



## **Z2      Z30/20 Standard & HD G.E. Motor Controller**

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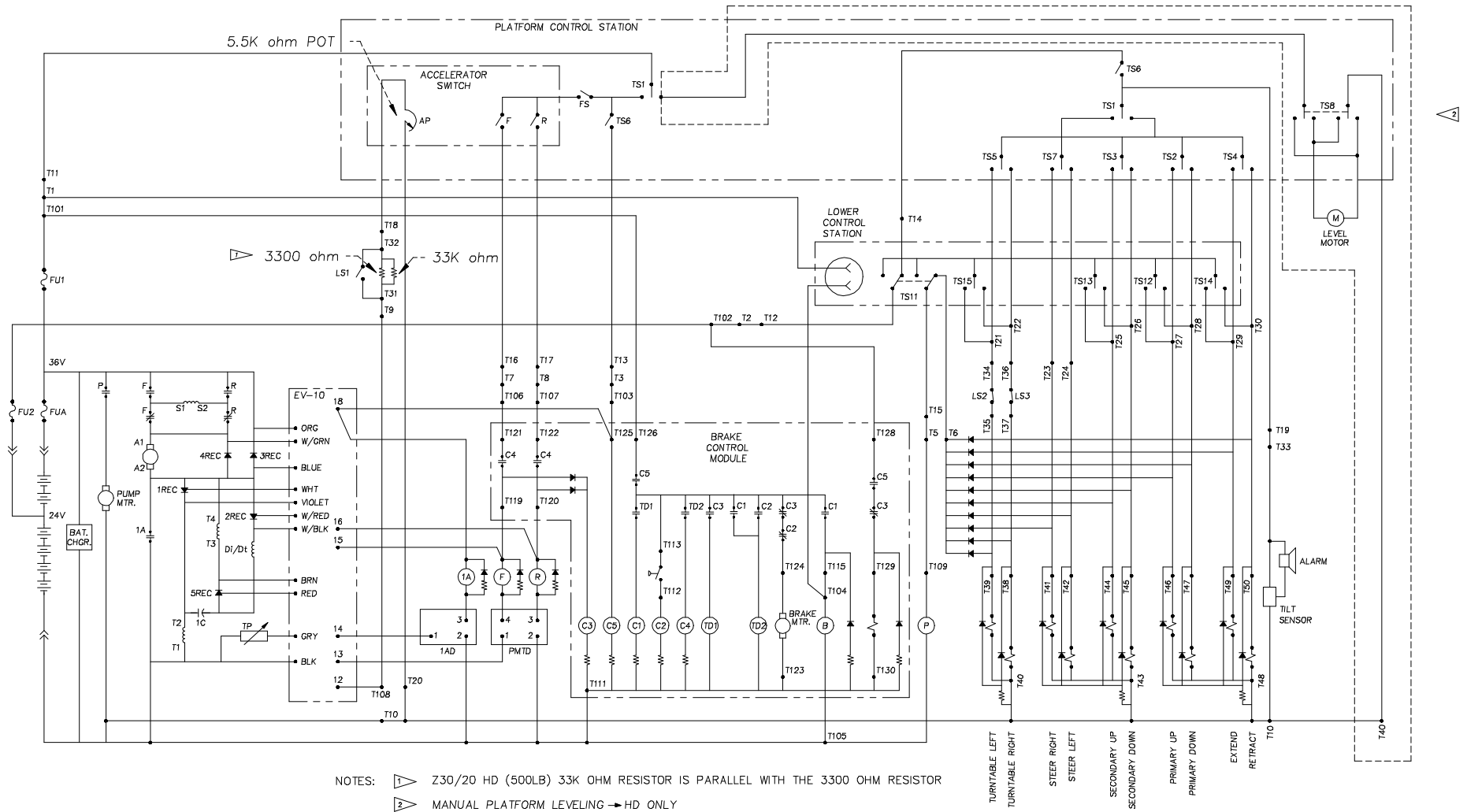
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| <b>Page:</b> | <b>Model:</b> | <b>Serial Number:</b> |
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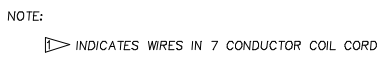
## Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER ELECTRICAL SCHEMATIC





## Z30-20 GE Controller Index

# Z30/20 STANDARD G.E. MOTOR CONTROLLER ELECTRICAL SCHEMATIC (300 LB MODEL) PLATFORM CONTROLLER WIRING DIAGRAM WITH CHASSIS GROUND CIRCUIT







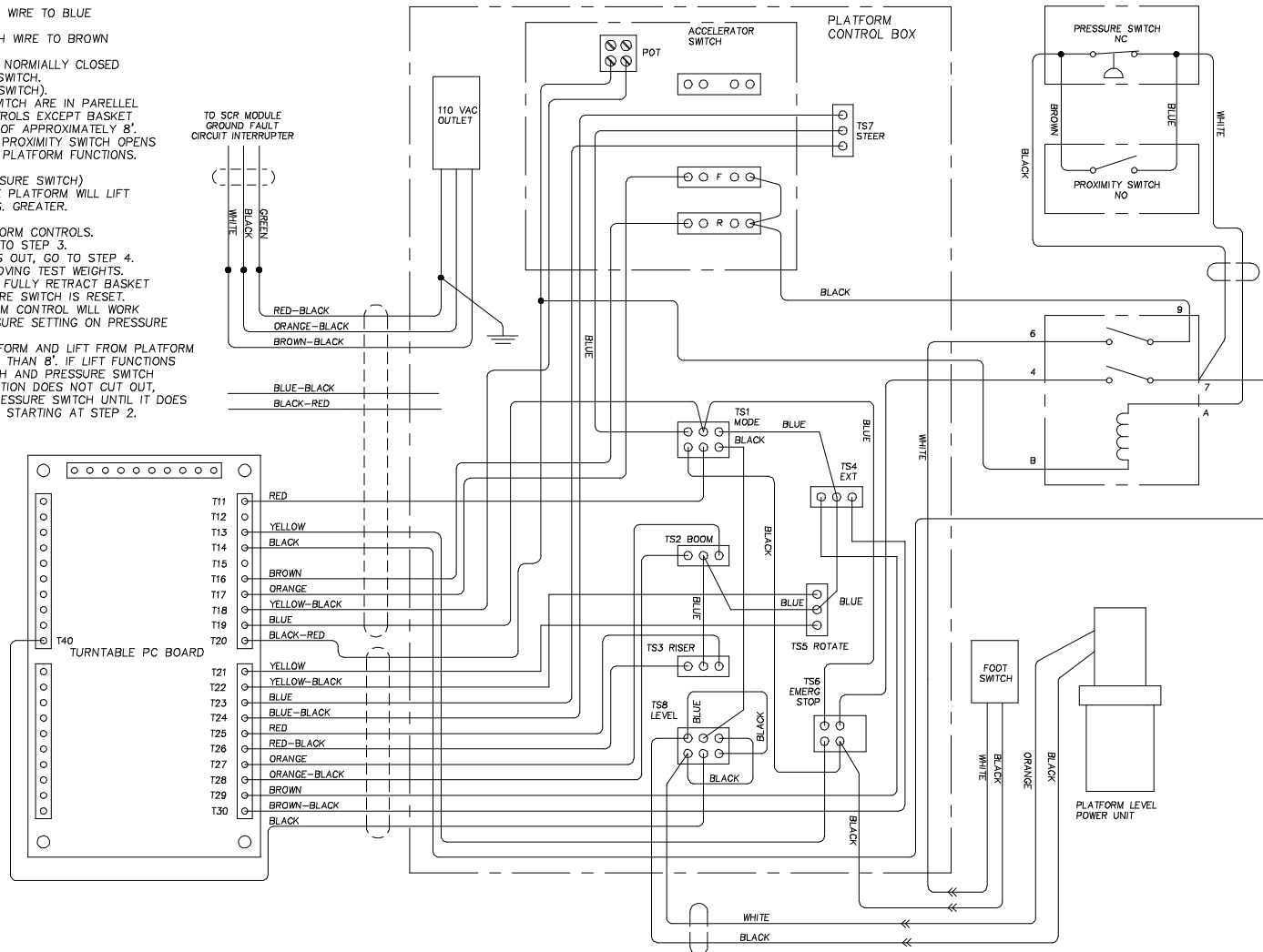
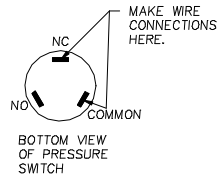
## Z30-20 GE Controller Index

## Z30/20 HD G.E. MOTOR CONTROLLER ELECTRICAL SCHEMATIC (500LB MODEL) WITH LOAD LIMIT PLATFORM CONTROLLER WIRING DIAGRAM WITH ISOLATED GROUND CIRCUIT

### NOTES:

- (LOAD LIMIT SETTING PROCEDURE)
1. CONNECT WHITE PRESSURE SWITCH WIRE TO BLUE PROXIMITY SWITCH WIRE.
  2. CONNECT BLACK PRESSURE SWITCH WIRE TO BROWN PROXIMITY SWITCH WIRE.
  3. MAKE WIRE CONNECTIONS ACROSS NORMALLY CLOSED SET OF CONTACTS ON PRESSURE SWITCH.  
(SEE BOTTOM VIEW OF PRESSURE SWITCH).
  4. THE PROXIMITY AND PRESSURE SWITCH ARE IN PARELLEL CONTROLLING THE PLATFORM CONTROLS EXCEPT BASKET LEVELING TO A PLATFORM HEIGHT OF APPROXIMATELY 8'. AT HEIGHTS GREATER THAN 8'THE PROXIMITY SWITCH OPENS AND PRESSURE SWITCH CONTROLS PLATFORM FUNCTIONS.

