

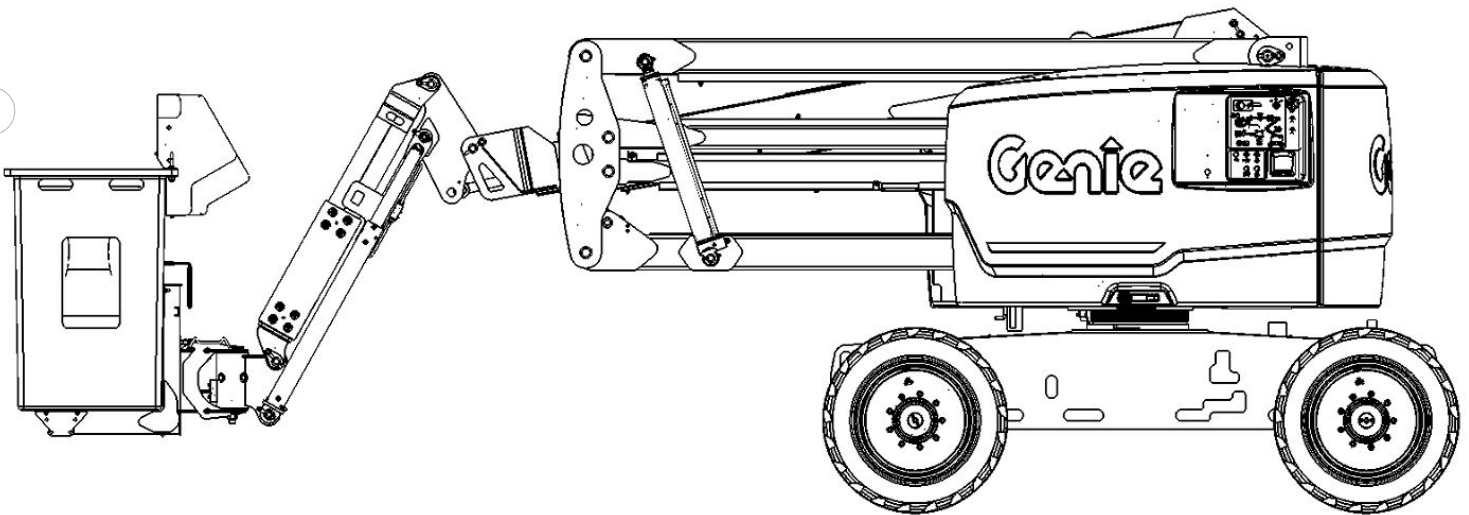


**TEREX®**

# TECH TIPS

**Z45 SUB - DIAGNOSING FAULT CODES**

**NO. 171**



**SERVICE CALL:**  
**Z45 SUB - DIAGNOSING FAULT  
CODES**



**MODEL(S):**  
**Z45 SUB UNITS**



**TOOLS NEEDED:**  
**NONE**

**TEREX UTILITIES TECHNICAL SUPPORT TEAM**

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## **DANGER**

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury.

Many of the hazards identified in the Operator's Manual are also safety hazards when maintenance and repair procedures are performed.

## **DO NOT PERFORM MAINTENANCE UNLESS:**

- ✓ You are trained and qualified to perform maintenance on this machine.
- ✓ You read, understand and obey:
  - manufacturer's instructions and safety rules
  - employer's safety rules and worksite regulations
  - applicable governmental regulations
- ✓ You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this Tech Tip is a supplement to the Service Manual. Consult the appropriate Service Manual of your machine for safety rules and hazards.



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| Component ID and Fault Codes

**STEP 1 - STEP 4**

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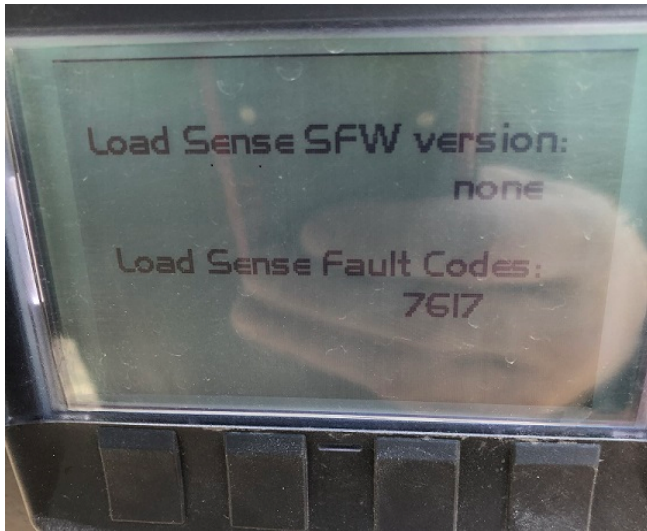
**COMPONENT LIST**

12

**FAULT CODES**

## STEP 1

If there is a possible issue with a component on the Z45 SUB, a 3-5 digit fault code will display on the screen at the G-CON (lower controls).



