CF 500, CF 600 Circuit Diagrams

NOTE: The descriptions and specifications contained in this manual were in effect at the time this manual was approved for printing. International Truck and Engine Corporation reserves the right to change specifications or design without notice and without incurring any obligation.

Note

All wiring connections between components are shown exactly as they exist in the vehicles. It is important to realize, however, that no attempt has been made on the schematic to represent components and wiring as they physically appear on the vehicle. For example, a 4-foot length of wire is treated no differently in a schematic from one which is only a few inches long. Furthermore, to aid in understanding electrical (electronic) operation, wiring inside complicated components has been simplified.

Complete Circuit Operation

Each circuit is shown completely and independently in one cell. Other components which are connected to the circuit may not be shown unless they influence the circuit operation.

Current Flow (1)

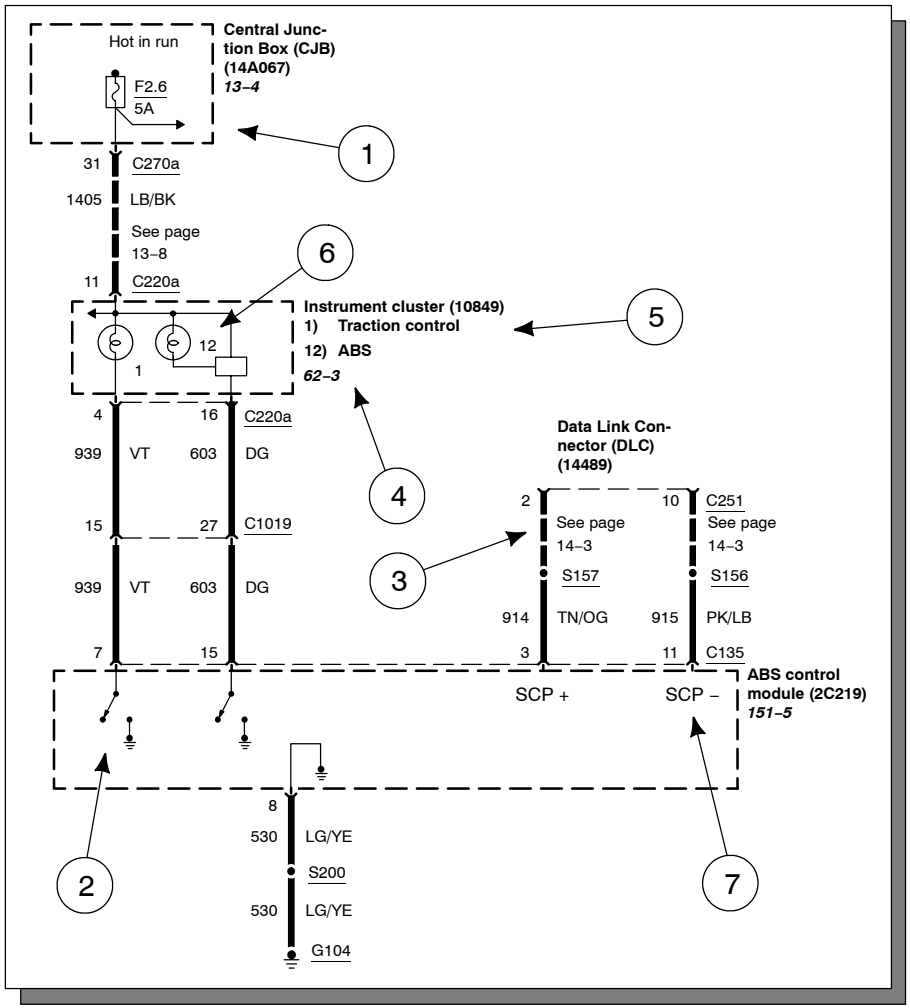
Each cell normally starts with the component that powers the circuit, such as a fuse or the ignition switch. Current flow is shown from the power source at the top of the page to ground at the bottom of the page. In order to concentrate on the essential parts, power supply and ground connections are sometimes simplified by a dashed line in the schematics. A full representation of the power supply of a fuse or the power distribution from a fuse to various components is given in cell 13 “Power Distribution”. Full representation of the ground connections are shown in cell 10 “Grounds”.

