



3-90C Trashmaster

Service Training Information

Section 3 - Electrical System

(Effective GJ 197-.....)

S/N GJ-197-..... CIRCUITS

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INTRODUCTION - EFFECTIVE S/N GJ000197

General: The Trashmaster 3-90C is equipped with a 24 Volt DC electrical system. All of the 24 Volt DC general electrical circuits are supplied from control relays. Functional identification of control relays is as follows:

| Control Relay(s) | Functions |
|------------------|---|
| CR-1, CR-2 | General Electrical Circuits |
| CR-3 | Automatic Shutdown System (S/N GJ139-229) |
| CR-1, CR-5, CR-4 | Engine Starting |

Hood And Belly Pan Controls: Housed under a protective cover in the lower left hand rear fender are the controls to open the engine compartment and control the belly pan position.

IMPORTANT

Before opening and after closing the belly pans check the manual lock position of all belly pans.

IMPORTANT

After opening hood, manually lock the hood in the fully open position to prevent unintentional closure.

Engine Start Control Relays: Three control relays are utilized in starting the engine. Two of these are located under the instrument console cover in the cab (CR-1, CR-5). The third control relay involved in engine starting is located in the engine compartment inside a protective panel below the batteries (CR-4).

NOTE

All control relays have been equipped with diode suppression on the coil to prevent interference with the automatic shut down circuitry.

Cab Controls: Cab lighting, wiper, and washer functions and circuit protection are controlled from a switch panel located above the rear windshield. Each of these circuits are supplied by a common power terminal located on the back side of the switch panel. The ground terminal for these circuits is also located on the rear side of the switch panel. For switch, fuse and individual terminal identification refer to the diagrams on pages 3-8 and 3-9.

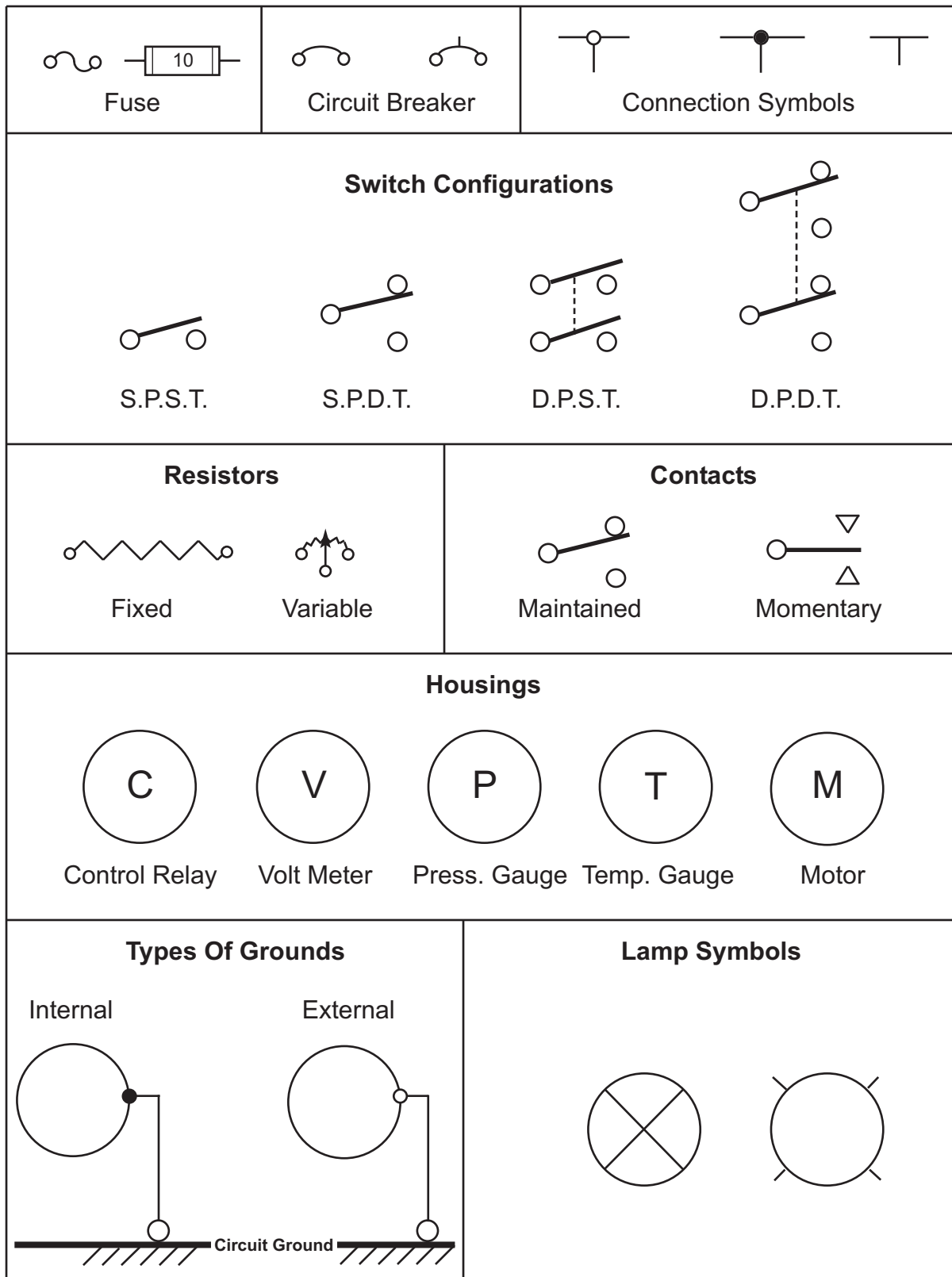
Propulsion Controls: The 3-90C propulsion system integrates hydrostatic drive and electrohydraulic controls. Managing this propulsion system is the load controller. The load controller is located under a protective label in the instrument panel of the cab. To supply the load controller engine RPM performance readings a magnetic speed pick-up sensor is located on the flywheel housing of the engine.

For switch, circuit breaker and component identification refer to the diagrams on pages 3-6 and 3-7.

IMPORTANT












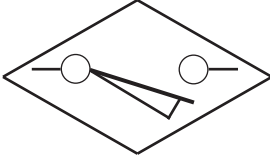
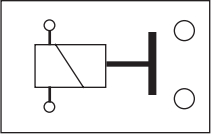
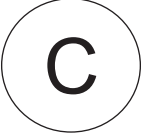

The Master Disconnect Switch was relocated from the negative circuit to the positive circuit effective with S/N GJ230

Electric Schematic Symbols

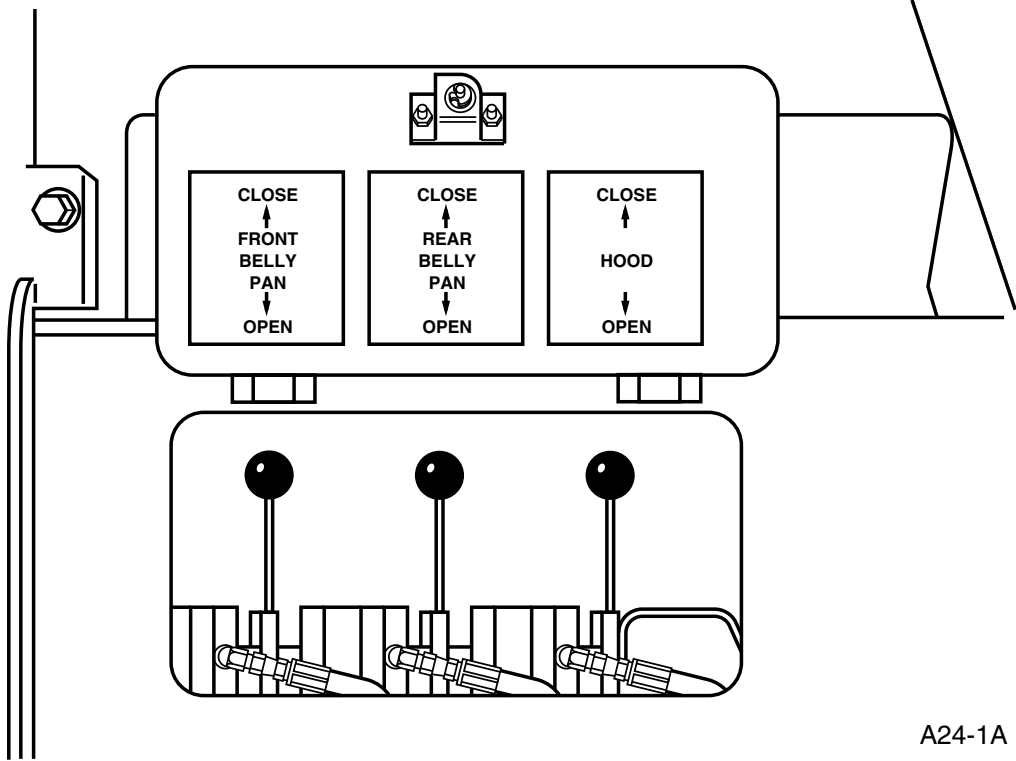


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Electric Schematic Symbols

| | | | | |
|---|---|--|---|---|
| Solenoids/Coils | | | | |
|  |  |  | | |
| Valve Coil | Solenoid/Valve Coil | Control Relay Coil | | |
|  |  |  |  |  |
| Pressure | Temperature | Hand | Diode | Liquid Level Float |
|  |  |  |  | |
| Circuit Crossing (Not Connected) | Mechanical Connection | Proximity Switch/Sensor | Limit Switch | |
| Control Relay | | | | |
|  |  |  | | |
| Relay Assembly | Relay Coil | Normally Open (N.O.) Normally Closed (N.C.) Relay Contacts | | |
| Color Abbreviations | | | | |
| RED | Red | BLK | Black | |
| YEL | Yellow | BLU | Blue | |
| WHT | White | BRN | Brown | |
| GRN | Green | PNK..... | Pink | |
| NOTE | | | | |
| <i>All diagrams shown with the vehicle parked and the power off.</i> | | | | |

Hood & Belly Pan Controls

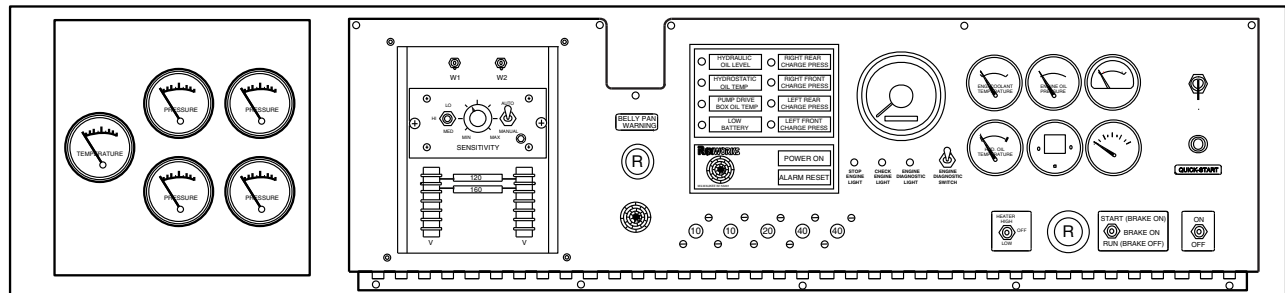
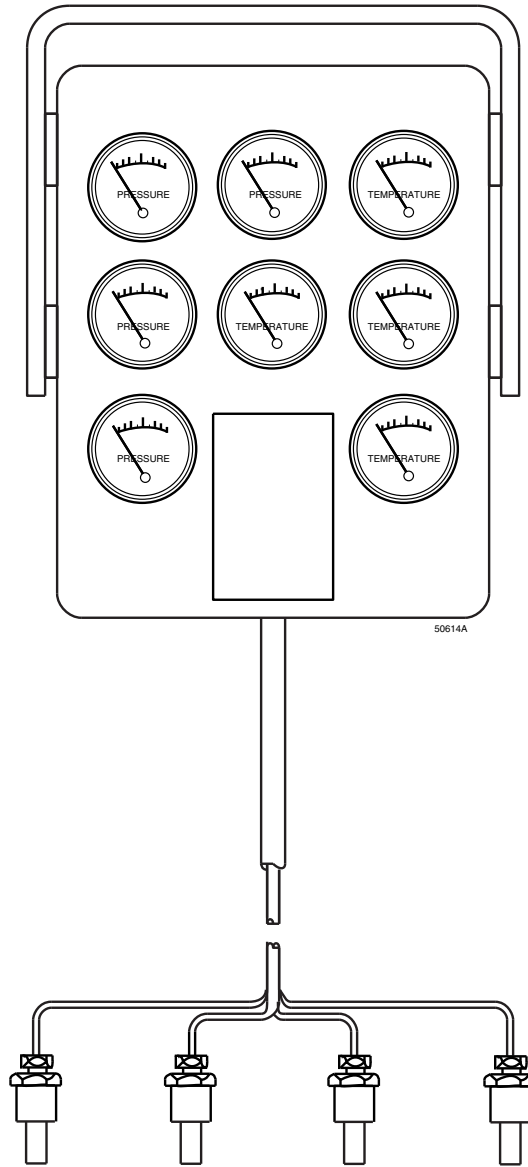


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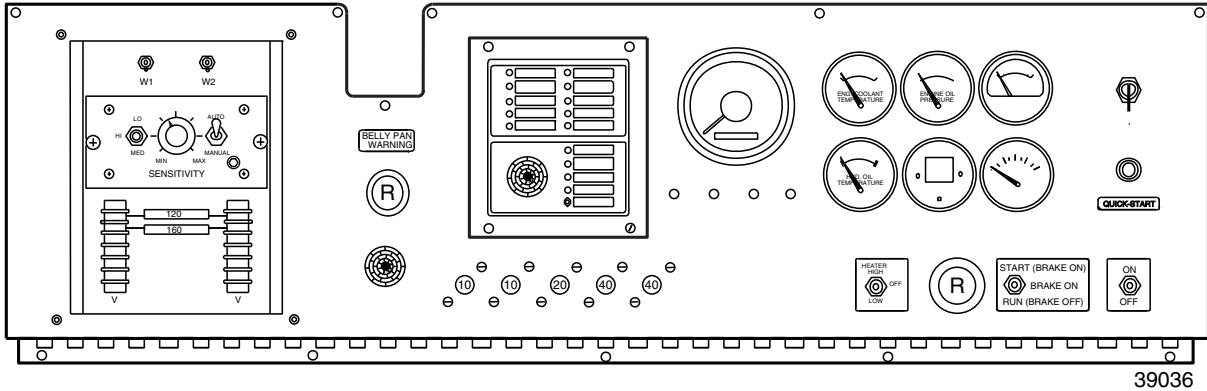
IMPORTANT

Place the master disconnect switch in the closed position prior to operation of these controls.

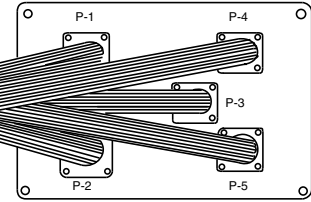
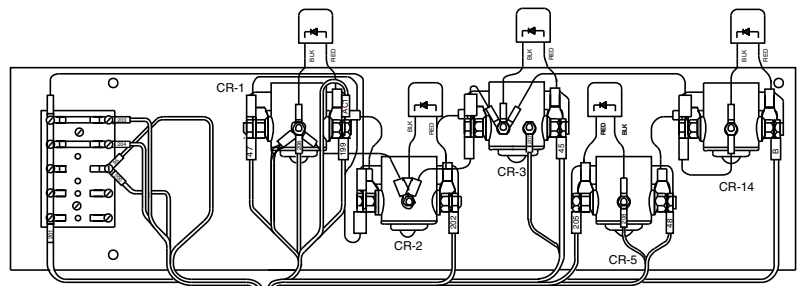
Hydrostatic Temperature & Charge Pressure Gauges



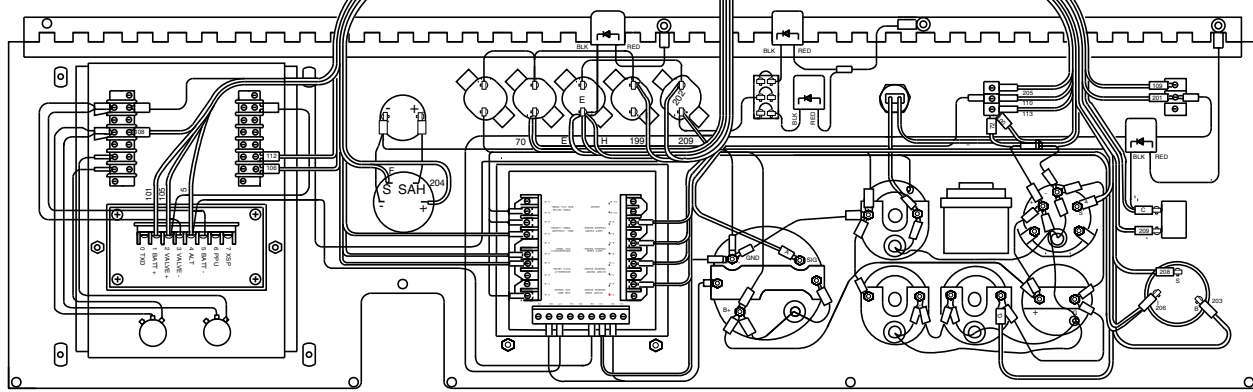
Instrument Panel GJ 185 - 229



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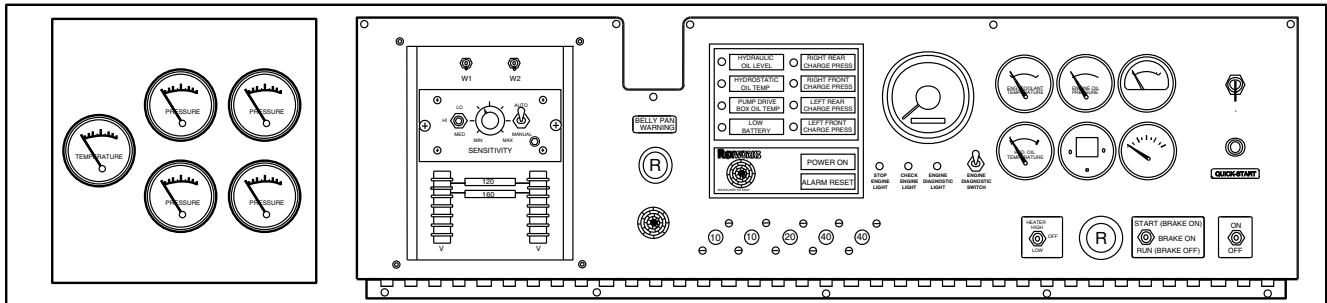
TO CAB LOOM [D 200



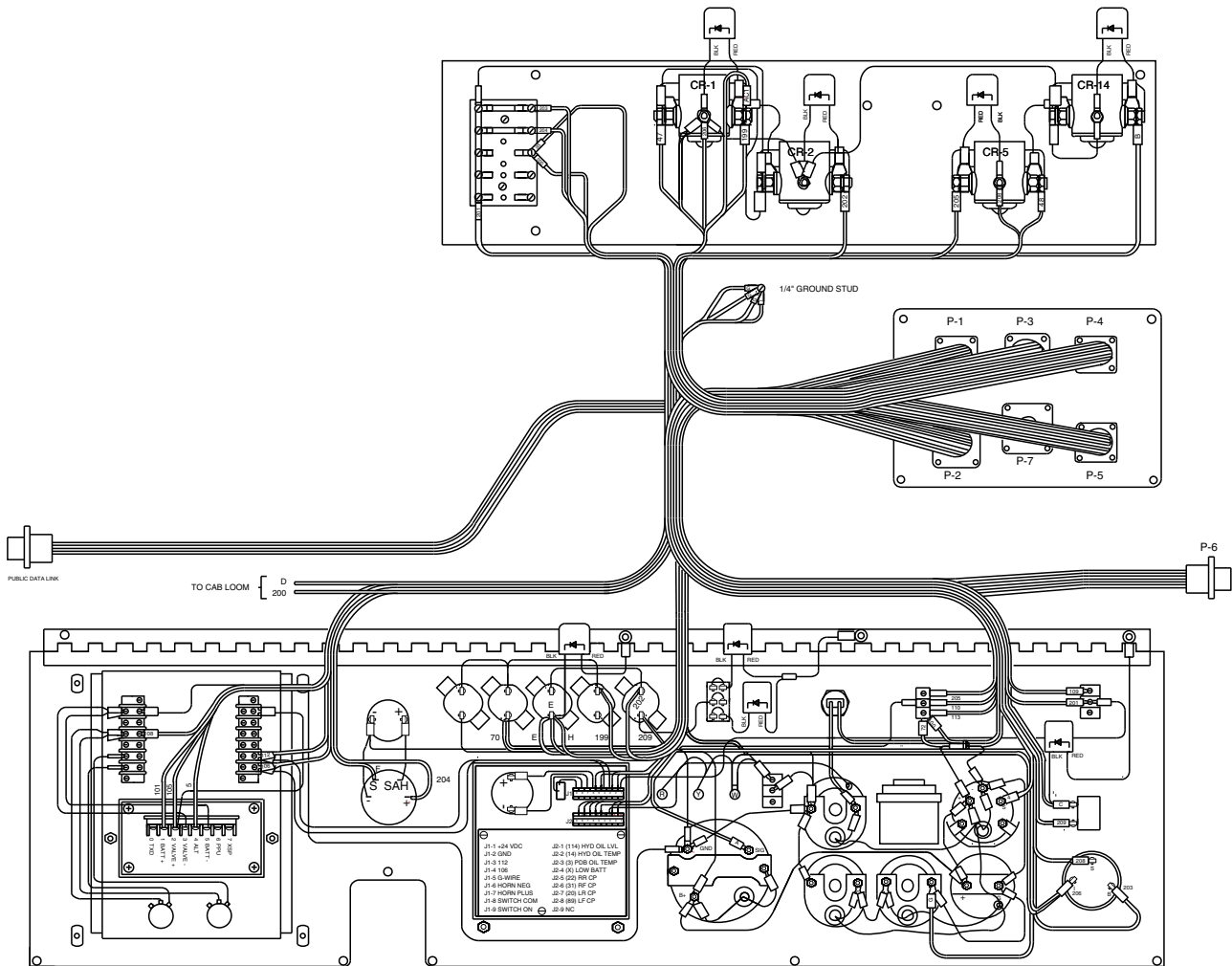
41108Z

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Instrument Panel (GJ 230-.....)

