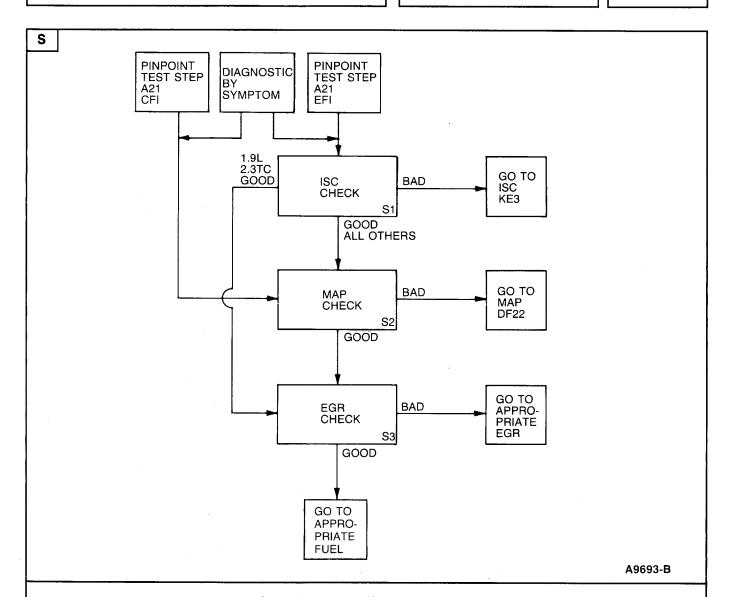
## **System Check**

#### Pinpoint Test

S



#### **STOP-WARNING**

You should enter this Pinpoint Test only after a code 11 is received in Quick Test Step 3.0, and you have been directed here from EEC-IV No-Start Pinpoint Test Step A21 or Diagnostics by symptom.

This Pinpoint Test is intended only as a Quick Check for the basic functioning of the following:

- ISC Bypass Air System
- MAP System
- EGR System

# **System Check**

## Pinpoint Test

S

		407/01/70 74//5
TEST STEP	RESULT	ACTION TO TAKE
S1 ISC-BPA CHECK		
<ul> <li>If you are here for any reason other than stalls or a no start, go to S2. Except 1.9L EFI and 2.3L EFI TC, go to S3.</li> <li>Attempt to start engine at part throttle.</li> <li>Will engine run at part throttle?</li> </ul>	Yes, but runs rough Yes, and runs smooth No	GO to S2.  GO to KE3.  1.9 EFI and 2.3L EFI TC GO to S3.  All others GO to S2.
S2 MAP CHECK		Market Control of the
Key Off.     Disconnect the MAP sensor from the vehicle harness.	Yes	3.0L EFI Truck, GO to Pinpoint Test Step HG1,
<ul> <li>Connect the MAP tester between the vehicle harness and the MAP sensor.</li> <li>Plug MAP tester banana plugs into DVOM.</li> <li>Set DVOM to 20V scale.</li> <li>Key On.</li> <li>Observe DVOM.</li> </ul>	No <b>•</b>	all others, GO to S3. GO to DF22.
<ul> <li>■ Approximate Altitude (Ft.) Voltage Output (+/04V)</li> <li>0 1.59</li> <li>1000 1.56</li> <li>2000 1.53</li> <li>3000 1.50</li> <li>4000 1.47</li> <li>5000 1.44</li> <li>6000 1.41</li> <li>7000 1.39</li> <li>● Crank engine.</li> <li>● While cranking, does DVOM reading decrease from the appropriate reading for your altitude listed above?</li> </ul>		