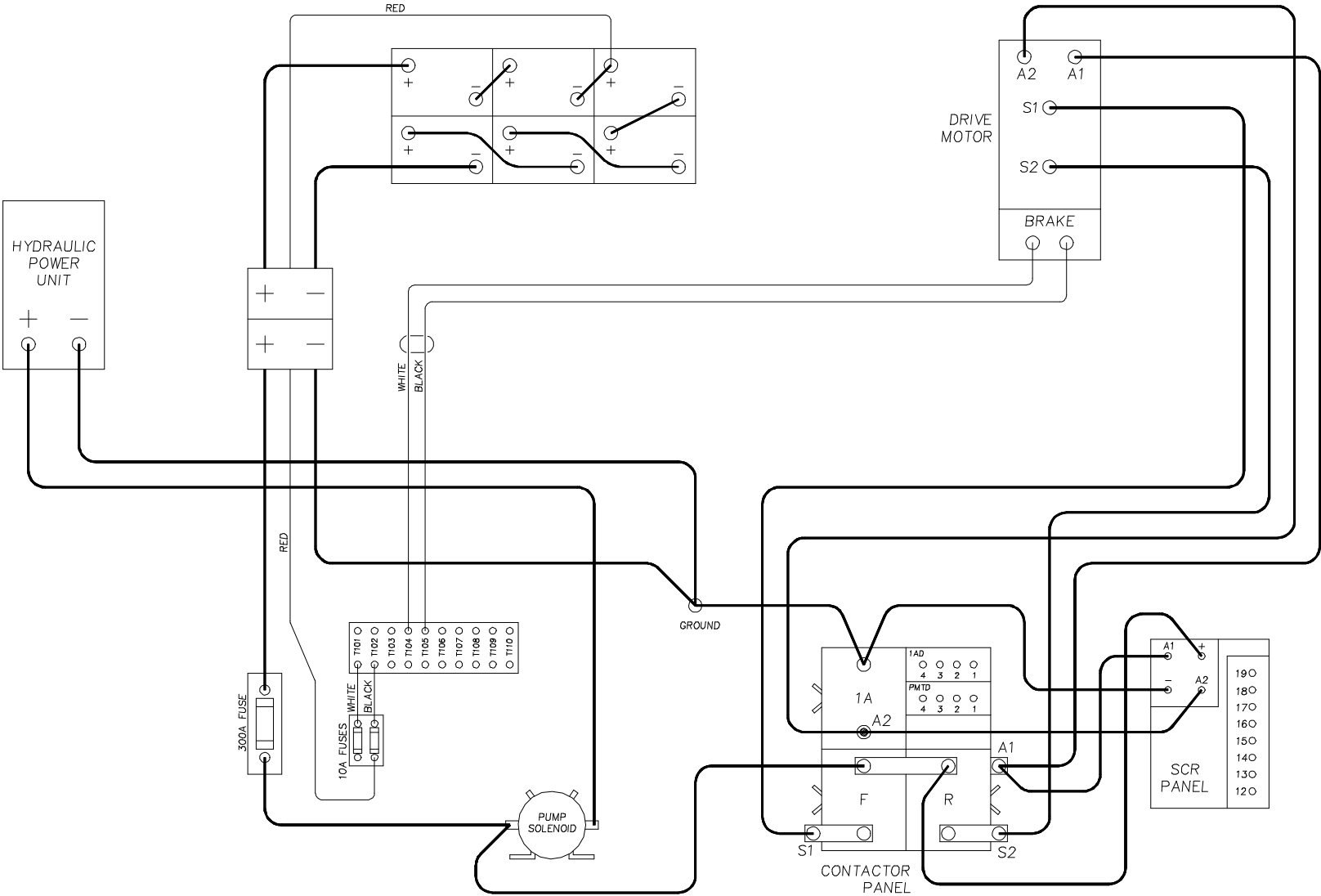
- (PROCEDURE FOR ADJUSTING PRESSURE SWITCH)
1. ADJUST PRESSURE SWITCH SO THE PLATFORM WILL LIFT THE RATED LOAD BUT NOT 50 LBS. GREATER.
  2. PLACE RATED LOAD IN PLATFORM.  
LIFT PLATFORM TO 8' FROM PLATFORM CONTROLS.  
IF LIFT FUNCTIONS CUTS OUT, GO TO STEP 3.
  3. IF LIFT FUNCTIONS DOES NOT CUTS OUT, GO TO STEP 4.  
RESET PRESSURE SWITCH BY REMOVING TEST WEIGHTS.  
IN SOME CASE YOU MAY HAVE TO FULLY RETRACT BASKET LEVELING CYLINDER. WHEN PRESSURE SWITCH IS RESET, THE LIFT FUNCTION FROM PLATFORM CONTROL WILL WORK IN EXCESS OF 8'. INCREASE PRESSURE SETTING ON PRESSURE SWITCH AND REPEAT STEP 2.
  4. PLACE 50 MORE POUNDS IN PLATFORM AND LIFT FROM PLATFORM CONTROLS TO HEIGHT OF GREATER THAN 8'. IF LIFT FUNCTIONS CUTS OUT RESET PRESSURE SWITCH AND PRESSURE SWITCH SETTING IS CORRECT. IF LIFT FUNCTION DOES NOT CUT OUT, REDUCE PRESSURE SETTING ON PRESSURE SWITCH UNTIL IT DOES CUT OUT AND REPEAT PROCEDURE STARTING AT STEP 2.





**Z30-20 GE Controller Index**

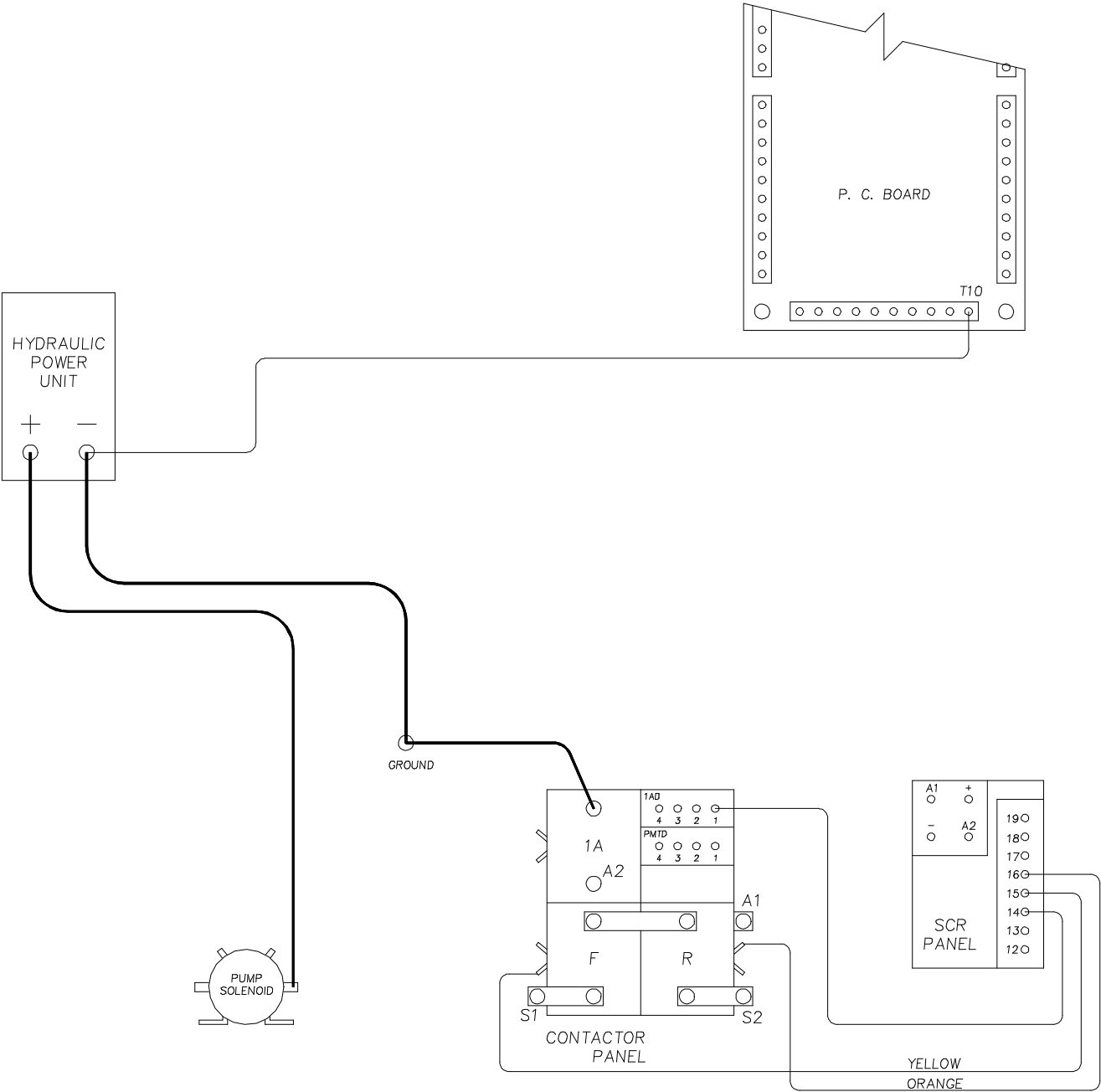
Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
ELECTRICAL SCHEMATIC  
POWER CIRCUIT WIRING DIAGRAM





