A TEREX COMPANY

Service Manual

Serial Number Range

S-80 from S8008-8000 to S8014-11875

S-85 from S8508-8001 to S8514-11875

S-80X from S80X10-8500 to S80X14-11875

Part No. 122985

Rev D2

December 2017

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

Table of Contents

Introduction

Important Information ii
Serial Number Information ii
Serial Number Legend iii

Section 1 **Safety Rules**

General Safety Rules v

Section 2 **Rev** **Specifications**

Machine Specifications ..... 2 - 1
Performance Specifications ..... 2 - 2
Hydraulic Oil Specifications ..... 2 - 2
Hydraulic Component Specifications ..... 2 - 3
Valve Coil Resistance Specifications ..... 2 - 4
Continental TME27 Engine Specifications ..... 2 - 5
Deutz TD2011L04i Engine Specifications ..... 2 - 6
Perkins 804D-33 Engine Specifications ..... 2 - 7
Machine Torque Specifications ..... 2 - 8
Manifold Component Specifications ..... 2 - 8
Hydraulic Hose and Fitting Torque Specifications ..... 2 - 9
SAE and Metric Torque Specifications ..... 2 - 10

MidWestTech | Terex Genie S80, S85, S85X Telescopic Boom Lift Service Manual | Public... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

Section 3	Rev	Scheduled Maintenance Procedures	
		Introduction	3 - 1
		Pre-Delivery Preparation	3 - 3
		Maintenance Inspection Report	3 - 5
		Checklist A Procedures	
		A-1 Inspect the Manuals and Decals	3 - 7
		A-2 Perform Pre-operation Inspection	3 - 8
		A-3 Perform Engine Maintenance	3 - 8
		A-4 Perform Function Tests	3 - 9
		A-5 Test the Oscillate Axle	3 - 9
		A-6 Check the High Pressure Hydraulic Filter Condition Indicator	3 - 10
		A-7 Perform 30 Day Service	3 - 10
		A-8 Perform Engine Maintenance - Deutz and Continental Models	3 - 11
		A-9 Inspect the Fuel Filter/Water Separator - Diesel Models	3 - 11
		A-10 Grease the Turntable Rotation Bearing and Rotate Gear	3 - 13
		A-11 Perform Engine Maintenance	3 - 14
		A-12 Replace the Drive Hub Oil	3 - 15
		A-13 Perform Engine Maintenance - Perkins Models	3 - 17
		Checklist B Procedures	
		B-1 Inspect the Battery(s)	3 - 18
		B-2 Inspect the Electrical Wiring	3 - 19
		B-3 Test the Key Switch	3 - 21
		B-4 Check the Exhaust System	3 - 21

MidWestTech | Terex Genie S80, S85, S85X Telescopic Boom Lift Service Manual | Public... Order the manual at mid-west-tech.com >

TABLE OF CONTENTS

Section 3 **Rev** **Scheduled Maintenance Procedures**, continued

B-5 Inspect the Engine Air Filter ..... 3 - 22
B-6 Check the Oil Cooler and Cooling Fins - Deutz Models ..... 3 - 23
B-7 Confirm the Proper Brake Configuration ..... 3 - 24
B-8 Inspect the Tires, Wheels and Lug Nut Torque ..... 3 - 24
B-9 Check the Drive Hub Oil Level and Fastener Torque ..... 3 - 25
B-10 Check and Adjust the Engine RPM ..... 3 - 26
B-11 Perform Engine Maintenance ..... 3 - 28
B-12 Check the Oscillate Directional Valve Linkage ..... 3 - 28
B-13 Test the Ground Control Override ..... 3 - 29
B-14 Test the Platform Self-leveling ..... 3 - 29
B-15 Test the Engine Idle Select Operation ..... 3 - 30
B-16 Test the Fuel Select Operation - Gasoline/LPG Models ..... 3 - 31
B-17 Test the Drive Enable System ..... 3 - 32
B-18 Test the Drive Brakes ..... 3 - 33
B-19 Test the Drive Speed - Stowed Position ..... 3 - 33
B-20 Test the Drive Speed - Raised or Extended Position ..... 3 - 34
B-21 Test the Alarm Package (if equipped) and the Descent Alarm ..... 3 - 35
B-22 Inspect the Fuel and Hydraulic Tank Cap Venting Systems ..... 3 - 36
B-23 Perform Hydraulic Oil Analysis ..... 3 - 37
B-24 Inspect the Boom Extend/Retract Cables ..... 3 - 37

