

### Engine Interface Control Unit (EIC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
EIC 000628.02	Engine System	Engine interface control unit fault. Engine power limited.
EIC 000628.12	Electrical System	Control unit in programming mode.
EIC 001237.31	Security System	Key authentication failed. Check for the correct vehicle key. Restart engine to attempt vehicle recovery.
EIC 003695.14	Exhaust Filter System	Exhaust Filter restricted. AUTO filter cleaning is disabled. Enable AUTO filter cleaning on the Engine settings page per Operator's Manual.
EIC 003719.15	Exhaust Filter System	Exhaust Filter restricted. Assist AUTO cleaning by setting engine speed above 1200 rpm or start a parked filter cleaning per Operator's Manual.
EIC 521214.11	Immobilizer System	Immobilizer ignition key fault. Engine disabled.
EIC 521321.12	Immobilizer System	Immobilizer ignition key fault. Engine disabled.
EIC 521322.31	Immobilizer System	Immobilizer ignition key fault. Engine disabled.

TO84419,0000249 -19-03APR13-1/1

### Front Console Control Unit (FCC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
FCC 000084.09	Electrical System	Wheel speed communication fault. Restart engine to attempt recovery.
FCC 000168.00	Electrical System	Battery voltage extremely high. System disabled.
FCC 000168.01	Electrical System	Battery voltage extremely low. Check fuse. Reduce electrical load or increase engine speed.
FCC 000628.02	Electrical System	Front console configuration data incorrect and reset to factory default. System with restricted function.
FCC 000629.12	Electrical System	Seat control unit fault. Restart engine to attempt recovery.
FCC 524006.08	Electrical System	Seat height switch fault. Cycle switch.
FCC 524007.08	Electrical System	Seat height switch fault. Cycle switch.

TO84419,000024A -19-16AUG13-1/1

### Hitch Control Unit (HCC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
HCC 000158.04	Electrical System	Electrical system circuit fault. Reduce electrical load or increase engine speed to attempt vehicle recovery.
HCC 000168.04	Electrical System	Rear control unit supply voltage low. Shut off engine and check fuse or reduce electrical load or increase engine RPM.
HCC 002602.18	Rear Hitch System	Hydraulic system oil level very low. Check oil level according to Operator's Manual.
HCC 521000.31	Rear Hitch System	Rear hitch external switch circuit fault. Check switch operation.
HCC 522390.11	Rear Hitch System	Automation aborted.
HCC 523788.02	Rear Hitch System	Hydraulic option connector changed from startup. Reference Hydraulic Option Configuration procedure in Operator's Manual.
HCC 523788.14	Rear Hitch System	Hydraulic option connector changed from startup. Reference Hydraulic Option Configuration procedure in Operator's Manual.
HCC 523843.02	Rear Hitch System	Rear hitch switches pressed at the same time. Restart engine to attempt vehicle recovery.
HCC 523843.15	Rear Hitch System	Rear hitch switch fault. Check switch operation.
HCC 523952.31	Rear Hitch System	Rear hitch system. System disabled.
HCC 524212.15	Rear Hitch System	Rear hitch control lever fault. Check switch operation.

TO84419,000024B -19-04APR13-1/1

### Hitch Valve Control Unit (HV1) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action that operator can take. Many codes

which appear may be corrected simply by cycling key switch or by following the solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
HV1 000158.04	Rear Hitch System	HV1 control unit switched supply voltage circuit fault. Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
HV1 004084.07	Rear Hitch System	Rear hitch valve float position fault. Cycle switch or restart engine to attempt recovery.
HV1 004084.16	Rear Hitch System	Rear hitch valve position fault. Cycle switch or restart engine to attempt recovery.
HV1 004084.18	Rear Hitch System	Rear hitch valve position fault. Cycle switch or restart engine to attempt recovery.

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### StarFire Control Unit (ITC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following the solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
ITC 000158.03	System Voltage	Switched power > 32 volts. Check vehicle charging system, wiring, and connections.
ITC 000158.04	Electrical System	Rear control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
ITC 000168.03	Electrical System	Control unit unswitched supply voltage high. System with restricted function. Check battery.
ITC 000168.04	Electrical System	Unswitched power < 9 volts. Check vehicle charging system, wiring, and connections.
ITC 000232.02	GPS System	Corrected GPS position is not available.
ITC 000841.07	GPS	Communication lost with GPS processor.
ITC 000841.31	GPS Position	Signal interference (from jammer).
ITC 002854.31	RTK Rover	RTK radio is not responding. Inspect receiver bracket harness for faults.
ITC 003141.14	RTK Rover	The GPS receiver is not authorized on this RTK network.
ITC 003141.31	GPS Corrections	License has expired.
ITC 003144.13	SF1/SF2	StarFire signal not found.
ITC 522394.13	TCM Not Calibrated	Calibrate the TCM again to ensure optimized system performance. The system has detected that the TCM was previously calibrated on an implement but is now mounted on a machine.
ITC 522552.11	StarFire Network	Problem with StarFire Network. Resolution in Progress.
ITC 523187.02	Over-the-Air Messaging	Invalid license code received.
ITC 523274.02	GPS Position	GPS position is not available.
ITC 523348.12	TCM	TCM sensor failure.
ITC 523441.31	TCM	StarFire Height Dimension Not Set, press setup tab on main page.
ITC 523442.31	TCM	StarFire Fore/Aft Dimension Not Set, Press setup tab on main page.
ITC 524209.16	RTK Rover	Vehicle too far from Base Station.
ITC 524257.14	RTK Base Station	The RTK base station is in survey mode. Corrections are not available.
ITC 524257.16	RTK Base Station	Base Station has been moved.
ITC 524257.19	RTK Base Station	Interference between neighboring RTK base stations. Adjust your RTK Network settings to unique values.

TO84419,000024D -19-27NOV12-1/1

### JDLink™ Control Unit (JDL) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
JDL 000237.11	JDLink	JDLink not registered. Register JDLink.
JDL 000964.13	JDLink	JDLink clock not set properly.
JDL 522976.11	JDLink	JDLink control unit fault. Re-send custom alerts.
JDL 523310.00	JDLink	JDLink control unit fault. Restart engine to attempt recovery.

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### Operator Interface Control Unit (OIC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
OIC 000091.02	Operator Controls	Foot throttle sensor fault. Use hand throttle.
OIC 000091.03	Operator Controls	Foot throttle sensor circuit fault. Use hand throttle.
OIC 000091.04	Operator Controls	Foot throttle sensor circuit fault. Use hand throttle.
OIC 000158.04	Electrical System	Electrical system circuit fault. Reduce electrical load or increase engine speed to attempt recovery.
OIC 000168.04	Electrical System	Electrical system circuit fault. Reduce electrical load or increase engine speed to attempt recovery.
OIC 000628.12	Electrical System	Control unit programming. System disabled.
OIC 523758.03	Operator Controls	Left rear remote PTO switch circuit fault. Restart engine to attempt recovery.
OIC 523758.04	Operator Controls	Left rear remote PTO switch circuit fault. Restart engine to attempt recovery.
OIC 523759.03	Operator Controls	Left rear remote PTO switch circuit fault. Restart engine to attempt recovery.
OIC 523759.04	Operator Controls	Left rear remote PTO switch circuit fault. Restart engine to attempt recovery.

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### Corner Post Display (PDU) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

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Diagnostic Trouble Code	System	Solution
PDU 000628.12	Electrical System	Control unit in programming mode.

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### Front PTO Control Unit (PTF) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
PTF 000090.15	PTO System	Check cooling system for debris or reduce load.
PTF 000190.01	PTO System	Cycle front PTO switch and resume with reduced engine load or increased engine speed.
PTF 000628.02	PTO System	Front PTO control unit fault. Reprogram control unit.
PTF 000629.12	PTO System	Restart engine to attempt recovery.
PTF 001882.00	PTO System	Front PTO overspeed. Adjust engine speed.
PTF 001882.01	PTO System	Front PTO underspeed. Adjust engine speed.
PTF 001882.15	PTO System	Excessive front PTO load. Continued operation will result in loss of front PTO availability.
PTF 001882.16	PTO System	Excessive front PTO load. Front PTO is disabled. Allow front PTO to cool before attempting to re-engage.
PTF 001882.18	PTO System	Front PTO excessive load. Reduce load.
PTF 523749.16	Front PTO System	PTO clutch slipping. Allow clutch to cool before attempting to re-engage PTO.
PTF 523904.31	Front PTO System	Operator out of seat with front PTO on. Return to seated position.
PTF 524255.31	Front PTO System	Front PTO remote armed. De-select external PTO enabled check-box within CommandCenter

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## IVT™/AutoPowr™ Control Unit (PTI) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
PTI 000127.01	Transmission System	Transmission oil pressure extremely low. Check oil level per operator's manual.
PTI 000127.18	Transmission System	Transmission oil pressure extremely low. Check oil level per operator's manual.
PTI 000158.01	Transmission System	Transmission control unit supply voltage extremely low. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
PTI 000168.01	Transmission System	Battery voltage extremely low. Reduce electrical load or increase engine speed to attempt recovery.
PTI 000168.04	Electrical System	Electrical system circuit fault. Check fuse.
PTI 000168.18	Electrical System	Battery voltage very low. Reduce electrical load or increase engine speed to attempt recovery.
PTI 000177.01	Transmission System	Transmission oil temperature. Check oil level per operator's manual.
PTI 000190.00	Transmission System	Engine speed extremely high. Reduce engine speed.
PTI 000190.02	Transmission System	Engine speed communication fault. Return vehicle to park. Restart engine to attempt recovery.
PTI 000191.00	Transmission System	Transmission speed extremely high. Reduce vehicle speed.
PTI 000191.02	Transmission System	Transmission output speed mismatch. Return Shift Lever to Park to attempt vehicle recovery.
PTI 000619.05	Transmission System	Park brake actuator. Transmission control unit fault. Return to park to attempt recovery.
PTI 000619.06	Transmission System	Park brake actuator. Transmission control unit fault. Return to park to attempt recovery.
PTI 000630.13	Transmission System	Calibration Memory. Restart engine to attempt recovery.
PTI 000630.14	Transmission System	Calibration Memory. Restart engine to attempt recovery.
PTI 000734.05	Transmission System	Transmission Range Clutch C1 Solenoid. Restart engine to attempt recovery.
PTI 000735.05	Transmission System	Transmission Range Clutch C2 Solenoid. Restart engine to attempt recovery.
PTI 000736.05	Transmission System	Transmission Range Clutch C3 Solenoid. Restart engine to attempt recovery.
PTI 000737.05	Transmission System	Transmission Range Clutch C4 Solenoid. Restart engine to attempt recovery.
PTI 000738.05	Transmission System	Transmission Range Clutch C5 Solenoid. Restart engine to attempt recovery.
PTI 000739.05	Transmission System	Transmission Range Clutch C6 Solenoid. Restart engine to attempt recovery.
PTI 002019.09	Communication System	Communication system message missing. Restart engine to attempt recovery.
PTI 002833.31	Park Brake System	Park brake is engaged while vehicle is in motion. Stop vehicle or release park brake.
PTI 003509.03	Transmission System	Sensor supply voltage circuit fault. Restart engine to attempt recovery.
PTI 003509.04	Transmission System	Sensor supply voltage circuit fault. Restart engine to attempt recovery.
PTI 003509.16	Transmission System	Sensor supply voltage very high. Restart engine to attempt recovery.
PTI 003509.18	Transmission System	Sensor supply voltage very low. Restart engine to attempt recovery.
PTI 517777.00	Park Brake System	Diagnostic mode. Park engaged.
PTI 520589.02	Transmission System	Secondary wheel speed sensor fault. Return to park to attempt recovery.
PTI 522181.13	Transmission System	Transmission calibration fault. Transmission hydro calibration fault.
PTI 522196.06	Transmission System	Synchronizer solenoid circuit fault. Return to park to attempt recovery.
PTI 522201.05	Transmission System	Synchronizer solenoid circuit fault. Return to park to attempt recovery.
PTI 522201.06	Transmission System	Synchronizer solenoid circuit fault. Return to park to attempt recovery.
PTI 523219.04	Transmission System	Valve power. Transmission valve power circuit fault. Restart engine to attempt recovery.
PTI 523219.16	Transmission System	Valve power. Transmission valve supply voltage very high. Restart engine to attempt recovery.
PTI 523711.02	Transmission System	Transmission output shaft speed sensor. Restart engine to attempt recovery.
PTI 523911.05	Transmission System	Hydro control valve. Restart engine to attempt recovery.
PTI 523911.13	Transmission System	Hydro control valve. Hydro control valve calibration fault. Restart engine to attempt recovery.
PTI 523912.05	Transmission System	Hydro control valve #2. Restart engine to attempt recovery.
PTI 523912.13	Transmission System	Hydro control valve #2. Hydro control valve calibration fault. Restart engine to attempt recovery.
PTI 523917.07	Transmission System	Hydrostatic unit #2 speed. Restart engine to attempt recovery.

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## Diagnostic Trouble Codes

Diagnostic Trouble Code	System	Solution
PTI 524226.08	Transmission System	Direction sensing fault. Return to Park and restart engine to attempt vehicle recovery.
PTI 524228.05	Transmission System	Park Sump Block Valve. Return to park to attempt recovery.
PTI 524228.06	Transmission System	Park Sump Block Valve. Return to park to attempt recovery.
PTI 524228.11	Transmission System	Park Sump Block Valve. Return to park to attempt recovery.
PTI 524230.03	Transmission System	Clutch enable valve. Clutch enable valve solenoid circuit fault.
PTI 524230.05	Transmission System	Clutch enable valve. Clutch enable valve solenoid circuit fault.
PTI 524232.01	Transmission System	Park brake pressure extremely low. Return to Park to attempt vehicle recovery.
PTI 524232.03	Transmission System	Park brake pressure. Return to park to attempt vehicle recovery.
PTI 524232.04	Transmission System	Park brake pressure. Return to park to attempt recovery.
PTI 524232.16	Transmission System	Park brake pressure very high. Return to Park to attempt vehicle recovery.
PTI 524232.17	Park Brake System	Park brake pressure low. Park brake not engaged. Return to park to attempt recovery.
PTI 524232.18	Park Brake System	Park brake pressure very low. Check hydraulic oil level per operator's manual.
PTI 524233.00	Transmission System	Hydraulic ring unit (RU) speed extremely high. Reduce vehicle speed.
PTI 524233.07	Transmission System	Transmission hydro speed mismatch. Return to park to attempt vehicle recovery.
PTI 524233.15	Transmission System	Hydrostatic Unit Speed. Return to park to attempt recovery.
PTI 524233.16	Transmission System	Hydrostatic Unit Speed. Restart engine to attempt recovery.
PTI 524233.17	Transmission System	Hydrostatic Unit Speed. Restart engine to attempt recovery.
PTI 524237.31	Transmission System	Both park and neutral. Reverser fault. Return to Park to attempt vehicle recovery.
PTI 524238.31	Transmission System	Transmission lever not in park. Return to Park or Neutral to attempt vehicle recovery.
PTI 524239.31	Transmission System	Vehicle speed not detected. Return to Park to attempt vehicle recovery.
PTI 524240.14	Transmission System	Vehicle speed not detected. Return to Park to attempt vehicle recovery.
PTI 524241.02	Transmission System	Carrier speed and hydro speed conflict. Transmission speed mismatch. Return to Park to attempt vehicle recovery.
PTI 524241.11	Transmission System	Carrier speed and hydro speed conflict. Restart engine to attempt recovery.
PTI 524242.00	Transmission System	Transmission oil pressure extremely high. Return to Park to attempt vehicle recovery.
PTI 524242.14	Transmission System	Transmission oil pressure low. Hydraulic boost active. Restart engine to attempt recovery.
PTI 524247.17	Transmission System	Carrier Speed Sensor. Restart engine to attempt recovery.
PTI 524249.31	Transmission System	Operator presence system. Return to seated position.
PTI 524250.31	Park Brake System	Park brake fault. Park brake may not hold.
PTI 524253.02	Transmission System	Start up fault. Return to park to attempt recovery.
PTI 524254.03	Transmission System	Transmission enable valve solenoid circuit fault. Return to park to attempt recovery.
PTI 524254.04	Transmission System	Transmission enable valve circuit fault. Return to Park to attempt vehicle recovery.
PTI 524272.03	Transmission System	Mode 2 valve solenoid circuit fault. Return to neutral or park to attempt vehicle recovery.
PTI 524273.03	Transmission System	Mode 1 and 3 valve solenoid circuit fault. Return to neutral or park to attempt vehicle recovery.

