0	5.59
B	3	10.6	6.59	11.4	7.08	12.0	7.46
C	1	9.4	5.84	10.1	6.28	10.6	6.59
C	2	13.4	8.33	14.4	8.95	15.2	9.44
C	3	17.8	11.06	19.2	11.93	20.2	12.55
D	1	14.4	8.95	15.5	9.63	16.3	10.13
D	2	20.5	12.74	22.1	13.73	23.2	14.42
D	3	27.3	16.96	29.4	18.27	30.9	19.20
A	R	-6.8	-4.23	-7.2	-4.47	-7.7	-4.78
B	R	-10.9	-6.77	-11.7	-7.27	-12.3	-7.64
C	R	-18.4	-11.43	-19.8	-12.30	-20.8	-12.92
D	R	-28.1	-17.46	-30.3	-18.83	-31.9	-19.82

18F/6R (Rang A adjusted)		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
A	1	3.5	2.17	3.7	2.30	3.9	2.42
A	2	4.9	3.04	5.3	3.29	5.6	3.47
A	3	6.6	4.10	7.0	4.35	7.4	4.60
B	1	5.6	3.48	6.0	3.73	6.3	3.91
B	2	7.9	4.91	8.6	5.34	9.0	5.59
B	3	10.6	6.59	11.4	7.08	12.0	7.46
C	1	9.4	5.84	10.1	6.28	10.6	6.59
C	2	13.4	8.33	14.4	8.95	15.2	9.44
C	3	17.8	11.06	19.2	11.93	20.2	12.55
D	1	14.4	8.95	15.5	9.63	16.3	10.13
D	2	20.5	12.74	22.1	13.73	23.2	14.42
D	3	27.3	16.96	29.4	18.27	30.9	19.20
CA ^a	1	0.27	0.17	0.29	0.18	0.30	0.19
CA ^a	2	0.38	0.24	0.41	0.25	0.43	0.27
CA ^a	3	0.50	0.31	0.54	0.34	0.57	0.35
CB ^a	1	0.43	0.27	0.46	0.29	0.49	0.3

Specifications

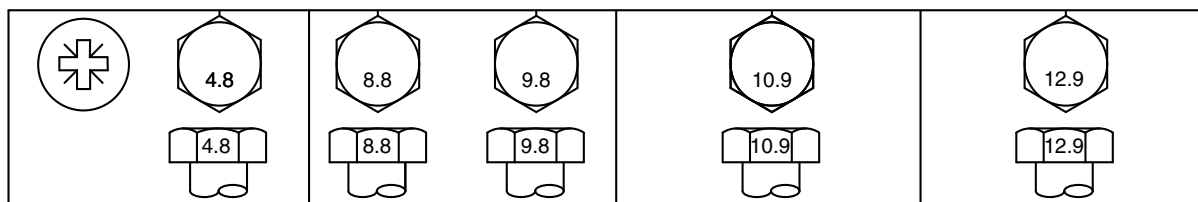
18F/6R (Rang A adjusted)		30K					
		16.9-34 Tires		18.4-34 Tires		18.4-38 Tires	
Range	Range	km/h	mph	km/h	mph	km/h	mph
CB ^a	2	0.61	0.38	0.66	0.41	0.69	0.43
CB ^a	3	0.81	0.51	0.87	0.54	0.92	0.57
A	R	-6.8	-4.23	-7.2	-4.47	-7.7	-4.78
B	R	-10.9	-6.77	-11.7	-7.27	-12.3	-7.64
C	R	-18.4	-11.43	-19.8	-12.30	-20.8	-12.92
D	R	-28.1	-17.46	-30.3	-18.83	-31.9	-19.82
CRA ^b		-0.52	-0.32	-0.56	-0.35	-0.59	-0.37
CRB ^b		-0.84	-0.52	-0.90	-0.56	-0.95	-0.59

^aForward with creeper

^bBackward with creeper

CO00263,0001C66-19-20DEC18

Metric Bolt and Screw Torque Values



TS1742—UN—31MAY18

Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b		Hex Head ^a		Flange Head ^b	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
M6	3.6	31.9	3.9	34.5	6.7	59.3	7.3	64.6	9.8	86.7	10.8	95.6	11.5	102	12.6	112
									N·m	lb·ft	N·m	lb·ft	N·m	lb·ft	N·m	lb·ft
M8	8.6	76.1	9.4	83.2	16.2	143	17.6	156	23.8	17.6	25.9	19.1	27.8	20.5	30.3	22.3
			N·m	lb·ft	N·m	lb·ft	N·m	lb·ft								
M10	16.9	150	18.4	13.6	31.9	23.5	34.7	25.6	46.8	34.5	51	37.6	55	40.6	60	44.3
	N·m	lb·ft														
M12	—	—	—	—	55	40.6	61	45	81	59.7	89	65.6	95	70.1	105	77.4
M14	—	—	—	—	87	64.2	96	70.8	128	94.4	141	104	150	111	165	122
M16	—	—	—	—	135	99.6	149	110	198	146	219	162	232	171	257	190
M18	—	—	—	—	193	142	214	158	275	203	304	224	322	245	356	263
M20	—	—	—	—	272	201	301	222	387	285	428	316	453	334	501	370
M22	—	—	—	—	365	263	405	299	520	384	576	425	608	448	674	497
M24	—	—	—	—	468	345	518	382	666	491	738	544	780	575	864	637
M27	—	—	—	—	683	504	758	559	973	718	1080	797	1139	840	1263	932
M30	—	—	—	—	932	687	1029	759	1327	979	1466	1081	1553	1145	1715	1265
M33	—	—	—	—	1258	928	1398	1031	1788	1319	1986	1465	2092	1543	2324	1714
M36	—	—	—	—	1617	1193	1789	1319	2303	1699	2548	1879	2695	1988	2982	2199