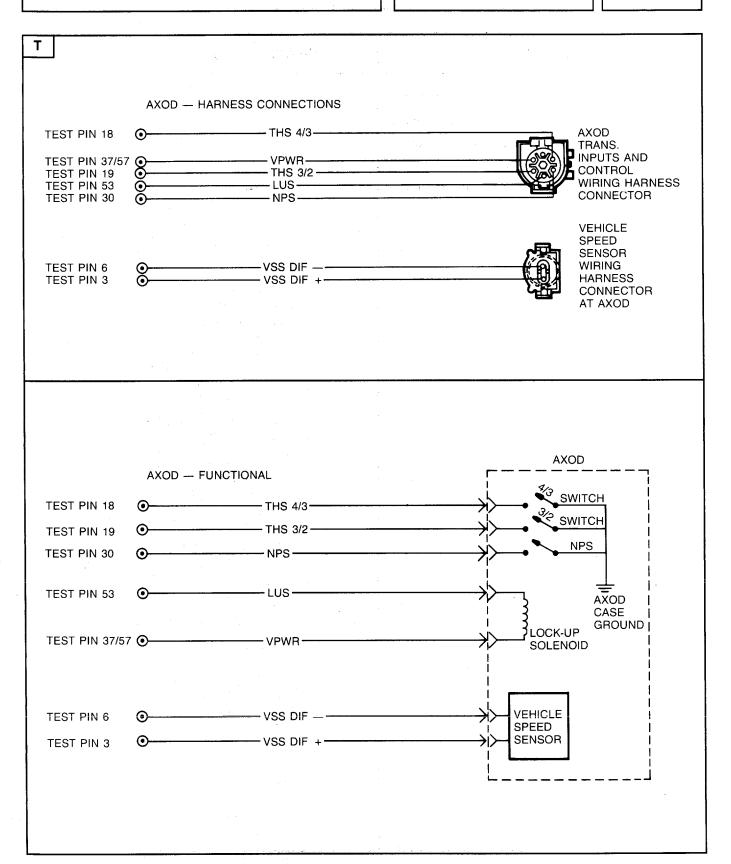
# **System Check**

#### Pinpoint Test

S

TEST STEP	RESULT -	ACTION TO TAKE
S3 EGR CHECK		
<ul> <li>Disconnect and plug vacuum line at EGR valve.</li> <li>Inspect ERG Valve to ensure valve is closed.</li> <li>Start or attempt to start engine.</li> <li>Is symptom eliminated or is no start resolved?</li> </ul>	Yes	For 1.9L EFI & 2.3L EFI TC, GO to KA1.  For 3.8L CFI, 2.3L and 5.0L EFI Truck, GO to DD11.  For 2.3L HSC CFI Base, 2.5L HSC CFI, and 5.0L SEFI, GO to DN40.
		For 2.3L CFI PLUS GO to DM11.  For 2.9L EFI Truck and 3.0L EFI, GO to
	No	Section 6, EGR Valve Diagnostics.  For 1.9L EFI and 2.3L EFI TC GO to HA1.
		For 2.3L HSC CFI and 2.5L HSC CFI, GO to HF1.
		For 2.9L EFI and 3.0L EFI, GO to <b>HG1</b>
		For 3.8L CFI, GO to HD2
		For 5.0L SEFI, GO to <b>HC1</b> .
		For 2.3L EFI and 5.0L EFI Truck, GO to <b>HE1</b> .

#### Pinpoint Test



#### Pinpoint Test

T

#### **STOP-WARNING**

You should enter this Pinpoint Test only when service codes 62, 67 and 89 are received in Quick Test Step 3.0 or a service code 62 is received in Quick Test Step 5.0, and/or service codes 29, 39, 57, 59 and 69 received in Quick Test Step 6.0.

This Pinpoint Test is intended to diagnose only the following:

- Harness Circuits: THS 4/3, THS 3/2, LUS, NPS, VSS+, VSS- and VPWR
- Vehicle Speed Sensor
- Processor Assembly

T1

#### Drive Cycle For Checking AXOD CONTINUOUS CODES

- 1. Record and zero EEC-IV Self-Test continuous codes.
- 2. Warm engine to operating temperature.
- 3. With transmission in D range, lightly accelerate from a stop to 40 mph to achieve third gear. Hold speed and throttle opening (not closed throttle) steady for 15 seconds minimum (30 seconds above 4000 feet altitude).
- 4. Shift gear selector to OD range and accelerate lightly from 40 to 50 mph to achieve fourth gear. Hold speed and throttle opening (not closed throttle) steady for 15 seconds minimum in fourth gear.
- 5. With transmission in fourth gear and steady speed and throttle opening (not closed throttle) lightly apply and release brakes (to light brake lamps) and then hold speed and throttle opening steady for an additional 15 seconds minimum.
- 6. Brake to a stop and remain stopped for 20 seconds minimum with transmission in OD range.
- 7. Run EEC-IV Self-Test and record continuous codes.

