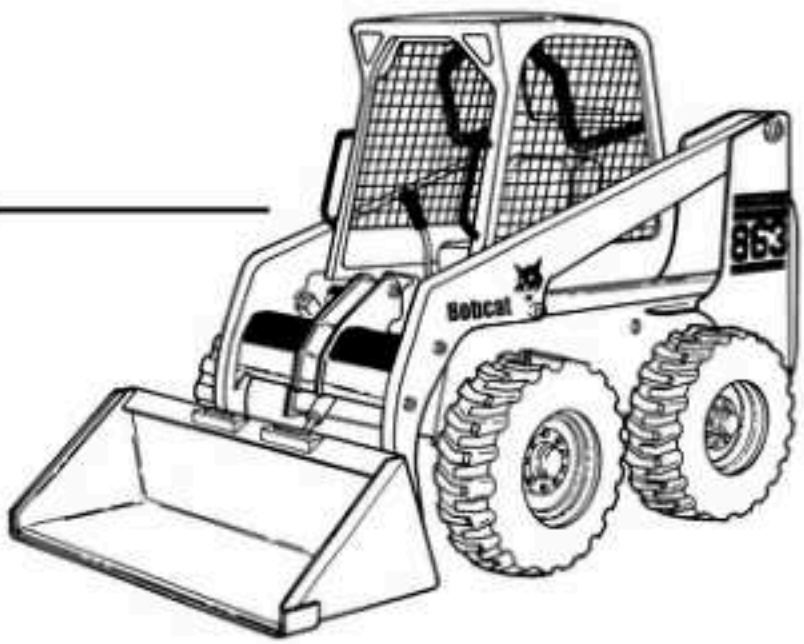
TURBO
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HIGH FLOW

Bobcat®

Service Manual

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EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

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HYDRAULIC/HYDROSTATIC SCHEMATIC
WITH TWO SPEED VALVE AND HIGH FLOW OPTION
863 (S/N 514451084 AND ABOVE)
(S/N 514641267 AND ABOVE)

