Title: Adjusting a potentiometer on an Inward Gliding system

1. **Purpose:** The purpose of this service instruction is to describe the adjustment of a potentiometer on an Inward Gliding door system, after replacing an original with a spare part. On an Inward Gliding system the original potentiometer is not marked with a correct setting. Therefore the potentiometer has to be measured while adjusting and no pre-set marking can be used.

Revision no.	Date:		
2	16-02-2015	Description of the change:	Adjustment for Ventura DCU added
		Name & function:	Klaas-Teake Slager Technical Documentation specialist
1	08-12-2014	Description of the change:	First release
		Name & function:	Klaas-Teake Slager Technical Documentation specialist

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2. References:

2.1. ISO 9001 (2008) §7.5.1 Control of production and service provision

3. Definitions:

3.1. None

4. Forms:

4.1. None

5. Scope:

5.1. This service instruction applies to all Ventura Inward Gliding Door systems with a Wabco or Ventura DCU.

6. Material/Tools:

6.1. Screwdriver Hexagon M4
6.2. Wrench 10mm
6.3. Multimeter
6.4. Computer with Wabco Software (Optional)

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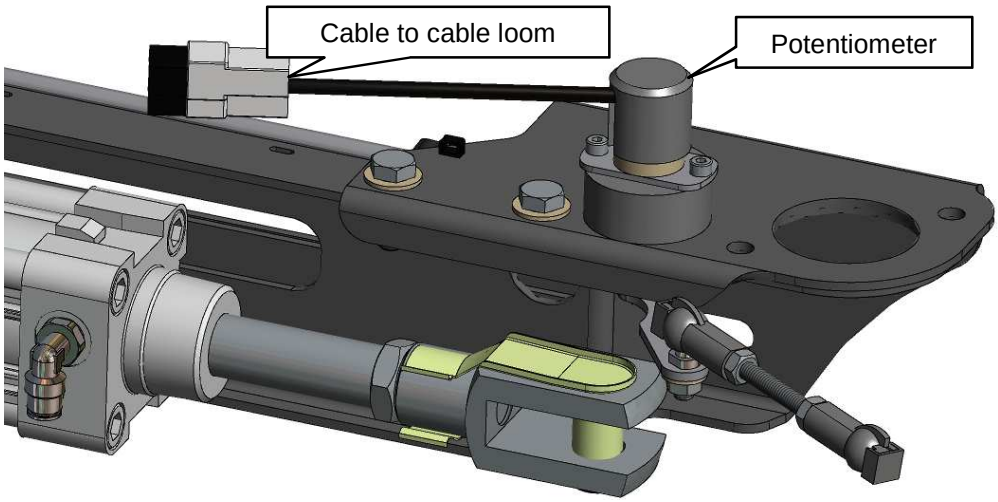
7. Execution:

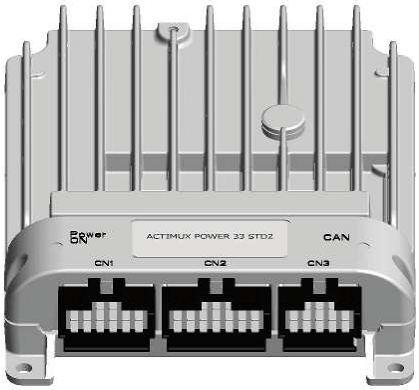
7.1. Locate the potentiometer.