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## e23™ Transmission Shift Control Unit (PTP) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
PTP 000127.01	Transmission System	Transmission oil pressure extremely low. Check oil level per operators manual.
PTP 000168.01	Electrical System	Battery voltage extremely low. Reduce electrical load or increase engine speed to attempt recovery.
PTP 000168.04	Electrical System	Electrical system circuit fault. Check fuse.
PTP 000168.18	Electrical System	Battery voltage very low. Reduce electrical load or charge battery.
PTP 000619.05	Park System	Park supply solenoid circuit fault. Return to park to attempt recovery.
PTP 000619.06	Park System	Park supply solenoid circuit fault. Return to park to attempt recovery.
PTP 000629.12	Transmission System	Transmission control unit fault. Restart engine to attempt recovery.
PTP 000630.13	Transmission System	Transmission calibration fault. Perform calibration procedure.
PTP 000639.12	Transmission System	Transmission control unit communication fault. CAN Bus overload.
PTP 000639.14	Transmission System	Communication system transmission control unit fault. CAN Bus overload.
PTP 002145.09	Communication System	Communication system. Cycle switch to attempt recovery.
PTP 002833.31	Park System	Park brake engaged with vehicle in motion. Stop tractor or release park brake.
PTP 520589.02	Transmission System	Transmission speed sensor fault. Vehicle speed limited. Return to park to attempt recovery.
PTP 520778.00	Transmission System	Transmission S1 clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 520778.16	Transmission System	Transmission S1 clutch temperature very high. Reduce load or release clutch.
PTP 520780.00	Transmission System	Transmission S2 clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 520780.16	Transmission System	Transmission S2 clutch temperature very high. Reduce load or release clutch.
PTP 520781.00	Transmission System	Transmission S3 clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 520781.16	Transmission System	Transmission S3 clutch temperature very high. Reduce load or release clutch.
PTP 520788.00	Transmission System	Transmission S4 clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 520788.16	Transmission System	Transmission S4 clutch temperature very high. Reduce load or release clutch.
PTP 520789.00	Transmission System	Transmission R1 clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 520789.16	Transmission System	Transmission R1 clutch temperature very high. Reduce load or release clutch.
PTP 520795.00	Transmission System	Transmission R2 clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 520795.16	Transmission System	Transmission R2 clutch temperature very high. Reduce load or release clutch.
PTP 520800.00	Transmission System	Transmission R3 clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 520800.16	Transmission System	Transmission R3 clutch temperature very high. Reduce load or release clutch.
PTP 520801.00	Transmission System	Transmission reverse clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 520801.16	Transmission System	Transmission reverse clutch temperature very high. Reduce load or release clutch.
PTP 521221.00	Transmission System	Transmission low clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 521221.16	Transmission System	Transmission low clutch temperature very high. Reduce load or release clutch.
PTP 521222.00	Transmission System	Transmission high clutch temperature extremely high. Gear selection limited to allow clutch to cool.
PTP 521222.16	Transmission System	Transmission high clutch temperature very high. Reduce load or release clutch.
PTP 524232.17	Park System	Park brake pressure low. Park brake not engaged. Return to park to attempt recovery.
PTP 524250.31	Park System	Park brake fault. Park brake may not hold.

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## Diagnostic Trouble Codes

Diagnostic Trouble Code	System	Solution
PTP 524254.10	Transmission System	Transmission enable valve solenoid circuit fault. Return to park to attempt recovery.
PTP 600006.31	Electrical System	Electrical system. Vehicle controls not operating correctly.

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### CommandQuad™, Transmission Control Unit (PTQ) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
PTQ 000168.01	Transmission System	Battery voltage extremely low. Default to park, restart engine to attempt recovery.
PTQ 000168.18	Transmission System	Battery voltage very low. Reduce electrical load or increase engine speed to attempt recovery.
PTQ 000190.18	Transmission System	Engine speed very low. Increase engine RPM to attempt vehicle system recovery.
PTQ 002005.12	Transmission System	Transmission control unit communication fault. Return to park to attempt system recovery.
PTQ 002824.02	Transmission System	Reverser drive lever fault. Return to park to attempt system recovery.
PTQ 002833.31	Park System	Park brake is engaged while vehicle is in motion. Stop tractor or release park brake.
PTQ 004309.14	Transmission System	Transmission fault. Return vehicle to Park to attempt system recovery.
PTQ 521925.31	Transmission System	Operator presence system. Return to seated position.
PTQ 522150.14	Transmission System	Transmission shift selection fault. Shift prevented. Reduce vehicle speed.
PTQ 522188.14	Transmission System	Transmission shift selection fault. Shift prevented. Reduce engine speed.
PTQ 522193.15	Transmission System	Transmission position sensor fault. Return to park to attempt system recovery.
PTQ 522194.15	Transmission System	Transmission system has malfunctioned. Set lever to Park or Neutral.
PTQ 522196.15	Transmission System	Transmission system has malfunctioned. Set lever to Park or Neutral.
PTQ 522197.14	Transmission System	Transmission system has malfunctioned. Set lever to Park or Neutral.
PTQ 522197.17	Transmission System	Transmission system has malfunctioned. Set lever to Park or Neutral.
PTQ 522198.14	Transmission System	Transmission system has malfunctioned. Set lever to Park or Neutral.
PTQ 522198.17	Transmission System	Transmission system has malfunctioned.
PTQ 522199.14	Transmission System	Transmission system has malfunctioned. Set lever to Park or Neutral.
PTQ 522199.17	Transmission System	Transmission system has malfunctioned.
PTQ 522200.14	Transmission System	Transmission system has malfunctioned. Set lever to Park or Neutral.
PTQ 522200.17	Transmission System	Transmission system has malfunctioned.
PTQ 522201.14	Transmission System	Transmission system has malfunctioned. Set lever to Park or Neutral.
PTQ 522201.17	Transmission System	Transmission system has malfunctioned.
PTQ 523677.31	Transmission System	Operator presence system. Return to seated position.
PTQ 523953.02	Transmission System	Reverser drive lever fault. Set lever to Neutral to attempt vehicle recovery.
PTQ 523966.31	Transmission System	Transmission is in Come Home Mode. Restart engine to attempt recovery.
PTQ 524226.08	Transmission System	Direction sensing fault. Return to Park and restart engine to attempt vehicle recovery.
PTQ 524230.03	Transmission System	Transmission oil pressure high. Return to neutral to attempt system recovery.
PTQ 524230.04	Transmission System	Transmission oil pressure low. Return to neutral to attempt system recovery.
PTQ 524232.16	Transmission System	Park brake pressure very high. Return to park to attempt system recovery.
PTQ 524232.17	Transmission System	Park brake pressure low. Park not engaged. Return to park to attempt recovery.
PTQ 524239.31	Transmission System	Transmission speed sensor circuit fault. Return to park to attempt vehicle recovery.
PTQ 524250.31	Transmission System	Park brake fault. Park Brake may not hold.

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## Roof Lighting Control Unit (RLC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
RLC 000158.01	Electrical System	Electrical system voltage extremely low. Reduce electrical load or increase engine speed to attempt recovery.
RLC 000158.17	Electrical System	Electrical system voltage low. Reduce electrical load or increase engine speed to attempt recovery.
RLC 000158.18	Electrical System	Electrical system voltage very low. Reduce electrical load or increase engine speed to attempt recovery.
RLC 000628.02	Electrical System	Roof control unit fault. Calibration data reset to default.
RLC 000628.12	Electrical System	Programming roof control unit. System disabled.
RLC 002352.05	Lighting System	Low-beam headlight circuit fault. Check bulb.
RLC 002358.05	Lighting System	High-beam headlight circuit fault. Check bulb.
RLC 002368.05	Lighting System	Left turn signal circuit fault. Check bulb.
RLC 002370.05	Lighting System	Right turn signal circuit fault. Check bulb.
RLC 002382.05	Lighting System	Clearance light circuit fault. Check bulb.
RLC 002386.05	Lighting System	Beacon light circuit fault. Check bulb.
RLC 002390.05	Lighting System	License plate light circuit fault. Check bulb.
RLC 520273.05	Lighting System	Courtesy light circuit fault. Check bulb.
RLC 520715.05	Electrical System	HVAC system pressurizer fan circuit fault. Check fuse.
RLC 521535.05	Lighting System	Work light beltline lower left circuit fault. Check bulb.
RLC 521536.05	Lighting System	Work light on beltline upper left circuit fault. Check bulb.
RLC 521537.05	Lighting System	Work light roof front outer left circuit fault. Check bulb.
RLC 521538.05	Lighting System	Work light roof front mid left circuit fault. Check bulb.
RLC 521539.05	Lighting System	Work light roof front inner left circuit fault. Check bulb.
RLC 521540.05	Lighting System	Work light roof side front left circuit fault. Check bulb.
RLC 521541.05	Lighting System	Work light roof side rear left circuit fault. Check bulb.
RLC 521542.05	Lighting System	Work light roof rear side outer left circuit fault. Check bulb.
RLC 521544.05	Lighting System	Work light roof rear inner left circuit fault. Check bulb.
RLC 521553.05	Lighting System	Work light beltline lower right circuit fault. Check bulb.
RLC 521554.05	Lighting System	Work light beltline upper right circuit fault. Check bulb.
RLC 521555.05	Lighting System	Work light roof front outer right circuit fault. Check bulb.
RLC 521556.05	Lighting System	Work light roof front mid right circuit fault. Check bulb.
RLC 521557.05	Lighting System	Work light roof front inner right circuit fault. Check bulb.
RLC 521558.05	Lighting System	Work light roof side front right circuit fault. Check bulb.
RLC 521599.05	Lighting System	Work light roof side rear right circuit fault. Check bulb.
RLC 521560.05	Lighting System	Work light roof rear outer right circuit fault. Check bulb.
RLC 521562.05	Lighting System	Work light roof rear inner right circuit fault. Check bulb.
RLC 524259.00	Electrical System	Roof control unit temperature critical. Turn off vehicle and allow control unit to cool. Restart engine to attempt vehicle recovery.
RLC 524259.15	Electrical System	Roof control unit temperature above normal. Reduce electrical load.
RLC 524259.16	Electrical System	Roof control unit temperature high. Reduce electrical load.

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## Rear PTO Control Unit (RPT) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
RPT 000628.02	Electrical System	Rear PTO configuration fault. Reprogram control unit.
RPT 001883.00	PTO System	Rear PTO shaft speed extremely high. Cycle switch. Resume with reduced engine speed.
RPT 001883.01	PTO System	Rear PTO shaft speed extremely low or extreme clutch slip. Completely stop system for 7 seconds. Resume with reduced load or increased engine speed.
RPT 001896.14	Rear PTO System	Rear PTO switch ON with PTO mode in neutral. Turn off PTO switch and select PTO speed mode within CommandCenter™.
RPT 001896.31	Rear PTO System	Rear PTO speed selection error. System defaulted to neutral mode. Wait 10 seconds, then select PTO speed mode.
RPT 522390.11	Rear PTO System	Rear PTO automation aborted. Restart engine to attempt recovery.
RPT 523749.16	Rear PTO System	Rear PTO excessive clutch slip. Completely stop system for 7 seconds. Resume with reduced load.
RPT 524224.14	PTO System	PTO system. Data inconsistency. System disabled.
RPT 524251.31	PTO System	Operator presence system. Return to seated position.
RPT 524255.31	PTO System	Rear PTO external switch enabled. De-select external PTO switch enabled check-box within CommandCenter™.

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## SCV Control Unit (SCC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
SCC 000158.04	Hydraulic System	SCV control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SCC 000168.04	Hydraulic System	SCV control unit voltage low. Reduce electrical load or increase engine rpm. Power down and check fuse. Restart engine to attempt vehicle recovery.
SCC 002602.01	Hydraulic System	Hydraulic oil level low. Check oil level according to Operator's Manual procedure.
SCC 002602.14	Hydraulic System	Operator out of seat and hydraulic oil level low. Check oil level per operator's manual.
SCC 002602.18	Hydraulic System	Hydraulic oil level very low. Increase engine rpm and limit hydraulic use to allow clean oil reservoir to refill. Check oil level according to Operator's manual.
SCC 522165.31	Hydraulic System	Operator out of seat. Return to seated position.
SCC 522166.31	Hydraulic System	Operator out of seat. Return to seated position.
SCC 522167.31	Hydraulic System	Operator out of seat. Return to seated position.
SCC 522390.11	Rear SCV System	Automation aborted. Automation disabled..
SCC 523783.07	Hydraulic System	Autoload control gear fault. Return to correct gear and operate per operator's manual.
SCC 523784.07	Hydraulic System	SCV remote position control system stalled. Increase SCV maximum flow rate and operate automation per operator's manual..
SCC 523785.07	Hydraulic System	SCV remote position control system stalled. Increase SCV maximum flow rate and operate automation per operator's manual..
SCC 523786.07	Hydraulic System	SCV remote position control system stalled. Increase SCV MAX flow rate and operate automation per operator's manual..
SCC 523788.02	Hydraulic System	Hydraulic option connector changed from startup. Reference Hydraulic Option Configuration procedure in Operator's Manual.
SCC 523788.14	Hydraulic System	Hydraulic option connector changed from startup. Reference Hydraulic Option Configuration procedure in Operator's Manual.
SCC 523788.31	Hydraulic System	Hydraulic option connector fault. Reference Hydraulic Option Configuration procedure in Operator's Manual.
SCC 523942.31	Hydraulic System	Operator out of seat with SCV VI on. Return to seated position.
SCC 523943.31	Hydraulic System	Operator out of seat with SCV V on. Return to seated position.
SCC 523944.31	Hydraulic System	Operator out of seat with SCV IV on. Return to seated position.
SCC 523945.31	Hydraulic System	Operator out of seat with SCV III on. Return to seated position.
SCC 523946.31	Hydraulic System	Operator out of seat with SCV II on. Return to seated position.
SCC 523947.31	Hydraulic System	Operator out of seat with SCV I on. Return to seated position.
SCC 524185.07	Hydraulic System	SCV remote position control system stalled. Increase SCV maximum flow rate.