Switch Positions (2)

Within the schematic, all switches, sensors and relays are shown “at rest” (as if the Ignition Switch were OFF).

Splices (3)

A dashed line indicates that the splice is not shown completely. A reference is given to the page where the splice appears in full. It is also listed in the Index.



Component Referencing (4)

Each component on a schematic has a reference to the component location view or the page where it is shown completely. It is located to the right of each component.

Component Names, Notes and Base Part Numbers (5)

Component names are placed on the right hand side of each component. Any notes that describe switch positions or operating conditions follow the name. Descriptions of the internals of the component are also included here. The page where the component appears in full is listed in the Index. The base part number for a component is listed in parentheses next to or under a component. These part numbers will appear any place the component name appears in the publication.

Internal Name and Function Identification Numbers (6)

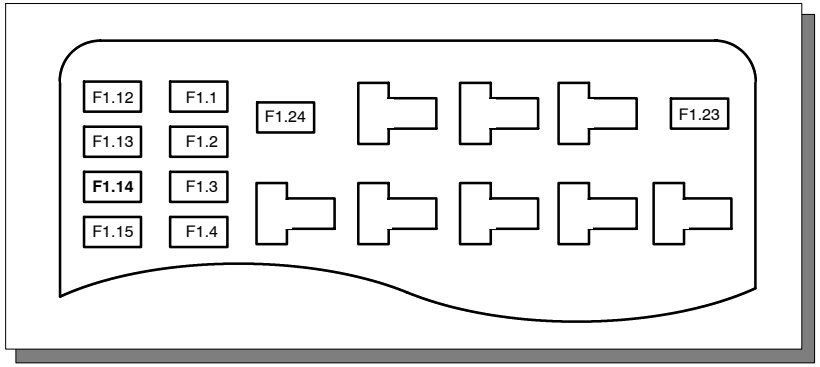
Some components on each page have internal symbols with an identification number located to the right. You can identify the internal symbol or function by finding the corresponding number under the component name.

Circuit Function Identifiers (7)

Some components without internal schematics use symbols or text to describe the function of a circuit in a system.

Fuse and Relay Information

Cell 11 “Fuse and Relay Information” contains a view of the fuse-/relay box in which all fuses and relays are identified.

