A TEREX COMPANY

Service Manual

Serial Number Range

Z-45/25
Z-45/25J

Bi-Energy Power

from Z452507-31015
to Z452507A-34010

from Z452507A-34011
to Z452510A-39313

Part No. 237061

Rev A1

March 2013

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

Table of Contents

Introduction

Important Information ii
Serial Number Information ii
Revision History iii
Serial Number Legend v

Section 1 Safety Rules

General Safety Rules vi

Section 2 Specifications

Machine Specifications ..... 2 - 1
Performance Specifications ..... 2 - 2
Hydraulic Specifications ..... 2 - 3
Manifold Component Specifications ..... 2 - 4
Machine Torque Specifications ..... 2 - 4
Kubota Z482-E2B Engine Specifications ..... 2 - 5
Generator ..... 2 - 6
Generator Torque Specifications ..... 2 - 6
Hydraulic Hose and Fitting Torque Specifications ..... 2 - 7
SAE and Metric Fasteners Torque Charts ..... 2 - 8

Section 3 Scheduled Maintenance Procedures

Introduction ..... 3 - 1
Pre-delivery Preparation ..... 3 - 3
Maintenance Inspection Report ..... 3 - 5

Checklist A Procedures

A-1 Perform Pre-operation Inspection ..... 3 - 7
A-2 Perform Function Tests ..... 3 - 7

MidWestTech | Terex Genie Z-45/25, Z-45/25J Bi-Energy Power Articulated Boom Lift Servic... Order the manual at mid-west-tech.com >

Section 3 **Scheduled Maintenance Procedures**, continued

A-3 Check the Generator Belts and Pulleys ..... 3 - 8
A-4 Perform 30 Day Service ..... 3 - 9
A-5 Perform Engine Maintenance ..... 3 - 10
A-6 Perform Engine Maintenance ..... 3 - 10
A-7 Grease the Turntable Rotation Bearing and Rotate Gear ..... 3 - 11
A-8 Perform Engine Maintenance ..... 3 - 11
A-9 Perform Engine Maintenance ..... 3 - 12
A-10 Perform Engine Maintenance ..... 3 - 12

Checklist B Procedures

B-1 Check the Radiator ..... 3 - 13
B-2 Check the Exhaust System ..... 3 - 13
B-3 Check the Batteries ..... 3 - 14
B-4 Inspect the Electrical Wiring ..... 3 - 15
B-5 Check the Tires, Wheels and Lug Nut Torque ..... 3 - 16
B-6 Confirm the Proper Brake Configuration ..... 3 - 17
B-7 Check the Oil Level in the Drive Hubs ..... 3 - 17
B-8 Check and Adjust the Engine RPM ..... 3 - 18
B-9 Test the Ground Control Override ..... 3 - 20
B-10 Test the Platform Self-leveling ..... 3 - 20
B-11 Test the Engine Idle Select ..... 3 - 21
B-12 Test the Drive Brakes ..... 3 - 22
B-13 Test the Drive Speed - Stowed Position ..... 3 - 22

MidWestTech | Terex Genie Z-45/25, Z-45/25J Bi-Energy Power Articulated Boom Lift Servic... Order the manual at mid-west-tech.com >

Section 3 **Scheduled Maintenance Procedures**, continued

B-14 Test the Drive Speed - Raised or Extended Position ..... 3 - 23
B-15 Test the Alarm Package (if equipped) ..... 3 - 23
B-16 Check the Electrical Contactors ..... 3 - 25
B-17 Perform Hydraulic Oil Analysis ..... 3 - 25
B-18 Perform Engine Maintenance ..... 3 - 26

Checklist C Procedures

C-1 Perform Engine Maintenance ..... 3 - 27
C-2 Grease the Platform Overload Mechanism (if equipped) ..... 3 - 27
C-3 Test the Platform Overload Mechanism (if equipped) ..... 3 - 28
C-4 Perform Engine Maintenance ..... 3 - 30

Checklist D Procedures

D-1 Check the Primary Boom Wear Pads ..... 3 - 31
D-2 Check the Free-wheel Configuration ..... 3 - 31
D-3 Replace the Drive Hub Oil ..... 3 - 32
D-4 Replace the Hydraulic Tank Return Filter ..... 3 - 33
D-5 Calibrate the Platform Overload System (if equipped) ..... 3 - 34
D-6 Check the Turntable Rotation Bearing Bolts ..... 3 - 36
D-7 Inspect for Turntable Bearing Wear ..... 3 - 37
D-8 Perform Engine Maintenance ..... 3 - 39

