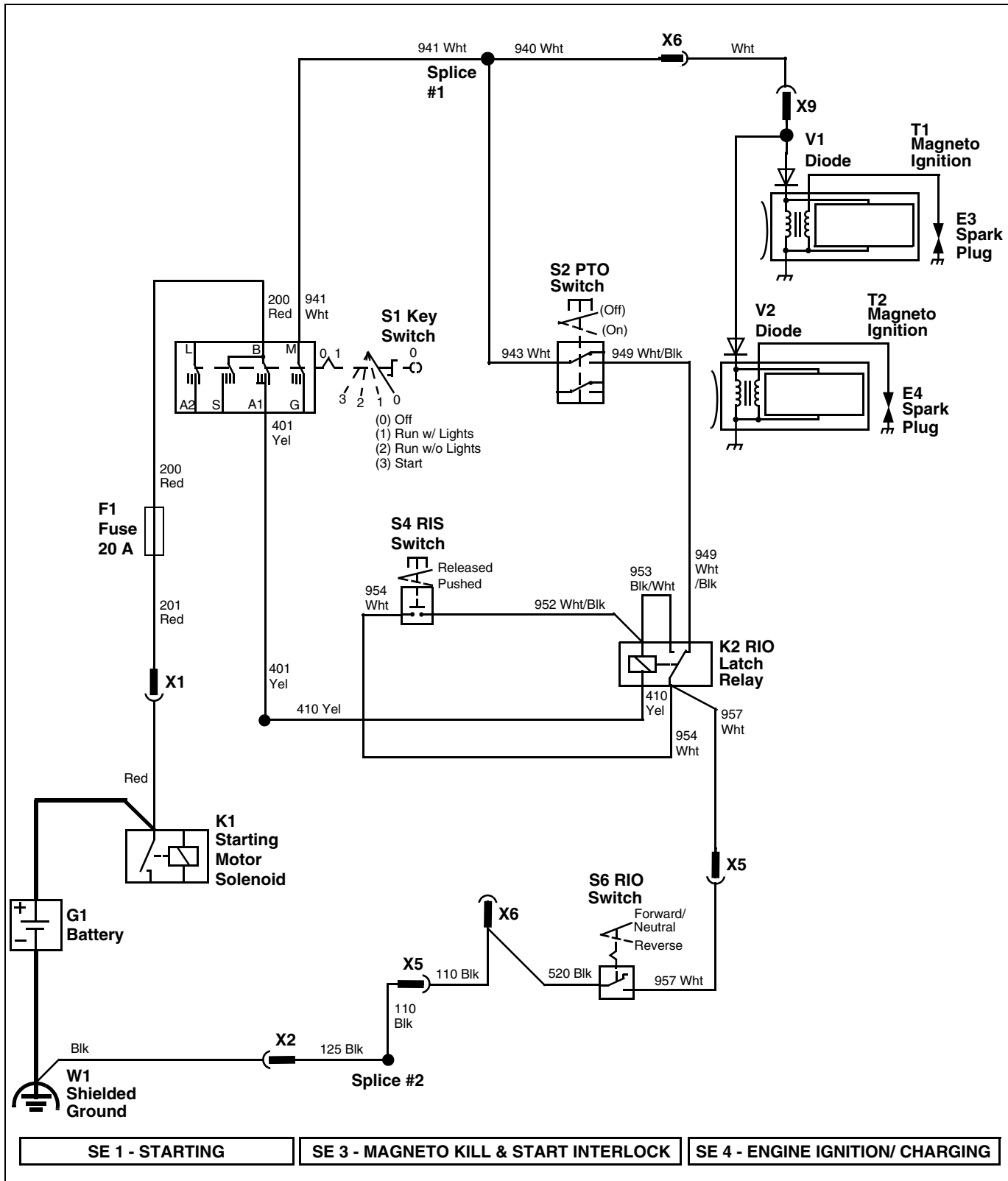


ELECTRICAL DIAGNOSTICS AND OPERATION

PTO with RIO Circuit Schematic - L130



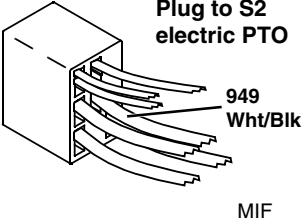
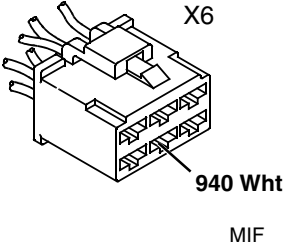
ELECTRICAL DIAGNOSTICS AND OPERATION

PTO with RIO Circuit Diagnosis - L130

Test Procedure A

Test Conditions:

- Key Switch in RUN position engine NOT running.
- Park brake ON
- PTO in ON position
- Operator OFF Seat