Checklist C Procedures

C-1 Perform Engine Maintenance - Deutz and Perkins Models ..... 3 - 39
C-2 Grease the Platform Overload Mechanism (if equipped) ..... 3 - 39
C-3 Test the Platform Overload System (if equipped) ..... 3 - 40
C-4 Replace the Engine Air Filter Element - Deutz and Perkins Models ..... 3 - 43
C-5 Replace the Fuel Filter/ Water Separator Element - Diesel Models ..... 3 - 43
C-6 Check the Safety Envelope Limit Switches and Angle Sensor, S-80X ..... 3 - 45

MidWestTech | Terex Genie S80, S85, S85X Telescopic Boom Lift Service Manual | Public... Order the manual at mid-west-tech.com >

SPECIFICATIONS

Perkins 804D-33 Engine

Displacement	201 cu in 3.3 liters
Number of cylinders	4
Bore and stroke	3.70 x 4.72 inches 94 x 120 mm
Horsepower	63 @ 2600 rpm 47 KW @ 2600 rpm
Firing order	1 - 3 - 4 - 2
Compression ratio	22:1
Compression pressure	300 to 500 psi 20.7 to 34.5 bar
Pressure (psi or bar) of lowest cylinder must be within 50 psi / 3.45 bar of highest cylinder	
Low idle Frequency	1650 rpm 335.5 Hz
High idle Frequency	2300 rpm 467.7 Hz
Governor	mechanical all speed
Valve clearance, cold	
Intake	0.0098 in 0.25 mm
Exhaust	0.0098 in 0.25 mm
Lubrication system	
Oil pressure @ 2000 rpm	40-60 psi 2.8-4.1 bar
Oil capacity (including filter)	10.6 quarts 10 liters
Oil viscosity requirements	
Units ship with 15W-40. Extreme operating temperatures my require the use of alternative engine oils. For oil requirements, refer to the Engine Operator Handbook on your machine.	

Injection system	
Injection pump make	Zexel
Injection pump pressure	1707 to 1849 psi 117.7 to 127.5 bar
Injector opening pressure	~2000 psi ~138 bar
Fuel Requirement	
For fuel requirements, refer to the engine Operator's Manual on your machine.	
Engine coolant	
Capacity	12.5 quarts 11.8 liters
Batteries	
Type	12V DC
Group	31
Quantity	1
Cold cranking ampere	1000A
Reserve capacity @ 25A rate	200 minutes
Alternator output	90A, 12V DC
Fan belt deflection	3/8 to 1/2 in 9 to 12 mm

MidWestTech | Terex Genie S80, S85, S85X Telescopic Boom Lift Service Manual | Public... Order the manual at mid-west-tech.com >

Fault Codes



Observe and Obey:

- ☑ Troubleshooting and repair procedures shall be completed by a person trained and qualified on the repair of this machine.
- ☑ Immediately tag and remove from service a damaged or malfunctioning machine.
- ☑ Repair any machine damage or malfunction before operating the machine.
- ☑ Unless otherwise specified, perform each repair procedure with the machine in the following configuration:
  - Machine parked on a firm, level surface
  - Boom in stowed position
  - Turntable rotated with the boom between the non-steer wheels
  - Turntable secured with the turntable rotation lock
  - Key switch in the off position with the key removed
  - Wheels chocked
  - All external AC power disconnected from the machine

Before Troubleshooting:

- ☑ Read, understand and obey the safety rules and operating instructions in the appropriate operator's manual on your machine before attempting any maintenance or repair procedure.
- ☑ Be sure that all necessary tools and test equipment are available and ready for use.
- ☑ Read each appropiate fault code thoroughly. Attempting shortcuts may produce hazardous conditions.
- ☑ Be aware of the following hazards and follow generally accepted safe workshop practices.