## STEP 2

The first 1-3 numbers will reference the component ID. The component range will be 1 thru 263.

## STEP 3

The last 1-2 digits will reference the fault type. The range will be 1 through 31.

## STEP 4

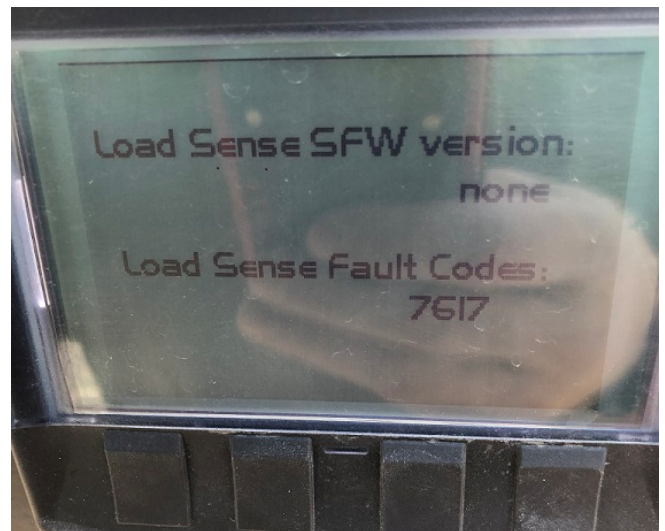
In the following picture, the code shown is 7617.

The Component ID in this code is 76 and the Fault Code is 17.

Referencing the Component List below, 76 is the “Load Platform” or the load cell.

Using the list of fault codes on **Page 12**, fault number 17 shows a fault of: “Not Calibrated”.

Note: Missing numbers in the table indicates that the numbers have not been assigned to a component or fault (spare).



Component ID	Engineering Reference Component
1	CAN Bus (Engine/Drive)
4	Secondary Boom Position Switches
5	Primary Boom Length Switches
6	Keyswitch
7	Engine Warning Lamp (Engine DTC generated)
8	Engine Stop Lamp (Engine DTC generated)
9	Engine Fault
10	Engine Start Switch (Ground Controls)
11	Engine Start Switch (Platform Controls)
12	CAN Bus (Machine)
13	Jib Up/Down Toggle Switch (PCS)
14	Engine Alternator
15	Foot Switch
16	Speed Adjustment Toggle Switch or Dial
17	AUX Relay/Pump
18	Proportional Relief HV
19	AUX Toggle Switch
20	Primary Boom Extend/Retract Joystick
21	Primary Boom Up/Down Joystick
22	Primary Boom Up Valve Coil
23	Primary Boom Down Valve Coil
24	Primary Boom Angle
25	Cable/Chain Tension
26	Primary Boom Extend Valve Coil
27	Primary Boom Retract Valve Coil
28	Primary Boom Angle Safety
29	LSB2RS/LSB4ES Limit Switch
30	Primary Boom Extend/Retract Toggle Switch
31	Secondary Boom Up/Down Joystick
32	Secondary Boom Up Valve Coil
33	Secondary Boom Down Valve Coil
34	Inconsistent Primary Boom Extension Limit Switches
35	Ground Control Buttons
36	Jib Up Valve Coil
37	Jib Down Valve Coil
38	Jib Level Angle
39	Jib Level Flow Valve Coil
40	Jib Select Valve Coil
41	Turntable Rotate Joystick
42	Turntable Rotate CW Valve Coil

43	Turntable Rotate CCW Valve Coil
44	Drive Enable Toggle Switch
45	Platform Level Toggle Switch (Platform Controls)
46	Platform Rotate CW (left) or CW/CCW Valve Coil
47	Platform Rotate CCW(right) Valve Coil
48	Small Pump Enable Valve Coil
49	Large Pump Enable Valve Coil
51	Drive Joystick
52	Drive Forward Valve Coil (EDC)
53	Drive Reverse Valve Coil (EDC)
54	Drive Brake Release Valve or Electric Brake
55	High Drive Speed Valve Coil
56	Telematics Device
57	Secondary Boom Up/Down Flow Control Valve Coil
58	Secondary Boom Ext/Ret Flow Valve Coil
59	Secondary Boom Extend Valve Coil
60	Secondary Boom Retract Valve Coil
61	Steer Joystick (Rocker Switch and separate axis joystick)
62	Aircraft Proximity Override Toggle Switch
63	Jib Up/Down Joystick
64	Hydraulic Pressure (Function pump output)
65	Jib Rotate Joystick
66	Secondary Boom Angle
67	Primary Boom Length Safety
68	Function Enable Switch
69	AC Power Generator Output
70	Pump Electric Motor Speed
71	Estop Relay/Circuit
72	Lift Guard Contact Alarm Switch
73	Engine Oil Pressure
74	Engine Temperature
75	SCON Controller (Operational/Safety Controller)
76	Platform Load
77	Platform Display VCON
78	Platform Controller (PCON)
79	Ground Display DISCON
80	Turntable Controller (TCON)
81	DCON Controller
82	AUX Recovery during Load Sense Overload
83	Telematics Remote Disable