**Z30-20 GE Controller Index**

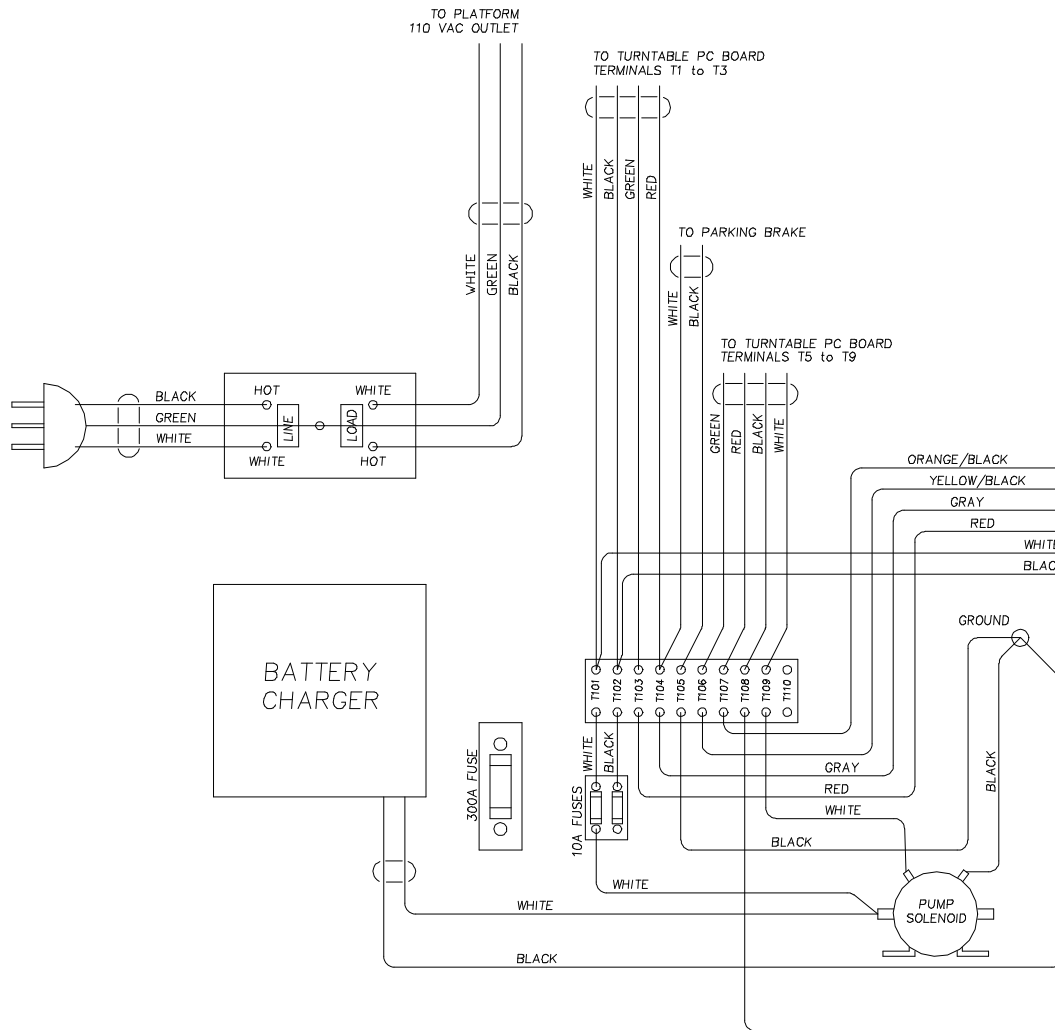
Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
WIRING DIAGRAM  
POWER CIRCUIT WIRING DIAGRAM



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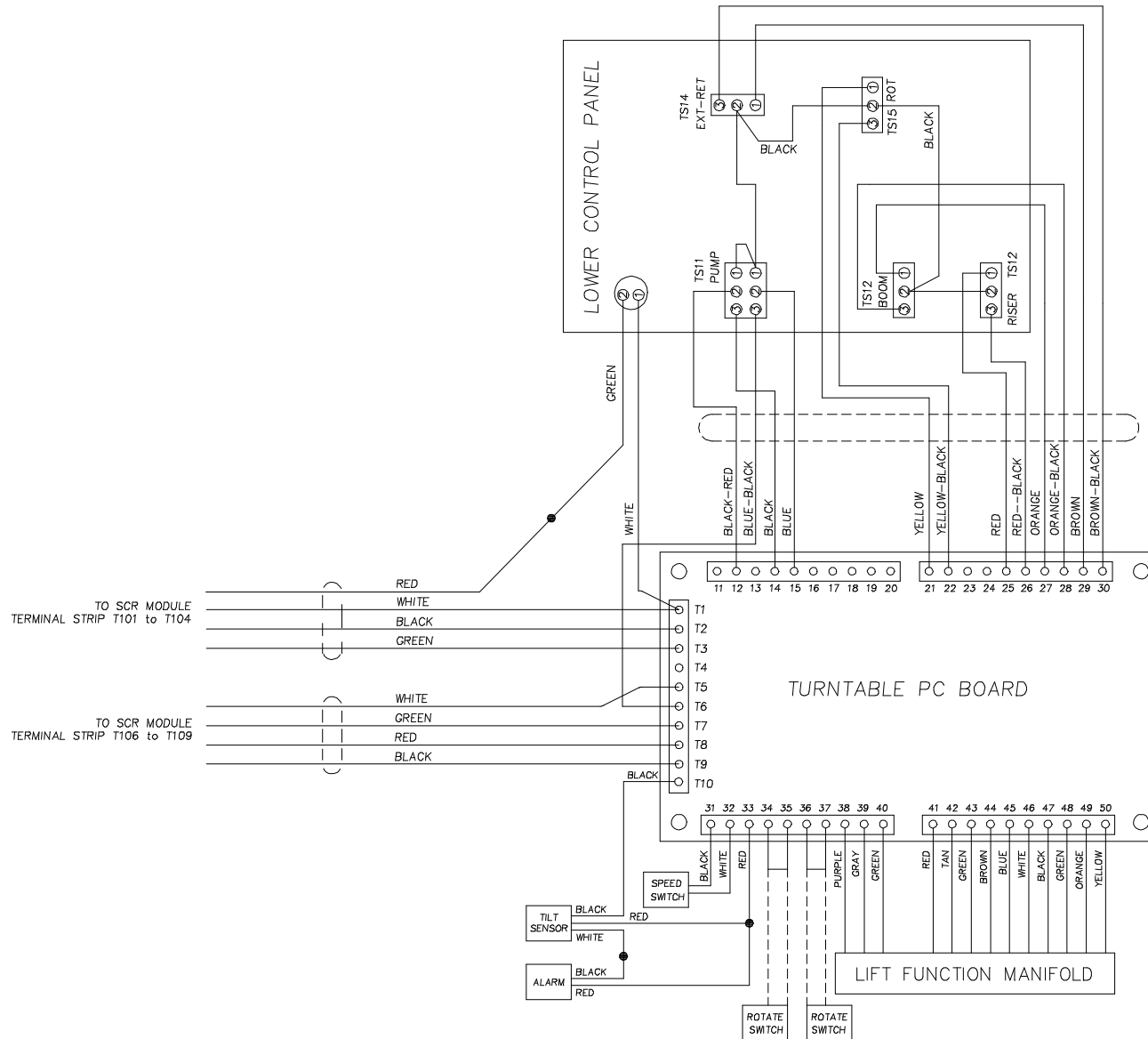
## Z30-20 GE Controller Index





