

SERVICE REPAIR

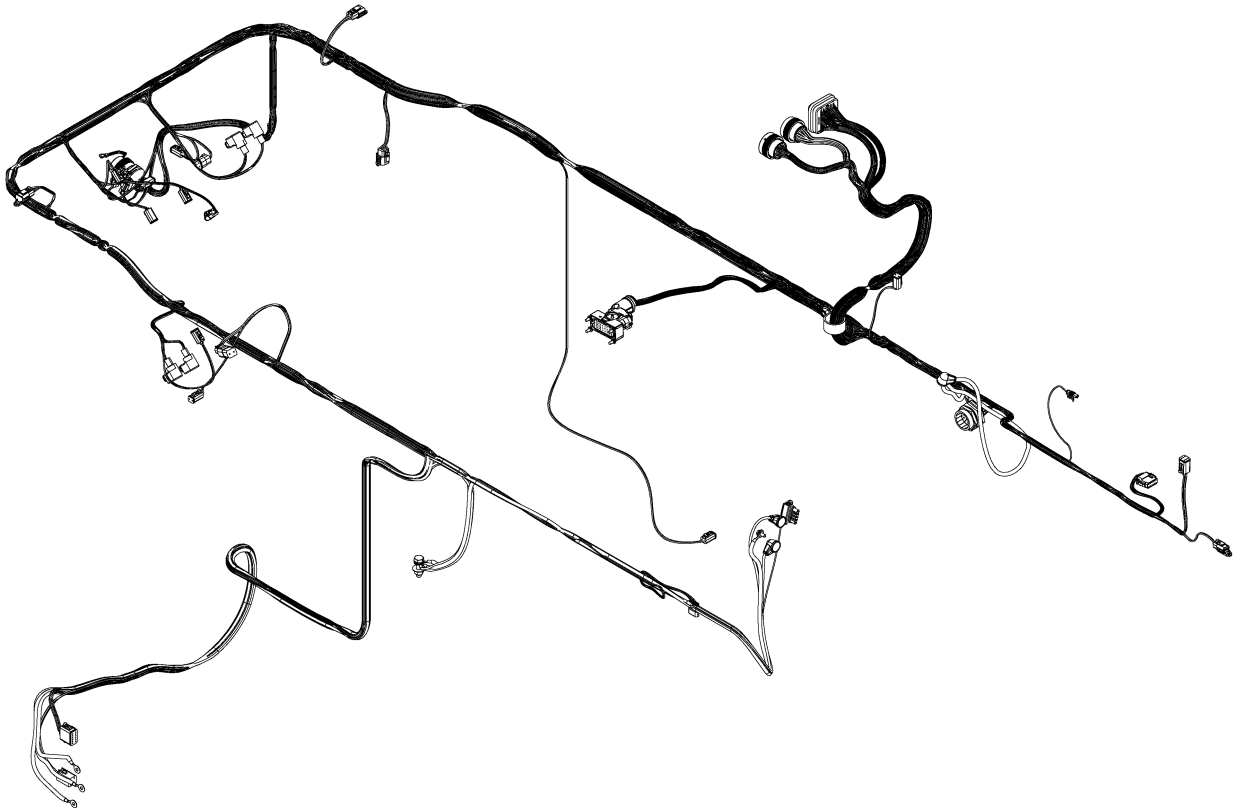
MANUAL

Hyster C236 (H400HD, H400HDS, H450HD, H450HDS)
Internal Combustion Engine Trucks Service Repair Manual

HYSTER

ELECTRICAL SYSTEM

H18-20XM-9, H18-20XMS-9 (H400HD, H450HD,
H400HDS, H450HDS) [C236]



HYSTER

SAFETY PRECAUTIONS

MAINTENANCE AND REPAIR

- The Service Manuals are updated on a regular basis, but may not reflect recent design changes to the product. Updated technical service information may be available from your local authorized Hyster® dealer. Service Manuals provide general guidelines for maintenance and service and are intended for use by trained and experienced technicians. Failure to properly maintain equipment or to follow instructions contained in the Service Manual could result in damage to the products, personal injury, property damage or death.
- When lifting parts or assemblies, make sure all slings, chains, or cables are correctly fastened, and that the load being lifted is balanced. Make sure the crane, cables, and chains have the capacity to support the weight of the load.
- Do not lift heavy parts by hand, use a lifting mechanism.
- Wear safety glasses.
- DISCONNECT THE BATTERY CONNECTOR before doing any maintenance or repair on electric lift trucks. Disconnect the battery ground cable on internal combustion lift trucks.
- Always use correct blocks to prevent the unit from rolling or falling. See HOW TO PUT THE LIFT TRUCK ON BLOCKS in the Operating Manual or the Periodic Maintenance section.
- Keep the unit clean and the working area clean and orderly.
- Use the correct tools for the job.
- Keep the tools clean and in good condition.
- Always use HYSTER APPROVED parts when making repairs. Replacement parts must meet or exceed the specifications of the original equipment manufacturer.
- Make sure all nuts, bolts, snap rings, and other fastening devices are removed before using force to remove parts.
- Always fasten a DO NOT OPERATE tag to the controls of the unit when making repairs, or if the unit needs repairs.
- Be sure to follow the WARNING and CAUTION notes in the instructions.
- Gasoline, Liquid Petroleum Gas (LPG), Compressed Natural Gas (CNG), and Diesel fuel are flammable. Be sure to follow the necessary safety precautions when handling these fuels and when working on these fuel systems.
- Batteries generate flammable gas when they are being charged. Keep fire and sparks away from the area. Make sure the area is well ventilated.

NOTE: The following symbols and words indicate safety information in this manual:



WARNING

Indicates a hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury and property damage.

On the lift truck, the **WARNING** symbol and word are on orange background. The **CAUTION** symbol and word are on yellow background.