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

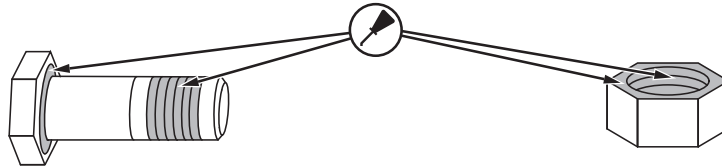
Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.

Specifications

Bolt or Screw Size	Class 4.8		Class 8.8 or 9.8		Class 10.9		Class 12.9	
	Hex Head ^a	Flange Head ^b	Hex Head ^a	Flange Head ^b	Hex Head ^a	Flange Head ^b	Hex Head ^a	Flange Head ^b

- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



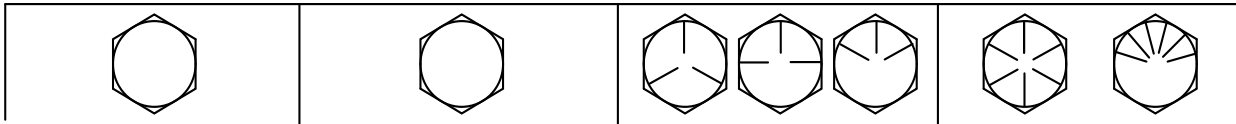
TS1741—UN—22MAY18

^aHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^bHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ2-19-30MAY18

Unified Inch Bolt and Screw Torque Values



TS1671—UN—01MAY03

Bolt or Screw Size	SAE Grade 1 ^a				SAE Grade 2 ^b				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d		Hex Head ^c		Flange Head ^d	
	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in	N·m	lb·in
1/4	3.1	27.3	3.2	28.4	5.1	45.5	5.3	47.3	7.9	70.2	8.3	73.1	11.2	99.2	11.6	103
													N·m	lb·ft	N·m	lb·ft
5/16	6.1	54.1	6.5	57.7	10.2	90.2	10.9	96.2	15.7	139	16.8	149	22.2	16.4	23.7	17.5
									N·m	lb·ft	N·m	lb·ft				
3/8	10.5	93.6	11.5	102	17.6	156	19.2	170	27.3	20.1	29.7	21.9	38.5	28.4	41.9	30.9
					N·m	lb·ft	N·m	lb·ft								
7/16	16.7	148	18.4	163	27.8	20.5	30.6	22.6	43	31.7	47.3	34.9	60.6	44.7	66.8	49.3
	N·m	lb·ft	N·m	lb·ft												
1/2	25.9	19.1	28.2	20.8	43.1	31.8	47	34.7	66.6	49.1	72.8	53.7	94	69.3	103	75.8
9/16	36.7	27.1	40.5	29.9	61.1	45.1	67.5	49.8	94.6	69.8	104	77	134	98.5	148	109
5/8	51	37.6	55.9	41.2	85	62.7	93.1	68.7	131	96.9	144	106	186	137	203	150
3/4	89.5	66	98	72.3	149	110	164	121	230	170	252	186	325	240	357	263
7/8	144	106	157	116	144	106	157	116	370	273	405	299	522	385	572	422
1	216	159	236	174	216	159	236	174	556	410	609	449	785	579	860	634
1-1/8	305	225	335	247	305	225	335	247	685	505	751	554	1110	819	1218	898
1-1/4	427	315	469	346	427	315	469	346	957	706	1051	775	1552	1145	1703	1256
1-3/8	564	416	618	456	564	416	618	456	1264	932	1386	1022	2050	1512	2248	1658
1-1/2	743	548	815	601	743	548	815	601	1665	1228	1826	1347	2699	1991	2962	2185

The nominal torque values listed are for general use only with the assumed wrenching accuracy of 20%, such as a manual torque wrench. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application.

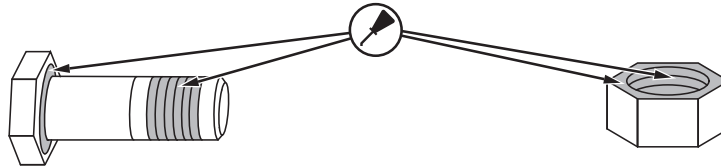
Replace fasteners with the same or higher property class. If higher property class fasteners are used, tighten these to the strength of the original.

- Make sure that fastener threads are clean.
- Apply a thin coat of Hy-Gard™ or equivalent oil under the head and on the threads of the fastener, as shown in the following image.