## Z30-20 GE Controller Index

Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
ELECTRICAL SCHEMATIC  
TURNTABLE WIRING DIAGRAM

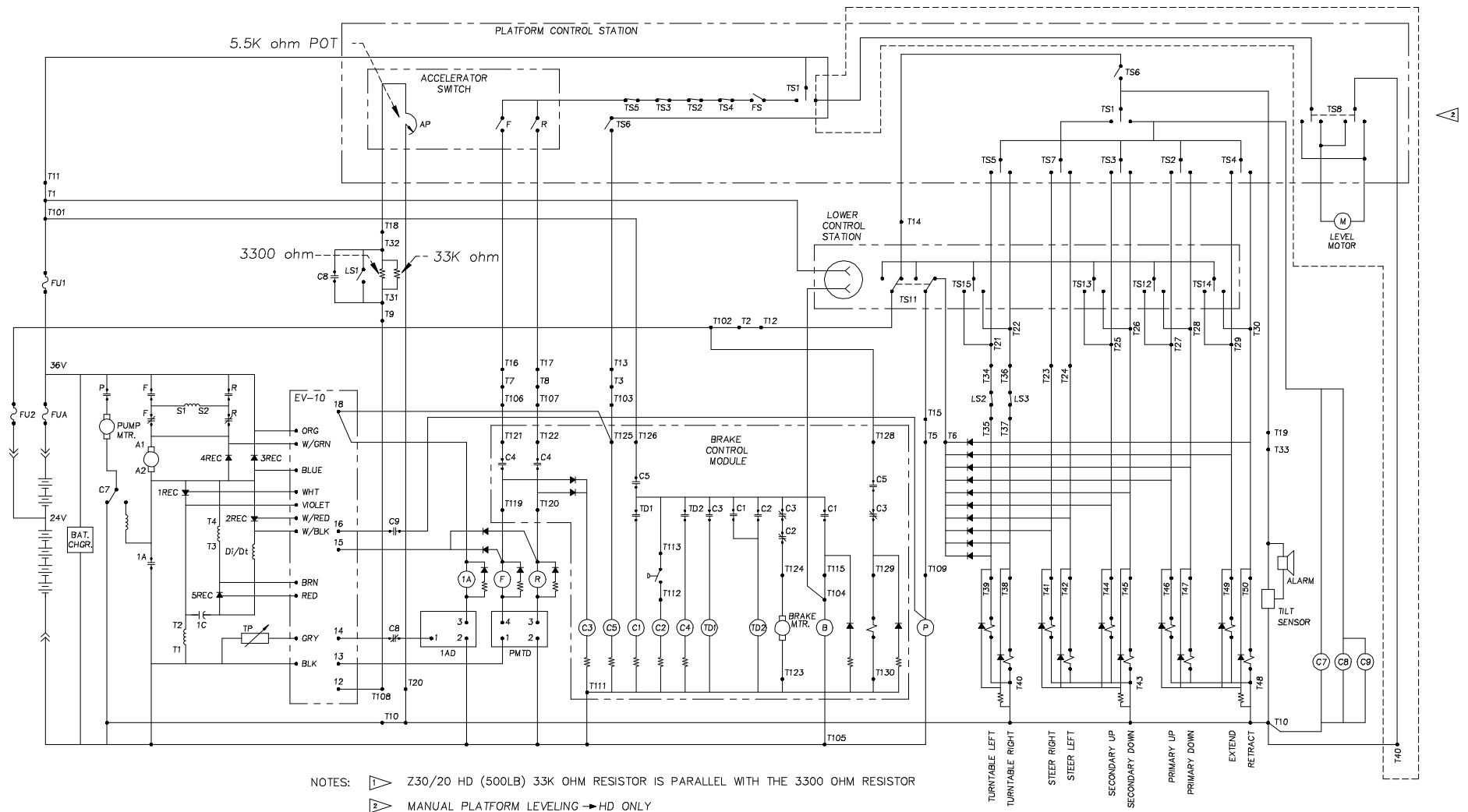


NOTE: ROTATE LIMIT SWITCHES REMOVED AND TERMINALS  
JUMPED TOGETHER WHEN TURNTABLE RING/WORM GEAR  
WAS ADDED.



## Z30-20 GE Controller Index

Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
ELECTRICAL SCHEMATIC  
WITH SCR CONTROLLED BOOM FUNCTIONS





24VS HERE WHEN  
MODE SWITCH IS IN  
LIFT.

HYDRAULIC  
POWER  
UNIT

16/2 SJD WIRE

16/4 SJD WIRE

BLACK

WHITE

GREEN

RED

WHITE

BLACK

BLUE

GROUND

CONTROL  
COMPONENTS  
ASSEMBLY

T109

N.O.