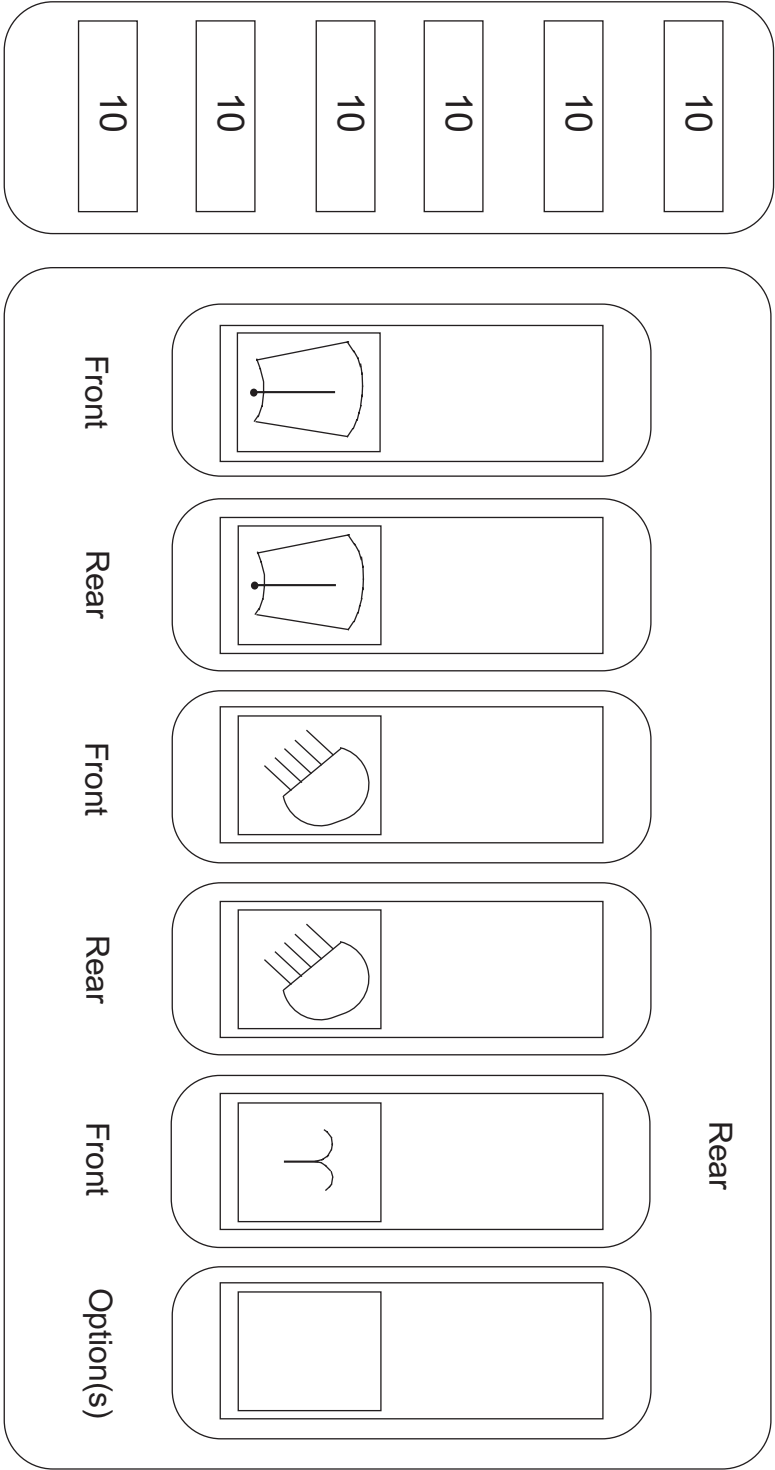


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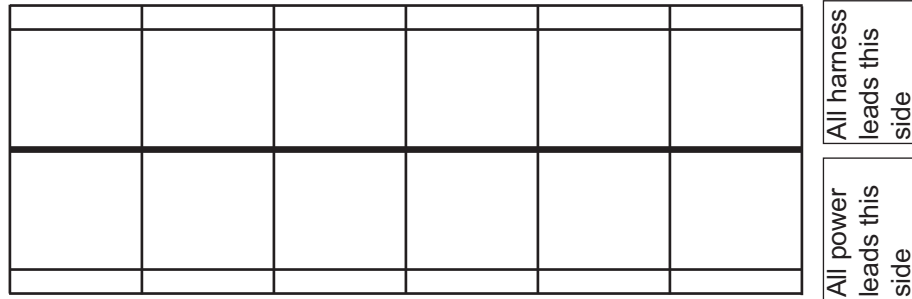


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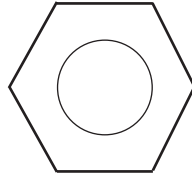
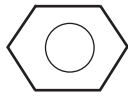
Cab Upper Switch Panel



Cab Upper Switch Panel (Interior View)



Ground Terminal



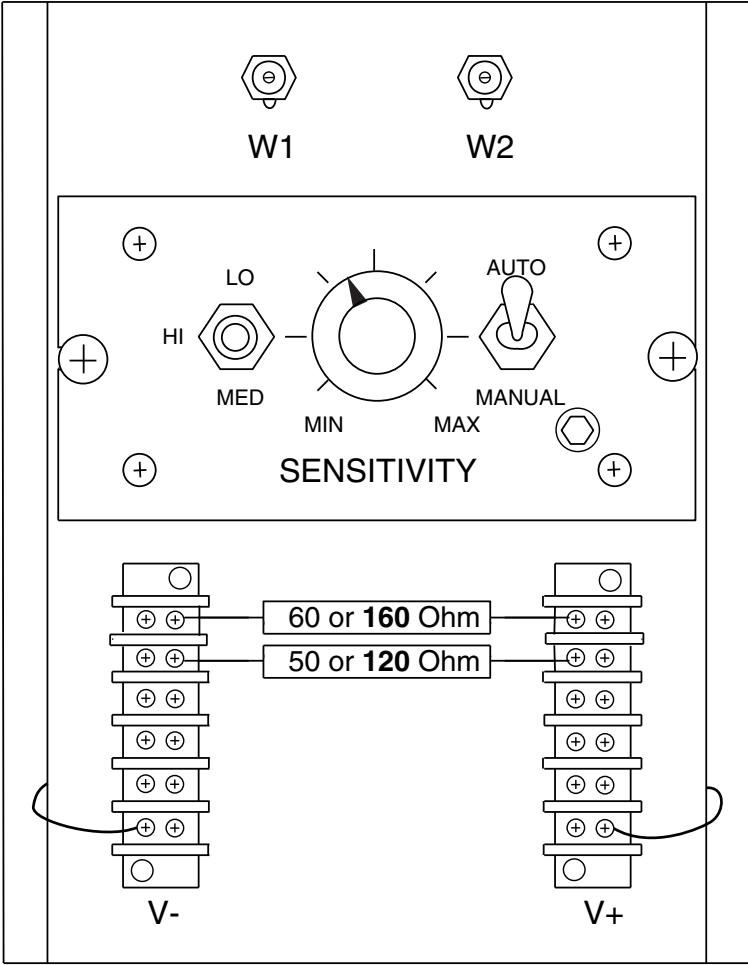
24 VDC From Control Relay #1

| | Option (s) | Washer | Rear Floods | Front Floods | Rear Wiper | Front Wiper | |
|--|----------------------|-----------------------------|----------------------|----------------------|------------------------------------|------------------------------------|---|
| | 10 — 9 — 5 — 1 | 10 — 9 — 7 — 3 — 1 | 10 — 9 — 5 — 1 | 10 — 9 — 5 — 1 | 10 — 9 — 7 — 5 — 3 — 1 | 10 — 9 — 7 — 5 — 3 — 1 | <p>1 = Red 3 = Blk 5 = Grn 7 = Blu 9 = Blk</p> <p>1 = Wht 3 = Blk/Wht 5 = Grn/Wht 7 = Blu/Wht 9 = Blk/Wht</p> <p>5 = Yel</p> <p>5 = Red/Wht</p> <p>1 = Wht/Red 3 = Blk/Wht 7 = Wht/Blk 9 = Blk/Wht</p> <p>1 = Yel/Blk</p> |

All harness leads this side

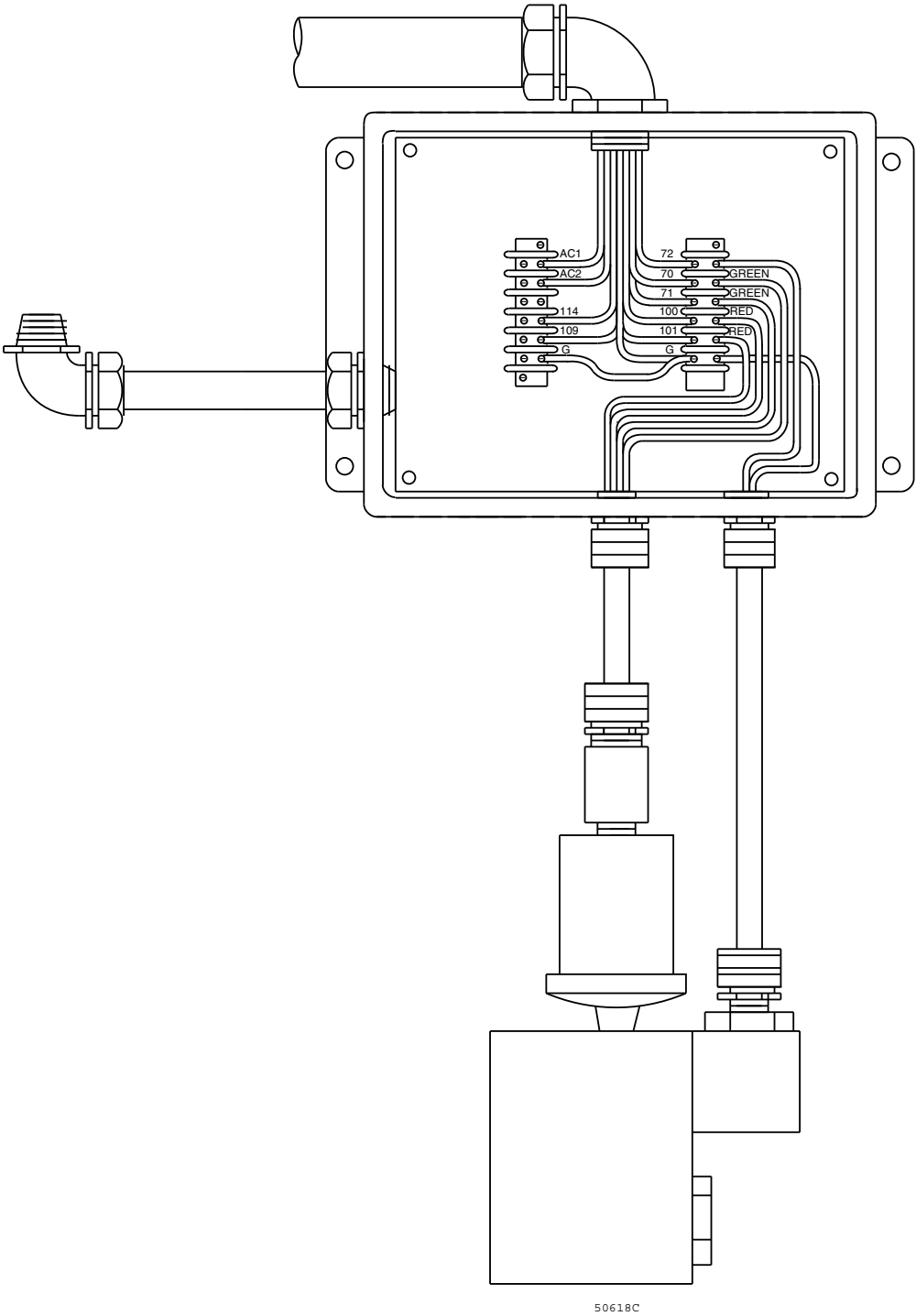
All power leads this side

Load Controller

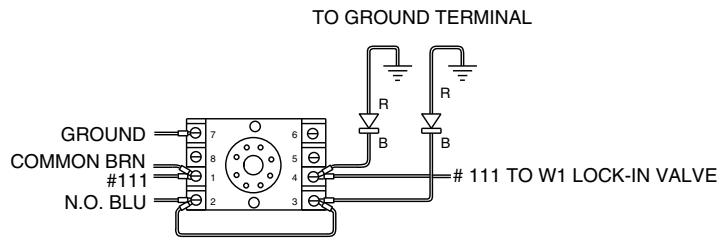
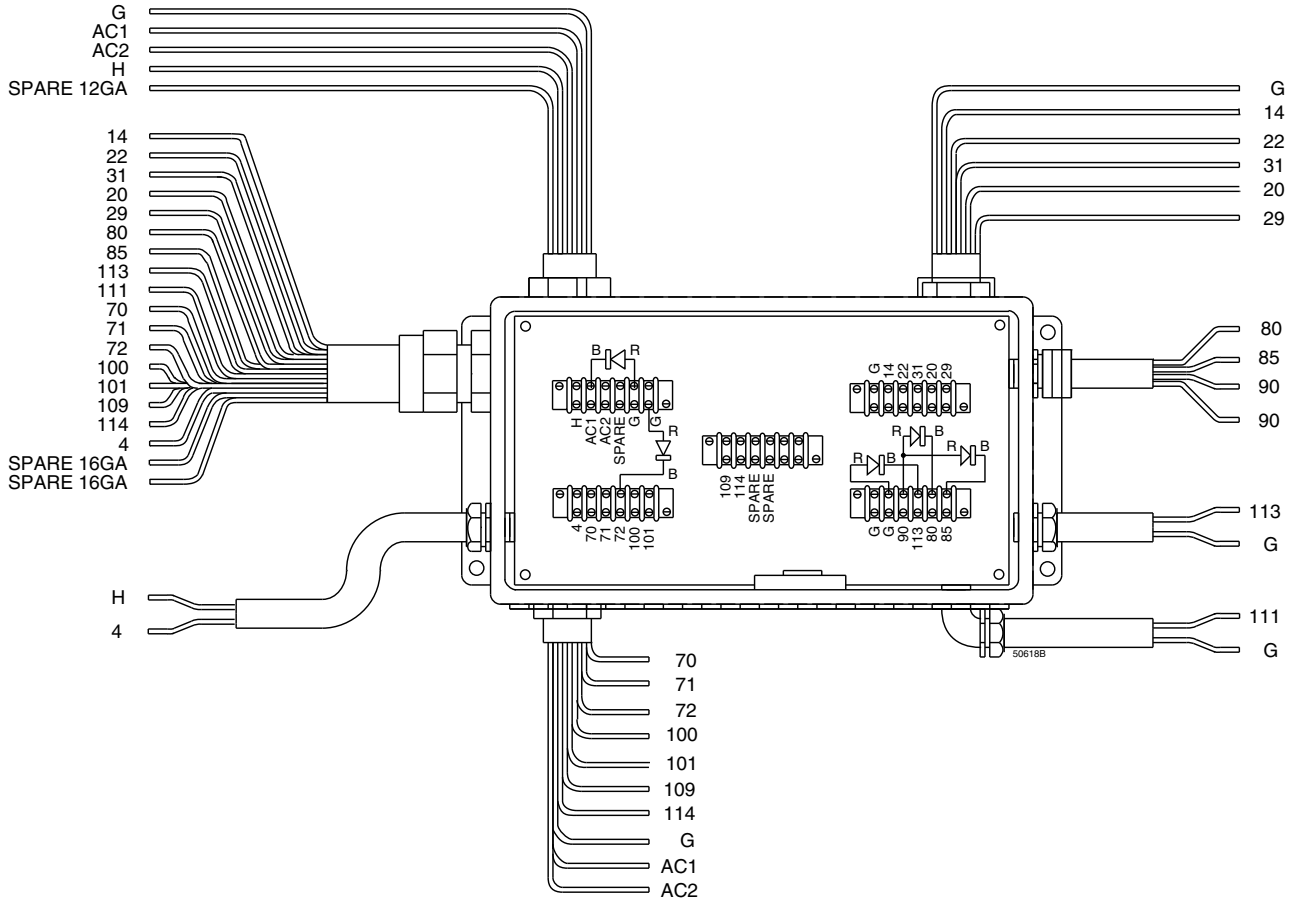


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Brake Valve Connection PANEL (Interior View, Effective GJ 139-210)

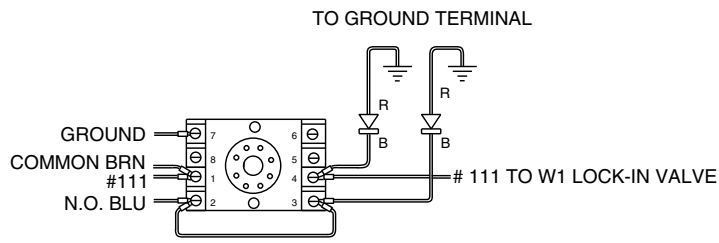
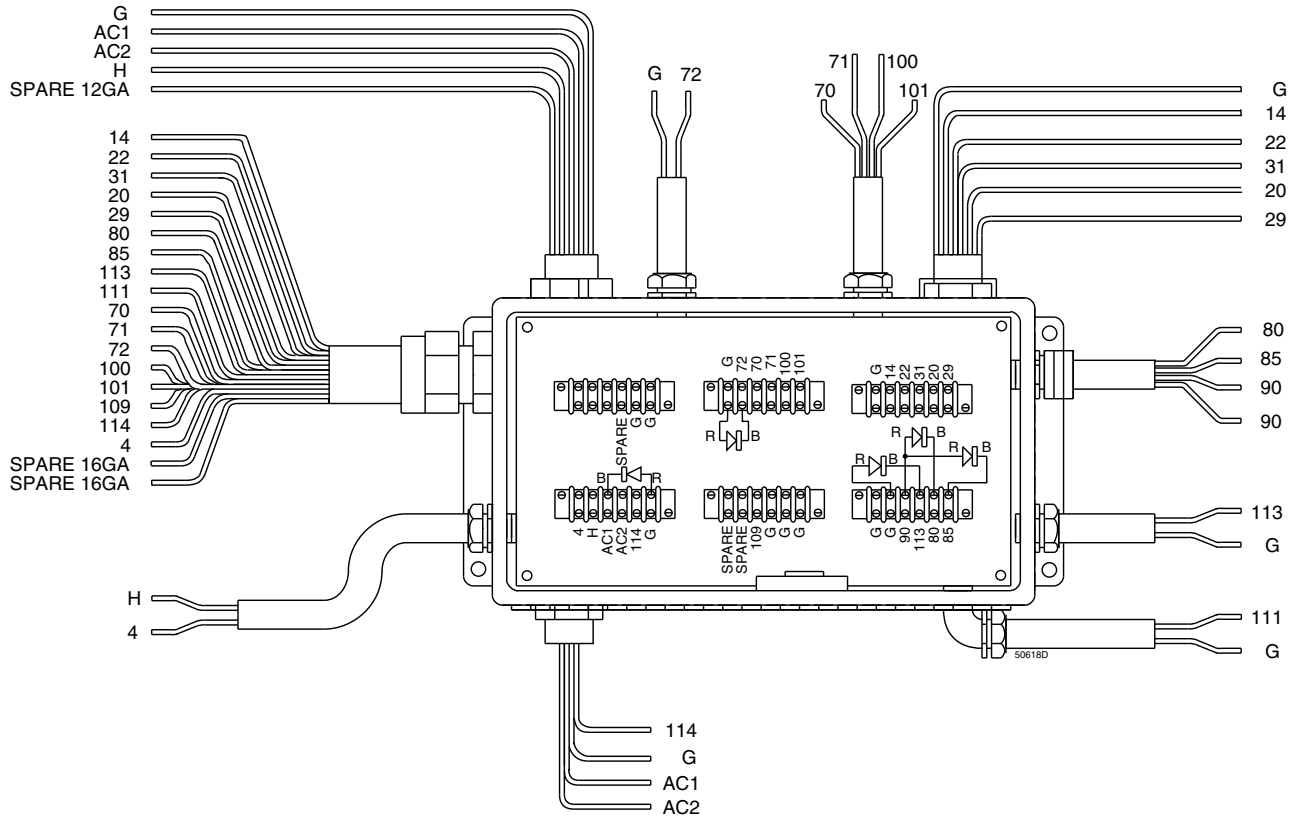


Main Harness Connection Panel (Interior View, Effective GJ 185-210)



TR-1 RELAY CONNECTIONS

Main Harness Connection Panel (Interior View, Effective GJ 211-.....)

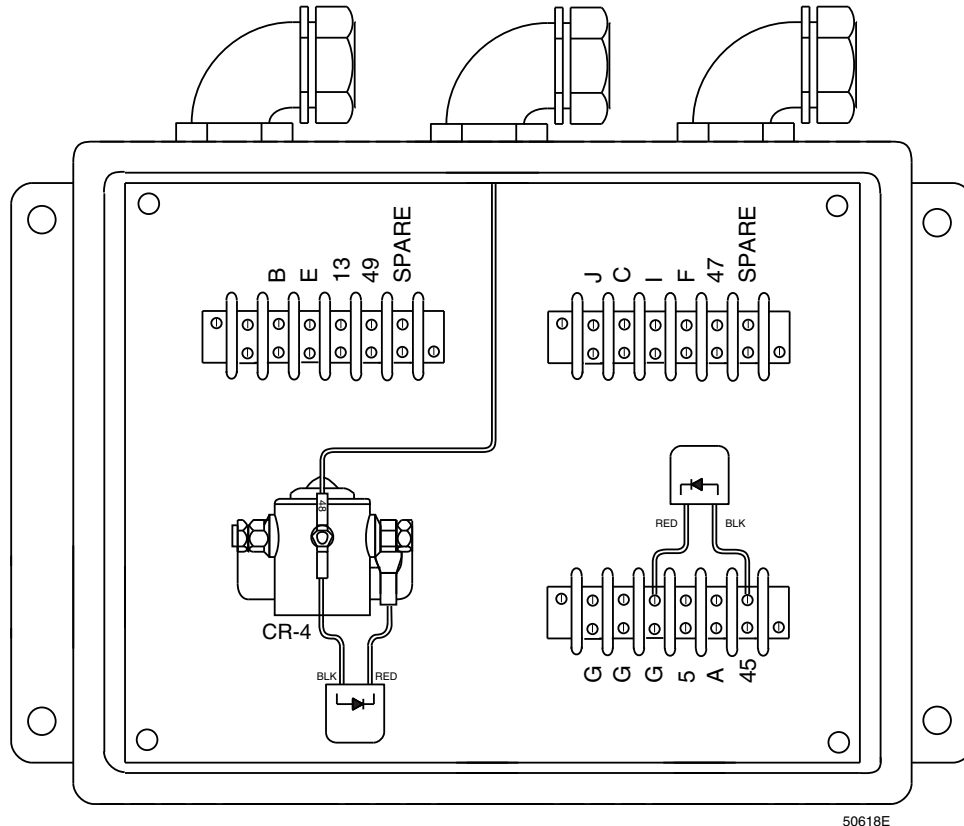


TR-1 RELAY CONNECTIONS

Terminal/Circuit Identification

- | | |
|------------------------------------|------------------------------------|
| AC 1 - Air Conditioning | 71 - Brake Warning Light |
| AC 2 - Air Conditioning | 72 - Brake Release |
| G - Ground | 80 - Reverse |
| H - Fuel Tank Valve | 85 - Forward |
| 4 - Fuel Level Sender | 90 - F/R Ground |
| 14 - Hydro. Oil Temp. Alarm | 100 - Load Controller Power Supply |
| 20 - LR Charge PSI Alarm | 101 - Load Controller B+ |
| 22 - RR Charge PSI Alarm | 109 - Work Light |
| 29 - LF Charge PSI Alarm | 111 - W1/W2 Auto Downshift |
| 31 - RF Charge PSI Alarm | 113 - Hydraulic Disengage Valve |
| 70 - Brake/Propulsion Power Supply | 114 - Low hydraulic Oil Alarm |

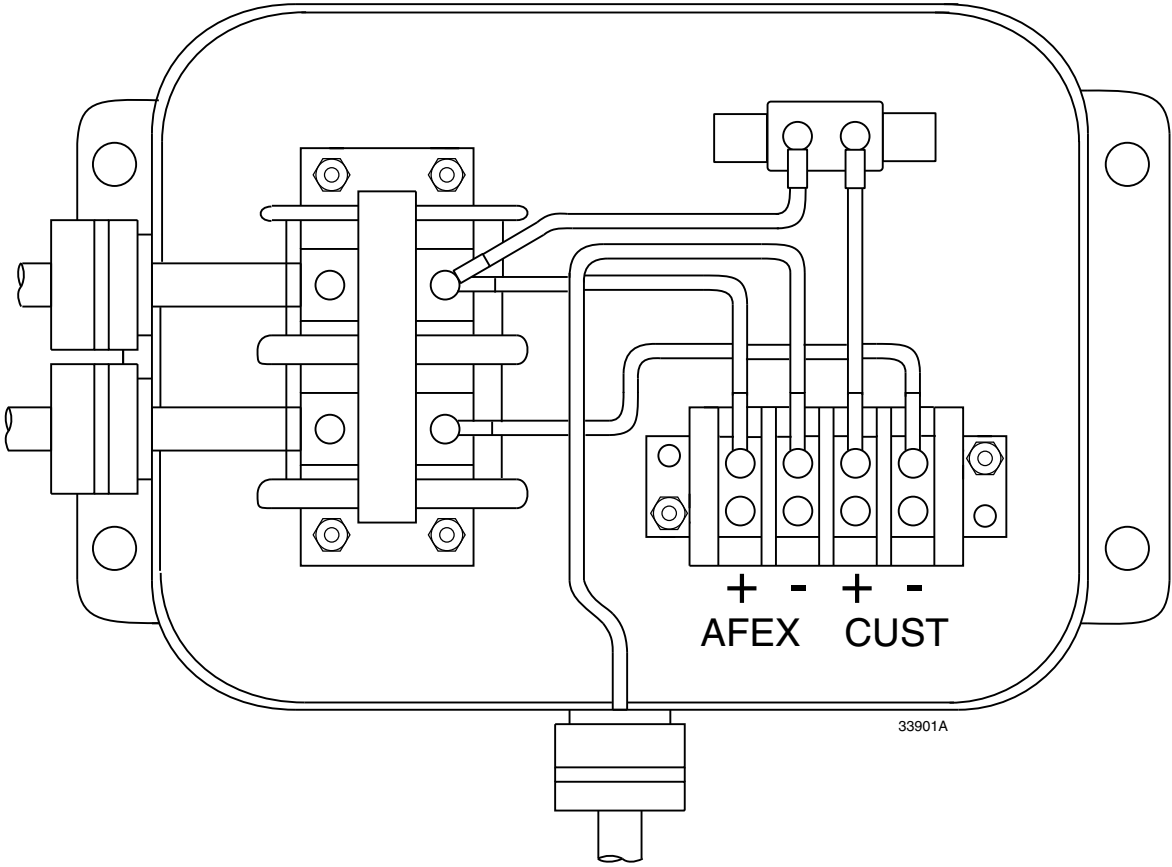
Engine Harness Connection Panel (Interior View)



