A TEREX COMPANY

Service Manual

Serial Number Range

Deutz models: from 21180 to 23040
Ford models: from 21180 to 23189
Perkins models: from 21180 to 23008

Z-45/25
Z-45/25J
IC Power

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Ford LRG-425 EFI Engine

Displacement	153 cu in 2.5 liters
Number of cylinders	4
Bore & stroke	3.78 x 3.4 in 96.01 x 86.36 mm
Horsepower	
Gross intermittent @ 3600 rpm	97
Continuous @ 3600 rpm	82
Horsepower @ 2500 rpm	70
Firing order	1 - 3 - 4 - 2
Low idle	1600 rpm
High idle	2500 rpm
Compression ratio	9.4:1
Compression pressure (approx.) Pressure (psi) of lowest cylinder must be at least 75% of highest cylinder	
Valve clearances - collapsed tappet	0.035 to 0.055 in 0.889 to 1.397 mm
Lubrication system	
Oil pressure (operating temp. @ 2000 rpm)	40 to 60 psi 2.75 to 4.1 bar
Oil capacity (including filter)	5 quarts 4.7 liters

Oil viscosity requirements	
Below 60°F / 15.5°C	5W-30
-10°F to 90°F / -23°C to 32°C	10W-30
Above -10°F / -23°C	10W-40 to 10W-50
Above 20°F / -6.6°C	20W-40 or 20W-50
Use oils meeting API classification SG (labeled SG/CC or SG/CD) as they offer improved wear protection. Units ship with 10W-40 SG/CC.	
Oil pressure switch specifications	
Torque	8-18 ft-lbs 11-24 Nm
Oil pressure switch point	3-5 psi 0.21-0.34 bar
Starter motor	
Normal engine cranking speed	200 to 250 rpm
Current draw, normal load	140-200A
Current draw, maximum load	800A
Current draw, minimum	60-80A
Maximum circuit voltage drop while starting (normal temperature)	0.5V DC
Brush length, new	0.66 in 16.8 mm
Brush length wear limit	0.25 in 6.35 mm
Brush spring tension	64 ounces 18 Newtons
Bolt torque through brush	45 to 84 in-lbs 5.08 to 9.5 Nm
Brush mounting bolt torque	15 to 20 ft-lbs 20 to 27 Nm
Maximum commutator run-out	0.005 in 0.127 mm

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6-4
Engine Fault Codes - Ford Models

How to Retrieve Engine Fault Codes

When an engine malfunction is detected by the Electronic Control Module (ECM), a fault code is recorded and the check engine light will turn on at the ground controls. Use the following procedure to retrieve the engine fault code to determine the engine malfunction.

NOTICE Perform this procedure with the key switch in the off position.

1 Open the ground controls side turntable cover.

2 Locate the run/test toggle switch located on the left side of the ground control box.

3 Pull out the red Emergency Stop button to the on position at the ground controls.

4 Hold the run/test toggle switch to the test position and turn the key switch to the ground controls position.

⚙ Result: The check engine light should turn on. The check engine light should begin to blink.

NOTICE The check engine light will blink a "123" code three times before blinking a fault code if one is present.

5 Continue to hold the run/test toggle switch in the test position and count the blinks.

NOTICE If any fault codes are present, the ECM will blink a three digit code. It will blink the first digit of a three digit code, pause, blink the second digit, pause, and then blink the third digit. For example: the check engine light blinks 5 consecutive times, blinks 3 times and then 1 time. That would indicate code 531.

NOTICE Before the fault codes are displayed, the check engine light will blink a code 123 three times. After the fault codes, the check engine light will blink a code 123 three times again indicating the end of the stored codes.

