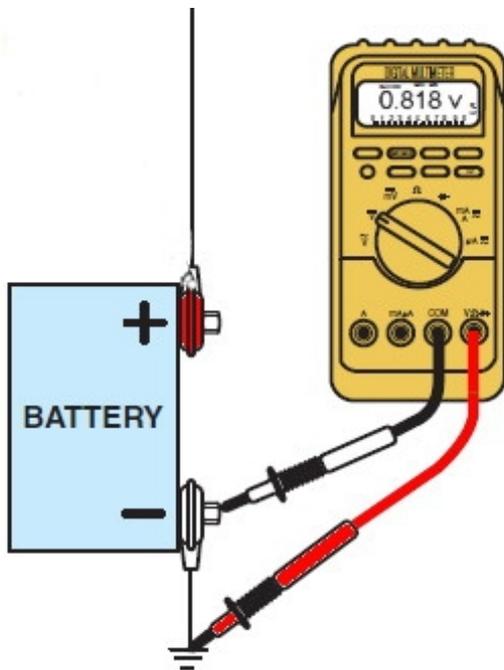


9) This voltage reading was obtained while cranking the engine. The indicated reading (0.816 V) is _____ 9) _____



- A) Too high
- B) Incorrectly done
- C) Too low
- D) An inconclusive measurement

10) If the starter "whines" when engaged, which of these is a possible cause? 10) _____

- A) Worn leather armature brake
- B) Open neutral safety switch
- C) Defective solenoid
- D) Worn or defective starter drive

11) A voltage drop test on the starter control circuit is used to test which of these starter component(s)? 11) _____

- A) Commutator
- B) Starter solenoid and field coil
- C) Wiring and connections
- D) Field coils

12) Two technicians are discussing what could be the cause of slow cranking and excessive current draw. Technician A says that an engine mechanical fault could be the cause. Technician B says that the starter motor could be binding or defective. Who is right? 12) _____

- A) Technician A only
- B) Technician B only
- C) Both A and B
- D) Neither A nor B

13) The starter motor on a V-6 engine is being tested for starter amperage draw. The initial surge current was about 210 amperes and about 160 amperes during cranking. Technician A says that the starter is defective and should be replaced because the current flow exceeds 200 amperes. Technician B says that this is normal current draw for a starter motor for a V-6 engine. Who is right? 13) _____

- A) Technician A only
- B) Technician B only
- C) Both A and B
- D) Neither A nor B

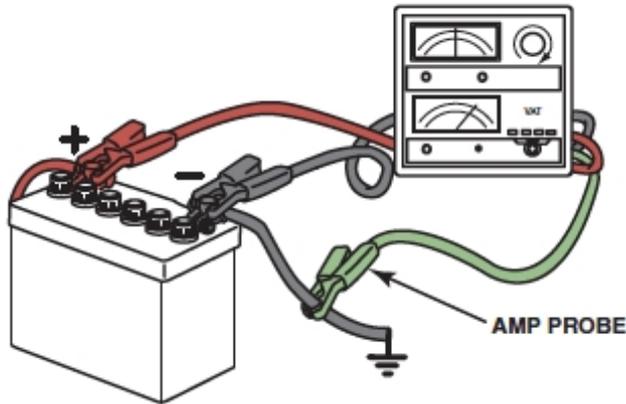
14) Slow cranking by the starter can be caused by all of these, EXCEPT _____ 14) _____

- A) A low or discharged battery
- B) Engine mechanical problems
- C) Corroded or dirty battery cables
- D) Open neutral safety switch

- 15) Which safety device is used on vehicles with manual transmissions? 15) _____
 A) Clutch safety switch B) Neutral safety switch
 C) Both A and B D) Neither A nor B
- 16) Technician A says that the starter control circuit includes the ignition switch, neutral safety (clutch) switch, and solenoid. Technician B says that the power circuit includes the battery, battery cables, solenoid, and starter motor. Who is right? 16) _____
 A) Technician A only B) Technician B only
 C) Both A and B D) Neither A nor B
- 17) A higher than specified voltage drop means _____. 17) _____
 A) Higher than specified circuit resistance
 B) Higher than specified current flow through the circuit
 C) Lower than specified circuit resistance
 D) All of the above
- 18) Which starting system component uses a small amount of current to control a large amount of current? 18) _____
 A) Starter solenoid or relay B) Starter drive
 C) Neutral safety switch D) Starter brushes
- 19) What component or circuit can keep the engine from cranking? 19) _____
 A) Solenoid B) Ignition switch C) Antitheft D) All of these
- 20) If the clearance between the starter pinion and the engine flywheel is too great, _____. 20) _____
 A) The starter will produce a high pitched whine during cranking
 B) The solenoid will not engage the starter drive
 C) The starter drive will not rotate at all
 D) The starter will produce a high pitched whine after the engine starts
- 21) Technician A says that a discharged battery (lower than normal battery voltage) can cause solenoid clicking. Technician B says that a discharged battery or dirty (corroded) battery cables can cause solenoid clicking. Who is right? 21) _____
 A) Technician A only B) Technician B only
 C) Both A and B D) Neither A nor B
- 22) What should be done first before removing the starter motor from the vehicle? 22) _____
 A) Disconnect battery cables B) Remove starter solenoid
 C) Disconnect starter relay D) Remove battery

23) What test is being performed in this illustration?

23) _____



- A) Positive side voltage drop test
- C) Ground side voltage drop test

- B) Starter amperage draw test
- D) Battery load test

24) Bench testing of a starter should be done _____.

24) _____

- A) After reassembling an old starter
- C) After removing the old starter

- B) Before installing a new starter
- D) Both A and B

25) Technician A says that the cranking circuit should be tested for proper amperage draw. Technician B says that an open in the control circuit will not prevent starter motor operation. Who is right?

25) _____

- A) Technician A only
- C) Both A and B

- B) Technician B only
- D) Neither A nor B