7.2. Power on the vehicle so the door system is able to operate.

7.3. Determine whether the door mechanism has a Wabco DCU or a Ventura DCU.

Wabco DCU



Ventura DCU

For Wabco go to paragraph 7.4. For Ventura DCU, go to paragraph 7.5

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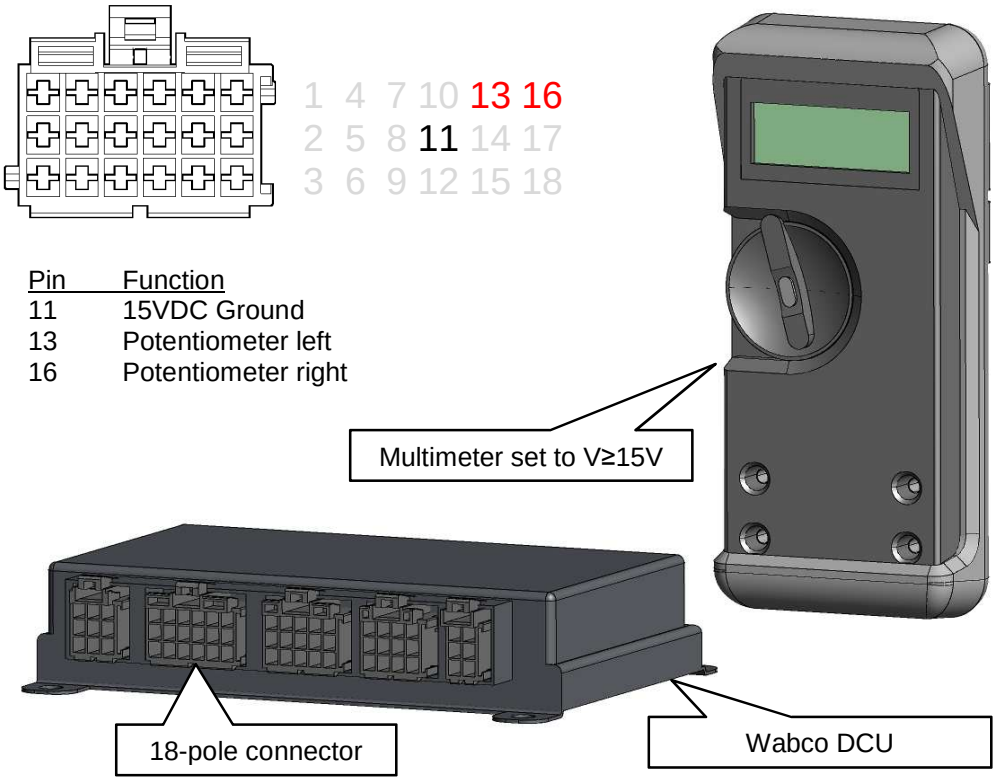
7.4. Connect a laptop to the Wabco DCU and use the Wabco software to read the voltage of the potentiometer (according to the original Wabco manual). If no Wabco software and someone with Wabco training is available, measure the voltage of the potentiometer with a multimeter. The cable pinout is different from the other side (left or right). Therefore it is best to measure the voltage from the 18-pole connector connected to the Wabco control unit.



When the door is fully closed, the measured voltage should be between **1.5 and 3.5 volt**.
When the door is fully opened, the measured voltage should be between **9.0 and 13.5 volt**.

If the voltage is correct but the door is not operating as it should, then go to step 7.7 to learn-in the DCU.

If a voltage is measured but not within margin, turn the potentiometer by loosening the fasteners and move the bolts through the slotted holes. Hand-tighten the fasteners afterwards.

When no voltage is measured, go to step 7.6

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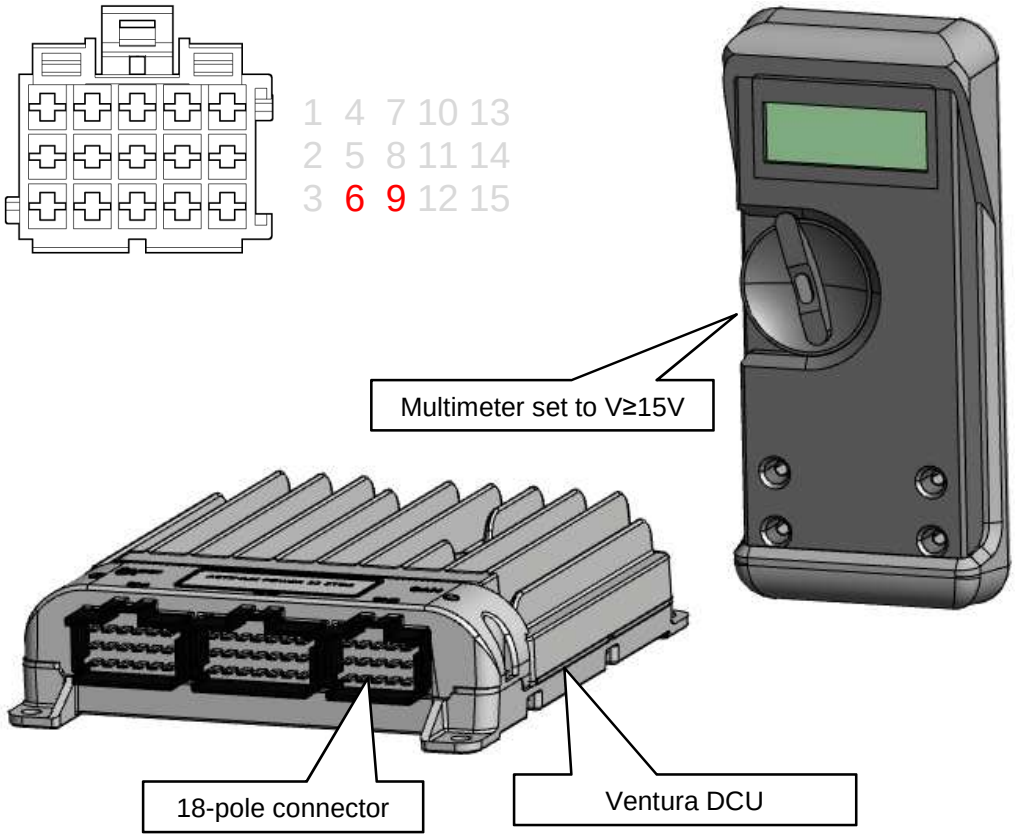
7.5. The cable pinout is different from the other side (left or right). Therefore it is best to measure the voltage from the 15-pole connector connected to the Ventura control unit. Pin 6 is the voltage of the left door potentiometer and pin 9 is the voltage of the right door potentiometer.



When the door is fully closed, the measured voltage should be between **1.5 and 3.5 volt**.
When the door is fully opened, the measured voltage should be between **9.0 and 13.5 volt**.