⚠DANGER Crushing hazard. When testing or replacing any hydraulic component, always support the structure and secure it from movement.

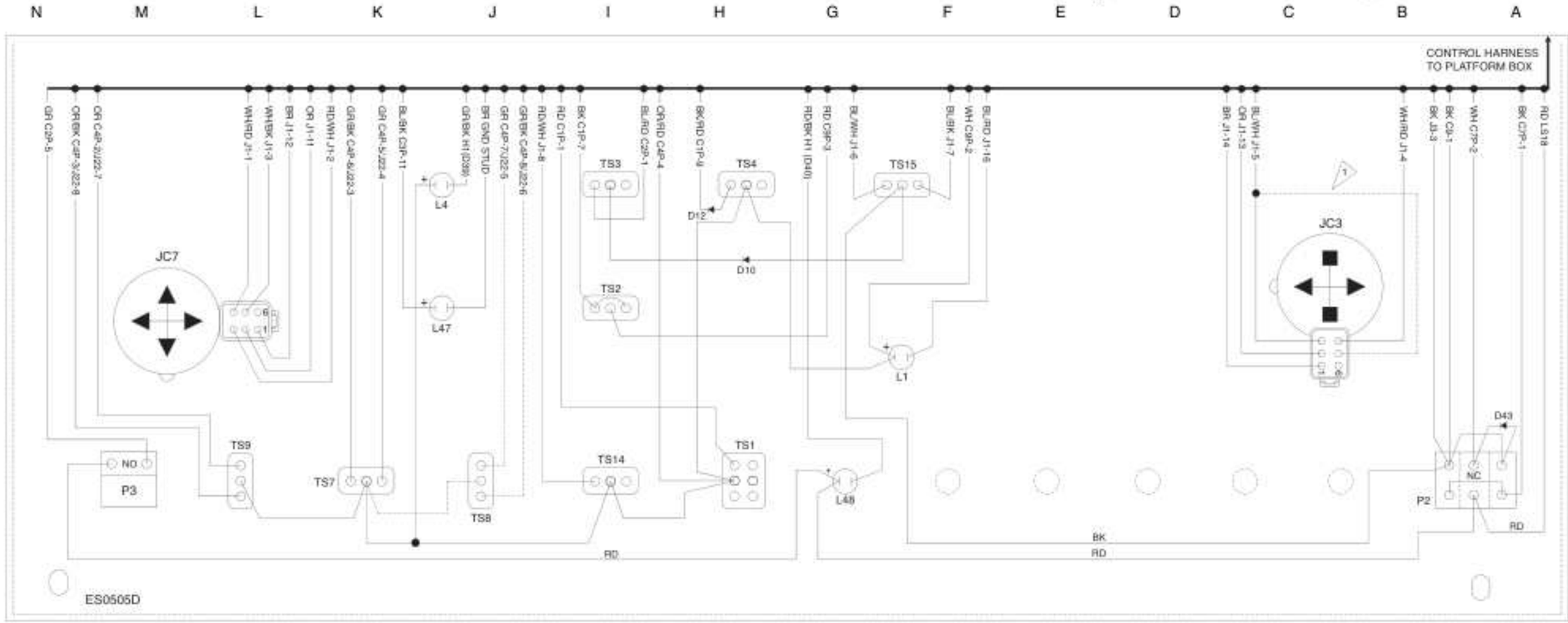
⚠WARNING Electrocution/burn hazard. Contact with electrically charged circuits could result in death or serious injury. Remove all rings, watches and other jewelry.