Checklist E Procedures

E-1 Test or Replace the Hydraulic Oil ..... 3 - 40
E-2 Grease the Steer Axle Wheel Bearings ..... 3 - 41
E-3 Perform Engine Maintenance ..... 3 - 43
E-4 Perform Engine Maintenance ..... 3 - 43

MidWestTech | Terex Genie Z-45/25, Z-45/25J Bi-Energy Power Articulated Boom Lift Servic... Order the manual at mid-west-tech.com >

SPECIFICATIONS

Manifold Component Specifications

Plug torque	
SAE No. 2	36 in-lbs / 4 Nm
SAE No. 4	10 ft-lbs / 13 Nm
SAE No. 6	14 ft-lbs / 19 Nm
SAE No. 8	38 ft-lbs / 51 Nm
SAE No. 10	41 ft-lbs / 55 Nm
SAE No. 12	56 ft-lbs / 76 Nm

Valve Coil Resistance Specification	
Description	**Specification**
Solenoid valve, 3 position 4 way, 20V DC (schematic items B, C, D, E, F and H)	25 to 29 Ω
Solenoid valve, 2 position 3 way, 20V DC (schematic items A, K, S and AA)	25 to 29 Ω
Proportional solenoid valve, 24V DC (schematic item I)	17 to 21 Ω

Machine Torque Specifications

Platform rotator	
3/4 -10 center bolt, GR 8	380 ft-lbs 515 Nm
3/8 -16 bolts, GR 8	44 ft-lbs 60 Nm
Turntable rotate assembly	
Rotate bearing mounting bolts, lubricated	180 ft-lbs 244 Nm
Drive motor/brake mounting bolts, dry	110 ft-lbs 149 Nm
Drive motor/brake mounting bolts, lubricated	80 ft-lbs 108 Nm
Drive motor and hubs	
Drive hub mounting bolts, lubricated	180 ft-lbs 244 Nm
Drive motor mounting bolts, lubricated	55 ft-lbs 75 Nm

Continuous improvement of our products is a Genie policy. Product specifications are subject to change without notice.

MidWestTech | Terex Genie Z-45/25, Z-45/25J Bi-Energy Power Articulated Boom Lift Servic... Order the manual at mid-west-tech.com >

