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2005 JEEP Commander OEM Service and Repair Workshop Manual

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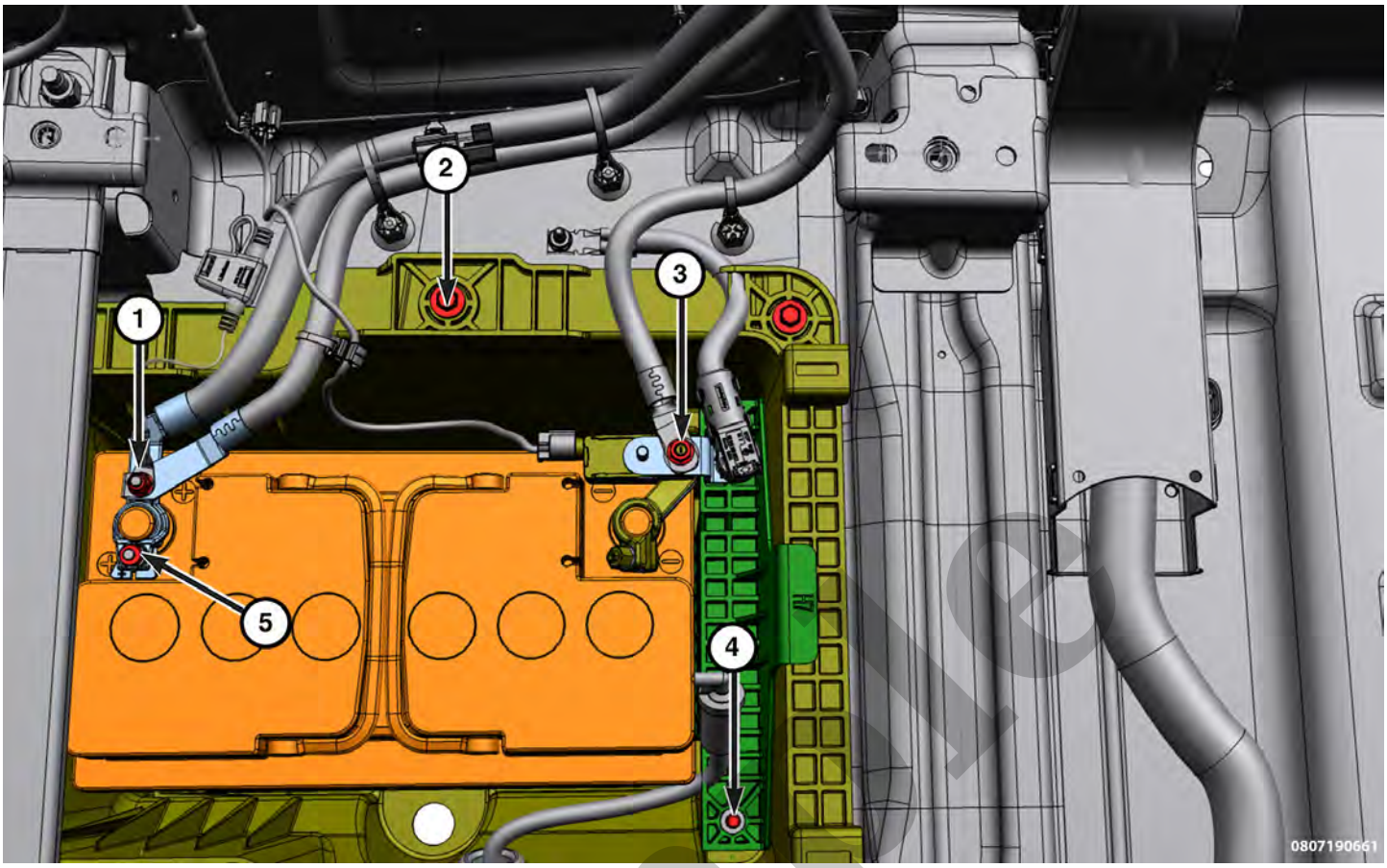


CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Battery Positive Cable End Nut	**7 N·m (63 In. Lbs.)**	–
2	Battery Tray Bolts	**10 N·m (89 In. Lbs.)**	–
3	Battery Negative Cable to the IBS	**11 N·m (8 Ft. Lbs.)**	–
4	Battery Hold Down Bolt	**5 N·m (44 In. Lbs.)**	–
5	Battery Positive Clamp to Positive Post	**7 N·m (63 In. Lbs.)**	–
–	Intelligent Battery Sensor (IBS) Sensor to Negative Post	**6 N·m (53 In. Lbs.)**	–

AUXILIARY BATTERY

12 Volt Battery Connect

12 VOLT BATTERY CONNECT

WARNING

On vehicles equipped with the high voltage system, disconnecting the 12-volt battery negative cable alone will not power down the 12-volt system. You must perform the 12-volt Power Down procedure before proceeding. Failure to follow these instructions may result in possible serious or fatal injury.