Specifications

Bolt or Screw Size	SAE Grade 1 ^a		SAE Grade 2 ^b		SAE Grade 5, 5.1 or 5.2		SAE Grade 8 or 8.2	
	Hex Head ^c	Flange Head ^d	Hex Head ^c	Flange Head ^d	Hex Head ^c	Flange Head ^d	Hex Head ^c	Flange Head ^d

- Be conservative with the amount of oil to reduce the potential for hydraulic lockup in blind holes due to excessive oil.
- Properly start thread engagement.



TS1741—UN—22MAY18

^aGrade 1 applies for hex cap screws over 6 in (152 mm) long, and for all other types of bolts and screws of any length.

^bGrade 2 applies for hex cap screws (not hex bolts) up to 6 in (152 mm) long.

^cHex head column values are valid for ISO 4014 and ISO 4017 hex head, ISO 4162 hex socket head, and ISO 4032 hex nuts.

^dHex flange column values are valid for ASME B18.2.3.9M, ISO 4161, or EN 1665 hex flange products.

DX,TORQ1-19-30MAY18

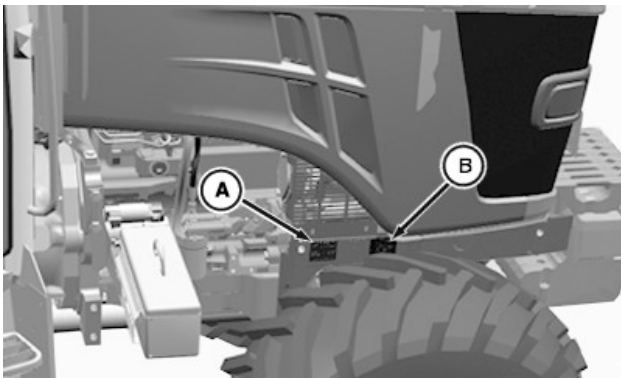
Identification Numbers

Identification Plates

Each tractor has the identification plates shown on these pages. The letters and numbers stamped on the plates identify a component or assembly. ALL these characters are needed when ordering parts or identifying a tractor or component for any John Deere product support program. They are also needed for law enforcement to trace your tractor if it is ever stolen. ACCURATELY record these characters in the spaces provided next to each of the following photographs.

CP00613,0000675-19-08JUN13

Record Tractor/Environment Information Serial Number



CPA0004492—UN—25JAN18



CPA0001140—UN—27NOV14

A—Tractor Serial Number Plate

B—Environment Information Serial Number Plate

Tractor/environment information serial number plates (A and B) are on the right side of the front support member of the tractor.

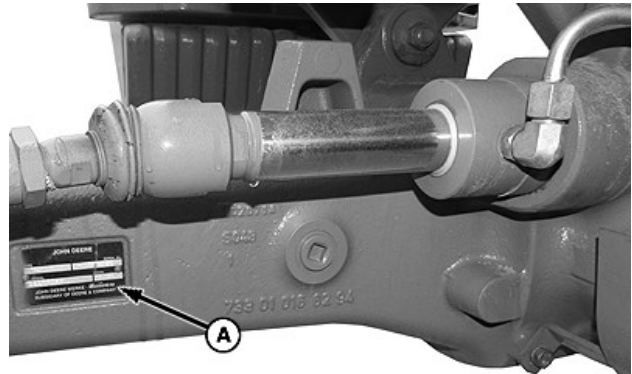
Tractor serial number is also stamped on the left-front side of front support.

Tractor Serial Number:

Environment Information Serial Number:

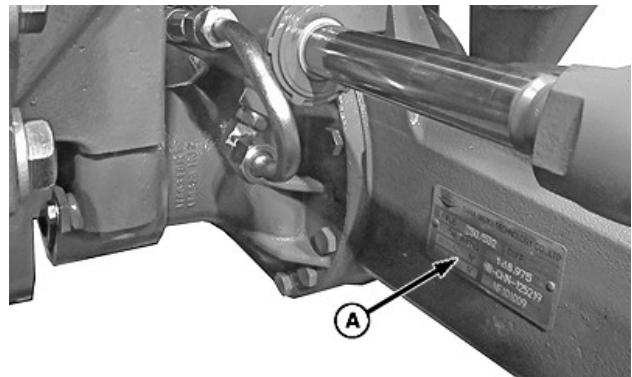
N400041,0003891-19-24JAN18

Record MFWD Front Axle Serial Number



CPA0002179—UN—06NOV15

For JD1204-A, JD1354-A, and JD1404-A Tractors



CPA0002180—UN—06NOV15

For JD954, JD1104 Tractors

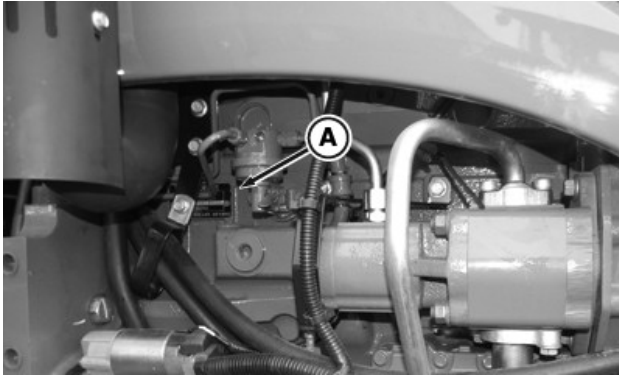
A—Front Axle Serial Number Plate

The MFWD front axle serial number plate (A) is on the right rear side of the axle housing.