NOTE: All components must be connected when performing this test.

#### Pinpoint Test

TEST STEP	RESULT		ACTION TO TAKE
T2 ATTEMPT TO GENERATE CONTINUOUS CODE 29  • Perform Drive Cycle outlined in Test Step T1, then return to this Step.  • Did continuous code 29 repeat?	Yes No	<b>&gt;</b>	GO to T3.  Unable to duplicate fault at this time. Continuous Code 29. If any other codes are present, RETURN to Quick Test for directions. If none, test is completed.
T3 CONTINUITY OF VEHICLE SPEED SENSOR (VSS) HARNESS			toot to complete.
<ul> <li>Key Off, wait 10 seconds.</li> <li>Disconnect processor 60 Pin connector and inspect for damaged pins, corrosion, loose wires. Service as necessary.</li> <li>Install Breakout box.</li> <li>Processor and VSS disconnected.</li> <li>DVOM on 200 ohm scale.</li> <li>Measure resistance between test Pin 3 at the Breakout box and the VSS vehicle harness connector as shown below.</li> <li>Measure resistance between test Pin 6 at the Breakout box and the VSS vehicle harness connector, as shown below.</li> <li>TEST PIN 6  VSS DIF TEST PIN 3  VSS DIF TEST PIN 3</li></ul>	Yes		SERVICE open(s) in VSS harness. REPEAT Test Step T2.

#### Pinpoint Test

TEST STEP	RESULT	ACTION TO TAKE
T4 CHECK VSS HARNESS FOR SHORTS TO POWER OR GROUND		
• Key Off.	Yes	GO to <b>T5</b> .
Processor disconnected.		<u> </u>
VSS disconnected.	No	SERVICE short(s) in
DVOM on 200,000 ohm scale.		VSS harness. REPEAT Test
<ul> <li>Measure resistance between test Pin 3 and test Pins 37, 40 and 6 at the Breakout box. Then measure resistance between test Pin 6 and test Pins 37 and 40 at the Breakout box.</li> </ul>		Step T2.
Are all readings greater than 1,000 ohms?		
T5 SUBSTITUTE VEHICLE SPEED SENSOR (VSS)		
<ul> <li>Substitute VSS with known good sensor.</li> <li>Processor and VSS connected.</li> <li>Perform Drive Cycle outlined in Test Step T1,</li> </ul>	Yes	REPLACE processor. REPEAT Test Step T2.
then return to this Step.	No	REPLACE VSS.
Did continuous code 29 repeat?  The ATTEMPT TO CENTED ATT CONTINUOUS.		RERUN Quick Test.
T11 ATTEMPT TO GENERATE CONTINUOUS CODE 69		
<ul> <li>Perform Drive Cycle outlined in Test Step T1, then return to this Step.</li> </ul>	Yes	GO to T12
Did continuous code 69 repeat?	No	Unable to duplicate fault at this time. Continuous Code 69. If any other codes are present, RETURN to Quick Test for directions. If none, test is completed.

