Genie®

Service Manual Supplement

Part No. 107713
Rev B1
November 2011

Self-Propelled Servicing Platform

(for serial number UAFSP06-101)

This manual applies to Z45/25J Bi-Energy with an EE rating and manufactured for the USAF.

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Specifications

REV A

Machine Specifications

Tires and wheels	
Tire size	9-14.5 LT
Wheel diameter	14.5 inches
Wheel width	7 inches
Wheel lugs Front Rear	 8 @ 5/8 -18 9 @ 5/8 -18
Lug nut torque	125 ft-lbs 169.5 Nm
Tire size	9-14.5 LT
Tire ply rating	Tread 6 Sidewall 6
Tire contact area	43.5 sq in 280 sq cm
Overall tire diameter	28 in 71 cm
Fluid capacities	
Fuel tank	9 gallons 34.1 liters
Hydraulic tank	8 gallons 30.3 liters
Hydraulic system (including tank)	11 gallons 41.6 liters
Drive hubs	23 fl oz 0.68 liter

For operational specifications, refer to the Operator's Manual.

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice.

Performance Specifications

Gradeability (boom stowed)	30%
Boom function speeds, maximum from platform controls	
Jib boom up	35 to 41 seconds
Jib boom down	18 to 24 seconds
Primary boom up	47 to 53 seconds
Primary boom down	34 to 40 seconds
Secondary boom up	35 to 41 seconds
Secondary boom down	22 to 28 seconds
Primary boom extend	7 to 13 seconds
Primary boom retract	9 to 15 seconds
Turntable rotate, 357° primary boom retracted	94 to 100 seconds
Platform rotate, 160°	3 to 9 seconds
Platform level up	199 to 205 seconds
Platform level down	127 to 133 seconds

Hydraulic Specifications

Hydraulic Oil Specifications	
Hydraulic oil type	Chevron Rykon MV equivalent
Approximate SAE grade	5W-20
Viscosity index rating	200

Chevron Rykon MV oil is fully compatible and mixable with Shell Donax TG (Dexron III) oils.
Genie specifications require hydraulic oils which are designed to give maximum protection to hydraulic systems, have the ability to perform over a wide temperature range, and have a minimum viscosity index rating of 150. They should provide excellent antiwear, oxidation, corrosion inhibition, seal conditioning, and foam and aeration suppression properties.

Optional fluids	
Biodegradable	Petro Canada Premium ECO 46 Statoil Hydra Way Bio Pa 32 BP Biohyd SE-S
Fire resistant	UCON Hydrolube HP-5046 Quintolubric 822
Mineral based	Shell Tellus T32 Shell Tellus T46 Chevron Aviation A

Note: Genie specifications require additional equipment and special installation instructions for the approved optional fluids. Consult the Genie Industries Service Department before use.

Function pump	
Type: fixed displacement gear pump	
Displacement	0.12 cu in 2 cc
Hydraulic tank circuit return line filter	10 micron with 25 psi / 1.7 bar bypass

Function manifold	
Function relief valve pressure	3200 psi 220.6 bar
Secondary boom down relief valve pressure	2000 psi 138 bar

Auxiliary pump	
Type: fixed displacement gear pump	
Displacement	0.5 gallons per minute 1.9 liters per minute
Auxiliary pump relief pressure	3200 psi 220.6 bar

Kubota Z482-E Engine

Displacement	29.23 cu in 0.48 liters
Number of cylinders	2
Bore and stroke	2.64 x 2.68 inches 67 x 68 mm
Horsepower Gross intermittent	12.5 @ 3600 rpm
Firing order	1 - 2
Compression ratio	23:1
Compression pressure	412 to 469 psi 28.4 to 32.3 bar
Low idle	2000 rpm
High idle	3000 rpm
Governor	centrifugal mechanical
Valve clearance, cold	0.0057 to 0.0072 in 0.145 to 0.185 mm
Engine coolant	
Capacity	2.9 quarts 2.8 liters
Lubrication system	
Oil pressure	36 to 64 psi 2.48 to 4.41 bar
Oil capacity (including filter)	2.6 quarts 2.5 liters
Oil viscosity requirements	10W-30

Engine oil should have properties of API classification CC/SE, CD/SE, CC/SF or CD/SF grades.

Injection system	
Injection pump make	Bocsh MD
Injection timing	21° BTDC
Injection pump pressure	1991 psi 137 bar
Fuel requirement	diesel number 2-D
Alternator Output	12V, 150 watts
Starter motor	
Brush length, new	0.5188 in 13 mm
Brush length, minimum	0.3346 in 8.5 mm
Battery	
Type	12V, Group 70
Quantity	1
Cold cranking ampere	450A
Reserve capacity @ 25A rate	125 minutes
Fan belt deflection	1/4 to 3/8 inch 7 to 9 mm

Hydraulic Hose and Fitting Torque Specifications

Your machine is equipped with Parker Seal-Lok® fittings and hose ends. Genie specifications require that fittings and hose ends be torqued to specification when they are removed and installed or when new hoses or fittings are installed.

SAE O-ring Boss Port
(tube fitting - installed into Aluminum)

SAE Dash size	Torque
-4	11 ft-lbs / 14.9 Nm
-6	23 ft-lbs / 31.2 Nm
-8	40 ft-lbs / 54.2 Nm
-10	69 ft-lbs / 93.6 Nm
-12	93 ft-lbs / 126.1 Nm
-16	139 ft-lbs / 188.5 Nm
-20	172 ft-lbs / 233.2 Nm
-24	208 ft-lbs / 282 Nm

Seal-Lok® fittings

1 Replace the O-ring. The O-ring must be replaced anytime the seal has been broken. The O-ring cannot be re-used if the fitting or hose end has been tightened beyond finger tight.

Note: The O-rings used in the Parker Seal Lok® fittings and hose ends are custom-size O-rings. They are not standard SAE size O-rings. They are available in the O-ring field service kit (Genie part number 49612).

2 Lubricate the O-ring before installation.

3 Be sure that the face seal O-ring is seated and retained properly.

4 Position the tube and nut squarely on the face seal end of the fitting and tighten the nut finger tight.

5 Tighten the nut or fitting to the appropriate torque per given size as shown in the table.

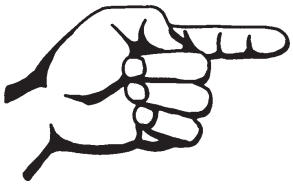
6 Operate all machine functions and inspect the hoses and fittings and related components to confirm that there are no leaks.

SAE O-ring Boss Port
(tube fitting - installed into Steel)

SAE Dash size	Torque
-4	16 ft-lbs / 21.7 Nm
-6	35 ft-lbs / 47.5 Nm
-8	60 ft-lbs / 81.3 Nm
-10	105 ft-lbs / 142.4 Nm
-12	140 ft-lbs / 190 Nm
-16	210 ft-lbs / 284.7 Nm
-20	260 ft-lbs / 352.5 Nm
-24	315 ft-lbs / 427.1 Nm

Seal-Lok® Fittings
(hose end)

SAE Dash size	Torque
-4	18 ft-lbs / 24.4 Nm
-6	27 ft-lbs / 36.6 Nm
-8	40 ft-lbs / 54.2 Nm
-10	63 ft-lbs / 85.4 Nm
-12	90 ft-lbs / 122 Nm
-16	120 ft-lbs / 162.7 Nm
-20	140 ft-lbs / 190 Nm
-24	165 ft-lbs / 223.7 Nm



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Scheduled Maintenance Procedure



Observe and Obey:

- ☑ Maintenance inspections shall be completed by a person trained and qualified on the maintenance of this machine.
- ☑ Scheduled maintenance inspections shall be completed daily, quarterly, annually and every 2 years as specified on the *Maintenance Inspection Report.*

⚠WARNING Failure to properly complete each inspection when required may cause death, serious injury or substantial machine damage.

- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating machine.
- ☑ Unless otherwise specified, perform each procedure with the machine in the following configuration:
  - Machine parked on a firm, level surface
  - Boom in the stowed position
  - Turntable rotated with the boom between the non-steering wheels
  - Turntable secured with the turntable rotation lock
  - Key switch in the off position with the key removed
  - Wheels chocked

About This Section

This section contains detailed procedures for each scheduled maintenance inspection.

