FORD AX4N

VEHICLE SPEED SENSOR ELIMINATED

COMPLAINT: A 1995 to 2002 Lincoln Continental comes in with a complaint of erratic or no speedometer operation and the AX4N transmission is not shifting properly or, no upshift out of first gear. A scan of the PCM reveals any number of the following codes, P0500, P0501, P0503, P1500 or P1502 for no VSS or intermittent loss of VSS signal. The ABS warning lamp is also illuminated and the MIL lamp may also be on.
A visual check of the VSS reveals that no VSS is located in either of the two locations it would normally be found! (Refer to Figure 1)
NOTE: This can also occur on 1996 to 1999 Taurus SHO with AX4N transmission.

CAUSE: These vehicles obtain the VSS signal from the Antilock Brake Control Module. This means that the raw signal the ABS Module is receiving comes from all four (4) Wheel Speed Sensors (WSS), Refer to Figure 2.

Systems using the gear driven or permanent magnet type of VSS, will have a wire at PCM terminal 58, with the ground circuit found at PCM terminal 33. Systems using the ABS Module to generate the VSS signal will not have a wire at PCM terminal 58 as shown in Figure 3. The VSS signal is sent from the ABS Module over the vehicles Multiplex Communication Network to the Speed Control Module (cruise control) and then to other modules that require a VSS signal as illustrated in the electrical schematic shown in Figure 4.

CORRECTION: The ABS Module will have to be scanned for wheel speed sensor codes in order to find the one, or more, wheel speed sensor(s) that are faulty. It would also help to view the ABS data to see if all four (4) wheel speeds are the same when driving in a straight line, (no turns).
Note: The reluctors at each wheel can become caked with mud or rust resulting in an erratic or no signal condition, be sure to check for this or any other condition that might cause a problem with the wheel speed sensor to reluctor relationship.

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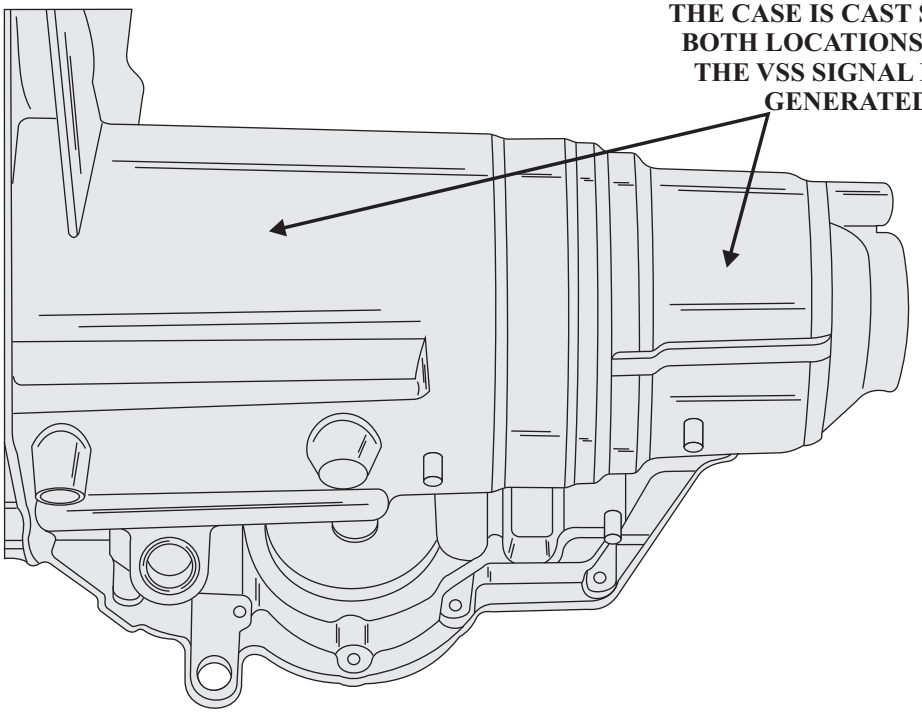