The high voltage battery on this vehicle is used to charge the 12 volt battery through the Integrated Dual Charging Module (IDCM). Therefore, disconnecting the 12 volt cables may not completely power down the 12 volt system. The high voltage battery should be powered down also to prevent the possibility of the high voltage system generating voltage into the low voltage system. The high voltage battery power up procedure includes connecting the 12v battery and powering up of the 12 volt system. Perform the HIGH VOLTAGE POWER UP PROCEDURE to connect and power up the 12 volt system (Refer to Electrical/Battery System/Standard Procedure).

THE BATTERY CONTAINS SULFURIC ACID, WHICH IS POISONOUS AND CAUSTIC. AVOID CONTACT WITH THE SKIN, EYES, OR CLOTHING. IN THE EVENT OF CONTACT, FLUSH WITH WATER AND CALL A PHYSICIAN IMMEDIATELY. KEEP OUT OF THE REACH OF CHILDREN.

CAUTION

Always disconnect and isolate the battery negative cable before charging a battery. Do not exceed sixteen volts while charging a battery. Damage to the vehicle electrical system components may result.

CAUTION

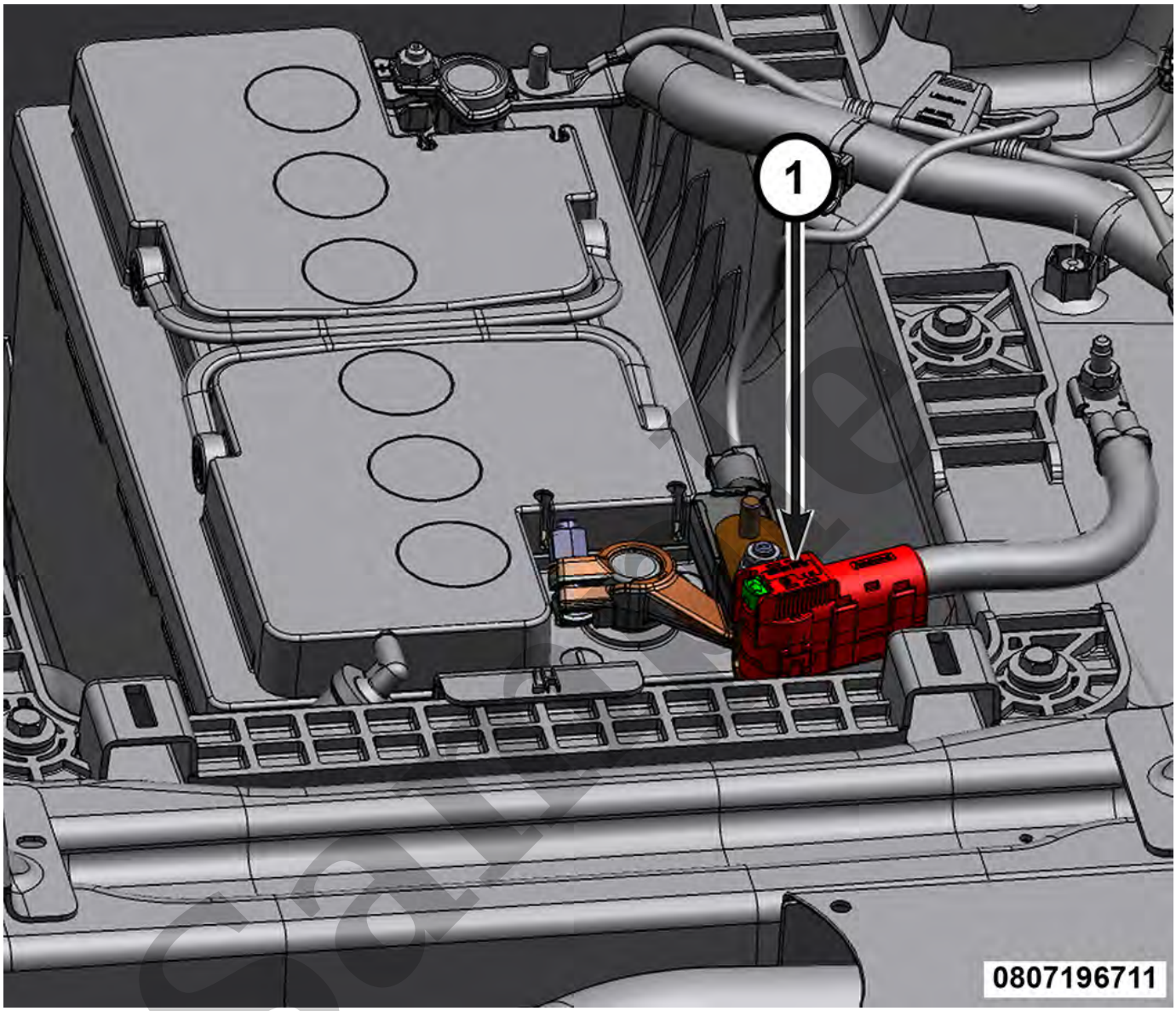
Battery electrolyte will bubble inside the battery case during normal battery charging. Electrolyte boiling or being discharged from the battery vents indicates a battery overcharging condition. Immediately reduce the charging rate or turn off the charger to evaluate the battery condition. Damage to the battery may result from overcharging.