⚠WARNING Bodily injury hazard. Spraying hydraulic oil can penetrate and burn skin. Loosen hydraulic connections very slowly to allow the oil pressure to dissipate gradually. Do not allow oil to squirt or spray.

Note: Two persons will be required to safely perform some troubleshooting procedures.

MidWestTech | Terex Genie S80, S85, S85X Telescopic Boom Lift Service Manual | Public... Order the manual at mid-west-tech.com >

Platform Control Box Switch Panel Wiring Diagram, S-80 and S-85 (CE), Continental TME27 Models (after serial number 8110)



COMPONENT INDEX

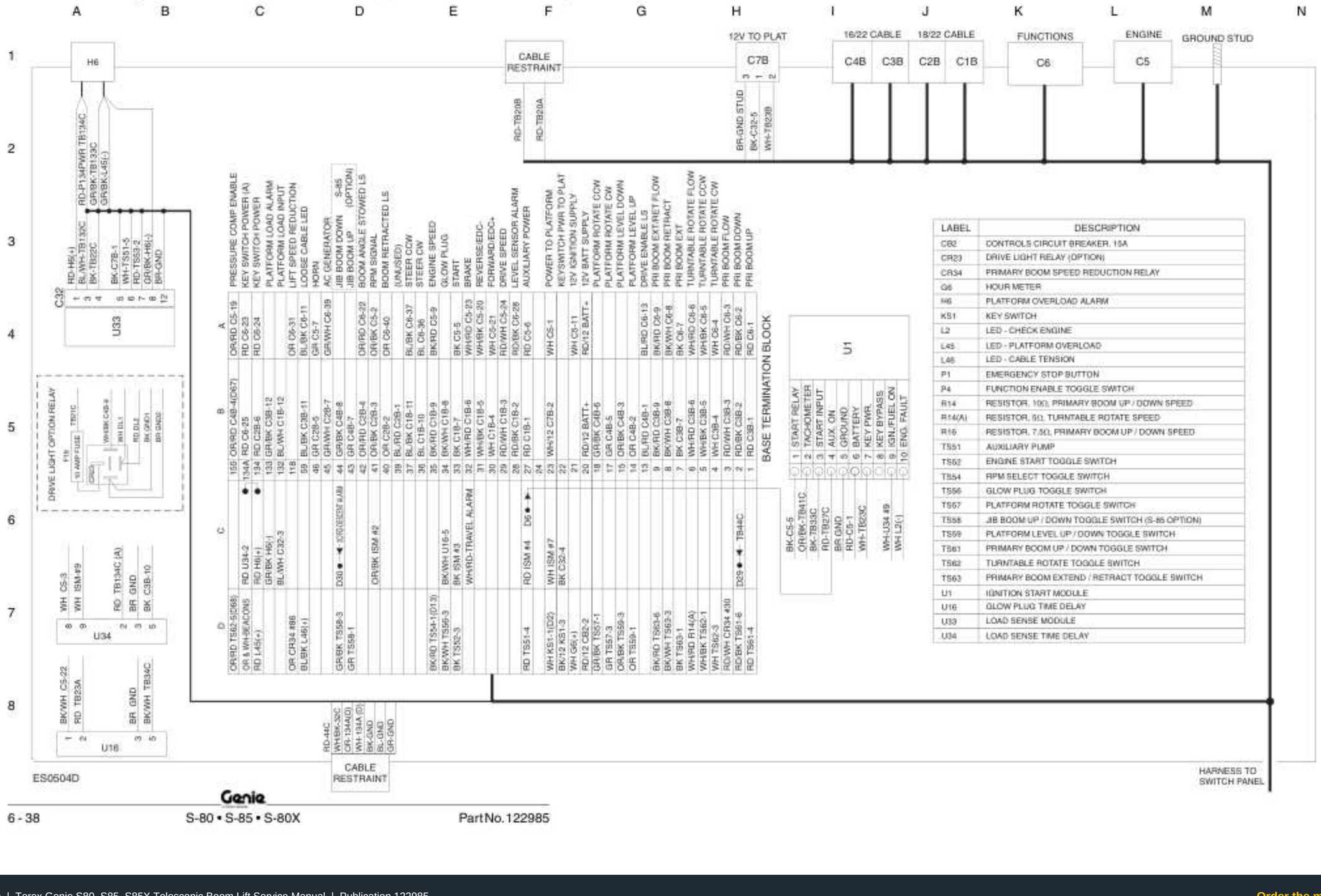
H1	TILT ALARM
JC3	JOYSTICK - DRIVE / STEER
JC7	JOYSTICK - PRIMARY BOOM UP / DOWN, EXTEND / RETRACT, TURNTABLE ROTATE
L1	LED - DRIVE ENABLE
L4	LED - PLATFORM OVERLOAD
L47	LED - CABLE TENSION
L48	LED - TILT ALARM
P2	EMERGENCY STOP BUTTON
P3	HORN BUTTON
TS1	AUXILIARY TOGGLE SWITCH
TS2	ENGINE START TOGGLE SWITCH
TS3	FUEL SELECT TOGGLE SWITCH
TS4	RPM SELECT TOGGLE SWITCH
TS7	PLATFORM ROTATE TOGGLE SWITCH
TS8	JIB BOOM UP / DOWN TOGGLE SWITCH
TS9	PLATFORM LEVEL UP/DOWN TOGGLE SWITCH
TS14	DRIVE SPEED TOGGLE SWITCH
TS15	DRIVE ENABLE TOGGLE SWITCH
U13	ALCS00 JOYSTICK CONTROLLER CARD