Each procedure includes a description, safety warnings and step-by-step instructions.

Symbols Legend



Safety alert symbol—used to alert personnel to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

⚠DANGER Used to indicate the presence of an imminently hazardous situation which, if not avoided, will result in death or serious injury.

⚠WARNING Used to indicate the presence of a potentially hazardous situation which, if not avoided, could result in death or serious injury.

⚠CAUTION Used to indicate the presence of a potentially hazardous situation which, if not avoided, may cause minor or moderate injury.

NOTICE Used to indicate the presence of a potentially hazardous situation which, if not avoided, may result in property damage.

⊙ Indicates that a specific result is expected after performing a series of steps.

Maintenance Inspection Report

Model

Serial number

Date

Hour meter

Machine owner

Inspected by (print)

Inspector signature

Inspector title

Inspector company

Instructions

- Make copies of this report to use for each inspection. Maintain completed forms for a minimum of 4 years or in compliance with employer, jobsite and governmental regulations and requirements.
- If any inspection receives an “N”, tag and remove the machine from service, repair and reinspect it. After repair, place a check in the “R” box.

Legend

Y = yes, acceptable

N = no, remove from service

R = repaired

Comments

Refer to the *Genie Z-45/25 Bi-Energy & Z-45/25J Bi-Energy* Service Manual for scheduled machine maintenance procedures.
The following scheduled maintenance procedure will need to be performed every 1000 hours or annually in addition to regularly scheduled machine maintenance inspections as outlined in the Service Manual.

Checklist D	Y	N	R
D-6.1 Temperature sensor			

REV B

Maintenance Procedure

D-6.1
Test the Exhaust Manifold Temperature Sensor

Note: Genie specifications require that this procedure be performed every 1000 hours of operation or yearly.

Yearly calibration of the exhaust manifold temperature sensor is essential to safe machine operation. Continued use of an improperly calibrated temperature sensor could result in failure to sense an accurate exhaust manifold temperature. This could create a hazardous situation.

NOTICE Component damage hazard. This procedure requires specific repair skills and testing equipment. Dealer service is strongly recommended.

1 See *How to Program the Temperature Display* and access the TYPE menu item.

2 To change the input type, press the blank (unmarked) button to scroll through the available choices until L IN is shown on the display. Press the SEL button to select and return to the main menu.

3 Press the SEL button until the OFSET menu is shown on the display. Change the offset value to zero.

4 Press and hold the SEL button for 3 seconds to enter the value and return to the main menu.

5 Remove the jumper wire from the back of the temperature display.

⊙ Result: The display will show SAVE to indicate the programming changes are being saved into memory.

Note: Do not turn the machine off before removing the jumper from the back of the display. If the machine is turned off before the jumper wire is removed, all data may not save completely or correctly. This could result in a fault display of FR IL the next time the machine is turned on.

6 Use a precision DC voltage power supply with an output range of -10 mV DC to 60 mV DC and an accuracy of 0.03% or better. Connect the negative lead to the TC - terminal and the positive lead to the TC+ terminal of the temperature display.

7 Set the power supply to mV DC and turn the power supply on.

8 Compare the voltage on the temperature display to that of the power supply over a range of -10 mV DC to 60 mV DC.

⊙ Result: If the voltage differences between the temperature display and the power supply are within 0.02 mV DC at all points over the range of -10 mV DC to 60 mV DC, the display does not need to be calibrated.

⊙ Result: If the voltage differences between the temperature display and the power supply are *more* than 0.02 mV DC at one or more points over the range of -10 mV DC to 60 mV DC, the display will need to be calibrated. See *How to Calibrate the Temperature Sensor Voltage Input.*

How to Program the Temperature Display

There are six items that can be accessed in the programming mode.

TYPE - Allows the choice of thermocouple being used. Genie uses Type K thermocouples.

CJC - Cold Junction Compensation. This feature is not used on your machine.

DISP - Allows the choice between °F or °C. Also allows the choice between whole numbers or tenths.

FLTER - Used to help stabilize the display if it is difficult to read due to small process variations or noise. Choose "0" for no filtering or up to "3" for heavy filtering.

RANGE - The range value determines if the filter will be applied to the new input sample. If the new input value is within the range of the previous display, the filter will be applied to the new input.

OFSET - Used to add or subtract a constant temperature from the display.

1 Push in the red Emergency Stop buttons to the off position at both the ground and platform controls.

2 Open the ground control box and locate the temperature display.

3 Connect a jumper wire between the PROGRAM and COMM terminals on the back of the temperature display.

4 Turn the key switch to ground control and pull out the red Emergency Stop button to the on position at the ground controls.

5 Press the SEL button to scroll to the menu item you want to program.

6 Press the blank (unmarked) button to cycle through available choices for each menu item.

7 Press the SEL button to make your choice and return to the main menu.

8 Repeat steps 5 through 7 for each menu item.

9 Remove the jumper wire from the back of the temperature display.

⊙ Result: The display will show SAVE to indicate the programming changes are being saved into memory.

Note: Do not turn the machine off before removing the jumper from the back of the display. If the machine is turned off before the jumper wire is removed, all data may not save completely or correctly. This could result in a fault display of FR IL the next time the machine is turned on.

How to Calibrate the Temperature Sensor Voltage Input

NOTICE Component damage hazard. This procedure requires specific repair skills and testing equipment. Dealer service is strongly recommended.

Note: Calibration of the exhaust manifold temperature sensor should only be performed by individuals experienced in calibrating electronic equipment.

Note: Allow the temperature sensor to warm up for 30 minutes before performing the calibration procedure.

Note: The calibration procedure should be performed at an ambient temperature between 59° to 95° F / 15° to 35° C.

1 Push in the red Emergency Stop buttons to the off position at both the ground and platform controls.

2 Open the ground control box and locate the temperature display.

3 Connect a jumper wire between the PROGRAM and COMM terminals on the back of the temperature display.

4 Tag and disconnect the thermocouple wires from the TC + and TC - terminals of the temperature display.

5 Use a precision DC voltage power supply with an output range of -10 mV DC to 60 mV DC and an accuracy of 0.03% or better. Connect the positive and negative leads of the power supply to the TC + and TC - terminals on the back the temperature display.

6 Turn the key switch to ground control and pull out the red Emergency Stop button to the on position at the ground controls.

7 Turn on the power supply and set it to -10 mV DC.

8 Press the SEL button until CAL is shown on the display.

9 Press the blank (unmarked) button to select YES.

⊙ Result: The display will show "00000".

10 Press the blank (unmarked) button to increment the access code until the display shows "00006".

11 Press and hold the SEL button. After entering the correct access code, the display will show IN 1. Follow the table below for the calibration sequence.

Note: The display will show CALC for approximately 3 seconds after pressing the SEL button before proceeding to the next input point.

Note: After the calibration sequence is complete, the display will show CAL.

12 Exit the programming mode by removing the jumper wire from the back of the temperature display.

⊙ Result: The display will show SAVE to indicate the programming changes are being saved into memory.

Note: Do not turn the machine off before removing the jumper from the back of the display. If the machine is turned off before the jumper wire is removed, all data may not save completely or correctly. This could result in a fault display of FR IL the next time the machine is turned on.

13 Perform procedure *Test the Exhaust Manifold Temperature Display* to verify voltage calibration.

14 Repeat the calibration procedure if necessary.

Display	Parameter	Action
IN1	-10mV DC	Apply -10mV DC, wait 5 seconds, press SEL button
IN2	0 mV DC	Apply 0 mV DC, wait 5 seconds, press SEL button.
IN3	10 mV DC	Apply 10 mV DC, wait 5 seconds, press SEL button.
IN4	20 mV DC	Apply 20 mV DC, wait 5 seconds, press SEL button.
IN5	30 mV DC	Apply 30 mV DC, wait 5 seconds, press SEL button.
IN6	40 mV DC	Apply 40 mV DC, wait 5 seconds, press SEL button.
IN5	50 mV DC	Apply 50 mV DC, wait 5 seconds, press SEL button.
IN5	60 mV DC	Apply 60 mV DC, wait 5 seconds, press SEL button.

How to Program the Temperature Offset

Note: This procedure will only need to be performed if the temperature display is being replaced or if the saved data is corrupted and needs to be reset.