CAUTION

The battery should not be hot to the touch. If the battery feels hot to the touch, turn off the charger and let the battery cool before continuing the charging operation. Damage to the battery may result.

After the battery has been charged to 12.6 volts or greater, perform a load test to determine the battery cranking capacity. (Refer to Electrical/Battery System/Diagnosis and Testing) for the proper battery load test procedures. If the battery will endure a load test, return the battery to service. If the battery will not endure a load test, it is inoperative and must be replaced.

1. Remove the rear floor heat duct(s) (Refer to Heating and Air Conditioning/Distribution/DUCT, Floor Distribution/Rear/Removal and Installation) .



1 - Negative Battery Cable

2. Disconnect the Intelligent Battery Sensor (IBS) wire harness connector.
3. Press and release the negative battery cable.

DISCONNECT AUXILIARY BATTERY

1. Remove the rear floor heat duct(s) (Refer to Heating and Air Conditioning/Distribution/DUCT, Floor Distribution/Rear/Removal and Installation) .

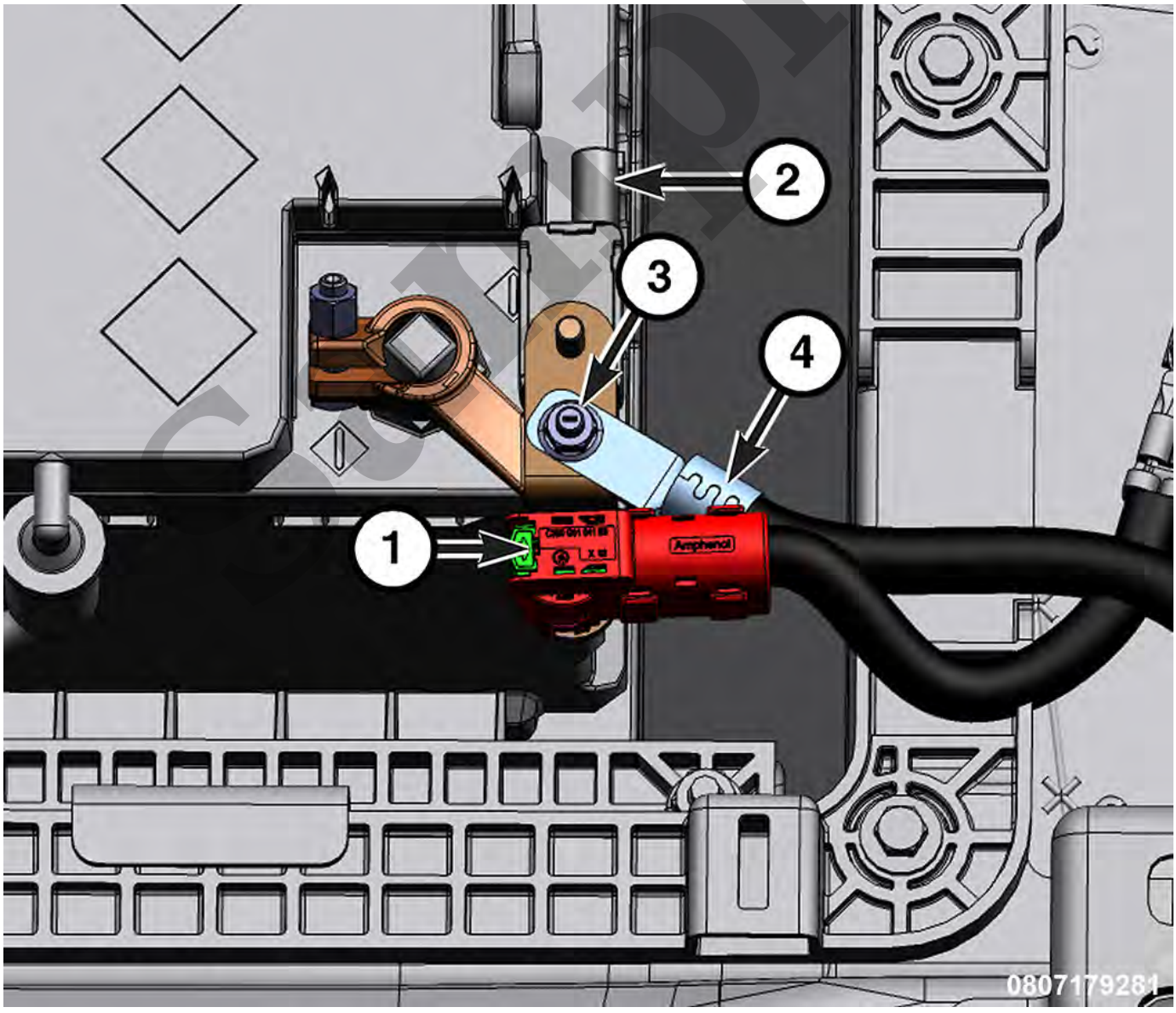
YOUR CURRENT VEHICLE

Battery Disconnect And Connect - With ESS

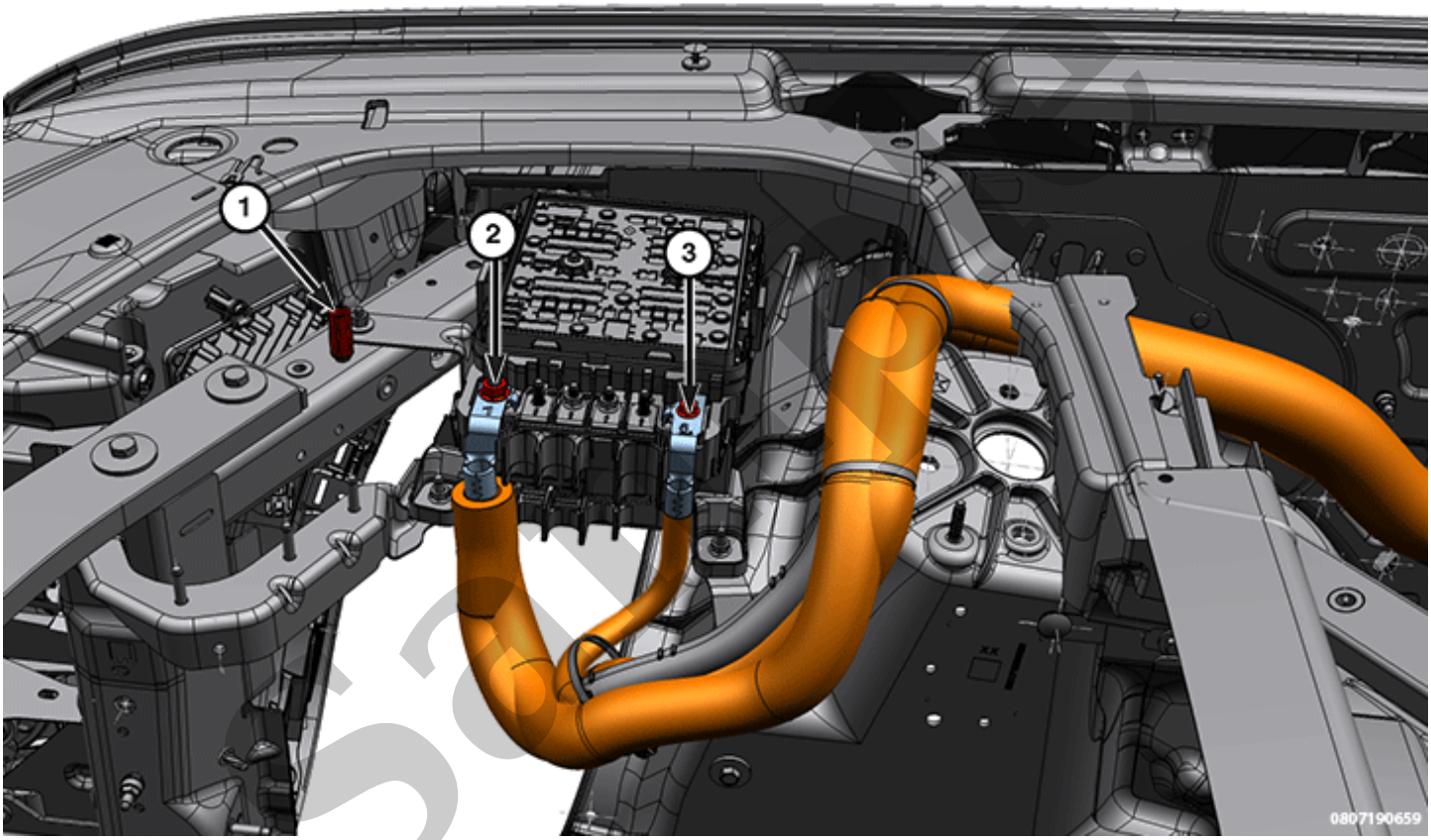
BATTERY DISCONNECT AND CONNECT - WITH ESS