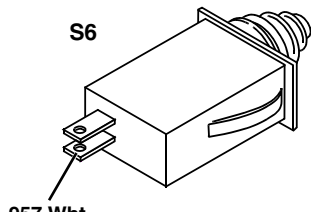
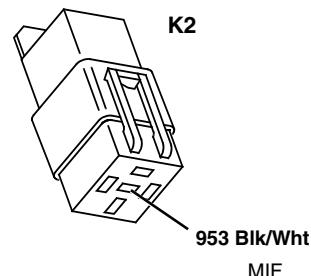
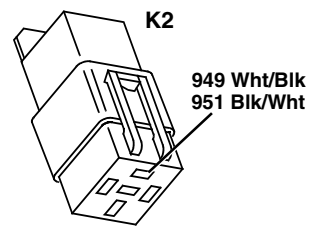
<p>Disconnect S2 PTO switch. Measure for continuity between 949 Wht/Blk wire at S2 PTO switch plug and ground.</p>	<p>Continuity to ground. Go To Step (2).</p> <ul style="list-style-type: none"> • No continuity to ground, replace seat switch. Go To Step (2). • Check 949 Wht/Blk, 951 Blk/Wht, 130, 110, and 125 Blk wires and connections. Check X2 and X5 connectors. Repeat test, continuity to ground, Go To Step (2). 	 <p style="text-align: right;">Plug to S2 electric PTO</p> <p style="text-align: right;">949 Wht/Blk</p> <p style="text-align: right;">MIF</p>
<p>X6 Front main wiring harness connector. Measure for continuity between 940 Wht wire and ground.</p>	<p>Continuity to ground, Go To Step (1) of Test Procedure B.</p> <ul style="list-style-type: none"> • No continuity to ground, replace PTO switch. Go To Step (1) of Test Procedure B. • Check 943 and 940 Wht wires and connections. Repeat test, continuity to ground, Go To Step (1) of Test Procedure B. 	 <p style="text-align: right;">X6</p> <p style="text-align: right;">940 Wht</p> <p style="text-align: right;">MIF</p>

ELECTRICAL DIAGNOSTICS AND OPERATION

Test Procedure B

Test Conditions:

- Key Switch in OFF position.
- Park brake ON
- Transmission in reverse.
- PTO in ON position
- Operator ON Seat
- RIS switch in PRESSED during test.

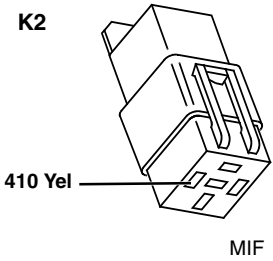
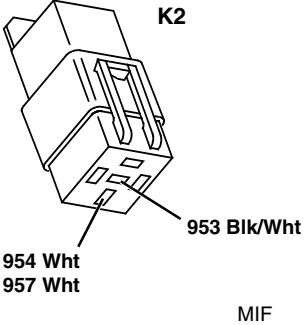
S6 RIO switch. Measure for continuity to ground on wire 957 Wht.	<p>Less than 0.2 ohms, Go To Step (2).</p> <ul style="list-style-type: none"> • If no continuity to ground, check for 0.2 ohms or less on wire 110 Blk. If continuity, replace RIO switch. Go To Step (2). • If no continuity to ground on wire 520 Blk, check 520, 110 and 125 Blk wires and connections. Check X5 and X2 connectors. Go To Step (2). 	 <p style="text-align: center;">S6</p> <p style="text-align: center;">957 Wht</p> <p style="text-align: right;">MIF</p>
K2 RIO latch relay. Measure for continuity to ground on wire 953 Blk/Wht.	<p>Less than 0.2 ohms, Go To Step (3).</p> <ul style="list-style-type: none"> • If no continuity to ground, check for 0.2 ohms or less on wire 954 Wht. If continuity, be sure that RIS switch is pressed, replace RIS switch. Go To Step (3). • If no continuity to ground, check 953 Blk/Wht, 952 Wht/Blk, 954 and 957 Wht, 110 and 125 Blk wires and connections. Check X5 and X2 connectors. Go To Step (3). 	 <p style="text-align: center;">K2</p> <p style="text-align: center;">953 Blk/Wht</p> <p style="text-align: right;">MIF</p>
K2 RIO latch relay. Measure for continuity to ground on wire 949 Wht/Blk and 951 Blk/Wht.	<p>Less than 0.2 ohms, Go To Step (1) of Test Procedure C.</p> <ul style="list-style-type: none"> • If battery voltage tests ok, test RIO latch relay and replace as needed. Go To Step (1) of Test Procedure C. 	 <p style="text-align: center;">K2</p> <p style="text-align: center;">949 Wht/Blk 951 Blk/Wht</p> <p style="text-align: right;">MIF</p>

ELECTRICAL DIAGNOSTICS AND OPERATION

Test Procedure C

Test Conditions:

- Key Switch in RUN position, engine NOT running.
- Park brake ON
- Transmission in reverse.
- PTO in ON position
- Operator ON Seat
- RIS switch in PRESSED momentarily to latch relay.

<p>K2 RIO latch relay. Measure for voltage on wire 410 Yel.</p>	<p>Battery voltage, Go To Step (2).</p> <ul style="list-style-type: none"> • If less than battery voltage, "Power Circuit Diagnosis - L100/L110/L120" on page 229. When battery voltage tests ok, Go To Step (2). 	 <p style="text-align: right;">MIF</p>
<p>K2 RIO latch relay. Measure for continuity to ground on wire 953 Blk/Wht.</p>	<p>Less than 0.2 ohms, Test Complete.</p> <ul style="list-style-type: none"> • If no continuity to ground, check for 0.2 ohms or less on 954 and 957 Wht wires. If continuity, replace RIO latch relay. Test Complete 	 <p style="text-align: right;">MIF</p>

Headlight Circuit Operation - L100/L110/L120/L130

Function:

Provides power to the headlights.

Operating Conditions:

- Key switch in the RUN position.
- S5 Light Switch in the ON position.

Theory of Operation:

The headlights will operate any time a charged battery is correctly installed and the key switch is in the RUN/START position, with or without the engine running.

Power is supplied for the headlight circuit from the K1 Starting Motor Solenoid terminal, fusible link 215, Red wire 210, F2 Fuse, Red wire 211, S1 Key Switch contacts, Yel wire 410, Yel/Blk wire 400, S5 Light Switch contacts, Yel/Wht wire 450, X5 connector to the E1 and E2 headlights. The ground circuit is completed through wires 101 and 100 Blk, through the X5 connector to the headlights.