(PRINTED DECEMBER 2003)
V-0241legend

LEGEND

1. RESERVOIR:
   Capacity . . . . . 18.8 Qts. (17,8 L)
2. FILTER - CASE DRAIN (90 Micron)
3. FILTER - HYDRAULIC (CANISTER)
4. SPRING LOADED FILTER BYPASS VALVE: 45-55 PSI (311-379 kPa)
5. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - HYDRAULIC POWERED BOB-TACH
6. DIFFERENTIAL PRESSURE SWITCH:
   36-44 PSI (248-303 kPa)
7. FLOW DIVIDER ADJUSTMENT VALVE
8. CHECK VALVE - BUCKET POSITION VALVE
9. FIXED CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC MOTOR
10. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - FLOW CONTROL SPOOL
11. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - UNLOADING SPOOL
12. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - TILT CONTROL
13. PILOTED ACTIVATED DIRECTIONAL CONTROL VALVE - LIFT CONTROL
14. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BICS CONTROL
15. PULL BUTTON ACTIVATED DIRECTIONAL CONTROL VALVE - LIFT ARM BY PASS
16. FILTER - BICS CONTROL VALVE (SCREEN)
17. ONE WAY RESTRICTOR
18. LOAD CHECK VALVE
19. RELIEF VALVE - MAIN:
    2950-3050 PSI (20340-21030 kPa)
    at Front Quick Couplers
20. RELIEF VALVE - PORT:
    3500 PSI (24132 kPa)
21. ANTICAVITATION VALVE
22. RELIEF/ANTICAVITATION VALVE - PORT (TILT BASE END)
    3500 PSI (24132 kPa)
23. ONE WAY RESTRICTOR VALVE
24. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - AUXILIARY
25. RELIEF VALVE - PORT: . . . . . (Optional)
    3500 PSI (24132 kPa)
26. RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 5000 PSI (34475 kPa)
27. CHARGE PRESSURE SWITCH
28. RELIEF VALVE - CHARGE:
    120 degrees F. (53 degrees C.)Fluid
    at 1775 Pump RPM
    390 - 430 PSI (2689 - 2965 kPa)
29. CHARGE PUMP
    14.0 GPM (53,0 L/min.) at 2450 RPM
30. HYDRAULIC PUMP . . . . . Gear Type
    20.7 GPM (78,4 L/min.) at 2450 Engine RPM
    HIGH FLOW CAPACITY: (Includes 64)
    30.7 GPM (116,2 L/min.) at 2450 Engine RPM
31. DRIVE MOTOR SHUTTLE VALVE
32. SHUTTLE RELIEF VALVE:
    200 PSI (1378 kPa)
33. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BLEED OFF REAR AUXILIARY ("SV2")
34. LOAD SHUTTLE VALVE - BLEED OFF
35. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY - NORMALLY CLOSED ("P2" and "F2")
36. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY - NORMALLY OPEN ("D1" and "P1")
37. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY - NORMALLY OPEN ("D2" and "P2")
38. FILTER - DIVERTER VALVE (SCREEN) INTEGRATED IN SOLENOID
39. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - TO ACTIVATE REAR AUXILIARY ("SV1")
40. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY - NORMALLY CLOSED ("P1" and "F1")
41. CHECK VALVE - BICS CONTROL VALVE
42. LIFT ARM BY-PASS RESTICTOR
43. CHECK VALVE - AUXILIARY
44. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - TWO SPEED DRIVE MOTOR
45. VARIABLE CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC PUMP
46. TWO STAGE RELIEF 1000 PSI/2000 PSI (6894 kPa/13788 kPa)
47. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE (TWO COIL)
48. RELIEF VALVE - 1200 PSI (8268 kPa)
49. PRESSURE COMPENSATED FLOW CONTROL
50. CHECK VALVE WITH 0.015 (0,38 mm) RESTRICTION
51. RELIEF VALVE - PORT:
    3500 PSI (24132 kPa)
52. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BUCKET POSITION VALVE (ON/OFF)
53. FIXED CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC MOTOR
54. HYDRAULIC BRAKE - SPRING APPLIED - PRESSURE TO RELEASE
55. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BRAKE
56. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - MAKE-UP
57. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - TWO SPEED
58. FRONT AUXILIARY MANUAL PRESSURE BLEED-OFF VALVE
59. FILTER - CASE DRAIN (ATTACHMENT)
60. RELIEF VALVE - 3300 PSI (22754 kPa)
61. DUMP VALVE (ON/OFF)
62. CHECK VALVE
63. FILTER (BRAKE)
64. AUXILIARY HYDRAULIC PUMP
    10 GPM (37.85 L/min.) at 2450 RPM

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

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Switch Handle Installation (Cont'd)