FAULT CODE CHART

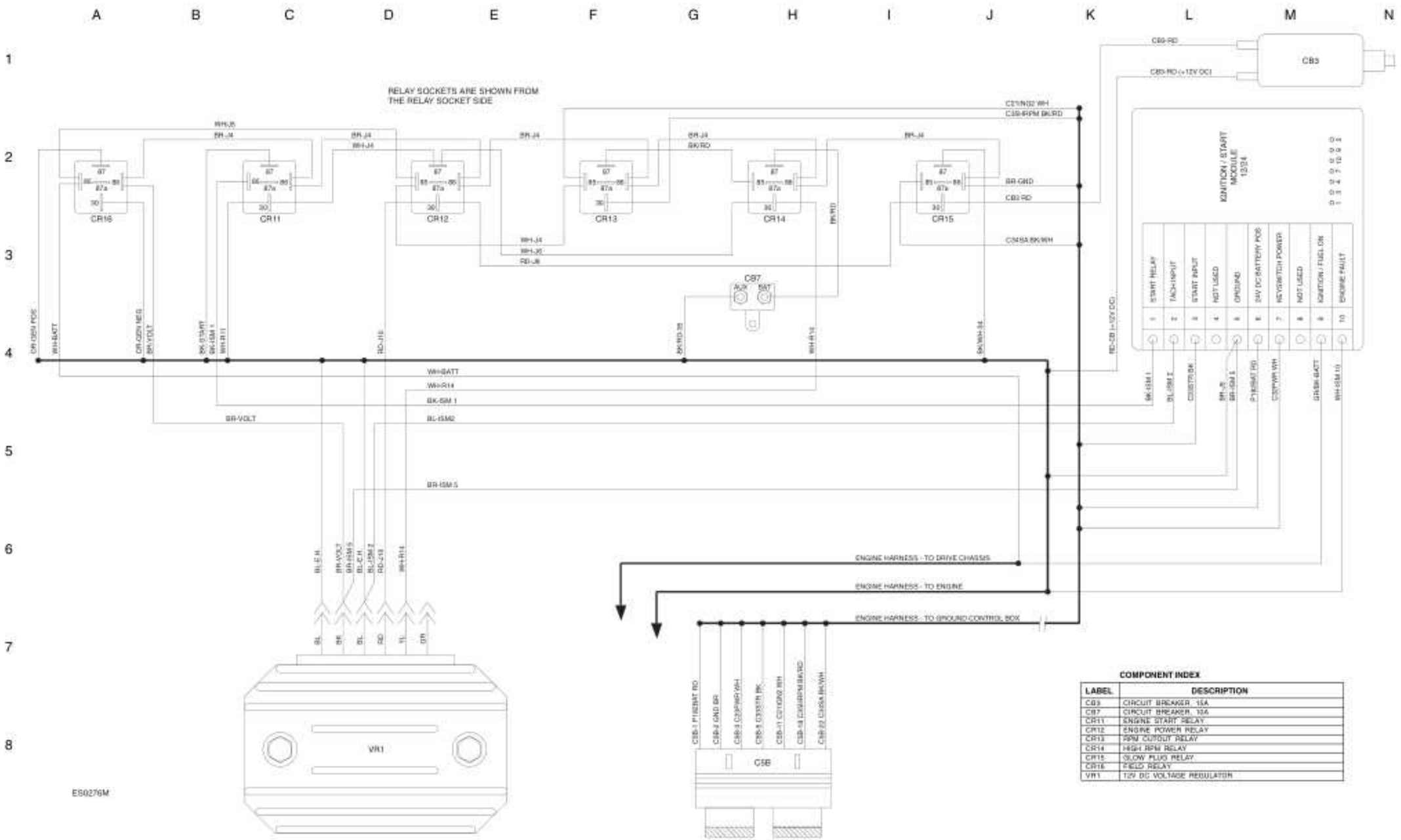
Fault Code	Programmer	Condition	Possible Causes	Solution
21	Throttle fault 1	Machine will not drive	Open in the WH/RD wire #32, pin 14 OR the RD/WH wire #29, pin 16 between the motor controller and the drive joystick OR pin 14 is internally shorted to power or ground OR the potentiometer on the joystick is defective.	Consult the Genie service department.
	Throttle fault 2	Machine will not drive	WH/Rd wire #32, pin 14 is shorted to power or ground OR the potentiometer on the drive joystick is defective.	Consult the Genie service department.
31	CONT DRVR OC	Machine will not drive	Main contactor PR1 coil is defective OR brake release relay CR5 is defective OR motor controller is defective.	Replace PR1 contactor OR CR5 relay OR motor controller.
32	Main cont welded	Machine will not drive	Main contactor PR1 contacts stuck closed OR green wire at pin 17 on the motor controller is shorted to ground OR an open in the drive motor armature wiring OR the motor controller has an internal short to ground.	Consult the Genie service department.
33	Precharge fault	Machine will not drive	External short between B+ terminal on motor controller and ground OR motor controller is defective.	Repair short between B+ terminal and ground OR replace motor controller. Note: Short can be on any part of the circuit connected to the B+ terminal on the motor controller.



Continued on next page

MidWestTech | Terex Genie Z-45/25, Z-45/25J Bi-Energy Power Articulated Boom Lift Servic... Order the manual at mid-west-tech.com >

Engine Panel Wiring Diagram



COMPONENT INDEX

LABEL	DESCRIPTION
CB3	CIRCUIT BREAKER, 15A
CB7	CIRCUIT BREAKER, 10A
CR11	ENGINE START RELAY
CR12	ENGINE POWER RELAY
CR13	RPM CUTOUT RELAY
CR14	HIGH RPM RELAY
CR15	GLOW PLUG RELAY
CR16	FIELD RELAY
VR1	12V DC VOLTAGE REGULATOR

MidWestTech | Terex Genie Z-45/25, Z-45/25J Bi-Energy Power Articulated Boom Lift Service Manual | Publication 237061
Order the manual at mid-west-tech.com >