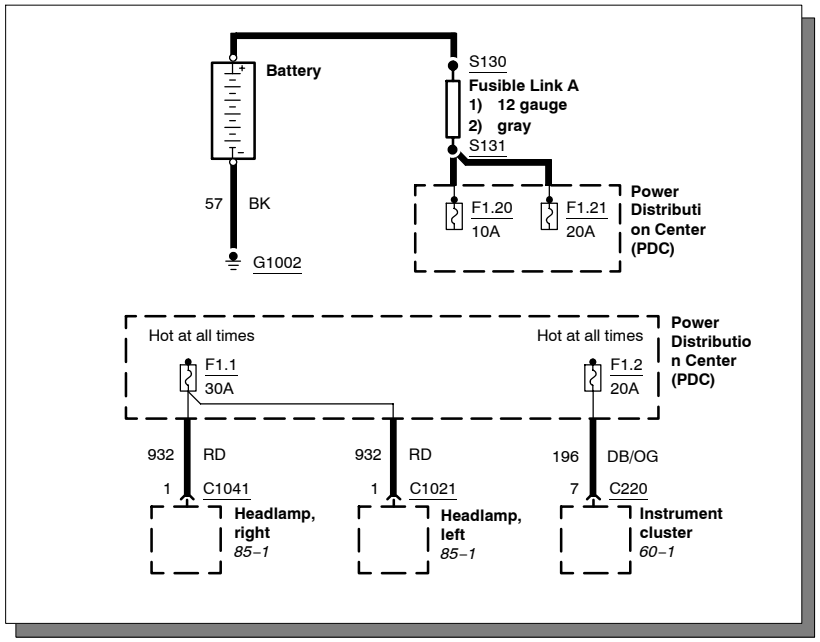


Fuse and Relay Numbering and Naming

Fuse and relay numbering and naming follow the indication of the fuse panel cover. In addition, a prefix precedes the fuse number to facilitate finding the fuse in the Component Location Charts, e.g. “F1.” precedes Power Distribution Center fuses, and “F2.” precedes Central Junction Box fuses.

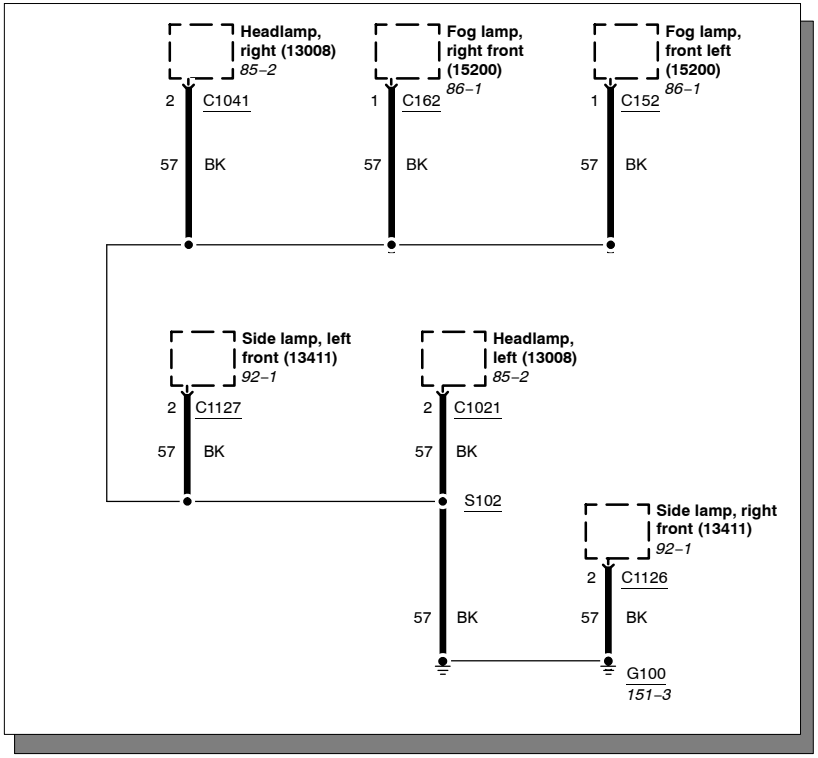
Power Distribution

Cell 13 “Power Distribution” shows the current feed circuit. The current path is shown from the battery to the ignition switch and to all fuses. It also shows the circuits protected by each fuse. The circuit is traced from the fuse to the component. All details (wires, splices, connectors) between the fuse and the first component are shown.



Ground Distribution

Cell 10 “Grounds” contains the schematics that show the complete details for each ground connection or main ground splice. This is useful in diagnosing a problem affecting several components at once (poor ground connection or ground splice). All details (wires, splices, connectors) between the ground point and the components are shown. These ground connection details are shown here in order to keep the individual cell schematics as uncluttered as possible.