#### Pinpoint Test

TEST STEP	RESULT	•	ACTION TO TAKE
T12 CHECK CONTINUITY OF THS 3/2 HARNESS CIRCUIT			
<ul> <li>Key Off, wait 10 seconds.</li> <li>Disconnect processor 60 Pin connector and inspect for damaged pins, corrosion, loose wires. Service as necessary.</li> <li>Install Breakout box.</li> <li>Processor and AXOD harness disconnected.</li> <li>DVOM on 200 ohm scale.</li> <li>Measure resistance between test Pin 19 at the Breakout box and the AXOD vehicle harness connector, as shown below.</li> <li>Is resistance 5 ohms or less?</li> <li>TEST PIN 19  THS 3/2</li> <li>Is resistance 5 ohms or less?</li> </ul>	Yes No		GO to T13.  SERVICE open in THS 3/2 harness. REPEAT Test Step T11.
<ul> <li>T13 CHECK THS 3/2 HARNESS CIRCUIT FOR SHORTS TO POWER</li> <li>Key Off.</li> <li>Breakout box installed.</li> <li>Processor disconnected.</li> <li>AXOD harness disconnected.</li> <li>DVOM on 200,00 ohm scale.</li> <li>Measure the resistance between test Pin 19 and test Pin 37 at the Breakout box.</li> <li>Is resistance greater than 10,000 ohms?</li> </ul>	Yes No	<b>&gt;</b>	GO to T14.  SERVICE short to power in THS 3/2 circuit. REPEAT Test Step T11.
T14 PROCESSOR VERIFICATION  Key Off. Breakout box installed. Processor connected. AXOD harness connected. Jumper test Pin 19 to test Pin 40 at the Breakout box. Run Key On, Engine Off Quick Test. Is code 62 present?	No Yes	•	REMOVE jumper wire. REPLACE processor. REPEAT Test Step T11.  REMOVE jumper wire. GO to Taurus/Sable Shop Manual, Section 17-15 for AXOD Transmission Electrical Component Diagnostics.

## Pinpoint Test

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TEST STEP	RESULT		ACTION TO TAKE
T21 ATTEMPT TO GENERATE CONTINUOUS CODE 59			
<ul> <li>Perform Drive Cycle outlined in Test</li> <li>Step T1, then return to this Step.</li> </ul>	Yes		GO to <b>T22</b> .
Did continuous code 59 repeat?	No	<b>&gt;</b>	Unable to duplicate fault at this time. Continuous Code 59. If any other codes are present, RETURN to Quick Test for directions. If none, test is completed.
T22 CHECK CONTINUITY OF THS 4/3 HARNESS CIRCUIT			test is completed.
Key Off, wait 10 seconds.      Disconnect processor Co. July 2015.	Yes		GO to <b>T23</b> .
<ul> <li>Disconnect processor 60 pin connector and inspect for damaged pins, corrosion, loose wires. Service as necessary.</li> </ul>	No		SERVICE open in THS 4/3 harness.
<ul> <li>Install Breakout box.</li> </ul>			REPEAT Test
<ul> <li>Processor and AXOD harness disconnected.</li> </ul>			Step T21.
<ul> <li>DVOM on 200 ohm scale.</li> <li>Measure resistance between test Pin 18 at the Breakout box and the AXOD vehicle harness connector, as shown below.</li> </ul>			
TEST PIN 18 <b>⊙</b> —— THS 4/3			
• Is resistance 5 ohms or less?			

#### Pinpoint Test

TEST STEP	RESULT	ACTION TO TAKE
T23 CHECK THS 4/3 HARNESS CIRCUIT FOR SHORT TO POWER		
• Key Off.	Yes	GO to T24
<ul> <li>Breakout box installed.</li> <li>Processor disconnected.</li> <li>AXOD harness disconnected.</li> </ul>	No	SERVICE short to power to THS 4/3 circuit. REPEAT Test
<ul> <li>DVOM on 200,000 ohm scale.</li> <li>Measure the resistance between Pin 18 and test</li> </ul>		Step T21.
Pin 37 at the Breakout box.  • Is resistance greater than 10,000 ohms?		
T24 PROCESSOR VERIFICATION  • Key Off.	No	REMOVE jumper wire.
<ul> <li>Breakout box installed.</li> <li>Processor connected.</li> <li>AXOD harness connected.</li> </ul>		REPLACE processor. REPEAT TEST Step T21.
<ul> <li>Jumper test Pin 18 to test Pin 40 at the Breakout box.</li> </ul>	Yes	REMOVE jumper wire. GO to Taurus/Sable Shop Manual, Section
<ul> <li>Run Key On, Engine Off Quick Test.</li> <li>Is code 62 present?</li> </ul>		17-15 for AXOD Transmission Electrical Component Diagnostics.
T31 ATTEMPT TO GENERATE CONTINUOUS CODE 39		
NOTE: If continuous code 59 is also present, go directly to T21.  • Perform Drive Cycle outlined in Test Step T1, then return to this Step.	Yes	GO to Taurus/Sable Shop Manual Section 17-15 for AXOD Transmission Electrical Component Diagnostics.
Did continuous code 39 repeat?	No	Unable to duplicate fault at this time. Continuous Code 39. If any other codes are present, RETURN to Quick Test for directions. If none, test is completed.

