


# Liquid System 610

# Troubleshooting Manual

87651743

CASE IH AGRICULTURE

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# LIQUID SYSTEM 610 TROUBLESHOOTING MANUAL

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**NOTE:** *CNH America LLC reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.*



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# TORQUE SPECIFICATIONS - STEEL HYDRAULIC FITTINGS (CONT'D)

## O-Ring Face Seal End

| Nom. SAE Dash Size | Tube OD | Thread Size | Pound-Inches | Newton Metres |
|---|---|---|---|---|
| -4 | 1/4 inch 6.4mm | 9/16-18 | 120 to 144 | 14 to 16 |
| -6 | 3/8 inch 9.5 mm | 11/16-16 | 216 to 240 | 24 to 27 |
| -8 | 1/2 inch 12.7 mm | 13/16-16 | 384 to 480 | 43 to 54 |
| -10 | 5/8 inch 15.9mm | 1-14 | 552 to 672 | 62 to 76 |

| Nom. SAE Dash Size | Tube OD Hose ID | Thread Size | Pound-Feet | Newton Metres |
|---|---|---|---|---|
| -12 | 3/4 inch 19.0mm | 1-3/16-12 | 65 to 80 | 90 to 110 |
| -14 | 7/8 inch 22.2 mm | 1-3/16-12 | 65 to 80 | 90 to 110 |
| -16 | 1.0 inch 25.4 mm | 1-7/16-12 | 92 to 105 | 125 to 140 |
| -20 | 1-1/4 inch 31.8 mm | 1-11/16-12 | 125 to 140 | 170 to 190 |
| -24 | 1-1/2 inch 38.1 mm | 2-12 | 150 to 180 | 200 to 254 |

## O-Ring Boss End Fitting or Lock Nut

| Size | Pounds-Inches | Newton Metres |
|---|---|---|
| 7/16-20 | 204 to 240 | 23 to 27 |
| 9/16-18 | 300 to 360 | 34 to 41 |
| 3/4-16 | 540 to 600 | 61 to 68 |

| Size | Pounds-Inches | Newton Metres |
|---|---|---|
| 7/8-14 | 60 to 65 | 81 to 88 |
| 1-1/16-12 | 85 to 90 | 115 to 122 |
| 1-3/16-12 | 95 to 100 | 129 to 136 |
| 1-5/16-12 | 115 to 125 | 156 to 169 |
| 1-5/8-12 | 150 to 160 | 203 to 217 |
| 1-7/8-12 | 190 to 200 | 258 to 271 |



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## Relay Table

| | TABLE OF RELAYS | |
|---|---|---|
| RELAY NUMBER | FUNCTION DESCRIPTION | PAGE SH–PG |
| RP1A | WKLTS/HLTS | 16/18 |
| RP1B | MARKER/BUTES LTS | 16 |
| RP1C | F ROOF WKLTS | 18/17 |
| RP1D | R ROOF WKLTS | 18/17 |
| RP1E | TRANS LOCKOUT | 35 |
| RP1F | NEUTRAL SAFTY | 12/11 |

| | TABLE OF RELAYS | |
|---|---|---|
| RELAY NUMBER | FUNCTION DESCRIPTION | PAGE SH–PG |
| RP2A | BRAKE ECM | 11/30 |
| RP2B | BACKUP | 35/12 |
| RP2C | PB / PLUS1 PWR | 12 |
| RP2D | ENGINE DE–RATE | 28/26 |
| RP2E | BOOM LTS | 18/19 |
| RP2F | PARK TRANS LOCKOUT | 12/35 |

| | TABLE OF RELAYS | |
|---|---|---|
| RELAY NUMBER | FUNCTION DESCRIPTION | PAGE SH–PG |
| RP3A | CAB PSI MOTOR | 14 |
| RP3B | HI/LO BEAM | 16/20 |
| RP3C | BRAKE LTS | 11/21 |
| RP3D | TAIL LIGHTS | 16/10 |
| RP3E | | |
| RP3F | | |

| | TABLE OF RELAYS | |
|---|---|---|
| RELAY NUMBER | FUNCTION DESCRIPTION | PAGE SH–PG |
| J062 | ACC2 PWR RELAY | 11/10 |
| J063 | ACC1 PWR RELAY | 11/10 |
| J064 | KEY PWR RELAY | 11/09 |
| J065 | LIGHTS | 18 |
| J068 | ACC3 PWR RELAY | 11/09 |
| GH–RP | GRID HEATER | 30 |

**NOTE:** *The pages referenced on this table represent the page #'s at the bottom of the page in the Main Cab and Frame Schematic Information section.*



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# QUICK REFERENCE TO TROUBLESHOOTING

| Item | Section-Page No. | Symptom | Probable Cause | Corrective Action |
|---|---|---|---|---|
| Remote Box - Engine Emergency Stop Switch | 4002-12, 14 | No power to Engine Emergency Stop Switch. | Loose or broken wiring. | Check wiring. |
| | | | Faulty fuse. | Replace fuse. |
| Remote Box - Cruise Increase/Decrease Switch | 4002-12, 14 | No power at Cruise Increase/Decrease switch. | Loose or broken wiring. | Check wiring. |
| | | | ON/OFF switch on remote box is in OFF position. | Turn ON/OFF switch to ON position. |
| | | | Cruise switch in cab is OFF. | Turn cruise switch in cab to ON position. |
| | | | Park brake in OFF position. | Turn park brake switch to ON position. |
| | | | Faulty fuse. | Replace fuse. |
| Remote Box - ON/OFF Switch | 4002-12, 14 | Remote Station Lamp not illuminating. | Faulty lamp. | Replace lamp. |
| | | | Faulty wiring. | Check wiring. |
| | | | Faulty switch. | Replace switch. |
| | | | Faulty park brake solenoid. | Replace solenoid. |
| Remote Box - Pump Auto/Manual Switch | 4002-12, 14 | Product pump will not operate when switch is in manual position (up). | Park brake switch OFF. | Turn park brake switch to ON position. |
| | | | Faulty wiring. | Check wiring. |
| | | | Faulty PWM valve. | Replace valve. |
| | | | Faulty park brake solenoid. | Replace solenoid. |
| Product Pump Control Valve (PWM) | 4002-12, 15 | Controller showing error. | Remote box switch S1 in wrong position. | Place switch in correct position (down). |
| | | | Remote box switch S2 in wrong position. | Place switch in correct position (down). |
| | | | No power to PWM valve. | Check for power at the driver. |
| | | | No power at driver. | Check for power at remote box. |
| | | Controller showing error. | Faulty S1 switch at remote box. | Replace switch. |
| | | | Faulty S2 switch at remote box. | Replace switch. |
| | | | No power at remote box. | Check connections to the controller. Tighten if needed. |
| | | Product pump not operating properly. | Faulty wiring at valve or driver. | Check wiring. |
| | | | Controller not set-up properly. | Check controller set-up. |
| | | | Faulty PWM valve. | Repair or replace valve. |
| | | Controller showing error. | Hydraulic system. | Electrical checks out, check hydraulic system. |



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