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## Secondary Hydraulic Control Unit (SCO) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
SCO 000158.04	Mid-Stack SCV System	Electrical system circuit fault. Reduce electrical load or increase engine speed to attempt vehicle recovery.
SCO 000168.04	Mid-Stack SCV System	Electrical system circuit fault. Check fuse. Reduce electrical load or increase engine speed to attempt recovery.
SCO 000177.01	Mid-Stack SCV System	Mid-Stack SCV oil temp extremely low. System disabled. Warm-up required.
SCO 000177.02	Front Hitch System	Front hitch calibration fault. Warm oil and repeat calibration.
SCO 000190.02	Front Hitch System	Front hitch calibration fault. Increase engine speed and repeat calibration.
SCO 002602.14	Hydraulic System	Operator out of seat and hydraulic oil level low. Check oil level per operator's manual.
SCO 002602.18	Hydraulic System	Hydraulic oil level low. Increase engine rpm and limit hydraulic use to allow clean oil reservoir to refill. Check oil level according to Operator's manual.
SCO 516459.31	Hydraulic System	Operator out of seat with SCV XV on. Return to seated position.
SCO 520451.31	Hydraulic System	Operator out of seat with SCV XIV on. Return to seated position.
SCO 521407.19	Mid-Stack SCV System	SCV XIV lever fault. Return SCV to neutral and restart engine to attempt recovery or assign different SCV lever to control SCV.
SCO 521407.31	Mid-Stack SCV System	SCV XIV lever fault. Return SCV to neutral and restart engine to attempt recovery or assign different SCV lever to control SCV.
SCO 521470.00	Mid-Stack SCV System	SCV XIV temperature extremely high. SCV XIV disabled.
SCO 521470.01	Mid-Stack SCV System	SCV XIV temperature extremely low. SCV XIV disabled. Warm up hydraulic oil per operator's manual.
SCO 521470.18	Mid-Stack SCV System	SCV XIV temperature very low. SCV XIV disabled. Warm up hydraulic oil per operator's manual. Reduce electrical load on vehicle..
SCO 521471.00	Mid-Stack SCV System	SCV XV temperature extremely high. SCV XV disabled.
SCO 521471.01	Mid-Stack SCV System	SCV XV temperature extremely low. SCV XV disabled. Warm up hydraulic oil per operator's manual.
SCO 521471.18	Mid-Stack SCV System	SCV XV temperature very low. SCV XV disabled. Warm up hydraulic oil per operator's manual. Reduce electrical load on vehicle.
SCO 521472.01	Mid-Stack SCV System	SCV XIV voltage extremely low. Reduce electrical load on vehicle.
SCO 521473.01	Mid-Stack SCV System	SCV XV voltage extremely low. Reduce electrical load on vehicle.
SCO 522161.31	Hydraulic System	Operator out of seat with SCV XII on. Return to seated position.
SCO 522162.31	Hydraulic System	Operator out of seat with SCV XIII on. Return to seated position.
SCO 522163.31	Hydraulic System	Operator out of seat with SCV XI on. Return to seated position.
SCO 522164.31	Hydraulic System	Operator out of seat with SCV X on. Return to seated position.
SCO 522390.11	Mid-Stack SCV System	Automation aborted.
SCO 523783.07	Hydraulic System	SCV remote position control system stalled. Increase SCV maximum flow rate.
SCO 523784.07	Hydraulic System	SCV remote position control system stalled. Increase SCV maximum flow rate.
SCO 523785.07	Hydraulic System	SCV remote position control system stalled. Increase SCV maximum flow rate.
SCO 523786.07	Hydraulic System	SCV remote position control system stalled. Increase SCV MAX flow rate.
SCO 523788.02	Hydraulic System	Hydraulic option connector changed from startup. Reference Hydraulic Option Configuration procedure in Operator's Manual.
SCO 523788.14	Hydraulic System	Hydraulic option connector changed from startup. Reference Hydraulic Option Configuration procedure in Operator's Manual.
SCO 523788.31	Hydraulic System	Hydraulic option connector fault. Reference Hydraulic Option Configuration procedure in Operator's Manual.
SCO 524185.07	Hydraulic System	SCV remote position control system stalled. Increase SCV maximum flow rate.

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### Suspended Front Axle Control Unit (SFA) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
SFA 000168.04	Electrical System	Hydraulic control unit battery voltage circuit fault. Front suspension control unit supply voltage low. Reduce electrical load or increase engine RPM. Shut off engine and check fuse. Restart engine to attempt recovery.
SFA 000628.12	Electrical System	SFA control unit programming. System disabled.
SFA 522290.02	Electrical System	Suspended front axle right position sensor calibration fault. Speed limited.
SFA 523847.05	Electrical System	Suspended front axle stiffness control valve circuit fault. Stiffness control disabled. Restart engine to attempt recovery. Speed limited.

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### Sequence Control Unit (SMV) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
SMV 000628.12	Electrical System	Control unit in programming mode.
SMV 523698.09	Communication System	GreenStar communication fault. Check connection.
SMV 523851.02	iTEC System	Hydraulic communication fault. Check connection.

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## Selective Control Valve Units (SV) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Although specific SCV number is listed in table, following trouble codes may be true of any SCV on tractor. If an SV code is displayed, make sure you note exactly which SCV it is and take appropriate action for specific SCV as described in solution column for trouble code.

Diagnostic Trouble Code	System	Solution
SV1 000158.04	Hydraulic System	SCV I supply voltage low. Check fuse. Reduce electrical load or increase engine speed to attempt vehicle recovery.
SV1 004084.07	Hydraulic System	SCV I float position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV1 004084.16	Hydraulic System	SCV I beyond commanded spool position. Cycle external control lever or restart engine to attempt vehicle recovery.
SV1 004084.18	Hydraulic System	SCV I commanded spool position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV1 004085.07	Hydraulic System	SCV I neutral position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV2 000158.04	Hydraulic System	SCV II supply voltage low. Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SV2 004084.07	Hydraulic System	SCV II float position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV2 004084.16	Hydraulic System	SCV II beyond commanded spool position. Cycle external control lever or restart engine to attempt vehicle recovery.
SV2 004084.18	Hydraulic System	SCV II commanded spool position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV2 004085.07	Hydraulic System	SCV II Neutral position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV3 000158.04	Hydraulic System	SCV III supply voltage low. Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SV3 004084.07	Hydraulic System	SCV III float position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV3 004084.16	Hydraulic System	SCV III beyond commanded spool position. Cycle external control lever or restart engine to attempt vehicle recovery.
SV3 004084.18	Hydraulic System	SCV III commanded spool position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV3 004085.07	Hydraulic System	SCV III Neutral position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV4 000158.04	Hydraulic System	SCV IV supply voltage low. Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SV4 004084.07	Hydraulic System	SCV IV float position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV4 004084.16	Hydraulic System	SCV IV beyond commanded spool position. Cycle external control lever or restart engine to attempt vehicle recovery.
SV4 004084.18	Hydraulic System	SCV IV commanded spool position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV4 004085.07	Hydraulic System	SCV IV Neutral position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV5 000158.04	Hydraulic System	SCV V supply voltage low. Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SV5 004084.07	Hydraulic System	SCV V float position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV5 004084.16	Hydraulic System	SCV V beyond commanded spool position. Cycle external control lever or restart engine to attempt vehicle recovery.
SV5 004084.18	Hydraulic System	SCV V commanded spool position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV5 004085.07	Hydraulic System	SCV V Neutral position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.

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## Diagnostic Trouble Codes

Diagnostic Trouble Code	System	Solution
SV6 000158.04	Hydraulic System	SCV VI supply voltage low. Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SV6 004084.07	Hydraulic System	SCV VI float position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV6 004084.16	Hydraulic System	SCV VI beyond commanded spool position. Cycle external control lever or restart engine to attempt vehicle recovery.
SV6 004084.18	Hydraulic System	SCV VI commanded spool position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SV6 004085.07	Hydraulic System	SCV VI Neutral position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SVJ 000158.04	Hydraulic System	Front Hitch supply voltage low. Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SVJ 004084.07	Hydraulic System	Front Hitch float position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SVJ 004084.16	Hydraulic System	Front Hitch beyond commanded spool position. Cycle external control lever or restart engine to attempt vehicle recovery.
SVJ 004084.18	Hydraulic System	Front Hitch commanded spool position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SVJ 004085.07	Hydraulic System	Front Hitch Neutral position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SVK 000158.04	Hydraulic System	Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SVK 004084.07	Hydraulic System	SCV XI float position fault. Cycle external control lever or restart engine to attempt vehicle recovery.
SVK 004084.16	Hydraulic System	SCV XI position fault. Cycle external control lever or restart engine to attempt vehicle recovery.
SVK 004084.18	Hydraulic System	SCV XI position fault. Cycle external control lever or restart engine to attempt vehicle recovery.
SVK 004085.07	Hydraulic System	SCV XI position fault. Cycle external control lever or restart engine to attempt vehicle recovery.
SVL 000158.04	Hydraulic System	Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SVL 004084.07	Hydraulic System	SCV XII float position fault. Cycle external control lever or restart engine to attempt vehicle recovery.
SVL 004084.16	Hydraulic System	SCV XII position fault. Cycle external control lever or restart engine to attempt vehicle recovery.
SVL 004084.18	Hydraulic System	SCV XII position fault. Cycle external control lever or restart engine to attempt vehicle recovery.
SVL 004085.07	Hydraulic System	SCV XII position fault. Cycle external control lever or restart engine to attempt vehicle recovery.
SVM 000158.04	Hydraulic System	SCV XIII supply voltage low. Check fuse. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
SVM 004084.07	Hydraulic System	SCV XIII float position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SVM 004084.16	Hydraulic System	SCV XIII beyond commanded spool position. Cycle external control lever or restart engine to attempt vehicle recovery.
SVM 004084.18	Hydraulic System	SCV XIII commanded spool position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SVM 004085.07	Hydraulic System	SCV XIII Neutral position not reached. Cycle external control lever or restart engine to attempt vehicle recovery.
SVN 000158.04	Hydraulic System	SCV XIV supply voltage low. Check fuse. Reduce electrical load or increase engine speed to attempt recovery.
SVN 004084.07	Hydraulic System	SCV XIV float position fault. Cycle switch or restart engine to attempt recovery.
SVN 004084.16	Hydraulic System	SCV XIV position fault. Cycle switch or restart engine to attempt recovery.
SVN 004084.18	Hydraulic System	SCV XIV position fault. Cycle switch or restart engine to attempt recovery.
SVN 004085.07	Hydraulic System	SCV XIV position fault. Cycle switch or restart engine to attempt recovery.
SVO 000158.04	Hydraulic System	SCV XV supply voltage low. Check fuse. Reduce electrical load or increase engine speed to attempt recovery.
SVO 004084.07	Hydraulic System	SCV XV float position fault. Cycle switch or restart engine to attempt recovery.
SVO 004084.16	Hydraulic System	SCV XV position fault. Cycle switch or restart engine to attempt recovery.

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## Diagnostic Trouble Codes

Diagnostic Trouble Code	System	Solution
SVO 004084.18	Hydraulic System	SCV XV position fault. Cycle switch or restart engine to attempt recovery.
SVO 004085.07	Hydraulic System	SCV XV position fault. Cycle switch or restart engine to attempt recovery.

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### Tractor Equipment Control Unit (TEC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
TEC 000639.14	Electrical System	Implement control unit communication fault. Diagnostic mode.
TEC 001231.12	Electrical System	Implement control unit communication fault. Diagnostic mode.
TEC 522550.14	Implement System	Implement system communication fault. Remove incompatible device.
TEC 523698.09	Implement System	Implement system message missing. Check connections to auxiliary display.
TEC 600006.31	Suspension System	Vehicle controls not operating correctly. Diagnostic mode.

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### Tractor Equipment Interface Control Unit (TEI) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
TEI 000639.14	Electrical System	Implement control unit communication fault. Diagnostic mode.
TEI 001231.12	Electrical System	Implement control unit communication fault. Diagnostic mode.
TEI 522550.14	Implement System	Implement system communication fault. Remove incompatible device.
TEI 523698.09	Implement System	Implement system message missing. Check connections to auxiliary display.
TEI 600006.31	Suspension System	Vehicle controls not operating correctly. Diagnostic mode.

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### IVT™/AutoPowr™ Transmission Shift Control Unit (TII) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following the solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
TII 000177.17	Transmission System	Transmission oil temperature low. Engine speed limited. Warm hydraulic oil.
TII 000190.01	Transmission System	Engine speed extremely low. Transmission disengaged to prevent engine stall. Return shift lever to park to attempt recovery.
TII 000581.07	Transmission System	Transmission system not responding to commands. Return to park to attempt recovery.
TII 001745.14	Electrical System	Start up checks not complete. Vehicle motion inhibited. Return shift lever to park to attempt recovery.
TII 004310.09	Vehicle Speed Automation	Vehicle Speed Automation aborted due to communications fault. Shift to Park to recover. Inspect Implement CAN Bus connections.
TII 004310.11	Vehicle Speed Automation	Vehicle speed automation communication fault. System disabled. Return to park and verify implement connections to attempt recovery.
TII 004310.14	Vehicle Speed Automation	Vehicle speed automation aborted. Return to seated position.
TII 522149.31	Speed Limiting Condition is Inactive	Vehicle speed limiting condition inactive. Reduce commanded speed by changing set speed or drive lever or move reverser to park or neutral to attempt recovery.
TII 522390.09	Automation	Automation aborted due to communications fault. Inspect Implement CAN Bus connections.
TII 522390.11	Automation	Automation aborted do to command. Restart engine to attempt recovery.
TII 523922.31	Secondary Brake On	Disengage brake or return vehicle to Neutral or Park.
TII 523960.17	Operator Controls	Operator out of seat. Return to seated position.
TII 523960.31	Operator Controls	Sit down or press brake or clutch and select Park before driving. Operator out of seat. Return to seated position. Return vehicle to Park before resuming operation.
TII 523961.02	Transmission System	Park engaged while vehicle in gear. Return to Park or restart engine to attempt vehicle recovery.
TII 523961.07	Transmission System	Transmission Not in Park. Park lock not engaged. Cycle gear selector or restart engine to attempt vehicle recovery.
TII 523966.31	Transmission System	Come-Home Mode active. Basic tractor functionality only.
TII 524020.31	Transmission System	Place transmission lever in Park.

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**e23™ Transmission Shift Control Unit (TIP)  
Diagnostic Trouble Codes**

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
TIP 000190.01	Transmission System	Engine speed extremely low. Transmission disengaged to prevent engine stall. Return shift lever to park to attempt recovery.
TIP 000190.18	Engine System	Engine speed very low. Engine speed will increase.
TIP 001745.14	Electrical System	Start up checks not complete. Vehicle motion inhibited. Return shift lever to park to attempt recovery.
TIP 002820.31	Cab Control System	Operator presence system. Return to seated position.
TIP 520576.31	Transmission System	Transmission auto mode disabled. Incompatible with Scraper Auto Load.
TIP 520958.31	Transmission System	Vehicle speed limiting condition active. Readjust transmission setting as appropriate.
TIP 520959.14	Cab Control System	Operator presence system. Return to seated position.
TIP 522149.31	Transmission System	Vehicle speed limiting condition inactive. Reduce your commanded speed by changing set speed or drive lever or move your reverser to park or neutral to attempt recovery.
TIP 522390.09	Electrical System	Vehicle automation communication fault. Automated control disabled. Return to park and verify implement connections to attempt recovery.
TIP 523922.31	Brake System	Secondary brake enabled. Disengage brake or return vehicle to neutral or park.
TIP 523966.31	Transmission System	Transmission Come Home Mode active. Basic tractor functionality only.
TIP 524173.18	Transmission System	Clutch pedal position fault. Release clutch.
TIP 524277.00	Engine System	Engine speed extremely high. Downshift aborted. Reduce engine speed.
TIP 524279.31	Cab Control System	Operator presence system. Return to seated position.

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## CommandQuad™ Transmission Shift Control Unit (TIQ) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to the tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
TIQ 000190.01	Transmission System	Transmission disengaged to prevent engine stall. Return Shift Lever to Park to attempt vehicle recovery.
TIQ 000525.07	Transmission System	Wheel speed fault. Limited gear selection.
TIQ 000628.12	Electrical System	Cab control unit programming. System disabled.
TIQ 001745.14	Electrical System	Start up checks not complete. Vehicle motion inhibited. Return shift lever to park to attempt recovery.
TIQ 002820.31	Transmission System	Operator presence system. Return to seated position.
TIQ 520959.14	Transmission System	Operator out of seat. Return to seated position.
TIQ 522149.31	Transmission System	Vehicle speed limiting condition inactive. Reduce your commanded speed by changing set speed or drive lever or move your reverser to park or neutral to attempt recovery.
TIQ 522390.09	Automation	Automation aborted due to communications fault. Inspect Implement CAN Bus connections.
TIQ 522390.11	Automation	Automation aborted due to command.
TIQ 523922.31	Secondary Brake On	Disengage brake or return vehicle to Neutral or Park.
TIQ 523961.07	Transmission System	Range lever is in park position while the reverser lever is in gear. Return reverser lever to neutral.
TIQ 523966.31	Transmission System	Transmission is in come home mode.
TIQ 524020.31	Transmission System	Reverser lever not in neutral during power up. Return reverser lever to neutral or park position.
TIQ 524173.18	Transmission System	Clutch pedal position fault. Release clutch.
TIQ 524277.00	Transmission System	Engine braking insufficient to slow tractor for downshift. Assist by braking or reducing engine speed to slow vehicle.
TIQ 524279.31	Transmission System	Operator out of seat. Return to seated position.