TABLE OF CONTENTS

General	1
Electrical Schematic and System Description	2
Electrical Schematic	2
Schematic Location Number	4
Electrical Components	4
Electrical Wires	4
Wire Identification Number	4
Electrical Wire Colors	6
Wire Harnesses	6
Harness Interconnection	10
Electrical Connectors	10
Connector Types	10
Connector Identification	11
Connector Pin Numbers	11
Connector Description	11
Fuses	12
Relays	16
Flyback Diodes	17
CAN (Controller Area Network)	17
Diagnostic	19
Central Warning Lights and Instrument Panel	19
Instrument Panel Connector	21
LCD Display	22
Hourmeter Mode	22
Fault Code Mode	23
Transmission Calibration	23
Fault Code Log Mode	23
Access	23
Clear	24
Exit	24
General Fault Finding	24
Preparation	24
Define the Problem Area	24
Identify Possible Causes of Malfunction	24
Determine the Most Probable Cause	24
Fuse Check	24
Wiring Check	25
Component Check	25
Repair and Test	25
Wire Harness Identification and Connector Location	25
Frame Harness Connectors	35
Mast Harness Connectors	37
Top Cab Harness Connectors	39
Side Console Harness Connectors	41
Cab Underfloor Harness Connectors	44
Armrest Harness Connectors	46
ECM Harness Connectors (Tier 3/Stage IIIA)	48
EAS/ECM Harness Connectors (Tier 4F/Stage IV)	49
Powertrain Harness Connectors	51
Hoodspine Harness (Tier 3/Stage IIIA) Connectors	52

TABLE OF CONTENTS (Continued)

Hoodspine Harness (Tier 4F/Stage IV) Connectors 53

This section is for the following models:

H18-20XM-9, H18-20XMS-9 (H400HD, H450HD, H400HDS, H450HDS) [C236]

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General

This manual provides general information on the electrical system of C236 lift trucks. This manual provides a link between the electrical schematic and the actual location of the electrical components on the lift truck.

The description and replacement procedures for the electrical system components are located in the relevant manual for the component. An example

would be a transmission solenoid, which is shown in Transmission Repair (ZF-WG211) 1300SRM1718.

The actual electrical schematic drawings are shown in Diagrams 8000SRM1725.

Electrical Schematic and System Description

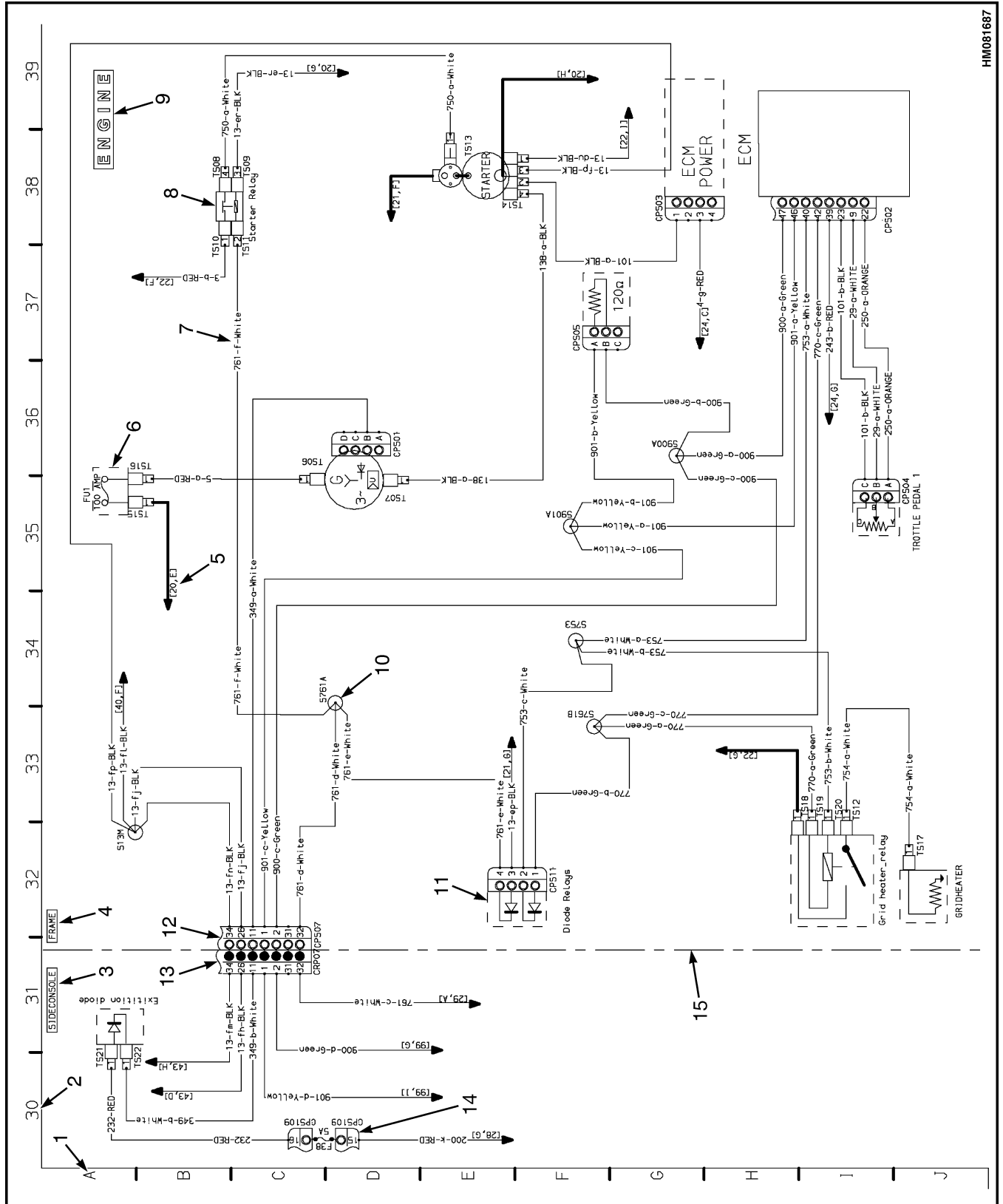
ELECTRICAL SCHEMATIC

The electrical schematic is laid out over several pages in Diagrams 8000SRM1725. Each page shows the electrical connection between the components, connectors, and wires.