PUMP  
SOLENOID

CONTACTOR  
PANEL

SCR  
PANEL

P. C. BOARD

T32

T31

T10

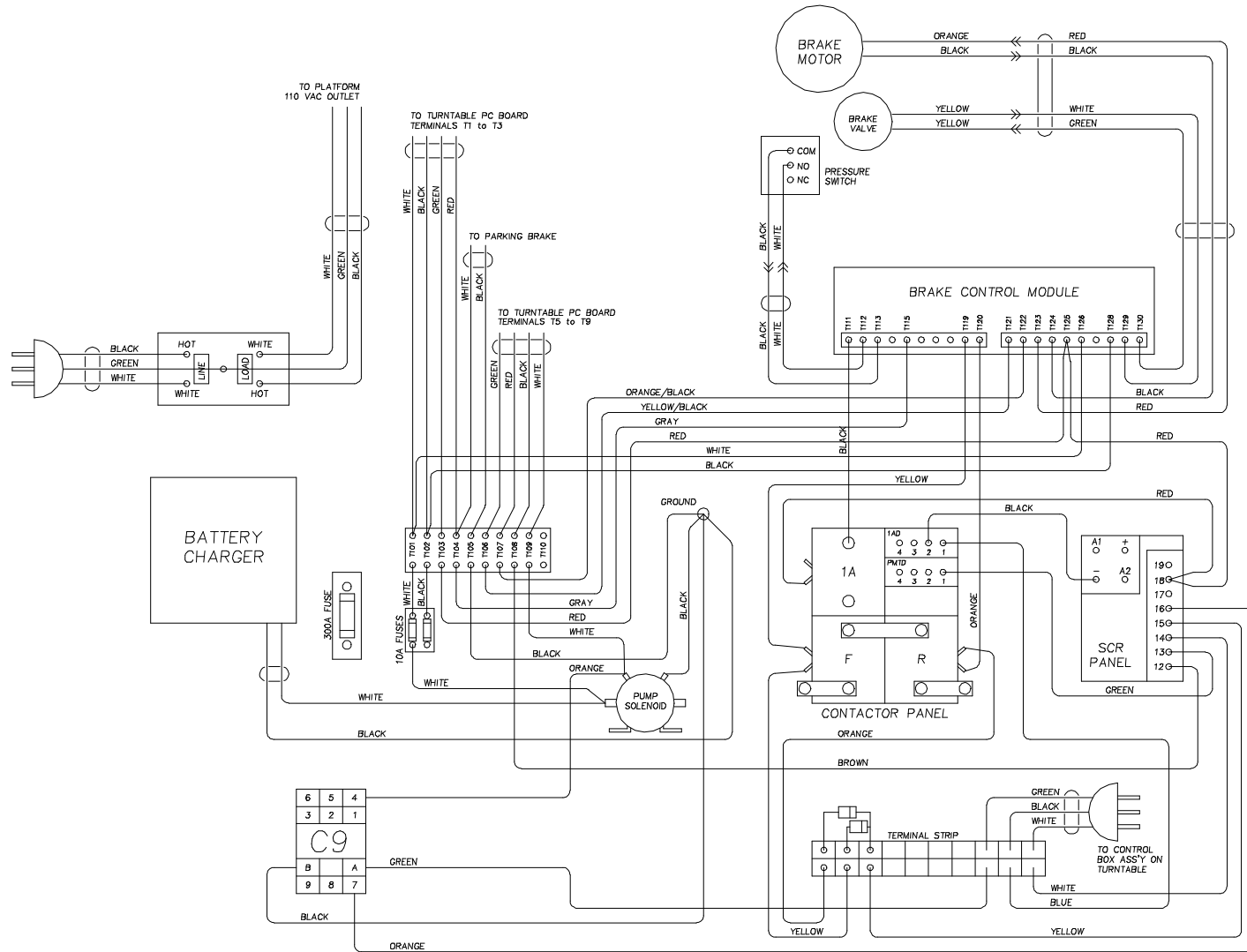
ORANGE

YELLOW



## Z30-20 GE Controller Index

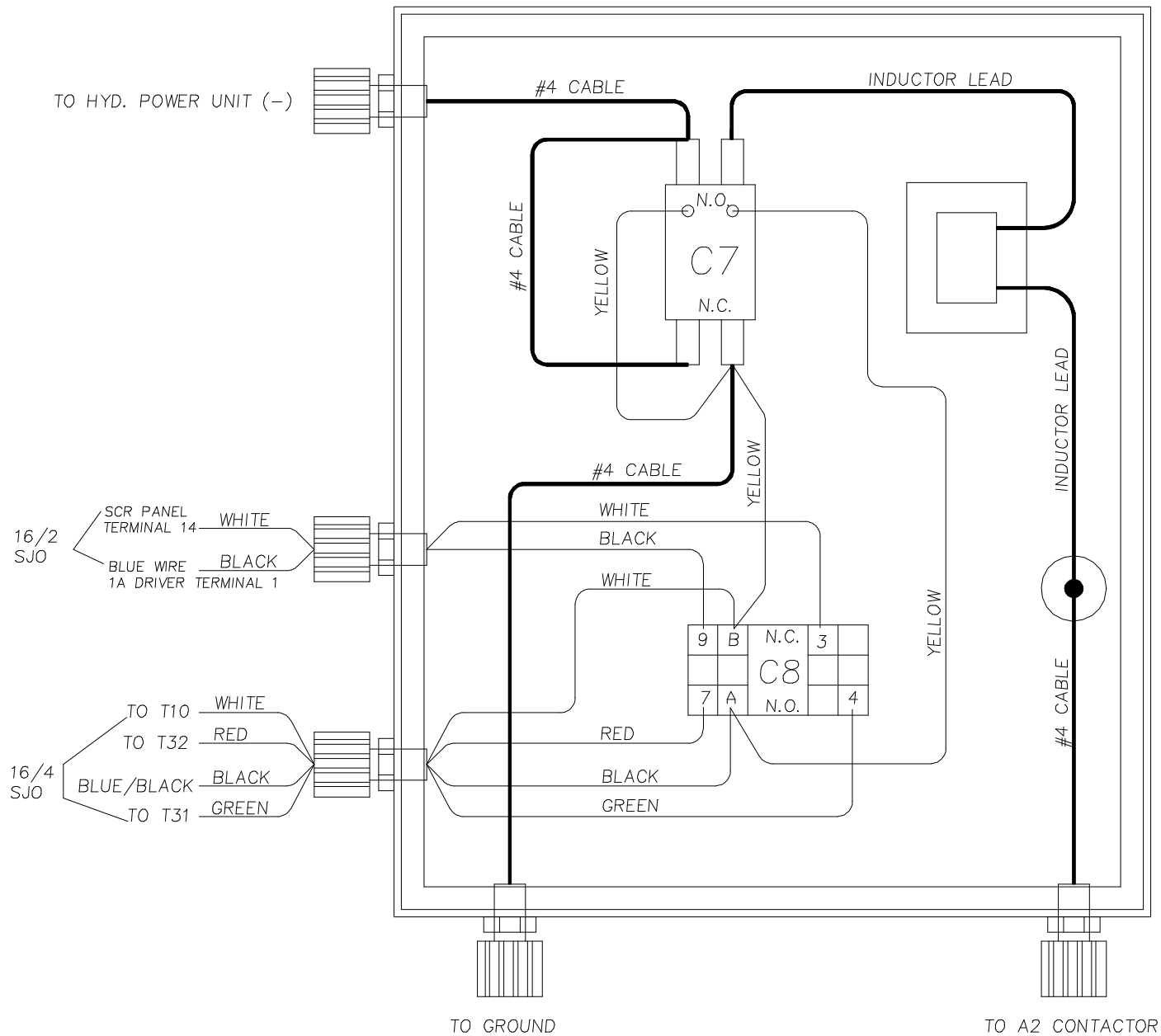
Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
SCR/CHARGER MODULE WIRING DIAGRAM  
WITH SCR CONTROLLED BOOM FUNCTIONS





## Z30-20 GE Controller Index

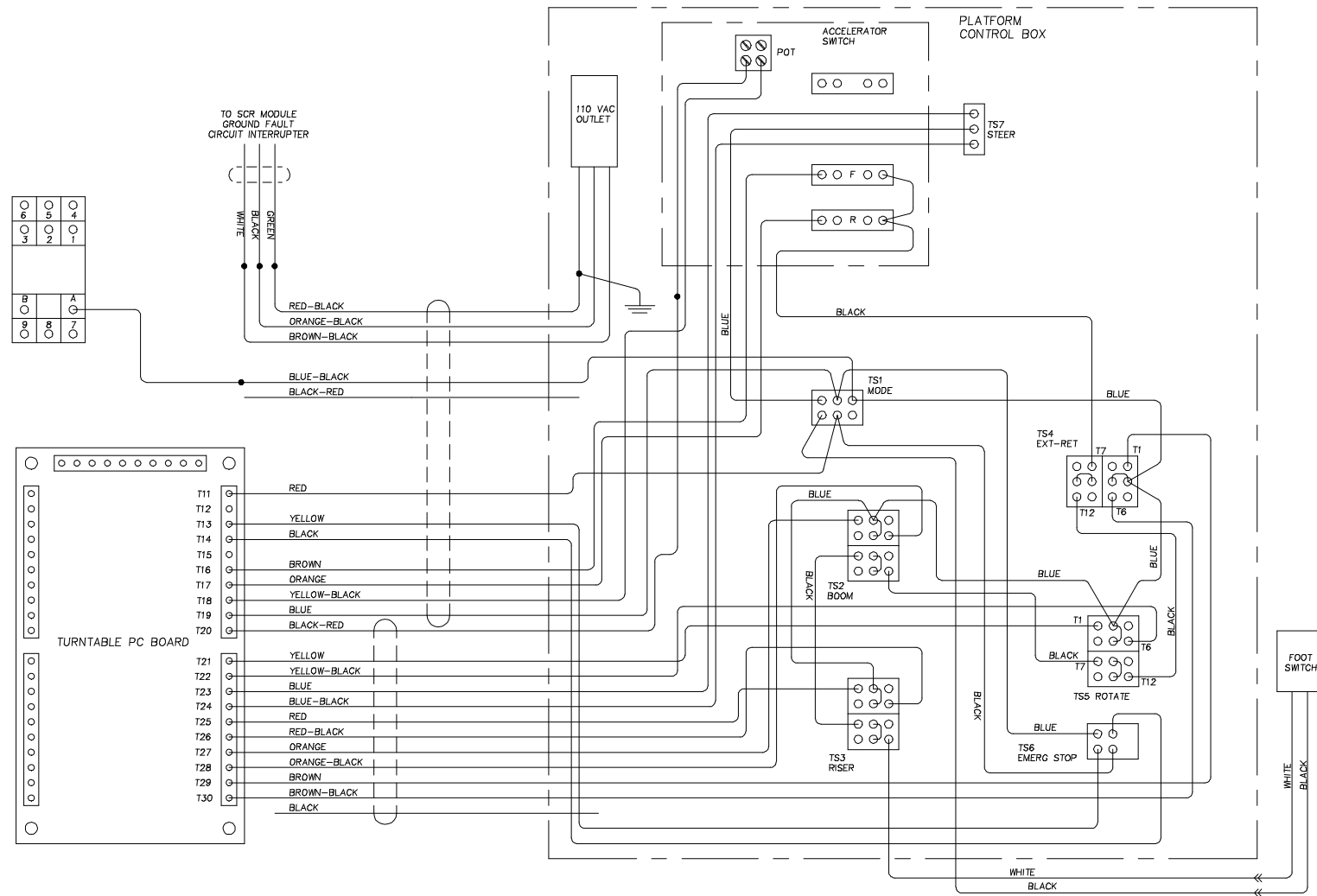
Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
CONTROL BOX ASSEMBLY  
WITH SCR CONTROLLED BOOM FUNCTIONS





## Z30-20 GE Controller Index

Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
PLATFORM CONTROLLER WIRING DIAGRAM  
WITHOUT MANUAL PLATFORM LEVELING  
WITH SCR CONTROLLED BOOM FUNCTIONS





The diagram illustrates the electrical connections for a turntable system. Key components include:

- Turntable PC Board:** Features terminals T11 through T30. Connections include RED, YELLOW, BLACK, BROWN, ORANGE, BLUE, RED-BLACK, ORANGE-BLACK, BROWN-BLACK, and BLACK.
- Platform Control Box:** Contains an ACCELERATOR SWITCH, POT, and TS7 STEER.
- Accelerator Switch:** Includes F, R, and G terminals.
- POT:** A potentiometer component.
- TS7 STEER:** A steering control unit.
- TS1 MODE:** A mode selector switch.
- TS2 BOOM:** A boom control switch.
- TS3 RISER:** A riser control switch.
- TS8 LEVEL:** A level control switch.
- TS4 EXT-RET:** An extension/retraction control switch.
- T6, T12, T1, T7, T5S ROTATE, TS6 EMERG STOP:** Various other control switches and relays.
- Foot Switch:** A manual foot-operated switch.
- Platform Level Power Unit:** Provides power to the platform level sensor.

Wiring colors are specified throughout the diagram to ensure correct installation. Grounding points are indicated by ground symbols.