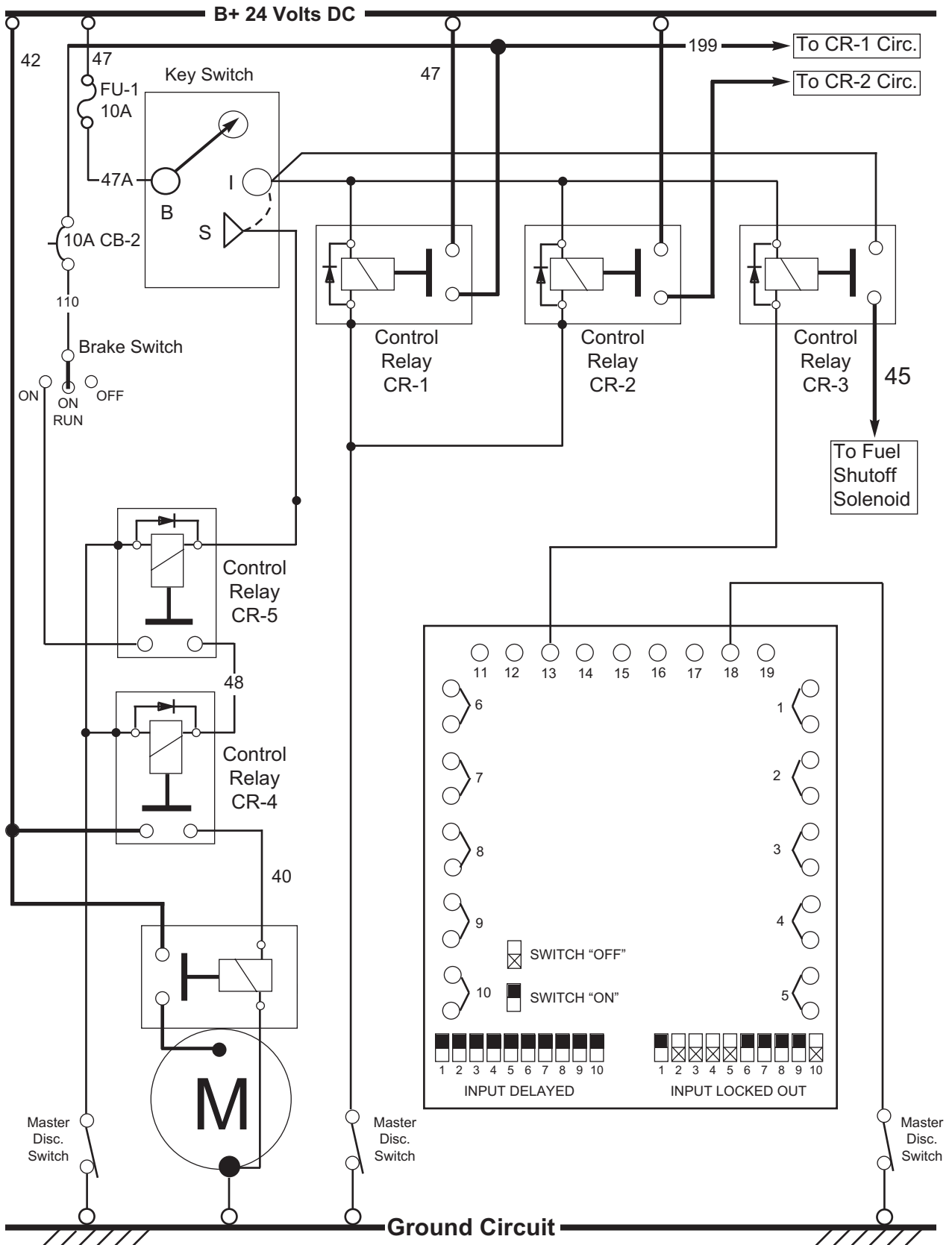
Terminal/Circuit Identification

- | | | | | | |
|---|---|--------------------------|----|---|--------------------|
| A | - | Tach Pulse Signal | J | - | Spare |
| B | - | CR 14 | 5 | - | Pulse Signal |
| C | - | Cold Start | 13 | - | Spare |
| E | - | Fuel Heater | 45 | - | Fuel Pump Solenoid |
| F | - | Belly Pan Warning Signal | 47 | - | B+ |
| I | - | Ground | 49 | - | Spare |

Auxiliary/Fire Suppression Connection Panel (Interior View)



Key Switch and Control Relays Through S/N GJ 229



3

Key Switch and Control Relays Through S/N GJ 229

General: The key switch and control relay circuit consists of a Delco starter and solenoid assembly, a 10 Ampere Slow Blow fuse, a rotary key switch, five control relays, a brake toggle type switch, the master disconnect switch, the necessary wiring and connectors.

Description - Control Relays: 24 VDC unswitched power is available to the starter solenoid through the battery cable, and to control relay CR-4 through a 42 numbered wire. 24 VDC unswitched power is available from the battery to the supply posts of control relays CR-1 and CR-2 through a number 47 wire. Switched 24 VDC power is available to activate control relay coil windings CR-1, CR-2, and CR-3 from the ignition (I) terminal or start (S) terminal of the key switch. This current flow to circuit ground creates a magnetic field within the windings of the control relay coils. This magnetic field closes the relay contact points within each control relay. Once these control relay contact points are closed, 24 VDC battery power is available to the appropriate control relay circuits.

| Control Relay | Functions |
|---------------|--|
| CR-1 | Roof Mounted A/C Defroster Fans Wiper and Washer Motors Work Lights |
| CR-2 | Fuel Tank Shut-off Valve Cab Heater Motors Cold Weather Starting Equipment |
| CR-3 | Fuel Pump Solenoid |
| CR-4 | Starter Motor Engagement |
| CR-5 | Activates CR-4 |

Description - Engine Start Sequence: To crank the Trashmaster engine, the master disconnect switch must be in the closed position, the brake toggle switch must be in the START/ON position, and the key switch must be rotated clockwise to the START (S) position. Once in the start position, the start terminal (S) will supply current to activate control relay CR-5 coil windings. As CR-5 contact points close, keyed 24 VDC battery power will pass from control relay CR-1 one to the 10 Ampere circuit breaker C.B. 2, the brake switch, and through control relay CR-5 contact points to activate the control relay CR-4 coil windings. Once control relay CR-4 coil windings are activated, 24 VDC battery power is allowed through control relay CR-4 contact points to activate the starter solenoid coil windings. As the starter solenoid coil windings activate, 24 VDC battery power is allowed through starter relay to the starter motor and the engine begins to crank.

3

Key Switch and Control Relays Effective With S/N GJ 230

General: The key switch, control relay, and ECM circuit consists of a Delco starter and solenoid assembly, a 10 Ampere Slow Blow fuse, a rotary key switch, four control relays, a brake switch, three indicator lamps, a diagnostic switch, the Engine Control Module, the master disconnect switch (Positive Circuit - Not Shown), the necessary wiring and connectors.

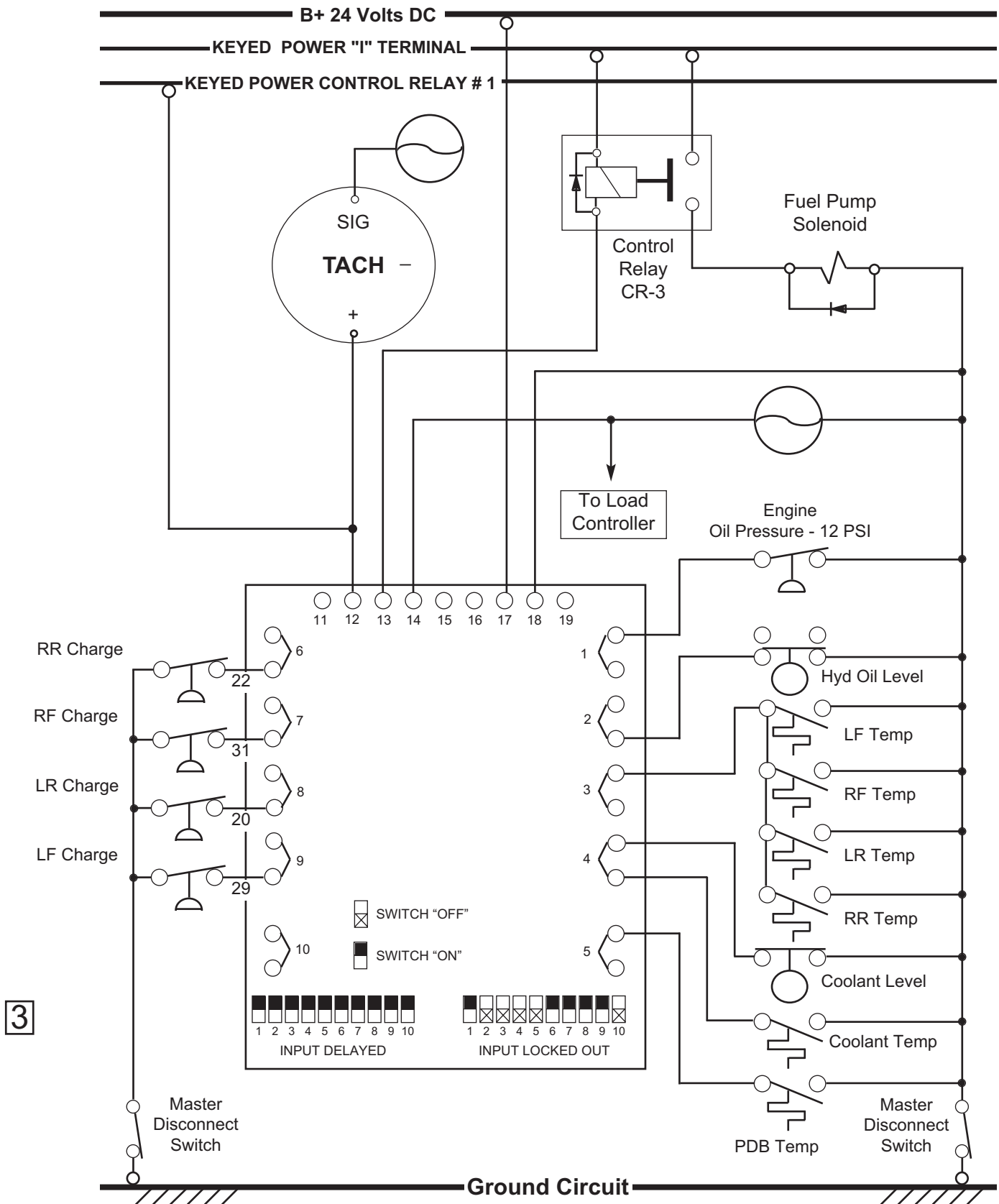
Description - Control Relays: 24 VDC unswitched power is available to the starter solenoid through the battery cable, and to control relay CR-4 through a 42 numbered wire. 24 VDC unswitched power is available from the battery to the supply posts of control relays CR-1 and CR-2 through a number 47 wire. Switched 24 VDC power is available to activate control relay coil windings CR-1, CR-2, and CR-3 from the ignition (I) terminal or start (S) terminal of the key switch. This current flow to circuit ground creates a magnetic field with in the windings of the control relay coils. This magnetic field closes the relay contact points with in each control relay. Once these control relays contact points are closed, 24 VDC battery power is available to the appropriate control relay circuits.

| Control Relay | Functions |
|----------------------|---|
| CR-1 | Roof Mounted A/C Horns Defroster Fans, Wipers, Washer Motors, and Work Lights Fuel level and Volt Meter Brake Valve, Load Controller, and PCS Valve |
| CR-2 | Fuel Tank Shut-off Valve Cab Heater Motors Cold Weather Starting Equipment |
| CR-4 | Starter Motor Engagement |
| CR-5 | Activates CR-4 |

Description - Engine Start Sequence: To crank the Trashmaster engine, the master disconnect switch (Positive) must be in the closed position, the brake toggle switch must be in the START/ON position, and the the key switch must be rotated clockwise to the START (S) position. Once in the start position, the start terminal (S) will supply current to activate control relay CR-5 coil windings. As CR-5 contact points close, switched 24 VDC battery power will pass from control relay CR-1 one to the 10 Ampere circuit breaker C.B. 2, the brake switch, and through control relay CR-5 contact points to activate the control relay CR-4 coil windings. Once control relay CR-4 coil windings are activated, 24 VDC battery power is allowed through control relay CR-4 contact points to activate the starter solenoid coil windings. As the starter solenoid coil windings activate, 24 VDC battery power is allowed through starter relay to the starter motor and the engine begins to crank.

3

Automatic Warning And Shutdown System Through S/N GJ 229



3

Automatic Warning And Shutdown System Through S/N GJ 229

General: To protect key systems, the 3-90C Trashmaster is equipped with an automatic warning and shut down system. The purpose of the shutdown system is to monitor selected systems and stop the operation of the engine before permanent damage has occurred to the monitored systems.

Description: To prevent premature failure of machine components the shutdown system will warn the operator if any of the monitored functions fails to meet desired settings.

Monitored circuits include:

1. Right Rear Charge Circuit Pressure
2. Right Front Charge Circuit Pressure
3. Left Rear Charge Circuit Pressure
4. Left Front Charge Circuit Pressure
5. Engine Oil Pressure
6. Hydraulic Oil Level
7. Engine Coolant Level
8. Left Front Drive Circuit Temperature
9. Right Front Drive Circuit Temperature
10. Left Rear Drive Circuit Temperature
11. Right Rear Drive Circuit Temperature
12. Engine Coolant Temperature
13. Pump Drive Box Temperature

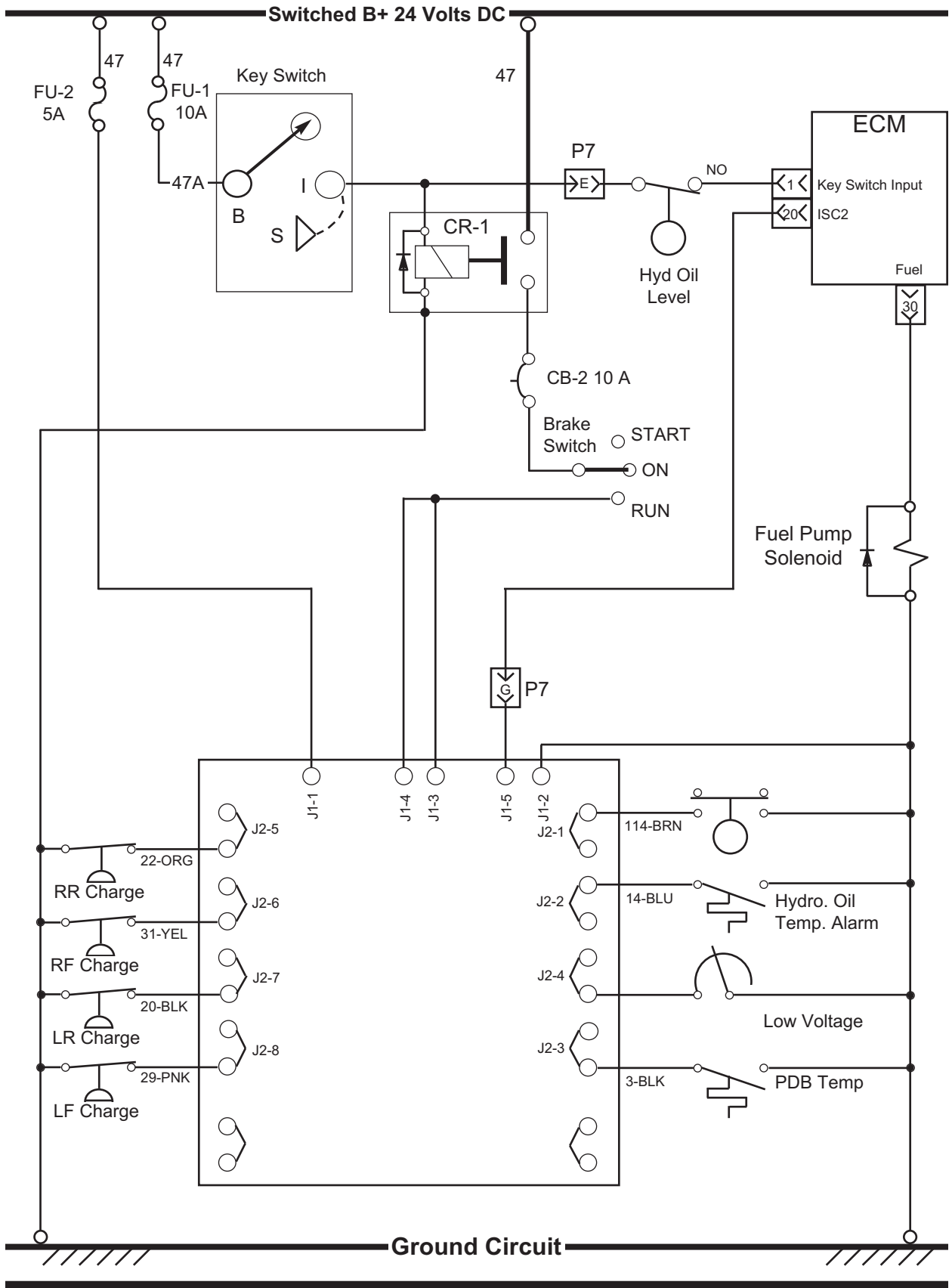
Power to operate the electronic annunciator is supplied from the battery 24 VDC unswitched circuit at pin 17 on the back of the annunciator anytime the master disconnect switch is closed. Engine speed signal is supplied to the annunciator at pin number 14 on the back of the monitor from the pulse speed pickup sensor located at the flywheel housing on the engine. The annunciator is supplied with a ground from pin 18 on the back of the monitor. In the event that any of the above circuits closes to ground (for any reason) the annunciator will be alerted to warn the operator. The operator will then have a specified amount of time to take action. After the specified amount of time the engine fuel circuit will shut off the engine by disconnecting the ground portion of control relay CR-3 coil windings. This action deactivates the control relay contact points, interrupting 24 VDC power to the fuel shut off solenoid. With this solenoid shut off the engine will cease to operate.

NOTE

The shutdown warning annunciator is equipped with a reset button. The reset button can be used to deactivate the shutdown sequence one time. After the reset button is used one time the reset function is deactivated by the shutdown annunciator.

3

Automatic Warning And Shutdown System Effective With S/N GJ 230



Automatic Warning And Shutdown System Effective With S/N GJ 230

General: To protect key systems, the 3-90C Trashmaster is equipped with an automatic warning and shut down system. The purpose of the shutdown system is to monitor selected systems and stop the operation of the engine before permanent damage has occurred to the monitored systems.

Monitored Circuits Include:

1. Right Rear Charge Circuit Pressure
2. Right Front Charge Circuit Pressure
3. Left Rear Charge Circuit Pressure
4. Left Front Charge Circuit Pressure
5. Drive Circuit Temperature
6. Pump Drive Box Temperature
7. Hydraulic Oil Level

Power and Ground Circuit - Power to operate the electronic annunciator is supplied from the battery 24 VDC switched circuit at J1-1 on the back of the annunciator anytime the master disconnect switch (Positive Circuit - Not Shown) is closed. The annunciator is connected to the ground circuit from connector J1-2 on the back of the monitor.

Engine Speed Derate Conditions - In the event that any of the above circuits (except hydraulic oil level) closes to ground (for any reason) the annunciator will be alerted to warn the operator. The operator will then have a specified amount of time to take action. After the specified amount of time the annunciator will signal the ECM (Engine Control Module). This action results in a derated condition of the engine speed (to low idle speed). When the engine speed is derated the 3-90C will stop.

Engine Stop Conditions - In the event that the hydraulic oil level drops to a predetermined level (for any reason) the following actions will occur: Connected to the annunciator is a hydraulic oil level float switch. In the event the hydraulic oil level drops to the predetermined level these contacts will close to activate an alarm to warn the operator of the low oil condition. In addition, the hydraulic oil level switch is also connected to the ECM (Engine Control Module) at the Key Switch Input location (Pin #1). In the event the hydraulic oil level drops to a predetermined level these contacts will open the key switch input circuit to the ECM. This action results in the fuel pump solenoid being deactivated and the engine will stop.

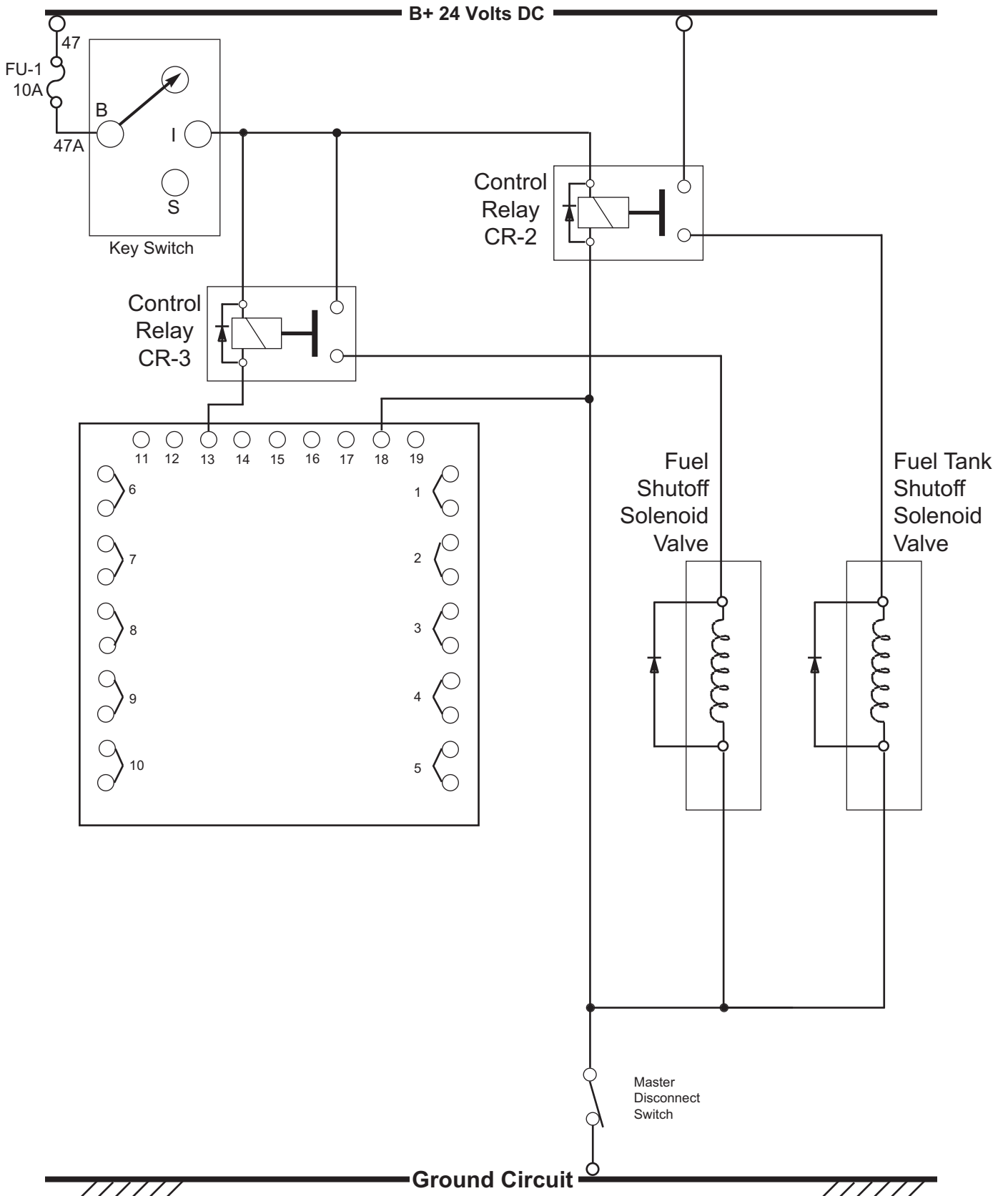
IMPORTANT

The shutdown warning annunciator is equipped with a reset and "In Gear" circuits. If the annunciator completes the specified time sequence and the engine is derated, the Brake Switch must be placed in the "Brake On" position prior to operating the Reset button. The reset button can be used to deactivate the shutdown sequence one time. After the reset button is used one time the reset function is deactivated by the shutdown annunciator.