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## Vehicle Load Center Control Unit (VLC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
VLC 000444.06	Lighting System	Roof circuit overload. Some lights disabled. Reduce electrical load.
VLC 000630.13	Electrical System	Vehicle load center control unit fault. Replace control unit.
VLC 002348.05	Lighting System	Road lights high beam circuit fault. Check bulbs.
VLC 002350.05	Lighting System	Road lights low beam lights circuit fault. Check bulbs.
VLC 521533.05	Lighting System	Left outer hood work light circuit fault. Check bulb.
VLC 521534.05	Lighting System	Left inner hood work light circuit fault. Check bulb.
VLC 521550.05	Lighting System	Right outer hood work light circuit fault. Check bulb.
VLC 521552.05	Lighting System	Right inner hood work light circuit fault. Check bulb.
VLC 524259.00	Electrical System	Rear chassis control unit temperature extremely high. Shut off engine and allow control unit to cool.
VLC 524259.16	Electrical System	Rear chassis control unit temperature very high. Reduce electrical load.

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**Virtual Terminal Implement Control Unit (VTI)  
Diagnostic Trouble Codes**

Although no diagnostic codes are listed below, normally only codes which are observed and can be corrected by operator are listed. During normal tractor operation some trouble codes may appear which may be corrected

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simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

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## Steering System Control Unit (XMA, XMB, XSA, XSB) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere dealer.

Diagnostic Trouble Code	System	Solution
XMA 000168.01	Electrical System	Battery voltage extremely low. Reduce electrical load or increase engine speed to attempt recovery.
XMA 000628.12	Electrical System	Control unit in programming mode. Programming in progress.
XMA 001058.00	Brake System	Trailer brake pressure sensor higher than expected. Trailer brakes are disabled.
XMA 003867.03	Brake System	Brake system control unit fault. Restart engine to attempt recovery.
XMA 003867.04	Brake System	Brake system control unit fault. Restart engine to attempt recovery.
XMA 004085.07	Brake System	Trailer brake valve stuck open. Trailer brakes are disabled.
XMA 522791.13	Steering System	Gyroscope not calibrated. Park tractor on level ground for 10 seconds.
XMA 522807.01	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
XMA 523840.00	Brake System	Front brake pressure sensor 1 higher than expected. Front brakes are disabled.
XMA 523840.01	Brake System	Front brake pressure sensor 1 lower than expected. Front brakes are disabled.
XMA 523844.07	Brake System	Front brake valve stuck open. Front brakes are disabled.
XMB 000168.01	Electrical System	Supply voltage low. Reduce electrical load or increase engine rpm. Power down and check fuse. Restart engine to attempt vehicle recovery.
XMB 000609.12	Steering System	Control unit has incorrect software.
XMB 000628.12	Electrical System	Control unit in programming mode.
XMB 522279.07	Brake System	Secondary brake valve stuck open. Secondary brakes are disabled. Restart engine to attempt vehicle recovery.
XMB 522279.13	Brake System	Secondary brake valve not calibrated. Secondary brakes are disabled.
XMB 522280.00	Brake System	Secondary brake pressure sensor 1 higher than expected. Secondary brakes are disabled.
XMB 522280.01	Brake System	Secondary brake pressure sensor 1 lower than expected. Secondary brakes are disabled.
XMB 522807.01	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery.
XSA 000628.12	Electrical System	Control unit in programming mode. Programming in progress
XSA 001058.03	Brake System	Trailer brake pressure sensor circuit fault. Trailer brakes are disabled.
XSA 001058.04	Brake System	Trailer brake pressure sensor circuit fault. Trailer brakes are disabled.
XSA 001093.03	Brake System	Left rear brake pressure sensor circuit fault. Front brakes are disabled.
XSA 001093.04	Brake System	Left rear brake pressure sensor circuit fault. Front brakes are disabled.
XSA 001093.15	Brake System	Left rear brake pressure sensor fault. Front brakes are disabled.
XSA 001094.03	Brake System	Right rear brake pressure sensor circuit fault. Front brakes are disabled.
XSA 001094.04	Brake System	Right rear brake pressure sensor circuit fault. Front brakes are disabled.
XSA 001094.15	Brake System	Right rear brake pressure sensor fault. Front brakes are disabled.
XSA 001504.14	Steering System	Operator out of seat. Return to seated position.
XSA 001504.31	Steering System	Operator out of seat. Return to seated position.
XSA 003878.03	Brake System	Secondary brake pressure sensor circuit fault. Secondary brakes are disabled.
XSA 003878.04	Brake System	Secondary brake pressure sensor circuit fault. Secondary brakes are disabled.
XSA 003879.03	Brake System	Right rear brake pressure sensor circuit fault. Front brakes are disabled.
XSA 003879.04	Brake System	Right rear brake pressure sensor circuit fault. Front brakes are disabled.
XSA 003879.15	Brake System	Right rear brake pressure sensor circuit fault. Front brakes are disabled.
XSA 004085.07	Brake System	Trailer brake shutoff valve stuck open. Trailer brakes are disabled.
XSA 522390.09	Communication System	Guidance deactivated. Return to Park and verify implement connections to attempt vehicle recovery.
XSA 522390.11	Steering System	Full stop commanded. Guidance deactivated.
XSA 522791.13	Steering System	Gyroscope not calibrated. Park tractor on level ground for 10 seconds.
XSA 522807.01	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery.

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## Diagnostic Trouble Codes

Diagnostic Trouble Code	System	Solution
XSA 523216.04	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery. Power down and check fuse.
XSA 523217.04	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery. Power down and check fuse.
XSA 523218.04	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery. Power down and check fuse.
XSA 523219.04	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm to attempt vehicle recovery. Power down and check fuse.
XSA 523840.03	Brake System	Front brake pressure sensor circuit fault. Front brakes are disabled.
XSA 523840.04	Brake System	Front brake pressure sensor circuit fault. Front brakes are disabled.
XSA 523844.07	Brake System	Front brake valve stuck open. Front brakes are disabled.
XSA 524169.14	Operator Controls	Brakes not depressed since tractor startup. Please depress brake pedal.
XSB 000168.01	Electrical System	Supply voltage low. Reduce electrical load or increase engine rpm. Power down and check fuse. Restart engine to attempt vehicle recovery.
XSB 000628.12	Electrical System	Control unit in programming mode. Programming in progress.
XSB 001044.14	Steering/Brake System	Limit backup pump use, if possible. Continuous operation has been detected, which may eventually result in a pump failure.
XSB 001094.03	Brake System	Right rear brake pressure sensor circuit fault. Front brakes may have reduced functionality. .
XSB 001094.04	Brake System	Right rear brake pressure sensor circuit fault. Front brakes may have reduced functionality. .
XSB 001094.15	Brake System	Right rear brake pressure sensor circuit fault. Front brakes may have reduced functionality. .
XSB 002013.09	Communication System	Communication system fault. Restart engine to attempt recovery.
XSB 003861.02	Brake System	Secondary brake lever sensor mismatch. Restart engine to attempt recovery.
XSB 003876.03	Brake System	Left rear brake pressure sensor circuit fault. Front brakes may have reduced functionality. .
XSB 003876.04	Brake System	Left rear brake pressure sensor circuit fault. Front brakes may have reduced functionality. .
XSB 003876.15	Brake System	Left rear brake pressure sensor circuit fault. Front brakes may have reduced functionality. .
XSB 003879.03	Brake System	Right rear brake pressure sensor circuit fault. Front brakes may have reduced functionality.
XSB 003879.04	Brake System	Right rear brake pressure sensor circuit fault. Front brakes may have reduced functionality.
XSB 003879.15	Brake System	Right rear brake pressure sensor circuit fault. Front brakes may have reduced functionality.
XSB 522279.07	Brake System	Secondary brake shutoff valve stuck open. Secondary brakes are disabled. Restart engine to attempt vehicle recovery.
XSB 522279.13	Brake System	Secondary brake valve not calibrated. Secondary brakes are disabled.
XSB 522280.03	Brake System	Secondary brake pressure sensor circuit fault. Secondary brakes are disabled.
XSB 522280.04	Brake System	Secondary brake pressure sensor circuit fault. Secondary brakes are disabled.
XSB 522765.05	Electrical System	Steering valve ground circuit fault. Check connection.
XSB 522766.05	Electrical System	Steering valve ground circuit fault. Check connection.
XSB 522767.05	Electrical System	Steering valve ground circuit fault. Check connection.
XSB 522768.05	Electrical System	Steering valve ground circuit fault. Check connection.
XSB 522770.05	Electrical System	Steering control unit circuit fault. Check connector and harness near control unit.
XSB 522789.14	Brake System	Hydraulic oil is too cold. Warm up hydraulic oil.
XSB 523216.04	Electrical System	Steering control unit supply voltage low. Shut off engine and check fuse.
XSB 523217.04	Electrical System	Steering control unit supply voltage low. Shut off engine and check fuse.
XSB 523218.04	Electrical System	Steering control unit supply voltage low. Shut off engine and check fuse.
XSB 523219.04	Electrical System	Steering control unit supply voltage low. Shut off engine and check fuse.
XSB 523789.05	Steering System	Right wheel angle sensor disconnected. Check right wheel angle sensor harness and connector.
XSB 523839.14	Brake System	Secondary brake lever is stuck. Secondary brakes are disabled. Move lever back and forth until unstuck.

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## Steering System Control Unit (XMC, XSC) Diagnostic Trouble Codes

Although diagnostic codes listed below are not a complete list of diagnostic trouble codes, they do reflect codes which may be observed while operating tractor and have corrective action operator can take. Many codes which

appear may be corrected simply by cycling key switch or by following solution on CommandCenter™ page, then cycling key switch.

If corrective action cannot be taken after cycling power to tractor or if there are any questions, contact your John Deere™ dealer.

Diagnostic Trouble Code	System	Solution
XMC 000168.01	Electrical System	Supply voltage low. Reduce electrical load or increase engine rpm. Power down and check fuse. Restart engine to attempt vehicle recovery.
XMC 000628.12	Electrical System	Control unit in programming mode. Programming in progress.
XMC 001058.00	Brake System	Trailer brake pressure sensor 1 higher than expected. Trailer brakes are disabled.
XMC 004085.07	Brake System	Trailer brake valve stuck open. Trailer brakes are disabled.
XMC 522279.07	Brake System	Secondary brake valve stuck open. Secondary brakes are disabled. Restart engine to attempt vehicle recovery.
XMC 522279.13	Brake System	Secondary brake valve not calibrated. Secondary brakes are disabled.
XMC 522280.00	Brake System	Secondary brake pressure sensor 1 higher than expected. Secondary brakes are disabled.
XMC 523840.00	Brake System	Front brake pressure sensor 1 higher than expected. Front brakes are disabled.
XMC 523844.07	Brake System	Front brake valve stuck open. Front brakes are disabled.
XSC 000628.12	Electrical System	Control unit in programming mode. Programming in progress.
XSC 001044.14	Steering/Brake System	Limit backup pump use, if possible. Continuous operation has been detected, which may eventually result in a pump failure.
XSC 001058.03	Brake System	Trailer brake pressure sensor circuit fault. Trailer brakes are disabled.
XSC 001058.04	Brake System	Trailer brake pressure sensor circuit fault. Trailer brakes are disabled.
XSC 001093.03	Brake System	Left rear brake pressure sensor circuit fault. Front brakes are disabled.
XSC 001093.04	Brake System	Left rear brake pressure sensor circuit fault. Front brakes are disabled.
XSC 001093.15	Brake System	Left rear brake pressure sensor fault. Front brakes are disabled.
XSC 001094.03	Brake System	Right rear brake pressure sensor circuit fault. Front brakes are disabled.
XSC 001094.04	Brake System	Right rear brake pressure sensor circuit fault. Front brakes are disabled.
XSC 001094.15	Brake System	Right rear brake pressure sensor fault. Front brakes are disabled.
XSC 001504.14	Steering System	Operator out of seat. Guidance deactivated. Return to seated position.
XSC 001504.31	Steering System	Operator out of seat. Return to seated position.
XSC 004085.07	Brake System	Trailer brake shutoff valve stuck open. Trailer brakes are disabled.
XSC 522279.07	Brake System	Secondary brake shutoff valve stuck open. Secondary brakes are disabled. Restart engine to attempt vehicle recovery.
XSC 522279.13	Brake System	Secondary brake valve not calibrated. Secondary brakes are disabled.
XSC 522280.03	Brake System	Secondary brake pressure sensor circuit fault. Secondary brakes are disabled.
XSC 522280.04	Brake System	Secondary brake pressure sensor circuit fault. Secondary brakes are disabled.
XSC 522390.09	Steering System	Guidance deactivated. Return to Park and verify implement connections to attempt vehicle recovery.
XSC 522390.11	Steering System	Full stop commanded. Guidance deactivated.
XSC 522789.14	Steering/Brake System	Hydraulic oil is too cold. Warm oil and try again.
XSC 523216.04	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm. Power down and check fuse.
XSC 523217.04	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm. Power down and check fuse.
XSC 523218.04	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm. Power down and check fuse.
XSC 523219.04	Electrical System	Steering control unit supply voltage low. Reduce electrical load or increase engine rpm. Power down and check fuse.
XSC 523826.14	Steering System	Steering wheel moved with no road wheel motion.
XSC 523826.20	Steering System	Wheel angle sensor fault.
XSC 523839.14	Brake System	Secondary brake lever engaged during startup. Allow secondary brake lever to return to off position. Restart engine to attempt vehicle recovery.
XSC 523840.03	Brake System	Front brake pressure sensor circuit fault. Front brakes disabled.
XSC 523840.04	Brake System	Front brake pressure sensor circuit fault. Front brakes disabled.

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*Diagnostic Trouble Codes*

<b>Diagnostic Trouble Code</b>	<b>System</b>	<b>Solution</b>
XSC 523844.07	Brake System	Front brake valve stuck open. Front brakes are disabled.
XSC 524169.14	Operator Controls	Brakes not depressed since tractor startup. Please depress brake pedal.

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# Storage

## Place Tractor in Storage

**IMPORTANT:** If tractor will not be used for more than three months, the following recommendations for storage and removal from storage will minimize corrosion and deterioration.

*NOTE: Whenever possible store tractor in a building or under a roof to avoid damage resulting from prolonged exposure to the elements.*

1. Lower hitch.
2. Change engine oil and replace filter (if required).

*NOTE: Do not add BioDiesel fuel if placing tractor in storage.*

3. Drain fuel tank and add back approximately 19 L (5 gal) of fuel.

**IMPORTANT: (Final Tier 4 and Stage IV Engines only. To determine which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.) Long-term storage of Diesel Exhaust Fluid (DEF) in vehicle (over 6 months) is not recommended. If long-term storage is necessary, periodic testing of DEF is recommended to ensure that urea concentration does not fall out of specification.**

4. Final Tier 4 and Stage IV tractors: Diesel Exhaust Fluid (DEF) has a limited shelf life, but may be stored in vehicle for as long as 6 months, depending upon storage conditions. See Handling and Storing DEF in Fuel, Lubricants and Coolant section of this Operator's Manual. If draining DEF tank is necessary, see Draining DEF Tank in Fuel, Lubricants and Coolant section of this Operator's Manual for proper procedure.
5. Using plastic bags and either tape or tie-bands, seal air inlets and exhaust, crankcase vent tube, radiator overflow hose, and transmission-hydraulic system fill cap.

