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SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J392

REAF. FEB92

Issued 1969-12
Reaffirmed 1992-02-19

Superseding J392

Submitted for recognition as an American National Standard

MOTORCYCLE AND MOTOR DRIVEN CYCLE ELECTRICAL SYSTEM MAINTENANCE OF DESIGN VOLTAGE

***Foreword*—**This reaffirmed document has been changed only to reflect the new SAE Technical Standards Board format.

1. ***Scope*—**This SAE Recommended Practice pertains to both battery-equipped and batteryless motorcycle electrical systems.

1.1 **Purpose—**This document provides minimum illumination voltage values for motorcycle and motor driven cycle electrical systems and accompanying test procedures.

NOTE— Wherever the word "motorcycle" appears in the report, it is understood to include "motor driven cycle."

2. ***References*—**There are no referenced publications specified herein.

3. ***Test Apparatus***

3.1 **Voltmeter—**0 to 20 V maximum full-scale deflection, accuracy ±1/2% (two voltmeters required).

3.2 **Ammeter—**Capable of carrying full system load current. Accuracy ±3% FS.

3.3 **Means for Measuring Engine rpm—**Accuracy ±3%.

4. ***Test Procedure***

4.1 Install fully charged original equipment or equal battery on the motorcycle (if motorcycle is battery equipped).

4.1.1 Battery temperature to be 26.7 °C ± 5.6 °C (80 °F ± 10 °F).

4.2 Connect one voltmeter between the headlamp low beam terminal and the ground; connect the other voltmeter between the taillamp terminal and the ground.

4.3 Connect the ammeter in series with the battery

NOTE—Disregard 4.3 for batteryless machines.

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4.4 Start engine and turn on headlamp(s).

4.4.1 Switch headlamp to the low beam position.

4.4.2 External fan cooling may be applied to the motorcycle engine.

4.5 Run the engine at an rpm equivalent to 48.3 km/h (30 mph) in top gear for 10 min.

4.5.1 Record the lowest and highest headlamp voltage and taillamp voltage observed during the 10 min period.

4.6 Run the engine at an rpm equivalent to 88.5 km/h (55 mph) in top gear for 10 min.

4.6.1 Record the lowest and highest headlamp voltage and taillamp voltage observed during the 10 min period.

4.7 Increase speed to manufacturer's suggested maximum rpm.

4.7.1 Record the highest and lowest headlamp and taillamp voltages observed during a 5 s period.

4.8 Run the engine at manufacturer's rated idle speed for 10 min.

4.8.1 Record the lowest and highest taillamp voltage observed during the 10 min period.

4.8.2 Record the lowest and highest headlamp voltage observed during the 10 min period.

4.9 Slowly increase the engine speed until generating equipment cancels the system load, indicated by "0" reading on the ammeter.

NOTE—Disregard 4.9 for batteryless motorcycles.

4.9.1 Record the engine rpm at ammeter zero point.

5. Test Limits

5.1 Voltages recorded in 4.5.1, 4.6.1, 4.7.1, and 4.8.1 shall be between 90 and 120% of the rated headlamp design voltage.

5.2 Voltages observed in 4.8.2 shall be between 60 and 120% of the rated headlamp design voltage.

5.3 Engine rpm observed in 4.9.1 shall be less than the motorcycle equivalent speed at 48.3 km/h (30 mph) in top gear operation.

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