DIAGNOSTIC CHART

HOW TO USE CHART

REJECT CLAIM | REPLACE BATTERY

BATTERY OK | MOVE TO NEXT TEST

1 LOOK

- 1. WRONG APPLICATION
  2. MECHANICAL DAMAGE
  3. OUT OF GUARANTEE
- SOUND APPEARANCE
- 1. POOR TERMINAL CASTING
  2. leaking at lid/case seal
  3. CONTAINER FAULTS

2 15 SECONDS DISCHARGE★

- VOLTS STEADY ABOVE 9.6 ★
- VOLTS STEADY BELOW 9.6 ★
- VOLTS FALL STEADILY AWAY
- VOLTS COLLAPSE AND STAY VERY LOW — SOME CELLS MAY BUBBLE BUT BATTERY MAY SIMPLY LACK CHARGE
- VOLTS COLLAPSE FOLLOWED BY SLIGHT RISE — ONE OR MORE CELLS FAULTY CAN BE CONFIRMED WITH TESTS 3 AND 4

3 HYDROMETER★★

- ALL CELLS 1.250 AND ABOVE
- PARTICLES FLOATING IN ELECTROLYTE INDICATES OVERCHARGED — DISCOLOURED INDICATES CONTAMINATED
- CELLS BELOW 1.250
- CONFIRMATION — FAULTY CELLS 40pts OR MORE BELOW OTHERS

4 VOLTS

- OPEN CIRCUIT VOLTS 12.4 OR MORE — CHECK VEHICLE STARTER & CABLES
- OPEN CIRCUIT VOLTS LESS THAN 12.4 — CHECK VEHICLE ALTERNATOR SEE NOTE 2
- CONFIRMATION — OPEN CIRCUIT VOLTS 11.0 OR LESS

5 CHARGE

15 HR CHARGE OVERNIGHT - ON 17h00 - OFF 08h00

CHARGE AT 5% C_{20}A

- REFER TO BATTERY SELECTION GUIDE

WAIT 6 HRS UNTIL 14h00

6 VOLTS

- OPEN CIRCUIT VOLTS BELOW 12.5 PUT ON CHARGE AGAIN — 2ND TIME SEVERELY SULPHATED
- OPEN CIRCUIT VOLTS 12.5 OR MORE

7 15 SECONDS DISCHARGE★

- VOLTS LOW BUT STEADY PERSISTENT UNDERCHARGE — CHECK VEHICLE ALTERNATOR
- VOLTS FALL STEADILY AWAY — OVERCHARGED OR CYCLED
- VOLTS COLLAPSE FOLLOWED BY SLIGHT RISE
- VOLTS STEADY ABOVE 9.6V ★ BATTERY O.K. — CHECK VEHICLE CHARGE AND STARTING SYSTEM

★ These voltage levels apply to test discharge at the cold cranking amps (SABS). If the tester has a 100A/200A switch use 200A for vehicle batteries and 100A for motorcycle types - the voltage attained should be between 7,8 and 9,6 Volts depending on battery's rating.

1. GENERAL NOTES
The various patterns of movement of the high rate discharge meter needle are most important in deciding the condition of the battery, even more important than the actual readings. Get to know them well from the descriptions shown above.

★★ Do Not top-up before testing as this will spoil hydrometer readings

2. ALTERNATOR VOLTAGE CHECK:
(a) Fit well charged battery. (b) Run Engine until all at working temperature (5-10 minutes from cold). (c) measure battery voltage when engine speed is equivalent to 50-65 km/h with lights and accessories "off". (d) The alternator should give a voltage at the battery between 14,0 and 14,6 V. Below 14V will lead to undercharge in winter months. Above 14,6 V will lead to overcharge and higher than normal water consumption.

3. SAFETY:
(a) Wear eye protections when testing. (b) Do not wear metallic articles which might cause short circuits during testing e.g. watches, bracelets. (c) Keep plenty of water available for drenching any spilled acid. (d) If battery vents are removable blow gently across cell tops to disperse gases before discharge tests. (e) High rate testers which connect to the battery by simple probes are not recommeded. (f) Switch off charger before disconnecting battery.

- Observe the instructions for use.
- When working on batteries, wear safety glasses and protective clothing.
- No smoking. Do not allow naked flames, hot objects or sparks near the battery due to the risk of explosion or fire.
- Flush splashes of acid out of the eyes or off the skin with copious amounts of clean water, seek a doctor without delay. Clothing contaminated by acid should be washed out in water.
- Risk of explosion and fire - avoid short circuits.
- Electrolyte is highly corrosive.
- Old batteries must be returned for recycling.
- Keep away from children.

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