

### What is the Steering Angle Sensor (SAS)?

- The **Steering Angle Sensor** detects:
    - The **position, direction, and speed of rotation** of the steering wheel.
    - Crucial input for systems like **ABS, ESC (Electronic Stability Control), and hill hold assist**.
  - It helps in controlling vehicle **dynamics and safety systems** by providing real-time steering feedback to the **ECU**.
- 

### Where is the SAS Connected in SIGNA BSVI?

#### Connected to:

#### **CAN2 (High-Speed Diagnostic CAN)**

- **NOT** connected directly to Engine ECU via CAN1.
  - CAN2 allows the sensor to:
    - Communicate with relevant ECUs (like ESC/ABS module).
    - Be accessed during **diagnostic scans** (read live data or DTCs).
    - Function independently from critical engine control messaging on CAN1.
- 

### CAN Network Overview – SIGNA BSVI

CAN Line	Speed	Typical ECUs Connected
<b>CAN1 (HS CAN)</b>	500 kbps – 1 Mbps	Engine ECU, Transmission, ABS
<b>CAN2 (Diag CAN)</b>	500 kbps – 1 Mbps	<b>Steering Angle Sensor</b> , Telematics, DEF ECU
<b>Low-Speed CAN/LIN</b>	<125 kbps	Body modules (e.g., window, HVAC)

---

### Common Mistake by Participants

**Mistake:** Answered "Engine CAN" (CAN1), assuming all safety-related sensors are connected there.

#### **Why this is incorrect:**

- SAS data is **not time-critical like engine injection timing**, hence **diagnostics CAN (CAN2)** is used.
- CAN2 allows the **cluster and ESC modules** to access this data efficiently.
- Tata Motors keeps SAS and similar sensors on **CAN2 for modular diagnostics and flexibility**.

---

### Real-Life Application

While diagnosing **hill hold failure** or **ESC malfunction**, if SAS is not showing data in the scanner:

- First, check **CAN2** continuity.
- Confirm power and ground to the SAS.
- Check for DTCs on CAN2-related modules.

---

### Key Takeaways

- In **SIGNA BSVI**, the **Steering Angle Sensor (SAS)** is connected to **Diagnostics CAN (CAN2)**.
- It communicates with **ABS/ESC, BCM, or telematics** via CAN2.
- Knowing this avoids wasting time checking the wrong network (like CAN1).

---

### Quick Recap

**Sensor**                      **Steering Angle Sensor (SAS)**

Vehicle Platform **SIGNA BSVI**

Connected CAN **Diagnostics CAN (High-Speed CAN2)**

Speed                      500 kbps – 1 Mbps

Function                      Steering direction, angle, feedback

Used By                      ABS, ESC, Hill Hold Assist