

Troubleshooting

Engine

Symptom	Problem	Solution
Engine turns over but does not start.	Incorrect starting procedure.	Review starting procedure.
	No fuel.	Check fuel tank.
	Exhaust restricted.	Check and correct exhaust restriction.
	Fuel filter plugged or full of water.	Replace fuel filter or drain water from filter.
	Injection pump not getting fuel or air from the fuel system.	Check fuel flow at the supply pump or bleed fuel system.
	Faulty injection pump or nozzles.	See your John Deere dealer.
Engine hard to start or does not start.	Air in fuel line.	Bleed fuel system.
	Cold weather.	Use cold weather starting procedure.
	Slow starter speed.	See Starter Turns Over Slowly in Electrical System Troubleshooting.
	Crankcase oil too heavy.	Use oil of proper viscosity.
	Improper type of fuel.	Consult fuel supplier; use the proper type of fuel for operating conditions.
	Water, dirt, or air in the fuel system.	Drain, flush, fill, and bleed system.
	Clogged fuel filter.	Replace filter element.
	Dirty or faulty injectors.	See your John Deere dealer.
	Injection pump shutoff not reset.	Turn ignition switch to STOP, then to ON.
Engine knocks.	Low engine oil level.	Add oil to the engine crankcase.
	Low coolant temperature.	See your John Deere dealer.
Engine runs irregularly or stalls frequently.	Low coolant temperature.	See your John Deere dealer.
	Clogged fuel filter.	Replace fuel filter element.
	Water, dirt, or air in the fuel system.	Drain, flush, fill, and bleed system.
	Dirty or faulty injectors.	See your John Deere dealer.
Below normal engine temperature.	Defective thermostat.	Remove and check thermostat.

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Symptom	Problem	Solution
	Defective temperature gauge or sender.	Check gauge, sender, and conditions.
Lack of power.	Exhaust filter restriction.	See your John Deere dealer.
	Engine overloaded.	Reduce load.
	Low high idle speed.	See your John Deere dealer.
	Intake air restriction.	Service air cleaner.
	Clogged fuel filter.	Replace filter element.
	Improper type of fuel.	Use proper fuel.
	Overheated engine.	Check coolant level, inspect fan belt, and check radiator fins for debris.
	Below normal engine temperature.	See your John Deere dealer.
	Improper valve clearance.	See your John Deere dealer.
	Dirty or faulty injectors.	See your John Deere dealer.
	Turbocharger not functioning.	See your John Deere dealer.
	Leaking exhaust manifold gasket.	See your John Deere dealer.
	Implement improperly adjusted.	See implement operator's manual.
	Restricted fuel line.	See your John Deere dealer.
	Restricted return line.	See your John Deere dealer.
	Improper ballast.	Adjust ballast to load.
	Poor fuel quality.	See your John Deere dealer.
	Poor bio-fuel quality.	See your John Deere dealer.
Low oil pressure.	Low oil level.	Add oil.
	Improper type of oil.	Drain and refill crankcase with oil of proper viscosity and quality.
	Bad pump.	See your John Deere dealer.
	Bad sender.	See your John Deere dealer.
	Sender disconnected.	Connect sender.
High oil consumption.	Crankcase oil too light.	Use proper viscosity oil.

