SECTION 1. SPECIFICATIONS

Tires - 2032E2/2632E2/2646E2/3246E2

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1. Using all applicable safety precautions, activate hydraulic system.

⚠ WARNING

WHEN WORKING ON THE LIFT CYLINDER, RAISE THE PLATFORM COMPLETELY AND SUPPORT THE PLATFORM USING A SUITABLE OVERHEAD LIFTING DEVICE.

⚠ WARNING

DO NOT FULLY EXTEND LIFT CYLINDER TO END OF STROKE. RETRACT CYLINDER SLIGHTLY TO AVOID TRAPPING PRESSURE.

2. Raise platform completely then retract cylinder slightly to avoid trapping pressure. Place a suitable overhead lifting device approximately 1 in (2.5 cm) below the platform.
3. Shut down hydraulic system and allow machine to sit for 10-15 minutes. Carefully remove hydraulic hoses from cylinder port block.
4. There will be initial weeping of hydraulic fluid, which can be caught in a suitable container. After the initial discharge, there should not be any further leakage from the ports. If leakage continues at a rate of 6-8 drops per minute or more, the holding valve is defective and must be replaced.
5. If no repairs are necessary or when repairs have been made, carefully reconnect hydraulic hoses to the appropriate ports.
6. Remove lifting device from platform, activate hydraulic system and run cylinder through one complete cycle to check for leaks.

2.9 LIFT CYLINDER REMOVAL AND INSTALLATION

Lift Cylinder Removal

1. Place the machine on a flat and level surface. Raise the platform and attach a suitable lifting device to the platform.
2. Remove the bolts and locknuts securing the cylinder to the upper inner arm assembly. Drop the cylinder out of the saddle on the inner arm assembly.
3. Retract the lift cylinder rod completely.
4. Tag and disconnect the hydraulic lines, then cap the lift cylinder hydraulic lines and ports.
5. Remove the bolts and locknuts securing the barrel end to the lower arm assembly.
6. Carefully remove the cylinder from the scissor lift and place in a suitable work area.

Lift Cylinder Installation

1. Install lift cylinder in place using suitable slings, aligning barrel end in lower arm assembly cylinder saddle.
2. After the cylinder barrel is in place, Secure it with the bolts and locknuts.
3. Remove cylinder port plugs and hydraulic line caps and correctly attach lines to cylinder ports.
4. Extend the cylinder rod until the cylinder head aligns with upper inside cylinder saddle. Set the head of the cylinder in the saddle and replace the bolts and locknuts.
5. Lower platform to stowed position and shut down motor. Check hydraulic fluid level and adjust accordingly.

2.10 LIFT CYLINDER REPAIR

NOTE: *The following procedures apply to the lift cylinder. Repair procedures for the brake and steer cylinders are found in paragraphs 2-11 and 2-12.*

Disassembly

⚠ IMPORTANT

DISASSEMBLY OF THE CYLINDER SHOULD BE PERFORMED ON A CLEAN WORK SURFACE IN A DIRT FREE WORK AREA. BE SURE TO CLEAN ALL DIRT OR OTHER FOREIGN SUBSTANCES FROM CYLINDER OPENINGS - PARTICULARY AT THE HEAD.

1. Connect a suitable auxiliary hydraulic power source to the cylinder port block fitting.

⚠ WARNING

DO NOT FULLY EXTEND CYLINDER TO END OF STROKE. RETRACT CYLINDER SLIGHTLY TO AVOID TRAPPING PRESSURE.

2. Operate the hydraulic power source and extend the cylinder. Shut down and disconnect the power source. Adequately support the cylinder rod, if necessary.
3. If applicable, remove the cartridge-type holding valve and fittings from the cylinder port block. Discard o-rings.
4. Place the cylinder barrel into a suitable holding fixture.

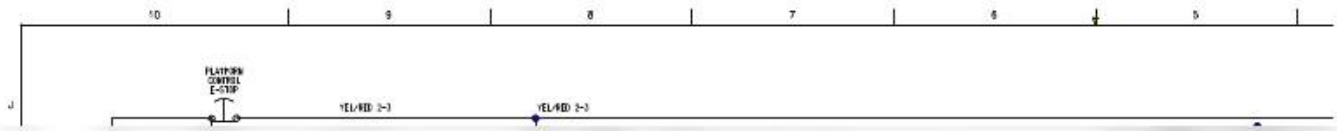
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Table 3-1. Electrical Troubleshooting Chart

