



## **MACHINE WON'T START**

## **T-180**

If the mower engine turns over but won't start first check for adequate fuel, then check the Dashboard lights to see if there is a safety interlock issue that is preventing the machine from starting

To ensure the machine is in a safe configuration to allow starting, sit on the machine, engage the Brake, disengage the Blades, ensure the catcher is closed and the drive is in neutral. In this configuration the dashboard lights should show as follows.

- The Seat indicator light to be OFF
- The Brake indicator light to be ON
- The Catcher indicator light to be OFF
- The Blade engaged indicator light to be OFF

The mower should now start.

If any of the dashboard lights are showing different to that required (as above) the mower will not start and the dashboard light showing the incorrect state can assist in indicating where the problem is that prevents the engine starting. (Don't always rely on dash lights as fault finders as due to the complex interaction of the various safety devices they could be misleading)

Interlock issues can be a tricky one to diagnose.... you have to pay very careful attention to the exact situation and machine configuration at the time of occurrence to help identify which safety switch may be at fault and so diagnose the problem.

The first switch to check is the switch under the seat. If there is a fault with this switch the machine may start .....but if you try to release the brake or engage the blades the engine may stop as the system processor believes there is no one in the drivers seat.

Alternatively the machine may not start due to the machine thinking there is no one in the drivers seat due to a faulty seat switch not interacting with another safety switch. Ie brake off

If the dash light remains on when someone is in the seat, disconnect the seat switch and bridge across the 2 wires to the switch. This simulates the switch being activated and if the problem is resolved can identify a faulty switch

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To test the catcher or brake switches, as with the seat switch disconnect each switch (individually) and bridge across the 2 wires to the switch. This simulates the switch being activated and if the problem is resolved can identify any faulty switch. It could also possibly be that the tab on the catcher that pushes against the catcher safety needs a little adjustment. It may be depressing the switch only just enough so sometimes it is activated and another it is not.... keep an eye on the "catcher open" light on the dash

Another switch that can cause problems is the Blade Engaged switch found under the dash and is NOT the same type of switch as the 3 others used on the seat, catcher and brake. The Blade switch is a simple mechanical circuit make or break tab that is activated as the blade drive engage lever is pushed up from 6 o'clock to 12 o'clock position. If you look up under the dash when you engage the blades (have machine off) you can see exactly how it functions. As the blade engage lever is rotated to the 12 o'clock position a metal tab connects with bolt head to make a circuit. The bolt is connected on the other side of its mounting plate to the sensor wire and can be seen in the picture at the right. If the machine is regularly used in dry and or dusty conditions the contact point can get dirty or perhaps have a piece of grass stuck between the contact so a circuit cannot be made... Check to ensure the point of contact is clean as the machine cannot be started unless the circuit is made and the dash light is then OFF

If you have a problem with the Blade engaged light staying on when the blades are not engaged, a test to see if the circuit board is OK is as follows ...

With the key ON....touch a long shaft screwdriver to the bolt under the dash connecting the sensor wire to the back of the contact (as at right) and touch the other end of the shaft to the machine chassis to see if the blade light goes off. (Alternatively use a piece of automotive electrical wire to bridge from the bolt to the chassis) See page 75 in the manual. (picture no 25) The part is line 34 Part Number 2140518



If the light goes off the board is likely OK and there is a problem elsewhere.

Another rare but possible fault with the blade lever switch is if it is not insulated correctly. There is a rubber washer insulating the bolt (as seen in the picture) connected to the cable. If this insulation is damaged (and therefore the bolt is not isolated from the chassis) it could cause a short circuit so the light always remains off and the processor will always believe the blades are disengaged when in fact they are not. See page 75 in the manual. (picture no 25) The part is line 32 Part Number T0301

We hope this has been of assistance.

## HAPPY MOWING