

# TECH TIPS

Service Call:

**Machine will not automatically level.**

Tools Needed:

Multi Meter  
Jumper wire  
7/16 Combination wrench

Model:

**TZ34/20 & TZ50/30**



## Tech Tips Safety Rules



### **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.

## Step 1

Perform all operations on firm level ground.

When the Auto level module is operating correctly:

- Once the outriggers pads are in contact with the ground, the green LED lights on the outrigger push-button will light.
- The TZ will then lift up at the back end until the tires are slightly off the ground, at this point the module will beep.
- The front of the machine will then lift up, and after a few adjustments, the machine will announce itself level with a long beep.

If instead, after attempting to auto level, you find that the outriggers lift the machine to the full extension of the hydraulic cylinders, go to step 2.



## Step 2

If there is a beep after the outriggers reach full extension, then it is likely the timer module is out of adjustment.

However, If there is no beep from the Auto level module, then go to step 3.

To re-adjust the timer module, located inside the control box:

- Begin by turning the blue knob on the timer module, counter-clockwise to the .1 second interval, then try auto leveling again.
- If the auto level now performs correctly, then this was the problem and all that remains, is to adjust the timing interval such that the machine levels out with the tires 2 to 3 inches off the ground. You can now return the machine to service.



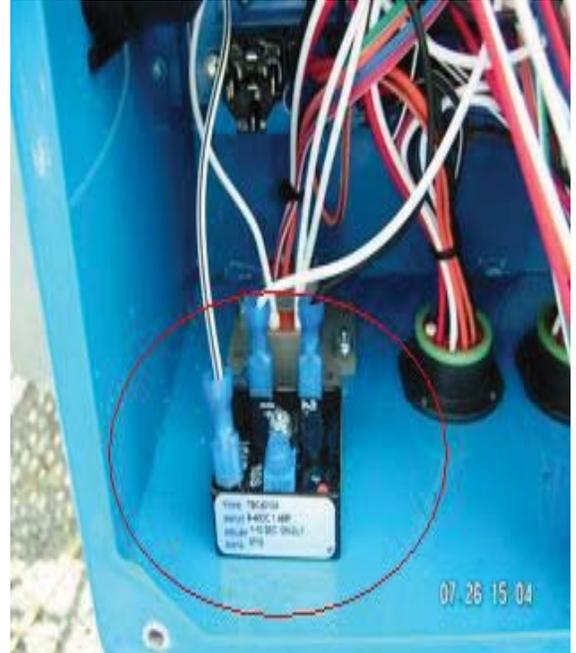
## Step 3

The Auto level module failing to beep, can indicate failure in one or more of the following components.

- 1) The Timer module.
- 2) The timer relay
- 3) The Auto level module.

We will only need to test the first two components, if both of these test good, then the Auto level module is at fault. Keep in mind there could be more than one faulty component, so both the timer module and the relay have to be tested.

Manually level the machine and leave the power selector switch set to ground control, for the following tests.



## Step 4

Testing the Timer module:

- Connect the ground probe of your multimeter to the black ground wire off the hour meter, this will provide a good ground for the meter.
- Now while pressing the down function pushbutton (yellow circled), on the panel, you should get the following on the timer module terminals (see photo on right):
  1. You should have approximately 24VDC on the Black/Red wire, labeled 'PLUS' in the photo.
  2. You should have continuity between the white/black and the black wire, labeled LOAD and MINUS in the photo.

If these are your readings, the timer module is working correctly, proceed to testing the timer relay in step 5.



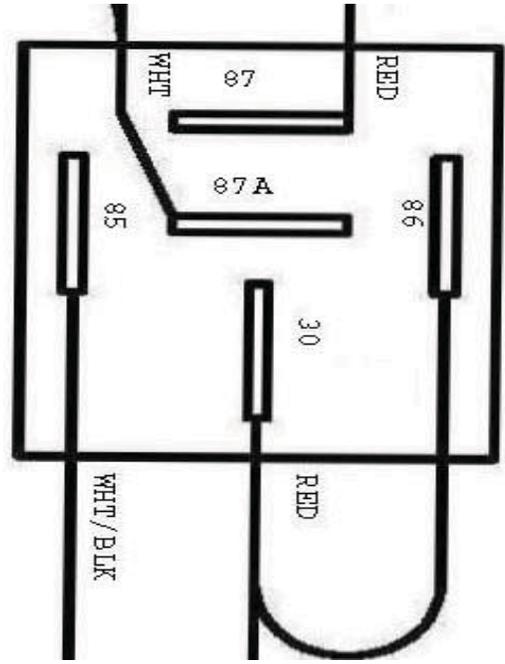
## Step 5

The auto level relay is the second one down on the right. Inside the ground control box.

Test the Auto level relay:

- Using the Multi Meter verify there is voltage at terminals 30, 86 and 87 ( 3 red wires) on the relay, while holding down the auto level pushbutton.
- The relay is working correctly, in which case the failed component is the Auto level module.
- If however, there is no voltage on 87 and it's found on 87A instead, this would indicate the relay is not switching. Double check this by confirming that the white/black wire on terminal 85 is grounded. Replace the relay if it fails to switch.

After replacing any faulty components, test and return the machine to service.



## Step 6