Note: Genie programs a default value of +30° F / -1.1° C for temperature offset.

1 See *How to Program the Temperature Display* and access the OFSET menu item.

2 To enter the offset value, press the blank (unmarked) button to increment the flashing digit or the sign of the number. To select a new digit or sign of the number, press the SEL button.

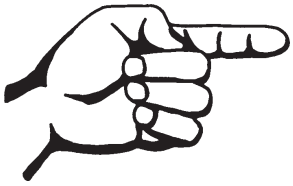
Note: If no digits are flashing, press the blank button to toggle the sign of the number or press the SEL button to wrap around to the LSD.

3 After the desired offset value is on the display, press and hold the SEL button for 3 seconds to enter the value and return to the main menu.

4 Remove the jumper wire from the back of the temperature display.

⊙ Result: The display will show SAVE to indicate the programming changes are being saved into memory.

Note: Do not turn the machine off before removing the jumper from the back of the display. If the machine is turned off before the jumper wire is removed, all data may not save completely or correctly. This could result in a fault display of FR IL the next time the machine is turned on.



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REV B

Repair Procedures



Observe and Obey:

- ☑ Repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.

Before Repairs Start:

- ☑ Read, understand and obey the safety rules and operating instructions in the *Genie Z-45/25 Bi-Energy & Genie Z-45/25J Bi-Energy Operator's Manual* on your machine.
- ☑ Be sure that all necessary tools and parts are available and ready for use.
- ☑ Read each procedure completely and adhere to the instructions. Attempting shortcuts may produce hazardous conditions.
- ☑ Unless otherwise specified, perform each repair procedure with the machine in the following configuration:
  - Machine parked on a firm, level surface
  - Boom in the stowed position
  - Turntable rotated with the boom between the non-steer wheels
  - Turntable secured with the turntable rotation lock
  - Key switch in the off position with the key removed
  - Wheels chocked

About This Section

Most of the procedures in this section should only be performed by a trained service professional in a suitably equipped workshop. Select the appropriate repair procedure after troubleshooting the problem.

Perform disassembly procedures to the point where repairs can be completed. Then to reassemble, perform the disassembly steps in reverse order.

Symbols Legend



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NOTICE Used to indicate the presence of a potentially hazardous situation which, if not avoided, may result in property damage.

⊙ Indicates that a specific result is expected after performing a series of steps.

Steer Axle Components

REV B

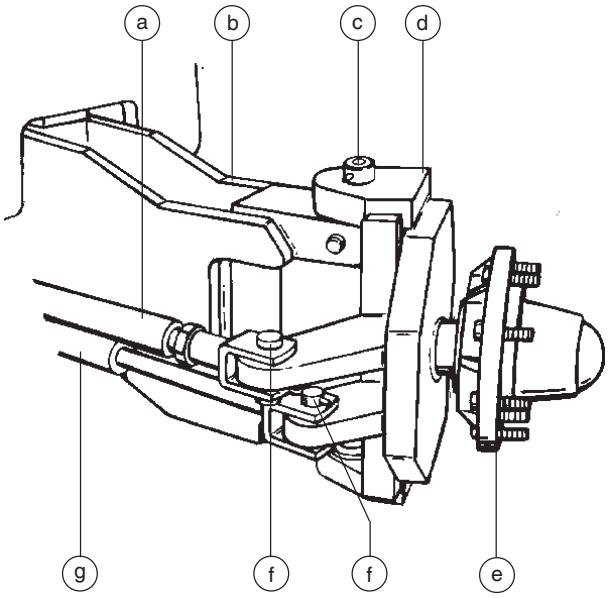
Yoke and Hub

How to Remove the Yoke and Hub

The yoke installation utilizes bushings in the axle and a thrust washer that may require periodic replacement.

1 Remove the cotter pin from the steer cylinder rod-end clevis pin and remove the cotter pin from the tie rod clevis pin. Remove the clevis pins.

Note: Always use a new cotter pin when installing a clevis pin.



a tie rod
b steer axle
c yoke pivot pin
d yoke
e hub
f pivot pin
g steer cylinder

2 Loosen the wheel lug nuts. Do not remove them.

3 Block the non-steer wheels, and then center a lifting jack of ample capacity under the steer axle.

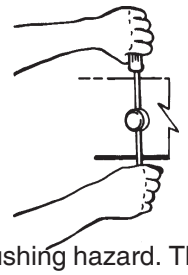
4 Raise the machine 6 inches / 15 cm and place blocks under the chassis for support.

5 Remove the lug nuts. Remove the tire and wheel assembly.

6 Remove the pin retaining fasteners from the yoke pivot pins. Do not remove the pins.

7 Support and secure the yoke/hub assembly to a lifting jack.

8 Place a rod through the upper yoke pivot pin and twist to remove the pin. Use a soft metal drift to drive the lower yoke pivot pin down and out.



⚠CAUTION Crushing hazard. The yoke/hub assembly may become unbalanced and fall when the yoke pivot pins are removed if not properly supported and secured to the lifting jack.

Torque specifications	
Lug nut torque, dry	125 ft-lbs 169.5 Nm
Lug nut torque, lubricated	94 ft-lbs 127.4 Nm

How to Remove the Hub and Bearings

1 Loosen the wheel lug nuts. Do not remove them.

2 Block the non-steer wheels and place a lifting jack of ample capacity under the steering axle.

3 Raise the machine 6 inches / 15 cm and place blocks under the chassis for support.

4 Remove the lug nuts. Remove the tire and wheel assembly.

5 Remove the dust cap, cotter pin and castle nut.

6 Pull the hub off the spindle. The washer and outer bearing should fall loose from the hub.

7 Place the hub on a flat surface and gently pry the bearing seal out of the hub. Remove the rear bearing.

How to Install the Hub and Bearings

Note: When replacing a wheel bearing, both the inner and outer bearings including the pressed-in races must be replaced.

1 Be sure that both bearings are packed with clean, fresh grease.

2 Place the large inner bearing into the rear of the hub.

3 Press the bearing seal evenly into the hub until it is flush.

4 Slide the hub onto the yoke spindle.

NOTICE Component damage. Do not apply excessive force or damage to the lip of the seal may occur.

5 Place the outer bearing into the hub.

6 Install the washer and castle nut.

7 Tighten the castle nut to 150 ft-lbs / 203 Nm to seat the bearing.

8 Loosen the slotted nut, then retighten to 35 ft-lbs / 48 Nm.

9 Install a new cotter pin. Bend the cotter pin to lock it in.

10 Install the dust cap, then the tire and wheel assembly. Torque the wheel lug nuts to 125 ft-lbs / 169.5 Nm.

Steer Cylinders

How to Remove a Steer Cylinder

There are two identical steer cylinders that work in parallel. They are part of the same hydraulic circuit, but move in opposite directions. The tie rod maintains equal movement of the tires.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end must be replaced and then torqued to specification during installation.
Refer to Section Two, *Hydraulic Hose and Fitting Torque Specifications.*

1 Tag, disconnect and plug the hydraulic hoses from the steer cylinder. Cap the fittings on the cylinder.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to
squirt or spray.

2 Remove the cotter pin from the rod-end clevis pin of the steer cylinder. Remove the clevis pin.

3 Remove the cotter pin from the barrel-end clevis pin of the steer cylinder then remove the clevis pin.

Note: Always use a new cotter pin when installing a clevis pin.

4 Remove the steer cylinder from the machine.

Tie Rod

How to Remove the Tie Rod

1 Remove the cotter pins from the clevis pins at each end of the tie rod, then remove the clevis pins.

2 Remove the tie rod.

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Non-steer Axle Components

Drive Motor

How to Remove a Drive Motor

1 Disconnect the battery packs.

2 Remove the fasteners from the cover on the non-steer axle. Remove the cover.

3 Tag and disconnect the power cables and relay wiring from the drive motor.

⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

4 Remove the drive motor mounting fasteners.

5 Guide the drive motor shaft out of the brake and then remove the drive motor from the machine.

Torque Hub

How to Remove a Drive Torque Hub

Note: The drive motor must be removed in order to access the torque hub mounting bolts.