Figure 60-123-25

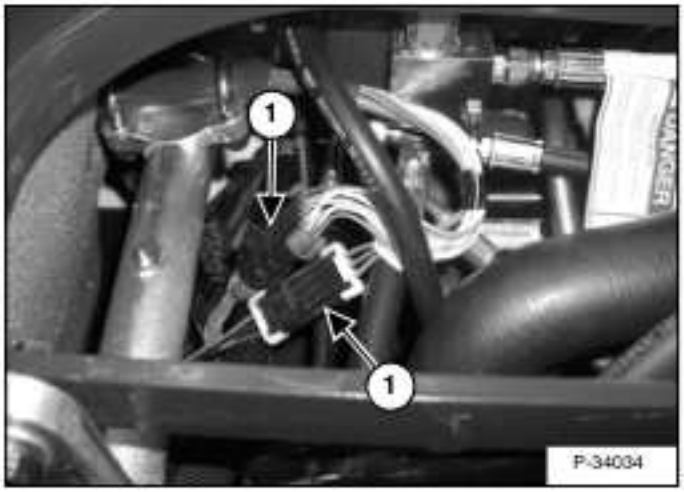
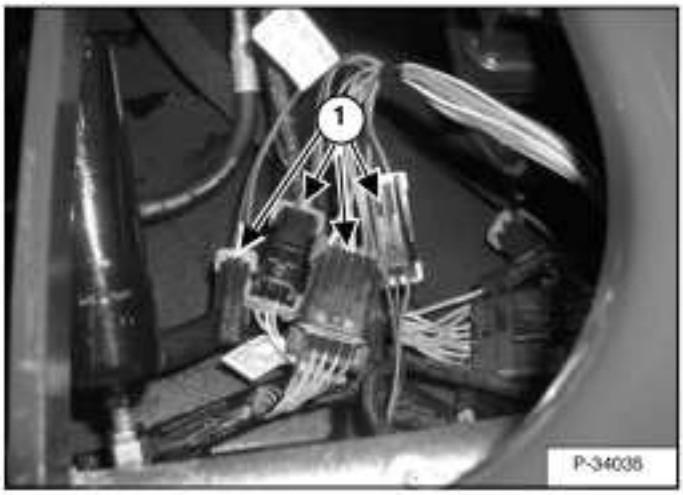
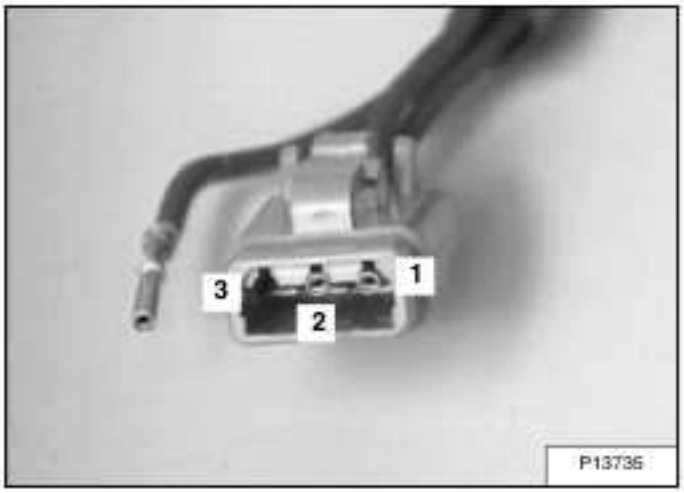


Figure 60-123-26



Connect the handle harness connectors (Item 1) **[Figure 60-123-25]** & **[Figure 60-123-26]** to the loader harness connectors.

Figure 60-123-27

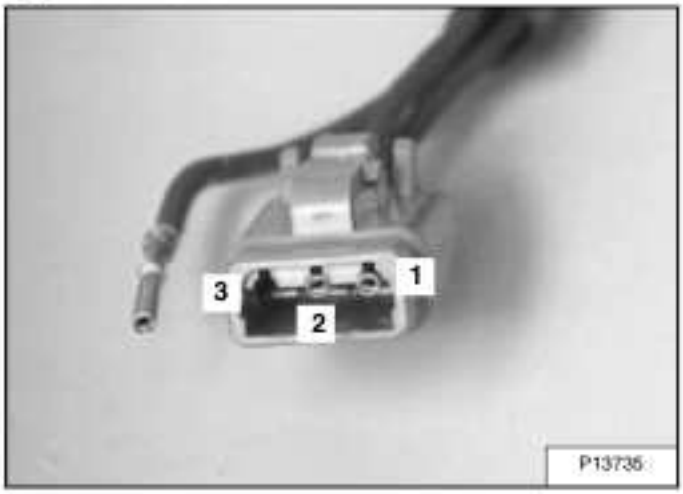


Install the wires into the connectors as listed below:

Left and Right Control Lever Switch Handle **[Figure 60-123-27]**

1-Terminal - Red/White
2-Terminal - Black/White
3-Terminal - Purple/White

Figure 60-123-28



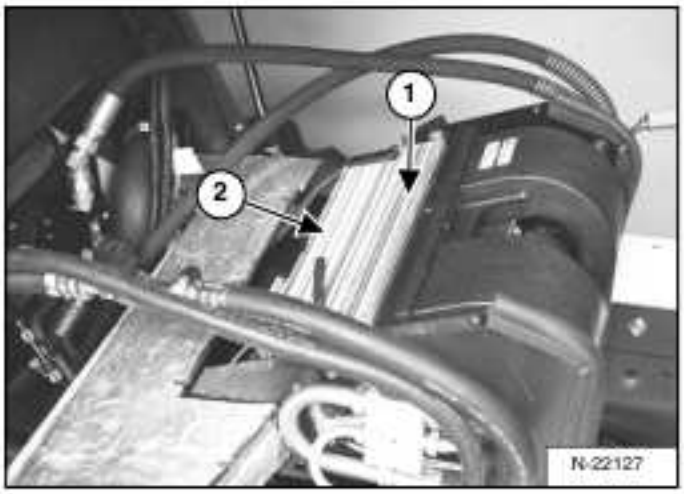
Left and Right Control Lever Switch Handle **[Figure 60-123-28]**

1-Terminal - Yellow/Red
2-Terminal - Open
3-Terminal - Orange/Black

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Cleaning The A/C Evaporator Coil & Heater Coil (Cont'd)

Figure 80-50-9



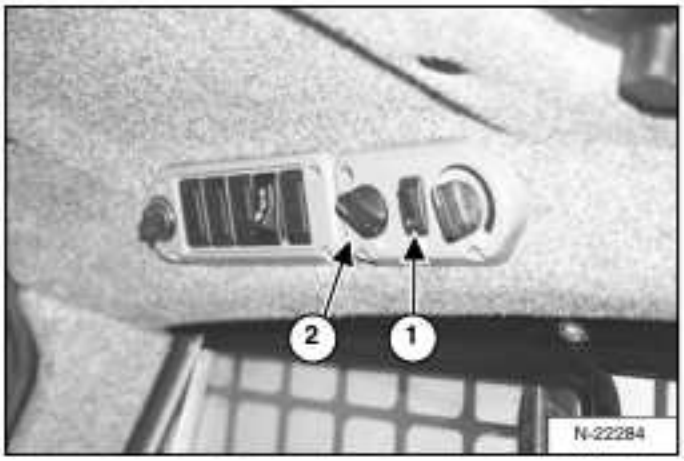
With air or water clean the heater coil (Item 1) **[Figure 80-50-9]** and evaporator unit (Item 2) **[Figure 80-50-9]**.

Checking The Electrical System

Check to see if the compressor clutch is engaging.

With an operator in the loader seat and the cab door open, turn the loader key switch to RUN (Standard Panel) OR press the RUN / ENTER Button (Deluxe Panel), without starting the loader.

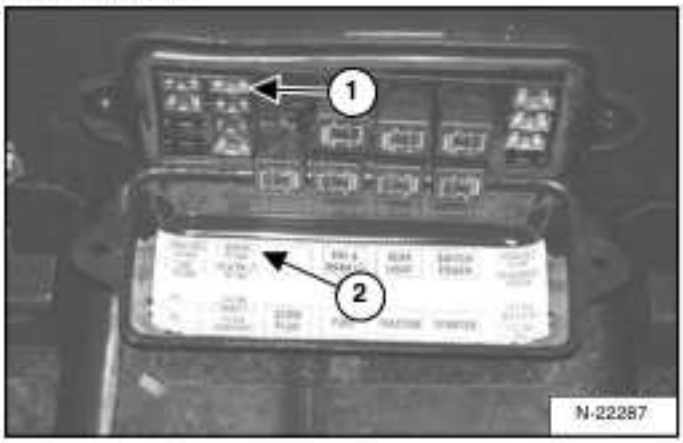
Figure 80-50-10



Push the A/C switch (Item 1) **[Figure 80-50-10]** to the ON position. Turn the blower fan switch (Item 2) **[Figure 80-50-10]** to the first ON position.

The compressor clutch should make a *click* sound, which indicates the clutch is engaging.

Figure 80-50-11



If the compressor clutch does not engage, check the loader fuse (Item 1) **[Figure 80-50-11]** located on the control panel in the loader cab.

