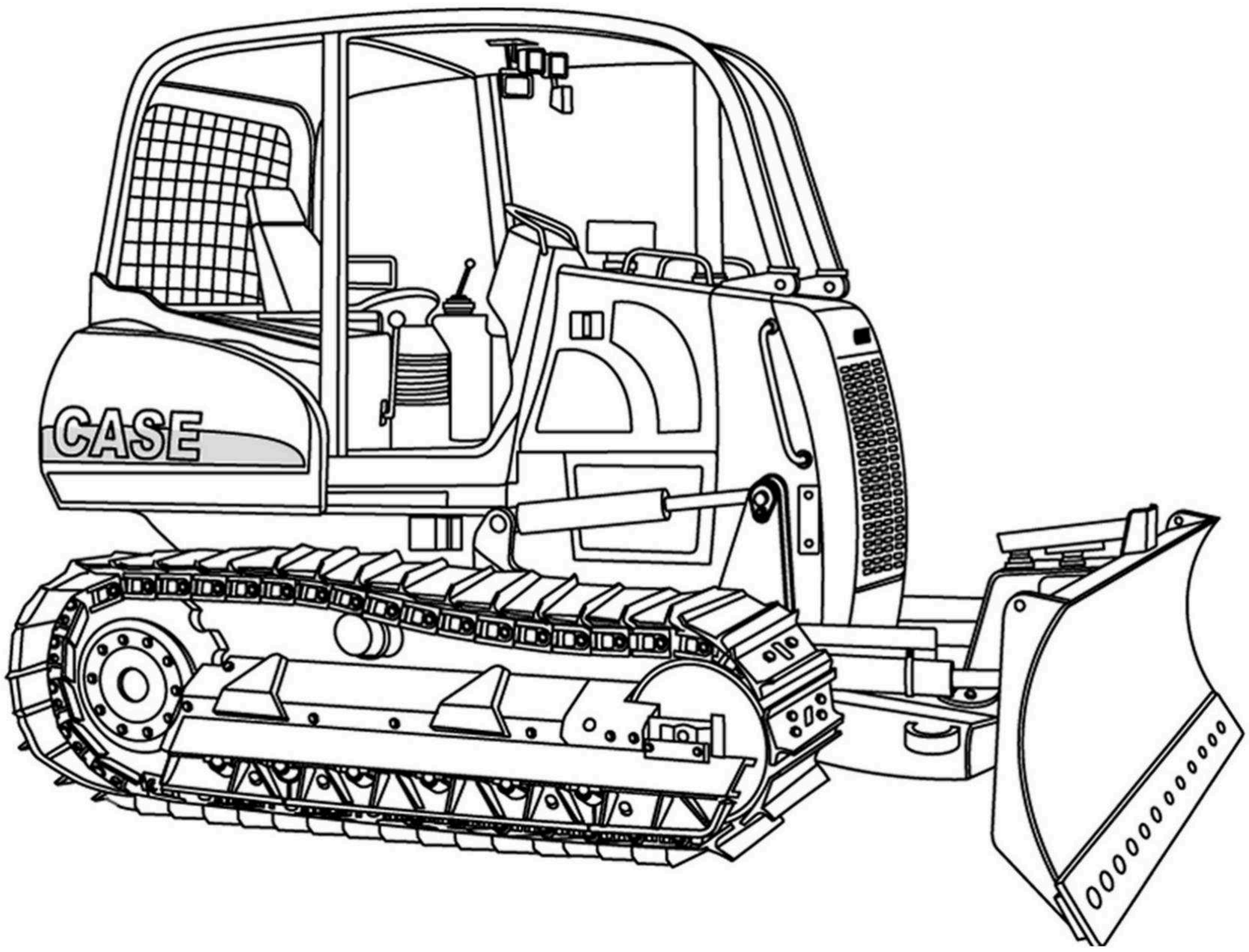
CASE CONSTRUCTION

SERVICE MANUAL

CRAWLER DOZER 650L TIER3



84276960

Replaces 84260831

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Battery - General specification

Charging Guide For Maintenance Free Batteries - Recommended Rate* and Time for Fully Discharged Battery	
Battery Capacity - See Reserve Capacity under Specifications	**Charge**
80 Minutes or Less	10 Hours at 5 Amperes 5 Hours at 10 Amperes
Above 80 to 125 Minutes	15 Hours at 5 Amperes 7.5 Hours at 10 Amperes
Above 125 to 170 Minutes	20 Hours at 5 Amperes 10 Hours at 10 Amperes
Above 170 to 250 Minutes	30 Hours at 5 Amperes 15 Hours at 10 Amperes
*Initial rate for standard taper charger.	

