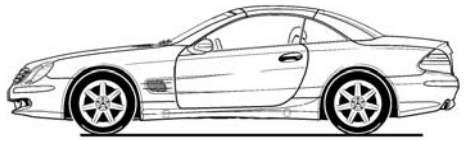
Mercedes-Benz

Name _____



Skill Module Number: 6.3

Subject: Normalization of Systems

Objective:

At the conclusion of this module, you will be able to:

- Normalize all the vehicles systems
- Understand what failures may occur if systems are not normalized

Vehicle and tools required:

- R230 vehicle – (Top open)
- SDS/DAS Basic or Compact

Required material:

- Student's handout on dual battery system

Instructions:

1. Follow all the instructions exactly as written. Do not jump ahead.
2. Answer all the questions as we will review them later in class.
3. Ask your instructor if assistance is needed.

Normalizing Vehicle after Dead Battery or Battery Replacement

Note: Depending on how long the batteries have been dead and which systems don't function – some or all of the following systems will need to be normalized. For the purpose of this module, please normalize all of the systems (a) through (f).

a) **ESP** – Start engine, turn steering wheel evenly and slowly from stop to stop. If you turn the steering wheel to fast or unevenly, you'll need to repeat this.

If the steering angle sensor is not normalized, then the ESP system will not be operational and a warning will be displayed in the instrument cluster.

b) **AAC System** – Using SDS/DAS – enter into "AAC – automatic air conditioning"

1. Select "Control unit adaptations"
2. Select "Normalizing of positioning motors" and follow prompts.
3. Select "Programming of center vent rotary potentiometers" and follow the prompts.

If the AAC system is not normalized, then the temperature and air direction will be erratic.

Safety Note: Make sure the seats are free from all obstructions!
TIP: You can use SDS/DAS to check the normalization status of each seat.

c) **Left Front Seat** – Using SDS/DAS – enter into ESA-FL (Front Left Seat)

1. Select "Control unit adaptation"
2. Select "Normalize seat adjustment"
3. Normalize all six seat positions in the order listed except when noted by the "Requirements". It may read that one item must be normalized prior to normalizing the current item.
4. Select "Adapt obstruction protection" and follow the prompts.

If the seats are not normalized, then it will be possible to run the seat frame into the roll bar and damage will occur. Also the "Express Forward" feature will be inop.

d) **Right Front Seat** – Using SDS/DAS – enter into ESA-FR (Front Right Seat)

1. Select "Control unit adaptation"
2. Select "Normalize seat adjustment"
3. Normalize all six seat positions in the order listed except when noted by the "Requirements". It may read that one item must be normalized prior to normalizing the current item.
4. Select "Adapt obstruction protection" and follow the prompts.

If the seats are not normalized, then it will be possible to run the seat frame into the roll bar and damage will occur. Also the "Express Forward" feature will be inop.

e) **Steering Wheel and Mirrors** – *Without SDS/DAS* - Run each component to all four end stops.

If the steering wheel and mirrors are not normalized then the components may not move back to their respective memory locations when memory recall is pressed.

f) **Windows** – Run each window to it's top stop with the door closed and hold it there for 4 seconds.

If the windows are not normalized, then the drop down feature will not function.

Perform a short test on your vehicle, erase all DTCs and then repeat the short test to insure there aren't any permanent faults. Show your instructor the results of your short test.

Instructor check point _____

If you have noticed any parts that need to be replaced on this vehicle, please inform your instructor now.

_____

_____

_____

Notes: Some other Mercedes-Benz models may also require the following:

Sunroof – Run the sunroof to it's vent (popped up) position and hold it there for 4 seconds.
If the sunroof isn't normalized, then the one-touch and convenience closing will be inop.

ML Rain/Light Sensor – Using SDS/DAS in AAM, readapt sensor after windshield or sensor replacement.
If the adaptation is not completed, the wipers may function erratically in "INT" mode.

RTL (Remote Trunk Closing) – Using SDS/DAS, complete normalization in the PSE pump for RTL as described.
If the RTL normalization is not completed, then the trunk will only open half way and never move to full open. Even when the programming is switched via the trunk switch located on the drivers door panel.

Radio Code – Type in the radio code number.
If the radio is not coded then it will not function.

Throttle Stop – Turn ignition key to position 2 and wait for 90 seconds.

If the throttle stop is not learned it may be possible for the engine idle to fluctuate.