CAT® Lift Trucks

Service Manual

Chassis & Mast

MC/FC

GP40N	CT40A-00011-99999	DP40NB	CT12D-00011-99999
GP45N	CT29E-50001-79999	DP45NB	CT19F-50001-79999
GP50CN	CT29E-80001-99999	DP50CNB	CT19F-80001-99999
GP50N	CT33D-50001-79999	DP50NB	CT28E-50001-79999
GP55N	CT33D-80001-99999	DP55NB	CT28E-80001-99999

For use with 854F and TB45 Service Manuals

99739-6B110

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7. Troubleshooting

7.1 Engine Startup Problem

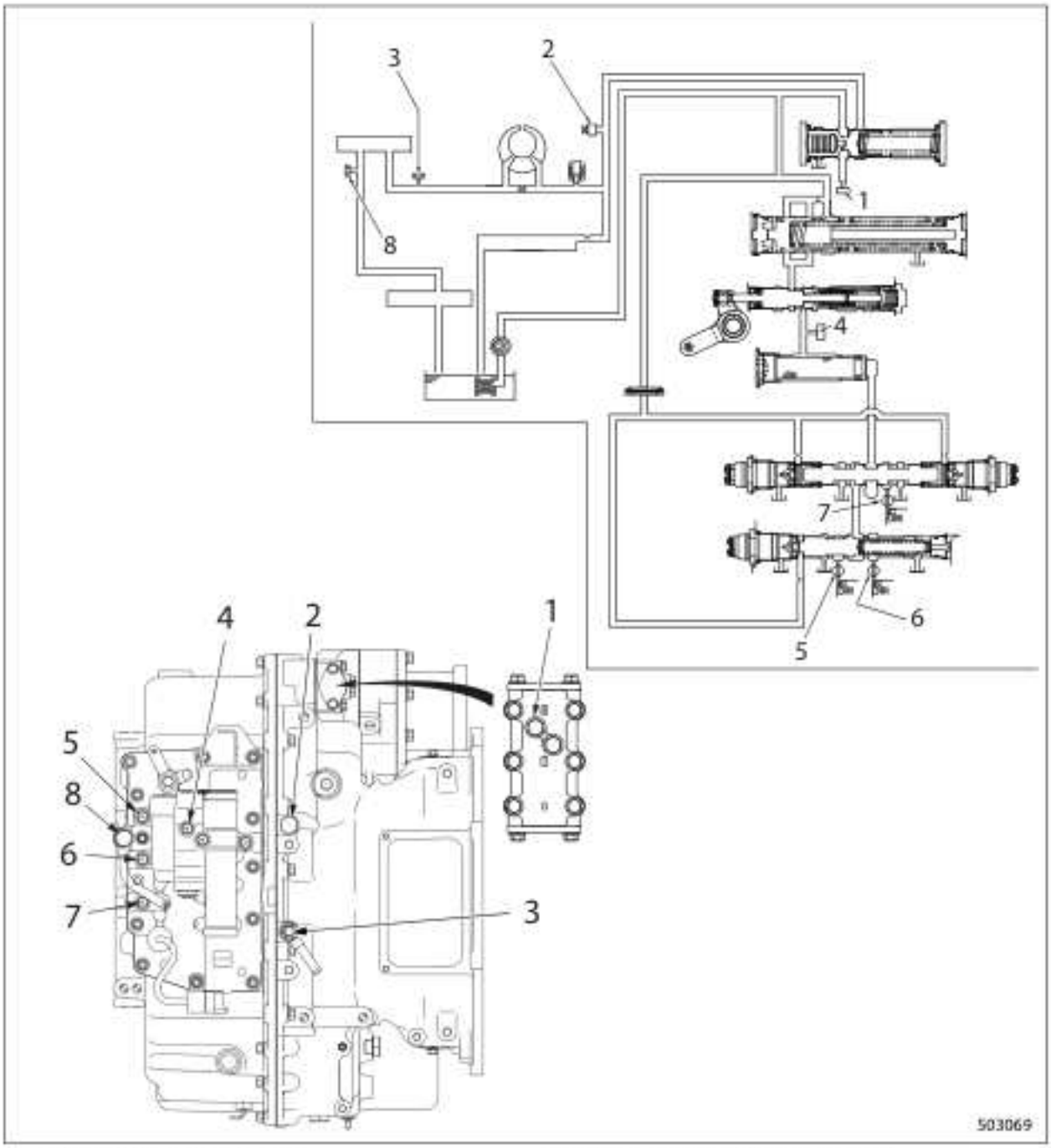
Condition		Possible cause	Action
Key switch	Starter won't crank the engine when the key switch is turned ON	Battery is discharged	Charge or replace battery
		Disconnection or poor connection	Repair or replace
		Key switch continuity failure	Replace
		Defect in starter or starter relay	Replace
		Transmission shift lever not in the NEUTRAL position	Place the transmission shift lever to the NEUTRAL position
	Engine won't stop when the key switch is turned OFF	Disconnection or poor connection	Repair or replace
		Stop solenoid defective	Replace or adjust
		Control linkage defective	Replace

