A300 TURBO

A300 TURBO HIGH FLOW

Bobcat®

Service Manual

S/N 526411001 & Above
S/N 526511001 & Above

BOBCAT SKID-STEER LOADER
With ALL WHEEL STEER (AWS)



EQUIPPED WITH BOBCAT INTERLOCK CONTROL SYSTEM (BICS™)

6902728 (1-06)

Ingersoll Rand

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HYDRAULIC/HYDROSTATIC SCHEMATIC
WITH TWO SPEED VALVE
A300 (S/N 526411001 - 526411999)
(S/N 526511001 - 526511999)

(PRINTED FEBRUARY 2005)
V-0456

LEGEND

1. RESERVOIR:
   Capacity . . . . . 18.8 qt. (17.8 L)
2. FILTER - CASE DRAIN (90 Micron)
3. FILTER - HYDRAULIC (CANISTER)
4. SPRING LOADED FILTER BY-PASS VALVE: 45-55 PSI (3,1-3,8 bar)
5. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - HYDRAULIC POWERED BOB-TACH
6. DIFFERENTIAL PRESSURE SWITCH: 36-44 PSI (2,5-3,0 bar)
7. FLOW DIVIDER ADJUSTMENT VALVE
8. CHECK VALVE - BUCKET POSITION VALVE
9. FIXED CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC MOTOR
10. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FLOW CONTROL SPOOL
11. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - UNLOADING SPOOL
12. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - TILT CONTROL
13. PILOT 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 - BOOM DOWN (ACS Valve Only)
18. LOAD CHECK VALVE - LIFT AND TILT
19. RELIEF VALVE - MAIN: 3250-3350 PSI (224-231 bar) at Front Quick Couplers
20. RELIEF VALVE - PORT: 4000 PSI (275 bar)
21. ANTICAVITATION VALVE
22. RELIEF/ANTICAVITATION VALVE - PORT (TILT BASE END) 3500 PSI (241 bar)
23. LIFT BASE ORIFICE (Manual Valve Only)
24. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - AUXILIARY
25. RELIEF VALVE - PORT: . . . . . (Optional) 3500 PSI (241 bar)
26. RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 5221 PSI (381 bar)
27. CHARGE PRESSURE SWITCH
28. RELIEF VALVE - CHARGE: 140 degrees F. (60 degrees C.)Fluid 330-360 PSI (22,7-24,8 bar) at High Engine Idle
29. CHARGE PUMP 11.1 GPM (42 Lpm) @ High Engine Idle
30. HYDRAULIC PUMP . . . . . Gear Type 20.7 GPM (78,4 Lpm) @ High Engine Idle
31. DRIVE MOTOR SHUTTLE VALVE
32. SHUTTLE RELIEF VALVE: 200 PSI (13,8 bar)
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36. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE (TWO COIL)
37. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - FOR REAR AUXILIARY
38. ORIFICE WITH 0.140 RESTRICTION
39. RELIEF VALVE - 3300 PSI (227 bar)
40. ORIFICE WITH 0.031 RESTRICTION
41. CHECK VALVE - BICS CONTROL VALVE
42. LIFT ARM BY-PASS RESTRICTOR
43. FRONT AUXILIARY MANUAL PRESSURE BLEED-OFF VALVE
44. FILTER - CASE DRAIN (Attachment)
45. VARIABLE CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC PUMP
46. RELIEF VALVE - 2000 PSI (138 bar)
47. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE (TWO COIL)
48. RELIEF VALVE - 1200 PSI (82,8 bar)
49. CHECK VALVE WITH 80 (5,5 bar) PSI SPRING
50. CHECK VALVE WITH 0.03 RESTRICTION AND 300 PSI (20,7 bar) SPRING
51. RELIEF VALVE - PORT: 4000 PSI (276 bar)
52. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BUCKET POSITION VALVE (ON/OFF)
53. FIXED CAPACITY DISPLACEMENT BIDIRECTIONAL HYDROSTATIC MOTOR
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55. PUSH BUTTON SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BRAKE
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58. FILTER (BRAKE)
59. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - TWO SPEED DRIVE MOTOR
60. PUMP SERVO
61. HYDRAULIC STEERING PUMP - Gear Type 13.6 GPM (51,5 Lpm) @ High Engine Idle
62. FILTER - STEERING (10 MICRON)
63. SOLENOID ACTIVATED PROPORTIONAL FLOW CONTROL VALVE - STEERING
64. SOLENOID ACTIVATED PRESSURE CONTROL VALVE
65. STEERING CYLINDER
66. CHECK VALVE - 270 PSI (18,6 bar)
67. PRESSURE CONTROL PILOT VALVE - 2 COILS 0 - 0.085 Ampere
68. DISPLACEMENT CONTROL SPOOL
69. ORIFICE WITH 0.120 RESTRICTION
70. ORIFICE WITH 0.025 RESTRICTION