Symptom	Problem	Solution
Engine emits white smoke.	Oil leaks.	Check for leaks in lines, around gaskets and drain plugs.
	Restricted crankcase vent tube.	Clean vent tube.
	Defective turbocharger.	See your John Deere dealer.
	Improper fuel type.	Use proper fuel.
	Low engine temperature.	Warm up engine to normal operating temperature.
	Engine out of time.	See your John Deere dealer.
	Cold start advance or light load advance not functioning.	See your John Deere dealer.
Engine emits black or gray exhaust smoke.	Improper fuel type.	Use proper fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load or shift to a lower gear.
	Engine out of time.	See your John Deere dealer.
	Turbocharger not functioning.	See your John Deere dealer.
Engine overheats.	Engine overloaded.	Reduce load.
	Dirty radiator core or grille screen.	Remove all debris.
	Low coolant level.	Fill radiator to the proper level. Check radiator, coolant recovery tank, and hoses for loose connection or leaks.
	Stretched serpentine belt or defective belt tensioner.	Check automatic belt tensioner and check belts for stretching. Replace as required.
	Low engine oil level.	Check oil level. Add oil as required.
	Cooling system needs flushing.	See your John Deere dealer.
	Defective thermostat.	See your John Deere dealer.
	Defective temperature gauge or sender.	See your John Deere dealer.
	Incorrect grade of fuel.	Use proper fuel.
	Cooling fan drive not engaged.	See your John Deere dealer.
	Dirty charge air cooler.	Clean charge air cooler fins.

Troubleshooting

Symptom	Problem	Solution
High fuel consumption.	Improper type of fuel.	Use proper fuel.
	Clogged or dirty air cleaner.	Service air cleaner.
	Engine overloaded.	Reduce load or shift to a lower gear.
	Fuel leakage.	Check fuel supply and return line for leaks. Check fuel tank for leaks and tighten clamps.
	Improper valve clearance.	See your John Deere dealer.
	Engine out of time.	See your John Deere dealer.
	Implement improperly adjusted.	See implement operator's manual.
	Low engine temperature.	See your John Deere dealer.
	Excessive ballast.	Adjust ballast to load.
	Defective turbocharger.	See your John Deere dealer.
	Restricted air intake system.	Check system.
	Plugged crankcase vent tube.	Clean vent tube.
	Transmission oil overfilled.	Drain excess oil.
Undercharged electrical system.	Excessive electrical load from added accessories.	Remove accessories or install a higher output alternator.
	Excessive engine idling.	Increase engine rpm when heavy electrical load is used.
	Poor electrical connections on battery, ground strap, starter, or alternator.	Inspect and clean as necessary.
	Defective battery.	Test battery.
	Defective alternator.	Test charging system.
Battery uses too much water.	Cracked battery case.	Check for moisture and replace as necessary.
	Defective battery.	Test battery.
	Battery charging rate too high.	Test charging system.
Batteries do not charge.	Loose or corroded connections.	Clean and tighten connections.
	Sulfated or worn-out batteries.	See your John Deere dealer.

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Symptom	Problem	Solution
	Stretched serpentine belt or defective belt tensioner.	Adjust belt tension or replace belts.
Starter does not turn over.	Loose or corroded connections.	Clean and tighten loose connections.
	Low battery output voltage.	See your John Deere dealer.
	Faulty start circuit relay.	See your John Deere dealer.
Starter turns over slowly.	Low battery output.	See your John Deere dealer.
	Crankcase oil too heavy.	Use proper viscosity oil.
	Loose or corroded connections.	Clean and tighten loose connections.
Entire electrical system does not function.	Faulty battery connection.	Clean and tighten connections.
	Sulfated or worn-out batteries.	See your John Deere dealer.

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Heat and Air Conditioning

Symptom	Problem	Solution
All cab electrical switches do not work.	Loose, defective, or blown fusible link.	See your John Deere dealer.
Blower malfunctioning.	Blower does not work.	Check both blower fuses.
Blower operates only in purge position.	One of two fuses blown.	Replace fuse.
	Blown blower resistance assembly.	See your John Deere dealer.
Heater does not work.	Low coolant level.	Check coolant level; add if necessary.
	Faulty thermostat.	See your John Deere dealer.
	Heater control valve not functioning properly.	See your John Deere dealer.
	Heater core or hoses clogged or damaged.	Flush cooling system. See your John Deere dealer. Replace heater core or hoses. See your John Deere dealer.
Air conditioning does not work.	Fan belt loose or slipping.	Check belt tension. Replace belt if necessary.
	Blown fuse.	Replace fuse.
	Defective switch.	See your John Deere dealer.

