COUNTAX

SERVICE BULLETIN **03- T7. 20**

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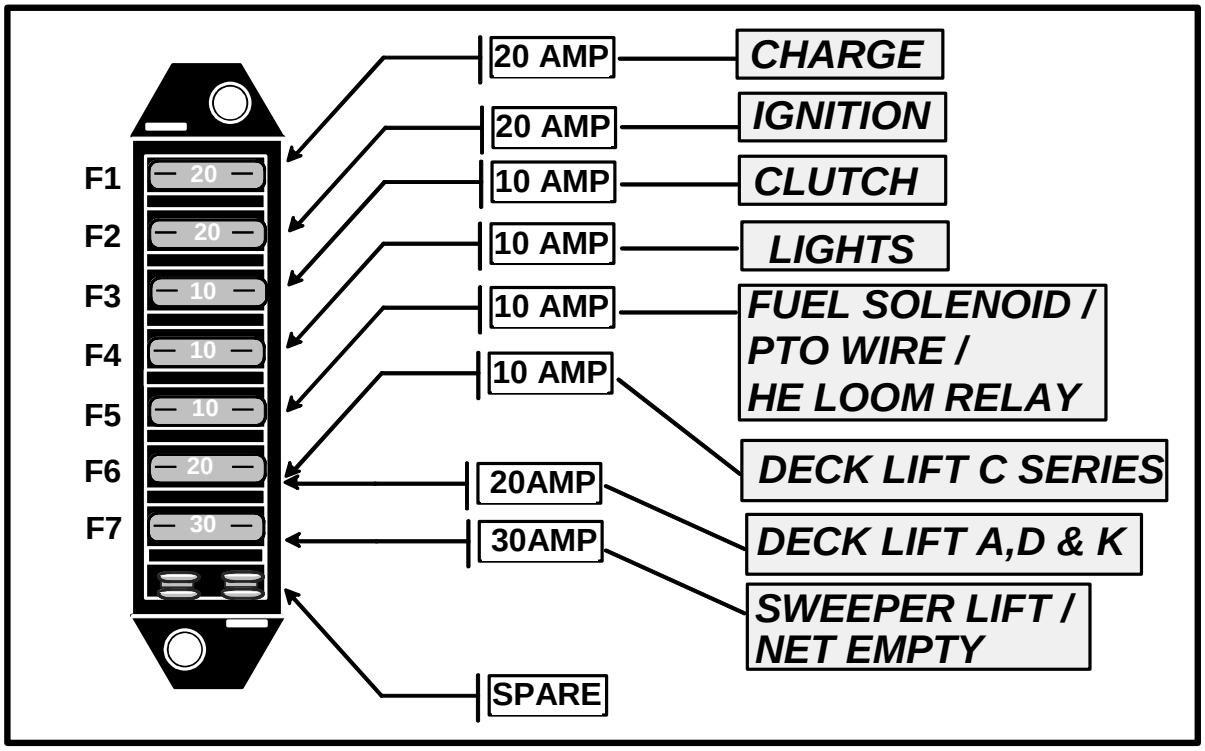
CONCERN: ELECTRICAL FAULT FINDING OMS TRACTORS



BASIC ELECTRICAL FAULTS

No	FAULT		CAUSES
1	Ignition Is turned on and display fails to operate	1	Main 20 A fuse has blown (2)
		2	Connector has come off ignition switch or ignition switch is faulty
		3	Connector has come off PCB
		4	Battery is flat (below 9 Volts)
		5	PCB is faulty
2	Engine Turns over, but fails to start	1	Fuel problem
		2	Fuse 5 (10A) has blown
		3	Red White wire to fuel solenoid valve in carburetor is unplugged or broken
		4	Faulty fuel solenoid valve
		5	Purple / white wire has become earthed
		6	Faulty PCB
3	Engine will not turn over when key is turned to start position	1	Connector has come off ignition switch or ignition switch is faulty
		2	Park brake switch is faulty or Park brake not engaged Orange wire from ignition Switch to PCB is Faulty
		3	Green wire from PCB to Starter Solenoid is faulty Starter Solenoid is faulty
		4	Faulty PCB