84	Turntable Chassis Angle (Operational or Operational & Safety)
85	Turntable Chassis Angle (Safety)
86	Pressure Comp Functional Enable 1 Relay
87	Pressure Comp Functional Enable 2 Relay
88	Function Enable Valve Coil
89	Fuel Level
90	Jib Boom Length Safety
91	Jib Retract Limit Switch
92	Turntable Rotate Flow Valve Coil
93	Turntable Chassis Angle SCON
94	Primary Boom Length
95	Engine RPM Speed
96	Low Oil Pressure or Engine Overtemp
97	Motor Braking (Drive Motor Overspeed)
98	Platform Level Angle
99	Primary Boom Extend/Retract Flow Valve Coil
100	Platform Level Up Valve Coil
101	Platform Level Down Valve Coil
102	Load Sense Function Cutout Relay
103	Load Sense Engine Cutout Relay
104	Left Front (or just Front) Steer Angle
105	Right Front Steer Angle
106	Left Rear (or just Rear) Steer Angle
107	Right Rear Steer Angle
108	JIB rotate CW Valve Coil
109	JIB rotate CCW Valve Coil
110	Platform Rotate Toggle Switch (Platform Controls)
111	Front Axle Extension Angle
112	Rear Axle Extension Angle
113	Jib Rotate Toggle Switch (Platform Controls)
114	Axle Extend / Retract Toggle Switch
115	Axle Extend / Retract Valve Coil
116	Model Configuration
117	Drive Power P38 SCON
118	Turntable Rotate Power P39 SCON
119	Secondary Boom Down and Extend Valve Power P30
121	Valve Power P6R1 SCON
122	Engine Power P6R2 SCON
123	Enable Input Power P7 SCON
124	Enable Output Power P7R SCON

125	Primary Boom Down Power P9A
126	IGN/Fuel Power P9B SCON
127	Primary Boom Extend Power P10
128	Primary Boom Up Power P11
129	Axle Retract Power P12 SCON
132	Platform Level Power P22
133	Primary Boom Up/Down Valve Power P22R
134	Valve Power P7R DCON
135	Wall Powered Charger Faults and Error Codes
136	Pump AC Motor Controller
137	Left Front AC Drive Controller
138	Right Front AC Drive Controller
139	Left Rear AC Drive Controller
140	Right Rear AC Drive Controller
141	Boom Safety
142	Primary Boom Maximum Angle Safety (PBMAS)
143	Primary Boom Maximum Length Safety (PBMLS)
144	Axle Not Extended and Boom is Not Stowed
145	Axles Extension
146	Axle Not Extended and in Drive Disable Zone
147	Secondary Boom Not Retracted and Chassis Tilted
148	P85PWR Sensor Power
149	P109PWR Sensor Power
150	P26PWR Sensor Power
151	Primary Boom UP/DOWN Flow Valve Coil (Fine)
152	Primary Boom UP/DOWN Flow Valve Coil
153	Primary Boom Lockout P1 Valve Coil
154	Primary Boom Lockout P2 Valve Coil
155	JIB Extend/Retract Joystick
156	JIB Extend/Retract Flow Valve Coil
157	JIB Extend Valve Coil
158	JIB Retract Valve Coil
160	Left Front Steer Valve Coil (Left) Steer Left for Two Wheel Steer w/tie rod
161	Right Front Steer Valve Coil (Left) Steer Left for Two Wheel Steer w/tie rod
162	Left Rear Steer Valve Coil (Left)
163	Right Rear Steer Valve Coil (Left)
164	Platform Rotate Joystick
165	Left Front Steer Valve Coil (Right)