Note: When removing a hose assembly or fitting, the O-ring on the fitting and/or hose end must be replaced and then torqued to specification during installation.
Refer to Section Two, *Hydraulic Hose and Fitting Torque Specifications.*

1 Remove the drive motor. See, *How to Remove a Drive Motor*.

2 Disconnect the hydraulic hose from the brake and plug it. Remove the hydraulic fitting and the bleed valve.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

3 Chock the steer wheels.

4 Loosen the wheel lug nuts. Do not remove them.

5 Center a lifting jack of ample capacity under the non-steer axle. Raise the machine approximately 6 inches / 15.2 cm and place blocks under the chassis for support.

6 Remove the wheel lug nuts, then the tire and wheel assembly.

7 Place a second lifting jack under the torque hub for support. Secure the torque hub to the lifting jack.

8 Remove the torque hub mounting bolts that attach the torque hub to the non-steer axle.

9 Remove the torque hub from the machine.

⚠CAUTION Crushing hazard. The torque hub may become unbalanced and fall when the mounting fasteners are removed if not properly supported and secured to the lifting jack.

Torque specifications	
Lug nut torque, dry	125 ft-lbs 169.5 Nm
Lug nut torque, lubricated	94 ft-lbs 127.4 Nm
Drive torque hub mounting bolts	210 ft-lbs 285 Nm

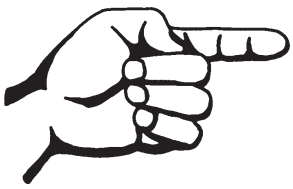
Fiberglass Covers

REV A

Repair or Replacement of a Fiberglass Cover

Repair: Minor damage, including small holes, cracks and chips in a fiberglass cover may be repaired by a qualified repair facility.

Replacement: Replacement of a fiberglass cover when the structural integrity has been compromised due to excessive damage is required.

