S205 TURBO

S205 TURBO HIGH FLOW

Bobcat®

Service Manual

S/N 528411001 & Above
S/N 528511001 & Above



EQUIPPED WITH
BOBCAT INTERLOCK
CONTROL SYSTEM (BICS™)

6902917 (2-06)

Ingersoll Rand
Compact Vehicle Technologies
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HYDRAULIC/HYDROSTATIC SCHEMATIC
S205 (S/N 528411001 AND ABOVE)
(S/N 528511001 AND ABOVE)

(PRINTED JULY 2005)
V-0567legend

LEGEND

1. RESERVOIR:
   Capacity . . . . . 19.2 Qts. (18.2 L)
2. SPRING LOADED FILTER BY-PASS VALVE: 45-55 PSI (3,1-3,8 Bar)
3. DIFFERENTIAL PRESSURE SWITCH:
   36-44 PSI (2,5-3,0 Bar)
   Normally Closed
4. DRIVE MOTOR SHUTTLE VALVE
5. RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 5000 PSI (345 Bar)
6. RELIEF VALVE - CHARGE INLET:
   220-270 PSI (15,1-18,6 Bar)
   at High Engine Idle
   With 140 degrees F. (60 degrees C.) Fluid
7. FRONT AUXILIARY MANUAL PRESSURE BLEED-OFF VALVE
8. HYDRAULIC PUMP . . . . . Gear Type
   16,3 GPM (61,7 L/min.) at High Engine Idle
9. RELIEF VALVE - MAIN:
   3250 - 3350 PSI (224-231 Bar)
   at Front Quick Couplers
10. RELIEF/ANTICAVITATION VALVE - PORT 3500 PSI (241,3 Bar)
11. ANTICAVITATION VALVE
12. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - AUXILIARY
13. RELIEF/ANTICAVITATION VALVE - PORT (OPTIONAL) 3500 PSI (241,3 Bar)
14. LOAD CHECK VALVE
15. LIFT CYLINDER SPOOL - MADE TO RESTRICT FLOW DURING BOOM DOWN BUT NOT DURING BOOM UP
16. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BICS CONTROL
17. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - TILT CONTROL
18. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - LIFT CONTROL
19. PULL BUTTON ACTIVATED DIRECTIONAL CONTROL VALVE - LIFT ARM BY-PASS
20. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - UNLOADING SPOOL
21. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - FLOW CONTROL SPOOL
22. FLOW DIVIDER ADJUSTMENT VALVE
23. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BASE
24. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - ROD
25. LOAD SHUTTLE VALVE - BLEED OFF
26. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - TWO COIL
27. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - REAR AUXILIARY
28. RESTRICTOR - 0.140 inch (3,6 mm)
29. RESTRICTOR - 0.031 inch (0,8 mm)
30. RELIEF VALVE: 3300 PSI (228 Bar)
31. FILTER - HYDRAULIC (CANISTER)
32. FILTER - CASE DRAIN (SINTERED BRONZE)
33. FILTER - BICS CONTROL VALVE (SCREEN)
34. CHECK VALVE - BUCKET POSITION VALVE
35. RESTRICTION
36. VARIABLE CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC PUMP
37. SHUTTLE RELIEF VALVE
    (Not Adjustable - Factory Set)
    65 PSI (4,5 Bar)
38. FIXED CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC MOTOR
39. CHECK VALVE - With 80 PSI (5,5 Bar) Spring
40. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BUCKET POSITION VALVE (ON/OFF)
41. CHECK VALVE - BICS CONTROL VALVE
42. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE (TWO COIL)
43. CHECK VALVE - With 300 PSI (20,7 Bar) Spring And With 0.016 inch (0,40 mm) Orifice
44. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - HYDRAULIC POWERED BOB-TACH
45. RESTRICTION - 0.089 inch (2,26 mm)
46. RESTRICTION - 0.025 inch (0,6 mm)
47. RELIEF VALVE - 2000 PSI (137 Bar)
48. RELIEF VALVE - 1200 PSI (83 Bar)
49. FILTER - BOB-TACH VALVE
    (S/N 528411783 & Above)
    (S/N 528511010 & Above)

NOTE: Unless otherwise specified springs have NO significant pressure value.