Front Axle Serial Number:

N400041,0003A2D-19-24JAN18

Record Engine Serial Number



PY14885—UN—30JAN13

A—Engine Serial Number Plate

The engine serial number plate is on the left-hand side of the engine, on the air intake manifold.

Engine Serial Number:

N400041,0003A2E-19-26JAN18

Record Transmission Serial Number



PUC2455—UN—01OCT09

Transmission serial number plate is located on the transmission housing, above left-hand side rear axle.

Transmission Serial Number:

N400041,0003A2F-19-24JAN18

Service Records

As Required, Daily or 10 Hour, and Every 50 Hour Service Chart

Service as Required

- Check air intake system
- Service air conditioner (cab)
- Adjust hand throttle friction
- Front grille, side Screens, radiator and oil cooler cleaning
- Bleed fuel system
- Charge battery
- Service battery
- Adjust headlights
- Replace bulb: headlights, worklights, front turn signal lights, tail/rear turn signal/brake lights
- Check and adjust transmission¹
- Check and adjust front, rear drive axle¹
- Check and adjust differential¹

Daily or 10 Hours

- Check engine oil level
- Check transmission / hydraulic system oil level
- Check coolant level
- Drain water and Sediment from fuel filters and water separator

Every 50 Hours

- Inspect tractor for loose hardware
- Inspect tires
- Lubricate steering spindles²
- Lubricate MFWD front axle²
- Lubricate MFWD front axle pivot pins²
- Lubricate MFWD drive shaft
- Clean battery
- Check battery condition
- Lubricate 3-point hitch links²

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

N400041,00039ED-19-26JAN18

¹ See your John Deere dealer for service.

² Necessary to perform daily or 10 hr in wet or muddy conditions.

Every 250 Hour Service Chart**Every 250 Hours**

- Service air cleaner
- Adjust brake pedal free play
- Adjust clutch pedal free play
- Clean cab air filters³
- Check neutral start system
- Check MFWD axle housing oil level
- Check MFWD wheel hub oil level
- Drain water and sediment from fuel tank

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

N400041,00039EE-19-12JAN18

Every 500 Hour, 1000 Hour or Annual, Every Two Year or 2000 Hour Service Chart**Every 500 Hours**

- Check engine idle speeds
- Check hoses and hose clamps for tightness
- Change engine oil and filter⁴
- Replace transmission/hydraulic oil filter⁵
- Lubricate rear axle bearings⁵
- Check cooling system for leaks
- Replace water separator
- Replace primary fuel filter
- Replace secondary fuel filter

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

Every 1000 Hours or Annual

- Clean engine crankcase vent tube
- Change transmission/hydraulic system oil
- Change MFWD front axle housing oil⁶
- Change MFWD wheel hub oil⁶
- Replace primary and secondary elements³
- Inspect seat belt

Every Two Years or 2000 Hours (Whichever Comes First)

- Flush cooling system⁷

⁴ If PLUS 50 oil and a John Deere filter are not used, lower this service interval to 250 hours

⁵ Necessary to perform 50 hr in wet or muddy conditions

³ Interval can vary according to operating conditions

⁶ Necessary to perform 50 hr in wet or muddy conditions.

⁷ Can be extended to 5000 hours or 5 years if John Deere COOL-GARD is used.

Service Records

Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				
Hours					Hours				
Date					Date				

N400041,00039EF-19-16JAN18

Index

A

Acid burns, battery	
Treatment.....	240-2
Additional equipment	280B-1
Additional Equipment.....	80B-1
Adjust Clutch Pedal Free Travel	
Clutch Pedal Free Travel, Adjust	260-1
Adjust PTO clutch operating rod	
PTO clutch operating rod, adjustment	50D-5
Adjust seat-mechanical suspension seat	90-1
Air conditioner, service	290-4
Air conditioning	
Performance, optimizing	90-4
Air filters, cab, clean.....	290-2, 290-3
Air induction system	
Check hoses and clamps.....	230-4
Air intake filters	
Inspect	230-1
Replace	230-2
Air-Conditioning System	
Instruction for Satrting up the A/C Compressor	290-5
Alternator/fan belt	
Replacement	240-2
As Required Maintenance	200B-1
Avoid static electricity risk when fueling	00A-4
Axle, MFWD	
Check oil level	250B-3
Check wheel hub oil level	250B-3