7.2 Gauge Related Problem

Condition		Possible cause	Action
Coolant temperature gauge	Gauge reading is low	Disconnection between meter panel and water temperature gauge	Make sure the connector is firmly inserted
			Check continuity
			Check the display by heating the water temperature sensor
			Replace water temperature sensor
			Replace meter panel
	Gauge reading is inaccurate	Check the part number	Make sure the specified part is used
			Make sure the connector is firmly inserted
			Replace water temperature sensor
	Gauge reading flashes	Short circuit between M/P and water temperature gauge	Correct the short circuit
Fuel gauge	Gauge reading is not displayed	Setting is improper	Incorrect VCM setting Note: LPG model does not show the value
	Gauge reading is inaccurate	Check the part number	Make sure the specified part is used
			Make sure the connector is firmly inserted
			Replace water temperature sensor
			Remove fuel tank cap assembly and check for bent float, etc.
	Gauge reading flashes	Short circuit between meter panel and water temperature gauge	Correct the short circuit
			Remove fuel tank cap assembly and check the wiring in the tank.

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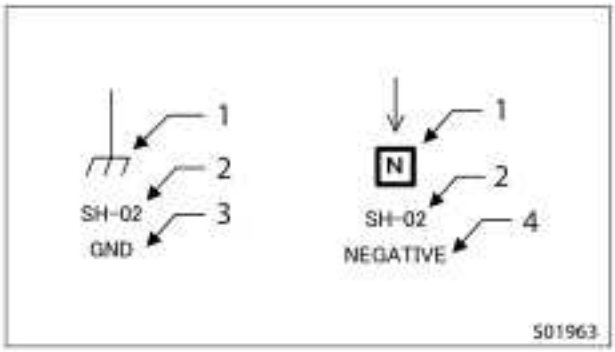
1.11 Schematic Diagram of Powershift Transmission Hydraulic Pressure



1. M (A): Main hydraulic pressure
2. T/C in (B): T/C inlet hydraulic pressure
3. T/C out (C): T/C outlet hydraulic pressure
4. Pd (D): Direction hydraulic pressure
5. PF1 (E): F1 clutch hydraulic pressure
6. PF2 (F): F2 clutch hydraulic pressure
7. PR (G): R clutch hydraulic pressure
8. Lub (H): Lubricating oil pressure