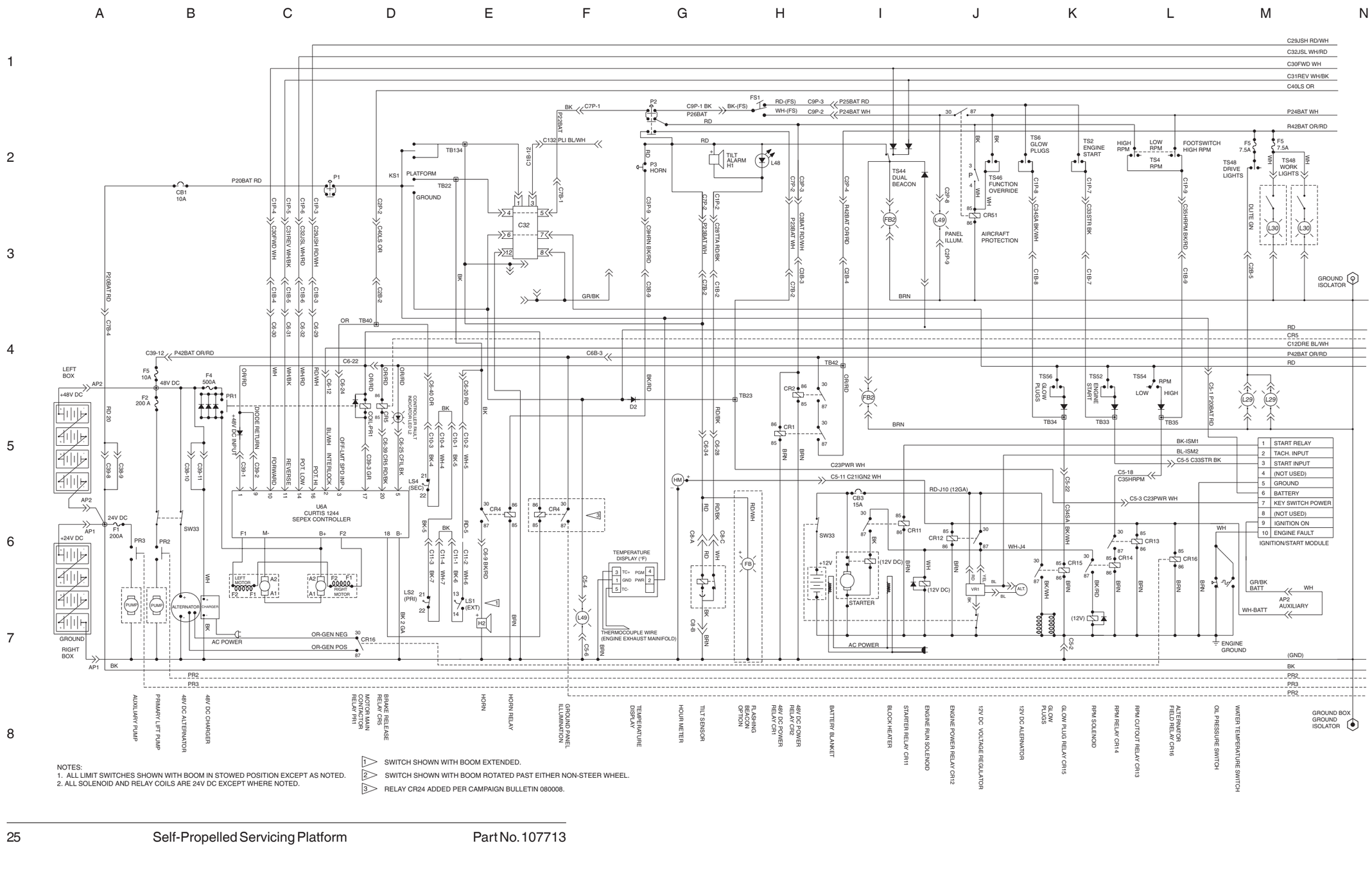


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Electrical Schematic

Electrical Schematic

REV C

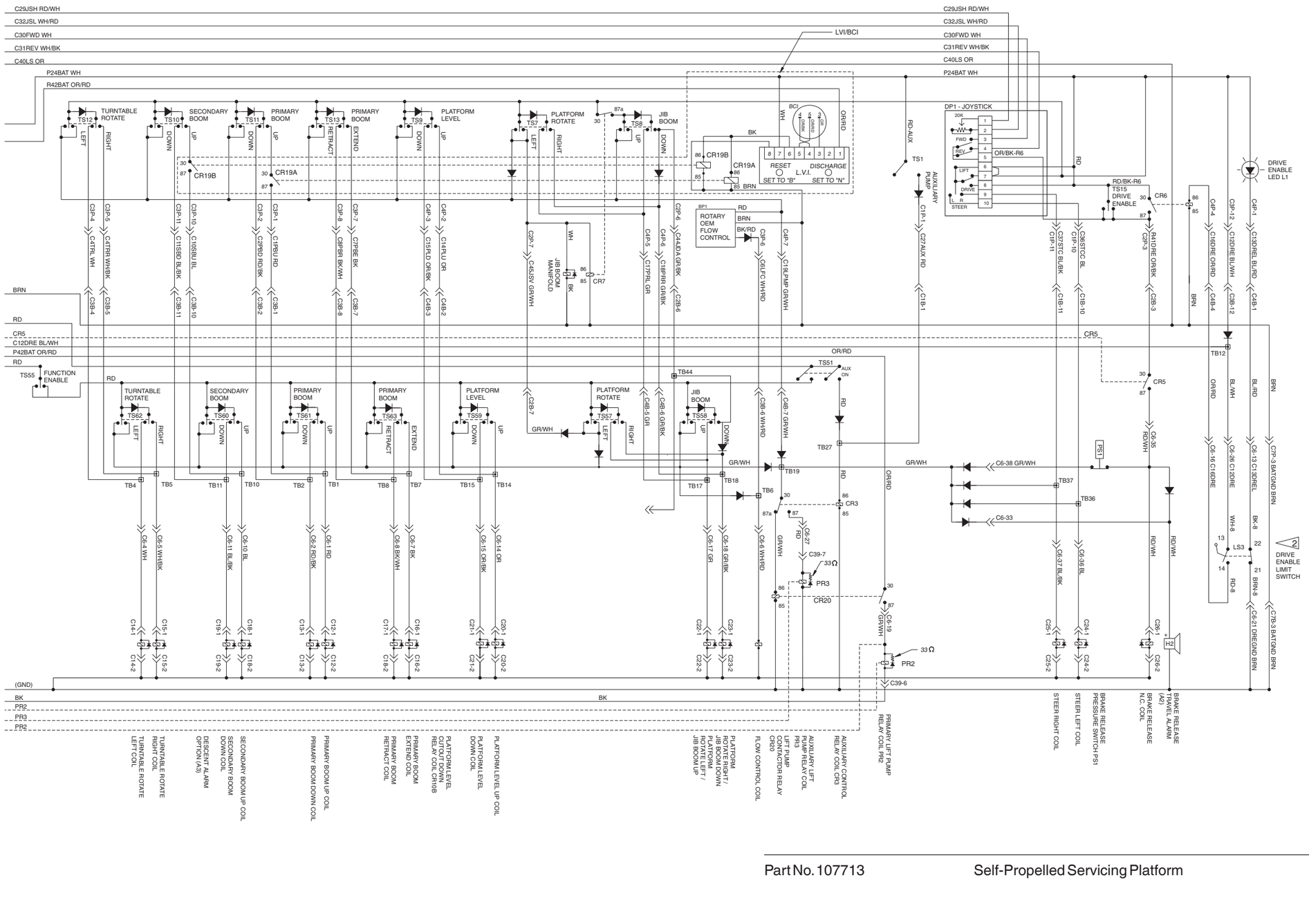


NOTES:
1. ALL LIMIT SWITCHES SHOWN WITH BOOM IN STOWED POSITION EXCEPT AS NOTED.
2. ALL SOLENOID AND RELAY COILS ARE 24V DC EXCEPT WHERE NOTED.

1 SWITCH SHOWN WITH BOOM EXTENDED.
Δ1 SWITCH SHOWN WITH BOOM ROTATED PAST EITHER NON-STEER WHEEL.
Δ3 RELAY CR24 ADDED PER CAMPAIGN BULLETIN 080008.

REV C

Electrical Schematic



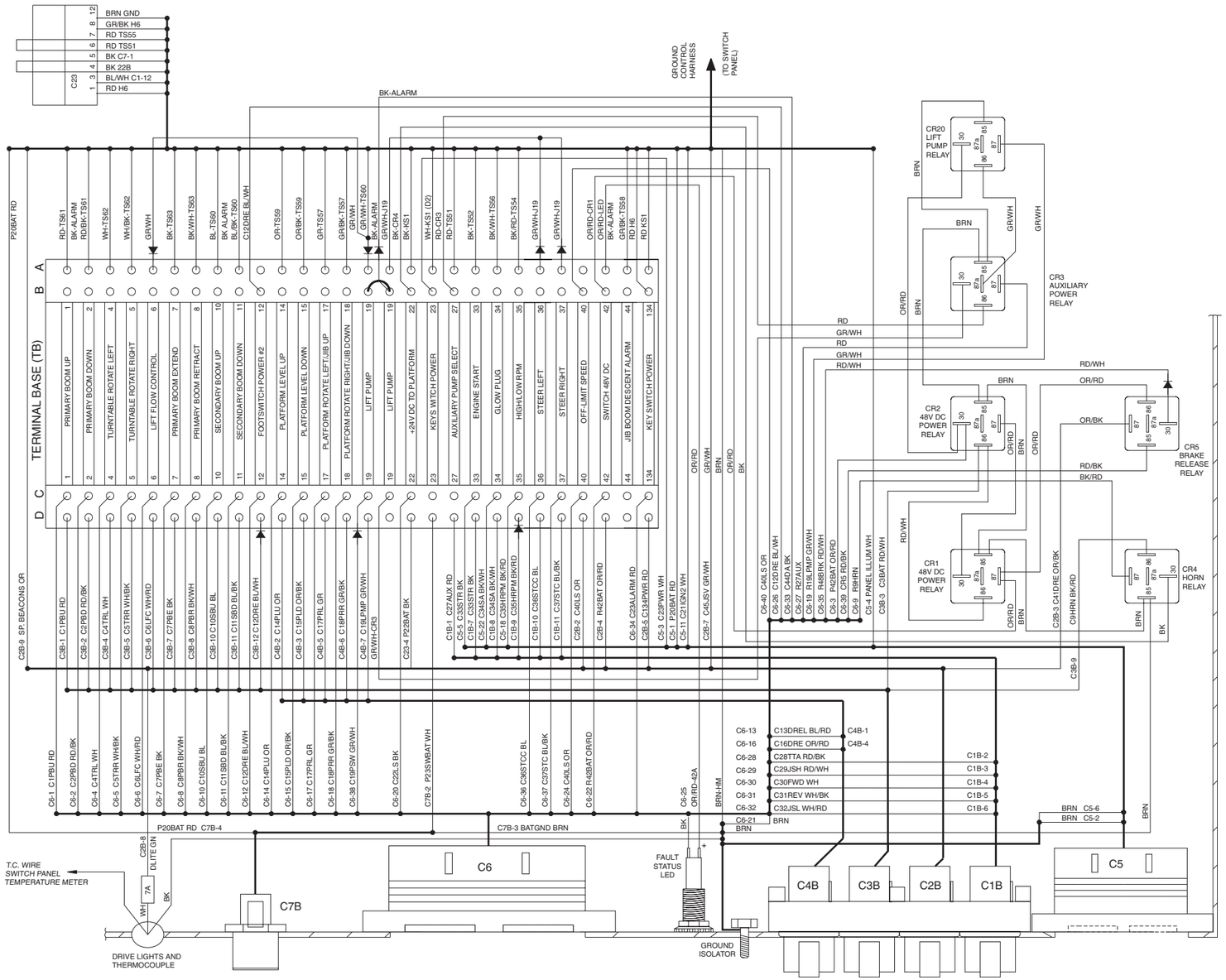
Electrical Schematic



Ground Control Box Terminal Strip Wiring Diagram

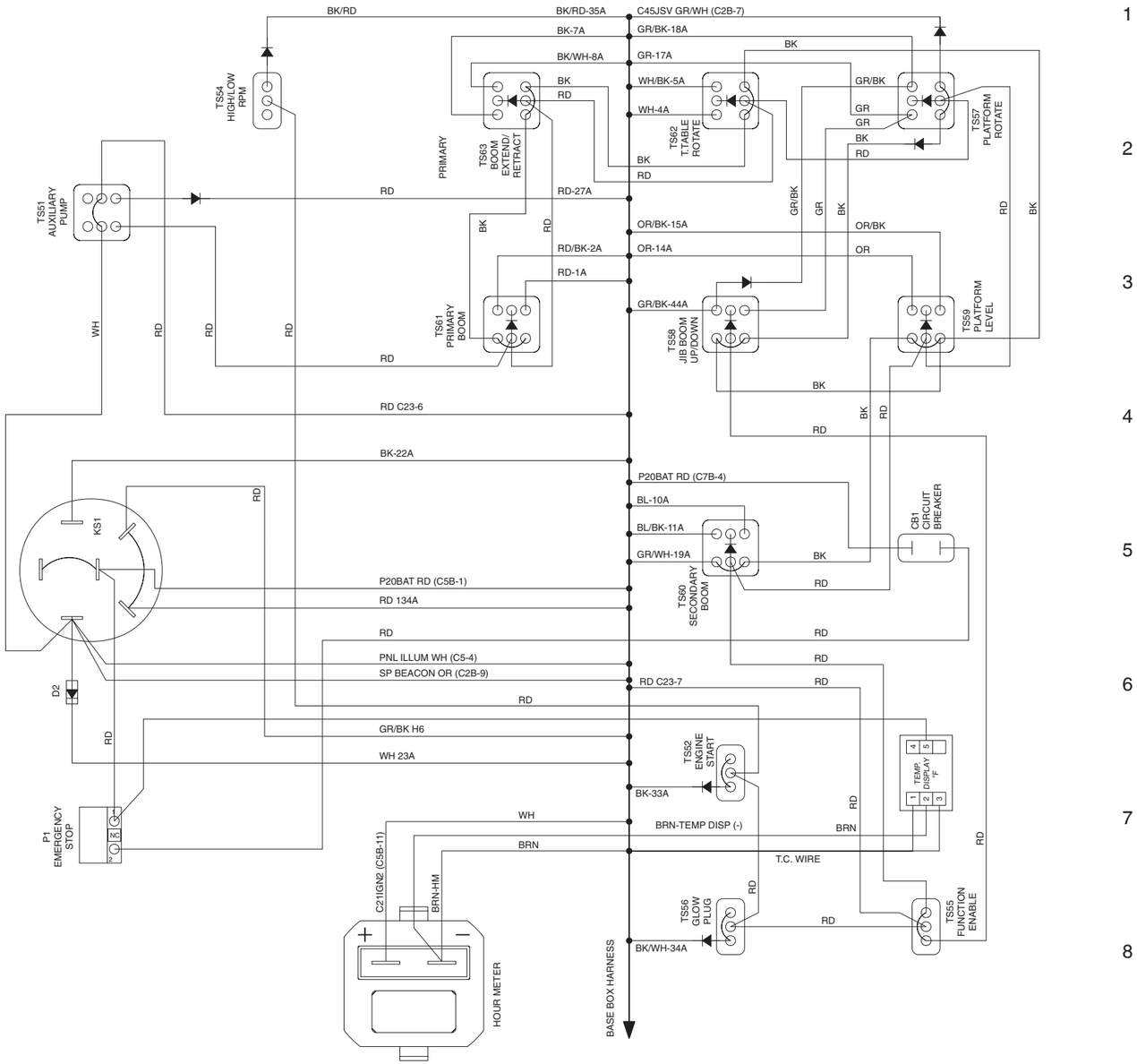
Ground Control Box Terminal Strip Wiring Diagram