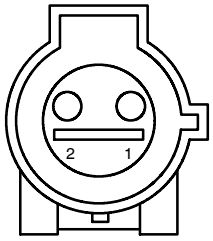
Component and Connector Information

Cell 152 “Component Location Charts” helps the user find where the various items depicted on the schematic can physically be found on the vehicle. A brief written description of the location is given, along with a reference to the component location views.
Cell 151 “Component Location Views” show the components and their connecting wires as they can be found on the vehicle.
Cell 150 “Connector Views” show the views of the pins and/or cavities of all connectors. The pin and cavity sides are shown separately as if the connector were disconnected. The color of the connector housing is indicated next to the connector number when available. The harness causal number is located above the component name and below the connector number or above the connector face itself. Wiring harness designations are listed in cell 152 “Component Location Charts”. Circuit function charts are located below each connector.

C150 (BK)

12A581

Wheel speed sensor, left front (2C205)

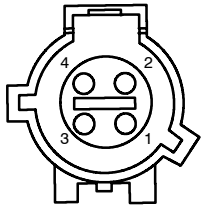


FEMALE

Pin	Circuit	Circuit Function
1	522 (TN/BK)	Wheel speed sensor, left front (2C205) –
2	521 (TN/OG)	Wheel speed sensor, left front (2C205) +

C1033 (BK)

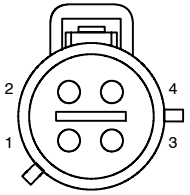
12B637



FEMALE

(1) –
(2) 1102 (YE/LG)

14B102

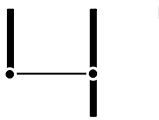


MALE

(3) 359 (GY/RD)
(4) –

WARNINGS

- *Always wear safety glasses for eye protection.*
- *Use safety stands whenever a procedure requires being under a vehicle.*
- *Be sure that the* **Ignition Switch** *is always in the OFF position, unless otherwise required by the procedure.*
- *Set the parking brake when working on any vehicle. An automatic transmission should be in PARK. A manual transmission should be in NEUTRAL.*
- *Operate the engine only in a well-ventilated area to avoid danger of carbon monoxide.*
- *Keep away from moving parts, especially the fan and belts, when the engine is running.*
- *To prevent serious burns, avoid contact with hot metal parts such as the radiator, exhaust manifold, tail pipe, catalytic converter and muffler.*
- *Do not allow flame or sparks near the battery. Gases are always present in and around the battery cell. An explosion could occur.*
- *Do not smoke when working on a vehicle.*
- *To avoid injury, always remove rings, watches, loose hanging jewelry and avoid wearing loose clothing.*


Distributed splice


Crossed wiring without connection

Splice

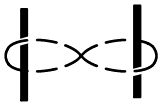
Removable connection


Ground


Connector


Female connector

Male connector

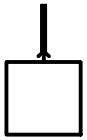

Twisted pair

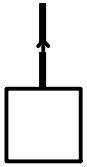

Entire component


Part of a component


Component case directly attached to metal part of vehicle (ground)


Component with screw terminals

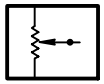

Connector attached to component


Connector attached to component lead (pigtail)


Positive Temperature Coefficient (PTC)


Resistor


Potentiometer (pressure or temperature)


Potentiometer (outside influence)


Battery

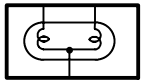

Fuse

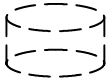

Circuit breaker


Heating element, Conductor loop

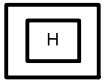

Ignition coil assembly


Coil


Bifilament lamp


Shield


Solenoid controlled valve or clutch solenoid



Hall sensor


Gauges


Horn or speaker


Light emitting diode (LED)


Air bag sliding contact (14A664)


Antenna

Fusible link


Capacitor


Diode, current flows in direction of arrow

Permanent magnet, one–speed–motor


Warning


Variable capacitor


Transistor

Permanent magnet, two–speed–motor


Piezoelectric sensor


Lamp


Rotational sensor

Wire colors	
BK	Black
BN	Brown
BU	Blue
DB	Dark blue
DG	Dark green
GN	Green
GY	Gray
LB	Light blue
LG	Light green
NA	Natural
OG	Orange
PK	Pink
RD	Red
SR	Silver
TN	Tan
VT	Violet
WH	White
YE	Yellow