Troubleshooting

Symptom	Problem	Solution
	Faulty wiring or loose connections.	See your John Deere dealer.
	Defective compressor clutch.	See your John Deere dealer.
	Condenser dirty.	Clean condenser.
	Heater valve leaking.	See your John Deere dealer.
	No Freon charge.	See your John Deere dealer.
Drafts.	Poor air distribution.	Adjust directional air louvers. Set blower switch to medium or low position.
Inadequate air flow.	Clogged air filters.	Clean air filters.
	Evaporator core air flow restricted.	Clean evaporator and housing with compressed air.
	Faulty blower fan motors.	See your John Deere dealer.
	Defective blower switch.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Water leaking or dripping from evaporator core compartment.	Loose hose clamp.	Tighten clamp.
	Air-conditioning drip pan dirty.	Clean evaporator pan and outlet with compressed air.
	Air-conditioning drain tubes plugged.	Clean drain tubes.
Strange odors inside cab.	Dirty air filters.	Clean filters.
	Evaporator condenser pan dirty.	Clean pan and outlet with compressed air.
	Drain tubes plugged.	Clean drain tubes.
	Foreign substance on the evaporator exterior.	Clean filters.
Partial frosting and sweating of lines combined with poor cooling.	Cooling fan belt slipping.	Check belt tension. Replace belt if necessary.
	Loss of refrigerant.	Check system for leaks. See your John Deere dealer.
	Restricted or clogged liquid line.	See your John Deere dealer.
	Expansion valve malfunctioning.	See your John Deere dealer.

Troubleshooting

Symptom	Problem	Solution
Ice flecks blowing from evaporator.	Control dial set too low.	Adjust the temperature control to a warmer position.
Failure to cool.	Insufficient blower speed.	Increase blower speed.
	Dirty air filters.	Clean filters.
	Debris on the front grille.	Clean front grille.
	Lint or dirt on condenser fins.	Blow out condenser fins with compressed air.
	Refrigerant is lost or low.	See your John Deere dealer.
	Loose cooling fan belt.	Check compressor belt tension. Replace compressor belt if necessary.
	Compressor clutch not engaging.	See your John Deere dealer.
	Expansion valve not functioning.	See your John Deere dealer.
	Restriction in the refrigerant system.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
	Defective temperature control switch.	See your John Deere dealer.
	Outside temperature too low, below 21°C (70°F).	Wait until day gets warmer. If there is a malfunction in system, see your John Deere dealer.
	Condenser is overheating.	Clean condenser screens, cores, and fins of condenser and radiator.
	Severe restriction in the high side.	See your John Deere dealer.
	Burned out clutch field or faulty field.	See your John Deere dealer.
Hissing noise at the expansion valve.	Short circuit in the control circuit or failure of a switch in circuit.	See your John Deere dealer.
	Cooling fan drive not engaged.	See your John Deere dealer.
	Loss of refrigerant.	Check system for leaks. See your John Deere dealer.
	Restriction in the refrigerant system.	Check for kinks in hoses. Check receiver-drier for uniformity of temperature. See your John Deere dealer.

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Electrical

Symptom	Problem	Solution
Battery does not charge.	Loose or corroded connections.	Clean and tighten connections.
	Sulfated or worn-out battery.	See your John Deere dealer.
	Loose or defective cooling fan belt.	Check cooling fan belt tension. Replace belt if necessary.
Charging system diagnostic trouble codes are present.	Low engine speed.	Increase speed.
	Defective battery.	See your John Deere dealer.
	Defective alternator.	See your John Deere dealer.
	Slipping fan belt.	Check belt tension. Replace belt if necessary.
Starter inoperative.	Low battery output.	See your John Deere dealer.
	Blown fuse.	Replace fuse.
	Left-hand reverser in forward or reverse.	Move lever to Park or Neutral.
	Bypass starter circuit.	See your John Deere dealer.
Starter turns over slowly.	Low battery output.	See your John Deere dealer.
	Crankcase oil too heavy.	Use proper viscosity oil.
	Loose or corroded connections.	Clean and tighten loose connections.
Light system does not function; rest of the electrical system functions.	Blown fuse.	Replace fuse.
Worklights do not work.	Blown fuse.	Replace fuse.
	Defective bulb or switch.	Replace bulb or see your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Dome light does not work.	Blown fuse.	Replace fuse.
	Defective bulb or switch.	Replace bulb or see your John Deere dealer.
	Defective door switch.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.