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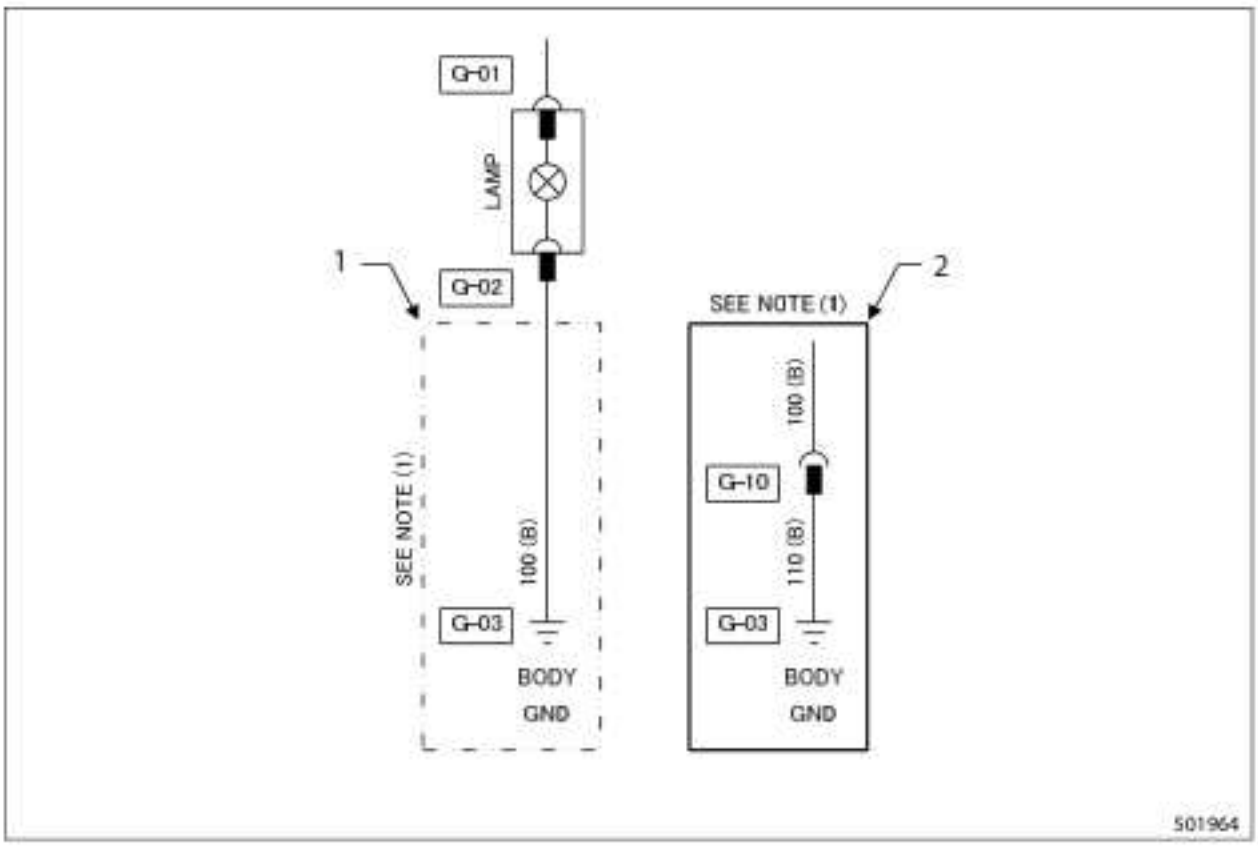
(2) When connecting to body or battery negative terminal through GND circuit and negative circuit.



1. Graphic symbol
2. Destination sheet symbol
3. This indicates the connection to GND circuit
4. This indicates the connection to negative circuit.

2.9 Indication of Another Specification

When there is another specification, the portion of circuit, for which another specification is available, is enclosed with an alternate long and two short dashes line, and the circuit of another specification is enclosed by a thick solid line.