V-0456 (2/8/05)

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WIRING SCHEMATIC
(WITHOUT ACS OPTION)
A300 (S/N 526411001 AND ABOVE)
(S/N 526511001 AND ABOVE)
(PRINTED FEBRUARY 2005)
V-0458

WIRING SCHEMATIC
A300 (S/N 526412000 AND ABOVE)
(S/N 526512000 AND ABOVE)
(PRINTED FEBRUARY 2005)
V-0671

WIRING SCHEMATIC
A300 (S/N 526411001 AND ABOVE)
(S/N 526511001 AND ABOVE)
(PRINTED FEBRUARY 2005)
V-0459

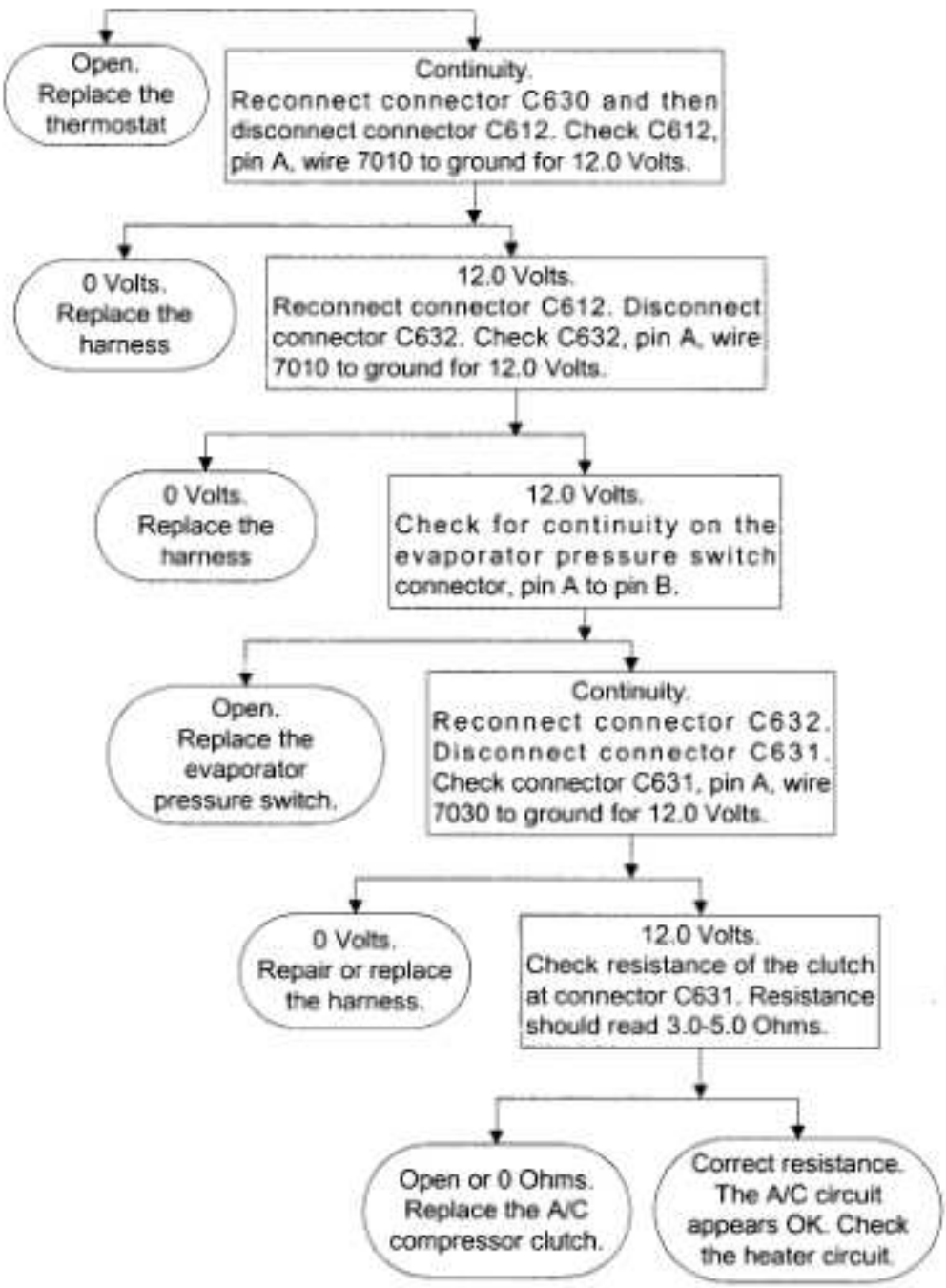
WIRING SCHEMATIC
OPTIONS
A300 (S/N 526412000 AND ABOVE)
(S/N 526512000 AND ABOVE)
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Air Conditioning