## Z30-20 GE Controller Index

## Z30/20 HD G.E. MOTOR CONTROLLER PLATFORM CONTROLLER WIRING DIAGRAM WITH SCR CONTROLLED BOOM FUNCTIONS LOAD LIMIT OPTION (5000 LB MODEL)

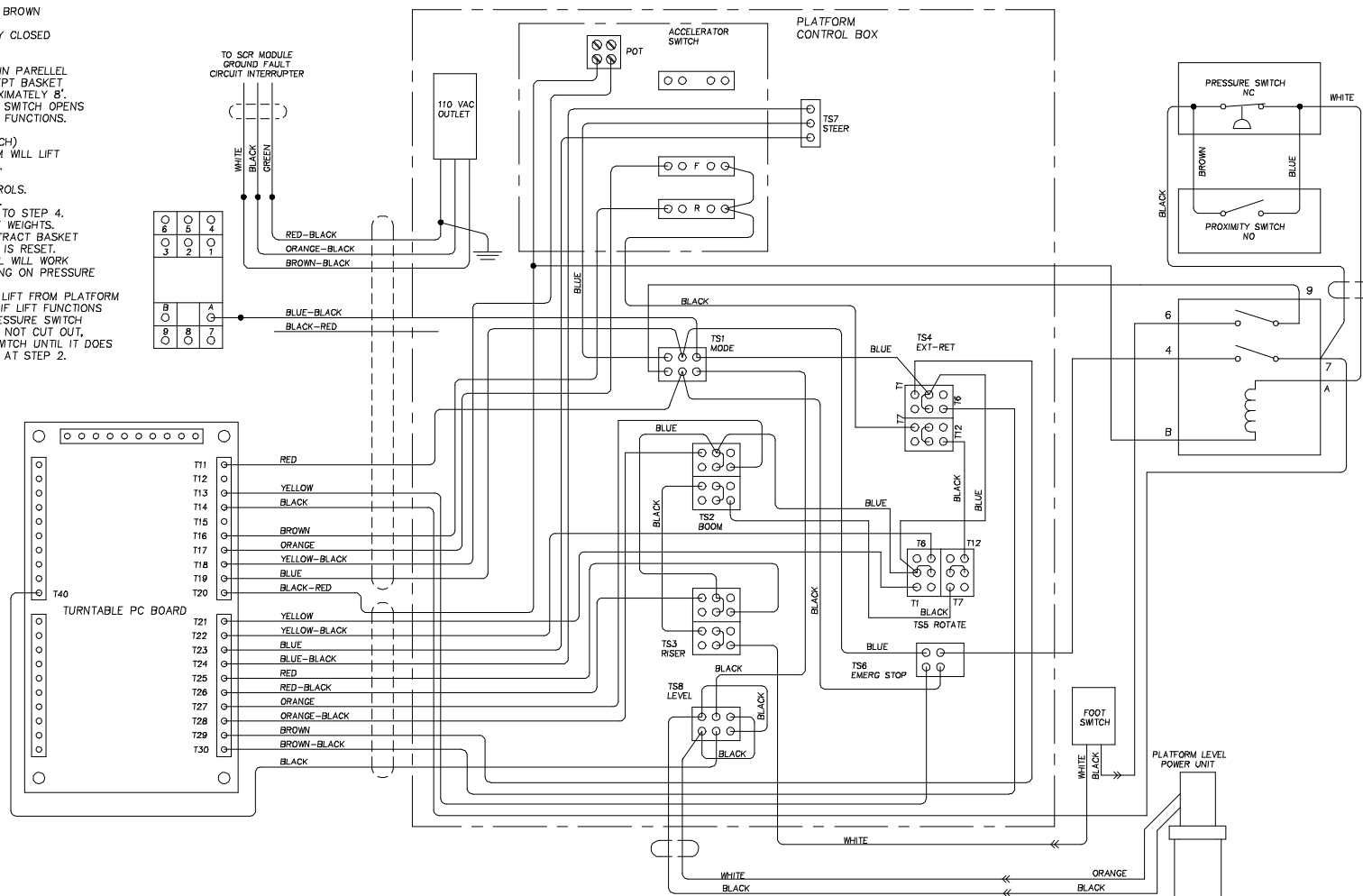
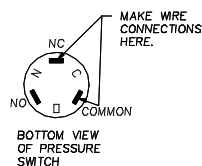
### NOTES:

#### (LOAD LIMIT SETTING PROCEDURE)

1. CONNECT WHITE PRESSURE SWITCH WIRE TO BLUE PROXIMITY SWITCH WIRE.
2. CONNECT BLACK PRESSURE SWITCH WIRE TO BROWN PROXIMITY SWITCH WIRE.
3. MAKE WIRE CONNECTIONS ACROSS NORMALLY CLOSED SET OF CONTACTS ON PRESSURE SWITCH. (SEE BOTTOM VIEW OF PRESSURE SWITCH).
4. THE PROXIMITY AND PRESSURE SWITCH ARE IN PARELLEL CONTROLLING THE PLATFORM CONTROLS EXCEPT BASKET LEVELING TO A PLATFORM HEIGHT OF APPROXIMATELY 8'. AT HEIGHTS GREATER THAN 8' THE PROXIMITY SWITCH OPENS AND PRESSURE SWITCH CONTROLS PLATFORM FUNCTIONS.

#### (PROCEDURE FOR ADJUSTING PRESSURE SWITCH)

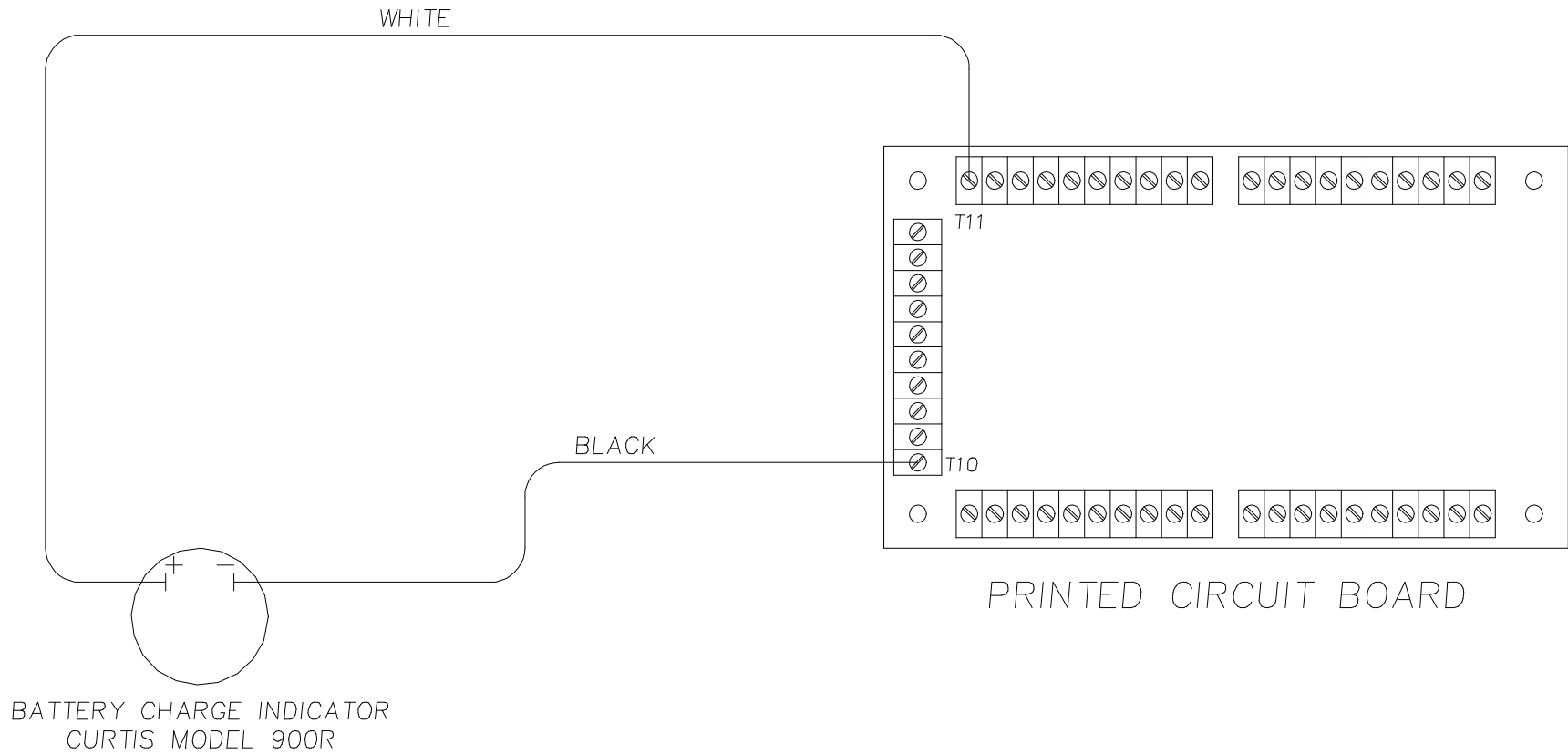
1. ADJUST PRESSURE SWITCH SO THE PLATFORM WILL LIFT THE RATED LOAD BUT NOT 50 LBS. GREATER.
2. PLACE RATED LOAD IN PLATFORM.  
LIFT PLATFORM TO 8' FROM PLATFORM CONTROLS.  
IF LIFT FUNCTIONS CUTS OUT, GO TO STEP 3.
3. IF LIFT FUNCTIONS DOES NOT CUTS OUT, GO TO STEP 4.  
RESET PRESSURE SWITCH BY REMOVING TEST WEIGHTS.  
IN SOME CASE YOU MAY HAVE TO FULLY RETRACT BASKET LEVELING CYLINDER. WHEN PRESSURE SWITCH IS RESET, THE LIFT FUNCTION FROM PLATFORM CONTROL WILL WORK IN EXCESS OF 8'. INCREASE PRESSURE SETTING ON PRESSURE SWITCH AND REPEAT STEP 2.
4. PLACE 50 MORE POUNDS IN PLATFORM AND LIFT FROM PLATFORM CONTROLS TO HEIGHT OF GREATER THAN 8'. IF LIFT FUNCTIONS CUTS OUT RESET PRESSURE SWITCH AND PRESSURE SWITCH SETTING IS CORRECT. IF LIFT FUNCTION DOES NOT CUT OUT, REDUCE PRESSURE SETTING ON PRESSURE SWITCH UNTIL IT DOES CUT OUT AND REPEAT PROCEDURE STARTING AT STEP 2.