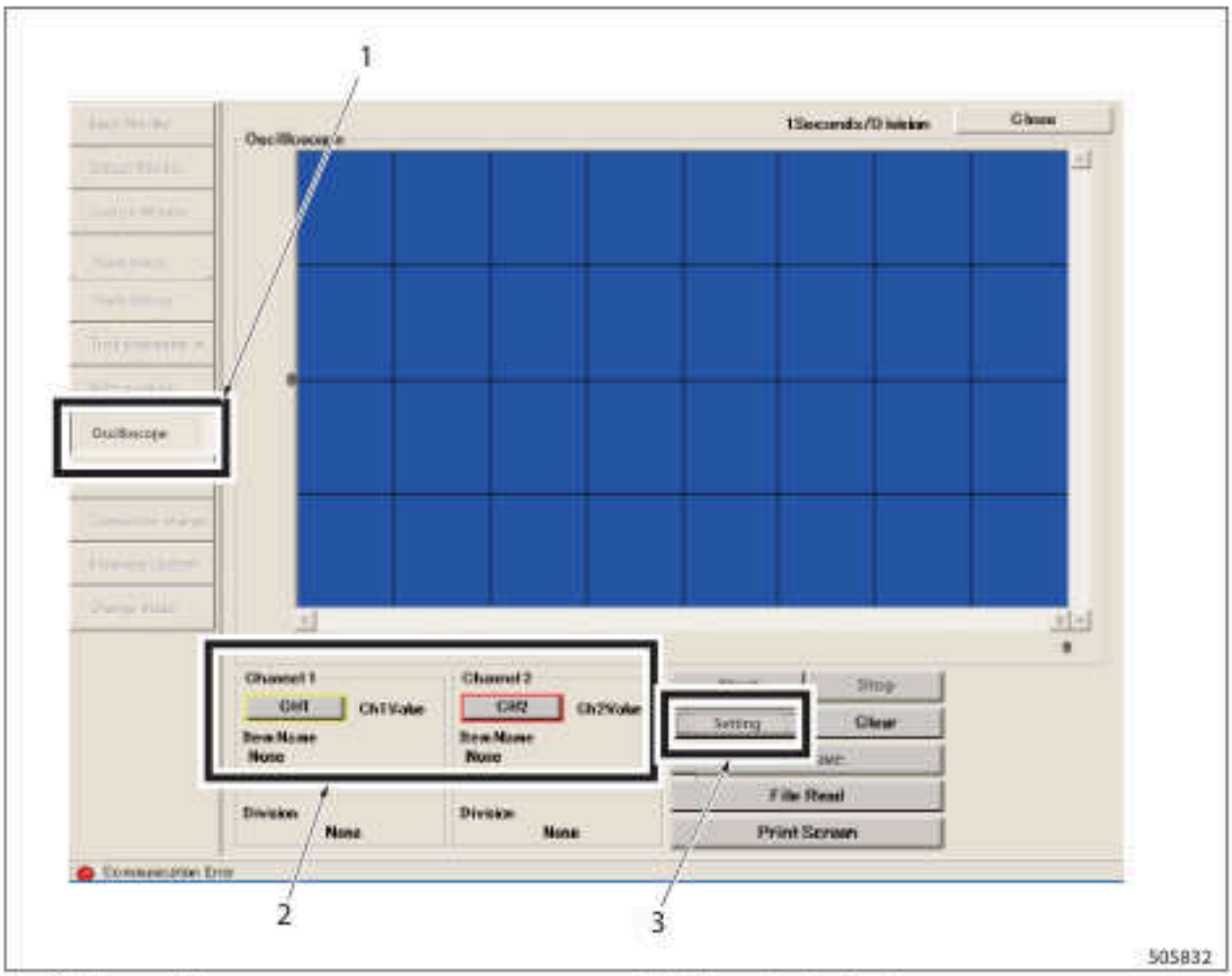


1. The circuit portion which differs depending on the specification
2. The circuit of another specification

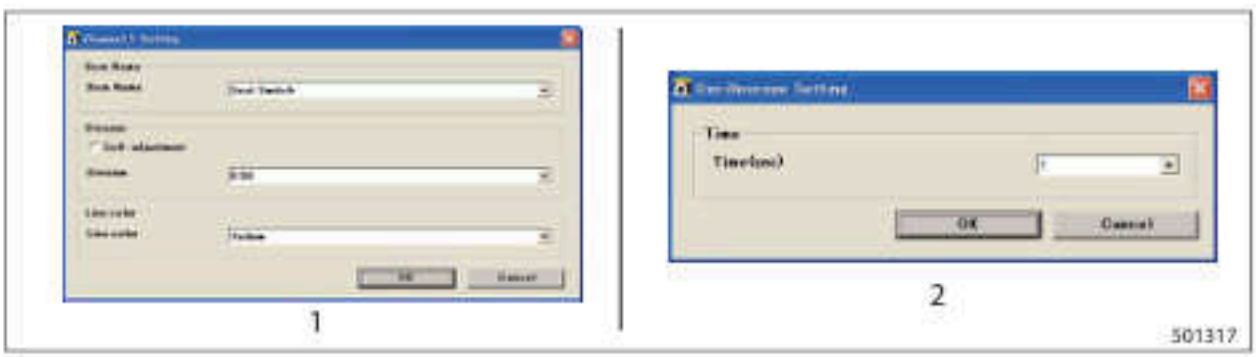
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Oscilloscope

Click the oscilloscope button from the menu or toolbox to display the oscilloscope screen in the main window. The oscilloscope screen shows a graph of the specified input/output values. The user can set up two items (CH1 and CH2) as input/output values to be expressed in the graph. The time axis of the graph is expressed in seconds. The data of the graph being displayed on the screen can be stored in the memory, and redisplayed later. The graph screen can be printed out on a printer by clicking the Print Screen button. Note that graphs will have some amount of lag in the wave pattern and a margin of error due to the simple function of an oscilloscope. To obtain an accurate wave pattern, use a dedicated measuring instrument.