**IMPORTANT: (Final Tier 4 and Stage IV Engines only. To determine which engine your tractor**

<sup>1</sup>*Disconnect battery ground cable for short-term storage periods (20 to 90 days)*

is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.) Do not disconnect battery until Selective Catalyst Reduction (SCR) system has had enough time to automatically purge system of Diesel Exhaust Fluid (DEF). If adequate time is not allowed for system to be purged, any DEF remaining can crystallize and plug system. At temperatures below -15°C (5°F), unpurged DEF will freeze and damage system components. If equipped with a battery disconnect system, a light next to disconnect system is illuminated while auto-purge is in progress. It shuts off when complete and safe to disconnect the battery. If tractor is not equipped with battery disconnect, wait at least 4 minutes after tractor stops before disconnecting battery.

6. Remove and store batteries in a cool, dry location. Keep batteries charged.<sup>1</sup>
7. Coat all exposed (machined) metal surfaces such as lift cylinders and steering cylinder rods with light coat of grease.
8. Lubricate all grease fittings.
9. Release tension on auxiliary drive belt and remove belt from air conditioner pulley.

**If tractor must be stored outside, follow these additional precautions.**

1. Cover instrument panel, control levers and seat with sheets of material or cardboard to protect against sun rays.
2. Thoroughly clean tractor touching up any scratched or chipped painted surfaces.
3. Wax or cover entire tractor with waterproof material.
4. Raise tires off the ground and/or cover them to protect from heat and sunlight.

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## Remove Tractor from Storage

REVIEWER/USER: CONTENT REGARDING FT4 DEF AND SCR NOT FINALIZED AND IS UNOFFICIAL.

1. Remove all coverings placed in or on tractor while preparing for storage.

**IMPORTANT: To avoid engine damage, make sure crankcase vent tube is unsealed after storage.**

2. Unseal all openings sealed during storage.
3. Remove any accumulated trash or debris, especially around engine and inside engine compartment.

**IMPORTANT: If air conditioning compressor is locked up, engine operation with compressor clutch engaged may damage drive belt or compressor.**

4. Rotate air conditioner compressor pulley several turns. If pulley does not turn freely, compressor components may be seized. See your John Deere™ dealer.
5. Check auxiliary drive belt for cracking and if serviceable, install auxiliary drive belt on air conditioner pulley.
6. Check under and around tractor for any evidence of fluid leaks.

**IMPORTANT: If transmission-hydraulic oil level was correct at time of storage, and there is no evidence of hydraulic oil leaks, there should be no concern starting tractor even if transmission-hydraulic oil sight glass level is low. Over a period of storage, hydraulic oil may drain into transmission, causing sight glass to read low even when adequate amount of oil is available. If there are indications of oil leaks, do not start tractor until the source has been determined and repairs made. If there are no leakage indications, but there is any doubt about oil level at time of storage, check hydraulic oil level as soon as possible after starting tractor.**

7. Check transmission-hydraulic oil level. Add oil as required.

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8. Check all other fluid levels. Fill as required.
9. Fill fuel tank.

**IMPORTANT: To confirm which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers section of this Operator's Manual.**

10. Final Tier 4 and Stage IV engine tractors: If Diesel Exhaust Fluid (DEF) tank has not been drained, test urea concentration, see Testing DEF in Fuel, Lubricants, and Coolant and section of this Operator's Manual. If concentration is not within specifications, drain and replace with new or good DEF. If DEF tank has been drained, fill tank. See Filling DEF Tank in Fuel, Lubricants and Coolant section of this Operator's Manual for appropriate procedures.
  11. Inspect tires and check tire inflation pressures. (See Wheels, Tires and Treads sections of this Operator's Manual.)
  12. Perform all Daily or 10 Hour service procedures and any other scheduled services as required. (See Maintenance and Service Intervals and Daily or 10 Hour Service sections of this Operator's Manual.)
  13. Install batteries and connect cables.
  14. Turn key to **RUN** position for one minute to allow fuel system to prime.
- NOTE: While operating engine at slow idle, visually check all instruments and indicators to ensure they function properly.*
15. Start and operate engine at slow idle for several minutes.
  16. Check tractor functions and systems, including air conditioning.
  17. Warm up tractor before putting tractor under load.

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## Paint Finish Care

**IMPORTANT: DO NOT use strong soaps, chemical detergents, or cleaning agents containing acids, caustics, or abrasives. It is best to use commercially available car wash (non-detergent) products which will not remove protective wax, which may be applied to the paint finish.**

- Wash tractor regularly, particularly if it has been exposed to herbicides, pesticides, road salt, or other chemical agents.
- DO NOT wash tractor in direct sunlight.
- All cleaning agents should be rinsed promptly and not be allowed to dry on the paint surface.

- Waxing tractor occasionally is recommended to remove residue from and further protect the paint finish. DO NOT use waxes containing abrasive compounds.
- Inspect paint surface during washing or waxing for chips and scratches. Repaint any areas where paint has been damaged.

Your John Deere™ dealer has a full line of cleaners, waxes, and touch-up paints to help enhance the paint finishes and which are compatible with your equipment.

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# Specifications

## Engine

	7210R	7230R	7250R	7270R	7290R
<b>POWER:</b>					
Rated Engine power PS (hp ISO) at 2100 engine rpm (97/68/EC) <sup>a</sup>	155 kW (210 hp)	169 kW (230 hp)	184 kW (250 hp)	199 kW (270 hp)	213 kW (290 hp)
Rated Engine power PS <sup>b</sup> (hp ISO) at 2100 engine rpm (ECE-R24)	148 kW (202 hp)	162 kW (221 hp)	177 kW (240 hp)	191 kW (259 hp)	205 kW (278 hp)
Rated PTO power (hp SAE) at rated engine speed (2100 erpm) <sup>c,d</sup>	127 kW (170 hp)	141 kW (189 hp)	153 kW (205 hp)	167 kW (224 hp)	181 kW (242 hp)
Rated Speed	2100 rpm				
<b>ENGINE:</b>					
<b>US EPA Final Tier 4/EU Stage IV</b>					
Manufacturer (US EPA Final Tier 4/EU Stage IV) <sup>e</sup>	John Deere™ PowerTech™ PSS (B20 Diesel Compatible) 6.8 L				John Deere™ PowerTech™ PSS (B20 Diesel Compatible) 9.0 L
Aspiration (US EPA Final Tier 4/EU Stage IV)	Dual turbochargers, variable geometry turbo with fixed geometry turbo in series				
Compression Ratio (US EPA Final Tier 4/EU Stage IV)	17.2:1	16.0:1			
Displacement (US EPA Final Tier 4/EU Stage IV)	6.8 L (415 cu. in.)				9.0 L (549 cu. in.)
Bore and Stroke (US EPA Final Tier 4/EU Stage IV)	106 mm (4.19 in.) x 127 mm (5.0 in.)				118.4 mm (4.66 in.) x 136 mm (5.35 in.)
Filter, Engine Air (US EPA Final Tier 4/EU Stage IV)	Dual stage with engine cooling fan aspiration				
<b>US EPA Tier 2/EU Stage II</b>					
Manufacturer (US EPA Tier 2/EU Stage II) <sup>e</sup>	John Deere™ PowerTech™ (B20 Diesel Compatible)		Not Available		
Aspiration (US EPA Tier 2/EU Stage II)	Single fixed geometry turbocharger.		Not Available		
Compression Ratio (US EPA Tier 2/EU Stage II)	17.2:1		Not Available		
Displacement (US EPA Tier 2/EU Stage II)	6.8 L (415 cu. in.)		Not Available		
Bore and Stroke (US EPA Tier 2/EU Stage II)	106 mm (4.19 in.) x 127 mm (5.0 in.)		Not Available		
Filter, Engine Air (US EPA Tier 2/EU Stage II)	Dual Stage		Not Available		
Rated Speed	2100 rpm				
Type	Diesel, in-line, 6-cylinder, wet-sleeve cylinder liners with 4 valves-in-head				
Lubrication	Full pressure, full flow filtration with bypass				
Filter, Oil	Replaceable cartridge style oil filter				
<b>FUEL:</b>					
	Electronically controlled, high-pressure common rail with electric fuel transfer pump (self priming)				
Filter System	Two Stage with water separator and service indicator light				
Filter, Primary	10 micron replaceable cartridge with water indication sensor and drain				
Filter, Secondary	2 micron spin-on element				

<sup>a</sup>97/68/EC power refers to average (50% MOE) net brake power measured and corrected for ambient conditions according to the EC emissions directive. It is equivalent to internal Deere Standard RES10080, and SAE Standards J1349, J1995.

<sup>b</sup>German term for horse power in which one PS is equivalent to .9863 horse power

<sup>c</sup>PTO Power for IVT models. PST models will be slightly higher. Does not include optional equipment losses.

<sup>d</sup>80% Factory Observed MOE value.

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## Specifications

<sup>e</sup>To determine which engine your tractor is equipped with, see Record Engine Serial Number in Identification Numbers Section of this Operator's Manual.

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PowerTech is a trademark of Deere & Company

RD47322,000008D -19-06SEP13-2/2

### Capacities

	7210R	7230R	7250R	7270R	7290R
<b>CAPACITIES:</b>					
Fuel Tank, CommandQuad™, G47/G48 Tires <sup>a</sup>	503 L (133 gal.)		Not Available		
Fuel Tank, CommandQuad™, G47/G48 Tires <sup>b</sup>	572 L (151 gal.)		Not Available		
Fuel Tank, e23™, G48 Tires <sup>a</sup>	475 L (125.5 gal.)				
Fuel Tank, e23™, G47/48 Tires <sup>b</sup>	544 L (144 gal.)		Not Available		
Fuel Tank, e23™, G49 Tires	Not Available			497 L (131.3 gal.)	
Fuel Tank, IVT™/AutoPowr™, G47/G48 Tires <sup>a</sup>	520 L (137 gal.)				
Fuel Tank, IVT™/AutoPowr™, G47/G48 Tires <sup>b</sup>	589 L (156 gal.)		Not Available		
Fuel Tank, IVT™/AutoPowr™, G49 Tires	Not Available			543 L (143 gal.)	
DEF <sup>c</sup> Tank	25.7 L (6.8 gal.)				
Cooling System	41.5 L (10.9 gal.)				43.5 L (11.5 gal.)
Crankcase, including Filter	24.5 L (25.9 qt.)		27 L (28.5 qt.)		
Transmission-Hydraulic System, CommandQuad™ <sup>d</sup>	160 L (42.3 gal.)		Not Available		
Transmission-Hydraulic system, e23™ <sup>d</sup>	160 L (42.3 gal.)				
Transmission-Hydraulic system, IVT™/AutoPowr™ <sup>d</sup>	160 L (42.3 gal.)				
Front PTO Oil	4.0 L (4.25 qt.)				
TLS™ Plus with Differential Lock	10.8 L (2.8 gal.)				
TLS™ Plus with Limited Slip	14.4 L (3.8 gal.)				
1300 MFWD Axle <sup>a</sup>	Not Available	14.4 L (3.8 gal.)			
1300 MFWD Axle <sup>b</sup>	Not Available	14.4 L (3.8 gal.)	Not Available		
1150 MFWD Axle	14.4 L (3.8 gal.)	Not Available			
Wheel Hub without Brakes	3.8 L (4.0 qt.) Per Wheel Hub				
Wheel Hub with Brakes	3.9 L (4.1 qt.) Per Wheel Hub				

<sup>a</sup>US EPA Final Tier 4/EU Stage IV

<sup>b</sup>US EPA Tier 2/EU Stage II

<sup>c</sup>Diesel Exhaust Fluid

<sup>d</sup>Actual volume may vary depending on additional SCV's and tractor options.

T084419,0000267 -19-08AUG13-1/1

## Specifications

### Hydraulic

	7210R	7230R	7250R	7270R	7290R
<b>HYDRAULIC:</b>	Closed-center, pressure/flow compensated				
Selective Control Valves	3, 4, 5, 6 SCV's with CommandQuad, PST, and IVT™ Transmissions				
Main Pump Displacement	45 cc — Standard 63 cc — Optional 85 cc — Optional			63 cc — Standard 85 cc — Optional	
Maximum Pressure	2,958.1 +or- 4.4 psi (20,400 +or- 300 kPa)				
Rated Flow 45 cm <sup>3</sup> Pump	121 L/min (32 gpm)			Not Available	
Rated Flow 63 cm <sup>3</sup> Pump	166.6 L/min (44 gpm)				
Rated Flow 85 cm <sup>3</sup> Pump	223 L/min (59 gpm) — Optional				
Available Flow at One SCV	132 L/min (35 gpm)				
Take Out Oil Capacity	CQ 85 Liters; IVT™ is 70 or 89 Liters With Reservoir		IVT™ is 70 or 89 Liters With Reservoir		IVT™ is 65 or 84 Liters with Reservoir

IVT is a trademark of Deere & Company

TO84419,0000268 -19-22JUL13-1/1

### Electrical System

	7210R	7230R	7250R	7270R	7290R
<b>ELECTRICAL SYSTEM (two batteries in parallel):</b>					
Alternator/Battery	200 amps / 12 volt (240 amps-Optional)				
Total cold cranking amps	1850 (2-925CCA grp 31 batteries)				

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Specifications

**Transmission and Drive Train**

	7210R	7230R	7250R	7270R	7290R
<b>TRANSMISSION:</b>					
20 Speed CommandQuad™ Transmission 40K	Standard (42 km/h ECO, 20 forward / 20 reverse speeds)			Not Available	
20 Speed CommandQuad™ Transmission 50K	Optional (50 km/h ECO, 20 forward / 20 reverse speeds)			Not Available	
e23™ Transmission 40K	Optional (23 forward/ 11 reverse)			Standard	
e23™ Transmission 50K	Optional (23 forward/ 11 reverse)			Standard	
John Deere IVT™ 0.050 - 42 km/h (0.030 - 26 mph)			Optional		
John Deere IVT™ 0.050 - 50 km/h (0.030 - 31 mph)			Optional		
<b>REAR AXLES:</b>					
100 mm diameter x 2550 mm length (3.94 x 100.4 in.)	Optional			Not Available	
100 mm diameter x 2808 mm length (3.94 x 110.5 in.)	Optional			Not Available	
100 mm diameter x 3012 mm length (3.94 x 118.5 in.)	Standard			Not Available	
110 mm diameter x 2550 mm length (4.33 x 100.4 in.)	Not Available			Standard	
110 mm diameter x 3012 mm length (4.33 x 118.5 in.)	Not Available			Optional	
120 mm diameter x 2550 mm length (4.72 x 100.4 in.)	Not Available			Optional	
120 mm diameter x 3012 mm length (4.72 x 118.5 in.)	Not Available			Optional	
<b>REAR WHEEL EQUIPMENT:</b>					
Type	Group 47/48 tires available as singles/duals		Group 47/48/49 tires available as singles/duals		Group 48/49 tires available as singles
<b>FRONT AXLES:</b>					
1150 Series MFWD - tread range 60 to 88 in. (1524 to 2235 mm)	Standard		Not Available		
1300 Series MFWD - tread range 60 to 88 in. (1524 to 2235 mm)	Not Available		Standard		
TLS - tread range 60 to 88 in. (1524 to 2235 mm)			Optional		
TLS with front brakes, available with 40Kph, standard with 50 Kph			Optional		

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SV81855,0000015 -19-08AUG13-1/2