Troubleshooting

Symptom	Problem	Solution
All cab electrical switches do not work.	Loose, defective, or blown fusible link.	See your John Deere dealer.
Window wipers and washer do not operate.	Blown fuse.	Replace fuse.
	Defective switches.	See your John Deere dealer.
	Defective motors.	See your John Deere dealer.
	Faulty wiring or loose connections.	See your John Deere dealer.
Radio does not work.	Blown fuse.	Replace fuse.
Entire electrical system does not function.	Faulty battery connections.	Clean and tighten connections.
	Sulfated or worn-out battery.	See your John Deere dealer.
	Blown fuse.	Replace fuse.

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Transmission

Symptom	Problem	Solution
Transmission oil overheats.	Low oil supply.	Fill system with correct oil.
	Clogged transmission/hydraulic oil filter.	Replace transmission/hydraulic filter.
	Internal hydraulic leak.	See your John Deere dealer.
	Implement-mounted hydraulic motor not plumbed correctly or matched to circuit.	See your John Deere dealer.
	SCV lever held in extend or retract position.	Return SCV lever to neutral position.
	Transmission oil over full mark.	Drain to the full mark.
	Oil cooler dirty.	Clean oil cooler.
	Hitch feedback linkage improperly adjusted.	Adjust linkage. See your John Deere dealer.
	Cooling fan drive not engaged.	See your John Deere dealer.
Low transmission pressure.	Low oil supply.	Fill system with correct oil.
	Clogged transmission/hydraulic oil filter.	Replace filter.

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Brakes

Symptom	Problem	Solution
Pedal feels soft and brakes do not perform well.	Air in system.	See your John Deere dealer.
Pedal settles.	Rear brake piston seal leaking.	See your John Deere dealer.
Excessive pedal travel.	Air in system.	See your John Deere dealer.
Brakes drag during transport.	Brakes out of adjustment.	See your John Deere dealer.

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Hydraulics

Symptom	Problem	Solution
Entire hydraulic system fails to function.	Low oil supply.	Fill system with correct oil.
	Clogged transmission/hydraulic oil filter.	Replace filter.
	High-pressure internal leak.	See your John Deere dealer.
Hydraulic oil overheats.	Low oil supply.	Fill system with correct oil.
	Clogged transmission/hydraulic oil filter.	Replace filter.
	Internal hydraulic leak.	See your John Deere dealer.
	Implement-mounted hydraulic motor not plumbed correctly or matched to circuit.	See your John Deere dealer.
	SCV lever held in extend or retract position.	Return SCV lever to neutral position.
	Flow control or detent setting incorrect.	Adjust flow control and/or detent setting.
	Hitch feedback linkage improperly adjusted.	Adjust linkage. See your John Deere dealer.
Direction of remote cylinder travel is reversed.	Improper hose connections.	Reverse hose connections.
Hoses do not couple.	Improper hose male tips.	Replace tip with ISO standard tips.
Remote cylinder does not lift load.	Excessive load.	Reduce load.
	Hoses not installed correctly.	Attach hoses correctly.

Symptom	Problem	Solution
	Incorrect remote cylinder size.	Use correct size cylinder.