REV C



REV C

Ground Control Box Switch Panel Wiring Diagram



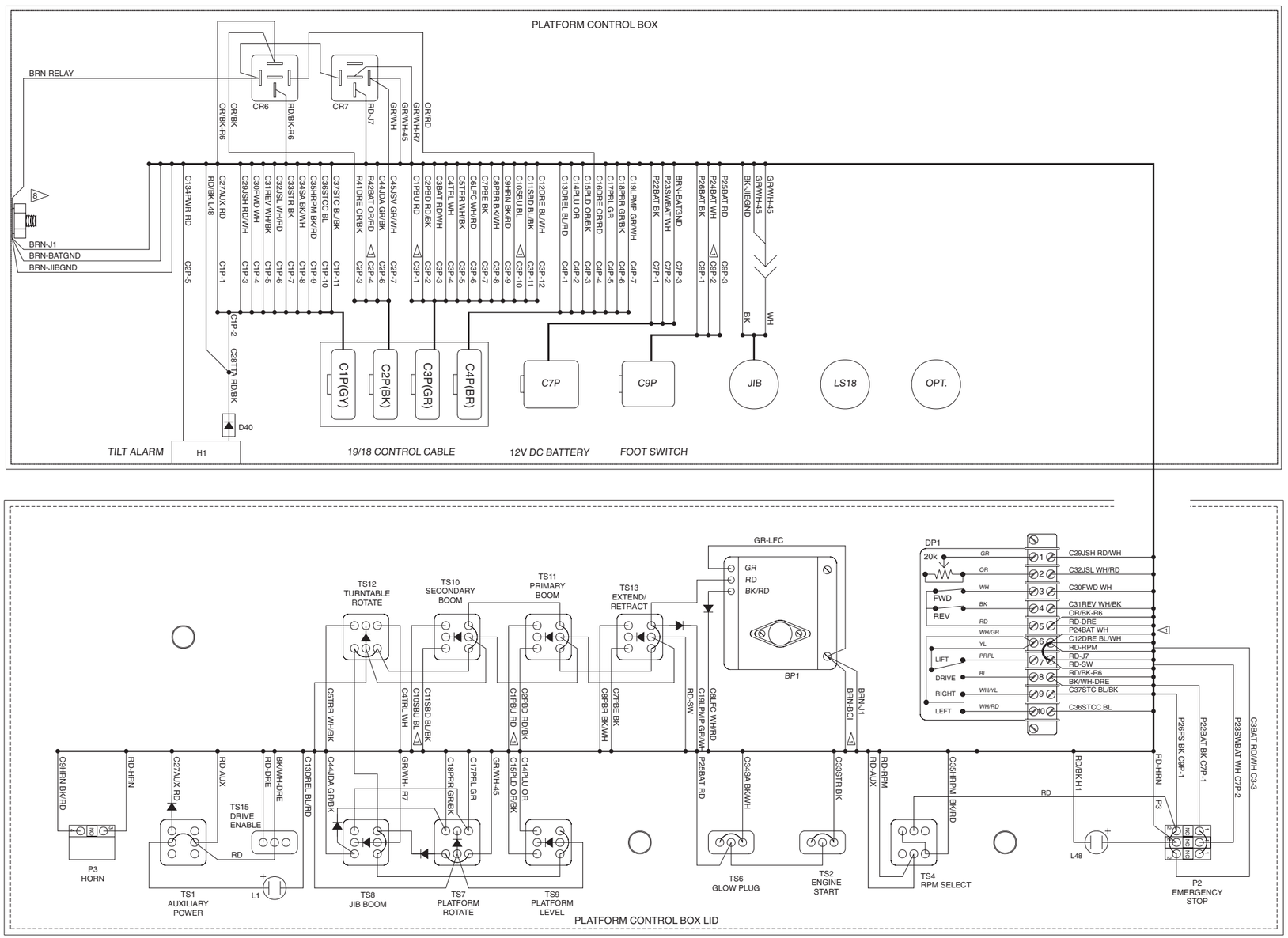
Ground Control Box Switch Panel Wiring Diagram



Platform Control Box Wiring Diagram

Platform Control Box Wiring Diagram

REV C



COMPONENT INDEX

BP1	ROTARY FLOW CONTROL DIAL
DP1	DRIVE JOYSTICK
L1	DRIVE ENABLE LED
P2	EMERGENCY STOP
P3	HORN
TS1	AUXILIARY SWITCH
TS2	ENGINE START TOGGLE SWITCH
TS4	HIGH / LOW RPM TOGGLE SWITCH
TS6	GLOW PLUG TOGGLE SWITCH
TS7	PLATFORM ROTATE TOGGLE SWITCH
TS8	JIB BOOM UP / DOWN SWITCH
TS9	PLATFORM LEVEL TOGGLE SWITCH
TS10	SECONDARY BOOM TOGGLE SWITCH
TS11	PRIMARY BOOM UP / DOWN TOGGLE SWITCH
TS12	TURNTABLE ROTATE TOGGLE SWITCH
TS13	PRIMARY BOOM EXTEND / RETRACT TOGGLE SWITCH
TS15	DRIVE ENABLE TOGGLE SWITCH
H1	TITL ALARM
LS18	PLATFORM OVERLOAD LIMIT SWITCH
L4	PLATFORM OVERLOAD LED
L48	TILT ALARM LED