SPECIFICATIONS

SAE FASTENER TORQUE CHART

• This chart is to be used as a guide only unless noted elsewhere in this manual •

SIZE	THREAD	Grade 5				Grade 8				A574 High Strength Black Oxide Bolts	
		LUBED		DRY		LUBED		DRY		LUBED	
		in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
1/4	20	80	9	100	11.3	110	12.4	140	15.8	130	14.7
	28	90	10.1	120	13.5	120	13.5	160	18	140	15.8
		LUBED		DRY		LUBED		DRY		LUBED	
		ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
5/16	18	13	17.6	17	23	18	24	25	33.9	21	28.4
	24	14	19	19	25.7	20	27.1	27	36.6	24	32.5
3/8	16	23	31.2	31	42	33	44.7	44	59.6	38	51.5
	24	26	35.2	35	47.4	37	50.1	49	66.4	43	58.3
7/16	14	37	50.1	49	66.4	50	67.8	70	94.7	61	82.7
	20	41	55.5	55	74.5	60	81.3	80	108.4	68	92.1
1/2	13	57	77.3	75	101.6	80	108.4	110	149	93	126
	20	64	86.7	85	115	90	122	120	162	105	142
9/16	12	80	108.4	110	149	120	162	150	203	130	176
	18	90	122	120	162	130	176	170	230	140	189
5/8	11	110	149	150	203	160	217	210	284	180	244
	18	130	176	170	230	180	244	240	325	200	271
3/4	10	200	271	270	366	280	379	380	515	320	433
	16	220	298	300	406	310	420	420	569	350	474
7/8	9	320	433	430	583	450	610	610	827	510	691
	14	350	474	470	637	500	678	670	908	560	759
1	8	480	650	640	867	680	922	910	1233	770	1044
	12	530	718	710	962	750	1016	990	1342	840	1139
1 1/8	7	590	800	790	1071	970	1315	1290	1749	1090	1477
	12	670	908	890	1206	1080	1464	1440	1952	1220	1654
1 1/4	7	840	1138	1120	1518	1360	1844	1820	2467	1530	2074
	12	930	1260	1240	1681	1510	2047	2010	2725	1700	2304
1 1/2	6	1460	1979	1950	2643	2370	3213	3160	4284	2670	3620
	12	1640	2223	2190	2969	2670	3620	3560	4826	3000	4067