NOTE: *A maintenance free battery will have the words Maintenance Free on the decal on the top of the battery. If the center part of the decal has been removed to get access to the battery caps, it is possible the words Maintenance Free will have been removed from the decal.*

Charging Guide For Batteries Other Than Maintenance Free Batteries - Recommended Rate* and Time for Fully Discharged Battery	
Battery Capacity - See Reserve Capacity under Specifications	**Charge**
80 Minutes or Less	10 Hours at 5 Amperes 5 Hours at 10 Amperes
Above 80 to 125 Minutes	15 Hours at 5 Amperes 7.5 Hours at 10 Amperes
Above 125 to 170 Minutes	20 Hours at 5 Amperes 10 Hours at 10 Amperes
Above 170 to 250 Minutes	30 Hours at 5 Amperes 15 Hours at 10 Amperes
Above 250 Minutes	24 Hours at 10 Amperes
*Initial rate for standard taper charger.	

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(2) Check for open circuit from pin 12 of the **Main Harness to Chassis Harness Connector** to pin 31 of the **Drive Train Controller Connector (Pins 1-52)**, a reading of continuity should be obtained.

A. NOT OK – Repair or replace harness as needed. Return to Step **1** to confirm elimination of fault.

B. OK – Go to Step **6**.

6. Contact Technical Services Group for additional assistance prior to replacing the control module.

(1) Remove and replace Drivetrain Control Module.

(2) Write symptom on failed Drivetrain Control Module.

(3) Install program with Electronic Service Tool (EST) and calibrate the system.

Wiring harness - Electrical schematic frame 07 (A.30.A.88 - C.20.E.07)
Wiring harness - Electrical schematic frame 08 (A.30.A.88 - C.20.E.08)
Wiring harness - Electrical schematic frame 09 (A.30.A.88 - C.20.E.09)

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3266-Error in engine speed check, speed signal not plausible

Control Module : EDC

IMPORTANT: *When available use special tool 380040185 harness diagnostic/repair kit and 380040188 electro injector test fixture.*

NOTE: *See engine repair manual for electrical schematic information.*

Cause:

1. The absolute value of the deviation between engine speed Eng_nAvrg (layer 1) and redundant segment speed OvRMon_nSeg (layer 2) exceeds 320 rpm over 800 ms while the redundent segment speed is above 1000 rpm.
2. Faulty reading from component.
3. Connectors not mated fully, pins not pushed into connector fully, bent pin or broken wire at rear of connector.
4. Wiring or circuits open.
5. Wiring or circuits shorted.

Solution:

1. Find out if the fault code is still active, refer to
   0000 - Retrieving fault codes, Crawlers

   Prior to clearing fault codes write down all fault codes, number of occurrences, and engine hours at last occurrence.

   (1) Turn ignition switch to RUN position to power instrument cluster.

   (2) Clear all fault codes from the cluster.

   (3) To check for fault code: Start and operate machine.

   A. NOT OK – Fault code 3266 is recorded again. Go to Step **2**.

   B. OK – Fault is not recorded again. OK for return to service.
2. Reset ECM (electronic control module) by turning the key to the OFF position and turning back ON.

   A. OK— Return to Step **1**to confirm elimination of fault.

   B. NOT OK— Go to Step **3**.
3. Replace ECM (engine control module).

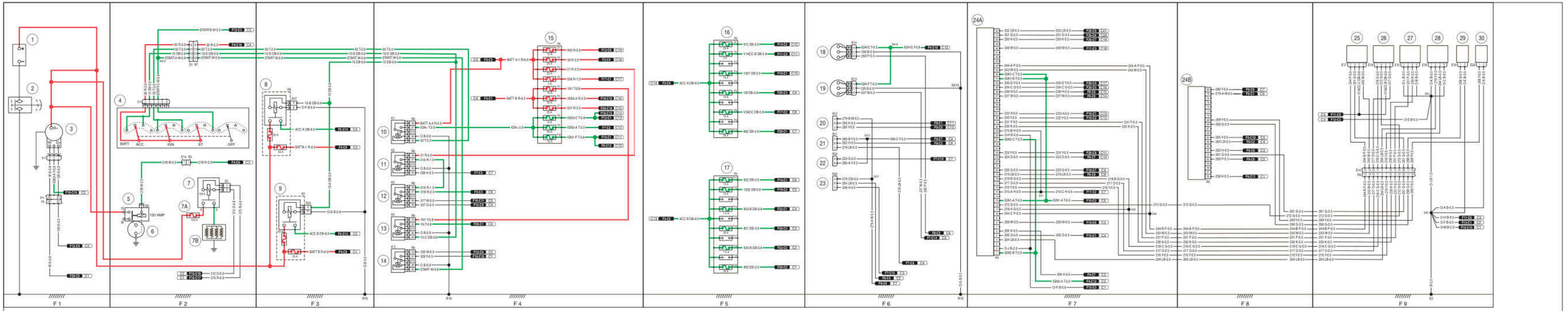
   Prior to changing the engine control module contact Technical Services Group for further assistance.