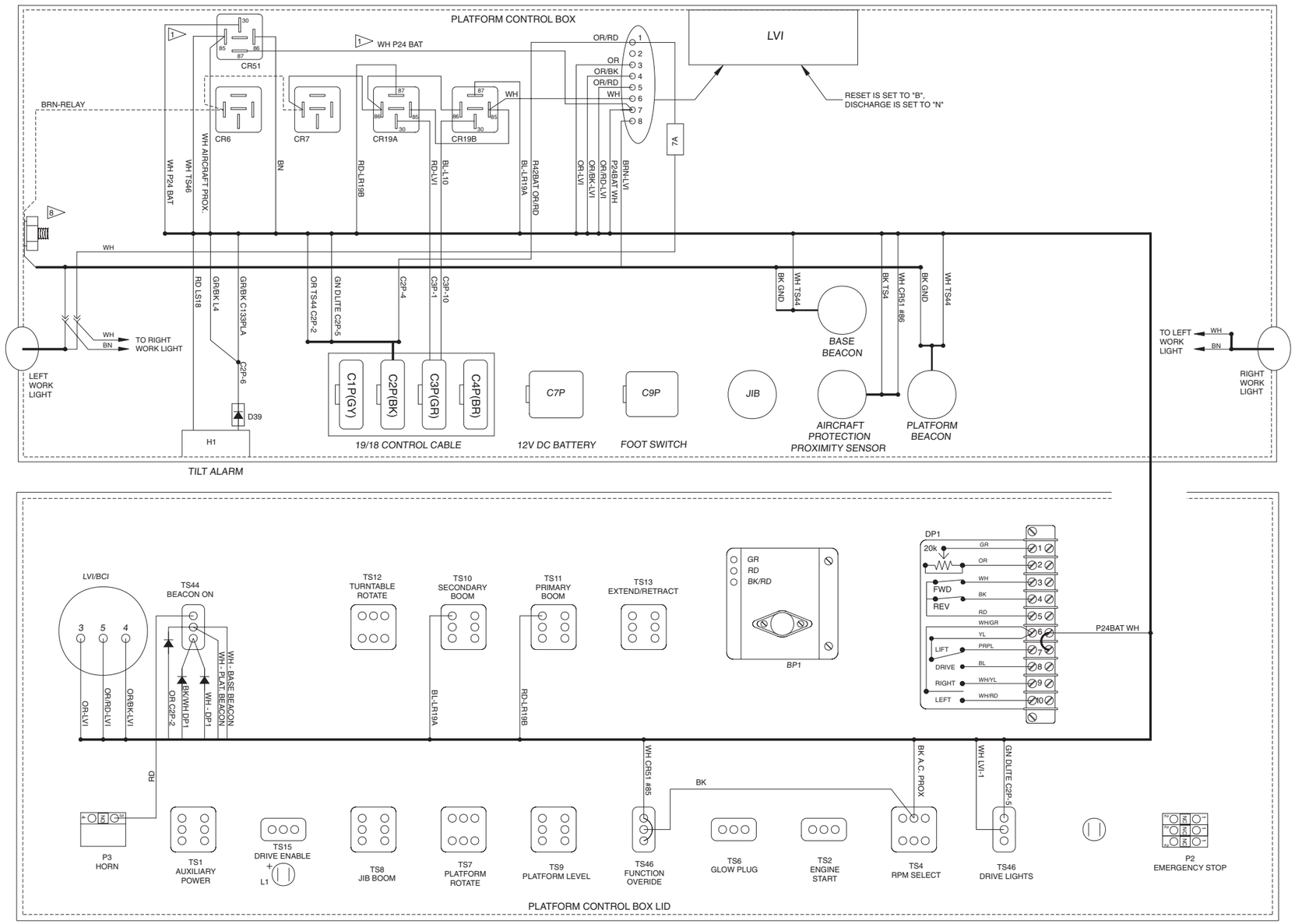
NOTES:

(B-) GROUND (B-) CONNECTIONS ISOLATED FROM CHASSIS W/ INSULATING STUD. C17 BOEING SPECIAL ONLY

REV C

Platform Control Box Switch Panel Wiring Diagram

LVI/BCI Options



COMPONENT INDEX

BCI	BATTERY CHARGE INDICATOR
BP1	ROTARY FLOW CONTROL DIAL
DP1	DRIVE JOYSTICK
L1	DRIVE ENABLE LED
L2	LOAD SENSE LED
LVI	LOW VOLTAGE INTERRUPT MODULE
LVI/BCI	BATTERY CHARGE INDICATOR FOR LVI OPTION
P2	EMERGENCY STOP
P3	HORN
TS1	AUXILIARY TOGGLE SWITCH
TS2	ENGINE START TOGGLE SWITCH
TS4	HIGH / LOW RPM TOGGLE SWITCH
TS6	GLOW PLUG TOGGLE SWITCH
TS7	PLATFORM ROTATE TOGGLE SWITCH
TS8	JIB BOOM UP / DOWN TOGGLE SWITCH
TS9	PLATFORM LEVEL TOGGLE SWITCH
TS10	SECONDARY BOOM TOGGLE SWITCH
TS11	PRIMARY BOOM UP / DOWN TOGGLE SWITCH
TS12	TURNTABLE ROTATE TOGGLE SWITCH
TS13	PRIMARY BOOM EXTEND / RETRACT TOGGLE SWITCH
TS15	DRIVE ENABLE TOGGLE SWITCH
A1	TILT ALARM
LS18	PLATFORM OVERLOAD LIMIT SWITCH
L4	PLATFORM OVERLOAD LED
L48	TILT ALARM LED
CR51	PROXIMITY KILL RELAY

NOTES:

1. CUT FOOTSWITCH POWER AND PLACE RELAY CONTACTS (80 & 37) IN LINE
8. GROUND (B-) CONNECTIONS ISOLATED FROM CHASSIS W/ INSULATING STUD. C17 BOEING SPECIAL ONLY

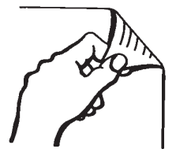
Platform Control Box Switch Panel Wiring Diagram