## Pinpoint Test

TEST STEP	RESULT		ACTION TO TAKE
T41 ATTEMPT TO GENERATE CONTINUOUS			
CODE 57			
<ul> <li>Perform Drive Cycle outlined in Test Step T1, then return to this Step.</li> </ul>	Yes		GO to <b>T42</b> .
• Did continuous code 57 repeat?	No		Unable to duplicate fault at this time. Continuous Code 57. If any other codes are present, RETURN to Quick Test for directions. If none, test is completed.
T42 CHECK CONTINUITY OF NPS HARNESS CIRCUIT			test is completed.
<ul> <li>Key Off, wait 10 seconds.</li> <li>Disconnect processor 60 Pin connector and inspect for damaged pins, corrosion, loose wires, etc. Service as necessary.</li> <li>Install Breakout box.</li> </ul>	Yes		GO to Taurus/Sable Shop Manual, Section 17-15 for AXOD Transmission Electrical Component Diagnostic.
<ul> <li>Processor and AXOD harness disconnected.</li> <li>DVOM on 200 ohm scale.</li> <li>Measure resistance between test Pin 30 at the Breakout box and the AXOD vehicle harness connector, as shown below.</li> </ul>	No	<b>&gt;</b>	SERVICE open in NPS circuit. REPEAT Test Step <b>T41</b> .
TEST PIN 30   NPS	-		
• Is resistance 5 ohms or less?			
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#### Pinpoint Test

TEST STEP	RESULT		ACTION TO TAKE
SERVICE CODE 89			
T51 VPWR HARNESS CONTINUITY CHECK			
Key Off, wait 10 seconds.	Yes		GO to <b>T52</b> .
<ul> <li>Disconnect processor 60 Pin connector and inspect for damaged pins, corrosion, loose wires. Service as necessary.</li> </ul>	No		SERVICE open in VPWR circuit to
Install Breakout box.			AXOD. RERUN Quick Test.
<ul> <li>Processor and AXOD harness disconnected.</li> </ul>			
● DVOM on 200 ohm scale.			
<ul> <li>Measure resistance between test Pin 37 at the Breakout box and the AXOD vehicle harness connector, as shown.</li> </ul>			
TEST PIN 37		٠.	
Is resistance 5 ohms or less?		4000	
T52 LUS HARNESS CONTINUITY CHECK			
Key Off.	Yes		GO to <b>T53</b> .
Breakout box installed.	<b>.</b>		05D\/(05 anan in
Processor and AXOD harness disconnected.	No		SERVICE open in LUS harness circuit to
DVOM on 200 ohm scale.			AXOD. RERUN Quick
Mesasure resistance between test Pin 53 at the Breakout box and the AXOD vehicle harness connector, as shown.			Test.
TEST PIN 53  ⊙LUS			
• Is resistance 5 ohms or less?			

#### Pinpoint Test

TEST STEP	RESULT		ACTION TO TAKE
T53 CHECK LUS HARNESS FOR SHORTS TO POWER, GROUND			
Key Off.	Yes	9	GO to <b>T54</b> ].
Processor disconnected.	103		GO 10 154].
AXOD harness disconnected.	No		SERVICE shorts in
DVOM on 200,000 ohm scale.			LUS harness. RERUN Quick Test. If code 89
<ul> <li>Measure resistance between test Pin 53 and test Pins 37 and 40 at the Breakout box.</li> </ul>			is still present, REPLACE processor.
• Are both readings greater than 10,000 ohms?			RERUN Quick Test.
T54 TOTAL CIRCUIT RESISTANCE CHECK			
● Key Off.	Yes		REPLACE processor.
Breakout box installed.			RERUN Quick Test.
Processor disconnected.	No		GO to Taurus/Sable
<ul> <li>AXOD transmission harness connected.</li> </ul>			Shop Manual, Section
<ul> <li>DVOM on 200 ohm scale.</li> </ul>			17-15 for AXOD Transmission
<ul> <li>Measure the resistance between test Pin 53 and test Pin 57 at the Breakout box.</li> </ul>			Electrical Component Diagnostic.
• Is resistance between 20 ohms and 40 ohms?			
SERVICE CODE 62: KEY ON, ENGINE OFF QUICK TEST			
T61 CHECK FOR CODE 62 IN ENGINE RUNNING SELF-TEST			
<ul> <li>Perform Engine Running Self-Test and record codes.</li> </ul>	Yes		Fault is in the 4/3 circuit, GO to <b>T62</b> .
• Is code 62 present?			circuit, GO to 102.
	No		Fault is in the 3/2 circuit, GO to <b>T62</b> .