The layout of the schematic is function driven, which means that each sheet represents one particular function or area as indicated by the title of the sheet. The index of the electrical schematic is shown in Table 1.

Table 1. Electrical Schematic Index

Number	Title	Contents
1	Index	Sheet Title Index
2	Main Power	Battery, Key Switch
3	Engine Common and T3	Engine controller and components
4	T4F/EAS	Fan Clutch, Tier 4F/Stage IV sensors
5	DEF	DEF Sensors, DEF Supply Module
6	XMSN	Transmission controller and components
7	Cab Lights	Cab roof and interior lights
8	Frame Lights	Front and tail lights, reverse alarm
9	Lights	Mast lights, flasher, jumper
10	Powered Cab Tilt	Powered Cab Tilt
11	Monitoring	Instrument cluster, senders, alarms, diagnostics
12	OPS/Park Brake	Park brake switch and solenoid, suspension seat
13	Hydraulic Controls Cab	Hydraulic controller, levers, Operator Presence
14	Auxiliary Functions	Hydraulic Stop Lock-, Twist Lock-, Joystick switches
15	Wipers	Wipers and washers, switches, timer
16	Radio/Horn	Radio, Horn, DC converter, 12V plug
17	HVAC	Heating, Air Conditioning and Ventilation
18	Automatic Greasing	Lubrication pump, Lubrication Display
19	Front End FLT	Carriage, Slide Shift
20	Connect Overview	Connector codes, names and applied harness
21	Wire List	List of used wires and their functions
22	Wire List	List of used wires and their functions
23	Wire List	List of used wires and their functions
24	Wire List	List of used wires and their functions
25	Wire List	List of used wires and their functions
26	Fuse/Relay Index	List of used fuses and their functions



HM081687

Figure 1. Schematic Example

Legend for Figure 1

- | | |
|--|---------------------------|
| 1. ROW LETTER - A | 9. SHEET NAME - ENGINE |
| 2. COLUMN NUMBER - 30 | 10. SPLICE - S761A |
| 3. WIRE HARNESS NAME - SIDE CONSOLE | 11. DIODE BLOCK |
| 4. WIRE HARNESS NAME - FRAME | 12. CONNECTOR - CPS07 |
| 5. WIRE CONTINUATION LOCATION- [20, E] | 13. CONNECTOR - CRP07 |
| 6. MEGA FUSE - 100 AMP | 14. FUSE - 5 AMP |
| 7. WIRE NUMBER AND COLOR - 761-F-WHITE | 15. HARNESS DIVIDING LINE |
| 8. RELAY - STARTER | |

SCHEMATIC LOCATION NUMBER

The schematic is divided into rows with a letter from A to J and into columns numbered 0 to 9 for each sheet. See Figure 1.

The column numbering consists of the sheet number plus the column number. For example, column 57 is the 7th column on sheet 5.

The schematic location number is the combination of a row letter and column number, which allows quick identification of a point on the schematic. For example, [57,A] is the 7th column on sheet 5, row A.

ELECTRICAL COMPONENTS

Electrical components are indicated by a symbol and a description that are placed close to each other on the schematic. An example is the starter relay on [38,C]. See Figure 1.

ELECTRICAL WIRES

Each electrical wire is indicated by a solid line and has been identified with an identification number and a color indication of the wire insulation. If a wire continues on a different sheet, then the solid line ends with an arrow and receives in addition the schematic location number where this wire continues.

Wire Identification Number

Each electrical wire in the electrical schematic has an identification number that is also printed on the insulation of the wires.

The wire identification numbers consist of a function ID number and when needed a suffix letter.

The function ID numbers are numbered from 1 through 999. Specific ranges of numbers are assigned for different function ID groups. See Table 2.

Table 2. Function ID Numbers

Function Group	Number Range
Dedicated Circuits	001 - 100
Grounds	101 - 149
Current sense ground	150 - 199
Switched B+	200 - 239
Fused B+	240 - 249
Regulated power 5V	250 - 279
Regulated power 12V	280 - 299
Analog inputs - hydraulics/mast	300 - 319
Analog inputs - chassis	320 - 339
Analog inputs - powertrain	340 - 399
Analog inputs - CAB/OHG	400 - 419
Additional analog inputs	420 - 499
Digital inputs - hydraulics/mast	500 - 509
Digital inputs - chassis	510 - 539
Digital inputs - powertrain	540 - 559
Digital inputs - CAB/OHG	560 - 569
Encoder inputs	570 - 599
Additional digital inputs	600 - 699
Digital outputs - hydraulics/mast	700 - 719
Digital outputs - chassis	720 - 749
Digital outputs - powertrain	750 - 779
Digital outputs - CAB/OHG	780 - 799
PWM outputs - hydraulics/mast	800 - 829
PWM outputs - chassis	830 - 839
PWM outputs - powertrain	840 - 889
PWM outputs - CAB/OHG	890 - 899
Communication (e.g., CAN)	900 - 909
Non-standard functions	910 - 999

Wires with the same number are interconnected through splices and connectors, and therefore have the same electrical function.

When a circuit is spliced into several wires, or when a wire passes a connector, each wire number receives the next unique suffix letter. An example is 42-a, 42-b.

To simplify the schematic, sometimes the identification has been omitted for a spliced function. It may concern an intersection between a switch and a splice, or a right-hand component operating simultaneously with a left hand component.

