

## ELEC-TRAK E-12 AND E-15 QUIZ

NAME \_\_\_\_\_ DEALERSHIP \_\_\_\_\_

1. The ELEC-TRAK E-15 will output a (1) 12 hp, (2) 15 hp, (3) 14 hp gasoline tractor.
2. The E-15 speed control has (1) 5, (2) 6, (3) 3, (4) 7, forward speeds.
3. The E-12 speed control has (1) 4, (2) 3, (3) 7, (4) 2, forward speeds.
4. The speed control has (1) 2, (2) 4, (3) 3, reverse speeds.
5. The (1) 1A, (2) 2A, (3) L, contactor must be energized first in order to get power to drive motor.
6. The FW relay function is to (1) allow forward speed, (2) allow reverse speeds, (3) allow resistors on card #3 to be put in series with drive motor field.
7. If you have improper speed conditions above throttle lever position number 3, you should first check (1) reverse relay, (2) 1A contactor, (3) FW relay and card #3.
8. When the speed/control lever is immediately pushed all the way forward, there is time delay (1) in positions two and three, (2) no time delay, (3) time delay in first position only.
9. If there is no time delay in the speed/control, the cause will be found (1) on card #3, (2) FW relay, (3) on card #1, (4) there should be no delay.
10. The reverse relay is energized by (1) the L contactor, (2) the reverse switch on speed/control lever, (3) by circuit on card #3.
11. The reverse relay changes the rotation on the drive motor by (1) reversing the armature polarity, (2) reversing the field polarity, (3) combination of 1 & 2.

12. When working on the tractor you should be sure the main disconnect is disengaged to (1) prevent shocks from high voltages, (2) prevent electrical arcs that may cause damage to the tractor or burns to the individual.
13. When checking resistance or continuity with a volt-ohm meter, there should be (1) power on the circuit, (2) no power on, (3) does not matter if power on or off.
14. If the tractor power use meter is continually operating in the red range when the tractor is operating on hills, and the transaxle is in  $D_1$ , you should (1) shift to  $D_2$ , (2) shift to L, (3) leave in  $D_1$ .
15. If the charger is plugged in, turned on, and the fuel meter does not move to the right, you should first check (1) 110-volt outlet, (2) CB-1 breaker on drive motor, (3) CB-2 breaker on upper control panel - push red button, (4) call the factory.
16. If the customer calls and advised he is continually blowing his 120-volt house fuse or breaker, you should advise him first to be sure (1) the main power tractor disconnect is engaged, (2) does not have other appliances drawing too much current on same circuit as plug for ELEC-TRAK charger, (3) he has turned charger on, (4) reset CB-2 the red button on upper control panel.
17. The brake switch should shut off the drive motor when the brake pedal is pushed (1)  $1/4$ , (2)  $1/2$ , (3)  $1/3$ , (4)  $9/10$ , the way down.
18. Provided the battery plates are covered with water, then you should add water (1) before charging, (2) after charging, (3) each month regardless of level, (4) after each use.
19. Never add (1) pure water, (2) rain water, (3) low mineral water, (4) "Battery lift additive", to the batteries.

20. If the lights will not operate, the first thing you should check is (1) power disconnect engaged, (2) fuse for lights, (3) light bulbs, (4) light switch.
21. When you suspect a defective #1 card, you should check with a new card by first (1) remove the present #1 card from control panel, (2) leave old card in place and transfer wires to new #1 card, (3) call factory for help, (4) check voltage across card #3.
22. With the main disconnect engaged and there is no power to the 36-volt tool outlet, you should first (1) check outlet fuse, (2) push red button to CB-2 breaker on upper control panel, (3) wait for breaker to reset, (4) check light fuse.
23. The mower motor and drive motor breakers are reset (1) manually, (2) automatically once the motor cools down, (3) these motors do not have breakers.
24. Before delivering the ELEC-TRAK to customer, you should be sure tire pressure is (1) 20 psi, (2) adjusted as recommended in operators manual, (3) 30 - 40 psi as shipped from factory, (4) not necessary to check tire pressure.
25. When charging a tractor, you plug cord into 120-volts, the dial is then set at the 1-2 year mark for a new unit and then be sure (1) CB-1 drive motor breaker is closed, (2) to add water to batteries, (3) power disconnect is engaged, (4) control fuse is not blown.
26. Resistors  $R_1$  &  $R_2$  in drive motor armature circuit are located (1) on card #3, (2) on card #1, (3) in lower control panel area, (4) in front of the tractor next to battery charger and timer.
27. All return to neutral and time delay circuits are located (1) in lower control panel area, (2) on card #3, (3) on card #1, (4) on throttle assembly.



28. If a resistor on card #3 has an open circuit or a wire is pulled off this card, then the drive motor above speed/control position three will (1) operate normally, (2) could overspeed or have same speed in two different speed/control positions, (3) blow breaker CB-2 in upper control panel.
29. If the power pack is fully charged and will only mow normal height grass for about one hour, you should first check (1) charger, (2) defective motor, (3) for bad battery in power pack, (4) assume this is normal operation.
30. If the FW relay does not actuate (open the <sup>contacts</sup> ~~controls~~), the drive motor speed in the speed/control position 4 - 7 (1) will be normal, (2) will not change and will remain same as speed in position #3, (3) will be very fast, (4) will be much slower than speed in position #3.
31. If the drive motor overspeeds in the first speed/control position, a possible cause would be (1) FW relay not operating, (2) a bad reverse relay, (3) bad 1A contactor, (4) drive motor field wires have polarity reversed.
32. If tractor motor runs in neutral position, check (1) seat switch, (2) speed control cam and card #1, (3) key switch, (4) power disconnect.
33. The front lift strap is threaded the same for (1) mower and snow blower, (2) all attachments, (3) mower and dozer blade.
34. When calling factory for service assistance, you should have (1) tractor jacked up, (2) rear battery box cover open, (3) control panels open and tractor near phone.
35. With charger plugged into 120-volts and charger dial turned on (1-2 years) then you can check charger approximate output by (1) raising hood and listen to charger hum, (2) be sure  $R_1$  and  $R_2$  are getting warm, (3) reading power use gauge, (4) by reading fuel level gauge.

36. If tractor goes in wrong direction, the first thing to check is (1) Rev. relay, (2) FW relay, (3) card #3, (4) card #1.
37. When no tractor power, the first voltage check to be made on card #1 is between pads (1) 12 and 10, (2) 12 and 13, (3) 12 and 6, (4) 12 and 14.