oCelsius

Szo=St+ [0.0007 (t-20)]

oFahrenheit

Se8=St + [0.0004 (t-68)]

S(=specific gravity at the present temperature

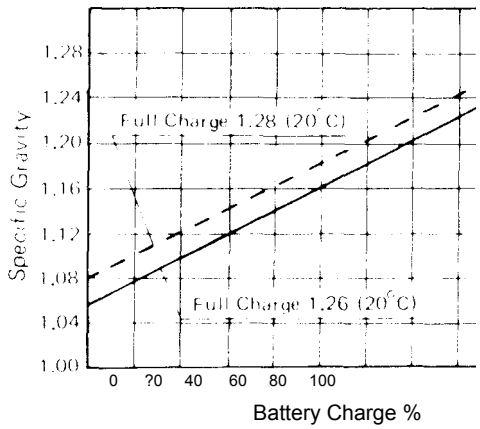
S2o=specific gravity at 20°C

Sg3=specific gravity at 68°F

t=present temperature of solution

Generally speaking, a battery should be charged if a specific gravity reading shows it to be discharged to 50% or less of full charge.

Specific Gravity/Battery Charge Relationship



Initial charge

New batteries for Kawasaki motorcycles are dry charged and can be used directly after adding the electrolyte. However, the effect of the dry charge deteriorates somewhat during storage, especially if any air has entered the battery from imperfect sealing.

Therefore, it is best to give the battery an initial charge before using it in order to ensure long battery life.

WARNING Because the battery gives off an explosive gas mixture of hydrogen and oxygen, keep any sparks or open flame away from the battery during charging.

•Pour a 1.260 (specific gravity at 20°C or 68°F) sulphuric acid solution into each cell of the battery up to the upper level line.

•Let the battery stand for 30 minutes, adding more acid if the level drops during this time.

NOTES:

1. If the temperature of the solution is over 30°C (85°F) cool the solution before pouring it into the battery.
2. After pouring the acid into the battery, start charging the battery within 1 2. hours.

•Leaving the caps off the cells, connect the battery to a charger, set the charging rate at 1/10 the battery capacity, and charge it for 10 hours. For example, if the battery is rated at 14AH, the charging rate would be 1.4 ampere. If a constant voltage charger is used, the voltage must be adjusted periodically to keep the current at a constant value.

CAUTION **If the temperature of the electrolyte rises above 45°C CI15°F) during charging, reduce the charging rate to bring down the temperature, and increase the charging time proportionately.**

•After charging, check the electrolyte level in each cell. If the level has dropped, add distilled water to bring it back up to the upper level line.

•Check the results of charging by measuring the specif- ic gravity of each cell and by measuring battery voltage. Battery voltage of a 1 2 volt battery directly after the completion of charging should be 15 to 16 volts.

Ordinary charge,

WARNING Because the battery gives off an explosive keep any sparks or open flame away from the battery during charging.

•Clean off the battery using a solution of baking soda and water. Make especially sure that the terminals are clean.

•If the electrolyte level is low in any cell, fill to over the lower level line but not up to the upper level line since the level rises during charging. Figure the charg- ing rate to be between 1/10 and 3/10 of battery capaci- ty. For example, the maximum charging rate for a 14AH battery would be 3/10 x 14 which equals 4.2 amperes.

•Measure the specific gravity of the electrolyte, and use the graph, Fig. 568, to determine the percentage of dis- charge. Multiply the capacity of the battery by the percentage of discharge to find the amount of discharge in ampere-hours. Use this figure in the formula below to compute charging time.

$$\text{Charging time (hours)} = \frac{\text{amount of discharge (AH)}}{\text{charging current (A)}} \times 1.2\sim1.5$$

•Remove the caps from all the cells, and begin charging the battery at the rate just calculated. If a constant voltage charger is used, the voltage will have to be adjusted periodically to maintain charging current at a constant value.

CAUTION **If the temperature of the electrolyte rises above 45°C (115°F) during charging, reduce the charging rate to bring down the temperature, and increase charging time proportionately.**

•After charging, check the electrolyte level in each cell. If the level has dropped, add distilled water to bring it back up to the upper level line.

•Check charging results by measuring the specific gravity of each cell and by measuring battery voltage.

Battery voltage of a 12 volt battery directly after the completion of charging should be 15 to 16 volts.

If the voltage is lower than this, the battery is not completely charged or can no longer take a full charge.