NOTE: DASHED LINES INDICATE OPTIONS

1 ROCKER / STEER OPTION

MidWestTech | Terex Genie S80, S85, S85X Telescopic Boom Lift Service Manual | Publication 122985 Order the manual at mid-west-tech.com >

Ground Control Box Terminal Strip Wiring Diagram, S-80 and S-85 (CE), Deutz TD2011L04I Models (after serial number 8110)



LABEL	DESCRIPTION
CB2	CONTROLS CIRCUIT BREAKER, 15A
CR23	DRIVE LIGHT RELAY (OPTION)
CR34	PRIMARY BOOM SPEED REDUCTION RELAY
G6	HOUR METER
H6	PLATFORM OVERLOAD ALARM
KS1	KEY SWITCH
L2	LED - CHECK ENGINE
L45	LED - PLATFORM OVERLOAD
L46	LED - CABLE TENSION
P1	EMERGENCY STOP BUTTON
P4	FUNCTION ENABLE TOGGLE SWITCH
R14	RESISTOR, 10Ω, PRIMARY BOOM UP / DOWN SPEED
R14(A)	RESISTOR, 5Ω, TURNTABLE ROTATE SPEED
R16	RESISTOR, 7.5Ω, PRIMARY BOOM UP / DOWN SPEED
TS51	AUXILIARY PUMP
TS52	ENGINE START TOGGLE SWITCH
TS54	RPM SELECT TOGGLE SWITCH
TS56	GLOW PLUG TOGGLE SWITCH
TS57	PLATFORM ROTATE TOGGLE SWITCH
TS58	JIB BOOM UP / DOWN TOGGLE SWITCH (S-85 OPTION)
TS59	PLATFORM LEVEL UP / DOWN TOGGLE SWITCH
TS61	PRIMARY BOOM UP / DOWN TOGGLE SWITCH
TS62	TURNTABLE ROTATE TOGGLE SWITCH
TS63	PRIMARY BOOM EXTEND / RETRACT TOGGLE SWITCH
U1	IGNITION START MODULE
U16	GLOW PLUG TIME DELAY
U33	LOAD SENSE MODULE
U34	LOAD SENSE TIME DELAY

MidWestTech | Terex Genie S80, S85, S85X Telescopic Boom Lift Service Manual | Publication 122985 Order the manual at mid-west-tech.com >