3**NOTE**

The Low Voltage input signal is not active.

Fuel Shutoff Through S/N GJ 229



3

Fuel Shutoff Through S/N GJ 229

General: The fuel shutoff circuit consists of a 10 Ampere slow-blow fuse, a rotary key switch, control relay CR-2, control relay CR-3, the automatic shutdown annunciator, a fuel shut off solenoid, a fuel tank shut off valve, the necessary wires and connectors.

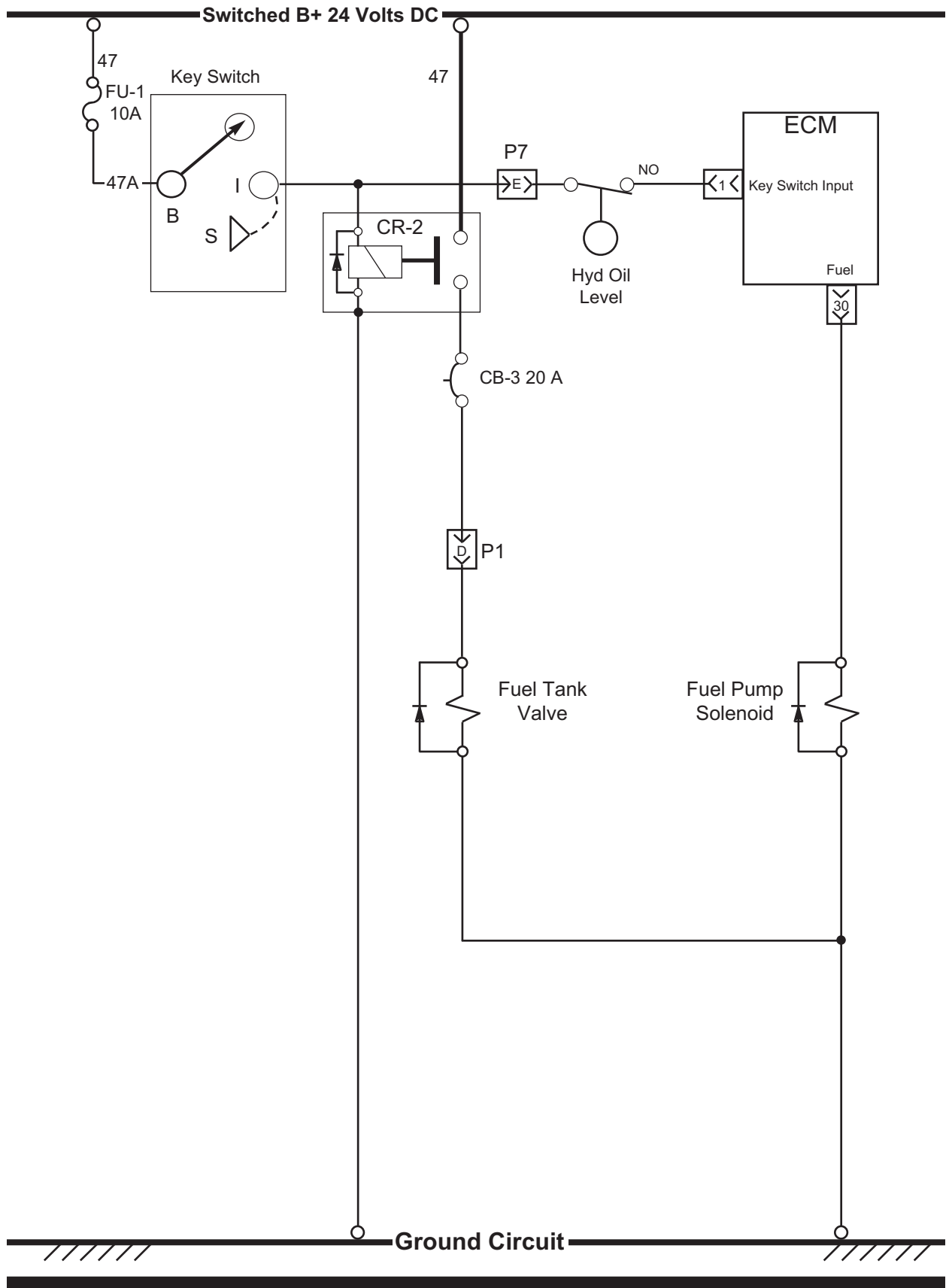
Description: If the operator chooses he can stop the engine manually. If, however, there is a malfunction in a monitored system, the automatic shutdown system annunciator can also stop the operation of the engine automatically to prevent permanent damage to the system.

Manual Mode: The fuel shutoff circuits are supplied 24 VDC power from the battery to the "B" terminal of the key switch through a 10 A fuse (FU-1). Anytime the key switch is in the "Start" or "Ignition" positions this power will then be available to the contact points of control relays CR-2 and CR-3. From control relay CR-3 the power is supplied to the fuel shutoff solenoid at the fuel pump of the engine. From control relay CR-2 the power is supplied to the fuel tank shutoff valve at the fuel tank. If the operator turns the key switch to the off position the power is interrupted at the "I" terminal of the key switch. The fuel pump solenoid will shut the fuel off at the engine and the fuel tank shut off valve will prevent flow from the fuel tank.

Automatic Mode: In the event that any of circuit monitoring switches closes to ground (for any reason) the annunciator will alert the operator. The operator will then have a specified amount of time to take action. After the specified amount of time the engine fuel circuit will automatically shut off the engine by disconnecting the ground portion of control relay CR-3 coil windings. This action deactivates the control relay contact points, interrupting 24 VDC power to the fuel shut off solenoid at the engine. With this solenoid shut off, the engine will cease to operate.

Diodes: The diode assemblies in the fuel shutoff circuit are used to prevent interference with the automatic shutdown system of the 3-90C whenever the fuel circuit controls (valves and solenoids) are deactivated. The diodes allow the energy in the valve/solenoid coils is to recirculate within the circuit until it dissipates. The fuel shutoff circuit would continue to operate if the diode assemblies are removed, but intermittent false warnings and shutdowns may occur.

Fuel Shutoff Effective With S/N GJ 229



3

Fuel Shutoff Effective With S/N GJ 229

General: The fuel shutoff circuit consists of a 10 Ampere slow-blow fuse, a rotary key switch, control relay CR-2, the ECM (Engine Control Module), a fuel shut off solenoid, a fuel tank shut off valve, the necessary wires and connectors.

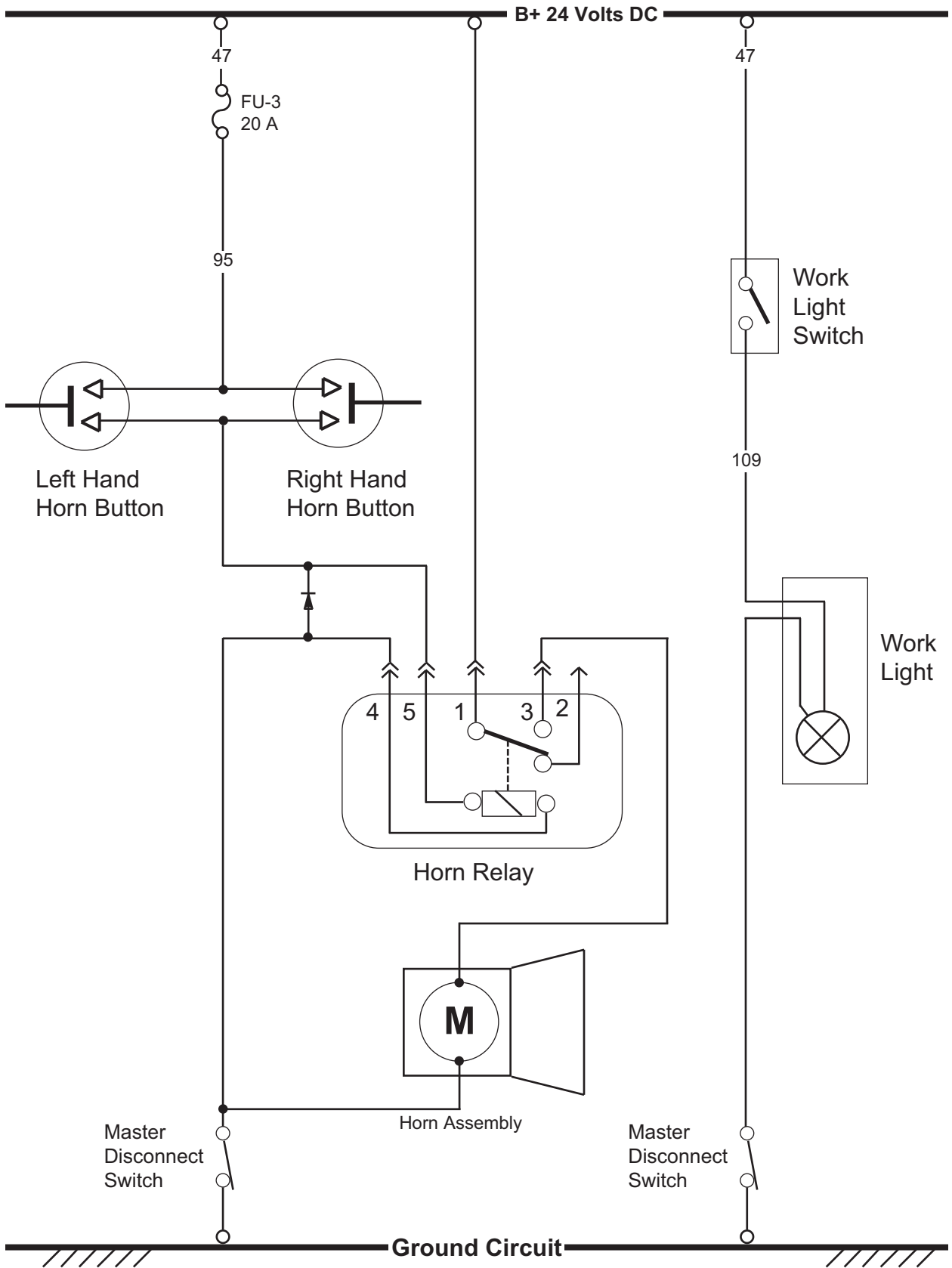
Description: If the operator chooses he can stop the engine manually. If, however, there is significant decrease in hydraulic oil level, the hydraulic oil level switch can also stop the operation of the engine automatically to prevent additional loss of hydraulic fluid.

Manual Mode: The fuel shutoff circuits are supplied 24 VDC switched power from the battery to the "B" terminal of the key switch through a 10 A fuse (FU-1) anytime the master disconnect switch (Positive Circuit - Not Shown) is closed. Anytime the key switch is in the "Start" or "Ignition" positions this power will then be available to the contact points of the hydraulic oil level switch. From the hydraulic oil level switch the power is supplied to the ECM (Engine Control Module). The ECM is capable of activating and deactivating the fuel solenoid at the fuel pump on the engine. From control relay CR-2 the power is supplied to the fuel tank shutoff valve at the fuel tank. If the operator turns the key switch to the off position the power is interrupted at the "I" terminal of the key switch. The fuel pump solenoid will shut the fuel off at the engine and the fuel tank shut off valve will prevent flow from the fuel tank.

Automatic Mode: In the event the hydraulic oil level circuit monitoring switches opens (for any reason) the power supply to the ECM (at key switch input terminal) will be cut off. This loss of power at the key input switch terminal indicates to the ECM the engine should be shut off. The ECM deactivates the fuel solenoid at the fuel pump on the engine. With this solenoid shut off, the engine will cease to operate.

Diodes: The diode assemblies in the fuel shutoff circuit are used to prevent interference with the automatic shutdown system of the 3-90C whenever the fuel circuit controls (valves and solenoids) are deactivated. The diodes allow the energy in the valve/solenoid coils is to recirculate within the circuit until it dissipates. The fuel shutoff circuit would continue to operate if the diode assemblies are removed, but intermittent false warnings and shutdowns may occur.

Horns and Work Light



3

Horns and Work Light

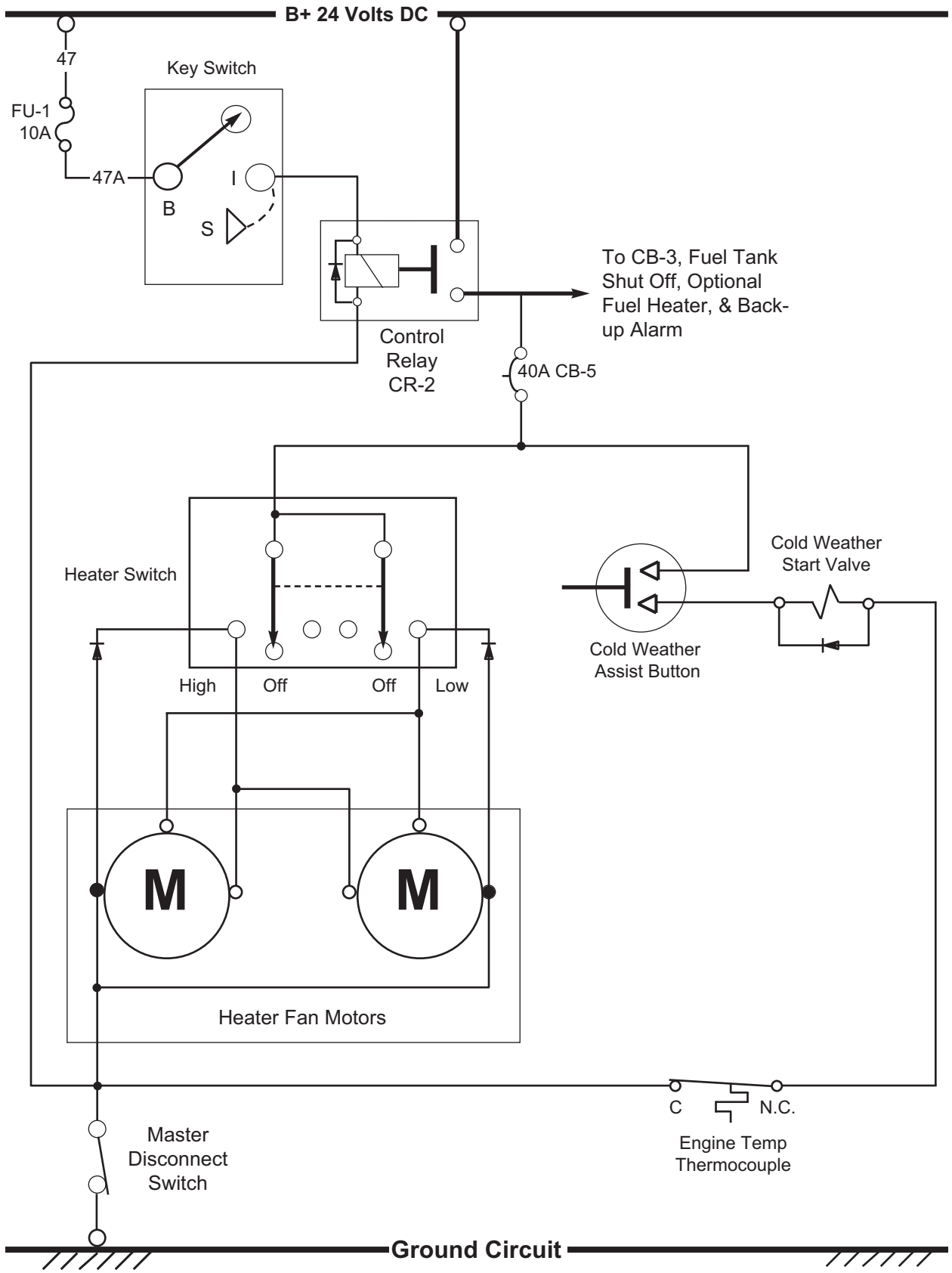
General: The horn and work light circuits consist of a 20 A fuse FU-3, a diode assembly, two hand operated single pole push button type switches, a relay, a horn assembly, a SPST toggle type switch, a light assembly, the master disconnect switch, and the necessary wiring and connectors.

Description: Power is supplied from the unswitched 24 VDC circuit to the 20 A fuse (FU-3 located inside the instrument panel) to the both horn buttons in the controller lever handles. If either button is depressed current is supplied to activate the coil windings of the horn relay. The relay supplies current to activate the horn compressor motor. When the horn compressor motor is activated the horn will sound.

Diode: The diode assembly in the horn circuit is used to prevent interference with the automatic shutdown system of the 3-90C whenever the horn relay is deactivated. The horn circuit will continue to operate if the diode assembly is removed, but intermittent false shutdowns may occur.

Description - Work Light: The circuit is supplied from the unswitched 24 VDC circuit through a number 47 wire. Power is available to a S.P.S.T. toggle type switch (located in the instrument panel). When closed the power will become available to the work light assembly located under the engine hood assembly.

Heater Fan and Cold Weather Starting Aid



3

Heater Fan and Cold Weather Starting Aid

General: The heater fan motors and cold weather starting aid circuits consist of a fuse, the key switch, control relay CR-2, a 40 ampere circuit breaker, a DPDT toggle type switch, a heater fan motor assembly, two diode assemblies, a push button type switch with momentary contacts, the cold weather start valve, a thermocouple switch, the master disconnect switch and the necessary wiring and connectors.

Description: 24 VDC power is supplied from the from the batteries to the “B” post of the key switch. The key switch activates control relay CR-2 anytime it is placed in the “S” (Start) or “I” (Ignition) positions. If control relay CR-2 is activated 24 VDC power is supplied through the relay N.O. contacts to the 40 ampere circuit breaker CB-5 (located in the instrument panel) to the heater and cold start switches (located in the instrument panel). Current flow from the heater and cold weather start switches is as follows:

Fan Motor Low Speed - When the operator places the heater switch to the low speed position current will flow from the switch terminal through the low speed supply wire (red) to the two fan motors of the the heater assembly and the ground circuit through the master disconnect switch.

Fan Motor High Speed - When the operator places the heater switch to the high speed position current will flow from the switch terminal through the high speed supply wire (orange) to the two fan motors of the the heater assembly and the ground circuit through the master disconnect switch. By activating the fan motors at a faster speed the heater provides additional heating capacity.

Cold Weather Starting Aid - When the operator pushes the cold weather starting aid switch 24 VDC power is available to the cold weather start valve coil through the momentary contacts. If the push button switch is held in the closed position the valve will allow starting fluid into the intake manifold if the engine temperature thermocouple is closed (cold engine).

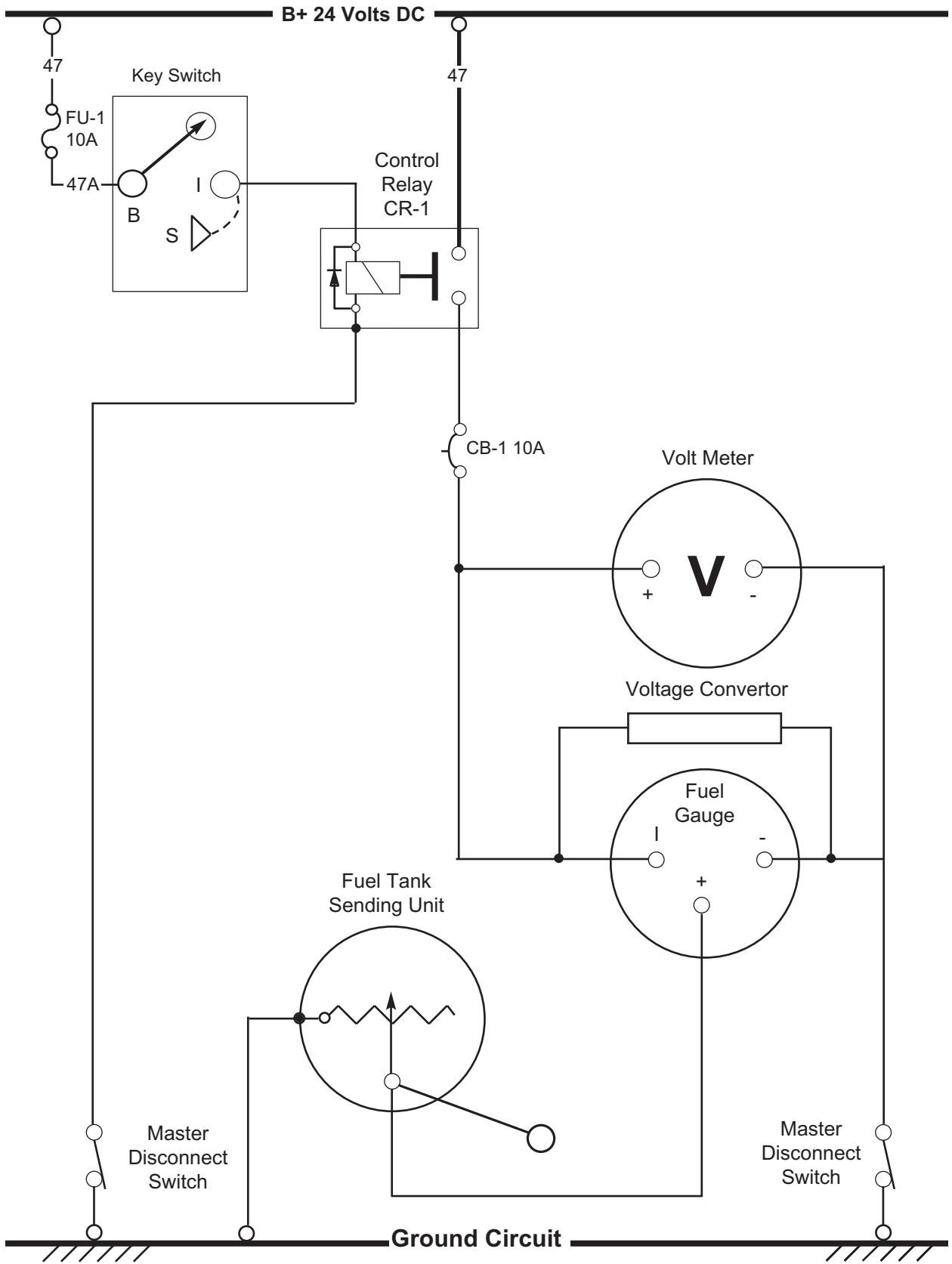
NOTE

In the ground portion of the Cold Weather Starting Aid circuit is an engine temperature thermocouple switch to prevent operation of the ether assist after the engine is warm.

Diodes: The diode assemblies in the heater and cold weather starting aid circuits are used to prevent interference with the automatic shutdown system of the 3-90C whenever the heater or starting aid is deactivated. The electrical noise in the fan motors and stored energy in the cold weather starting aid valve coil is allowed to recirculate within the circuit until it dissipates. The heater and starting aid circuits would continue to operate if the diode assemblies are removed, but intermittent false warnings and shutdowns may occur.