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Description

Figure 60-10-1

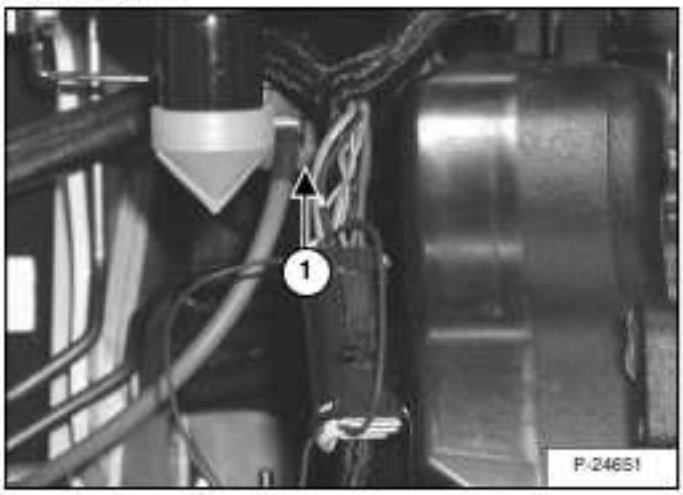
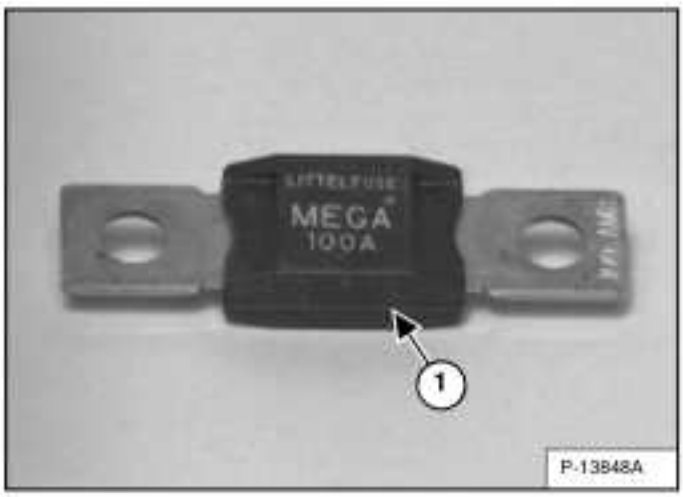
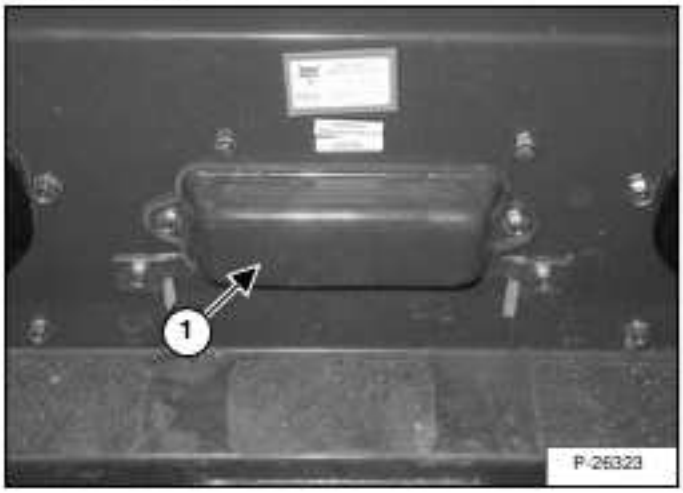


Figure 60-10-2



The loader has a 12 volt, negative ground alternator charging system. The electrical system is protected by a 100 amp master fuse (Item 1) **[Figure 60-10-1]** & **[Figure 60-10-2]** to protect against serious system overloads that could lead to burned up harness or loader damage. This fuse is located in the left-hand side engine compartment, just forward of the engine harness connector.

Figure 60-10-3



The electrical system is also protected by fuses and relays under the fuse panel cover (Item 1) **[Figure 60-10-3]** located in the cab on the control panel.