There is a wire number overview in Diagrams 8000SRM1725. In this overview each wire is listed with the wire harness it is part of, and with the connector identification number and pin numbers it connects to. The actual location of a connector code can be looked up in Connector Overview.

Electrical Wire Colors

In addition to the function ID numbers on the electrical wires, different wire isolation colors are used to identify the circuit levels. See Table 3.

Wire Harnesses

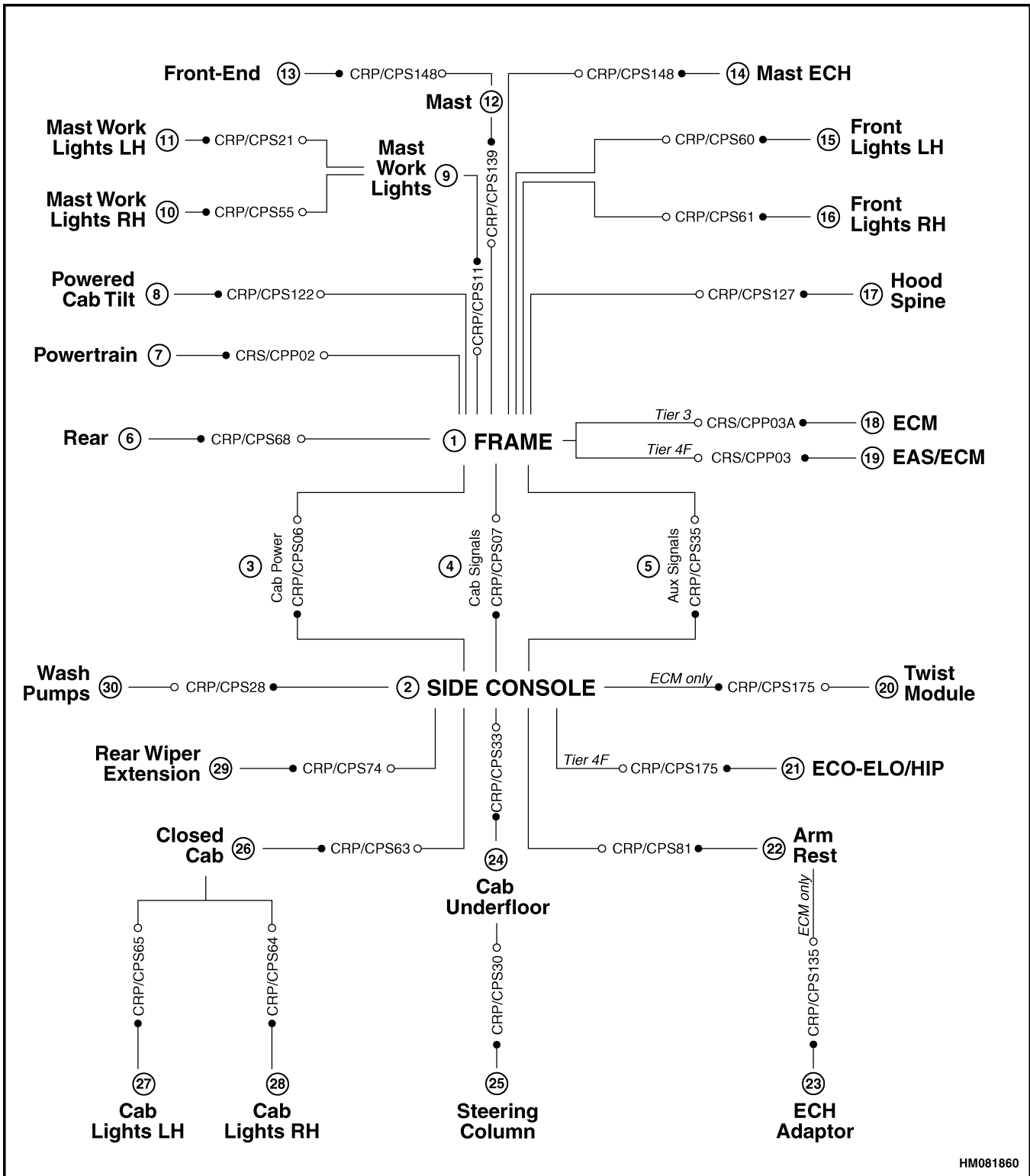
Wires are bound together in wire harnesses to secure against the adverse effects of vibration, abrasion and moisture. The description of wire harnesses follows from its location in the truck or from the functions it connects with.

Figure 2 provides an overview of the different harnesses that belong to the different truck options and their connector numbers.

Figure 14 through Figure 22 shows a 3D-view of most of the wire harnesses with their terminals and connectors. The legends for these figures mention the connector codes and connector description for verification. See also Wire Harness Identification and Connector Location.

Table 3. Electrical Wire Colors

Wire Color	Circuit Level
Red	Battery Level Power Circuits
Black	Heavy Current Grounds
Green	Signal Grounds
White	Other Circuits
Yellow (Twisted Pair)	CAN Hi
Green (Twisted Pair)	CAN Lo
Orange	5 Volt
Pink	12 Volt



HM081860

Figure 2. Harnesses Overview

Legend for Figure 2

- | | | |
|-------------------------|-------------------------|--------------------------|
| 1. FRAME | 11. MAST WORK LIGHTS LH | 21. ECO-ELO/HIP |
| 2. SIDE CONSOLE | 12. MAST | 22. ARM REST |
| 3. CAB POWER | 13. FRONT-END | 23. ECH ADAPTOR |
| 4. CAB SIGNALS | 14. MAST ECH | 24. CAB UNDERFLOOR |
| 5. AUX SIGNALS | 15. FRONT LIGHTS LH | 25. STEERING COLUMN |
| 6. REAR | 16. FRONT LIGHTS RH | 26. CLOSED CAB |
| 7. POWERTRAIN | 17. HOOD SPINE | 27. CAB LIGHTS LH |
| 8. POWERED CAB TILT | 18. ECM | 28. CAB LIGHTS RH |
| 9. MAST WORK LIGHTS | 19. EAS/ECM | 29. REAR WIPER EXTENSION |
| 10. MAST WORK LIGHTS RH | 20. TWIST MODULE | 30. WASH PUMPS |

Not shown in the harness overview and in the 3D-views are harnesses that are merely an extension cord for some of the connectors, or jumpers that connect between wires. The lay-out of these harnesses can be read from the electrical schematic. For the actual location of these harnesses, read the code of the mating connector from the electrical schematic and look up the figure and item number from Connector Overview. For example: the Closed Cab harness connects with the Cab Lights RH, which connects to CPS 64. See Figure 16.