B

Ballast.....	80A-1
Front end for transport.....	280A-1
Selecting.....	80A-1
Ballast, maximum front	
Determining	80A-2
Ballast, maximum rear	
Determine	80A-1
Battery	
Acid burn treatment	240-2
Booster	240-1
Charge	240-3
Checking condition	
Explosion danger.....	240-3
Clean and check.....	240-1
Removal	240-2
Replacement specifications	240-3
Service.....	240-2
Battery condition check	240-3
Battery Handling, Safety	
Safety, Battery Handling	00A-11
Battery specifications.....	240-3
Bearings, rear axle	
Lubricate.....	250C-1
Before starting engine.....	20-1
Bleed fuel system.....	230-10

Blower speed (cab), adjusting.....	90-3
Bolt and screw torque values	
Metric	400-7
Unified inch.....	400-8
Booster battery.....	240-1
Brake pedal	
Check	260-1
Brakes	
Troubleshooting.....	300-5
Brakes, use.....	60-2
Braking.....	60-2
Break-in engine oil	
Non-Emissions certified and certified tier 1, tier 2, tier 3, stage I, stage II, and stage III	200A-3
Bulb replacement	
Tail lights and warning lights	240-7
Worklights	240-7

C

Cab	
A/C and heater performance, optimizing	90-4
Air filters, clean	290-2, 290-3
Blower speed, adjusting	90-3
Heater and A/C performance, optimizing.....	90-4
Mounting.....	290-1
Temperature, controlling	90-3
Windshield, deicing, demisting or defrosting ..	90-3
Cab Light Bulb,Replace.....	240-8
Cab light, use	40-5
Cast iron weights	80A-2
Cast iron weights, rear	
Install.....	280A-2
Check and Tighten Hydraulic Cylinders	
Hydraulic Cylinders.....	270A-1
Check Selective Control Valve	270B-1
Clutch	
Troubleshooting.....	300-8
Cold weather operation	
Transmission	200A-1
Controls and Instruments Maintenance	210-1
Coolant	
Diesel engine	200A-6
John deere COOL-GARD II coolant extender	200A-7
Coolant level	
Check	230-7
Cooling system	
Check hoses and clamps.....	230-4
Scheduled flushing	230-8
Cooling system	
Leaks.....	230-8
Couplers, SCV	70B-2
Crankcase vent tube	
Clean.....	230-5
Cylinder hoses	
Connect.....	70B-1

D	
Daily service.....	200-4
Diesel engine oil	
Service interval for operation at high altitude	200A-6
Tier 3 and stage IIIA	200A-4
Diesel fuel	200A-1
Diesel fuel, testing	200A-3
Differential lock	
Use	50C-1
Dimensions and weights	
Machine.....	400-1
Door	90-2
Draft control	
Use	70A-4
Drawbar	
Load limitations	70A-9
Drawbar, swinging	
Use	70A-9
Driving on public roads	100-1

E	
Electrical service precautions	240-1
Electrical system	
Troubleshooting	300-7
Engine	
Before starting	20-1
Change oil and filter.....	220-2
Change speed	20-4
Clean crankcase vent tube	230-5
Start	20-2
Stop	20-5
Troubleshooting	300-1
Engine air intake filters	
Inspect	230-1
Replace	230-2
Engine oil	
Break-In	
Non-Emissions certified and certified tier 1, tier 2,	
tier 3, stage I, stage II, and stage III....	200A-3
Diesel	
Service interval for operation at high altitude	200A-6
Tier 3 and stage IIIA	200A-4
Engine oil	
Change interval	220-2
Check level	220-1
Engine oil and filter service intervals	
Operation at high altitude.....	200A-6
Tier 3 and stage IIIA	
OEM applications.....	200A-5
Engine serial number.....	400A-2
Engine speed	
Change	20-4
Engine starting system	
Check neutral start	250-1

Exhaust Filter, Safety	
Safety, Exhaust Filter	00A-13

F	
Fan/alternator belt	
Replacement	240-2
Filters	
Air	
Clean.....	290-2, 290-3
Engine air intake	
Inspect	230-1
Replace.....	230-2
Filters, Oil	
Oil Filters	200A-6
Flushing cooling system	230-8
Front and Rear Axle	
Troubleshooting.....	300-9
Front ballast, maximum	80A-2
Front end	
Ballast for transport	280A-1
Fuel	
Diesel	200A-1
Handling and storing	200A-3
Lubricity.....	200A-2
Fuel filter	
Replace	
Primary	230-6
Secondary.....	230-7
Fuel Filters	
Filters, Fuel.....	200A-6
Fuel filters and water separator	
Water and sediment	
Drain	230-5
Fuel system	
Bleeding	230-10
Fuel tank	
Drain water and sediment	230-6
Filling.....	30-1
Fuse	
Size and function	240-5
Fuses and Relays	240-4
Fusible Link.....	240-4

G	
Gear selection.....	50A-1
Grease	
Multipurpose Extreme Pressure (EP)	200A-8
Grille and side screens	
Cleaning	230-10
Ground speed estimates.....	400-3