TROUBLE	PROBABLE CAUSE	REMEDY
All machine functions do not operate		
	Emergency stop switch not activated	Activate Emergency stop switch
	Joystick not in neutral position	Release joystick, then select function
	Platform cable not connected to platform box or at base	Re-connect cable to platform box and check wiring at base
	Battery voltage out of range	
	If battery cahrger is plugged in	Check voltage with VOM. Unplug battery charger
	Battery voltage too low	Check voltage with VOM. Plug in battery charger
	Line contactor open circuit	
	Loose wiring connections on line contactor or at harness connection	Check wire terminations on line contactor and harness connection at base. Tighten connections as necessary
	Open coil on line contactor	Clean corrosion from line contactor
		Replace line contactor
	Faulty wiring at base	Repair or replace wiring as necessary
	Line contactor welded.	Replace the line contactor
	Line contactor or other driver short circuit or tripped	
	Point A short circuit	
	Motor stalled	Determine cause. Repair or replace motor as necessary
	Motor open circuit	
	Faulty motor	Replace motor
No drive function when platform fully lowered. Lift function okay		
	Malfunctioning limit switch	Use VOM to verify limit switch inputs. Adjust or repair malfunctioing limit switch
No drive function when platform elevated. Lift function okay		
	Malfunctioning limit switch	Use VOM to verify limit switch inputs. Adjust or repair malfunctioing limit switch
	Platform above drive cutout height	Lower platform below drive cutout height
Machine cannot lift down. Lift up function okay		
	Loose wiring on lift cylinder (s) at holding valve	Repair wiring on lift cylinder (s) at holding valve

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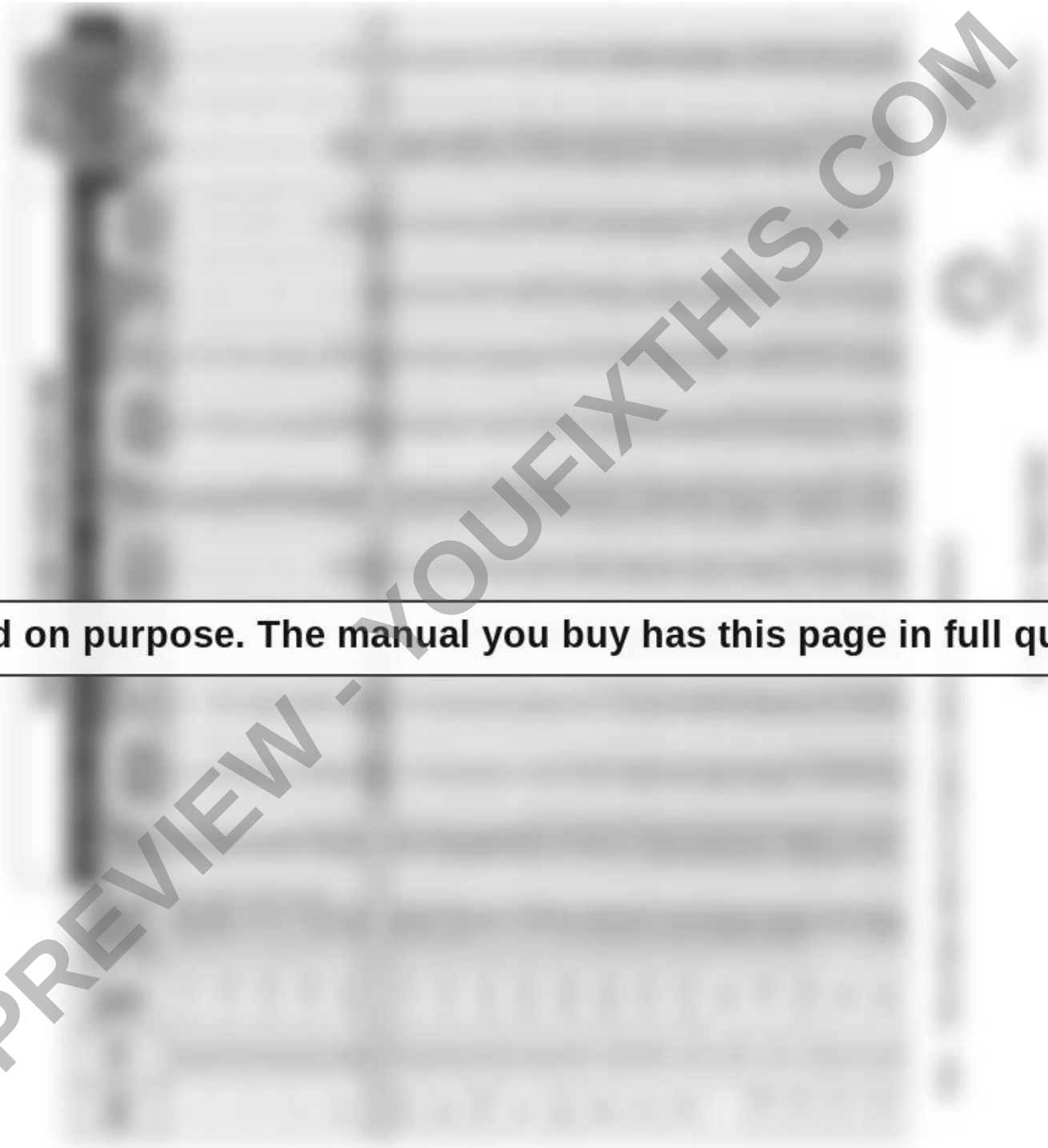
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Table 2-8. JLG SMART System™ Flash Codes & Help Messages