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HYDRAULIC/HYDROSTATIC SCHEMATIC
WITH TWO SPEED VALVE
AND HIGH FLOW OPTION
A300 (S/N 526412000 & Above)
(S/N 526512000 & Above)

(PRINTED MARCH 2005)
V-0670

LEGEND

1. RESERVOIR:
   Capacity . . . . . 18.8 qt. (17.8 L)
2. FILTER - CASE DRAIN (90 Micron)
3. FILTER - HYDRAULIC (CANISTER)
4. SPRING LOADED FILTER BY-PASS VALVE: 45-55 PSI (3,1-3,8 bar)
5. PILOT ACTIVATED DIRECTIONAL CONTROL VALVE - HYDRAULIC POWERED BOB-TACH
6. DIFFERENTIAL PRESSURE SWITCH: 36-44 PSI (2,5-3,0 kPa)
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17. FILTER - BOB-TACH VALVE
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    at Front Quick Couplers
20. RELIEF/ANTICAVITATION VALVE - PORT (LIFT BASE END)
    4000 PSI (275 bar)
21. ANTICAVITATION VALVE
22. RELIEF/ANTICAVITATION VALVE - PORT (TILT BASE END)
    4000 PSI (275 bar)
23. RELIEF/ANTICAVITATION VALVE - PORT (TILT ROD END)
    4000 PSI (275 bar)
24. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - AUXILIARY
25. RELIEF/ANTICAVITATION VALVE - PORT - OPTIONAL:
    3100 PSI (214 bar)
26. RELIEF/REPLENISHING VALVE - HIGH PRESSURE: 5221 PSI (381 kbar)
27. CHARGE PRESSURE SWITCH
28. RELIEF VALVE - CHARGE:
    140 degrees F. (60 degrees C.)Fluid
    330-360 PSI (22,7-24,8 kPa) at High Engine Idle
29. CHARGE PUMP
    11.1 GPM (42 Lpm) @ High Engine Idle
30. HYDRAULIC PUMP . . . . . Gear Type
    20.7 GPM (78,4 Lpm) @ High Engine Idle
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46. RELIEF VALVE - 2000 PSI (138 bar)
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48. RELIEF VALVE - 1200 PSI (83 bar)
49. CHECK VALVE WITH 80 PSI (5,5 bar) SPRING
50. CHECK VALVE WITH 0.03 RESTRICTION AND 300 PSI (20,7 bar) SPRING
51. CHECK VALVE - HIGH FLOW
52. SOLENOID ACTIVATED DIRECTIONAL CONTROL VALVE - BUCKET POSITION VALVE (ON/OFF)
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    0 - 0.085 Ampere
68. DISPLACEMENT CONTROL SPOOL
69. ORIFICE WITH 0.120 RESTRICTION
70. ORIFICE WITH 0.025 RESTRICTION
71. HIGH FLOW PUMP - Gear Type

    S/N 526412000 - 526412199
    S/N 526512000 - 526512099
    10.2 GPM (38,6 Lpm) @ High Engine Idle

    S/N 526412200 & Above
    S/N 526512100 & Above
    20.7 GPM (76,8 Lpm) @ High Engine Idle
72. RELIEF VALVE - 3300 PSI (228 bar)
73. SOLENOID DUMP VALVE - ON/OFF

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