Cont…

4	Engine stops when Park brake is released	1 2	Faulty Seat switch or associated wiring Faulty PCB
5	Electric clutch fails to operate	1 2 3 4 5 6 7	This will only operate if the engine is running and the seat switch is depressed. Fuse 4 (10 A) has blown Clutch switch is operating correctly – Power and earth circuits are correct Once the switch is operated there should be power (12V) on the white wire – If not check connections from switch to PCB and from PCB to white wires in the fuse box. Check for an earth from the Clutch connector Check the diode in the bottom clutch loom. If this has gone open circuit it will blow fuse 4 Faulty PCB
6	Headlights Fail to operate	1 2 3 4 5	Fuse 3 (10 A) has blown Light switch is operating correctly – Power and earth circuits are correct Once the switch is operated there should be power (12V) on the blue wire – If not check connections from switch to PCB and from PCB to blue wires in the fuse box. Check for an earth from the light connector Faulty PCB NOTE: The headlights are supposed to flash when the cutter deck is running. This can be disabled if required by changing option 3 in the programming sequence
7	Battery does not charge or fails to hold its charge	1 2 3 4 5	Check the voltage in the battery with the engine turned off. Then start and run the engine at full RPM. There should be a gain of ¾ to 1½ volts. If this is the case the charging circuit is working correctly. If there is no increase then disconnect the pink wire from the solenoid and the red wire from the regulator. Check for continuity between these 2 wires (on Dial Height and HE models there are 2 pinks only 1 connects to the red wire. The other connects to the loom mounted relay) If you have continuity then the problem is either a faulty regulator, alternator or associated engine components, Check with the relevant engine manufacturer for more details. If there is no continuity between the red and pink check fuse 1 (20A) The battery will flatten itself if there is a continual load on it greater than the alternator output e.g. Glow plugs on a diesel. The way to check this is to connect a 30Amp ammeter in line with the battery cable. A charging battery will show 1 –2 amps on the + side and a discharging one will give a negative reading which reduces as the engine RPM increases but never gets into the + side. A faulty battery

DIAL HEIGHT FAULT FINDING

No	FAULT		CAUSES
8	Deck lifts up and down correctly, but the numbers do not change on the display	1 2 3 4	The display PCB has not been programmed. Select option – 1.. 1 once into the programming mode see Technical bulletin 03-T7.15 Check that the correct Dial Height PCB has been fitted. The original 90 degree Dial Height PCB does not have solder tracks to all of the pins on the connector so is unable to display the correct height. Check that the pink wire is making a good connection between the dial height PCB and the Display PCB. A faulty Dial Height PCB or Display PCB
9	Deck appears to lift up and down correctly, but the numbers run backwards on the display (C series only)	1	The link on the Dial Height PCB is not across the 2 pins and is therefore running the program for the Warner Actuator (used on AD&K Tractors) and not the LA12 as used on the C series. An increase in lift will also be noticed.
10	Deck appears to lift up and down correctly, but is lifting too much (AD&K series only)	1	The link on the Dial Height PCB is across the 2 pins and is therefore running the program for the LA12 Actuator (used on C Series Tractors) and not the Warner Actuator the as used on the AD&K series.
11	Deck lifts up and down correctly, but at the end of the knob's rotation the deck will lower itself to the ground.	1 2	There are 12 positions on the rotary switch, of which Countax only use 10. There is a tab washer underneath the retaining nut on the top of the PCB. This washer must be in the No 10 position. If this is missing or in position 11 then the actuator will try to move to a non-existent position. Faulty dial Height PCB
12	Actuator does not lift the Cutter Deck	1 2 3 4 5 6	Fuse 6 has blown (10A on C series – 20A on AD&K Series) PCB over current protection has operated. Turn the ignition off and then back on. If the PCB now works investigate the cause of the over current – Possibly:- Damaged linkage putting undue strain on the actuator Broken or missing deck lift springs Foreign objects jammed in the linkage Deck wrongly adjusted trying to push the deck into the ground or lifting too high Mulching decks will go too low as they have their anti scalp wheels set in the bottom holes. Therefore do not use the lowest setting with these decks. Check that there is power to the Dial Height PCB. If Fuse 6 has not blown check that the relay under the battery tray is functioning correctly and is supplying power to the PCB. NOTE: If fuse 5 has blown this will prevent the relay from operating Faulty Actuator Bad connection between the Dial Height PCB and the Actuator Bad earth at the main earthing point. Faulty dial Height PCB