DISCONNECT

1. Remove the left side second row floor distribution duct (Refer to Heating and Air Conditioning/Distribution/DUCT, Floor Distribution/Rear/Removal and Installation) .



2	Battery Positive B(+) at Power Distribution Center (PDC) M8 Nut	**15 N·m (11 Ft. Lbs.)**	—
3	AUX Battery M6 Nut to Battery Terminal	**5 N·m (44 In. Lbs.)**	—
4	AUX Battery M6 Double Torx Stud	**7 N·m (63 In. Lbs.)**	—
5	AUX Battery Hold Down Nut	**5 N·m (44 In. Lbs.)**	—



CALLOUT	DESCRIPTION	SPECIFICATION	COMMENT
1	Negative Jump Start Post to Core Support	**11 N·m (8 Ft. Lbs.)**	–
2	Battery Positive B(+) at Power Distribution Center (PDC) M8 Nut	**15 N·m (11 Ft. Lbs.)**	—
3	Auxiliary Battery Positive B(+) at Power Distribution Center (PDC) M6 Nut	**8 N·m (71 In. Lbs.)**	—

2907015

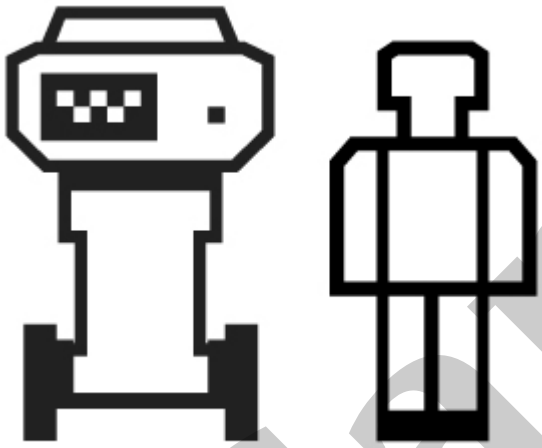
Tests the starting and charging systems.

2906976

Maintains battery voltage at 13.5 volts to provide uninterrupted reprogramming of ECUs and retain vehicle system settings.

2906906

Makes high output current available to boost charge an in-vehicle battery and assist in starting the engine.



2906933

Provides a timed charge that ranges from 5 to 120 minutes or a continuous charge that ends when the STOP key is pressed.

5. Loads-on current at rev if amp clamp is used

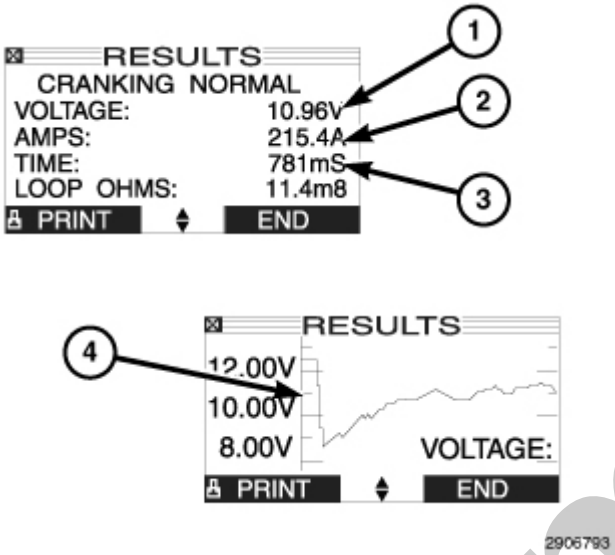
6. Bar graph of DC voltage within normal range (loads on and off)

7. Graph of diode waveform

8. Peak-to-peak AC voltage

9. Normal DC voltage range

Test Results-Starter System



1. Average cranking voltage

2. Average cranking current if amp clamp is used

3. Cranking time in seconds

4. Y axis = System performance: cranking voltage