Code	Description
2-1 - Indicates problems with EMS inputs	**STARTUP** - Neither EMS is active - the system is just switching on or is discharging the capacitor bank. A welded line contactor might also cause this.
2-2 - Indicates problems with platform controls	**ALL FUNCTIONS PREVENTED - NO DATA FROM PLATFORM BOX** - The signal from the MUX board in the platform box is not available; drive, lift and deck functions cannot be selected. **FUNCTION PROBLEM - PERMANENTLY SELECTED** - The drive, lift or deck function select is active for more than ten seconds; any active function will be stopped. **FUNCTIONS LOCKED OUT - RELEASE THEN RESELECT** - The selected function is not allowed; release the joystick to clear the fault. **HIGH DRIVE PROBLEM - PERMANENTLY SELECTED** - The high drive function select is active for more than ten seconds; the high drive function will be stopped. **FUNCTION SELECTED BUT TRIGGER NEVER CLOSED** - Occurs after ten seconds with the joystick in neutral, but trigger switch never closed. **JOYSTICK FAULTY - WIPER OUT OF RANGE** - Occurs if wiper voltage is invalid. **JOYSTICK FAULTY - CENTER OUT OF RANGE -** Occurs if center tap voltage is invalid. **JOYSTICK FAULTY - STEER SWITCHES ACTIVE TOGETHER** **JOYSTICK LOCKED OUT - RELEASE THEN RESELECT** **PORITRAC PROBLEM - PERMANENTLY SELECTED** **TRIGGER INTERLOCK TRIPPED -** Trigger switch was closed for more than ten seconds with no function selected. **WAITING FOR TRIGGER SWITCH TO BE OPEN -** Trigger switch was closed when platform mode was selected.
2-3 - Indicates problems with ground controls	**GROUND FUNCTIONS LOCKED OUT - RELEASE THEN RESELECT** - A ground mode function (lift or deck) was selected when ground mode was selected
2-5 - Indicates a function is prevented due to a cutout	**DECK PREVENTED - FUNCTION CUTOUT ACTIVE** **DRIVE PREVENTED - DECK EXTENDED & ABOVE ELEVATION** **DRIVE PREVENTED - DRIVE CUTOUT ACTIVE -** Drive is selected while drive cutout is active and drive cutout is configured to prevent drive. **DRIVE PREVENTED - FUNCTION CUTOUT ACTIVE -** Drive is selected while function cutout ("overload") is active and configured to cut out drive functions. **DRIVE PREVENTED - POTHOLE NOT ENGAGED** **DRIVE PREVENTED - TILTED & ABOVE ELEVATION -** Drive is selected while tilted and above elevation and tilt is configured to prevent drive. **LIFT DOWN CUTOUT - ARMGAURD PROTECTION ACTIVE** **LIFT DOWN PREVENTED - DECK EXTENDED** **LIFT PREVENTED - FUNCTION CUTOUT ACTIVE** **LIFT UP PREVENTED - TILTED & ABOVE ELEVATION** **STEER LOCKED OUT - RELEASE THEN RESELECT** **STEER PREVENTED - DECK EXTENDED & ABOVE ELEVATION** **STEER PREVENTED - FUNCTION CUTOUT ACTIVE** **STEER PREVENTED - NOT AVAILABLE** **STEER PREVENTED - TILTED & ABOVE ELEVATION**
3-1 - Indicates that a contactor did not close when energized	**OPEN-CIRCUIT LINE CONTACTOR** - The capacitor bank charge did not increase to battery supply when line contactor was energized (this could be due to a power wiring error.
3-2 - Indicates that a contactor did not open when de-energized	**WELDED LINE CONTACTOR** - The capacitor bank charge did not decrease from battery supply when line contactor was de-energized (this could be due to a power wiring error).

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