H	
Hardware torque values	
Metric	400-7
Unified inch.....	400-8

Hardware, loose		Implement, PTO-driven	
Inspect and tighten	280-1	Attachment	50D-3
Headlights		Inspect Air Intake System	230-3
Adjust	240-6	Instrument check	
Aim	240-6	After starting	20-3
Replace bulb	240-6		
Heater		J	
Performance, optimizing	90-4	Jack up tractor	80-3
Hi-Low			
Split Shift Feature	50A-4	L	
High beam indicator	40-3	Leakage, cooling system	230-8
Hitch		Lifting points for jacking up	80-3
Adjust side sway	70A-7	Light bulb replacement	
Components	70A-1	Tail lights	240-7
Leveling	70A-7	Warning lights	240-7
Hitch Components		Worklights	240-7
Lubricate	270A-1	Light switch positions	40-1
Hitch position control		Lightbulb replacement	
Set lever stop	70A-3	Headlights	240-6
Hitch side sway		Lights	
Adjustment	70A-7	Headlights, use	40-2
Hitch, 3-point		Switch	40-1
Attach implements to	70A-5	Switch positions	40-1
Hose clamps		Lubricant	
Check for tightness	230-4	Mixing	200A-9
Hot weather operation		Lubricant Storage	
Transmission	200A-1	Storage, Lubricant	200A-3
Hydraulic Cylinders Troubleshooting		Lubricants, safety	200A-3
Troubleshooting, Hydraulic Cylinders	300-7	Lubricate MFWD Front Axle	250B-2
Hydraulic hose tips		Lubricity of diesel fuel	200A-2
Correct use	70B-2		
Hydraulic hoses		M	
Connect	70B-1	Machine specifications	400-1
Hydraulic oil	200A-7	Maintenance	280B-1
Check level	250A-1	Maintenance Interval Chart	200-1
Drain	250A-1	Maximum Travel Speeds	100-1
Hydraulic oil filter	250-1	Mechanical front-wheel drive	
Replacement	250A-2	Operate	50B-1
Hydraulic system		Metric bolt and screw torque values	400-7
Check hoses and clamps	230-4	MFWD axle	
Hydraulic system design		Change oil	250B-5
Incompatibility, continuous hydraulic motor use	70-1	Check oil level	250B-3
Hydraulic system oil		Check wheel hub oil level	250B-3
Warm	70-1	Tighten bolts	80-4
Hydraulic system troubleshooting	300-5	Tread settings	80-6
Hydraulics Maintenance	270-1	MFWD axle	
		Serial number	400A-1
I		MFWD shaft	
Identification numbers	400A-1	Lubricate	250B-2
Implement		MFWD tractor	
Attachment to hitch	70A-5	Adjust toe-in	80-8
Implement float		MFWD wheel hub	
Adjust	70A-8	Change oil	250B-4
Implement preparation	70A-2	Mixing lubricants	200A-9
Implement-to-tire clearance	80-1		

Multi-position rear wheels
 Tread settings 80-6
 Multipurpose Extreme Pressure (EP) grease 200A-8

N

Neutral start system
 Check 250-1

O

Oil
 Engine
 Tier 3 and stage IIIA 200A-4
 Hydraulic 200A-7
 Transmission 200A-7
 Oil cooler cleaning 230-10
 Open Door 90-2
 Open Hood 220-1
 Open Windows 90-2
 Operate wipers 90-4
 Operation 80B-1
 Operator training 100-1

P

Position control lever
 Use 70A-2
 Position control lever stop
 Set 70A-3
 Prestart checks 200-4, 220-1
 Proper Use of Drawbar
 Drawbar, Use 70A-9
 PTO
 Attach driven implement 50D-3
 Operate 50D-3
 PTO stub shaft
 Reversing 50D-1
 PTO-driven implement
 Attach 50D-3
 Public roads
 Driving 100-1
 Transport 100-1

R

Radiator cleaning 230-10
 Range, select 50A-1
 Range, shift 50A-1
 Rear axle bearings
 Lubricate 250C-1
 Rear axle bolts
 Tighten 80-4
 Torque values 80-4
 Rear ballast, maximum 80A-1
 Rear, Emergency exit 90-2
 Reconnect Hoses Under Pressure 70B-1
 Refueling, avoid static electricity risk 00A-4

Replace
 Front turn signal bulb 240-7
 RH emergency exit 90-2
 Rockshaft
 Handle 70A-5
 Rate-of-drop adjustment 70A-4
 Rockshaft and 3-point hitch
 troubleshooting 300-5
 Rockshaft control
 Draft control lever 70A-2
 Position control lever 70A-2

