

Troubleshooting

- ***Base GPS receiver does not power on:***
Make sure you hold the PWR button down for at least a second. A quick press will not activate the receiver. Check that the battery cable is connected to the battery correctly, red to +ve and black to -ve. Also check that the red dots on the power cable connector and socket on the receiver are aligned and the cable is pushed in as far as it can go.
- ***Base radio does not power on:***
Check that the cable is connected to the battery correctly, red to +ve and black to -ve. Some radios do not require their own power supply but are supplied power through the GPS receiver. For these radios check that the GPS receiver is also switched on.
- ***Base Station program does not connect to receiver:***
Check that the GPS receiver is switched on. Check that the cable is connected correctly, COM1 on computer and Port A on GPS receiver.
- ***Base Station program connects but waiting for satellite message:***
Check that the GPS antenna cable is not cross-threaded and is properly connected. Make sure antenna has a clear view of the sky. If this is the very first time connecting to the receiver or if an internal reset has recently been performed this message may persist for several minutes while the receiver obtains a new almanac.

- ***Base Station program started successfully but radio light not flashing :***
Make sure cable from GPS receiver is properly connected to the radio. Some types of radio may not have a TX (transmit) LED so the radio may in fact be functioning OK. All radio types that are specifically listed in the base station program have a TX light and should flash every second. It may take several seconds after connection for this flashing to commence.
- ***Machine's GPS receiver's power LED (left) does not flash red:***
Make sure power cable to GPS receiver is properly connected. If power is switched through ignition circuit it will be necessary to have the ignition switch on before the receiver will power-up. If power is switched through the master circuit it will be necessary to have the master switch on. Check that connection to battery/ignition terminals is not loose or reversed.
- ***Machine's GPS receiver satellite LED (middle) does not flash green:***
Make sure GPS antenna cable is not cross-threaded at the antenna (easily happens). Make sure antenna cable junction on hood of dozer or base of antenna is connected. Make sure antenna cable is connected to GPS receiver. Check that the antenna has a clear view of the sky. If this is the very first time connecting to the receiver or if an internal reset has recently been performed this message may persist for several minutes while the receiver obtains a new almanac.
- ***Machine's GPS receiver radio LED (right) does not flash yellow:***
Make sure base station is running and base radio TX light is flashing. If yellow LED flashes when close to base station but not when further away, check that the

machine's radio antenna mast is mounted vertical and is the right antenna for the job. You can unscrew the mast from its magnetic base and verify the frequency range is suitable for the radio. If it is only a problem at a great distance from the base station you may try to elevate the base station radio mast or move the base station to a close control point and restart it. Note that if using a radio mounted externally on the machine you will never see the yellow flash.

- ***Computer does not power up, just continues to beep:***
Computer's internal battery is low. Plug the power connector into the rear of the computer and make sure it is connected to the GPS receiver and that the receiver is powered up.
- ***Touch screen alignment incorrect, finger presses need to be offset:***
Computer's touch screen software needs to be recalibrated. Go to the start menu and then to "Programs" and locate the "MicroTouch" configuration program. Select the calibration function and follow the steps to realign the touch screen.
- ***Touch screen does not work at all:***
Make sure computer is properly powered. Power the computer down and try again. If the touch screen still does not respond to finger pressure contact your 3DMC dealer.
- ***GPS localization point-measurement takes too long:***
Check the status of the measurement screen. If the status indicates waiting for satellites then make sure that the machine is not blocking satellite signals to the range-pole or tripod-mounted antenna. Also, if the control point itself is located too close to other obstructions then opt for an alternative control point away from the obstruction.

- ***GPS localization produces large errors:***
If these errors are 10's or 100's of meters/feet then it is likely that some blunder or typo has occurred. If you have manually entered GPS coordinates then check that your longitudes correctly prefixed with a minus sign if working in the western hemisphere (e.g. USA). If the errors are decimeter level (3/10') in magnitude then it may point either to poorly measured local control coordinates or not holding the range-pole vertical when measuring the GPS points. To isolate the error, disable horizontal and/or vertical localization for each point in turn and observe the set of errors. If the errors become acceptable then you have located the point that is most detracting from the quality of the localization. Re-observe this control point with GPS and/or disable it from the localization.
- ***3DMC display indicates "Out of design" when it should not:***
Check that you have selected the correct design surface and project file by pressing the wrench button. If you know the approximate local coordinates for the site press the "GPS" button to verify that the local coordinates are not in error. This might be the case if the wrong project file was selected or the GPS localization was incorrect.
- ***3DMC display indicates excessive cut or fill:***
Press the yellow blade control button at the bottom of the display and make sure no unwanted additional cut or fill value is entered. Close 3DMC and open up the Machine Builder program and check that the slope distance from antenna rim to blade is correct. Restart 3DMC. If still in error then check that the local coordinates displayed under the "GPS" button are approximately correct, i.e. they indicate the correct

location on the surface model. If the base station has been incorrectly set up, either on the wrong point or with the wrong antenna height, this will have a direct affect on position of the machine on the design surface.

- ***3DMC display indicates machine oriented/moving in wrong direction:***
The 3DMC program can only determine direction of travel while the machine is moving. Also, the 3DMC program does not know when the machine is moving in reverse and so always assumes the machine is moving forward.
- ***Control Box does not power on:***
Check for 12-24 volt power and ground on power cable. May be tied to ignition circuit. Motor Grader key may need to be turned on.
- ***Control box lights are on but no LCD display:***
Power source may be less than 12 volts or too many accessories tied to power source.
- ***Violent or “jumpy” hydraulic response:***
Gains or offsets may be set too high. Offsets should always be set for minimum movement. Gains should be set so that no overshooting of grade occurs.
- ***Control box in AUTO but no valve drive:***
Check cable connections to valve. Gains or offsets may not be set. Refer to System V Control box manual for details.
- ***3DMC display shows cut/fill values but not control box:***
Check cable connection from control box to computer. Check that 3DMC-GPS mode (not LPS) has been selected on the main screen of the control box.



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