3

Volt Meter and Fuel Gauge



3

Volt Meter and Fuel Gauge

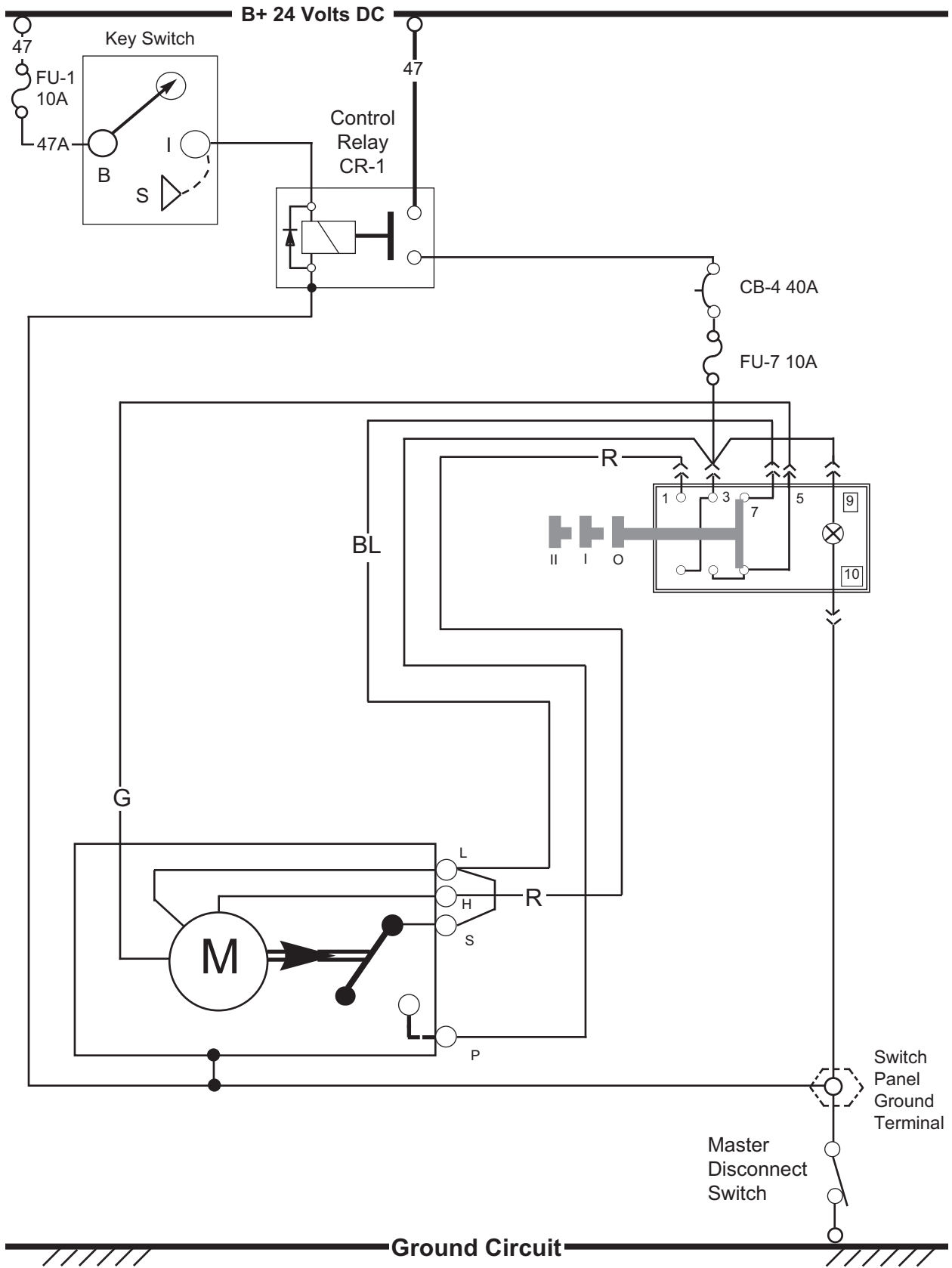
General: The Volt meter and fuel gauge circuits consist of a rotary key switch, a control relay, a 10 ampere circuit breaker, an analogue volt meter, an analogue fuel gauge, a variable resistance fuel level sending unit, a voltage convertor, the master disconnect switch, the necessary wiring and connectors.

Description: Power is supplied from the contact points of control relay CR-1 to a 10 Ampere circuit breaker (CB-1 located on the instrument panel) to the “I” terminal on the fuel gauge and the “+” terminal of the Volt meter (both gauges are located on the instrument panel) anytime the key switch is in the “I” (Ignition) position and the master disconnect switch is closed. The volt meter displays current 24 Volt DC electrical system voltage for the operator. The fuel gauge operates on variable resistance.

NOTE

To prevent inaccurate fuel gauge readings with field installed fuel tank level sending units check assembly of fuel level sending unit during installation to ensure the service part is assembled in the same manner as the level indicator removed.

Front Wiper Motor



3

Ground Circuit

Front Wiper Motor

General: The front windshield wiper circuit consists of the key switch, control relay CR-1, a 40 ampere circuit breaker, a 10 ampere fuse, a three position rocker type wiper switch, a wiper motor assembly, the master disconnect switch, the necessary wiring and connectors.

Description: The circuit diagram is shown with the wiper switch in the OFF position. B+ 24 VDC switched power is supplied to the front wiper system from the contact points of control relay CR-1. It enters through a 10 ampere fuse FU-7 to the switch at terminal number 3 and to the wiper motor assembly at terminal P. Current is supplied from the same location to the indicator light at terminal number nine of the switch anytime the master disconnect switch is closed and the key switch is in the "I" (Ignition) position.

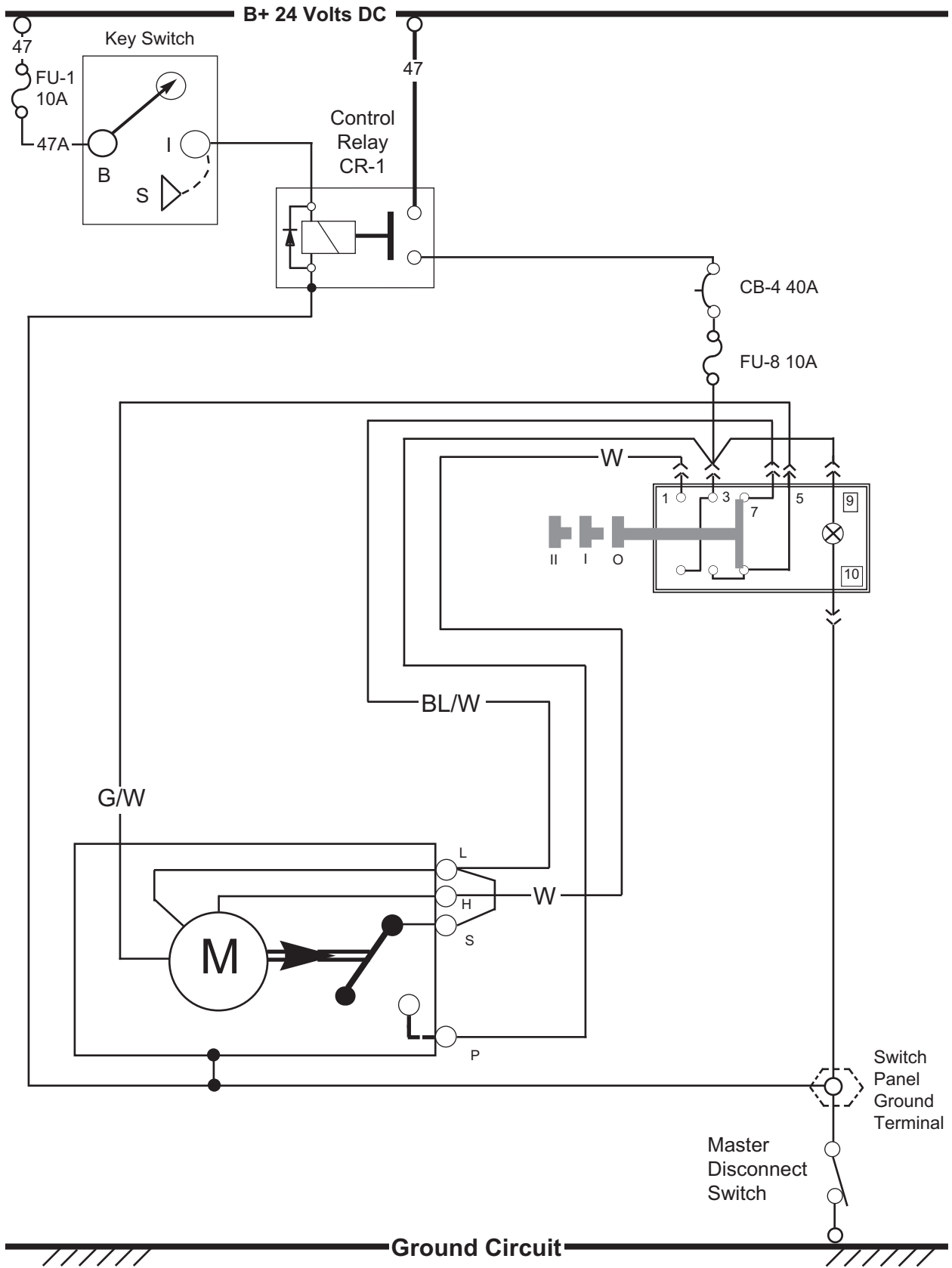
Low Speed: When the switch is placed in the first (Low) position current flows from terminal 3 of the switch to terminal number 5 through a six pin harness connector to the green low speed wire at the motor assembly.

High Speed: When the switch is placed in the second (High) position current flows from terminal 3 of the switch to terminal number 1 through a six pin harness connector to the wiper motor assembly high speed terminal (H) through a red wire.

Park: When the wiper motor is shut OFF the wiper blade is returned to the park position in the following manner:

Current is supplied to the wiper motor assembly park terminal (P) through a blue wire to an internal switch mechanism (inside the motor assembly) and to the stop (S) terminal. The current is then supplied through an external (green) jumper wire to the L terminal of the motor assembly and to the rocker switch terminal 7. When in the OFF position the current returns to the motor assembly from switch terminal 5 through a six pin harness connector and to the wiper low speed wire. When the wiper reaches the park position the internal switch mechanism opens the circuit between the two wiper motor terminals (P & S) and the motor stops in the park position.

Rear Wiper Motor



3

Rear Wiper Motor

General: The rear windshield wiper circuit consists of the key switch, control relay CR-1, a 40 ampere circuit breaker, a 10 ampere fuse, a three position rocker type wiper switch, a wiper motor assembly, the master disconnect switch, the necessary wiring and connectors.

Description: The circuit diagram is shown with the wiper switch in the OFF position. B+ 24 VDC switched power is supplied to the rear wiper system from the contact points of control relay CR-1. It enters through a 10 ampere fuse FU-8 to the switch terminal number 3 and to the wiper motor assembly at motor terminal P. Current is supplied from the same location to the indicator light at switch terminal number nine of the switch anytime the master disconnect switch is closed and the key switch is in the "I" (Ignition) position.

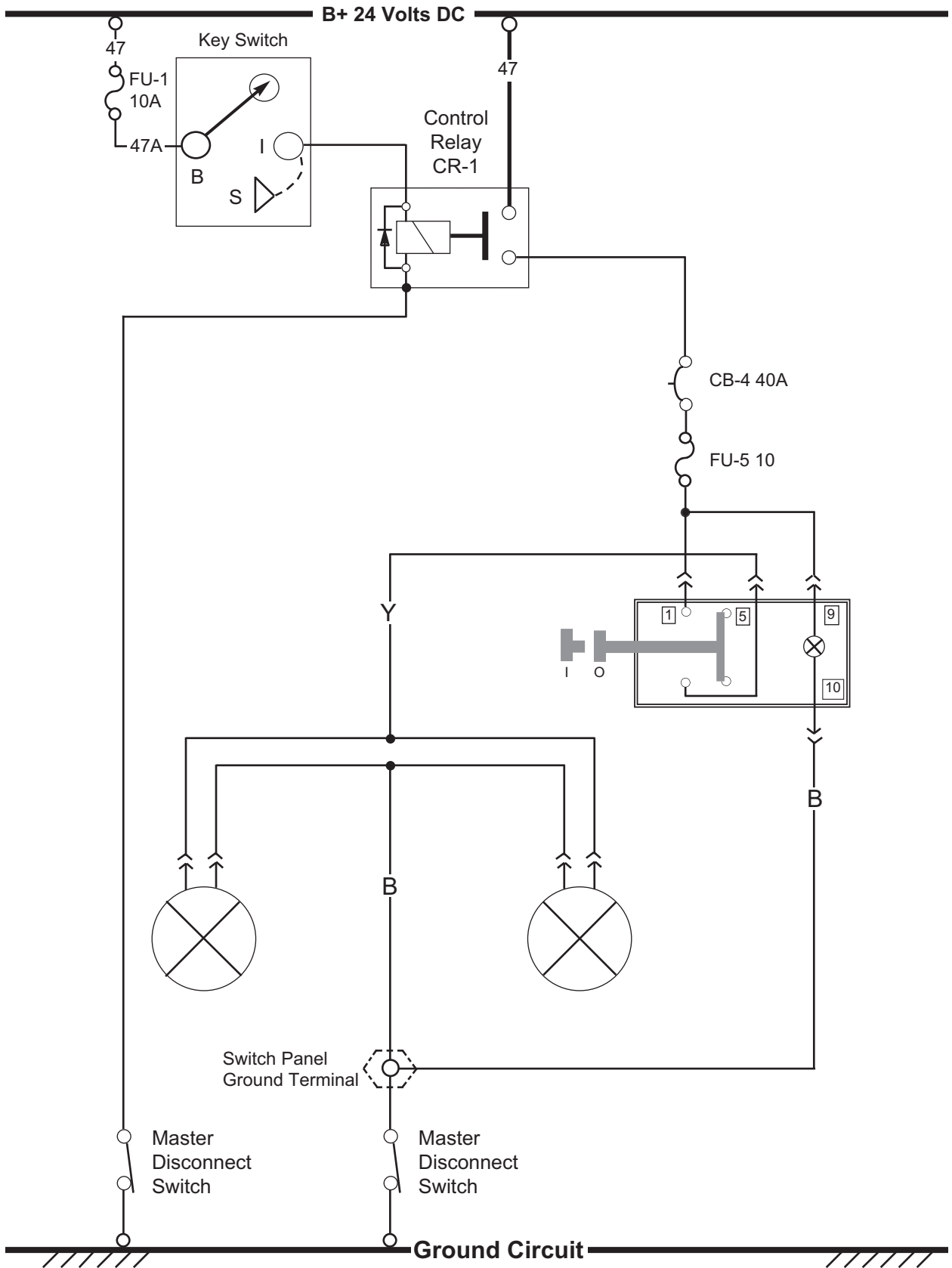
Low Speed: When the switch is placed in the first (Low) position current flows from terminal 3 of the switch to terminal number 5 through a six pin harness connector to the green/white low speed wire at the motor assembly.

High Speed: When the switch is placed in the second (High) position current flows from terminal 3 of the switch to switch terminal number 1 through a six pin harness connector to the wiper motor assembly high speed terminal (H) through a white wire.

Park: When the wiper motor is shut OFF the wiper blade is returned to the park position in the following manner:

Current is supplied to the wiper motor assembly park terminal (P) through to an internal switch mechanism (inside the motor assembly) and to the stop (S) terminal. The current is then supplied through an external (green) jumper wire to the L terminal of the motor assembly and to the rocker switch terminal 7. When in the OFF position the current returns to the motor assembly from switch terminal 5 through a six pin harness connector and to the wiper low speed wire. When the wiper reaches the park position the internal switch mechanism opens the circuit between the two wiper motor terminals (P & S) and the motor stops in the park position.

Front Work Lights



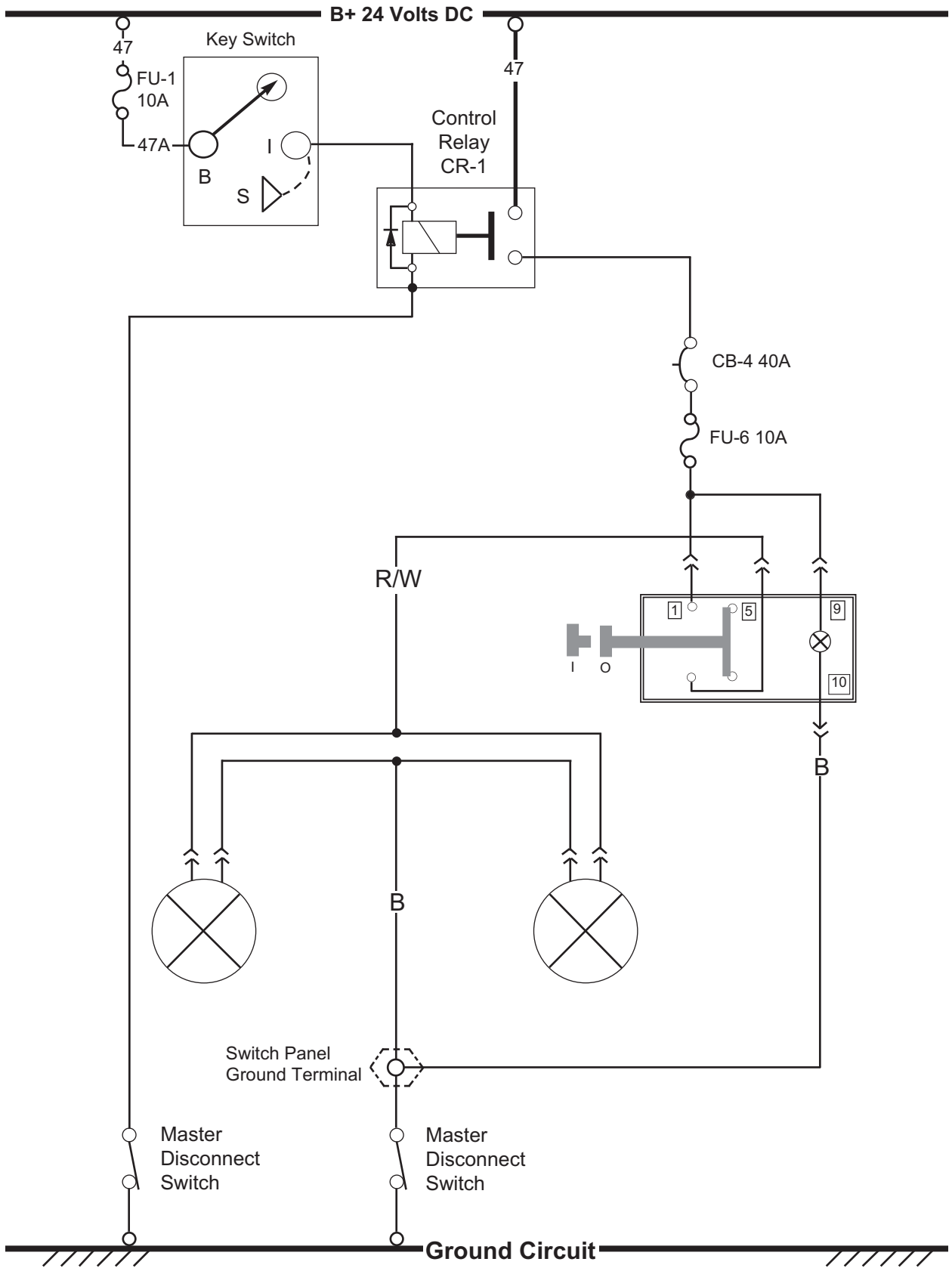
3

Front Work Lights

General: The front work light circuits consist of the key switch, control relay CR-1, a 10 ampere fuse, a rocker type switch, two flood lamp assemblies, the master disconnect switch, and the necessary wiring and connectors.

Description - Front Work Lamps: Power is supplied from the B+ 24 VDC switched power to the front work light circuit from the contact points of control relay CR-1 to the 10 ampere fuse FU-5. From the fuse FU-5 the power is available to terminal number 1 of the rocker switch. Power is also supplied to terminal number nine of the switch indicator lamp and to chassis ground through a black wire to the control panel ground terminal on the back side of the upper control panel. If the switch is placed in the ON position current is supplied from terminal one to terminal five of the switch and through a yellow wire through the lamp assemblies, through a black wire to the ground terminal on the back side of the control panel. From the ground terminal the work light circuit is grounded through the master disconnect switch and to the negative post of the batteries.

Rear Work Lights



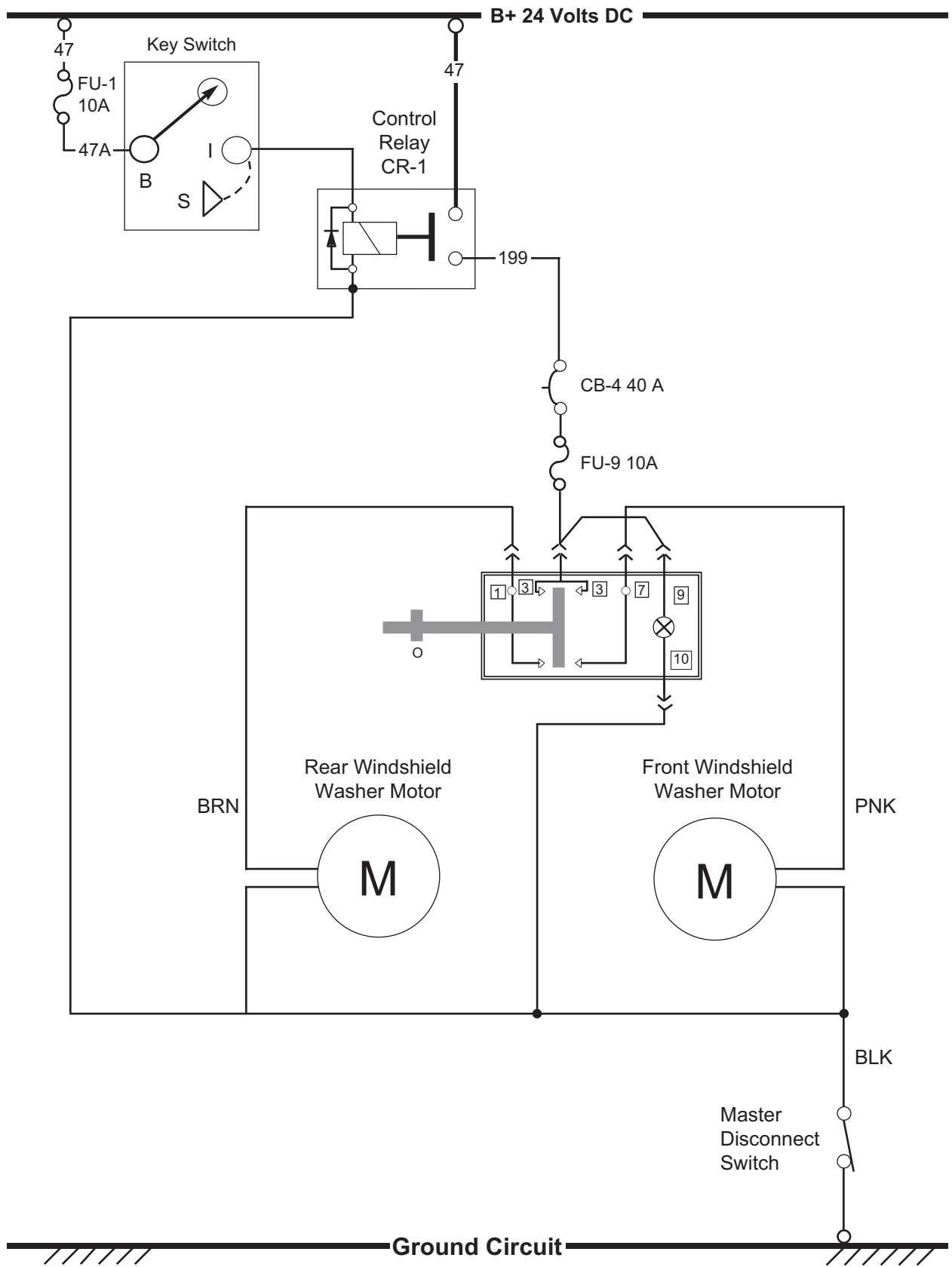
3

Rear Work Lights

General: The rear work light circuits consist of the key switch, control relay CR-1, a 10 Ampere fuse, a rocker type switch, two flood lamp assemblies, the master disconnect switch, and the necessary wiring and connectors.