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Hitch

Symptom	Problem	Solution
Insufficient transport clearance.	Center link too short.	Adjust center link.
	Lift links too short.	Adjust lift links.
	Implement not level.	Level implement.
	Hitch feedback linkage not properly adjusted.	See your John Deere dealer.
	Implement not properly adjusted.	See implement operator's manual.
	Front of center link in upper holes.	Move center link to lower holes.
	Sway bars too short.	Adjust sway bars.
	Raise height limit not correctly set.	Adjust raise height limit.
Hitch fails to follow the lever.	Malfunction in the lever position sensor or hitch position sensor.	See your John Deere dealer.
Poor position control.	Load/depth mix control in wrong position.	Turn load/depth mix control to "position" control detent.
	System is reset (fender switches override operator's control).	Enable system with operator's control.
	Malfunction in the lever position sensor or hitch position sensor.	See your John Deere dealer.
Hitch drops slowly.	Rate-of-drop control not properly set.	Adjust rate-of-drop.
Hitch fails to lift or lifts slowly.	Excessive load on hitch.	Reduce load.
	Center link in wrong position.	Adjust center link.
	Low oil level.	Fill system with proper oil.
	Hydraulic oil too cold.	Allow oil to warm.
	Transmission/hydraulic oil filter clogged.	Replace filter.
Implement does not operate at desired depth.	Lift links too short.	Adjust lift links.
	Lack of penetration.	See implement operator's manual.

Troubleshooting

Symptom	Problem	Solution
	Draft sensor failed.	See your John Deere dealer.
	Improper setting of the hitch control stop.	Adjust position.
	Improper setting of load/depth control.	Adjust load/depth for the implement type.
Insufficient or no hitch response to draft load.	Load/depth control in position 1.	Turn load/depth mix control to higher setting.
	Lift links too short.	Adjust lift links.
	Lack of penetration.	See implement operator's manual.
	System is reset.	Enable system.
	Rate-of-drop too slow.	Adjust rate-of-drop.
Hitch too responsive.	Load/depth mix control not correctly set.	Turn load/depth mix control to lower setting.
Hitch drops too fast.	Rate-of-drop set too fast.	Adjust rate-of-drop.
Hitch settles too fast after machine is parked and engine shut off.	Internal system leakage.	See your John Deere dealer.
Hitch does not move (controls not working, including external raise/lower switch).	Fuses blown.	Replace fuses.
External raise/lower switch does not move hitch.	Failure of the raise/lower switch, connector, or wiring harness.	See your John Deere dealer.
Hitch codes are present.	One or more hitch component failures.	See your John Deere dealer.

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Selective Control Valves (SCV)

Symptom	Problem	Solution
Flow control knob or detent does not turn.	Dirt buildup.	Clean dirt from the flow control knob shaft.
Remote cylinders rate-of-travel too fast or too slow.	Incorrect flow control adjustment.	Adjust flow control.
Detent does not hold SCV lever.	Detent selector in wrong position.	Turn selector to correct position.
	Flow control or detent setting incorrect.	Adjust flow control and detent setting.
	Low engine rpm.	Increase engine rpm.

Troubleshooting

Symptom	Problem	Solution
	Pressure restriction with some implements.	Reduce oil flow by changing flow control setting.
	Mid-SCV activated.	Avoid use of mid-SCV.
	Hitch activated.	Avoid use of hitch.
SVC lever releases too soon.	Detent selector in wrong position.	Turn selector to correct position.
	Kick out pressure setting incorrect.	See your John Deere dealer.
SCV lever does not release.	Detent selector not in automatic detent position.	Turn selector to correct position.
		See your John Deere dealer.
	Built-in pressure leakage with some implements.	Increase oil flow by changing flow control setting.
	Incorrect flow control.	Adjust flow control.
	Overtorqued cable-to-valve connection.	Adjust torque at the connector.
Rear SCV fails to function.	Rear SCV does not generate pressure.	Check power beyond fitting in mid-SCV.

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