   (1). Remove and replace engine control module.

   (2). Write symptom on failed engine control module.

   A. Return to Step **1** to confirm elimination of fault. If fault is recorded again contact Technical Services Group for assistance.

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COMPONENTS

FRAME - COMPONENT NUMBERS	FRAME - COMPONENT NUMBERS	FRAME - COMPONENT NUMBERS	FRAME - COMPONENT NUMBERS
F-1 CHARGING CIRCUIT 1 - 1. Battery 1 - 2. Master Disconnect Switch 1 - 3. Alternator	**F-9 PUMPS AND MOTORS** 9 - 25. Left-Hand Motor Speed Sensor 9 - 26. Right-Hand Motor Speed Sensor 9 - 27. Left-Hand Hydrostatic Pump 9 - 28. Right-Hand Hydrostatic Pump 9 - 29. Left-Hand Motor Solenoid 9 - 30. Right-Hand Motor Solenoid	**F-16 ENGINE CONTROL UNIT** 16- 53. Engine Controller 16- 54. Water-in-Fuel Sensor	**F-25 DOOR WIPER SWITCH AND WASHER** 25- 82. Washer Switch (Left/Right) 25- 83. Washer Pump (Left/Right)
F-2 CRANKING CIRCUIT AND COLD START 2 - 4. Ignition Switch 2 - 5. Starter Solenoid 2 - 6. Starter 2 - 7. Grid Heater Relay 2 - 7A. Grid Heater Fuse 2 - 7B. Grid Heater	**F-10 FORWARD-NEUTRAL-REVERSE (F-N-R) JOYSTICK AND REVERSE RATIO SWITCH** 10- 31. Reverse Ratio Switch 10- 32. Forward-Neutral-Reverse (F-N-R) Joystick	**F-17 RADIO** 17- 55. Radio 17- 56. Right Speaker 17- 57. Left Speaker	**F-26 DIAGNOSTIC AND FLEET** 26- 84. Connector - Diagnostic 26- 85. 12 Volt Power Socket 26- 86. Connector - Fleet Tracker
F-3 POWER RELAYS 3 - 8. Power Relay - Module A 3 - 9. Power Relay - Module B	**F-11 BRAKES** 11- 33. Brake Pressure Switch 11- 34. Brake Solenoid	**F-18 DOME LAMPS** 18- 58. Interior Lamp Switch 18- 59. Interior Lamp	**F-27 GROUND CONNECTIONS (SEE NOTE 1)** 27- 87. R10 - Located in Firewall (Ground contacts in Frames 3, 4, 6, 10, 12, 19, 24, and 26.) 27- 88. L14 - Located top of Cab (Ground contacts in Frames 14, 17, 18, 20, 21, and 22.) (Cab Units) 27- 89. E2 - Located at right-hand rear Engine Mount (Ground contacts in Frames 9, 13, 15, and 16.) 27- 90. C14 - Located top of Cab (Ground contacts in Frames 14 and 17.) (Canopy Units)
F-4 FUSE AND RELAY BLOCK 4 - 10. Ignition Relay 4 - 11. Vehicle Safety Relay 4 - 12. Starter Relay 4- 13. Fleet Relay 4- 14. Start Sensing Relay 4 - 15. Fuses F1 to F10	**F-12 MENU SWITCHES AND INSTRUMENT CLUSTER** 12- 35A. Instrument Cluster A 12- 35B. Instrument Cluster B 12- 36. Warning Buzzer 12- 37. Enter/Escape Switch 12- 38. Up/Down Switch	**F-19 ROPS HEATER AND AIR SUSPENSION SEAT** 19- 60. Heater - ROPS 19- 61. Air Suspension Seat	
F-5 FUSE BLOCK 5 - 16. Fuses F1 to F10 5 - 17. Fuses F11 to F20	**F-13 SENDING UNITS** 13- 39. Air Filter Restriction 13- 40. Hydrostatic Filter Restriction Switch 13- 41. Transmission Temperature 13- 42. Equipment Filter Restriction Switch 13- 43. Fuel Sending Unit 13- 44. Transmission Charge Pressure Switch	**F-20 BLOWER MOTOR** 20- 62. Blower Motors 20- 63. Thermostat 20- 64. Water Valve 20- 65. Resistor 20- 66. Fan Speed Switch 20- 67. Mode Switch 20- 68. Temperature Switch 20- 69. Fan High Speed Relay	
F-6 BRAKE, DECELERATOR, AND THROTTLE POTENTIOMETER 6 - 18. Right-Hand Brake Proximity Switch 6 - 19. Left-Hand Brake Proximity Switch 6 - 20. Brake Position Sensor 6 - 21. Decelerator Position Sensor 6 - 22. Low Idle Switch 6 - 23. Throttle Position Sensor	**F-14 FRONT AND REAR LAMPS** 14- 45. Front Lamp Switch 14- 46. Rear Lamp Switch 14- 47. Front Lamps 14- 48. Front Lamps (Optional) 14- 49. Rear Lamps	**F- 21 AIR CONDITIONING** 21- 70. Air Conditioner Low Pressure Switch 21- 71. Air Conditioner High Pressure Switch 21- 72. Air Conditioner Clutch 21- 73. Air Conditioner Condenser	
F-7 DRIVE TRAIN CONTROLLER 7 - 24A. Drive Train Controller - Connector R4	**F-15 HORN AND BACKUP ALARMS** 15- 50. Backup Alarm 15- 51. Horn Switch 15- 52. Horn	**F-22 WINDSHIELD WIPER SWITCH AND MOTORS** 23- 74. Front Wiper Motor 23- 75. Wiper Switch (Front/Rear) 23- 76. Rear Wiper Motor	
F-8 DRIVE TRAIN CONTROLLER 8 - 24B. Drive Train Controller - Connector R5		**F-23 WINDSHIELD WIPER SWITCH AND WASHER** 23- 77. Washer Switch (Front/Rear) 23- 78. Washer Pump (Front/Rear)	
		F-24 DOOR WIPER SWITCH AND MOTORS 24- 79. Wiper Motor (Left) 24- 80. Wiper Switch (Left/Right) 24- 81. Wiper Motor (Right)	