METRIC FASTENER TORQUE CHART

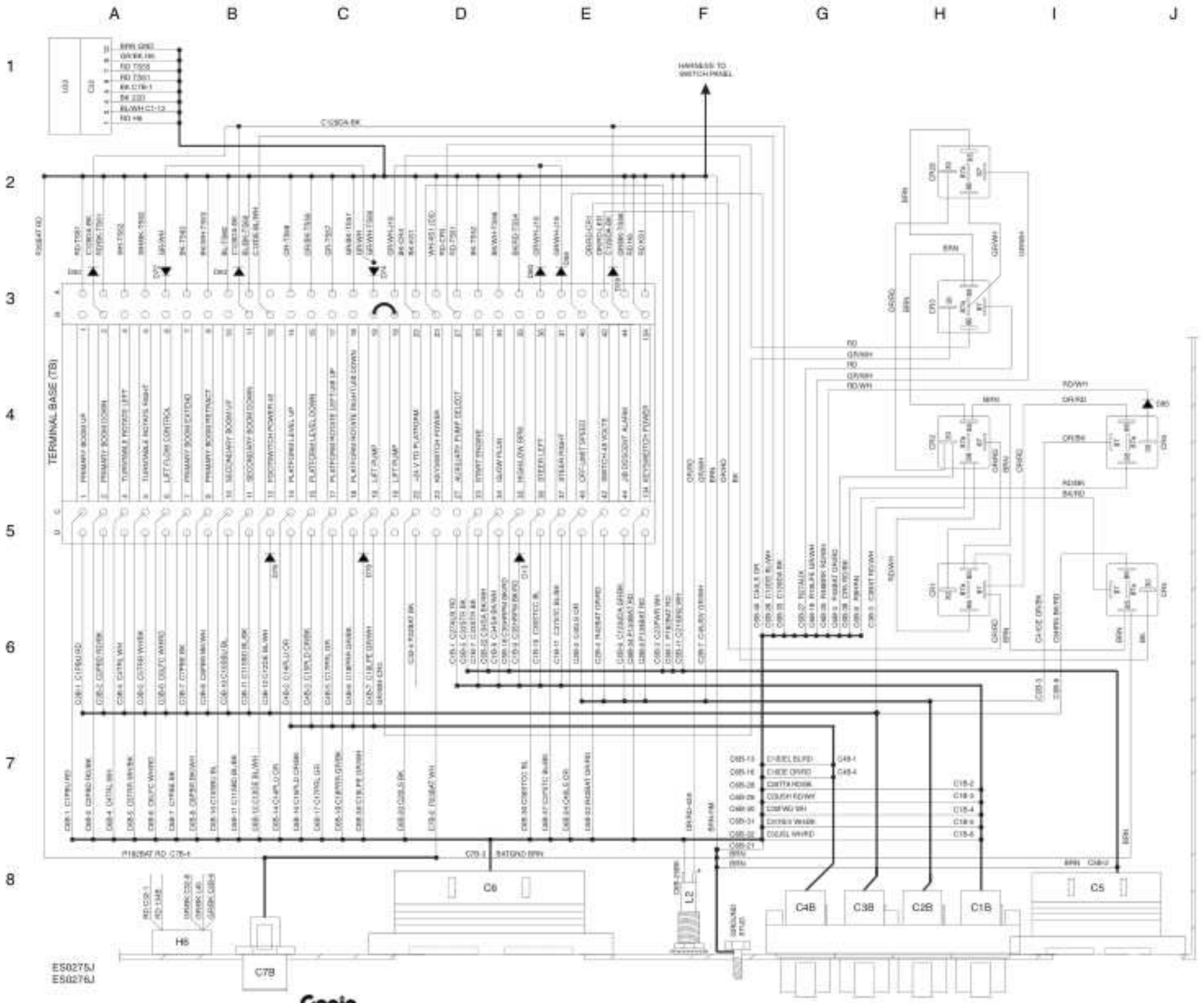
• This chart is to be used as a guide only unless noted elsewhere in this manual •

Size	Class 4.6				Class 8.8				Class 10.9				Class 12.9			
(mm)	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm	in-lbs	Nm
5	16	1.8	21	2.4	41	4.63	54	6.18	58	6.63	78	8.84	68	7.75	91	10.3
6	19	3.05	36	4.07	69	7.87	93	10.5	100	11.3	132	15	116	13.2	155	17.6
7	45	5.12	60	6.83	116	13.2	155	17.6	167	18.9	223	25.2	1.95	22.1	260	29.4
	LUBED		DRY		LUBED		DRY		LUBED		DRY		LUBED		DRY	
	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm	ft-lbs	Nm
8	5.4	7.41	7.2	9.88	14	19.1	18.8	25.5	20.1	27.3	26.9	36.5	23.6	32	31.4	42.6
10	10.8	14.7	14.4	19.6	27.9	37.8	37.2	50.5	39.9	54.1	53.2	72.2	46.7	63.3	62.3	84.4
12	18.9	25.6	25.1	34.1	48.6	66	64.9	88	69.7	94.5	92.2	125	81	110	108	147
14	30.1	40.8	40	54.3	77.4	105	103	140	110	150	147	200	129	175	172	234
16	46.9	63.6	62.5	84.8	125	170	166	226	173	235	230	313	202	274	269	365
18	64.5	87.5	86.2	117	171	233	229	311	238	323	317	430	278	377	371	503
20	91	124	121	165	243	330	325	441	337	458	450	610	394	535	525	713
22	124	169	166	225	331	450	442	600	458	622	612	830	536	727	715	970
24	157	214	210	285	420	570	562	762	583	791	778	1055	682	925	909	1233

MidWestTech | Terex Genie Z-45/25, Z-45/25J Bi-Energy Power Articulated Boom Lift Servic... Order the manual at mid-west-tech.com >

Ground Control Box Terminal Strip Wiring Diagram, (CE)

(from serial number Z452507-31015 to Z452507A-34514)



MidWestTech | Terex Genie Z-45/25, Z-45/25J Bi-Energy Power Articulated Boom Lift Service Manual | Publication 237061 Order the manual at mid-west-tech.com >