Description - Rear Work Lamps: Power is supplied from the B+ 24 VDC switched power to the rear work light circuit from the contact points of control relay Cr-1 to the 10 ampere fuse FU-6. From the fuse the power is available to terminal number 1 of the rocker switch. Power is also supplied to terminal number nine of the switch indicator lamp and to chassis ground through a black wire to the upper control panel ground terminal on the back side of the control panel. If the switch is placed in the ON Position current is supplied from terminal one to terminal five of the switch and through a red/white wire through the lamp assemblies, through a black wire to the ground terminal on the back side of the control panel. From the ground terminal the work light circuit is grounded through the master disconnect switch and to the negative post of the batteries.

Windshield Washers



3

Windshield Washers

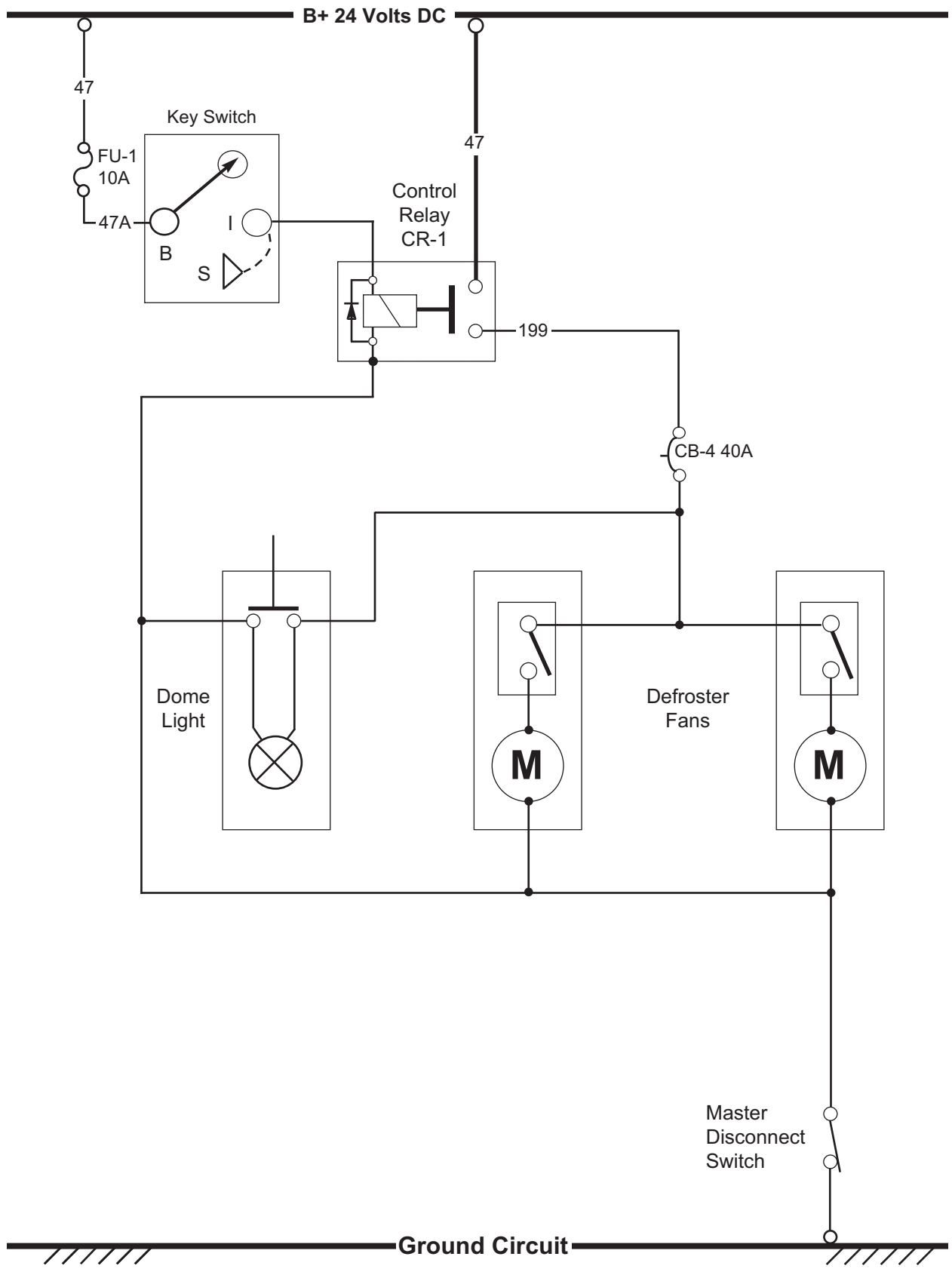
General: The windshield washer circuits consist of the key switch, control relay CR-1, a 40 ampere circuit breaker CB-4, a 10 Ampere fuse FU-10, a single pole double throw rocker type switch, two washer motors, the master disconnect switch, the necessary wiring and connectors.

Description: Switched 24 VDC power is supplied to the rocker switch at contact number three through black and white wire from fuse number nine. Current is supplied from the same location to terminal number nine and through the indicator light to terminal number ten the ground stud on the back of the upper switch panel anytime the master disconnect switch is closed.

Front: When the switch is moved to the front wash switch position (down), current is supplied from terminal number three to terminal number one of the switch to the washer motor. The ground circuit is completed through a black wire to the master disconnect switch and to the negative post of the batteries.

Rear: When the switch is moved to the rear wash switch position (up), current is supplied from terminal number three to terminal number seven of the switch to the washer motor. The ground circuit is completed through a black wire to the master disconnect switch and to the negative post of the batteries.

Dome Light and Defroster Fans



3

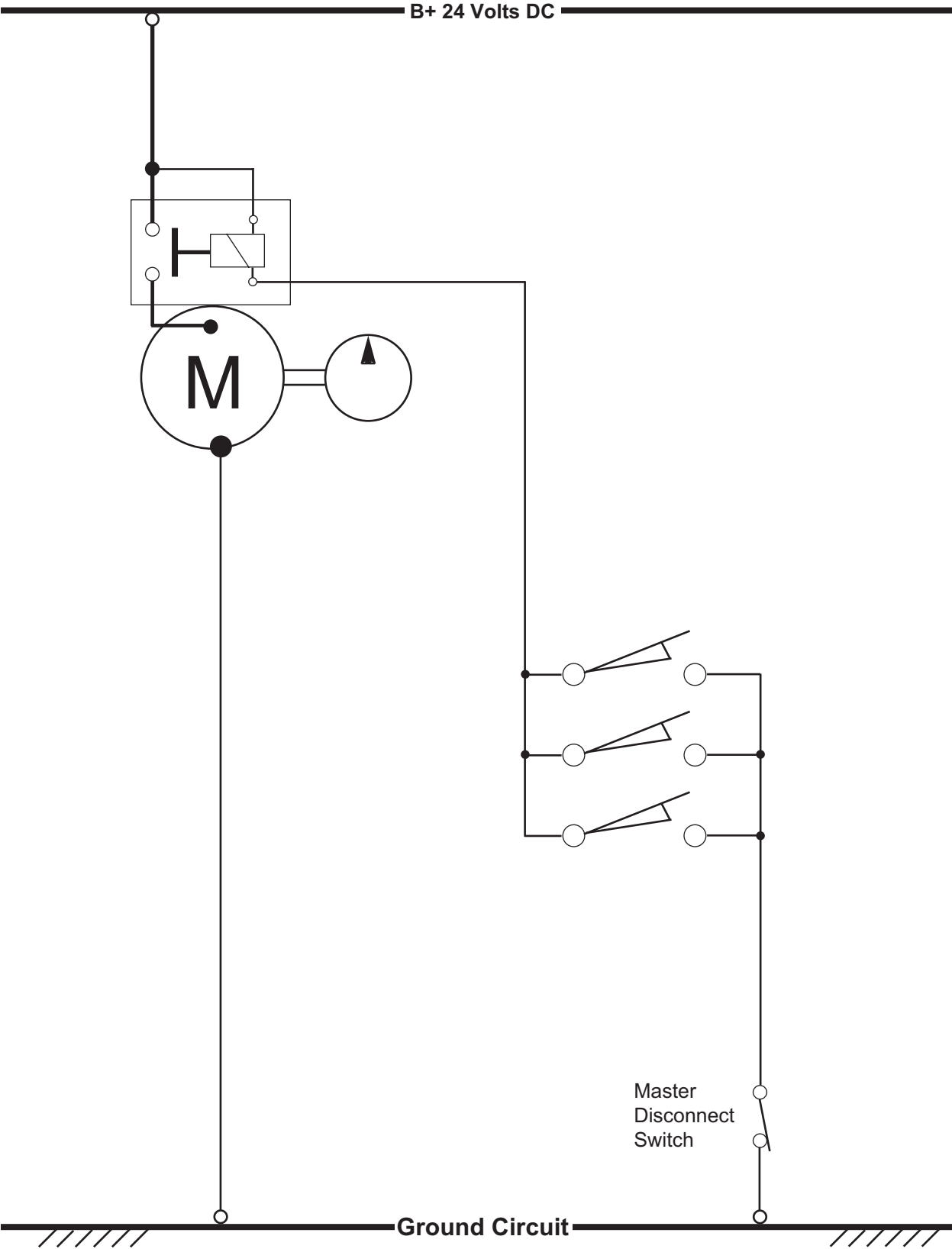
Dome Light and Defroster Fans

General: The dome light and defroster fan circuits consist of a 10 ampere fuse FU-1 a 40 ampere circuit breaker, a rotary key switch, a control relay CR-1, the dome light assembly, two defroster fan assemblies, the necessary wiring and connectors.

Description - Dome Light: Power is supplied from the B+ 24 VDC switched power to the dome light circuit from the contact points of control relay CR-1 to the 40 ampere circuit breaker CB-4. From the circuit breaker the power is available to the push button type switch at the dome light assembly. If the switch is placed in the ON position current is supplied through the switch and the lamp assembly to the ground terminal on the back side of the control panel. From the ground terminal the dome light circuit is grounded through the master disconnect switch and to the negative post of the batteries.

Description - Defroster Fan: Power is supplied from the B+ 24 VDC switched power to the defroster fan circuit from the contact points of control relay CR-1 to the 40 ampere circuit breaker CB-4. From the circuit breaker the power is available to the SPST toggle type switch at the defroster fan assembly. If the switch is placed in the ON position current is supplied through the switch and the fan motor assembly to the ground terminal on the back side of the control panel. From the ground terminal the defroster fan circuit is grounded through the master disconnect switch and to the negative post of the batteries.

Hood and Belly Pans



3

Hood and Belly Pans

General: The hood and belly pan circuits consists of a motor/pump/valve assembly, the necessary wiring and connectors.

IMPORTANT

Place the master disconnect switch in the closed position prior to operation of these controls.

IMPORTANT

Before opening and after closing the belly pans check the manual lock position of all belly pans.

Description - Front: The circuit is supplied from the unswitched 24 VDC circuit to an a control relay attached to the pump motor. When the operator places the rotary valve handle in the open position the motor/pump is actuated sending oil to the belly pan control cylinders, lowering the belly pan. When the operator places the rotary valve handle in the close position the motor/pump is actuated sending oil to the belly pan control cylinders, raising the belly pan.

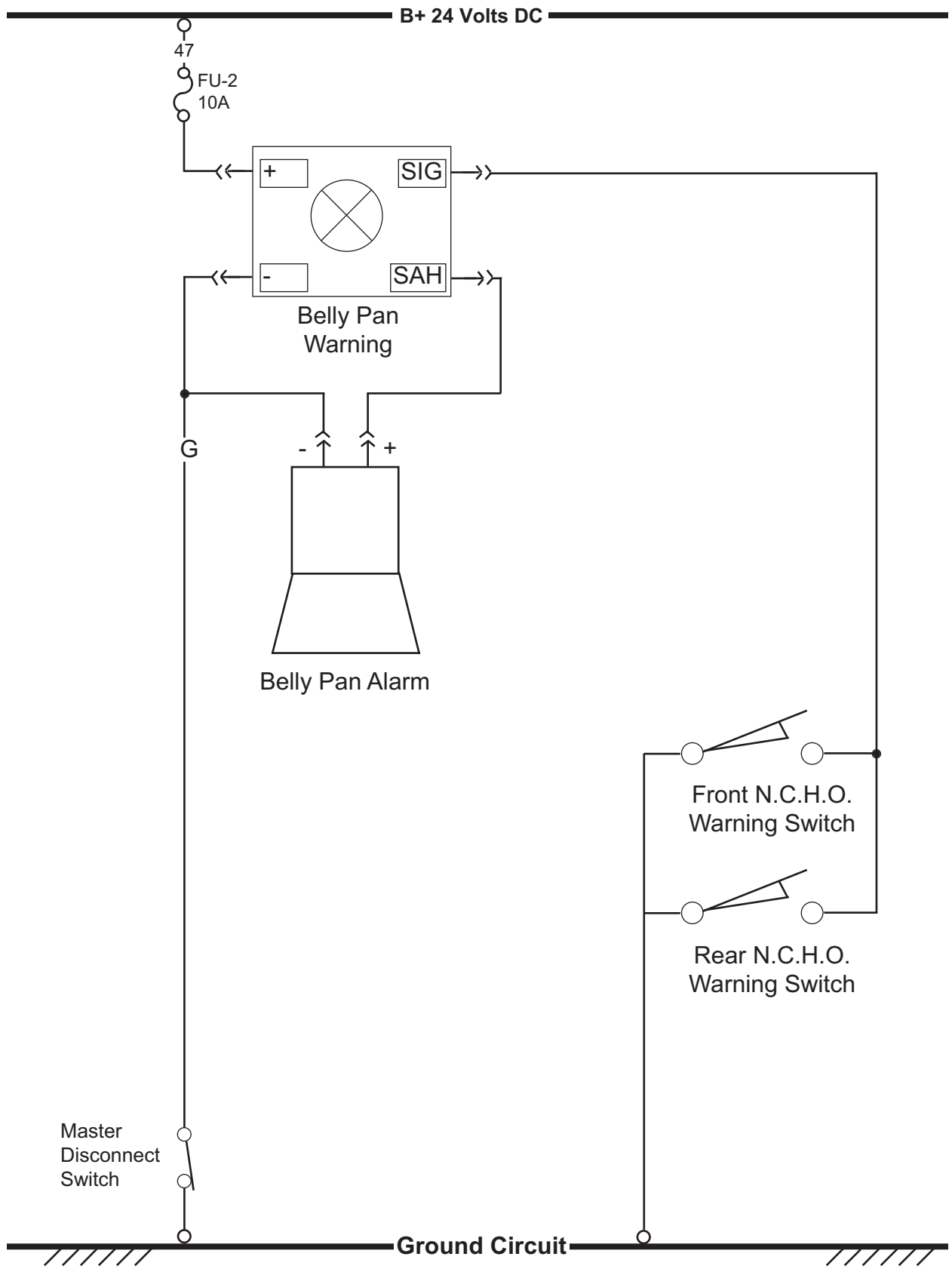
Description - Rear: The circuit is supplied from the unswitched 24 VDC circuit to an a control relay attached to the pump motor. When the operator places the rotary valve handle in the open position the motor/pump is actuated sending oil to the belly pan control cylinders, lowering the belly pan. When the operator places the rotary valve handle in the close position the motor/pump is actuated sending oil to the belly pan control cylinders, raising the belly pan.

Description - Hood: The circuit is supplied from the unswitched 24 VDC circuit to an a control relay attached to the pump motor. When the operator places the rotary valve handle in the open position the motor/pump is actuated sending oil to the hood control cylinders, raising the hood assembly. When the operator places the rotary valve handle in the close position the motor/pump is actuated sending oil to the hood control cylinders, lowering the hood assembly.

IMPORTANT

The hood and belly pan control oil reservoir is filled with Mobil DTE 16M hydraulic fluid during assembly. DTE 16M or equivalent should be used if additional fluid is required for the hood and belly pan control reservoir.

Belly Pan Warning



3

Master
Disconnect
Switch

Ground Circuit

Belly Pan Warning

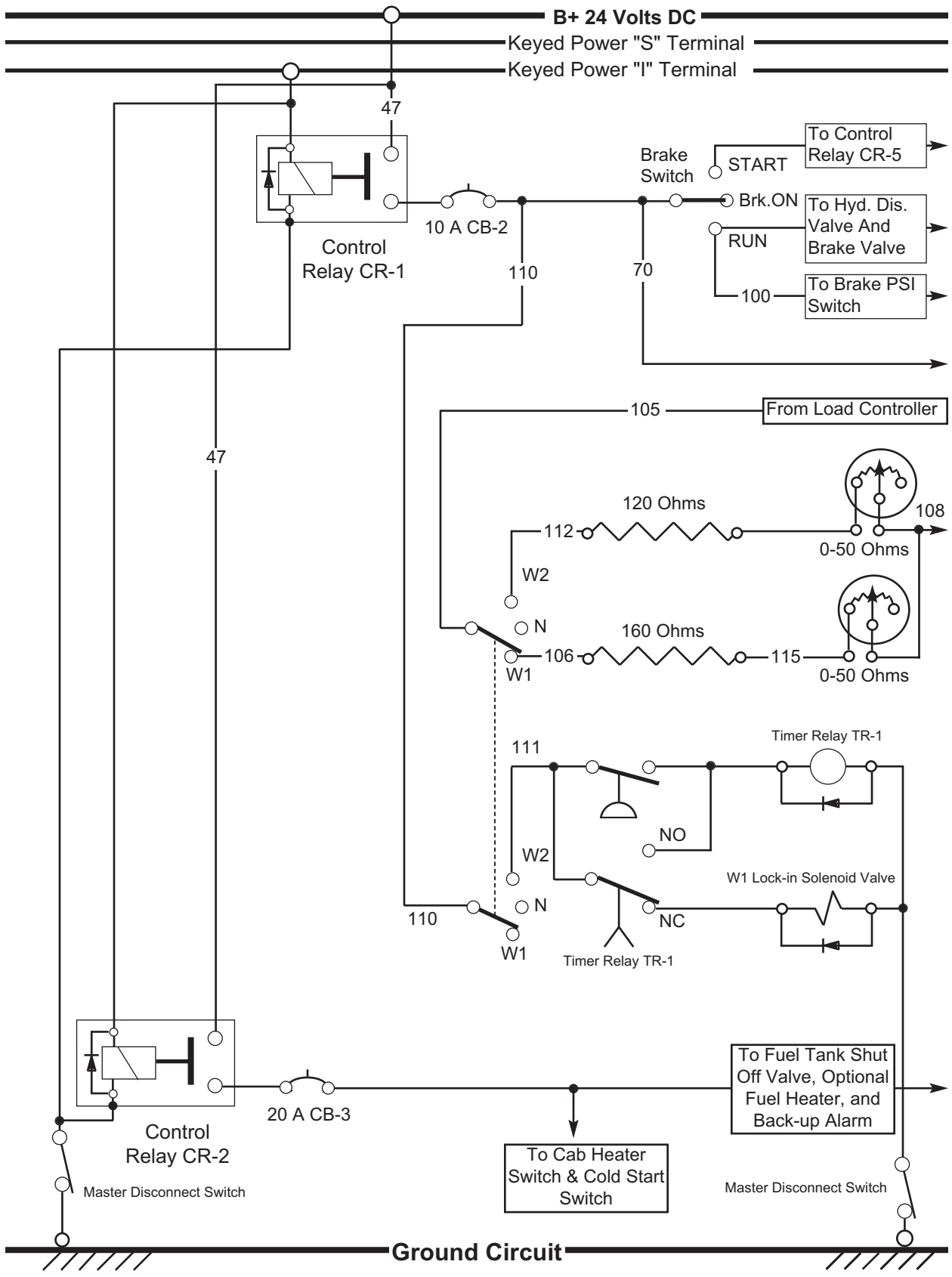
General: The belly pan warning circuit consists of a rotary key switch, a control relay, three normally closed (N.C.) limit switches, a warning buzzer, a warning light, the necessary wiring and connectors.

Description: The circuit is supplied from the switched 24 VDC circuit at control relay CR-3 to a warning light. From the warning light, power is available to two normally closed S.P.S.T. limit type switches from a signal terminal on the light. If either of the belly pans opens during operation, the ground portion of the warning signal circuit will be completed. This will activate the light and the buzzer to notify the operator that a belly pan is out of position and must be checked.

NOTE

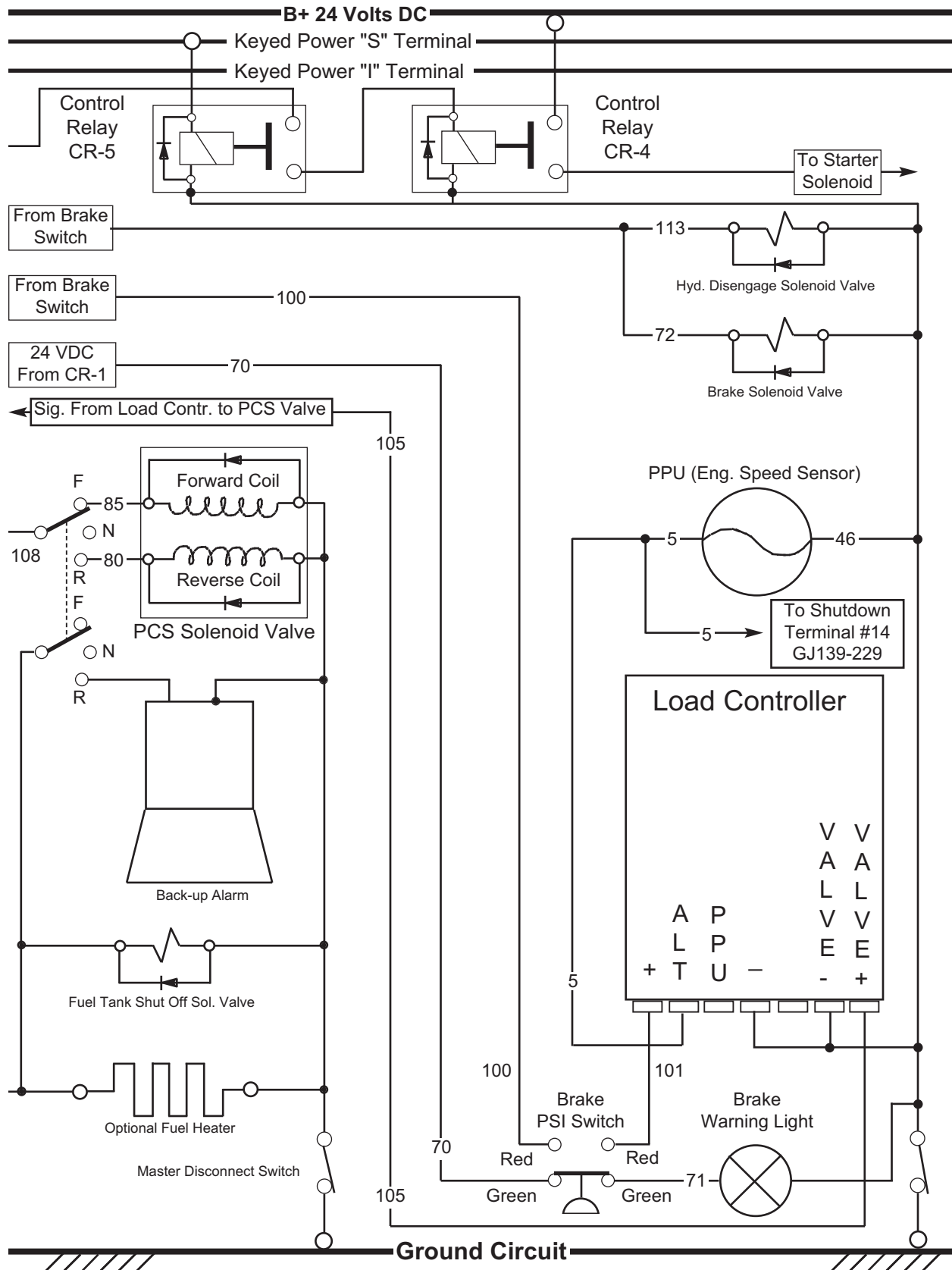
“NCHO” denotes a normally closed, held open switch.