6 Refer to the Fault Code Section for definition of engine fault codes.

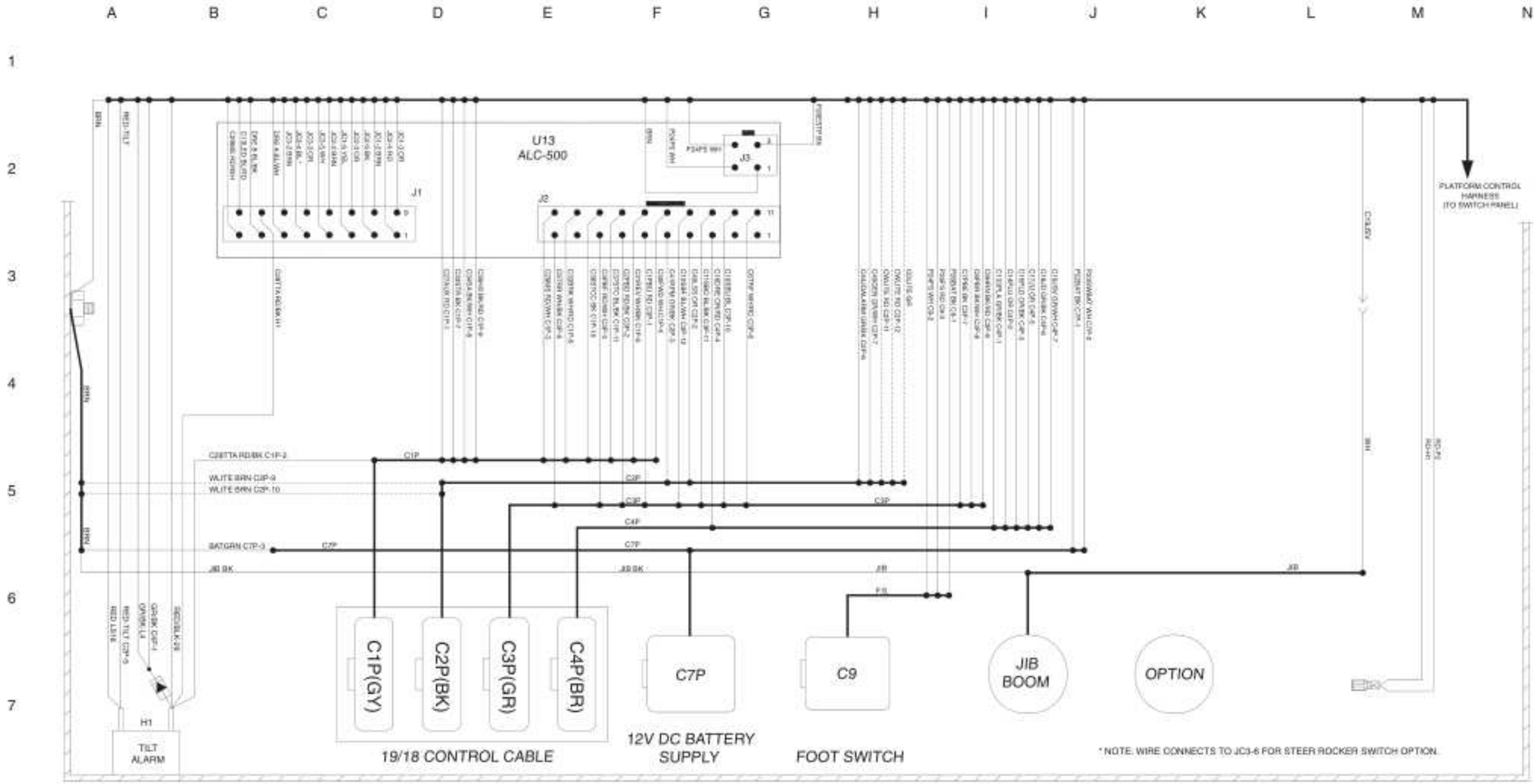
NOTICE Once a fault code has been retrieved and the repair has been completed, the ECM memory must be reset to clear the fault code from the ECM. See *How to Clear Engine Fault Codes*.