Not shown on the figures for the frame harnesses are the connectors for engine components such as sensors, fan clutch and grid heater relays.

There are four jumper options:

- Jumper Power Supply by Ignition provides power supply for side, tail and hazard lights when the ignition switch is turned to the ON position. See schematic location [99, H]. This harness is to be plugged into connector CPS651, which connects pin A with pin B.
- Jumper Power Supply by Battery directly provides power supply from the batteries to the circuit for side, tail and hazard lights, allowing activating these lights irrespective of the ignition switch position. See schematic

location [98, H]. This harness is to be plugged into connector CPS650, which connects pin B with pin C.

- The strobe light jumper allows activation by ignition by connecting a jumper between pin number 2 and pin 3 of the strobe switch. See schematic location [72, L].
- Operator Presence Switch Jumper, which is removed when connecting the optional seat-belt sequencer.

Harness Interconnection

On the electrical schematic the interconnection between two harnesses is indicated by a harness dividing line, which will run across the two mating harness connectors. See Figure 1, item 15.

ELECTRICAL CONNECTORS

Connector Types

Connector types are identified by letter codes. Multiple pin or socket connectors have a three letter code. Terminators, that are not isolated when detached, have a two letter code. The explanation of the letter codes is shown in Table 4.

Table 4. Connector Types

Letter Code	Explanation
CRP	Connector Receptacle Pin
CRS	Connector Receptacle Socket
CPP	Connector Plug Pin
CPS	Connector Plug Socket
TS	Terminal Socket
TP	Terminal Pin

Connector Identification

Each connector is identified by the letter code of the connector type and a unique identification number, e.g. CRP07.

Connectors have the same identification number if they interconnect between two wire harnesses, e.g. CRP07 interconnects with CPS07.

On the schematic a connector may be represented complete with all wires it normally contains, or partial, showing the few wires that are relevant for the particular page of the schematic.

A completely represented connector shows two rounded corners, as shown on Figure 1, item 11.

A partially represented connector has one curled corner, as shown on Figure 1, item 12.

As the wires in a connector will relate to different functions, portions of a connector can be divided over several schematic pages according the different electrical function of the wires. In general there is no relation between a connector and a schematic location. The only possibility to look up a schematic location is through the connector listing.

A connector is not shown on the schematic if the connector is an integral part of a component or if it does not have a minimum length of wire harness between the component and the connector. In these cases the schematic just shows the wire harness connector.

Connector Pin Numbers

On the schematic the pin numbers are indicated by a number or letter inside the connector symbol, with the relevant wire ending at the relevant pin number.

On the connector itself pin numbers are shown in relief, but can be as small as 1 mm high. To read the numbers, clean the housing and provide sufficient lighting.

Pin numbers can be located on the inside of the connector next to the pin, on the backside of the connector next to the wires, or on the connector housing.

Connector Description

For orientation purposes each connector has been provided with a description, which is shown in the connector overview in Table 11, and in the legend for the wire harnesses. The description matches the component it is attached with.

For connectors between harnesses the description is a combination of the two harness names. For instance CPS139: Frame-Mast. The first part of the description indicates the wire harness that the connector is part of, the second part indicates the wire harness that the connector connects with. An exception is the interconnection between frame and side console harness, which is through three connectors.

To avoid having three identical descriptions, the descriptions Cab Signals, Cab Power and Aux Signals have been assigned.

FUSES

The grid heater, cab and alternator have separate fuses and relays that are located on the powerboard in the battery box attached to the fuel tank on the left-hand side of the truck. See Figure 3 and Table 5.

Four fuse panels are located behind the cover under the instrument panel. The four fuse panels contain the fuses that protect all other electrical circuits. See Figure 4 and Table 6.

On the inside of the instrument cover is a label that shows the location of the fuses in the four fuse panels.

In some cases a fuse is not adopted on the electrical schematic. It concerns fuses that are an integral part of a component, like retrofitted radio's or the Twist Module.