LVI/BCI Options



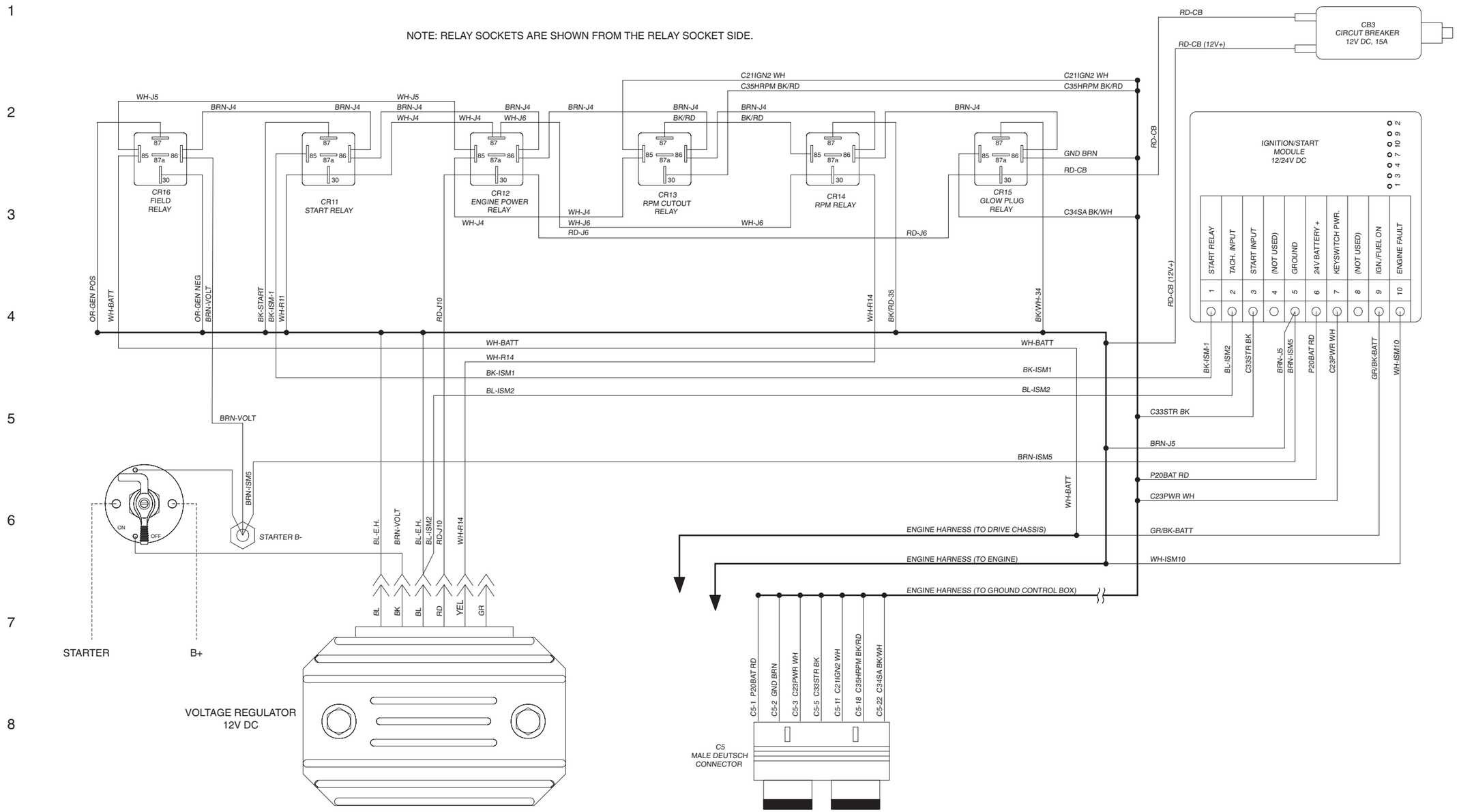
Engine Panel Diagram





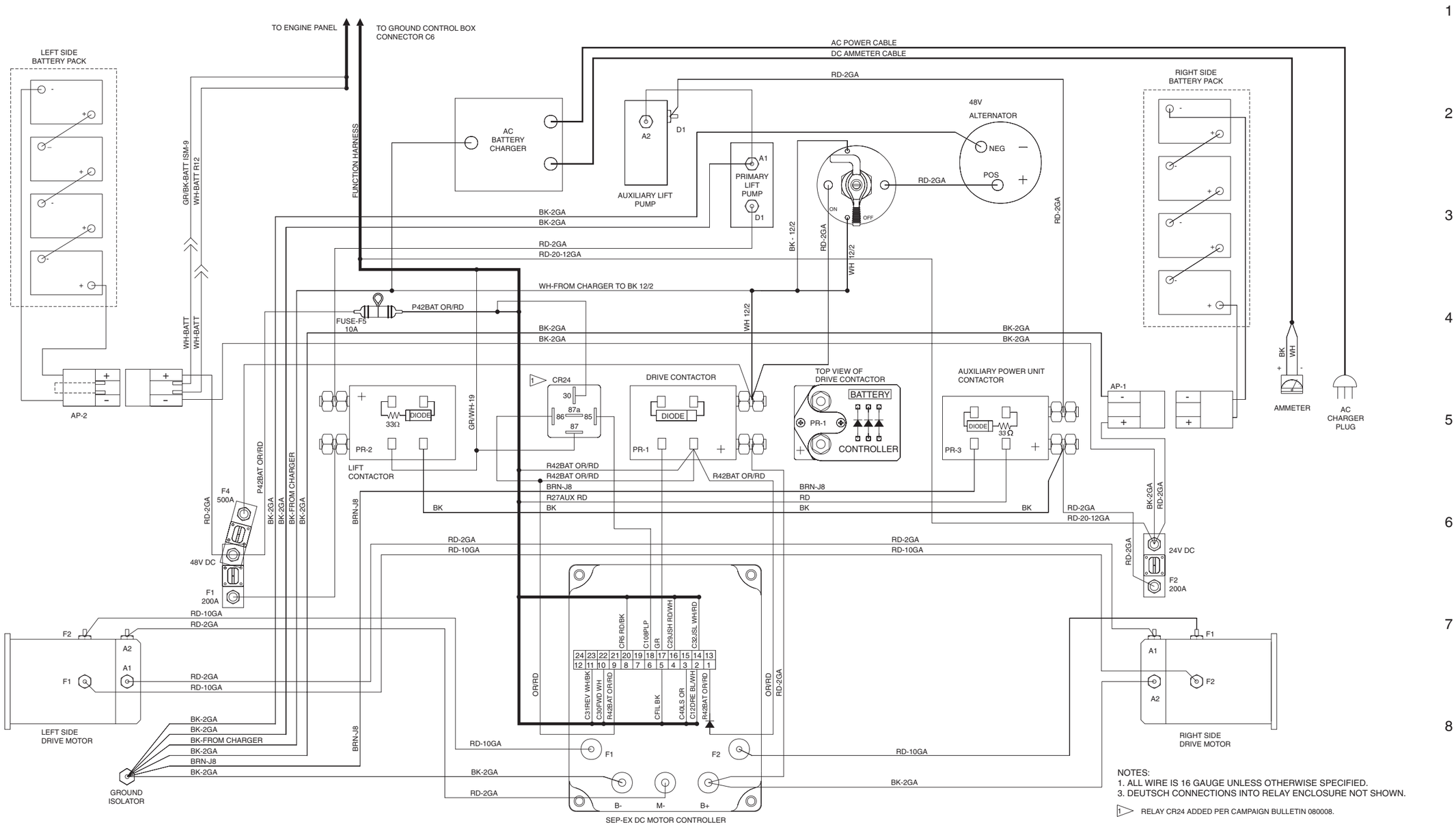
Engine Panel Diagram

REV C



REV C

Power Cable Diagram



NOTES:
1. ALL WIRE IS 16 GAUGE UNLESS OTHERWISE SPECIFIED.
3. DEUTSCH CONNECTIONS INTO RELAY ENCLOSURE NOT SHOWN.

1 RELAY CR24 ADDED PER CAMPAIGN BULLETIN 080008.

Power Cable Diagram

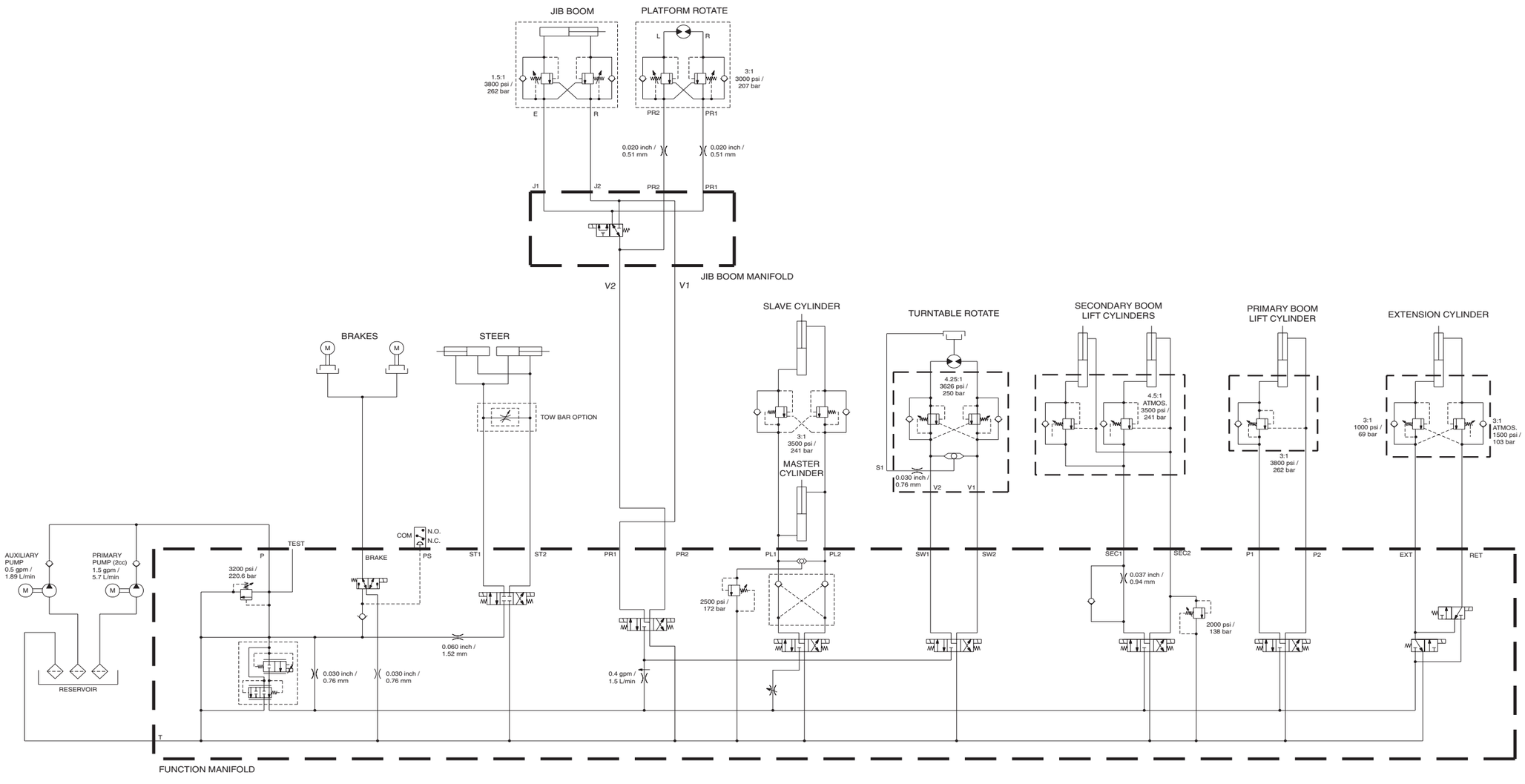


REV C

Hydraulic Schematic

N M L K J I H G F E D C B A

1 2 3 4 5 6 7 8



Hydraulic Schematic



California Proposition 65

WARNING

The exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

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