*Specifications*

	7210R	7230R	7250R	7270R	7290R
<b>DIFFERENTIAL LOCK - REAR AXLE:</b>					
Full - Locking Electrohydraulic	Standard				
<b>DIFFERENTIAL LOCK - FRONT AXLE:</b>					
1150 MFWD	Limited Slip	Not Available			
1300 Series MFWD	Not Available	Limited Slip			
TLS	Limited Slip				
TLS with Front Brakes	Full - locking electrohydraulic (actuated at same time as rear differential - lock)				
<b>STEERING:</b>					
	Tilt-telescope with memory				
Hydrostatic Power with electric pump back-up	Load sensing, hydrostatic, flow metering with a 406 mm diameter steering wheel — Standard				
Active Command Steering with electric pump back-up	Variable ratio 15:1 to 23:1 (3.1—5.0 turns lock to lock) with Stability Augmentation and passive tactile feedback (345 mm diameter steering wheel) — Optional				
<b>BRAKES:</b>					
	Hydraulically operated wet disk				

*CommandQuad is a trademark of Deere & Company  
 IVT is a trademark of Deere & Company*

SV81855,0000015 -19-08AUG13-2/2

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## Specifications

### Hitch, Drawbar and PTO

	7210R	7230R	7250R	7270R	7290R
<b>3-POINT HITCH (rear):</b>					
Category 3/3N with Quik-Coupler	5625 kg (12,000 lb.) 100 mm diameter axle — Standard		N/A <sup>a</sup>		
Category 3/3N with Quik-Coupler	6895 kg (15,200 lb.) 100 mm diameter axle — Optional		6895 kg (15,200 lb.) 100 mm diameter axle — Standard		
Category 3N/3 with Quik-Coupler	N/A <sup>a</sup>		7847 kg (17,300 lb.) 120 mm diameter axle (10,206 kg max lift) — Standard		
<b>3-POINT HITCH (front):</b>					
Cat. 3N Hitch	5,200 kg (11,464 lb.) Lift Capacity — Standard				
Cat. 3N Hitch	5,200 kg (11,464 lb.) Lift Capacity Ground Engaging — Optional				
<b>DRAWBAR:</b>					
Cat 3 1837 kg (4050 lb.) - 2700 kg (6000 lb.) Maximum Vertical Load	Standard				
Cat 3 HD 4536 kg (10,000 lb.) Maximum Vertical Load	Optional				
<b>Rear PTO (power take off):</b>					
	Independent				
1-3/4 in., 20 spline, 1,000 rpm	Standard				
1-3/4 in., 20 spline, 1,000 rpm with 1-3/8 in. 540/1000 rpm gearcase	Optional				
1-3/4 in., 20 spline, 1,000 rpm with 1-3/8 in. 540/1000/1000E rpm gearcase	Optional				
1-3/4 in., 20 spline, 1,000 rpm with 1-3/8 in. 540/540E/1000 rpm gearcase	Optional				
PTO Speed @ Engine rpm	(540/1000 PTO rpm @ 1950 engine rpm) (540E/1000E PTO rpm @ 1750 engine rpm)				
<b>Front PTO (power take off):</b>					
1-3/8 in., 6-spline, 1,000-rpm, ccw (when facing Front PTO)	Available				
1-3/8 in., 21-spline, 1,000-rpm, cw (when facing Front PTO)	Available				
1-3/4 in., 20-spline, 1,000-rpm, ccw (when facing Front PTO)	Available				
PTO Speed @ Engine RPM (1:2 ratio)	1000 PTO RPM @ 1940 ERPM				
PTO Power (SAE hp)	175 hp (130 kW) maximum output				

<sup>a</sup>N/A is the abbreviation for not available

T084419.000026B -19-01MAY13-1/1

Specifications

**Tractor Load/Weights**

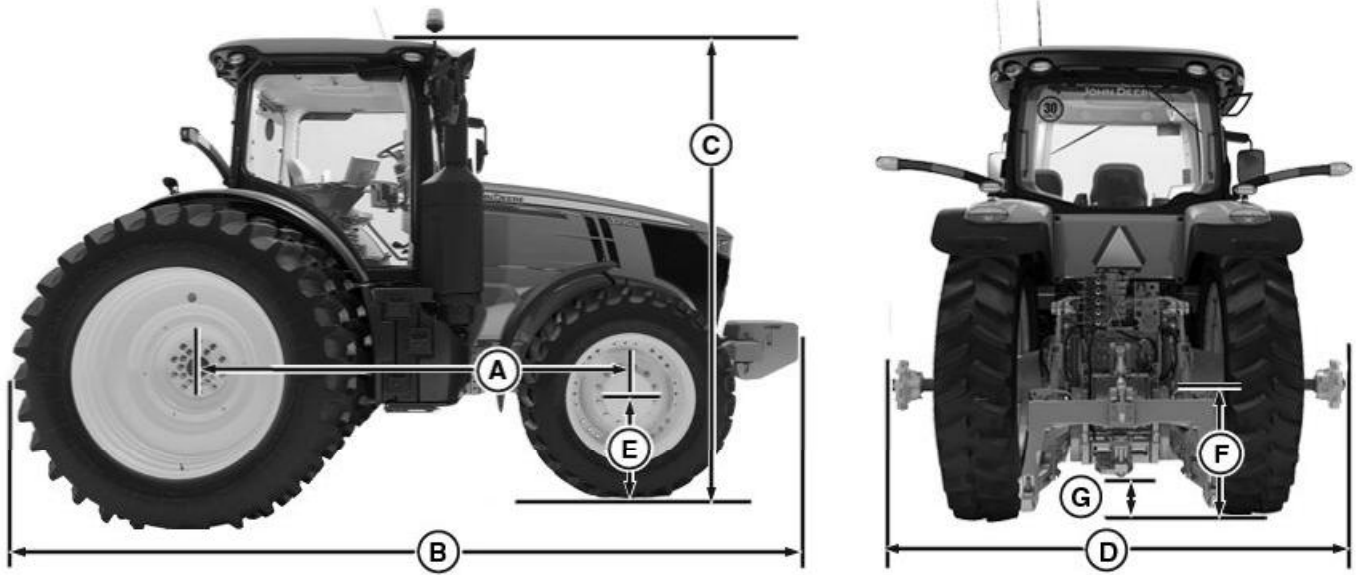
	7210R	7230R	7250R	7270R	7290R
<b>MAXIMUM STATIC VERTICAL LOAD:</b>					
Drawbar Cat 3 — Extended Position	1837 kg (4050 lb.)				
Drawbar Cat 3 Heavy Duty — Extended Position	2994 kg (6600 lb.)				
Drawbar Cat 3 — Medium Position	2131 kg (4700 lb.)				
Drawbar Cat 3 Heavy Duty — Medium Position	3493 kg (7700 lb.)				
Drawbar Cat 3 — Fully Retracted	2766 kg (6100 lb.)				
Drawbar Cat 3 Heavy Duty — Fully Retracted	4536 kg (10,000 lb.)				
Front MFWD Axle	5500 kg (12,125 lb.)		6500 kg (14,330 lb.)		
<b>TRACTOR WEIGHTS:<sup>a</sup></b>					
CommandQuad™, MFWD, Cat 3 hitch, Quick Coupler, Cat 3 drawbar, 480/80R46 rear duals, 420/90R30 front, two 452 lb. inner weights	10,469 kg (23,080 lb.)		N/A <sup>b</sup>		
e23™, IVT™, TLS™, MFWD, Cat 3 hitch, Quick Coupler, Cat 3 Heavy Duty drawbar, 480/80R50 rear duals, 380/80R38 front, 1378 lb. inner weights	11,954 kg (26,355 lb.)		12,259 kg (26,585 lb.)	12,329 kg (27,180 lb.)	

<sup>a</sup>Total Tractor Weight

<sup>b</sup>N/A is the abbreviation for not available

TO84419,000026C -19-04SEP13-1/1

Overall Dimensions



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	7210R	7230R	7250R	7270R	7290R
<b>A - Wheelbase</b>					
MFWD Axles	2925 mm (115 in.)				
<b>B - Overall Length</b>					
Including front weight support, rear hitch, and excluding front suitcase weights	5520 mm (217 in.)			5540 mm (218 in.)	
<b>C - Overall Height (Top of Cab)</b>					
Group 47 Rear Tires	3245 mm (128 in.)				
Group 48 Rear Tires	3357 mm (132 in.)				
Group 49 Rear Tires	N/A <sup>a</sup>			3446 mm (136 in.)	
<b>D - Width (Axle Length)</b>					
Short Axle [100 mm (3.94 in.), 110 mm (4.33 in.), 120 mm (4.72 in.) Diameter]	2550 mm (100 in.)				
Long Axle [100 mm (3.94 in.) Diameter]	2807 mm (110 in.)				
Extra Long [100 mm (3.94 in.), 110 mm (4.33 in.), 120 mm (4.72 in.) Diameter]	3012 mm (119 in.)				
<b>E - Crop Clearance</b>					
MFWD With Group 42 Front Tires	612 mm (24 in.)				
MFWD With Group 43 Front Tires	634 mm (25 in.)				
MFWD With Group 44 Front Tires	N/A <sup>a</sup>			668 mm (26 in.)	
<b>F - Crop Clearance (Rear Axle Housing)</b>					
Group 47 Rear Tires	575 mm (23 in.) <sup>b</sup>				
Group 48 Rear Tires	627 mm (25 in.) <sup>b</sup>				
Group 49 Rear Tires	N/A <sup>a</sup>			673 mm (27 in.)	
<b>G - Drawbar Clearance</b>					
Group 47 Rear Tires	352 mm (14 in.)				
Group 48 Rear Tires	420 mm (17 in.)				
Group 49 Rear Tires	N/A <sup>a</sup>			463 mm (18 in.)	
<b>H- Overall Length (Including Hitch, Drawbar and Front Weight Support with no Front Weights)</b>	5520 mm (217 in.)			5540 mm (218 in.)	
<b>I- Overall Length (Including Hitch, Drawbar, Front Weight Support and Front Weights)</b>	5885 mm (232 in.)			5905 mm (232.5 in.)	
<b>Rear Axle Diameter</b>	100 mm (3.9 in.)			110 mm (4.3 in) or 120 mm (4.7 in)	

Continued on next page

TO84419,000026D -19-25JUL13-1/2

## Specifications

	7210R	7230R	7250R	7270R	7290R
<b>Ground Clearance (Front Axle, Off-Center, assuming 30 in. Rows)</b>					
MFWD/TLS Front Axle (Group 42 tires)			612 mm (24.1 in.)		
MFWD/TLS Front Axle (Group 43 tires, 420/85R34)			634 mm (25.0 in.)		
MFWD/TLS Front Axle (Group 44 tires, 420/85R38)			668 mm (26.3 in.)		
<b>Turning Radius (Centerline of Outside Front Tire, at 60" Treads)</b>					
MFWD Front Axle Without Oscillation Stops 420/90R30			7.0 m (22.9 ft.) @31° turn angle		
MFWD Front Axle Without Oscillation Stops 380/85R34			6.5 m (21.3 ft.) @34° turn angle		
MFWD Front Axle Without Oscillation Stops 420/90R30			5.2 m (17 ft.) @47° turn angle		

<sup>a</sup>N/A is the abbreviation for not available

<sup>b</sup>MFWD Front Axle

TO84419,000026D -19-25JUL13-22

## Ground Speeds—40 km/h (25 mph) (20-Speed) CommandQuad™ Eco Shift Transmission

Travel speeds are at rated engine speed of 2100 rpm using maximum rolling circumference (RC).

Gear	Group 47 Tires RC = 5850 mm (230 in.)		Group 48 Tires RC = 6164 mm (243 in.)	
	Forward km/h (mph)	Reverse km/h (mph)	Forward km/h (mph)	Reverse km/h (mph)
A1	2.8 (1.7)	2.9 (1.8)	2.9 (1.8)	3.1 (1.9)
A2	3.4 (2.1)	3.5 (2.2)	3.5 (2.2)	3.7 (2.3)
A3	4.0 (2.5)	4.2 (2.6)	4.2 (2.6)	4.4 (2.8)
A4	4.9 (3.1)	5.2 (3.2)	5.2 (3.2)	5.4 (3.4)
B1	5.9 (3.7)	6.2 (3.8)	6.2 (3.9)	6.5 (4.0)
B2	7.1 (4.4)	7.4 (4.6)	7.5 (4.7)	7.8 (4.9)
B3	8.5 (5.3)	8.9 (5.5)	9.0 (5.6)	9.4 (5.8)
B4	10.5 (6.5)	10.9 (6.8)	11.0 (6.9)	11.5 (7.1)
C1	9.4 (5.9)	9.8 (6.1)	9.9 (6.2)	10.4 (6.4)
C2	11.4 (7.1)	11.8 (7.4)	12.0 (7.4)	12.5 (7.8)
C3	13.6 (8.5)	14.2 (8.8)	14.3 (8.9)	14.9 (9.3)
C4	16.7 (10.4)	17.4 (10.8)	17.6 (10.9)	18.3 (11.4)
D1	17.5 (10.9)	18.2 (11.3)	18.4 (11.4)	19.2 (11.9)
D2	21.0 (13.1)	21.9 (13.6)	22.2 (13.8)	23.1 (14.4)
D3	25.2 (15.6)	26.3 (16.3)	26.5 (16.5)	27.7 (17.2)
D4	30.8 (19.2)	30.0 (18.6) <sup>a</sup>	32.5 (20.2)	30.0 (18.6) <sup>a</sup>
E1	31.9 (19.8)	30.0 (18.6) <sup>a</sup>	33.6 (20.9)	30.0 (18.6) <sup>a</sup>
E2	38.4 (23.8)	30.0 (18.6) <sup>a</sup>	40.4 (25.1)	30.0 (18.6) <sup>a</sup>
E3	42.0 (26.1) <sup>a</sup>	30.0 (18.6) <sup>a</sup>	42.0 (26.1) <sup>a</sup>	30.0 (18.6) <sup>a</sup>
E4	42.0 (26.1) <sup>a</sup>	30.0 (18.6) <sup>a</sup>	42.0 (26.1) <sup>a</sup>	30.0 (18.6) <sup>a</sup>

<sup>a</sup>Speed reached at reduced engine speed, below 2100 rpm.

TO84419,0000270 -19-27NOV12-1/1

## Ground Speeds—50 km/h (31 mph) (20-Speed) CommandQuad™ Eco Shift Transmission

Travel speeds are at rated engine speed of 2100 rpm using maximum rolling circumference (RC).

Gear	Group 47 Tires RC = 5850 mm (230 in.)		Group 48 Tires RC = 6164 mm (243 in.)	
	Forward km/h (mph)	Reverse km/h (mph)	Forward km/h (mph)	Reverse km/h (mph)
A1	2.8 (1.7)	2.9 (1.8)	2.9 (1.8)	3.1 (1.9)
A2	3.4 (2.1)	3.5 (2.2)	3.5 (2.2)	3.7 (2.3)
A3	4.0 (2.5)	4.2 (2.6)	4.2 (2.6)	4.4 (2.8)
A4	4.9 (3.1)	5.2 (3.2)	5.2 (3.2)	5.4 (3.4)
B1	5.9 (3.7)	6.2 (3.8)	6.2 (3.9)	6.5 (4.0)
B2	7.1 (4.4)	7.4 (4.6)	7.5 (4.7)	7.8 (4.9)
B3	8.5 (5.3)	8.9 (5.5)	9.0 (5.6)	9.4 (5.8)
B4	10.5 (6.5)	10.9 (6.8)	11.0 (6.9)	11.5 (7.1)
C1	9.4 (5.9)	9.8 (6.1)	9.9 (6.2)	10.4 (6.4)
C2	11.4 (7.1)	11.8 (7.4)	12.0 (7.4)	12.5 (7.8)
C3	13.6 (8.5)	14.2 (8.8)	14.3 (8.9)	14.9 (9.3)
C4	16.7 (10.4)	17.4 (10.8)	17.6 (10.9)	18.3 (11.4)
D1	17.5 (10.9)	18.2 (11.3)	18.4 (11.4)	19.2 (11.9)
D2	21.0 (13.1)	21.9 (13.6)	22.2 (13.8)	23.1 (14.4)
D3	25.2 (15.6)	26.3 (16.3)	26.5 (16.5)	27.7 (17.2)
D4	30.8 (19.2)	30.0 (18.6) <sup>a</sup>	32.5 (20.2)	30.0 (18.6) <sup>a</sup>
E1	31.9 (19.8)	30.0 (18.6) <sup>a</sup>	33.6 (20.9)	30.0 (18.6) <sup>a</sup>
E2	38.4 (23.8)	30.0 (18.6) <sup>a</sup>	40.4 (25.1)	30.0 (18.6) <sup>a</sup>
E3	46.0 (28.6)	30.0 (18.6) <sup>a</sup>	48.4 (30.1)	30.0 (18.6) <sup>a</sup>
E4	50.0 (31.1) <sup>a</sup>	30.0 (18.6) <sup>a</sup>	50.0 (31.1) <sup>a</sup>	30.0 (18.6) <sup>a</sup>

<sup>a</sup>Speed reached at reduced engine speed, below 2100 rpm.