S

Safety
 Protect against noise 00A-2
 Safe maintenance, practice 00A-12
 Tires, service safely 00A-16
 Towed equipment, transport at safe speeds 00A-8
 Tractor, operating safely 00A-6
 Use caution on slopes, uneven terrain, and rough
 ground 00A-9
 Safety, Avoid High-Pressure Fluids
 Avoid High-Pressure Fluids 00A-16
 Safety, Fire Prevention
 Fire Prevention 00A-3
 Safety, Forestry Operations
 Limited Use in Forestry Operation 00A-7
 Safety, Handle Fuel Safely, Avoid Fires
 Avoid Fires, Handle Fuel Safely 00A-2, 200A-1
 Safety, lubricants 200A-3
 Safety, ROPS
 ROPS, Keep Installed Properly 00A-4
 Safety, Steps and Handholds
 Use Steps and Handholds Correctly 00A-5
 Safety, Tightening Wheel Retaining Bolts/Nuts
 Tightening Wheel Retaining Bolts/Nuts 00A-16
 SCV control levers 70B-2
 SCV couplers 70B-2
 Seat belt
 Inspect 290-1
 Seat belt, use 90-1
 Seat-mechanical suspension seat 90-1
 Seat, adjust 90-1
 Service chart
 1000 hours or annual 500-2
 As required 500-1
 Daily or 10 hours 500-1
 Every 50 hours 500-1
 Every 250 hours 500-2
 Every 500 hours 500-2
 Every two years 500-2
 Service intervals
 Observance 200-2
 Service safety 200-2
 Service, daily 200-4
 Signal words, understand 00A-1

Specifications		Toe-In adjustment	
Machine.....	400-1	MFWD	80-8
Start engine	20-2	Torque charts	
Starter		Metric	400-7
Electrical connections	240-4	Unified inch.....	400-8
Starter wiring	240-4	Tow tractor.....	100-3
Starting		Towed equipment, transport at safe speeds ...	00A-8
Check instruments.....	20-3	Tractor	
Starting engine		Inspect loose hardware	280-1
Prior steps.....	20-1	Remove from storage.....	100-4
Steering linkage		Tractor PTO	
Lubricate.....	250B-1	Operate	50D-3
Steering spindles		Tractor service	
Lubricate.....	250B-1	Safety	200-2
Steering stop adjustment	60-1	Tractor specifications.....	400-1
Steering System		Overall machine dimensions	400-1
Troubleshooting.....	300-8	Tractor speeds	
Steering Wheel, Tilt.....	90-1	By gear and range	400-3
Steering Wheel, Adjust	90-1	Tractor storage.....	100-3
Steering Wheel, Telescope	90-1	Tractor tow	100-3
Stop engine.....	20-5	Tractor, operating safely	00A-6
Stopping tractor.....	50A-5	Tractor, stopping	50A-5
Storage		Tractor/environment information serial number	
Removal from	100-4	Recort.....	400A-1
Storage, OM.....	90-5	Training requirements	
Storage, Tractor.....	100-3	Operator	100-1
Storing fuel	200A-3	Transmission	
Sun visor.....	90-3	Operate	50A-1
Swinging drawbar use	70A-9	Transmission	
Switches		Cold weather operation	200A-1
Ignition switch, positions.....	20-2	Hot weather operation	200A-1
Light switch, positions.....	40-1	Transmission oil.....	200A-7
Wipers, use	90-4	Check level	250A-1
		Transmission serial number	400A-2
		Transmission troubleshooting	300-4
		Transmission, shifting	
		Shifting transmission	50A-2
		Transmission/Hydraulic filter element	250-1
		Transmission/hydraulic system	
		Replace oil filter	250A-2
		Transmission/Hydraulic system	
		Check oil level	250A-1
		Drain oil.....	250A-1
		System drain plugs.....	250A-1
		Transport	
		Ballast front end	280A-1
		Tread settings	
		MFWD axle.....	80-6
		Multi-position rear wheels	80-6
		Troubleshooting	
		3-point hitch	300-5
		Brakes	300-5
		Clutch	300-8
		Electrical system.....	300-7
		Engine	300-1
		Front and Rear Axle.....	300-9

T

Tail lights	
Bulb replacement.....	240-7
Tail Lights	
Light bulb replacement.....	240-7
Tail lights use.....	40-3
Temperature, controlling	90-3
Testing diesel fuel	200A-3
Throttle friction plates	
Adjustment	220-2
Throttle lever adjustment	220-2
Tire checks	280-1
Tire Combinations - MFWD	80-2
Tire-to-implement clearance	80-1
Tires	
Inflation pressure	80-1
Inflation pressure chart	80-2
Inspect	280-1
Tires, service safely	00A-16
Toe-In	
Check	80-8

Hydraulic system	300-5
Rockshaft.....	300-5
Steering System	300-8
Transmission	300-4
TSS transmission	
Operate	50A-1
Turn signal lights use	40-4

U

Unified inch bolt and screw torque values	400-8
Use	
Turn signal lights	40-4
Use cab light	40-5
Use Headlights and Worklights	40-2
Use seat belt	90-1
Use tail lights.....	40-3
Use turn signal lights	40-4
Use warning lights	40-3

W

Warm Transmission-Hydraulic System Oil.....	270-1
Warning lights	
Bulb replacement.....	240-7
Warning lights use	40-3
Water and sediment	
Drain from fuel tank	230-6
Water separator	
Replace	230-6
Weights	
Cast iron	80A-2
Weights, rear, cast iron	
Install	280A-2
Wheel bolts, tighten	
MFWD	80-4
Wheel hub, MFWD	
Change oil.....	250B-4
Wheel slip	
Measure manually	280A-1
Wheel/axle hardware	
Tighten	80-4
Wheels/axles	
Torque values	80-4
Windows	90-2
Windshield, deicing, demisting or defrosting	90-3
Wipers, use.....	90-4
Worklights	
Bulb replacement.....	240-7
Worklights, use.....	40-2

John Deere Service Literature Available

Technical Information

Technical information can be purchased from John Deere. Publications are available in print or CD-ROM format.