**Z30-20 GE Controller Index**

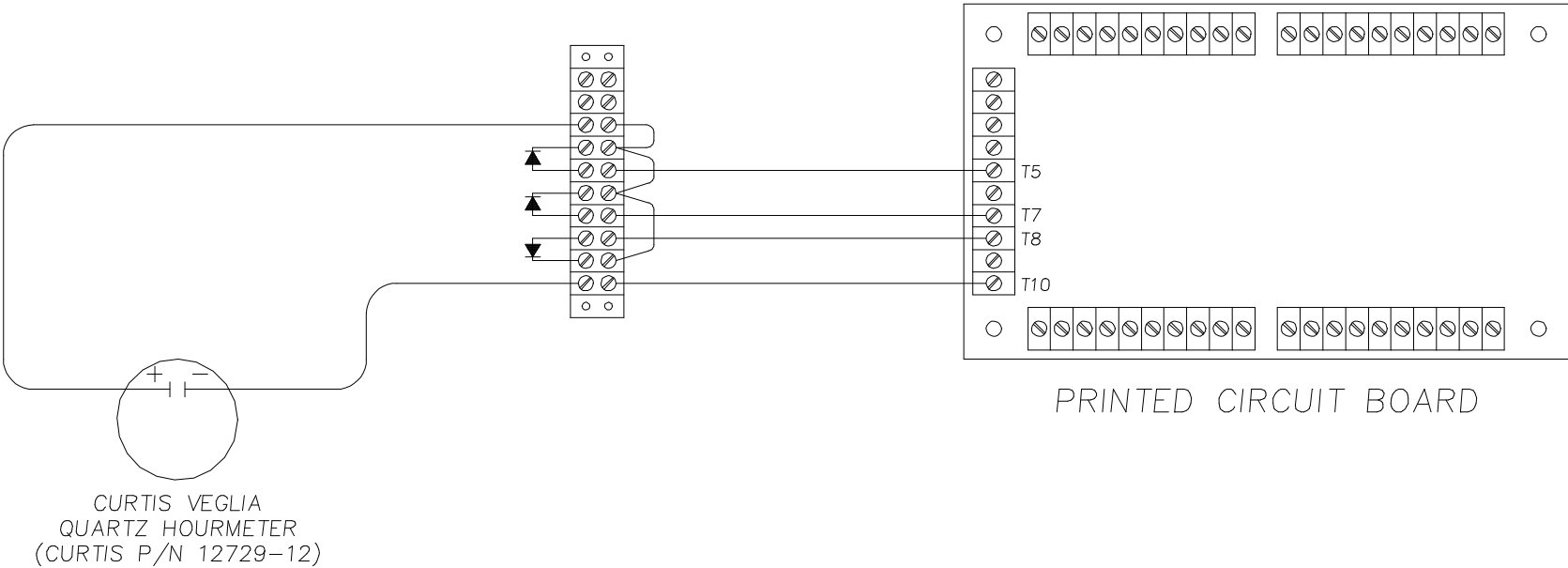
Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
BATTERY CHARGE INDICATOR  
WIRING DIAGRAM OPTION STD & HD





**Z30-20 GE Controller Index**

Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
WIRING DIAGRAM  
HOUR METER OPTION





Z30-20 GE Controller Index

Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER  
ELECTRICAL SCHEMATIC LEGEND

- T

TS

TS1

TS6

TS11

T1-T50

T101-T110

T111-T130

C1-C5

TD1 & TD2

C7-C9

I
- TERMINAL

- TOGGLE SWITCH

- LIFT/DRIVE SWITCH

- ON/OFF SWITCH

- PUMP SWITCH (GROUND CONTROLS)

- TURNTABLE PC BOARD

- TERMINAL STRIP NEXT TO FUSES

- BRAKE PC BOARD

- BRAKE BOARD RELAYS

- BRAKE BOARD RELAYS

- RELAYS (SCR HYDRAULICS)

- INDUCTOR (SCR HYDRAULICS)

- COIL

- COIL OR SOLENOID

- NORMALLY OPEN CONTACT

- NORMALLY CLOSED CONTACT

- HYDRAULIC POWER UNIT START SOLENOID COIL

- PARKING BRAKE COIL

- NORMALLY OPEN RELEASE VALVE (SERVICE BRAKE)

- PRESSURE SWITCH (SERVICE BRAKE)

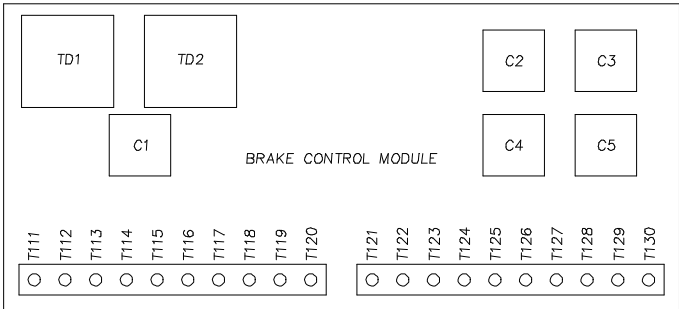
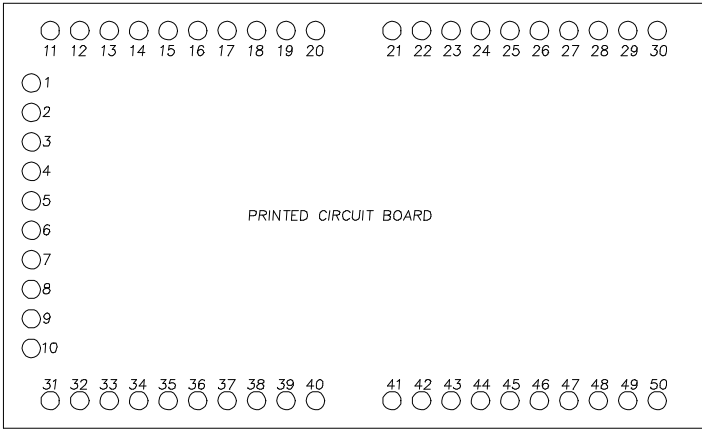
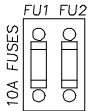
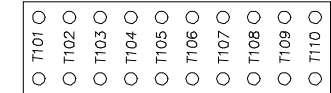
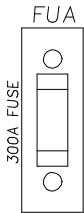
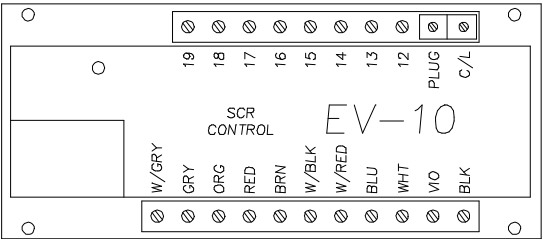
- FOOT SWITCH

- 300 AMP FUSE (36V)

- 10 AMP FUSE (36V)

- 10 AMP FUSE (24V)