166	Right Front Steer Valve Coil (Right)
167	Left Rear Steer Valve Coil(Right)
168	Right Rear Steer Valve Coil (Right)
169	Secondary Boom Angle Safety
170	LSB2RO/LSB4EO Cross-Check
171	RSB1AO Active Cross-Check
172	LTB1LO Active Cross-Check
173	RSB1AO/LSB1DO Cross-Check
174	LTB1LO/LSB3RO Cross-Check
175	LTB1LO/LSB4EO Cross-Check
176	RSP1AO Active Cross-check
177	RSS1AO Active Cross-check
178	RSJ1AO Active Cross-check
179	Platform Level Loop Lock Valve Coil
180	JIB Level Loop Lock Valve Coil
181	Axle Retract Enable Valve Coil
182	LSS1RS
183	LSS1RO
184	Chassis tilted and Primary Boom max Angle
185	ESTOP RELAY SOURCE
186	ESTOP RELAY RETURN
187	Jib Rotate Limit Switch
188	LSB3RO/LSB4EO Cross-check
189	Lift Pump Motor
190	Right Rear Drive Motor
191	Left Rear Drive Motor
192	Right Front Drive Motor
193	Left Front Drive Motor
194	Right Rear Brake Coil
195	Left Rear Brake Coil
196	Right Front Brake Coil
197	Left Front Brake Coil
198	Right Rear Speed Sensor
199	Left Rear Speed Sensor
200	Right Front Speed Sensor
201	Left Front Speed Sensor
202	Right Rear Motor Controller Control Output (any)
203	Left Rear Motor Controller Control Output (any)
204	Main Battery Power Pack (DC Machine)
205	Drive Power Contactor
206	TCON Bank Power

207	PCON Bank Power
208	Left Front Steer Valve Coil (Left or Right) can't tell left or right
209	Right Front Steer Valve Coil (Left or Right) can't tell left or right
210	Left Rear Steer Valve Coil (Left or Right) can't tell left or right
211	Right Rear Steer Valve Coil (Left or Right) can't tell left or right
212	Scissor Height
213	Scissor Height Safety
214	Scissor Lift Pressure
215	Scissor Lift Pressure Safety
216	OUTRIGGER SYSTEM
217	OUTRIGGER LEFT FRONT COIL
218	OUTRIGGER RIGHT FRONT COIL
219	OUTRIGGER LEFT REAR COIL
220	OUTRIGGER RIGHT REAR COIL
221	OUTRIGGER LEFT FRONT PRESSURE TRANSDUCER / LIMIT SWITCH
222	OUTRIGGER RIGHT FRONT PRESSURE TRANSDUCER / LIMIT SWITCH
223	OUTRIGGER LEFT REAR PRESSURE TRANSDUCER / LIMIT SWITCH
224	OUTRIGGER RIGHT REAR PRESSURE TRANSDUCER / LIMIT SWITCH
225	OUTRIGGER EXTEND COIL
226	OUTRIGGER RETRACT COIL
227	PLATFORM DECK EXTEND
228	PLATFORM DECK RETRACT
229	PLATFORM DECK ENABLE
230	OSCILLATE SYSTEM
231	OSCILLATE LEFT COIL
232	OSCILLATE RIGHT COIL
233	BATTERY TEMPERATURE
234	PLATFORM UP COIL
235	PLATFORM DOWN COIL
236	MOTOR CONTROLLER ENABLE
237	MOTOR CONTROLLER THROTTLE
238	ACCUMULATOR COIL
239	ACCUMULATOR PRESSURE
240	OSCILLATE LIMIT SWITCH LEFT SENSE AXLE
241	OSCILLATE LIMIT SWITCH RIGHT SENSE AXLE
242	VEHICLE HORN
243	CHASSIS ALARM
244	PLATFORM ALARM
245	BOOST CHARGER

246	GLOW PLUG
247	BRAKE RELEASE SWITCH
248	UP LIMIT INPUT
249	DOWN LIMIT INPUT
250	GCON BANK POWER
251	GROUND CONTROL (GCON)
252	BATTERY MANAGEMENT SYSTEM
253	CAPACITOR CHARGE
254	BATTERY CHARGE VOLTAGE
255	Right Rear Drive Motor Temperature
256	Left Rear Drive Motor Temperature
257	Right Front Drive Motor Temperature
258	Left Front Drive Motor Temperature
259	Right Rear Drive Controller Temperature
260	Left Rear Drive Controller Temperature
261	Right Front Drive Controller Temperature
262	Left Front Drive Controller Temperature
263	Platform Recirculation Coil

## Fault Codes

Fault Type	Engineering Name
09	SHORTED TO 0V
10	Envelope Exceeded
11	Shorted to Supply Voltage
12	Sensor Value Too High
13	Not Detected
14	Cross-Check Failure
15	Sensor Value Too Low
16	Sensor Value at Zero
17	Not Calibrated
18	Speed Not Calibrated
19	Value Out of Expected Range
20	Generic Warning
21	Generic Fault
22	Sensor not detecting movement while being commanded
23	Too High
24	Too Low
25	Resistance too high
26	Resistance too Low
27	ACTIVE "ON" at Startup
28	Time Out
29	Software Version Mismatch
30	Calibration Mismatch
31	Setup Invalid



FOR FURTHER ASSISTANCE,  
CONTACT THE TEREX UTILITIES TECHNICAL SUPPORT TEAM  
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