Orders can be made using one of the following:

- John Deere Technical Information Store: **www.JohnDeere.com/TechInfoStore**
- Call 1-800-522-7448
- Contact your John Deere dealer

Available information includes:



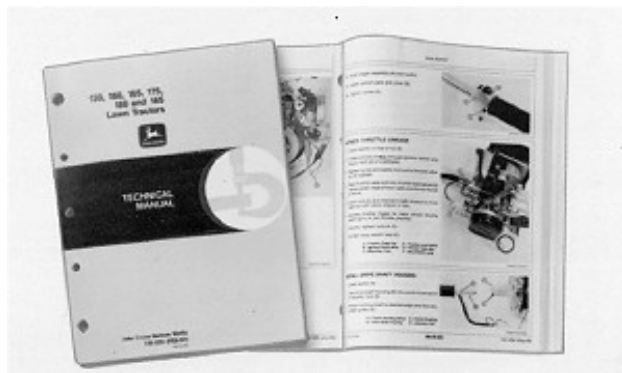
TS189—UN—17JAN89

PARTS CATALOGS list service parts available for your machine with exploded view illustrations to help you identify the correct parts. It is also useful in assembling and disassembling.



TS191—UN—02DEC88

OPERATOR'S MANUALS providing safety, operating, maintenance, and service information.



TS224—UN—17JAN89

TECHNICAL MANUALS outlining service information for your machine. Included are specifications, illustrated assembly and disassembly procedures, hydraulic oil flow diagrams, and wiring diagrams. Some products have separate manuals for repair and diagnostic information. Some components, such as engines, are available in a separate component technical manual.



TS1663—UN—10OCT97

EDUCATIONAL CURRICULUM including five comprehensive series of books detailing basic information regardless of manufacturer:

- Agricultural Primer series covers technology in farming and ranching.
- Farm Business Management series examines “real-world” problems and offers practical solutions in the areas of marketing, financing, equipment selection, and compliance.
- Fundamentals of Services manuals show you how to repair and maintain off-road equipment.
- Fundamentals of Machine Operation manuals explain machine capacities and adjustments, how to improve machine performance, and how to eliminate unnecessary field operations.
- Fundamentals of Compact Equipment manuals provide instruction in servicing and maintaining equipment up to 40 PTO horsepower.

DX,SERV LIT-19-07DEC16

John Deere Service Keeps You On The Job

John Deere Parts



TS100—UN—23AUG88

We help minimize downtime by putting genuine John Deere parts in your hands in a hurry.

That's why we maintain a large and varied inventory—to stay a jump ahead of your needs.

DX,IBC,A-19-04JUN90

School is never out for John Deere service technicians.

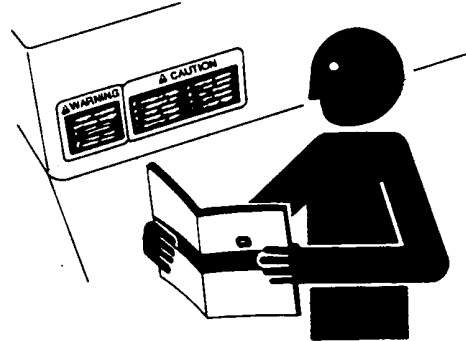
Training schools are held regularly to be sure our personnel know your equipment and how to maintain it.

Result?

Experience you can count on!

DX,IBC,C-19-04JUN90

John Deere Is At Your Service



TS201—UN—15APR13

CUSTOMER SATISFACTION is important to John Deere.

Our dealers strive to provide you with prompt, efficient parts and service:

- Maintenance and service parts to support your equipment.
- Trained service technicians and the necessary diagnostic and repair tools to service your equipment.

CUSTOMER SATISFACTION PROBLEM RESOLUTION PROCESS

Your John Deere dealer is dedicated to supporting your equipment and resolving any problem you may experience.

1. When contacting your dealer, be prepared with the following information:

- Machine model and product identification number
- Date of purchase
- Nature of problem

2. Discuss problem with dealer service manager.

3. If unable to resolve, explain problem to dealership manager and request assistance.

4. If you have a persistent problem your dealership is unable to resolve, ask your dealer to contact John Deere for assistance. Or contact the Ag Customer

The Right Tools



TS101—UN—23AUG88

Precision tools and testing equipment enable our Service Department to locate and correct troubles quickly . . . to save you time and money.

DX,IBC,B-19-04JUN90

Well-Trained Technicians



TS102—UN—23AUG88

Assistance Center at 1-866-99DEERE (866-993-3373)
or e-mail us at www.deere.com/en_US/ag/contactus/.

Company Address: No. 89, 13th Avenue, TEDA, Tianjin
, China

Zip Code: 300457; Fax: 86-22-59822005

Sales Hotline: 400-6576-555

Service Hotline: 400-6576-555

Website: www.johndeere.com.cn

CP00613,0000683-19-10MAR20