1. Oscilloscope button
2. Input/output read set-up button
3. Time axis set-up button



1. Channel setting screen
2. Time axis set-up screen

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9. Truck Status Display and Troubleshooting

9.1 Truck Status Display

Truck status display

Warnings that have been present are displayed.

Troubleshooting

Display the truck status screen by clicking the truck status button either from the monitor menu or toolbox. When the screen is displayed, press the troubleshooting button on the bottom right of the screen to display a list of diagnostic codes and their descriptions.

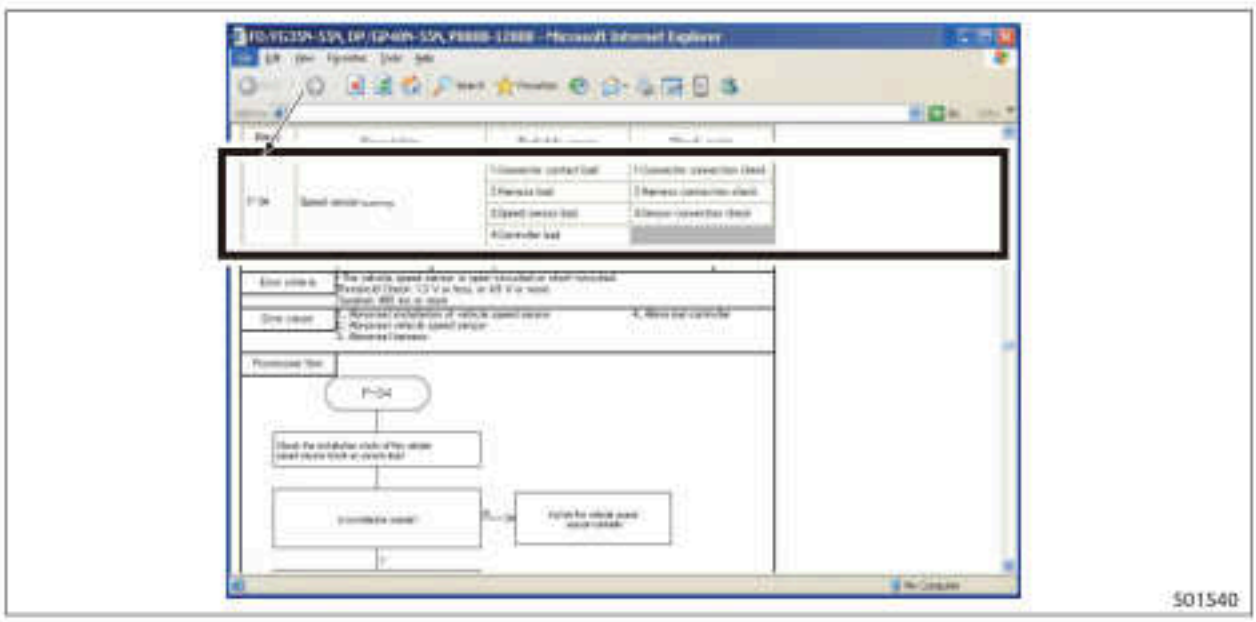
Example: Diagnostic code 34 (Speed sensor warning)

(1) Connector contact bad
(2) Harness bad
(3) Speed sensor bad
(4) Controller bad