If the voltage is correct but the door is not operating as it should, then go to step 7.7 to learn-in the DCU.

If a voltage is measured but not within margin, turn the potentiometer by loosening the fasteners and move the bolts through the slotted holes. Hand-tighten the fasteners afterwards.

When no voltage is measured, go to step 7.6

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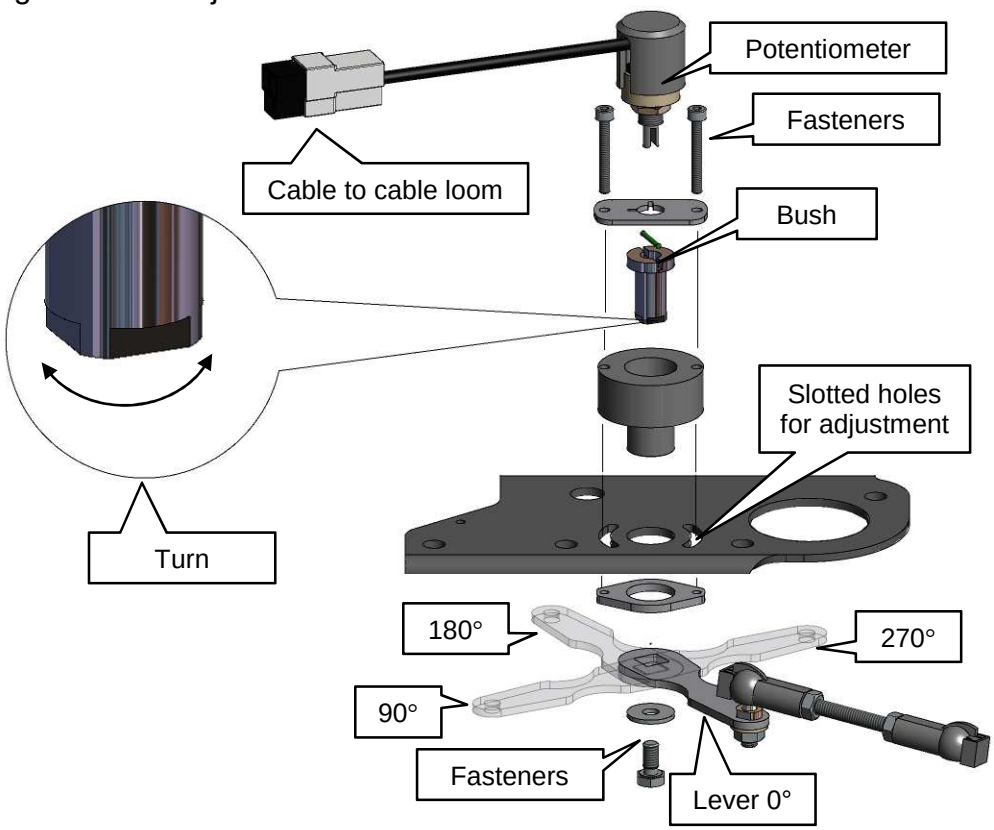
7.6. If no voltage is measured using a multimeter or read-out from the DCU software (on PC), the potentiometer is not within the operating angle (125 degrees). Remove the fasteners that hold the lever to the potentiometer. Turn the Potentiometer bush with respect to the lever 90, 180 or 270 degrees until a voltage is measured and (almost) in margin when in fully open and fully closed position. Put the fasteners back in place and hand-tighten after adjustment.



If the voltage is slightly off margin after turning the potentiometer bush, turn the potentiometer through the slotted holes for final mechanical adjustment. Make sure all fasteners are hand-tighten after adjustment.

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7.7. **Wabco DCU only**

To learn-in the DCU, the following steps are necessary:
Note: This step should be taken when both potentiometers of the door system are mechanically adjusted correctly.

7.7.1. Close the door.
7.7.2. Push and hold the workshop button.
7.7.3. The door moves into OPEN position.
7.7.4. After ca. 7 seconds, a red light on the Wabco unit or step light will start flashing.
7.7.5. Flashing signalizes the end of the learning process.
7.7.6. Release the workshop button.

7.7.7. Open the door.
7.7.8. Push and hold the workshop button.
7.7.9. The door moves into CLOSED position.
7.7.10. After ca. 7 seconds, a red light on the Wabco unit or step light will start flashing.
7.7.11. Flashing signalizes the end of the learning process.
7.7.12. Release the workshop button.

7.8. The potentiometers are now set.

7.9. **Ventura DCU only**

To learn-in the DCU, the following steps are necessary:
Note: This step should be taken when both potentiometers of the door system are mechanically adjusted correctly.

7.10. Push and hold the workshop button regardless of the position of the door leafs. The Ventura DCU will now try to put the door in closed position. When the door is already in closed position or has moved into closed position, a green light will flash only once.
Hold the workshop button.
The Ventura DCU will now open the door slowly into the open position. When the open position is reached, a green light on the Ventura DCU will flash twice.
7.11. Release the workshop button.
7.12. The potentiometers are now set.