Figure 1

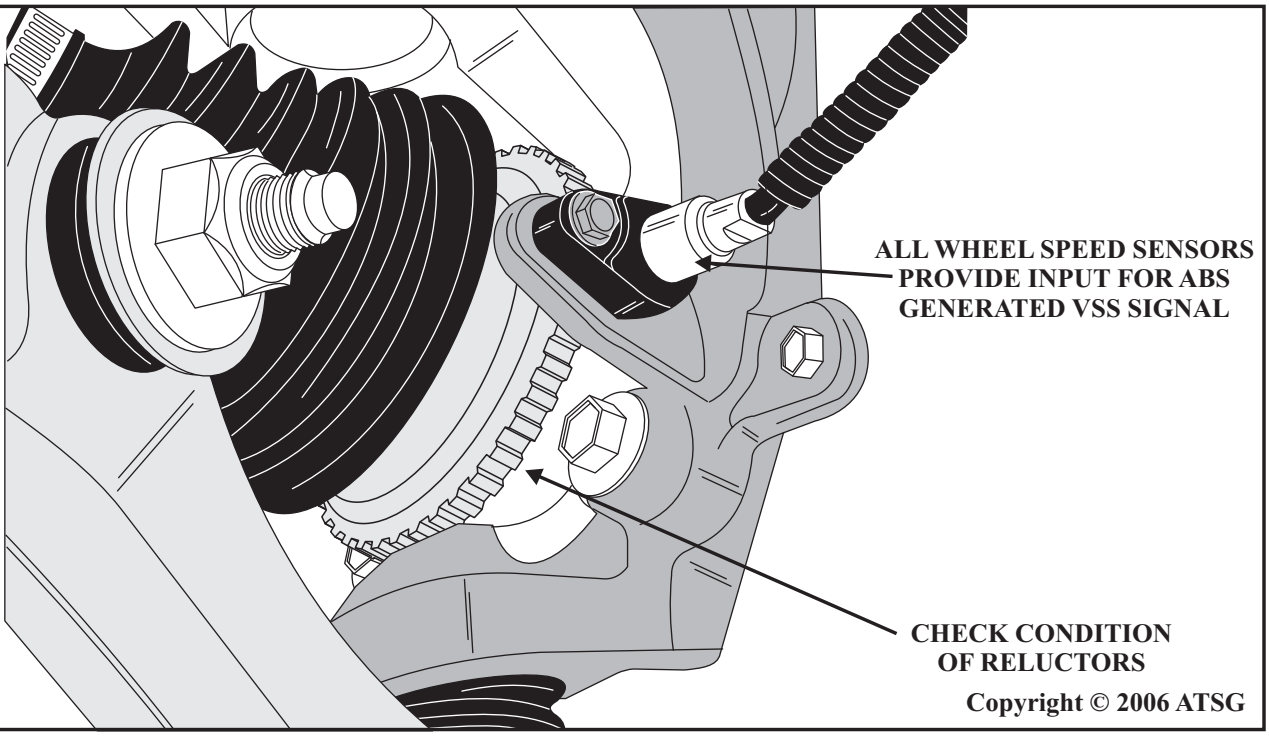


Figure 2

VEHICLE SPEED SENSOR ELIMINATED

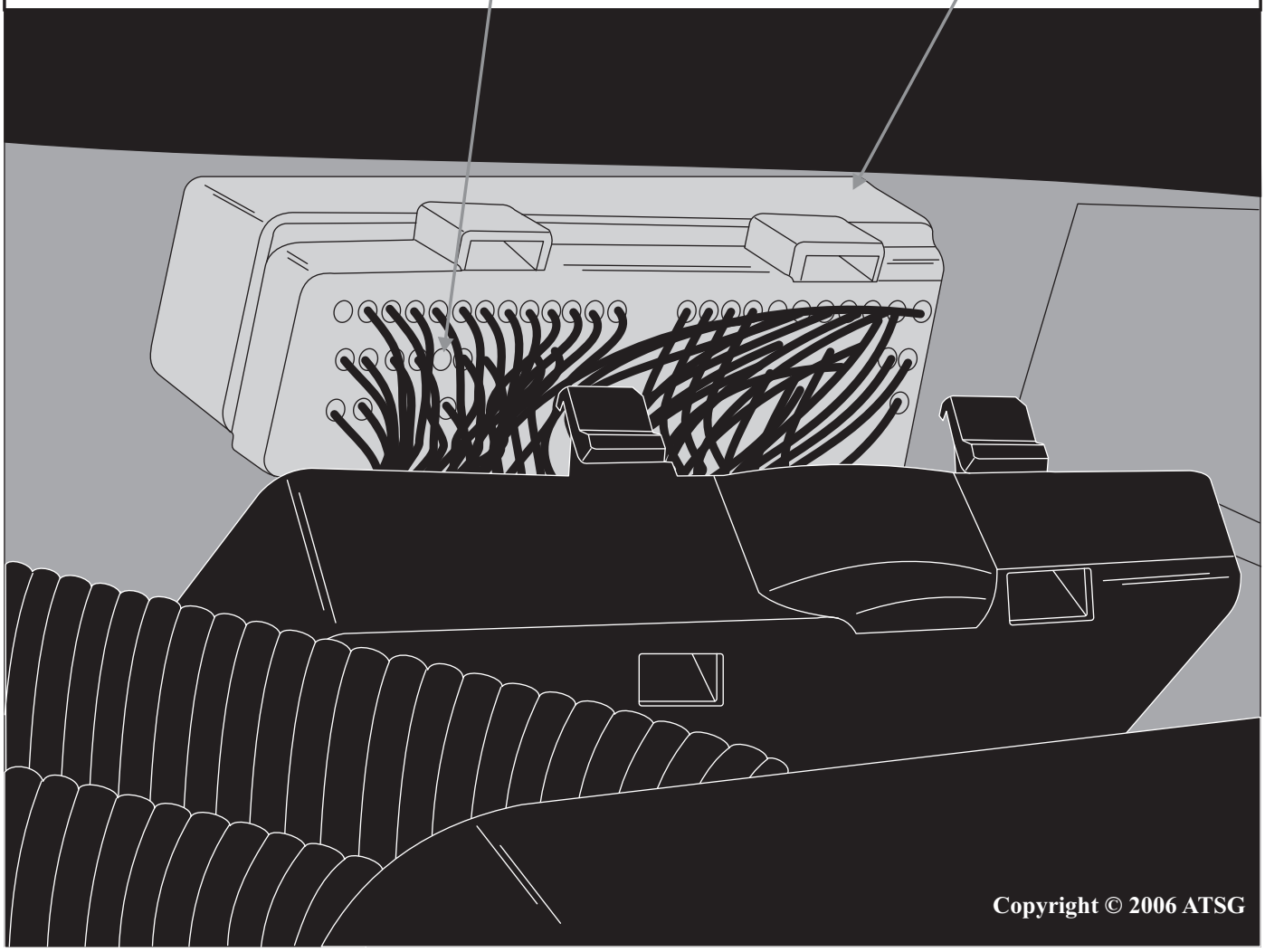
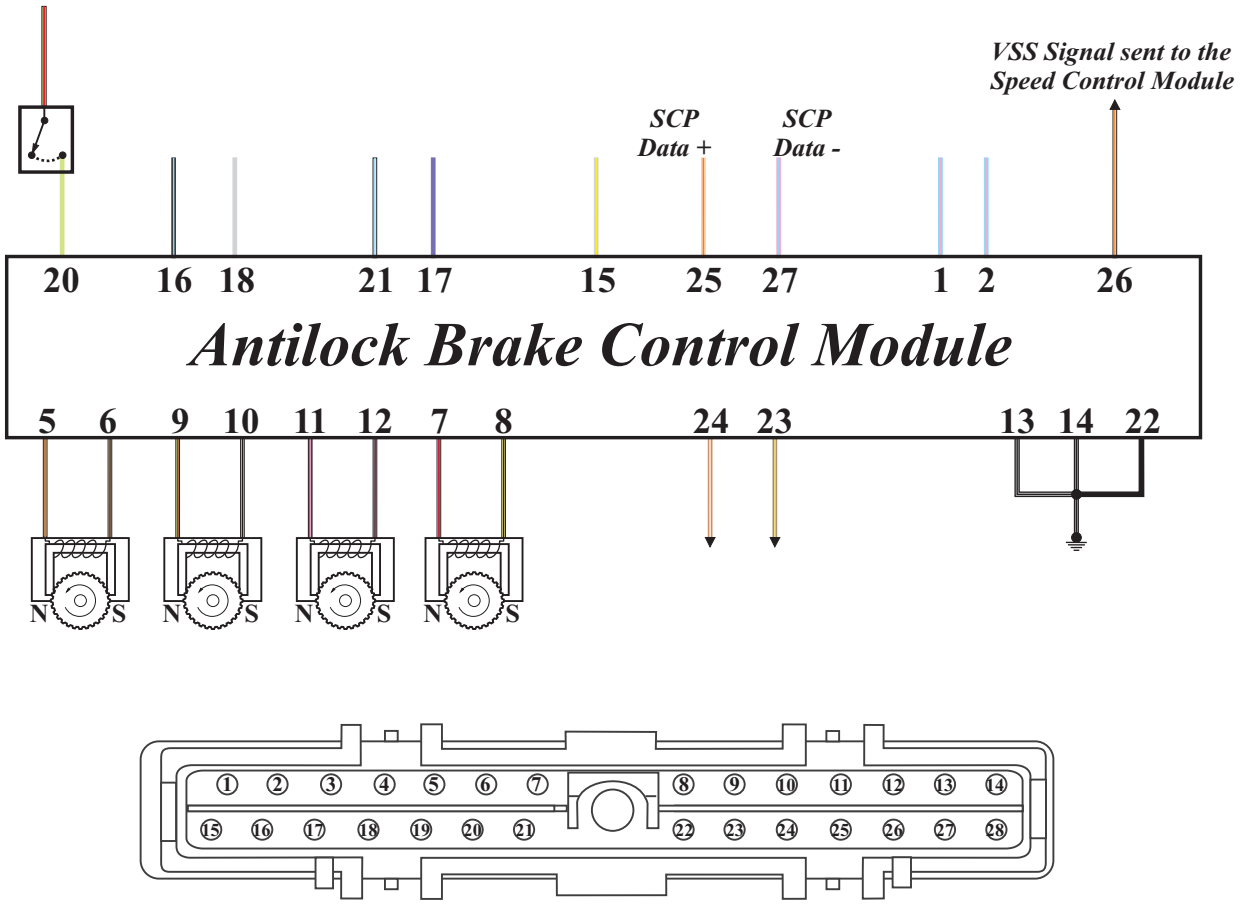


Figure 3

VEHICLE SPEED SENSOR ELIMINATED



1	Power (Hot at all times)	15	Accy Feed from ABS EVAC and Fill
2	Power (Hot at all times)	16	Traction Control ON/OFF Indicator to Module
3	Not used	17	Traction Control Active Indicator
4	Not used	18	Traction Control Feed to Module
5	LF Brake Sensor Input	19	Not used
6	LF Brake Sensor Input	20	Brake ON/OFF Switch (BOO)
7	RF Brake Sensor Input	21	Anti-Lock Warning Indicator
8	RF Brake Sensor Input	22	Ground
9	LR Brake Sensor Input	23	RR Buff Wheel Speed Output (To GPS
10	LR Brake Sensor Input	System)	
11	RR Brake Sensor Input	24	LR Buff Wheel Speed Output (To GPS
12	RR Brake Sensor Input	System)	
13	Ground	25	Data + (SCP Communication Network)
14	Ground	26	VSS Signal to Speed Control Module
		27	Data - (SCP Communication Network)
		28	Not Used

Figure 4