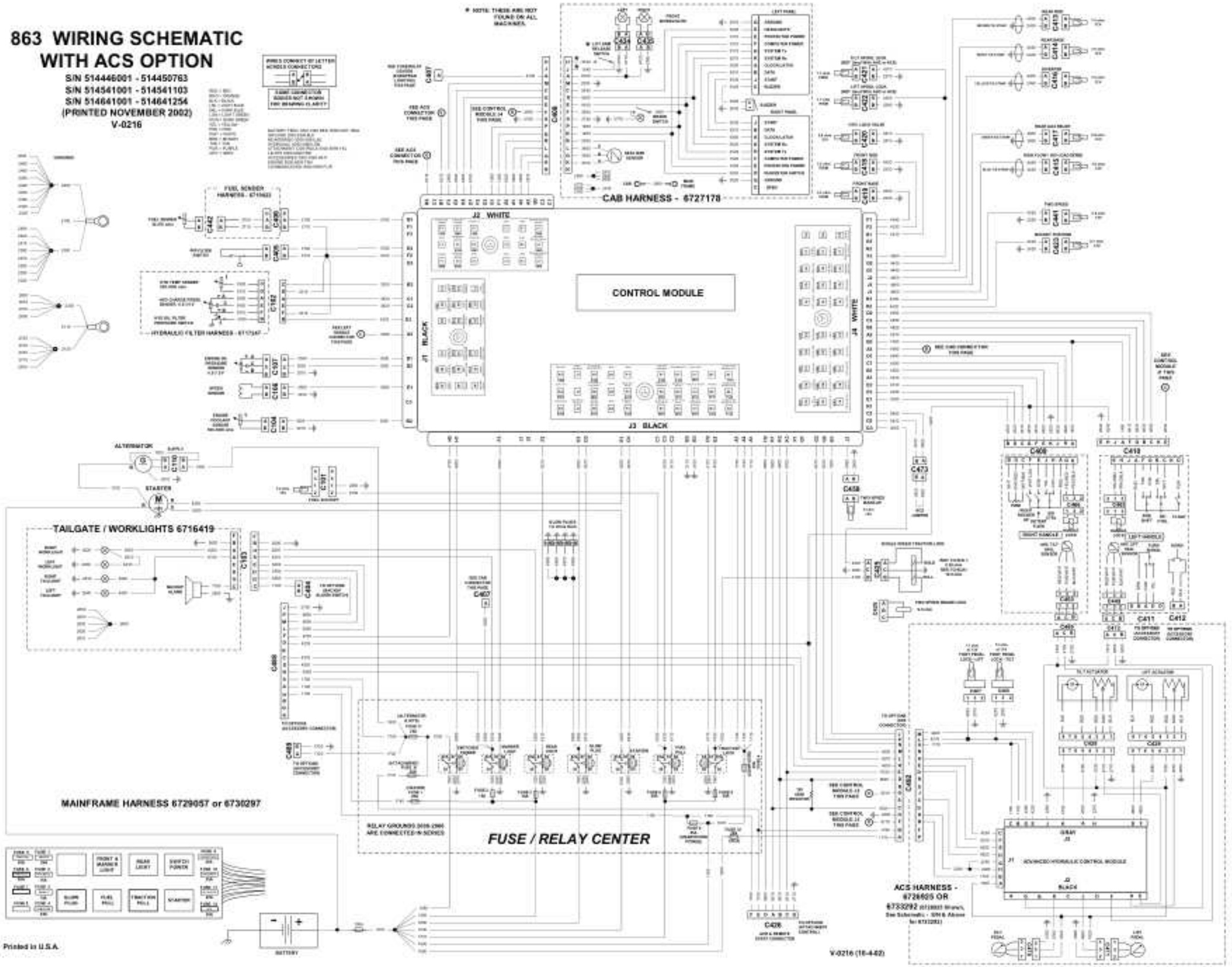
Replace the fuse if burned out.

NOTE: The decal inside the fuse cover, refers to the fuse as HEATER. This fuse controls the power for both the Heater and the A/C systems.

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