## Pinpoint Test

TEST STEP	RESULT	ACTION TO TAKE
SERVICE CODE 62: KEY ON, ENGINE OFF QUICK TEST T62 AXOD HARNESS VERIFICATION		
<ul> <li>Key Off.</li> <li>Disconnect AXOD harness.</li> <li>Run Key On, Engine Off Quick Test.</li> </ul>	Yes No	GO to Taurus/Sable Shop Manual, Section
• Is code 62 still present?		17-15 for AXOD Transmission Electrical Component Diagnostics.
T63 CHECK THS 3/2 AND 4/3 HARNESS CIRCUITS FOR SHORT TO GROUND		
<ul><li>Key Off.</li><li>Install Breakout box and disconnect processor.</li></ul>	Yes	REPLACE processor. RERUN Quick Test.
<ul> <li>AXOD harness disconnected.</li> <li>DVOM on 200,000 ohm scale.</li> <li>Measure resistance between test Pin 18 and test Pins 40 and 60 at the Breakout box.</li> </ul>	No	SERVICE short(s) to ground. RERUN Quick Test.
<ul> <li>Measure resistance between test Pin 19 and test Pins 40 and 60 at the Breakout box.</li> <li>Are all resistance readings greater than 10,000 ohms?</li> </ul>		\$ <sub>.</sub>
T71 SERVICE CODE 62: ENGINE RUNNING SELF-TEST		
Verify code 62 present in Engine Running Self- Test.	Code 62 present	GO to Taurus/Sable Shop Manual, Section 17-15 for AXOD Transmission Electrical Component Diagnostics.
	Code 62 not present	Unable to duplicate fault at this time. If any other codes are present, RETURN to Quick Test for directions. If none, then test is complete.

## Pinpoint Test

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TEST STEP	RESULT <b>&gt;</b>	ACTION TO TAKE
T81 SERVICE CODE 67 — CHECK VOLTAGE AT NPS INPUT TO PROCESSOR		
• Key On, Engine Off.	Yes ▶	GO to <b>T82</b> .
<ul> <li>Disconnect processor 60 Pin connector and inspect for damaged pins, corrosion, loose wires. Service as necessary.</li> </ul>	No <b>&gt;</b>	GO to Pinpoint Test <b>FA4</b> .
Install Breakout box and reconnect processor.		
DVOM on 20V scale.		
Measure voltage between test Pin 30 and test Pin 46 at the Breakout box.		
• Is voltage less than 4V?		
T82 CHECK NPS HARNESS CIRCUIT FOR SHORT TO GROUND		-
• Key Off.	Yes	GO to <b>T83</b> .
Breakout box installed.	No	SEDVICE about to
Processor and AXOD harness disconnected.	INO	SERVICE short to ground in NPS circuit.
DVOM on 200,000 ohm scale.		RERUN Quick Test.
<ul> <li>Measure resistance between test Pin 30 and test Pins 40 and 60 at the Breakout box.</li> </ul>	·	
Are all readings greater than 10,000 ohms?		
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## Pinpoint Test

TEST STEP	RESULT	ACTION TO TAKE
T83 PROCESSOR VERIFICATION		
Key Off.      Breakout box installed.	Yes	REPLACE processor. RERUN Quick Test.
<ul> <li>Processor connected.</li> <li>AXOD harness disconnected.</li> <li>Run Key On, Engine Off Quick Test.</li> <li>Is code 67 present?</li> </ul>	No	GO to Taurus/Sable Shop Manual, Section 17-15 for AXOD Transmission Electrical Component Diagnostics.
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