2 Speed Propulsion System Through S/N GJ 229



3

2 Speed Propulsion System Through S/N GJ 229



3

2 Speed Propulsion System Through S/N GJ 229 (Effective GJ00197 - Refer to pages 44 and 45)

General: The 3-90C 2 speed propulsion circuit consists of a rotary key switch, two control relays, a 10 ampere circuit breaker, a 20 ampere circuit breaker, a single pole double throw toggle type switch, two double pole double throw rocker type switches, one normally closed oil pressure switch, two variable resistance rheostats, three fixed resistance resistors, one pulse pick up (PPU) sensor, one forward/reverse solenoid valve assembly, one lock - in solenoid valve assembly, one brake solenoid valve assembly, one hydraulic disengage solenoid valve assembly, one brake warning light/buzzer, one back - up alarm assembly, a load controller, a master disconnect switch, the necessary wiring and connectors.

Power Supply: Unswitched 24 VDC power is available to the contact points of control relays CR-1 and CR-2 through a 47 numbered wire from the positive post of the battery.

Description - Components: After the engine is started and the key switch is returned to the "I" (Ignition) position current will flow from the battery through the control relay CR-1 contact points to circuit breaker CB-2 (10A) and control relay CR-2 contact points to circuit breaker CB-3 (20A). Both circuit breakers are located in the instrument panel.

Circuit breaker CB-2 will be the power supply for the brake switch, control relay CR-4, the hydraulic disengage solenoid valve, a brake release solenoid valve and warning, the load controller, the pressure control servo solenoid valve, and a W1 Lock-in solenoid valve.

Circuit breaker CB-3 will be the power supply to the back-up alarm, the fuel tank shut off valve, and an optional fuel heater (if equipped).

When the operator decides to move the 3-90C in a forward or reverse direction (places F/N/R switch and W1/N/W2 switch in the appropriate position), he must move the brake toggle switch to the "RUN" (brake off) position. This action will energize the hydraulic disengage solenoid valve, energize the brake release solenoid valve, and supply power to the load controller through the brake pressure switch after brake release pressure deactivates the brakes (the brake warning light will go out when this occurs).

3 With the hydraulic disengage solenoid energized, the propulsion circuit control pressures (C1 and C2) will be separated. If the hydraulic disengage valve control pressures were left joined the hydrostatic pump swash plates would maintain a 0 degree angle, shutting off the flow from the hydrostatic pumps. Energizing the brake solenoid valve will allow pressure from the charge circuit of the right rear hydrostatic drive pump to disengage the brake pistons.

CONTINUED NEXT PAGE

2 Speed Propulsion System (Continued From Previous Page)

As the operator accelerates the engine, the load controller will receive a stronger pulse (AC Voltage) from the pulse speed pick-up (PPU) sensor. At approximately 1650 RPM, the load controller will deliver a DC Voltage from the VALVE + terminal through 105 numbered wire, the W1/N/W2 switch, resistor, a variable resistor, and the F/N/R switch to operate the Pressure Control Servo (PCS) valve forward or reverse coil.

The Pressure Control Servo valve creates two distinct control pressures, one high side and one low side (C1 & C2). These control pressures are supplied to the hydraulic displacement control valves and to the hydrostatic servo pistons to engage the hydrostatic pumps and move the 3-90C in the desired direction. Depending whether the operator chose Work Range 1 (W1), or Work Range 2 (W2) the amount of current that passes through the Pressure Control Servo (PCS) solenoid will be higher or lower based on the total circuit resistance the current has to pass through before it can operate the Pressure Control Servo (PCS) valve.

When in Work Range 2 (W2) the W1 Lock-in solenoid valve will energize . This valve , when energized, allows the hydrostatic motors to operate at a displacement less than maximum. In Work Range 1 (W1), this valve is de-energized. If it is de-energized the control servo pressure from the hydrostatic motor circuit is drained, locking the hydrostatic motors at maximum displacement. By controlling the hydrostatic motor displacement the 3-90C can be operated at two distinct speeds.

When in Work Range 2, if the hydrostatic drive pressure is above 4000 PSI for a period in excess of 3 seconds, a time delay relay (TR-1) will deactivate the W1 Lock-in solenoid valve. This action drains the control pressure from all hydrostatic drive motors servo pistons increasing the motor displacement. The deactivation of the W1 Lock-in valve automatically “shifts” the 3-90C into Work Range 1. The 3-90C will remain in Work Range 1 until the W1/N/W2 switch is moved through the neutral position. After the the W1/N/W2 switch is moved through the neutral position, the time delay relay will reset and the 3-90C may be operated in either work range.

NOTE

The Propulsion Circuit is shown (and described) with the Master Disconnect Switch in the ground portion of the circuit. Effective with S/N GJ 230 the Master Disconnect Switch was relocated in the positive side of the circuit. Refer to Electrical System Diagram Effective with S/N GJ230 for additional information.

24 VOLT ELECTRICAL

TRASHMASTER 3-90C

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 139 - 145 PARTS LISTING | | | |
|--|----------|---------------|------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 2 | 298-15078-17 | 12 VDC Control Relay (CR 1, 2) |
| 2 | 2 | 112-01158-01 | 12 VDC Battery, 935 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 102-13287-01 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 1 | 298-06089-17 | 3 Position Light Switch GJ 139-141 |
| 7 | 2 | 102-13187-52 | 3 Position Light Switch GJ 142 + |
| 8 | 4 | 102-12258-01 | Cab Mounted Lights GJ 139-141 |
| 8 | 4 | 102-13187-01 | Cab Mounted Lights GJ 142 + |
| 9 | 1 | 298-00046-98 | Fuel Shut Off Valve |
| 10 | 1 | 102-12414-03 | 20 A Fuse |
| 11 | 1 | 298-15018-17 | Horn Relay |
| 12 | 1 | 212-00294-17 | Horn |
| 13 | 2 | 102-11826-12 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 Amp Circuit Breaker |
| 15 | 2 | 212-06003-17 | 40 Amp Circuit Breaker |
| 16 | 2 | 102-08157-01 | Defroster Fan |
| 17 | 1 | 102-08127-01 | Heater |
| 18 | 1 | 102-08127-10 | Heater Switch (Part of Item 17) |
| 19 | 4 | 298-05167-17 | Wiper Switch 2 Speed GJ 139-141 |
| 19 | 2 | 102-13173-53 | Wiper switch 2 Speed GJ 142 + |
| 20 | 2 | 102-13413-01 | Window Wiper Motor Kit |
| 21 | 2 | 298-06535-17 | Toggle Switch |
| 22 | 1 | 102-12273-25 | Solenoid Valve Cartridge, 2-Way NO |
| 23 | 1 | 102-12273-61 | Solenoid Valve Cartridge, 2-Way NO |
| 24 | 1 | 298-06530-17 | Toggle Switch, SPDT |
| 25 | 2 | 298-06543-17 | Starter System Relay (CR4, CR5) |
| 26 | 1 | 298-202147-56 | Pulse Pickup Unit |
| 27 | 1 | 298-06554-17 | Pressure Switch |
| 28 | 1 | 102-11825-01 | Load Controller |
| 29 | 1 | 298-12115-17 | Light & Buzzer |
| 30 | 1 | 298-06159-17 | Toggle Switch DPDT |
| 31 | 1 | 298-16428-17 | Resistor 6 Ohms |
| 32 | 2 | 502-30008-80 | Rheostat Assy. (0-25 Ohms) |
| 33 | 2 | 298-06562-17 | Rocker Switch DPDT |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 298-16450-17 | Resistor (22 Ohms) |
| 36 | 1 | 298-16452-17 | Resistor (40 Ohms) |
| 37 | 1 | 212-00299-17 | Back-up Alarm |
| 38 | 1 | 102-12273-27 | Solenoid Valve Cartridge, 3-Way NC |
| 39 | 1 | 102-11989-01 | Fuel Heater |

NOTE: Refer to Electrical System Schematic Foldout (S/N GJ 139 - 145) for additional information concerning component location.

3

24 VOLT ELECTRICAL

TRASHMASTER 3-90C

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 146 - 153 PARTS LISTING | | | |
|--|----------|--------------|------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 2 | 298-15078-17 | 12 VDC Control Relay (CR 1, 2) |
| 2 | 2 | 112-01158-01 | 12 VDC Battery, 935 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 102-13287-01 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 1 | 298-06089-17 | 3 Position Light Switch GJ 139-141 |
| 7 | 2 | 102-13187-52 | 3 Position Light Switch GJ 142 + |
| 8 | 4 | 102-12258-01 | Cab Mounted Lights GJ 139-141 |
| 8 | 4 | 102-13187-01 | Cab Mounted Lights GJ 142 + |
| 9 | 1 | 298-00046-98 | Fuel Shut Off Valve |
| 10 | 1 | 102-12414-03 | 20 A Fuse |
| 11 | 1 | 298-15018-17 | Horn Relay |
| 12 | 1 | 212-00294-17 | Horn |
| 13 | 2 | 102-11826-12 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 Amp Circuit Breaker |
| 15 | 2 | 212-06003-17 | 40 Amp Circuit Breaker |
| 16 | 2 | 102-08157-01 | Defroster Fan |
| 17 | 1 | 102-08127-01 | Heater |
| 18 | 1 | 102-08127-10 | Heater Switch (Part of Item 17) |
| 19 | 4 | 298-05167-17 | Wiper Switch 2 Speed GJ 139-141 |
| 19 | 2 | 102-13173-53 | Wiper switch 2 Speed GJ 142 + |
| 20 | 2 | 102-13413-01 | Window Wiper Motor Kit |
| 21 | 2 | 298-06535-17 | Toggle Switch |
| 22 | 1 | 102-12273-25 | Solenoid Valve Cartridge, 2-Way NO |
| 23 | 1 | 102-12273-61 | Solenoid Valve Cartridge, 2-Way NO |
| 24 | 1 | 298-06530-17 | Toggle Switch, SPDT |
| 25 | 2 | 298-06543-17 | Starter System Relay (CR4, CR5) |
| 26 | 1 | 298-02147-56 | Pulse Pickup Unit |
| 27 | 1 | 298-06554-17 | Pressure Switch |
| 28 | 1 | 102-11825-01 | Load Controller |
| 29 | 1 | 298-12115-17 | Light & Buzzer |
| 30 | 1 | 298-06159-17 | Toggle Switch DPDT |
| 31 | 1 | 102-13454-30 | Resistor 30 Ohms |
| 32 | 2 | 502-30008-80 | Rheostat Assy. (0-25 Ohms) |
| 33 | 2 | 298-06562-17 | Rocker Switch DPDT |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 102-13454-50 | Resistor (50 Ohms) |
| 36 | 1 | 102-13454-60 | Resistor (60 Ohms) |
| 37 | 1 | 212-00299-17 | Back-up Alarm |
| 38 | 1 | 102-12273-27 | Solenoid Valve Cartridge, 3-Way NC |
| 39 | 1 | 102-11989-01 | Fuel Heater |

NOTE: Refer to Electrical System Schematic Foldout (S/N GJ 146 - 153) for additional information concerning component location.

3

24 VOLT ELECTRICAL

TRASHMASTER 3-90C

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 154- 159 PARTS LISTING | | | |
|---|----------|--------------|--------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 2 | 298-15078-17 | 12 VDC Control Relay (CR 1, 2) |
| 2 | 2 | 298-03266-17 | 12 VDC Battery, 935 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 102-13297-01 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 2 | 102-13173-52 | 2 Position Light Switch |
| 8 | 4 | 102-13187-01 | Cab Mounted Light Assembly |
| 9 | 1 | 298-00046-98 | Fuel Shut Off Solenoid Valve |
| 10 | 1 | 102-12414-03 | 20 Amp Fuse |
| 11 | 1 | 298-15018-17 | Horn Relay |
| 12 | 1 | 212-00294-17 | Horn |
| 13 | 2 | 102-11826-12 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 A Circ. Breaker, Push To Reset |
| 15 | 2 | 212-06003-17 | 40 A Circ. Breaker, Push To Reset |
| 16 | 2 | 102-13173-66 | Defroster Fan Assembly |
| 17 | 1 | 102-13473-01 | Heater Assembly |
| 18 | 1 | 102-08127-10 | Heater Switch (Included In #17) |
| 19 | 2 | 102-13173-53 | 2 Speed Wiper Switch |
| 20 | 2 | 102-13413-01 | Windshield Wiper Motor Kit |
| 21 | 1 | 298-06257-17 | Tog. Switch, SPDT (Brake/Run/Off) |
| 22 | 1 | 102-12273-25 | Sol. Valve Cartridge, 2 Way N.O. |
| 23 | 1 | 102-12273-61 | Sol. Valve Cartridge, 2 Way N.O. |
| 24 | 2 | 298-06530-17 | Toggle Switch, SPDT (Hood) |
| 25 | 2 | 298-06543-17 | 12 VDC Control Relay (CR 4,5) |
| 26 | 2 | 298-02147-56 | Pulse Pick-up Sensor |
| 27 | 1 | 298-06554-17 | Brake Pressure Switch |
| 28 | 1 | 102-11825-01 | Load Controller Assembly |
| 29 | 1 | 298-12115-17 | Brake Warning Light And Buzzer |
| 30 | 1 | 298-06159-17 | Toggle Switch, DPDT (Work/Travel) |
| 31 | 1 | 102-13454-30 | 30 Ohm Resistor |
| 32 | 1 | 502-30008-80 | Rheostat Assembly, 0-25 Ohms |
| 33 | 2 | 298-06562-17 | Rocker Switch, DPDT (W1/W2, F/R) |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 102-13454-50 | 50 Ohm Resister |
| 36 | 1 | 102-13454-60 | 60 Ohm Resister |
| 37 | 1 | 212-00299-17 | Back Up Alarm |
| 38 | 1 | 102-12273-27 | Sol. Valve Cartridge, 3 Way N.C. |
| 39 | 1 | 102-11989-01 | Fuel Heater (Optional) |
| 40 | 1 | 802-04337-01 | A/C And Cab Pressurization Unit |
| 41 | 2 | 298-06524-17 | Limit Switch, N.C. Belly Pan Warning |
| 42 | 2 | 102-12414-02 | 10 Amp Fuse |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 154-GJ159) for additional information concerning component location.

3

24 VOLT ELECTRICAL

TRASHMASTER 3-90C

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 160 - 163 PARTS LISTING | | | |
|--|----------|--------------|------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 2 | 298-15078-17 | 12 VDC Control Relay (CR 1, 2) |
| 2 | 2 | 112-01158-01 | 12 VDC Battery, 935 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 102-13287-01 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 1 | 298-06089-17 | 3 Position Light Switch GJ 139-141 |
| 7 | 2 | 102-13173-52 | 3 Position Light Switch GJ 142 + |
| 8 | 4 | 102-12258-01 | Cab Mounted Lights GJ 139-141 |
| 8 | 4 | 102-13187-01 | Cab Mounted Lights GJ 142 + |
| 9 | 1 | 298-00046-98 | Fuel Shut Off Valve |
| 10 | 1 | 102-12414-03 | 20 A Slow Blow Fuse |
| 11 | 1 | 298-15018-17 | Horn Relay |
| 12 | 1 | 212-00294-17 | Horn |
| 13 | 2 | 102-11826-12 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 Amp Circuit Breaker |
| 15 | 2 | 212-06003-17 | 40 Amp Circuit Breaker |
| 16 | 2 | 102-13173-66 | Defroster Fan |
| 17 | 1 | 102-13473-01 | Heater |
| 18 | 1 | 102-08127-10 | Heater Switch (Part of Item 17) |
| 19 | 4 | 298-06167-17 | Wiper Switch 2 Speed GJ 139-141 |
| 19 | 2 | 102-13173-53 | Wiper switch 2 Speed GJ 142 + |
| 20 | 2 | 102-13413-01 | Window Wiper Motor Kit |
| 21 | 2 | 298-06257-17 | Toggle Switch |
| 22 | 1 | 102-12273-25 | Solenoid Valve Cartridge, 2-Way NO |
| 23 | 1 | 102-12273-61 | Solenoid Valve Cartridge, 2-Way NO |
| 24 | 1 | 298-06530-17 | Toggle Switch, SPDT |
| 25 | 2 | 298-06543-17 | Starter System Relay (CR4, CR5) |
| 26 | 1 | 298-02147-56 | Pulse Pickup Unit |
| 27 | 1 | 298-06554-17 | Pressure Switch |
| 28 | 1 | 102-11825-01 | Load Controller |
| 29 | 1 | 298-12115-17 | Light & Buzzer |
| 30 | 1 | 298-06159-17 | Toggle Switch DPDT |
| 31 | 1 | 102-13454-30 | Resistor 30 Ohms |
| 32 | 2 | 502-30008-80 | Rheostat Assy. (0-25 Ohms) |
| 33 | 2 | 298-06562-17 | Rocker Switch DPDT |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 102-13454-50 | Resistor (50 Ohms) |
| 36 | 1 | 102-13454-60 | Resistor (60 Ohms) |
| 37 | 1 | 212-00299-17 | Back-up Alarm |
| 38 | 1 | 102-12273-27 | Solenoid Valve Cartridge, 3-Way NC |
| 39 | 1 | 102-11989-01 | Fuel Heater |

NOTE: Refer to Electrical System Schematic Foldout (S/N GJ 146 - 153) for additional information concerning component location.

3

24 VOLT ELECTRICAL

TRASHMASTER 3-90C

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 164 - 184 PARTS LISTING | | | |
|--|----------|--------------|--------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 3 | 298-15078-17 | 12 VDC Control Relay (CR 1, 2, 14) |
| 2 | 2 | 298-03267-17 | 12 VDC Battery, 1300 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 102-13287-01 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 2 | 102-13173-52 | 2 Position Light Switch |
| 8 | 4 | 102-13187-01 | Cab Mounted Light Assembly |
| 9 | 1 | 298-00046-98 | Fuel Shut Off Solenoid Valve |
| 10 | 1 | 102-12414-03 | 20 Amp Fuse |
| 11 | 1 | 298-15018-17 | Horn Relay |
| 12 | 1 | 212-00294-17 | Horn |
| 13 | 2 | 102-11826-12 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 A Circ. Breaker, Push To Reset |
| 15 | 2 | 212-06003-17 | 40 A Circ. Breaker, Push To Reset |
| 16 | 2 | 102-13173-66 | Defroster Fan Assembly |
| 17 | 1 | 102-13535-01 | Heater Assembly |
| 18 | 1 | 102-13535-02 | Heater Switch (Included In #17) |
| 19 | 2 | 102-13173-53 | 2 Speed Wiper Switch |
| 20 | 2 | 102-13413-01 | Windshield Wiper Motor Kit |
| 21 | 1 | 298-06257-17 | Tog. Switch, SPDT (Brake/Run/Off) |
| 22 | 1 | 102-12273-25 | Sol. Valve Cartridge, 2 Way N.O. |
| 23 | 1 | 102-12273-61 | Sol. Valve Cartridge, 2 Way N.O. |
| 24 | 2 | 298-06530-17 | Toggle Switch, SPDT (Hood, Rear Pan) |
| 25 | 2 | 298-06543-17 | 12 VDC Control Relay (CR 4, 5) |
| 26 | 2 | 298-02147-56 | Pulse Pick-up Sensor |
| 27 | 1 | 298-06554-17 | Brake Pressure Switch |
| 28 | 1 | 102-11825-01 | Load Controller Assembly |
| 29 | 1 | 298-12115-17 | Brake Warning Light And Buzzer |
| 30 | 1 | 298-06159-17 | Toggle Switch, DPDT (Work/Travel) |
| 31 | 1 | 102-13454-30 | 30 Ohm Resistor |
| 32 | 1 | 502-30008-80 | Rheostat Assembly, 0-25 Ohms |
| 33 | 2 | 298-06562-17 | Rock. Switch, DPDT (F/N/R, W1/W2) |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 102-13454-50 | 50 Ohm Resister |
| 36 | 1 | 102-13454-60 | 60 Ohm Resister |
| 37 | 1 | 212-00299-17 | Back Up Alarm |
| 38 | 1 | 102-12273-27 | Sol. Valve Cartridge, 3 Way N.C. |
| 39 | 1 | 102-11989-01 | Fuel Heater (Optional) |
| 40 | 1 | 802-04337-01 | A/C And Cab Pressurization Unit |
| 41 | 2 | 298-06524-17 | Limit Switch, N.C. Belly Pan Warning |
| 42 | 2 | 102-12414-02 | 10 Amp Fuse |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 160-GJ164) for additional information concerning component location.

3

24 VOLT ELECTRICAL

TRASHMASTER 3-90C

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 185 - 189 PARTS LISTING | | | |
|--|----------|--------------|--------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 3 | 298-15078-17 | 12 VDC Control Relay (CR 1, 2, 14) |
| 2 | 2 | 298-03267-17 | 12 VDC Battery, 1300 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 102-13287-01 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 2 | 102-13173-52 | 2 Position Light Switch |
| 8 | 4 | 102-13187-01 | Cab Mounted Light Assembly |
| 9 | 1 | 298-00046-98 | Fuel Shut Off Solenoid Valve |
| 10 | 1 | 102-12414-03 | 20 Amp Fuse |
| 11 | 1 | 102-15018-17 | Horn Relay |
| 12 | 1 | 298-00294-17 | Horn |
| 13 | 2 | 102-11826-12 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 A Circ. Breaker, Push To Reset |
| 15 | 2 | 212-06003-17 | 40 A Circ. Breaker, Push To Reset |
| 16 | 2 | 102-13173-66 | Defroster Fan Assembly |
| 17 | 1 | 102-13535-01 | Heater Assembly |
| 18 | 1 | 102-13535-02 | Heater Switch (Included In #17) |
| 19 | 2 | 102-13173-53 | 2 Speed Wiper Switch |
| 20 | 2 | 102-13413-01 | Windshield Wiper Motor Kit |
| 21 | 1 | 298-06257-17 | Tog. Switch, SPDT (Brake/Run/Off) |
| 22 | 1 | 102-12273-25 | Sol. Valve Cartridge, 2 Way N.O. |
| 23 | 1 | 102-12273-61 | Sol. Valve Cartridge, 2 Way N.O. |
| 24 | 2 | 298-06530-17 | Toggle Switch SPDT (Hood, Rear Pan) |
| 25 | 2 | 298-06543-17 | 12 VDC Control Relay (CR 4,5) |
| 26 | 2 | 298-02147-56 | Pulse Pick-up Sensor |
| 27 | 1 | 298-06554-17 | Brake Pressure Switch |
| 28 | 1 | 102-11825-01 | Load Controller Assembly |
| 29 | 1 | 298-12115-17 | Brake Warning Light And Buzzer |
| 30 | | | |
| 31 | | | |
| 32 | 1 | 502-30008-80 | Rheostat Assembly, 0-25 Ohms |
| 33 | 2 | 298-06562-17 | Rock. Switch, DPDT (F/N/R, W1/W2) |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 102-13454-50 | 50 Ohm Resister |
| 36 | 1 | 102-13454-60 | 60 Ohm Resister |
| 37 | 1 | 212-00299-17 | Back Up Alarm |
| 38 | 1 | 102-12273-27 | Sol. Valve Cartridge, 3 Way N.C. |
| 39 | 1 | 102-11989-01 | Fuel Heater (Optional) |
| 40 | 1 | 802-04337-01 | A/C And Cab Pressurization Unit |
| 41 | 2 | 298-06524-17 | Limit Switch, N.C. Belly Pan Warning |
| 42 | 2 | 102-12414-02 | 10 Amp Fuse |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 185-GJ190) for additional information concerning component location.