The fuse panel cover (Item 1) **[Figure 60-10-3]** & **[Figure 60-10-4]** has a decal inside to show the location and amp ratings.

IMPORTANT

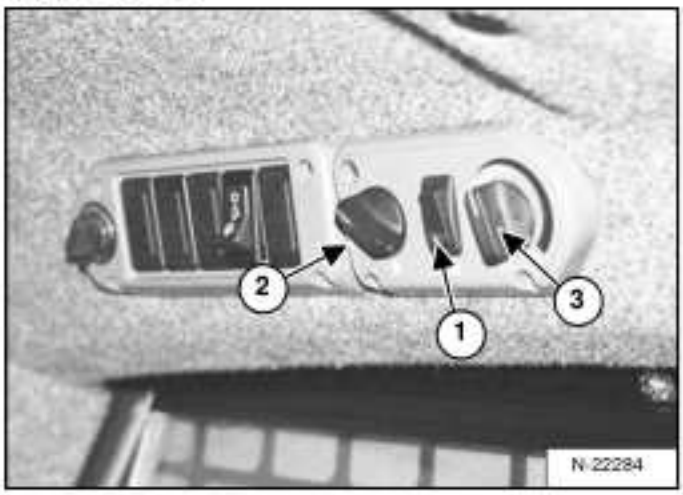
Do Not use silicone base sprays and/or sealants on harness connectors or components.

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Heater Valve Not Opening Or Closing

Figure 80-50-38



Raise the lift arms and install an approved lift arm support device. (See Installing Lift Arm Support Device on Page 10-20-1.)

Push the A/C switch (Item 1) to the OFF position. Turn the fan switch (Item 2) to position 1. Turn the temperature control (Item 3) **[Figure 80-50-38]** to the High A/C position, with the loader ignition switch OFF.

Raise the operator cab. (See Raising The Operator Cab on Page 10-30-1.)

Connect the remote start tool to the loader. (See Procedure on Page 10-60-1.)

Place the remote start tool on the left fender of the loader, so the heater valve can be clearly seen. Watch the valve shaft (Item 1) **[Figure 80-50-39]**, as the key of the remote start tool is turned to the ON position without starting the loader. The heater valve should rotate. Place a mark on the loader shaft.

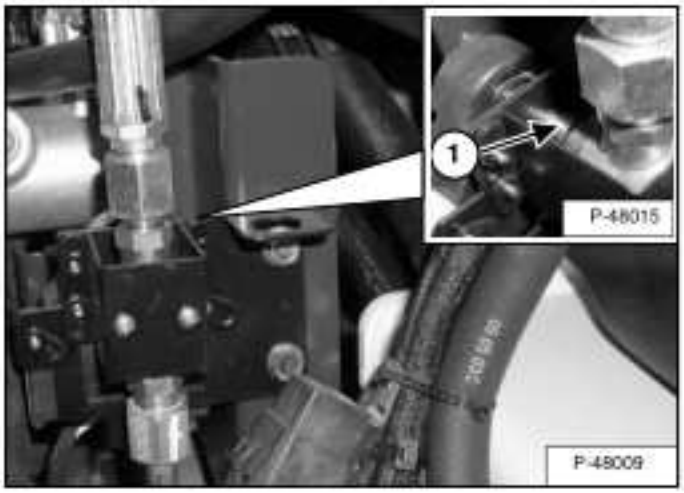
Turn the key of the remote start tool to the OFF position and remove the remote start tool from fender.

Lower operator cab.

Turn the temperature control (Item 3) **[Figure 80-50-38]** to the High Heater position, with the loader ignition switch OFF.

Raise the operator cab.

Figure 80-50-39



Place the remote start tool on the left fender of the loader, so the heater valve can be clearly seen. Watch the valve shaft (Item 1) **[Figure 80-50-39]**, as the key of the remote start is turned to the ON position without starting the loader. The heater valve should rotate.

If it does not rotate, check the potentiometer(See HEATER VALVE on Page 80-220-1.) for proper function.