- LIMIT SWITCH





## Z30-20 GE Controller Index

## Z30/20 STANDARD & HD G.E. MOTOR CONTROLLER HYDRAULIC SCHEMATIC WITHOUT MANUAL PLATFORM LEVELING

BLEEDING INSTRUCTIONS FOR Z30/20 HD'S WITHOUT MANUAL LEVELING SWITCH IN PLATFORM

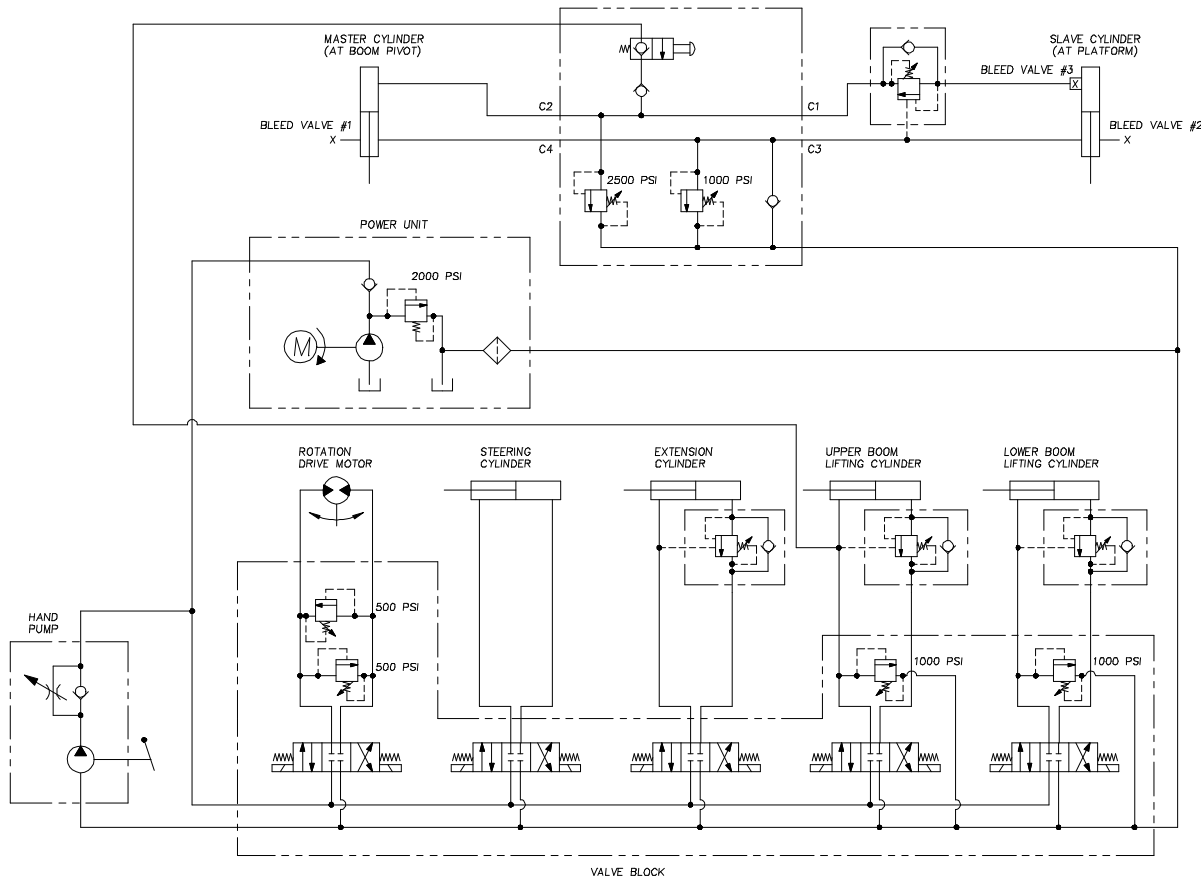
STEP 1: RAISE PRIMARY BOOM TO FULL LIFT. OPEN BYPASS VALVE IN HAND PUMP AND TURN ON HYDRAULIC POWER UNIT USING THE PUMP SWITCH ON THE GROUND CONTROLS.

STEP 2: WITH PUMP RUNNING, OPEN BLEEDER #1 UNTIL ALL AIR IS GONE AND CLOSE BLEEDER. CLOSE THE HAND PUMP BYPASS AND LOWER THE PRIMARY BOOM.

STEP 3: FULLY EXTEND THE SLAVE CYLINDER BY DEPRESSING THE "BOOM DOWN" SWITCH ON THE PLATFORM CONTROL BOX. OPEN THE HAND PUMP BYPASS VALVE AND TURN ON THE HYDRAULIC POWER UNIT.

STEP 4: WITH PUMP RUNNING, OPEN BLEEDER #2 UNTIL AIR IS GONE AND CLOSE THE BLEEDER. CLOSE THE HAND PUMP BYPASS AND TURN OFF THE POWER UNIT.

STEP 5: FULLY SUPPORT THE PLATFORM SO THAT THE SLAVE CYLINDER CANNOT MOVE. OPEN BLEEDER #3. (WARNING: COVER BLEEDER WITH A RAG OR PLASTIC BAG.) WAIT TEN SECONDS AND CLOSE BLEEDER.



TROUBLE SHOOTING A DRIFTING PLATFORM:

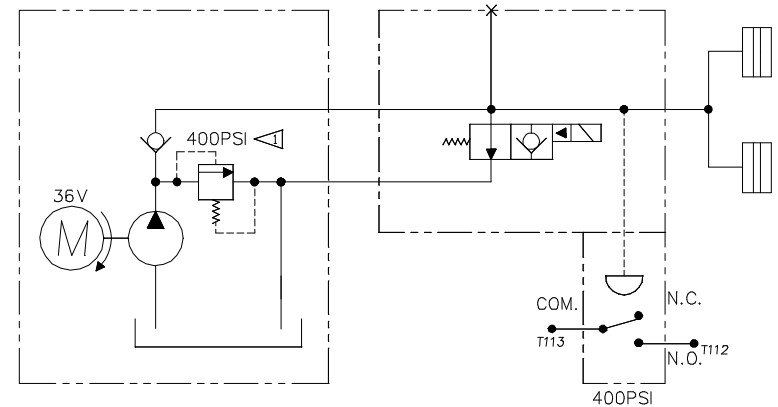
STEP 1: LEVEL PLATFORM AND PUT AT LEAST 300 LBS. IN IT. MARK THE ROD OF THE SLAVE CYLINDER WITH A MAGIC MARKER AND WATCH TO SEE IF THE MARK DISAPPEARS INTO THE BARREL.

STEP 2: IF THE CYLINDER ROD IS MOVING, REMOVE THE TOP HOSE FROM THE HOLDING VALVE ON THE SLAVE CYLINDER. (WARNING: HOSE IS UNDER PRESSURE.)

STEP 3: WITH THE HOSE OFF, MARK THE CYLINDER ROD AGAIN AND SEE IF THE CYLINDER ROD IS STILL MOVING. IF THE CYLINDER ROD IS MOVING, REBUILD THE SLAVE CYLINDER. IF THE CYLINDER ROD IS NO LONGER MOVING, REBUILD THE MASTER CYLINDER.

NOTE: IF THE HOLDING VALVE LEAKS MORE THAN TEN DROPS PER MINUTE, CALL GENIE INDUSTRIES.

SERVICE BRAKE POWER UNIT

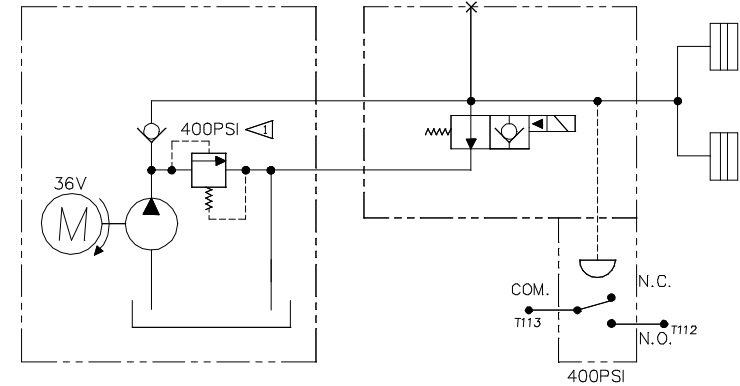


NOTES:

▷ 600 PSI ON MACHINES  
MANUFACTURED PRE 1987



BLEEDING INSTRUCTIONS: NOTE: THIS PROCEDURE TAKES TWO PEOPLE.  
 STEP 1: USING PLATFORM CONTROLS, RAISE PRIMARY BOOM TO FULL LIFT.  
 STEP 2: DEPRESS "PLATFORM DOWN" SWITCH ON PLATFORM CONTROL STATION. WITH PUMP RUNNING OPEN, BLEED #1 UNTIL AIR BUBBLES BEGIN TO APPEAR IN THE FLUID. MONITOR FLUID LEVEL IN HYDRAULIC POWER UNIT UNTIL IT IS MOUNTED TO PLATFORM. IF SUBSTANTIAL BLEEDING IS REQUIRED, YOU MAY HAVE TO ADD FLUID.  
 STEP 3: LOWER PRIMARY BOOM.  
 STEP 4: FULLY EXTEND SLAVE CYLINDER BY DEPRESSING "PLATFORM UP" SWITCH.  
 STEP 5: CLOSE BLEEDER #2 AND THEN DEPRESS "PLATFORM DOWN" SWITCH UNTIL AIR IS GONE. CLOSE BLEEDER AND THEN TURN OFF POWER UNIT. (TURN OFF POWER UNIT IMMEDIATELY AFTER CLOSING BLEEDER SO THAT PLATFORM DOES NOT MOVE).  
 STEP 6: FULLY SUPPORT PLATFORM SO THAT SLAVE CYLINDER CANNOT MOVE. WITH PLATFORM SUPPORTED, OPEN BLEEDER #3. (CAUTION: PUT A RAG OR PLASTIC BAG OVER BLEEDER.) WAIT TEN SECONDS AND CLOSE BLEEDER.  
 STEP 7: CHECK FLUID IN HYDRAULIC POWER UNIT MOUNTED ON PLATFORM.



1 600 PSI ON MACHINES  
MANUFACTURED PRE 1987

STEP 1: IF THE CYLINDER ROD IS MOVING, REMOVE THE MASTER CYLINDER. IF THE CYLINDER ROD IS NO LONGER MOVING, REBUILD THE MASTER CYLINDER.

NOTE: IF THE HOLDING VALVE LEAKS MORE THAN TEN DROPS PER MINUTE, CALL GENIE INDUSTRIES.