T084419,0000271 -19-27NOV12-1/1

PROOF

**Ground Speeds—50 km/h (31 mph) (23-Speed) e23™ Transmission**

Travel speeds are at rated engine speed of 2100 rpm using maximum rolling circumference (RC).

Gear	Group 47 Tires RC = 5850 mm (230 in.)		Group 48 Tires RC = 6164 mm (243 in.)		Group 49 Tires RC = 6495 mm (256 in.)	
	Forward km/h (mph)	Reverse km/h (mph)	Forward km/h (mph)	Reverse km/h (mph)	Forward km/h (mph)	Reverse km/h (mph)
1	2.3 (1.4)	2.2 (1.4)	2.4 (1.5)	2.3 (1.4)	2.6 (1.6)	2.4 (1.5)
2	2.7 (1.7)	2.9 (1.8)	2.8 (1.7)	3.0 (1.9)	2.9 (1.8)	3.2 (2.0)
3	3.1 (1.9)	3.8 (2.4)	3.2 (2.0)	4.0 (2.5)	3.4 (2.1)	4.2 (2.6)
4	3.5 (2.2)	5.0 (3.1)	3.7 (2.3)	5.3 (3.3)	3.9 (2.4)	5.6 (3.5)
5	4.1 (2.5)	5.8 (3.6)	4.3 (2.7)	6.1 (3.8)	4.5 (2.8)	6.4 (4.0)
6	4.7 (2.9)	7.7 (4.8)	5.0 (3.1)	8.1 (5.0)	5.2 (3.2)	8.5 (5.3)
7	5.4 (3.4)	10.2 (6.3)	5.7 (3.5)	10.8 (6.7)	6.0 (3.7)	11.3 (7.0)
8	6.2 (3.9)	13.5 (8.4)	6.6 (4.1)	14.2 (8.8)	6.9 (4.3)	15.0 (9.3)
9	7.1 (4.4)	18.1 (11.2)	7.5 (4.7)	19.1 (11.9)	7.9 (4.9)	20.1 (12.5)
10	8.2 (5.1)	24.2 (15.0)	8.7 (5.4)	25.5 (15.8)	9.1 (5.7)	26.8 (16.7)
11	9.5 (5.9)	30 (18.6)	10.0 (6.2)	30 (18.6)	10.5 (6.5)	30 (18.6)
12	10.9 (6.8)		11.5 (7.1)		12.1 (7.5)	
13	12.6 (7.8)		13.3 (8.3)		14.0 (8.7)	
14	14.4 (8.9)		15.2 (9.4)		16.0 (9.9)	
15	16.7 (10.4)		17.6 (10.9)		18.5 (11.5)	
16	19.4 (12.1)		20.4 (12.7)		21.5 (13.4)	
17	22.4 (13.9)		23.6 (14.7)		24.8 (15.4)	
18	25.8 (16.0)		27.2 (16.9)		28.7 (17.8)	
19	29.8 (18.5)		31.4 (19.5)		33.1 (20.6)	
20	34.3 (21.3)		36.2 (22.5)		38.1 (23.7)	
21	39.7 (24.7)		41.8 (26.0)		44.0 (27.3)	
22	45.4 (28.2)		47.8 (29.7)		50.4 (31.3)	
23	52.4 (32.5)		55.2 (34.2)		58.2 (36.1)	

*NOTE: Engine Speed will be limited for forward speeds greater than 50 kph and for reverse speeds greater than 30 kph.*

TO84419,0000272 - 19-01MAY13-1/1

**Ground Speeds—IVT™/AutoPowr™**

Travel speed is infinitely variable from 20 km/h (12 mph) in reverse to 40 or 50 km/h (25 or 31 mph) in forward.

The chart lists minimum engine speed needed to maintain 40 or 50 km/h (25 or 31 mph) travel speed using maximum rolling circumference shown. Transmission ratios up to give top speed until engine speed drops below rpm listed.

For example, in Auto mode at full throttle with group 48 tires at 50 km/h (31 mph) travel speeds, if load pulls

engine rpm down to 1703 rpm, ground speed will be 50 km/h (31 mph). If the load pulls engine rpm below 1703 rpm, ground speed will decrease.

In manual mode at full throttle, ground speed would also be 50 km/h (31 mph). The transmission will ratio back to give a top speed of 50 km/h (31 mph).

	<b>Group 47 Tires RC = 5850 mm (230 in.)</b>	<b>Group 48 Tires RC = 6164 mm (243 in.)</b>	<b>Group 49 Tires RC = 6497 mm (256 in.)</b>
Minimum Engine Speed - 50 km/h (31 mph) Travel Speeds	1795 rpm	1703 rpm	1616 rpm
Minimum Engine Speed - 40 km/h (25 mph) Travel Speeds	1436 rpm	1363 rpm	1293 rpm

*IVT™/AutoPowr™ Speed Chart For 7270R and 7290R*

	<b>Group 47 Tires RC = 5850 mm (230 in.)</b>	<b>Group 48 Tires RC = 6164 mm (243 in.)</b>
Minimum Engine Speed - 50 km/h (31 mph) Travel Speeds	1753 rpm	1664 rpm
Minimum Engine Speed - 40 km/h (25 mph) Travel Speeds	1402 rpm	1331 rpm

*IVT™/AutoPowr™ Speed Chart For 7210R, 7230R, and 7250R*

**NOTE:** Actual rpm may vary from those listed.

*Tire sizes used are group nominal. Actual tires sizes can vary up to 2%.*

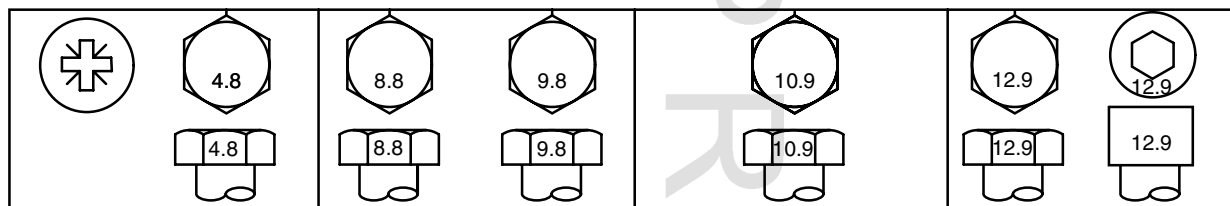
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## Metric Bolt and Screw Torque Values

TS1670 —UN—01MAY03



Bolt or Screw Size	Class 4.8				Class 8.8 or 9.8				Class 10.9				Class 12.9			
	Lubricated <sup>a</sup>		Dry <sup>b</sup>		Lubricated <sup>a</sup>		Dry <sup>b</sup>		Lubricated <sup>a</sup>		Dry <sup>b</sup>		Lubricated <sup>a</sup>		Dry <sup>b</sup>	
	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	4.7	42	6	53	8.9	79	11.3	100	13	115	16.5	146	15.5	137	19.5	172
M8	11.5	102	14.5	128	22	194	27.5	243	32	23.5	40	29.5	37	27.5	47	35
M10	23	204	29	21	43	32	55	40	63	46	80	59	75	55	95	70
M12	40	29.5	50	37	75	55	95	70	110	80	140	105	130	95	165	120
M14	63	46	80	59	120	88	150	110	175	130	220	165	205	150	260	190
M16	100	74	125	92	190	140	240	175	275	200	350	255	320	235	400	300
M18	135	100	170	125	265	195	330	245	375	275	475	350	440	325	560	410
M20	190	140	245	180	375	275	475	350	530	390	675	500	625	460	790	580
M22	265	195	330	245	510	375	650	480	725	535	920	680	850	625	1080	800
M24	330	245	425	315	650	480	820	600	920	680	1150	850	1080	800	1350	1000
M27	490	360	625	460	950	700	1200	885	1350	1000	1700	1250	1580	1160	2000	1475
M30	660	490	850	625	1290	950	1630	1200	1850	1350	2300	1700	2140	1580	2700	2000
M33	900	665	1150	850	1750	1300	2200	1625	2500	1850	3150	2325	2900	2150	3700	2730
M36	1150	850	1450	1075	2250	1650	2850	2100	3200	2350	4050	3000	3750	2770	4750	3500

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For stainless steel fasteners or for nuts on U-bolts, see the tightening instructions for the specific application. Tighten plastic insert or crimped steel type lock nuts by turning the nut to the dry torque shown in the chart, unless different instructions are given for the specific application.

Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical property class. 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 fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

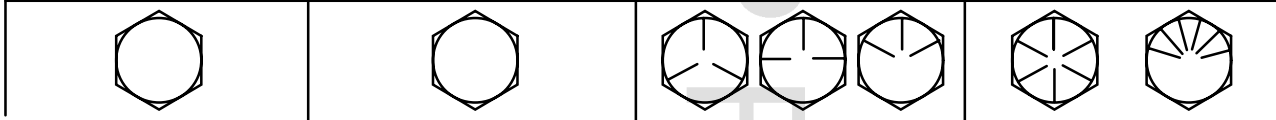
<sup>a</sup>“Lubricated” means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or M20 and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

<sup>b</sup>“Dry” means plain or zinc plated without any lubrication, or M6 to M18 fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ2 -19-12JAN11-1/1

## Unified Inch Bolt and Screw Torque Values

TS1671 —UN—01MAY03



Bolt or Screw Size	SAE Grade 1				SAE Grade 2 <sup>a</sup>				SAE Grade 5, 5.1 or 5.2				SAE Grade 8 or 8.2			
	Lubricated <sup>b</sup>		Dry <sup>c</sup>		Lubricated <sup>b</sup>		Dry <sup>c</sup>		Lubricated <sup>b</sup>		Dry <sup>c</sup>		Lubricated <sup>b</sup>		Dry <sup>c</sup>	
	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	3.7	33	4.7	42	6	53	7.5	66	9.5	84	12	106	13.5	120	17	150
													N·m	lb.-ft.	N·m	lb.-ft.
5/16	7.7	68	9.8	86	12	106	15.5	137	19.5	172	25	221	28	20.5	35	26
									N·m	lb.-ft.	N·m	lb.-ft.				
3/8	13.5	120	17.5	155	22	194	27	240	35	26	44	32.5	49	36	63	46
			N·m	lb.-ft.	N·m	lb.-ft.	N·m	lb.-ft.								
7/16	22	194	28	20.5	35	26	44	32.5	56	41	70	52	80	59	100	74
	N·m	lb.-ft.														
1/2	34	25	42	31	53	39	67	49	85	63	110	80	120	88	155	115
9/16	48	35.5	60	45	76	56	95	70	125	92	155	115	175	130	220	165
5/8	67	49	85	63	105	77	135	100	170	125	215	160	240	175	305	225
3/4	120	88	150	110	190	140	240	175	300	220	380	280	425	315	540	400
7/8	190	140	240	175	190	140	240	175	490	360	615	455	690	510	870	640
1	285	210	360	265	285	210	360	265	730	540	920	680	1030	760	1300	960
1-1/8	400	300	510	375	400	300	510	375	910	670	1150	850	1450	1075	1850	1350
1-1/4	570	420	725	535	570	420	725	535	1280	945	1630	1200	2050	1500	2600	1920
1-3/8	750	550	950	700	750	550	950	700	1700	1250	2140	1580	2700	2000	3400	2500
1-1/2	990	730	1250	930	990	730	1250	930	2250	1650	2850	2100	3600	2650	4550	3350

Torque values listed are for general use only, based on the strength of the bolt or screw. DO NOT use these values if a different torque value or tightening procedure is given for a specific application. For plastic insert or crimped steel type lock nuts, for stainless steel fasteners, or for nuts on U-bolts, see the tightening instructions for the specific application. Shear bolts are designed to fail under predetermined loads. Always replace shear bolts with identical grade.

Replace fasteners with the same or higher grade. If higher grade fasteners are used, tighten these to the strength of the original. Make sure fastener threads are clean and that you properly start thread engagement. When possible, lubricate plain or zinc plated fasteners other than lock nuts, wheel bolts or wheel nuts, unless different instructions are given for the specific application.

<sup>a</sup>Grade 2 applies for hex cap screws (not hex bolts) up to 6 in. (152 mm) long. Grade 1 applies for hex cap screws over 6 in. (152 mm) long, and for all other types of bolts and screws of any length.

<sup>b</sup>"Lubricated" means coated with a lubricant such as engine oil, fasteners with phosphate and oil coatings, or 7/8 in. and larger fasteners with JDM F13C, F13F or F13J zinc flake coating.

<sup>c</sup>"Dry" means plain or zinc plated without any lubrication, or 1/4 to 3/4 in. fasteners with JDM F13B, F13E or F13H zinc flake coating.

DX,TORQ1 -19-12JAN11-1/1

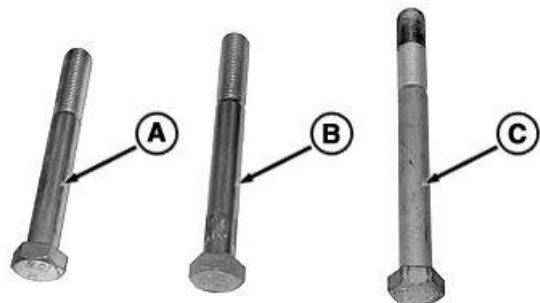
## Identify Zinc-Flake Coated Fasteners

Standard cap screws (A) are of a reflective silver color.

Zinc plated cap screws (B) are of a reflective gold color.

Zinc-flake coated cap screws (C) are of a dull silver color.

**NOTE:** Zinc-flake coated fasteners are tightened to lubricated specifications, unless otherwise noted. (See Torque Value Charts in this group.)



A—Standard Cap Screws  
B—Zinc-Plated Cap Screw

C—Zinc-Flake Cap Screw (20 mm and larger)

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## EPA Non-road Emissions Control Warranty Statement—Compression Ignition

DXLOGOV1 —UN—28APR09



**JOHN DEERE**

### U.S. AND CANADA EMISSION CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emissions Control Information" label located on the engine. If the engine is operated in the United States or Canada and the Emissions Control information label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine conforms to US EPA nonroad compression-ignition regulations", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines", or "This engine conforms to US EPA and California nonroad compression-ignition emission regulations", also refer to the "California Emission Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

#### JOHN DEERE'S WARRANTY RESPONSIBILITY

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine including all parts of its emission-control system was designed, built and equipped so as to conform at the time of the sale with Section 213 of the Clean Air Act and is free from defects in materials and workmanship which would cause the engine to fail to conform with applicable US EPA regulations for a period of five years from the date the engine is placed into service or 3,000 hours of operation, whichever first occurs.