3

TRASHMASTER 3-90C

24 VOLT ELECTRICAL

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 185 - 189 PARTS LISTING | | | |
|--|----------|---------------|--|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 43 | 1 | 502-30335-80 | Rheostat Assembly, 0-50 Ohms |
| 44 | 1 | 102-50244-12 | Tachometer Assembly |
| 45 | 1 | 102-50505-11 | Shutdown Annunciator |
| 46 | 1 | 102-05592-07 | Eng. Oil Pressure Switch Gauge |
| 47 | 4 | 102-50244-20 | Hydro. Charge Press. Switch Gauge |
| 48 | 1 | 298-00274-17 | Hydraulic Oil Level Switch |
| 49 | 4 | 102-50244-21 | Hydro. Temperature Switch Gauge |
| | 1 | 102-05592-06 | Pump D. B. Temperature Switch Gauge |
| 50 | 1 | 298-02162-56 | Low Engine Coolant Level Switch |
| 51 | 1 | 102-50502-02 | Engine Temp. Switch Gauge (203° F) |
| 52 | 1 | 102-50244-15 | Volt Meter |
| 53 | 1 | 298-02150-56 | Fuel Gauge |
| 54 | 1 | 102-31893--01 | Fuel Level Sending Unit |
| 55 | 4 | 298-05005-17 | 20 A Circ. Breaker, Push To Reset |
| 56 | 2 | 298-06119-17 | Toggle Switch,DPDT (Front Pans) |
| 57 | 1 | 102-12344-01 | Electro/Mechanical Actuator |
| 58 | 3 | 102-12273-09 | Solenoid Coil (12 VDC) |
| 59 | 9 | 298-15081-17 | 12 VDC Control Relay (CR 3, 6-13) |
| 60 | 19 | 298-14533-17 | Diode Assembly |
| 61 | 2 | 298-00467-47 | Washer Pump W/Bottle |
| 62 | 1 | 102-13173-51 | Windshield Washer Switch |
| 63 | 1 | 102-12910-01 | Dome Lamp |
| 64 | 6 | 298-11079-17 | 10 Amp Fuse (Lights,Wiper, Washer) |
| 65 | 1 | 102-50244-18 | Siren, Belly Pan Warning |
| 66 | 1 | 298-20569-17 | Light With Flasher, Belly Pan Warn. |
| 67 | 3 Ft. | 298-26156-17 | Cable Shielded |
| 68 | 1 | 102-13295-01 | Cold Weather Start Kit (Option) |
| 69 | 1 | 102-01772-01 | Junction Box, Power Distribution |
| 70 | 1 | 298-18155-17 | DC-DC Convertor, Sure Power |
| 71 | 1 | 298-18154-17 | Alternator, 12 VDC, 160-A, Delco 21-SI |
| 72 | 1 | 1023166-16 | Starter, 24 VDC, Delco 50-MT |
| 73 | 2 | 502-20790-86 | Battery Cable, #2/0 AWG |
| 74 | 1 | 502-20790-88 | Battery Cable, #2/0 AWG |
| 75 | 1 | 502-20790-84 | Battery Cable, #2/0 AWG |
| 76 | 1 | 502-20790-87 | Battery Cable, #2/0 AWG |
| 77 | 1 | 102-13508-01 | Power Distribution Cable, #2/0 AWG |
| 78 | 1 | 102-13508-02 | Power Distribution Cable, #2/0 AWG |
| 79 | 1 | 298-15088-17 | Relay Mounting Base |
| 80 | 1 | 298-15087-17 | Relay, Time Delay |
| 81 | 1 | 298-06577-17 | Hydrostatic Pressure Switch |
| | | | |
| | | | |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 185 - 190) for additional information concerning component location.

24 VOLT ELECTRICAL

TRASHMASTER 3-90C

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 190 - 196 PARTS LISTING | | | |
|--|----------|--------------|--------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 3 | 298-26172-17 | 12 VDC Control Relay (CR 1, 2, 14) |
| 2 | 2 | 298-03267-17 | 12 VDC Battery, 1300 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 102-13287-01 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 2 | 102-13173-52 | 2 Position Light Switch |
| 8 | 4 | 102-13187-01 | Cab Mounted Light Assembly |
| 9 | 1 | 298-00046-98 | Fuel Shut Off Solenoid Valve |
| 10 | 1 | 102-12414-03 | 20 Amp Fuse |
| 11 | 1 | 298-15018-17 | Horn Relay |
| 12 | 1 | 212-00294-17 | Horn |
| 13 | 2 | 102-11826-12 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 A Circ. Breaker, Push To Reset |
| 15 | 2 | 212-06003-17 | 40 A Circ. Breaker, Push To Reset |
| 16 | 2 | 102-13173-66 | Defroster Fan Assembly |
| 17 | 1 | 102-13535-01 | Heater Assembly |
| 18 | 1 | 102-13535-02 | Heater Switch (Included In #17) |
| 19 | 2 | 102-13173-53 | 2 Speed Wiper Switch |
| 20 | 2 | 102-13413-01 | Windshield Wiper Motor Kit |
| 21 | 1 | 298-06257-17 | Tog. Switch, SPDT (Brake/Run/Off) |
| 22 | 1 | 102-12273-25 | Sol. Valve Cartridge, 2 Way N.O. |
| 23 | 1 | 102-12273-61 | Sol. Valve Cartridge, 2 Way N.O. |
| 24 | | | |
| 25 | 2 | 298-06543-17 | 12 VDC Control Relay (CR 4,5) |
| 26 | 2 | 298-02147-56 | Pulse Pick-up Sensor |
| 27 | 1 | 298-06554-17 | Brake Pressure Switch |
| 28 | 1 | 102-11825-01 | Load Controller Assembly |
| 29 | 1 | 298-12115-17 | Brake Warning Light And Buzzer |
| 30 | | | |
| 31 | | | |
| 32 | 1 | 502-30008-80 | Rheostat Assembly, 0-25 Ohms |
| 33 | 2 | 298-06562-17 | Rock. Switch, DPDT (F/N/R, W1/W2) |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 102-13454-50 | 50 Ohm Resister |
| 36 | 1 | 102-13454-60 | 60 Ohm Resister |
| 37 | 1 | 212-00299-17 | Back Up Alarm |
| 38 | 1 | 102-12273-27 | Sol. Valve Cartridge, 3 Way N.C. |
| 39 | 1 | 102-11989-01 | Fuel Heater (Optional) |
| 40 | 1 | 802-04337-01 | A/C And Cab Pressurization Unit |
| 41 | 2 | 298-06524-17 | Limit Switch, N.C. Belly Pan Warning |
| 42 | 2 | 102-12414-02 | 10 Amp Fuse |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 190-GJ196) for additional information concerning component location.

3

TRASHMASTER 3-90C

24 VOLT ELECTRICAL

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 190 - 196 PARTS LISTING | | | |
|--|----------|---------------|---|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 43 | 1 | 502-30335-80 | Rheostat Assembly, 0-50 Ohms |
| 44 | 1 | 102-50244-12 | Tachometer Assembly |
| 45 | 1 | 102-50505-11 | Shutdown Annunciator |
| 46 | 1 | 102-05592-07 | Eng. Oil Pressure Switch Gauge |
| 47 | 4 | 102-50244-20 | Hydro. Charge Press. Switch Gauge |
| 48 | 1 | 298-00274-17 | Hydraulic Oil Level Switch |
| 49 | 4 | 102-50244-21 | Hydro. Temperature Switch Gauge |
| | 1 | 102-05592-06 | Pump D. B. Temperature Switch Gauge |
| 50 | 1 | 298-02162-56 | Low Engine Coolant Level Switch |
| 51 | 1 | 102-50502-02 | Engine Temp. Switch Gauge (203° F) |
| 52 | 1 | 102-50244-15 | Volt Meter |
| 53 | 1 | 298-02150-56 | Fuel Gauge |
| 54 | 1 | 102-31893--01 | Fuel Level Sending Unit |
| 55 | 1 | 298-05005-17 | 20 A Circ. Breaker, Push To Reset |
| 56 | | | |
| 57 | | | |
| 58 | 3 | 102-12273-09 | Solenoid Coil (12 VDC) |
| 59 | 1 | 298-15081-17 | 12 VDC Control Relay (CR 3) |
| 60 | 19 | 298-14533-17 | Diode Assembly |
| 61 | 2 | 298-00467-47 | Washer Pump W/Bottle |
| 62 | 1 | 102-13173-51 | Windshield Washer Switch |
| 63 | 1 | 102-12919-01 | Dome Lamp |
| 64 | 6 | 298-11079-17 | 10 Amp Fuse (Lights,Wiper, Washer) |
| 65 | 1 | 102-50244-18 | Siren, Belly Pan Warning |
| 66 | 1 | 298-20569-17 | Light With Flasher, Belly Pan Warn. |
| 67 | 3 Ft. | 298-26156-17 | Cable Shielded |
| 68 | 1 | 102-13295-01 | Cold Weather Start Kit (Option) |
| 69 | 1 | 102-01772-01 | Junction Box, Power Distribution |
| 70 | 1 | 298-18155-17 | DC-DC Convertor, Sure Power |
| 71 | 1 | 298-18154-17 | Alternator, 12 VDC, 160-A, Delco 21-SI |
| 72 | 1 | 1023166-16 | Starter, 24 VDC |
| 73 | 2 | 502-20790-86 | Battery Cable, #2/0 AWG |
| 74 | 1 | 502-20790-88 | Battery Cable, #2/0 AWG |
| 75 | 1 | 502-20790-84 | Battery Cable, #2/0 AWG |
| 76 | 1 | 502-20790-87 | Battery Cable, #2/0 AWG |
| 77 | 1 | 102-13508-01 | Power Distribution Cable, #2/0 AWG |
| 78 | 1 | 102-13508-02 | Power Distribution Cable, #2/0 AWG |
| 79 | 1 | 298-15088-17 | Relay Mounting Base |
| 80 | 1 | 298-15087-17 | Relay, Time Delay |
| 81 | 1 | 298-06577-17 | Hydrostatic Pressure Switch |
| 82 | 1 | 298-00242-53 | Hydr. Pwr. Unit, Hood/Belly Pan Control |
| 83 | 1 | 502-20790-89 | Power Distribution Cable, #2/0 AWG |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 190 - GJ 196) for additional information concerning component location.

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 197 - 229 PARTS LISTING | | | |
|---|----------|---------------|--------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 4 | 298-26172-17 | 24 VDC Control Relay (CR 1, 2, 4, 5) |
| 2 | 2 | 298-03267-17 | 12 VDC Battery, 1300 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 298-26167-17 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 2 | 102-13173-52 | 2 Position Light Switch |
| 8 | 4 | 298-26178-17 | Cab Mounted Light Assembly |
| 9 | 1 | 298-26175-17 | Fuel Shut Off Solenoid Valve |
| 10 | 1 | 102-12414-03 | 20 Amp Fuse |
| 11 | | | |
| 12 | 1 | 102-13633-02 | Horn |
| 13 | 2 | 102-11826-12 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 A Circ. Breaker, Push To Reset |
| 15 | 2 | 212-06003-17 | 40 A Circ. Breaker, Push To Reset |
| 16 | 2 | 102-13631-04 | Defroster Fan Assembly |
| 17 | 1 | 102-13618-01 | Heater Assembly |
| 18 | 1 | 102-13535-02 | Heater Switch (Included In #17) |
| 19 | 2 | 102-13173-53 | 2 Speed Wiper Switch |
| 20 | 2 | 102-13631-02 | Windshield Wiper Motor Kit |
| 21 | 1 | 298-06257-17 | Tog. Switch, SPDT (Brake/Run/Off) |
| 22 | 1 | 102-12273-25 | Sol. Valve Cartridge, 2 Way N.O. |
| 23 | 1 | 102-12273-61 | Sol. Valve Cartridge, 2 Way N.O. |
| 24 | | | |
| 25 | | | |
| 26 | 2 | 298-02147-56 | Pulse Pick-up Sensor |
| 27 | 1 | 298-06554-17 | Brake Pressure Switch |
| 28 | 1 | 298-26168-17 | Load Controller Assembly |
| 29 | 1 | 298-26174-17 | Brake Warning Light And Buzzer |
| 30 | | | |
| 31 | | | |
| 32 | 1 | 502-30008-80 | Rheostat Assembly, 0-25 Ohms |
| 33 | 2 | 298-06562-17 | Rock. Switch, DPDT (F/N/R, W1/W2) |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 102-13454-120 | 120 Ohm Resister |
| 36 | 1 | 102-13454-120 | 160 Ohm Resister |
| 37 | 1 | 212-00299-17 | Back Up Alarm |
| 38 | 1 | 102-12273-27 | Sol. Valve Cartridge, 3 Way N.C. |
| 39 | 1 | 102-11989-01 | Fuel Heater (Optional) |
| 40 | 1 | 102-13617-01 | A/C And Cab Pressurization Unit |
| 41 | 2 | 298-06524-17 | Limit Switch, N.C. Belly Pan Warning |
| 42 | 2 | 102-12414-02 | 10 Amp Fuse |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 197-GJ 229) for additional information concerning component location.

3

TRASHMASTER 3-90C

24 VOLT ELECTRICAL

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 197 - 229 PARTS LISTING | | | |
|--|----------|---------------|---|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 43 | 1 | 502-30335-80 | Rheostat Assembly, 0-50 Ohms |
| 44 | 1 | 102-50244-12 | Tachometer Assembly |
| 45 | 1 | 102-50505-11 | Shutdown Annunciator |
| 46 | 1 | 102-05592-07 | Eng. Oil Pressure Switch Gauge |
| 47 | 4 | 102-50244-20 | Hydro. Charge Press. Switch Gauge |
| 48 | 1 | 298-00274-17 | Hydraulic Oil Level Switch |
| 49 | 4 | 102-50244-21 | Hydro. Temperature Switch Gauge |
| | 1 | 102-05592-06 | Pump D. B. Temperature Switch Gauge |
| 50 | 1 | 298-02162-56 | Low Engine Coolant Level Switch |
| 51 | 1 | 102-50502-02 | Engine Temp. Switch Gauge (203° F) |
| 52 | 1 | 102-05614-02 | Volt Meter |
| 53 | 1 | 298-02150-56 | Fuel Gauge |
| 54 | 1 | 102-31893--01 | Fuel Level Sending Unit |
| 55 | 1 | 298-05005-17 | 20 A Circ. Breaker, Push To Reset |
| 56 | | | |
| 57 | 1 | 102-05614-04 | Voltage Convertor |
| 58 | 3 | 298-26176-17 | Solenoid Coil (24 VDC) |
| 59 | 1 | 298-26173-17 | Control Relay |
| 60 | 19 | 298-14533-17 | Diode Assembly |
| 61 | 2 | 298-04099-47 | Washer Pump W/Bottle |
| 62 | 1 | 102-13173-51 | Windshield Washer Switch |
| 63 | 1 | 102-13631-03 | Dome Lamp |
| 64 | 6 | 298-11079-17 | 10 Amp Fuse (Lights,Wiper, Washer) |
| 65 | 1 | 102-50244-18 | Siren, Belly Pan Warning |
| 66 | 1 | 102-05614-03 | Light With Flasher, Belly Pan Warn. |
| 67 | 3 Ft. | 298-26156-17 | Cable Shielded |
| 68 | 1 | 102-13597-01 | Cold Weather Start Kit (Option) |
| 69 | 1 | 102-01772-01 | Junction Box, Power Distribution |
| 70 | 1 | 102-13508-01 | Battery Cable, #2/0 AWG |
| 71 | 1 | 298-16154-17 | Alternator, 24 VDC, 75-A |
| 72 | 1 | 102-32166-16 | Starter, 24 VDC |
| 73 | 2 | 502-20790-86 | Battery Cable, #2/0 AWG |
| 74 | 1 | 502-20790-88 | Battery Cable, #2/0 AWG |
| 75 | 1 | 502-20790-84 | Battery Cable, #2/0 AWG |
| 76 | 1 | 502-20790-87 | Battery Cable, #2/0 AWG |
| 77 | 1 | 102-13508-01 | Power Distribution Cable, #2/0 AWG |
| 78 | 1 | 102-13508-02 | Power Distribution Cable, #2/0 AWG |
| 79 | 1 | 298-15088-17 | Relay Mounting Base |
| 80 | 1 | 298-26169-17 | Relay, Time Delay |
| 81 | 1 | 298-06577-17 | Hydrostatic Pressure Switch |
| 82 | 1 | 298-00250-53 | Hydr. Pwr. Unit, Hood/Belly Pan Control |
| 83 | 1 | 502-20790-89 | Power Distribution Cable, #2/0 AWG |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 197-229) for additional information concerning component location.

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 230-..... PARTS LISTING | | | |
|--|----------|---------------|--------------------------------------|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 1 | 4 | 298-26172-17 | 24 VDC Control Relay (CR 1, 2, 4, 5) |
| 2 | 2 | 298-03267-17 | 12 VDC Battery, 1300 CCA |
| 3 | 1 | 212-00306-17 | Master Disconnect Switch |
| 4 | 1 | 298-26167-17 | Work Light, With Magnetic Base |
| 5 | 1 | 212-00276-17 | Ignition Switch (Key Switch) |
| 6 | 1 | 298-06139-17 | Toggle Switch, SPST (Work Light) |
| 7 | 2 | 102-13173-52 | 2 Position Light Switch |
| 8 | 4 | 298-26178-17 | Cab Mounted Light Assembly |
| 9 | 1 | 298-26175-17 | Fuel Shut Off Solenoid Valve |
| 10 | | | |
| 11 | 1 | 298-15092-17 | Horn Relay |
| 12 | 1 | 102-13633-01 | Horn Compressor |
| 13 | 2 | 102-13659-01 | Horn Switch |
| 14 | 2 | 212-06000-17 | 10 A Circ. Breaker, Push To Reset |
| 15 | 2 | 212-06003-17 | 40 A Circ. Breaker, Push To Reset |
| 16 | 2 | 102-13631-04 | Defroster Fan Assembly |
| 17 | 1 | 102-13618-01 | Heater Assembly |
| 18 | 1 | 298-06259-17 | Heater Switch (Included In #17) |
| 19 | 2 | 102-13173-53 | 2 Speed Wiper Switch |
| 20 | 2 | 102-13631-02 | Windshield Wiper Motor Kit |
| 21 | 1 | 298-06257-17 | Tog. Switch, SPDT (Brake/Run/Off) |
| 22 | 1 | 102-12273-25 | Sol. Valve Cartridge, 2 Way N.O. |
| 23 | 1 | 102-12273-19 | Sol. Valve Cartridge, 2 Way N.O. |
| 24 | | 121-41209 | ECM Main Harness |
| 25 | | 121-41208 | ECM Power Harness |
| 26 | 2 | 298-02147-56 | Pulse Pick-up Sensor |
| 27 | 1 | 298-06554-17 | Brake Pressure Switch |
| 28 | 1 | 298-26168-17 | Load Controller Assembly |
| 29 | 1 | 111-41174-01 | Brake Warning Light |
| 30 | 1 | | Lamp, Red |
| 31 | 1 | | Lamp, Yellow |
| 32 | 1 | | Lamp, White |
| 33 | 2 | 298-06562-17 | Rock. Switch, DPDT (F/N/R, W1/W2) |
| 34 | 1 | 102-12180-01 | PCS Control Valve |
| 35 | 1 | 102-13454-120 | 120 Ohm Resister |
| 36 | 1 | 102-13454-160 | 160 Ohm Resister |
| 37 | 1 | 212-00299-17 | Back Up Alarm |
| 38 | 1 | 102-12273-27 | Sol. Valve Cartridge, 3 Way N.C. |
| 39 | 1 | 102-11989-01 | Fuel Heater (Optional) |
| 40 | 1 | 102-13617-01 | A/C And Cab Pressurization Unit |
| 41 | 2 | 298-06524-17 | Limit Switch, N.C. Belly Pan Warning |
| 42 | 2 | 102-12414-02 | 10 Amp Fuse |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 230-.....) for additional information concerning component location.

TRASHMASTER 3-90C

24 VOLT ELECTRICAL

| 3-90C ELECTRICAL SYSTEM - EFFECTIVE S/N GJ 230-..... PARTS LISTING | | | |
|--|----------|---------------|---|
| SCH REF NUMBER | QUANTITY | PART NUMBER | DESCRIPTION |
| 43 | 1 | 502-30335-80 | Rheostat Assembly, 0-50 Ohms |
| 44 | 1 | 102-50244-12 | Tachometer Assembly |
| 45 | 1 | 141-41072-03 | Shutdown Annunciator |
| 46 | 1 | | Eng. Oil Pressure Switch Gauge |
| 47 | 4 | 102-50244-20 | Hydro. Charge Press. Switch Gauge |
| 48 | 1 | 298-00306-17 | Hydraulic Oil Level Switch |
| 49 | 4 | 102-50244-21 | Hydro. Temperature Switch Gauge |
| | 1 | 102-05592-06 | Pump D. B. Temperature Switch Gauge |
| 50 | 1 | | Low Engine Coolant Level Switch |
| 51 | 1 | | Engine Temp. Switch Gauge (210° F) |
| 52 | 1 | | Volt Meter |
| 53 | 1 | | Fuel Gauge |
| 54 | 1 | 102-31893--01 | Fuel Level Sending Unit |
| 55 | 1 | 298-05005-17 | 20 A Circ. Breaker, Push To Reset |
| 56 | | | |
| 57 | 1 | 102-05614-04 | Voltage Convertor |
| 58 | 3 | 102-12273-52 | Solenoid Coil (24 VDC) |
| 59 | 1 | 111-41047-01 | Throttle Control Sensor Assembly |
| 60 | 19 | 298-14533-17 | Diode Assembly |
| 61 | 2 | 298-04099-47 | Washer Pump W/Bottle |
| 62 | 1 | 102-13173-51 | Windshield Washer Switch |
| 63 | 1 | 102-13631-03 | Dome Lamp |
| 64 | 6 | 298-11079-17 | 10 Amp Fuse (Lights,Wiper, Washer) |
| 65 | 1 | 102-50244-18 | Siren, Belly Pan Warning |
| 66 | 1 | 102-05614-03 | Light With Flasher, Belly Pan Warn. |
| 67 | 2 | | 5 Amp Fuse |
| 68 | 1 | 102-13691-01 | Cold Weather Start Kit (Option) |
| 69 | 1 | 102-01772-01 | Junction Box, Power Distribution |
| 70 | 1 | 102-13508-01 | Battery Cable, #2/0 AWG |
| 71 | 1 | 298-18158-17 | Alternator, 24 VDC, 75-A |
| 72 | 1 | 102-32166-16 | Starter, 24 VDC |
| 73 | 2 | 502-20790-86 | Battery Cable, #2/0 AWG |
| 74 | 1 | 502-20790-88 | Battery Cable, #2/0 AWG |
| 75 | 1 | 502-20790-91 | Battery Cable, #2/0 AWG |
| 76 | 1 | 502-20790-87 | Battery Cable, #2/0 AWG |
| 77 | 1 | 102-13508-03 | Power Distribution Cable, #2/0 AWG |
| 78 | 1 | 102-13508-02 | Power Distribution Cable, #2/0 AWG |
| 79 | 1 | 298-15088-17 | Relay Mounting Base |
| 80 | 1 | 298-26169-17 | Relay, Time Delay |
| 81 | 1 | 298-06578-17 | Hydrostatic Pressure Switch |
| 82 | 1 | 298-00250-53 | Hydr. Pwr. Unit, Hood/Belly Pan Control |
| 83 | 1 | 502-20790-90 | Power Distribution Cable, #2/0 AWG |
| 84 | 1 | 111-41047-02 | Throttle Control Wire Harness |

NOTE: Refer to Electrical System Schematic Foldout (Effective S/N GJ 230-.....) for additional information concerning component location.

NOTES:

3

Electrical Component Specifications

| Component | Part Number | Spec. Type | Specification |
|------------------------------|------------------------|------------------------|---------------|
| PPU | 298-02147-56 | Resistance | 270 Ohms |
| Fuel Pump Injection Solenoid | Cummins P/N | Resistance | 7.1 Ohms |
| Starter Solenoid | Cummins P/N | Resistance | .5 Ohms |
| Starter | Cummins P/N 3021038 | Resistance | .2 Ohms |
| Control Relay | 298-06543-17 | Resistance | 4.1 Ohms |
| Control Relay | 298-15078-17 | Resistance | 16.2 Ohms |
| Control Relay | 298-15081-17 | Resistance | 16.5 Ohms |
| Windshield Washer Motor | | Resistance | 2.4/5.1 Ohms |
| A/C Switch Low PSI | Eagle P/N 404-629 | Normally Closed (N.C.) | 5 PSI |
| A/C Switch High PSI | Eagle P/N 400-004 | Normally Closed (N.C.) | 325PSI |

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