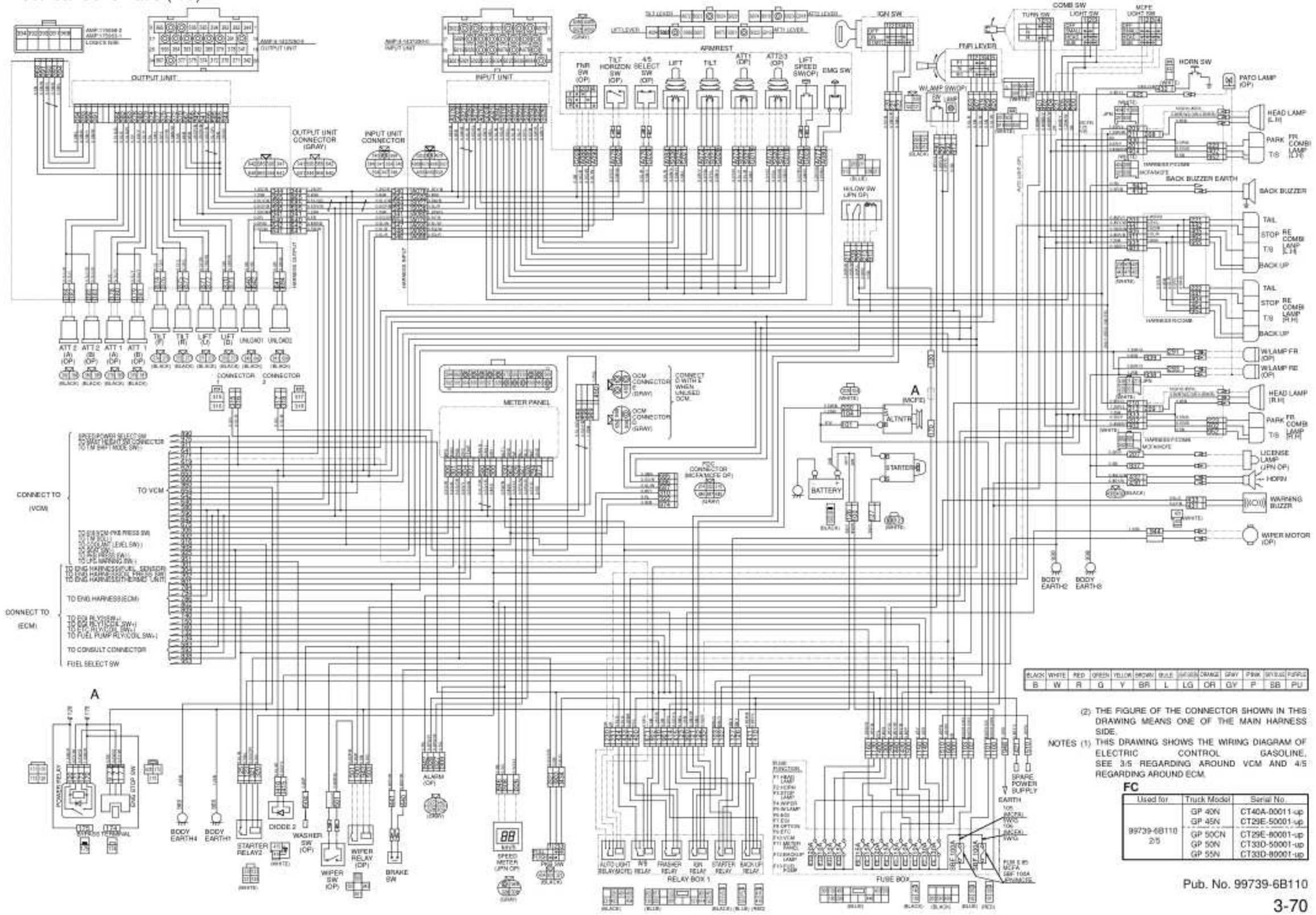
Check items

(1) Connector connection check
(2) Harness connection check
(3) Sensor connection check



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Electrical Schematic (2/5)



BLACK	WHITE	RED	GREEN	YELLOW	BROWN	BLUE	LIGHT GREEN	ORANGE	GRAY	PINK	SKY BLUE	PURPLE
B	W	R	G	Y	BR	L	LG	OR	GY	P	SB	PU

NOTES (1) THIS DRAWING SHOWS THE WIRING DIAGRAM OF ELECTRIC CONTROL GASOLINE, SEE 3/5 REGARDING AROUND VCM AND 4/5 REGARDING AROUND ECM.

(2) THE FIGURE OF THE CONNECTOR SHOWN IN THIS DRAWING MEANS ONE OF THE MAIN HARNESS SIDE.

FC

Used for	Truck Model	Serial No.
99739-6B110 2/5	GP 40N	CT40A-00011-up
	GP 45N	CT29E-50001-up
	GP 50CN	CT29E-60001-up
	GP 50N	CT30D-50001-up
	GP 55N	CT30D-60001-up

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