Where a warrantable condition exists, John Deere will repair or replace, as it elects, any part or component with a defect in materials or workmanship that would increase the engine's emissions of any regulated pollutant within the stated warranty period at no cost to you, including expenses related to diagnosing and repairing or replacing emission-related parts. Warranty coverage is subject to the limitations and exclusions set forth herein. Emission-related components include engine parts developed to control emissions related to the following:

Air-Induction System	Aftertreatment Devices
Fuel System	Crankcase Ventilation Valves
Ignition System	Sensors
Exhaust Gas Recirculation Systems	Engine Electronic Control Units

#### EMISSION WARRANTY EXCLUSIONS

John Deere may deny warranty claims for malfunctions or failures caused by:

- Non-performance of maintenance requirements listed in the Operator's Manual
- The use of the engine/equipment in a manner for which it was not designed
- Abuse, neglect, improper maintenance or unapproved modifications or alterations
- Accidents for which it does not have responsibility or by acts of God

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel can harm the emissions control system of the engine/equipment and is not approved for use.

To the extent permitted by law John Deere is not liable for damage to other engine components caused by a failure of an emission-related part, unless otherwise covered by standard warranty.

**THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Emission\_CI\_EPA (18Dec09)

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DX,EMISSIONS,EPA -19-12DEC12-1/2



**JOHN DEERE**

**U.S. AND CANADA EMISSION CONTROL WARRANTY STATEMENT  
YOUR WARRANTY RIGHTS AND OBLIGATIONS**

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emissions Control Information" label located on the engine. If the engine is operated in the United States or Canada and the Emissions Control information label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine conforms to US EPA nonroad compression-ignition regulations", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines", or "This engine conforms to US EPA and California nonroad compression-ignition emission regulations", also refer to the "California Emission Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emissions-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

**JOHN DEERE'S WARRANTY RESPONSIBILITY**

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine including all parts of its emission-control system was designed, built and equipped so as to conform at the time of the sale with Section 213 of the Clean Air Act and is free from defects in materials and workmanship which would cause the engine to fail to conform with applicable US EPA regulations for a period of five years from the date the engine is placed into service or 3,000 hours of operation, whichever first occurs.

Where a warrantable condition exists, John Deere will repair or replace, as it elects, any part or component with a defect in materials or workmanship that would increase the engine's emissions of any regulated pollutant within the stated warranty period at no cost to you, including expenses related to diagnosing and repairing or replacing emission-related parts. Warranty coverage is subject to the limitations and exclusions set forth herein. Emission-related components include engine parts developed to control emissions related to the following:

Air-Induction System	Aftertreatment Devices
Fuel System	Crankcase Ventilation Valves
Ignition System	Sensors
Exhaust Gas Recirculation Systems	Engine Electronic Control Units

**EMISSION WARRANTY EXCLUSIONS**

John Deere may deny warranty claims for malfunctions or failures caused by:

- Non-performance of maintenance requirements listed in the Operator's Manual
- The use of the engine/equipment in a manner for which it was not designed
- Abuse, neglect, improper maintenance or unapproved modifications or alterations
- Accidents for which it does not have responsibility or by acts of God

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel can harm the emissions control system of the engine/equipment and is not approved for use.

To the extent permitted by law John Deere is not liable for damage to other engine components caused by a failure of an emission-related part, unless otherwise covered by standard warranty.

**THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. REMEDIES UNDER THIS WARRANTY ARE LIMITED TO THE PROVISIONS OF MATERIAL AND SERVICES AS SPECIFIED HEREIN. WHERE PERMITTED BY LAW, NEITHER JOHN DEERE NOR ANY AUTHORIZED JOHN DEERE ENGINE DISTRIBUTOR, DEALER, OR REPAIR FACILITY OR ANY COMPANY AFFILIATED WITH JOHN DEERE WILL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.**

Emission\_CI\_EPA (18Dec09)

DX,EMISSIONS,EPA -19-12DEC12-2/2

TS1721 -JUN-15JUL13

## CARB Non-road Emissions Control Warranty Statement—Compression Ignition

DXLOGOV1 —UN—28APR09



**JOHN DEERE**

### **CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT YOUR WARRANTY RIGHTS AND OBLIGATIONS**

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emission Control Information" label located on the engine. If the engine is operated in the United States or Canada and the engine label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine complies with US EPA regulations for stationary emergency diesel engines", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the engine label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines" also refer to the "California Emissions Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

#### **CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:**

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2013 through 2015 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB and is free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first for all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

#### **EMISSIONS WARRANTY EXCLUSIONS:**

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

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DX,EMISSIONS,CARB -19-12DEC12-1/4

**JOHN DEERE'S WARRANTY RESPONSIBILITY:**

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

**Air Induction System**

- Intake manifold
- Turbocharger
- Charge air cooler

**Fuel Metering system**

- Fuel injection system

**Exhaust Gas Recirculation**

- EGR valve

**Catalyst or Thermal Reactor Systems**

- Catalytic converter
- Exhaust manifold

**Emission control labels**

**Particulate Controls**

- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

**Positive Crankcase Ventilation (PCV) System**

- PCV valve
- Oil filler cap

**Advanced Oxides of Nitrogen (NOx) Controls**

- NOx absorbers and catalysts

**SCR systems and urea containers/dispensing systems**

**Miscellaneous Items used in Above Systems**

- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

**OWNER'S WARRANTY RESPONSIBILITIES:**

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator's Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner's failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

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DX,EMISSIONS,CARB -19-12DEC12-2/4



**JOHN DEERE**

**CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT  
YOUR WARRANTY RIGHTS AND OBLIGATIONS**

To determine if the John Deere engine qualifies for the additional warranties set forth below, look for the "Emission Control Information" label located on the engine. If the engine is operated in the United States or Canada and the engine label states: "This engine complies with US EPA regulations for nonroad and stationary diesel engines", or "This engine complies with US EPA regulations for stationary emergency diesel engines", refer to the "U.S. and Canada Emission Control Warranty Statement." If the engine is operated in California, and the engine label states: "This engine complies with US EPA and CARB regulations for nonroad diesel engines" also refer to the "California Emissions Control Warranty Statement."

Warranties stated on this certificate refer only to emissions-related parts and components of your engine. The complete engine warranty, less emission-related parts and components, is provided separately. If you have any questions about your warranty rights and responsibilities, you should contact John Deere at 1-319-292-5400.

**CALIFORNIA EMISSIONS CONTROL WARRANTY STATEMENT:**

The California Air Resources Board (CARB) is pleased to explain the emission-control system warranty on 2013 through 2015 off-road diesel engines. In California, new off-road engines must be designed, built and equipped to meet the State's stringent anti-smog standards. John Deere must warrant the emission control system on your engine for the periods of time listed below provided there has been no abuse, neglect or improper maintenance of your engine.

Your emission control system may include parts such as the fuel injection system and the air induction system. Also included may be hoses, belts, connectors and other emission-related assemblies.

John Deere warrants to the ultimate purchaser and each subsequent purchaser that this off-road diesel engine was designed, built, and equipped so as to conform at the time of sale with all applicable regulations adopted by CARB and is free from defects in materials and workmanship which would cause the failure of a warranted part to be identical in all material respects to the part as described in John Deere's application for certification for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first for all engines rated at 19 kW and greater. In the absence of a device to measure hours of use, the engine shall be warranted for a period of five years.

**EMISSIONS WARRANTY EXCLUSIONS:**

John Deere may deny warranty claims for failures caused by the use of an add-on or modified part which has not been exempted by the CARB. A modified part is an aftermarket part intended to replace an original emission-related part which is not functionally identical in all respects and which in any way affects emissions. An add-on part is any aftermarket part which is not a modified part or a replacement part.

In no event will John Deere, any authorized engine distributor, dealer, or repair facility, or any company affiliated with John Deere be liable for incidental or consequential damage.

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**JOHN DEERE'S WARRANTY RESPONSIBILITY:**

Where a warrantable condition exists, John Deere will repair or replace, as it elects, your off-road diesel engine at no cost to you, including diagnosis, parts or labor. Warranty coverage is subject to the limitations and exclusions set forth herein. The off-road diesel engine is warranted for a period of five years from the date the engine is delivered to an ultimate purchaser or 3,000 hours of operation, whichever occurs first. The following are emissions-related parts:

**Air Induction System**

- Intake manifold
- Turbocharger
- Charge air cooler

**Fuel Metering system**

- Fuel injection system

**Exhaust Gas Recirculation**

- EGR valve

**Catalyst or Thermal Reactor Systems**

- Catalytic converter
- Exhaust manifold

**Emission control labels**

**Particulate Controls**

- Any device used to capture particulate emissions
- Any device used in the regeneration of the capturing system
- Enclosures and manifolding
- Smoke Puff Limiters

**Positive Crankcase Ventilation (PCV) System**

- PCV valve
- Oil filler cap

**Advanced Oxides of Nitrogen (NOx) Controls**

- NOx absorbers and catalysts

**SCR systems and urea containers/dispensing systems**

**Miscellaneous Items used in Above Systems**

- Electronic control units, sensors, actuators, wiring harnesses, hoses, connectors, clamps, fittings, gasket, mounting hardware

Any warranted emissions-related part scheduled for replacement as required maintenance is warranted by John Deere for the period of time prior to the first scheduled replacement point for the part. Any warranted emissions-related part not scheduled for replacement as required maintenance or scheduled only for regular inspection is warranted by John Deere for the stated warranty period.

**OWNER'S WARRANTY RESPONSIBILITIES:**

As the off-road diesel engine owner you are responsible for the performance of the required maintenance listed in your Operator's Manual. John Deere recommends that the owner retain all receipts covering maintenance on the off-road diesel engine, but John Deere cannot deny warranty solely for the lack of receipts or for the owner's failure to ensure the performance of all scheduled maintenance. However, as the off-road diesel engine owner, you should be aware that John Deere may deny you warranty coverage if your off-road diesel engine or a part has failed due to abuse, neglect, improper maintenance or unapproved modifications.

The off-road diesel engine is designed to operate on diesel fuel as specified in the Fuels, Lubricants and Coolants section in the Operators Manual. Use of any other fuel may result in the engine no longer operating in compliance with applicable emissions requirements.

The owner is responsible for initiating the warranty process, and should present the machine to the nearest authorized John Deere dealer as soon as a problem is suspected. The warranty repairs should be completed by the authorized John Deere dealer as quickly as possible.

Emissions regulations require the customer to bring the unit to an authorized servicing dealer when warranty service is required. As a result, John Deere is NOT liable for travel or mileage on emissions warranty service calls.

Emission\_CI\_CARB (19Sep12)

DX,EMISSIONS,CARB -19-12DEC12-4/4

TS1723 —UN—15JUL13

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## Limited Battery Warranty

*NOTE: Applicable in North America only. For complete machine warranty, reference a copy of the John Deere warranty statement. Contact your John Deere dealer to obtain a copy.*

### To Secure Warranty Service

The purchaser must request warranty service from a John Deere dealer authorized to sell John Deere batteries, and present the battery to the dealer with the top cover plate codes intact.

### Free Replacement

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship within 90 days of purchase will be replaced free of charge. Installation costs will be covered by warranty if (1) the unserviceable battery was installed by a John Deere factory or dealer, (2) failure occurs within 90 days of purchase, and (3) the replacement battery is installed by a John Deere dealer.

### Pro Rata Adjustment

Any new battery which becomes unserviceable (not merely discharged) due to defects in material or workmanship more than 90 days after purchase, but before the expiration of the applicable adjustment period, will be replaced upon payment of the battery's current list price less a pro rata credit for unused months of service. The applicable adjustment period is determined from the Warranty Code printed at the top of the battery and chart below. Installation costs are not covered by warranty after 90 days from the date of purchase.

### This Warranty Does Not Cover

Breakage of the container, cover, or terminals.

Depreciation or damage caused by lack of reasonable and necessary maintenance or by improper maintenance.

Transportation, mailing, or service call charges for warranty service.

### Limitation of Implied Warranties and Purchaser's Remedies

To the extent permitted by law, neither John Deere nor any company affiliated with it makes any warranties, representations or promises as to the quality, performance or freedom from defect of the products covered by this warranty. IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, TO THE EXTENT APPLICABLE, SHALL BE LIMITED IN DURATION TO THE APPLICABLE ADJUSTMENT PERIOD SET FORTH HERE. THE PURCHASER'S ONLY REMEDIES IN CONNECTION WITH THE BREACH OR PERFORMANCE OF ANY WARRANTY ON JOHN DEERE BATTERIES ARE THOSE SET FORTH HERE. IN NO EVENT WILL THE DEALER, JOHN DEERE OR ANY COMPANY AFFILIATED WITH JOHN DEERE BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES. (Note: Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damages. So these limitations and exclusions may not apply to you.) This warranty gives you specific legal rights, and you may also have some rights which vary from state to state.

### No Dealer Warranty

The selling dealer makes no warranty of it's own and the dealer has no authority to make any representation or promise on behalf of John Deere, or to modify the terms or limitations of this warranty in any way.

### Pro Rata Months of Adjustment

Warranty Code	Warranty Period
A	40 Months
B	36 Months
C	24 Months

*NOTE: If your battery is not labeled with a warranty code, it is a warranty code "B".*

DX,BATWAR,NA -19-16APR92-1/1

# 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.

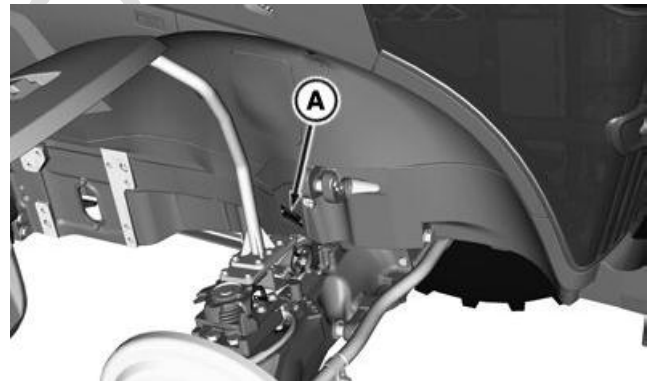
*John Deere is a trademark of Deere & Company*

Also, they are needed for law enforcement to trace your tractor if it is ever stolen. ACCURATELY record these characters in the spaces provided in each of the following photographs. Additionally in a separate and secure location, maintain an up-to-date inventory of all product and component serial numbers.

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## Record Product Identification Number

Identification plate (A) is located on right-hand tractor frame.



RXA0131704 —UN—28MAR13

### Product Identification Number

\* \_\_\_\_\_ \*

**PRODUCT IDENTIFICATION NUMBER (PIN):** consists of 17 positions without spaces, dashes, or other interruptions as follows:

**Positions 1-3:** World Manufacturer Code (WMC) (e.g. 1RW).

**Positions 4-7:** is the numeric portion of the tractor model number.

**Position 8:** Model identifier suffix (Additional machine information).

**Position 9:** Check letter calculated based on the values and positions of the other sixteen characters.

**Position 10:** Calendar year of manufacture, may be a letter or a number which reflects the calendar year (not model year) of manufacture. The value of this character is specified in the table below.

Characters Used To Designate Year Of Manufacture in Position 10	
YEAR	Code
2014	E
2015	F
2016	G
2017	H

*CommandQuad is a trademark of Deere & Company*  
*PowreShift is a trademark of Deere & Company*  
*IVT is a trademark of Deere & Company*  
*AutoPowr is a trademark of Deere & Company*

**Position 11:** Transmission Option Code indicated in the table below

Configuration and Transmission Option Codes in Position 11	
C	CommandQuad™
P	PowerShift™
D	IVT™/AutoPowr™

**Position 12:** Additional Manufacturing or Product Information provide additional information about the product and when it was built. If the tractor is a track tractor, the character in position 12 will be a "9". Otherwise the character in position 12 will be a numerical zero, "0".

**Positions 13-17:** A serialized number uniquely identifying individual tractors bearing the same model designation. These serialized numbers are generally ordered relative to production sequence, but may be adjusted to accommodate changes in manufacturing priorities, or to provide convenient serialization increments between model years.

**Additionally:** An asterisk (\*) shall immediately precede the first character and immediately follow the last character of the PIN to discourage tampering or altering of the PIN.

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