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Platform Control Box Wiring Diagram, Z-45/25J

REV A

Perkins 104-22 Models (after serial number 22049)



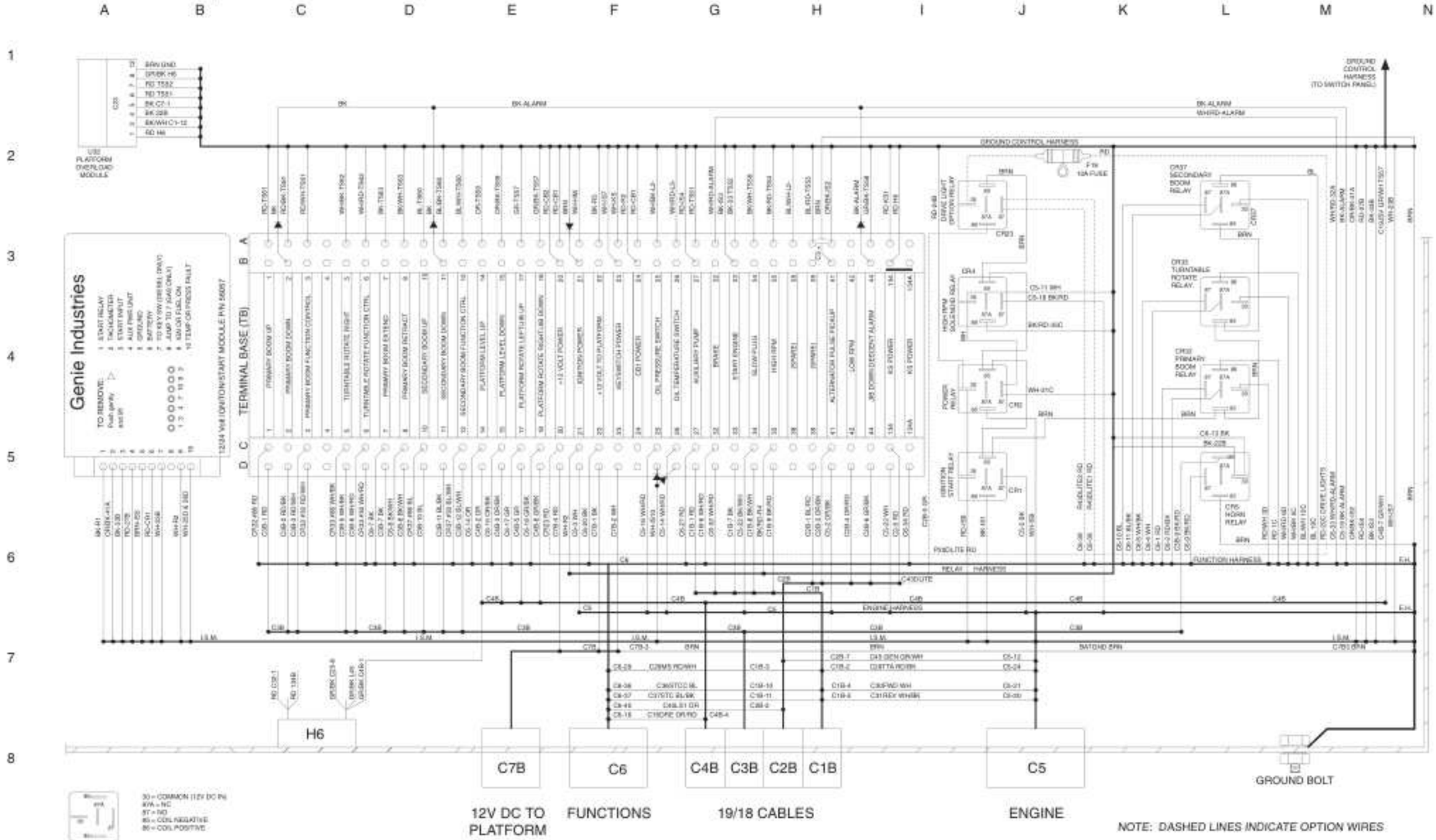
ITEM	DESCRIPTION
H1	TILT ALARM
C7P	12V DC PLATFORM POWER CONNECTOR
C9	FOOT SWITCH CONNECTOR
C1P – C4P	48 PIN CONNECTOR BLOCK
U13	ALC-500 CONTROL BOARD
J1	CONTROL BOARD INPUT CONNECTOR
J2	CONTROL BOARD OUTPUT CONNECTOR
J3	CONTROL BOARD POWER CONNECTOR

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Ground Control Box Terminal Strip Wiring Diagram, Z-45/25J, CE Models

REV A

Deutz F3L-1011F Models (after serial number 22049)



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