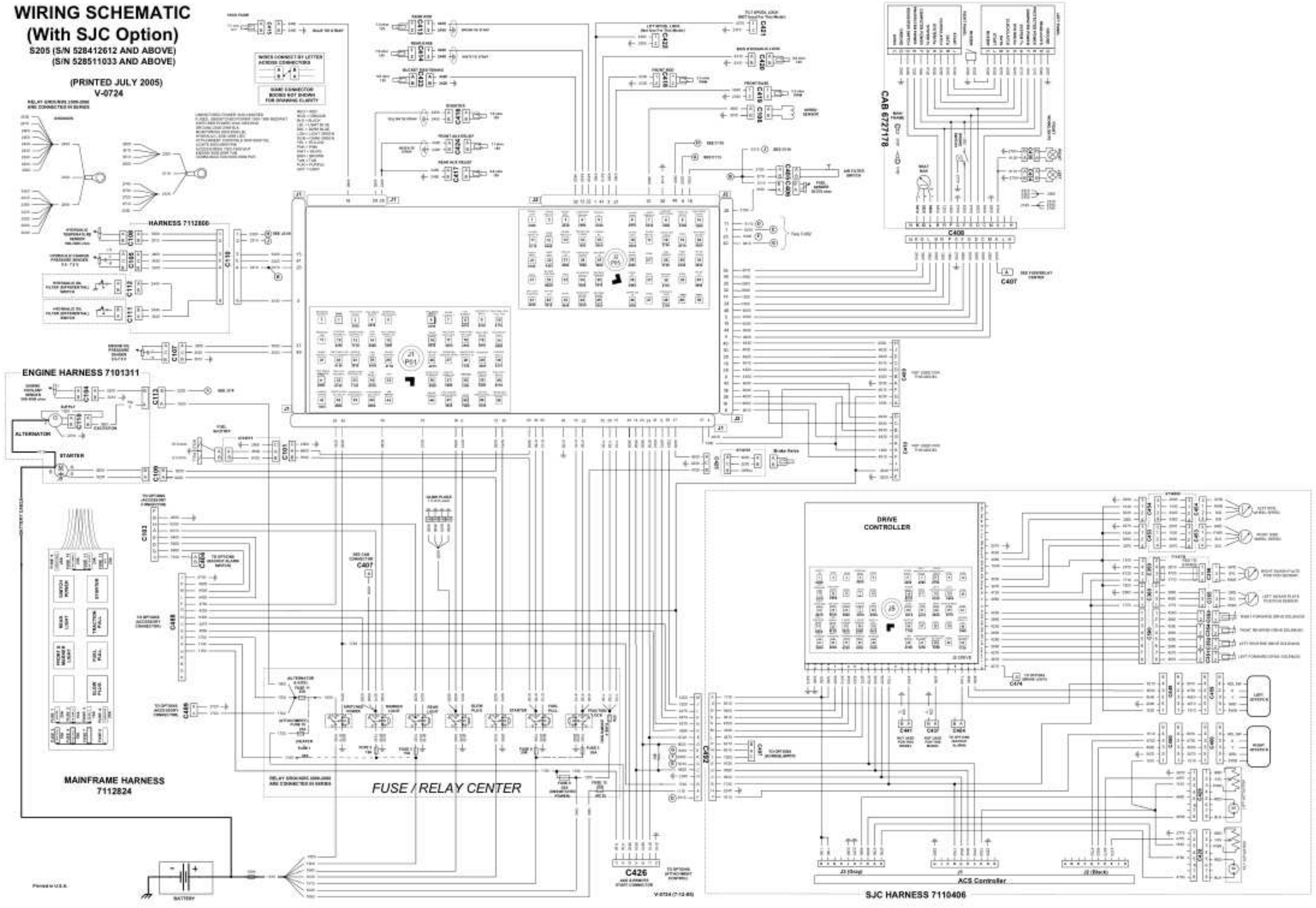
Replace the heater valve. (See Removal And Installation on Page 80-220-1.)

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WIRING SCHEMATIC
(With SJC Option)

S205 (S/N 528412612 AND ABOVE)
(S/N 528511033 AND ABOVE)

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