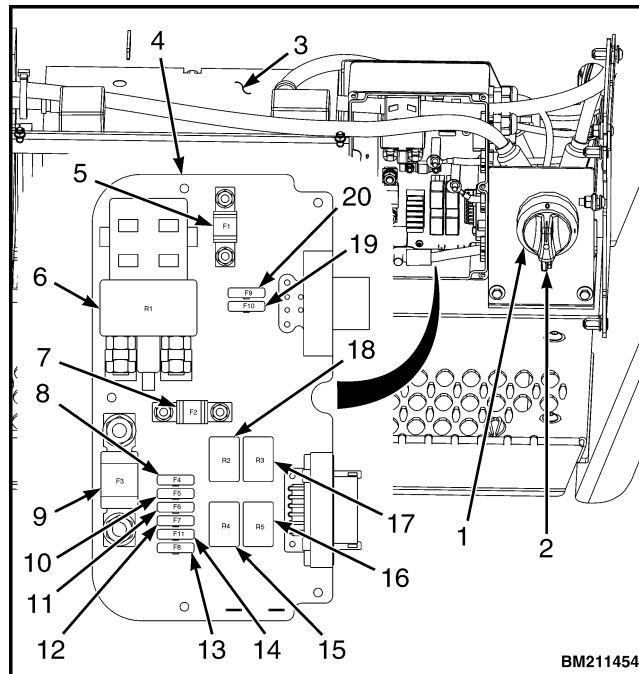
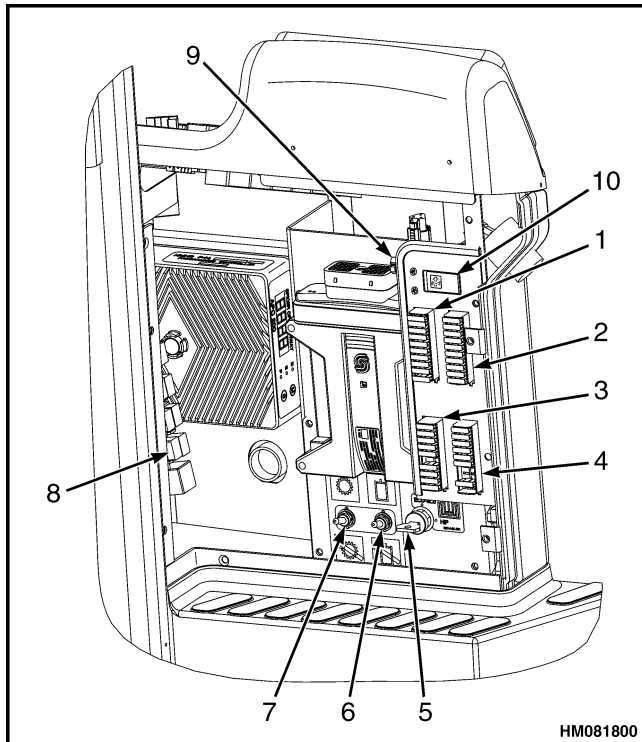


Figure 3. Main Fuses and Main Relays

Legend for Figure 3

Legend Item	Code	Description	Value	Connector	Location
1.		BATTERY DISCONNECT SWITCH	--	--	--
2.		BATTERY DISCONNECT SWITCH LOCK	--	--	--
3.		BATTERY	--	--	--
4.		POWERBOARD	--	--	--
5.	F1	ALTERNATOR	125A	TS15/TS16	[37,A]
6.	R1	RELAY GRID HEATER	200A	TS18/ CPS166	[34,H]
7.	F2	CAB SUPPLY	125A	TS10/TS01	[21,B]
8.	F4	DEF HOSE HEATING	15A	CPS166	[51,D]
9.	F3	GRID HEATER	150A	F3	[34,H]
10.	F5	SPARE	10A	CPS166	[52,C]
11.	F6	DEF MODULE HEATER	10A	CPS166	[52,D]
12.	F7	SPARE	7.5A	CPS166	[53,C]
13.	F8	SPARE	10A	CPS166	[52,C]
14.	F11	SPARE	15A	CPS166	[53,C]
15.	R4	RELAY DEF HOSE 3	--	CPS166	[50,C]
16.	R5	RELAY DEF MODULE HEATER	--	CPS166	[52,C]
17.	R3	RELAY DEF HOSE 2	--	CPS166	[51,D]
18.	R2	RELAY DEF HOSE 1	--	CPS166	[51,C]
19.	F10	ENGINE ECM SUPPLY	30A	CPS178	[32,H]
20.	F9	CAB TILT	30A	CPS178	[104,G]



Legend for Figure 4

- 1. FUSE PANEL 1
- 2. FUSE PANEL 2
- 3. FUSE PANEL 3
- 4. FUSE PANEL 4
- 5. ECO-ELO SWITCH
- 6. HYDRAULIC SERVICE SWITCH
- 7. TRANSMISSION CALIBRATION SWITCH
- 8. RELAY PANEL (SEE FIGURE 5)
- 9. DIAGNOSTIC PLUG
- 10. REGENERATION CONTROL SWITCH

Figure 4. Fuse Panel, Hydraulic Controller and Hydraulic Relays

Table 6. Fuse Panel Overview

Fuse	Description	Value	Location
Fuse Panel 1			
F1	Engine Start	30A	[25,B]
F2	ECM Ignition	5A	[30,F]
F3	Low Brake Pressure Warning	5A	[28,F]
F4	Transmission	7.5A	[28,F]
F5	Transmission B+	7.5A	[63,C]
F6	Hydraulic Controller	30A	[137,E]
F7	Attachment Controls	15A	[144,A]
F8	Park Brake Solenoid	5A	[122,A]
F9	Instrumentation	10A	[119,B]
F10	Alternator On	5A	[33,A]
Fuse Panel 2			
F11	Flood Lights	30A	[77,J]
F12	Strobe Light B+	5A	[70,I]
F13	Brake Lights	10A	[81,H]

Table 6. Fuse Panel Overview (Continued)

Fuse	Description	Value	Location
F14	Front Drive Lights	15A	[70,G]
F15	Interior Lights	5A	[70,H]
F16	Mast/Attachment Lights	15A	[80,E]
F17	Direction Indicators	10A	[96,D]
F18	Side/Tail Lights	10A	[81,E]
F19	Rear Drive Lights	10A	[78,I]
F20	Reverse Lights/Alarm/ Strobe	10A	[78,I]
Fuse Panel 3			
F21	Front Screen Wash/Wipe	10A	[151,B]
F22	Roof Screen Wash/Wipe	10A	[151,B]
F23	Rear Screen Wash/Wipe	10A	[151,C]
F24	Horn	10A	[165,C]
F25	Sped Power Ignition	5A	[167,F]
F26	Automatic Greasing (opt)	10A	[181,F]
F27	Seat Suspension Com- pressor	15A	[121,F]
F28	Heater/AC/Ventilation Fan	25A	[171,F]
F29	AC Condenser Fans	30A	[179,H]
F30	Parkbrake Warning Buz- zer	5A	[179,G]
Fuse Panel 4			
F31	Power Socket 12V DC	10A	[167,H]
F32	Radio/CB/Intercom	10A	[167,G]
F33	12V Converter for Acces- sories	10A	[165,H]
F34	Hazard Lights	10A	[96,D]
F35	Sped Power B+	25A	[167,G]
F36	12V Relay	3A	[167,G]
F37	OPS System	5A	[125,C]
F38	EAS Sensor	10A	[42,B]
F39	Power Socket Switched 24V B+	15A	[167,G]
F40	Power Socket 24V IGN	5A	[167,G]