C SERIES, A,D & K WITH SWEEPER LIFT AND NET EMPTY

No	FAULT		CAUSES
13	Actuator does not lift the Sweeper	1	Fuse 7 has blown (30A)
		2	With the ignition on and the engine stopped operate the lift switch and listen for the relays clicking. If the relays do not click then the fault is between the switch and the HE PCB so check: The switch - its connections to the HE PCB and earth. At the HE PCB check the power in, earth and switch connections. (The Power in to the HE PCB comes from the relay mounted under the battery tray. NOTE: If fuse 5 has blown this will prevent the relay from operating)
		3	If the relays click and the sweeper does not lift :- Check that power is getting to the Actuator in the seat box – If not check the connections on the PCB and in the plug at the actuator end.
		4	If there is power at the actuator check that the linkage is free and undamaged. Note: one tight pivot will overload the actuator so it will be unable to lift.
		5	Faulty Actuator
		6	Faulty PCB
14	Actuator does not empty the Sweeper or operates in one direction only	1	Fuse 7 has blown (30A)
		2	With the ignition on and the engine stopped operate the empty switch and listen for the relays clicking. If the relays do not click then the fault is between the switch and the HE PCB so check: The switch - it's connections to the HE PCB and earth. At the HE PCB check the power in, earth and switch connections. (The Power in to the HE PCB comes from the relay mounted under the battery tray. NOTE: If fuse 5 has blown this will prevent the relay from operating)
		3	If the relays click and the sweeper does not empty :- Check that power is getting to the socket in the seat box – If not check the connections on the PCB and in the socket.
		4	Check the lead from the Tractor to the sweeper is plugged in and in good condition.
		5	If the actuator will only work in one direction check that the wires in the socket are correctly orientated. Contact Countax service department for more information on this problem
		6	Faulty Actuator
		7	Faulty PCB

DIESEL & KAWASAKI SPECIFIC FAULTS

No	FAULT		CAUSES
15	Various intermittent faults when turning the ignition on	1	Faulty Display PCB If on turning the ignition on the PCB does not display dU6 or higher then change the top display PCB
16	'OIL' or 'HOT' is displayed on the dashboard	1 2 3	If the warning flashes for 10 seconds and then the engine stops :- Check Oil Pressure or Water Temperature as indicated If the engine stops and then either 'OIL' or 'HOT' is displayed :- This indicates a fault that is not related to either the oil or water (The PCB will still recognize the engine as running so when the Oil pressure falls it will register a low oil pressure). Check for: Has the machine run out of Fuel Fuel Solenoid valve working correctly Fuel pump working Engine stalled due to overloading Faulty PCB – Top or Bottom If on turning the ignition on the PCB does not display dU6 or higher then change the top display PCB.

DIESEL SPECIFIC FAULTS

No	FAULT		CAUSES
17	gLO is indicated on the main display PCB but the engine will not start	1 2 3 4 5	If it is very cold this cycle may need to be repeated The battery may turn the engine over, but if it is noticeably below 12 volts it may not be able to turn the engine over sufficiently quick enough to start it. – check and then re charge the battery – then check the charging circuit as detailed in fault 7 Check that fuse 7 has not blown Check the fuel solenoid valve is operating correctly Check that the fuel pump is working and that fuel is reaching the engine
18	gLO is not indicated on the main display PCB and the engine will not start	1 2 3 4	If the engine is warm then the engine mounted temperature sensor will disable the glow plug cycle. If the engine is cold and the glow cycle does not operate check the following:- Check that the temperature sensor is working correctly – there should be continuity when it is cold and none when it is warm. (putting a link wire between the 2 wires that connect to the switch will bypass the switch). Check there is 12 volts to the switch and a good earth. Incorrectly programmed PCB – see technical bulletin 03-T7.15 Faulty PCB Top or bottom