LEGEND

INDICATES CONSTANT POWER

INDICATES POWER WHEN KEY SWITCH IS ON

ACTUATORS: LEVER, HAND, FOOT, COIL, TEMP., DIODE, PRESSURE, FLOAT LIQUID LEVEL

HOUSINGS: VACUUM SWITCH, PRESSURE SWITCH, LAMP, MOTOR, TEMPERATURE SWITCH

CONTACT CONFIGURATIONS: S.P.S.T., S.P.D.T., D.P.S.T., D.P.D.T., MOMENTARY, MAINTAINED CONTACTS

MISCELLANEOUS SYMBOLS: VARIABLE RESISTOR, RESISTOR, FUSE, CIRCUIT BREAKER, MALE TERMINAL, FEMALE TERMINAL, COMPONENT NUMBER

SHOWS CIRCUIT SPLICE CONNECTION (SPL-06) — SHOWS CIRCUIT CROSSING NOT CONNECTED

INDICATES EXTERNAL GROUND — INDICATES INTERNALLY GROUNDED COMPONENT

FEMALE CONNECTOR — MALE CONNECTOR — CONNECTOR NUMBER — CONNECTOR IDENTIFICATION — INDICATES PARTIAL CONNECTOR — NOT ALL CONNECTIONS ARE SHOWN

WIRE IDENTIFICATION

B . . . BLACK	O. . . ORANGE
DB. . DARK BLUE	P. . . PURPLE
G. . . GREEN	R. . . RED
K. . . PINK	S. . . GRAY
LG. . LIGHT GREEN	T. . . TAN
LB. . LIGHT BLUE	W . . WHITE
DG . DARK GREEN	Y. . . YELLOW

Example: 702A G-1.0 — WIRE NUMBER, WIRE COLOR, WIRE SIZE

NOTES

NOTE 1 See in the REPAIR MANUAL for locations and Troubleshooting information.

NOTE 2 Ground C14 is for CANOPY UNITS
Ground L14 is for LAB UNITS

ELECTRICAL SCHEMATIC
650L CRAWLER

Additional copies of this Hydraulic and Electrical Schematic can be ordered through Technical Publications Distribution System.
The part number is 84271238

Order the manual at mid-west-tech.com >