RELAYS

Except for the main relays shown on Figure 3, all relays are installed on the relay panel that is located left of the fuse panel. See Figure 5 and Table 7.

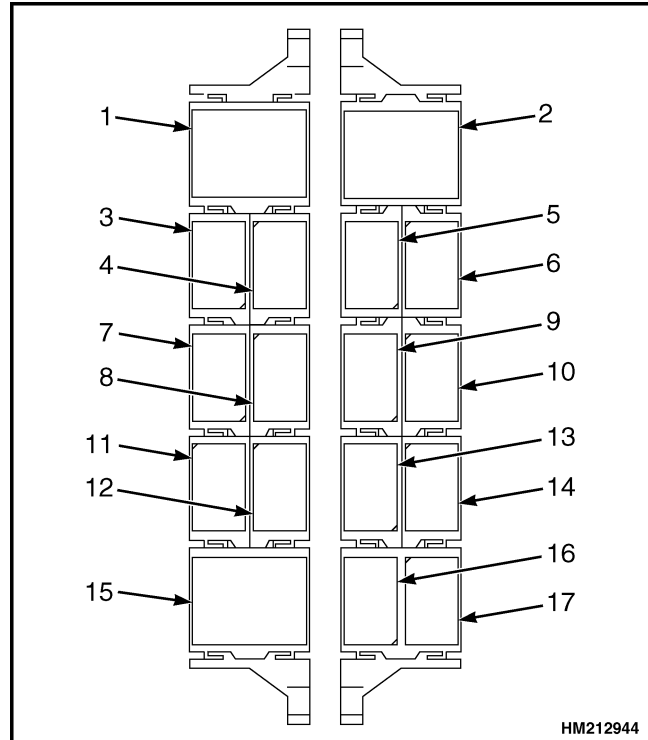


Figure 5. Relay Panel

Table 7. Relays Overview

Item	Description	Connector	Location
1	Main Power	CPS16	[26,E]
2	Lights	CPS174	[96,B]
3	Horn	CPS84	[166,C]
4	OPS	CPS84	[134,I]
5	Start Enable	CPS15	[26,F]
6	Ignition	CPS15	[30,C]
7	Hydraulic Controller	CPS120	[138,F]
8	Twistlock	CPS120	[145,E]
9	Start Inhibit	CPS13	[29,B]
10	Neutral	CPS13	[29,B]
11	12 Volt Relay	CPS108	[165,F]
12	Override	CPS108	[106,C]
13	AC3	CPS36	[178,F]
14	Reverse Lights & Alarm	CPS36	[81,I]
15	Flasher Unit	CPS76	[91,B]
16	AC1	CPS115	[178,F]
17	AC2	CPS115	[178,F]

FLYBACK DIODES

Some components induce current surges when they are switched off. These surges can cause sparking of mechanical contacts in switches and relays, which results in premature erosion of these contacts. Flyback diodes prevent these symptoms by connecting the induced current surge to ground.

Always check functionality of a flyback diode when a switch or relay has failed. In most cases a failed diode will not conduct at all. Sometimes a failed diode causes a short circuit.

Replacement diodes are integrated in connectors that attach the correct diode polarity to the wire harnesses. Table 8 provides a complete listing of all flyback diodes fitted.

Table 8. Flyback Diodes

Connector	Diode Description	Location	Harness Name	Figure Number
CPS17	Diode_Main_Power	[24,A], [27,C]	Sideconsole	17
CPS172	Diode_Neutral_Signal	[27,C], [29,D]	Sideconsole	17
CPS18	Diode_Hydraulic_controller	[138,D]	Sideconsole	17
CPS236	Diode_Cab_Tilt_Pump	[108,F]	Powered Cab Tilt	N/A
CPS34	Diode_Calibration	[62,C]	Sideconsole	17
CPS39	Lights_Diode	[122,C], [75,I]	Sideconsole	17
CPS54	Backup_Diode	[87,F]	Rear	N/A
CPS82	Diode_Horn	[162,D]	Cab Underfloor	18

CAN (CONTROLLER AREA NETWORK)

CANbus is a standard for an electronic system that allows communication between different controllers without the need for a host computer.

The different controllers have their own controlled network of sensors, actuators and control devices. Functioning of these components cannot be influenced by other controllers unless the programming of a network controller specifically allows.

Each controller requires its own voltage supply to feed the controller and to provide signals to the components that belong to the controller network. Without voltage supply a controller does not function.

Communication occurs through sending and receiving signals. Each signal contains amongst others a code for the type of message (e.g. coolant temperature), the message itself (83°) and the ID of the controller (ECM) that has sent the signal. Each controller has been programmed to react only to certain messages from certain controllers. All other messages are ignored.

Only two wires (wire 900 and 901) are required for communication: The data wire and the data inverse wire. Integrity of signal transfer is verified by comparing the return signal of the data inverse wire with the original signal of the data wire.

The CANbus system includes the following controllers:

- Engine Control Module
- Transmission controller
- Hydraulic controller
- Instrument cluster
- Diagnostic connector*

(*) The diagnostic connector itself is not a controller. Instead, the IFAK cable that leads to the laptop computer contains the controller that will make contact with the CANbus system when plugged into the diagnostic connector.

All sensors that belong to one system controller are shown on one sheet of the electrical diagram.

The diagnostic connector itself is not a controller. Instead, the IFAK cable that leads to the laptop computer contains the controller that will make contact with the CANbus system when plugged into the diagnostic connector.

The optional Electronic Climate Control has an independent control system that does not communicate through CANbus wires 900 and 901.

The CANbus inverse wire and data wire are twisted together to reduce sensitivity to electromagnetic interference. For the same purpose there are termination resistors at the extreme ends of the string of controllers. The CANbus system will not function if both 120 Ohm resistors are faulty or disconnected.

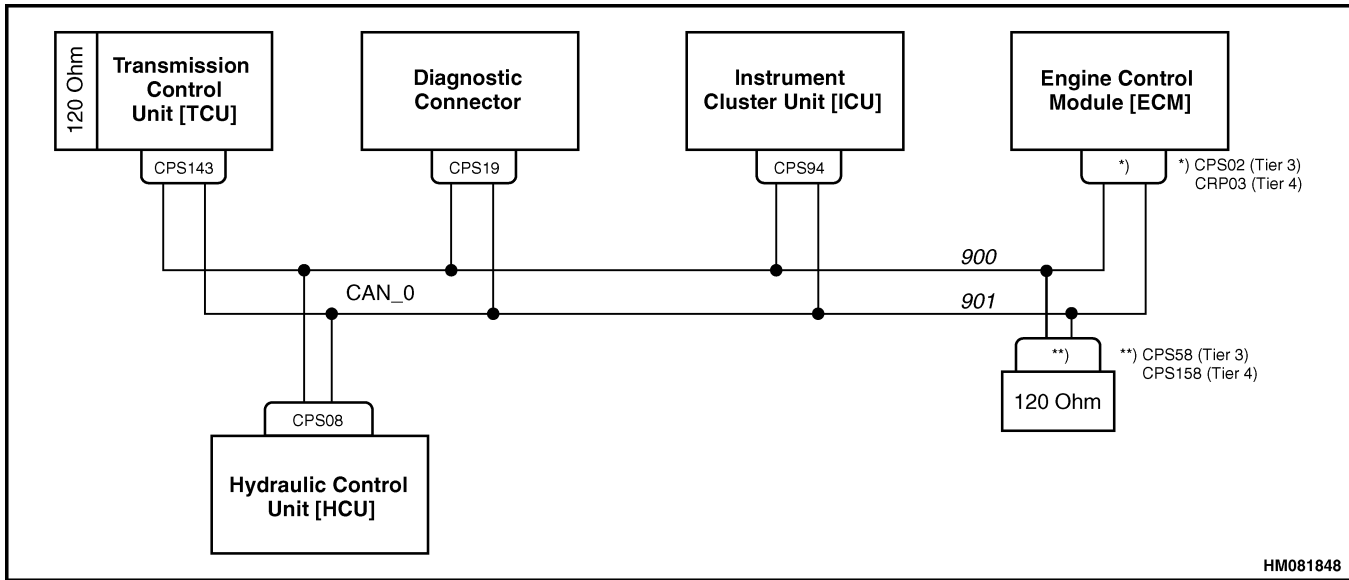


Figure 6. CANbus Circuit

Diagnostic

Most controllers have a memory that retains codes for situations that occurred within their own controlled circuit. Also faults in the controller itself are stored as a fault code. Both the IFAK cable and the instrument cluster contain a controller that makes these codes visible on a lap top computer, respectively on the hour meter display. The explanation of these codes is shown on the different fault code tables for engine, transmission, hydraulic system and Electronic Climate Control.

The CANbus connection itself can be verified by checking continuity of the data inverse wires 900 (green) and the data wires 901 (yellow), and by checking the 120 Ohm resistance value of the end resistor. For schematic location and actual location see Table 11.

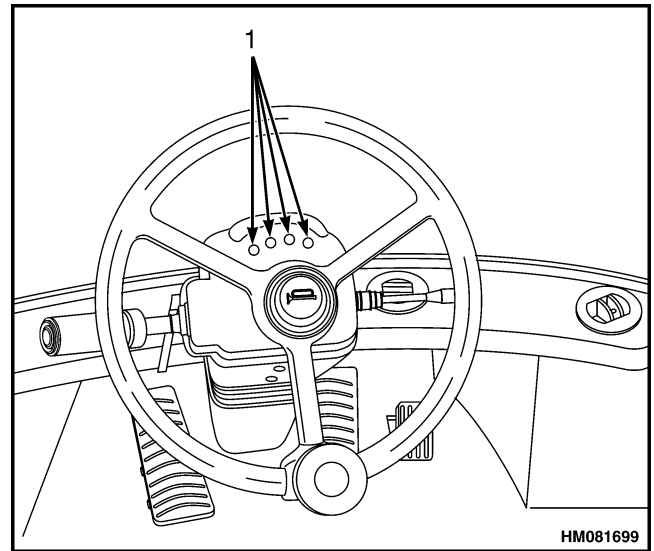
Diagnostics of a faulty CANbus system requires thorough knowledge and specific software. As controllers cannot be repaired, there is no other option than to replace a controller if it is found to be defective.

CENTRAL WARNING LIGHTS AND INSTRUMENT PANEL

Most of the lights and instruments on the instrument panel are controlled by CANbus signals through pin 14 (CAN High) and pin 15 (CAN Low).

The few lights and instruments that are hard wired can be recognized in Figure 8 through the indicated pin numbers for connector CPS94.

To test functionality of the individual warning lights, switch the ignition from OFF to ON. All lights should light up for one second. As there are no serviceable components, the entire instrument panel must be replaced if found defective.



1. WARNING LIGHTS

Figure 7. Central Warning Lights