Computers and Control Systems: Symptom Related Diagnostic Procedures
Step 3: No DTC(s) Present Symptom Charts

Step 3: No DTCs Present Symptom Charts

Chart 1

— Starting Concerns: Stall After Start
— Stalls/Quits: Idle, Acceleration, Cruise
— Runs Rough
— Misses
— Buck/Jerk
— Hesitation/Stumble
— Surge
— Unique Idle concerns: Rolling Idle

Note: For stalls on passenger car applications, the engine may stall if left running while refueling. Advise the customer to turn the engine off while refueling to avoid contamination or damage to the EVAP system.

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Check the following PIDs: — DPFEGR (if equipped) (hot idle value within 0.15 volt of KOEO value) — LONGFT1/LONGFT2 (value between -20 and +20%) — VPWR (value between 10.5 and 17.0 volts, and within 0.5 volt of battery voltage)	**DPFEGR PID value not within 0.15 volt of KOEO value:** • **For vehicles equipped with ESM EGR:** GO to **HH27**. • **All others:** GO to **HE57**. **LONGFT1/LONGFT2 value low (-):** Continue diagnosis. Concentrate checks in areas that would cause the engine to run rich. **LONGFT1/LONGFT2 value high (+):** Continue diagnosis. Concentrate checks in areas that would cause the engine to run lean. **VPWR not between 10.5 and 17.0 volts:** REFER to Charging System - General Information. **VPWR between 10.5 and 17.0 volts, but not within 0.5 volt of battery voltage:** CHECK B+ supply to PCM power relay. CHECK VPWR circuit between PCM and PCM power relay. CHECK PWR GND circuits.
For vehicles that run rough at idle: With the KOEO, check the INJxF PIDs (the "x" indicates the injector number; there will be one INJxF PID for each engine cylinder). All INJxF PIDs must indicate no fault (or NO).	**INJxF PID(s) indicate a fault (an injector circuit fault is indicated):** **Ford GT:** GO to **HL3**. **All others:** GO to **H34**.

(Continued)

Step 3, Chart 1

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Mass Air Flow (MAF) Sensor	GO to **DC26**.
Secondary Ignition System	GO to Pinpoint Test JB.
Fuel Delivery System	GO to Pinpoint Test HC.
Exhaust System	GO to **HF8**.
PCV System	GO to Pinpoint Test HG.
EVAP System	GO to **HX14**.
Automatic Transmission	REFER to Automatic Transmission/Transaxle.
Base Engine	REFER to Engine.
Applications without electronic throttle control: Intake Air System	GO to Pinpoint Test HU.
Applications with A/C pressure sensor (3-wire sensor): A/C pressure (ACP) sensor input to PCM	GO to **DS19**.
Additional Testing	GO to Pinpoint Test Z.

(Continued)

Step 3, Chart 1

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Additional Checks: Note: Some applications have a PID that indicates whether the PCM is reducing torque (TQ_CNTL) (#095E b0), and if so, why the torque is being reduced (#095Eb1-13) (0 equals No torque reduction requested; 1 equals Torque Truncation. Cuts fuel to protect when line pressure falls to minimum limit; 2 equals Traction Control Event. Cuts fuel/spark for traction control; 3 equals Vehicle Speed Limit. Cuts fuel). — Correct the PCM vehicle identification (VID) block information (refer to Diagnostic Methods, Flash Electrically Erasable Programmable Read Only Memory (EEPROM) — Be aware of engine RPM/speed limiting functions of the PCM (look for incorrect high vehicle speed signal from ABS, VSS, or OSS).	REFER to the applicable ALLDATA System/Component.

(Continued)

Step 3, Chart 1

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
— Verify the fuel cap is properly tightened and not physically damaged. — Drivelines — Manual transmission/clutch — Charging system — Traction control system (if equipped) — A/C system (for surge with A/C on) — Speed control system (for surge with speed control on) — A/C compressor diode, if equipped (for rolling idle)	

Chart 2

— Starting Concerns: Hard Start/Long Crank/Erratic Start/Erratic Crank

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Battery Condition and Current Draw	Visual. REFER to Charging System - General Information.
Secondary Ignition System	GO to Pinpoint Test JB.
Fuel Delivery System	GO to Pinpoint Test HC.
Exhaust System	GO to **HF8**.
PCV System	GO to Pinpoint Test HG.
EVAP System	GO to **HX14**.
Applications without electronic throttle control: Intake Air System	GO to Pinpoint Test HU.
Starting System	REFER to Starting System.
Mass Air Flow (MAF) Sensor	GO to **DC26**.
Additional Testing	GO to Pinpoint Test Z.
Additional Checks: — For applications with two camshaft position (CMP) sensors, verify the CMP1 and CMP2 circuits are not shorted together.	Visual

Step 3: No DTCs Present Symptom Charts

Chart 3

— Starting Concerns: No Start (Engine Cranks)

Note: Extended cranking because of a no start can load the exhaust system with raw fuel, damaging the catalytic converter after the engine starts. For applications with secondary air injection (AIR) systems, carry out the following after the no start has been repaired: Disconnect the electric AIR pump relay, run the engine until the surplus fuel is used up, and reconnect the relay (disconnecting the relay may set a continuous memory PCM DTC that needs to be cleared).

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Add-on Anti-Theft Devices	Visual. CHECK with the customer.
Fuel/Ignition	**LS and Thunderbird:** GO to **KB53.** **All others:** GO to Pinpoint Test A.
Applications without electronic throttle control - If the engine will start at part throttle: If the engine will not start at closed throttle, but will start and run normally at part throttle, check the idle air control (IAC) system.	**The engine will now start and run normally at part throttle:** GO to Pinpoint Test KE.
Exhaust System (restrictions)	GO to **HF8.**
Base Engine	REFER to Engine.
Additional Testing	GO to Pinpoint Test Z.

Chart 4

— Unique Idle Concerns: Slow Return To Idle

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Vacuum Leaks, Throttle Body	Visual.
PCV System	GO to Pinpoint Test HG.
Applications without electronic throttle control: Intake Air System (air leaks)	GO to Pinpoint Test HU.

Step 3: No DTCs Present Symptom Charts

Chart 5

— Unique Idle Concerns: Fast Idle

— Diesels/Runs On

Note: If the vehicle runs normally after the ignition key is turned OFF, check for a damaged ignition switch, an IGN RUN circuit short to power, a VPWR circuit short to power, etc. Refer to the applicable Vehicle/Diagrams or Vehicle Systems.

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Base engine air leaks, including proper sealing of intake manifold and components/vacuum lines attached to intake air (such as the PCV, EGR or IAC valve/vacuum lines).	Visual. REFER to Engine.
Verify the engine operates at normal temperature.	Visual. REFER to Engine Cooling or the Symptom Index, to diagnose any cooling system concerns that are present.
Fast idle concerns: (applications without electronic throttle control) KOEO, monitor the TP MODE PID while wiggling the TP sensor circuits. The TP MODE PID can also be monitored during vehicle drive. With the throttle closed, the TP MODE PID must be C/T (closed throttle).	**TP Mode PID is not C/T with the throttle closed:** Note: At vehicle start, the TPREL begins at about 1.25 volts, and counts down to the lowest TP V value seen since engine start. If the TP V value goes below the "normal" range, then increases again, TPREL sets to the lower voltage. If TP V is about 0.04 volts greater than the TPREL value at closed throttle, the PCM goes into part throttle mode. Monitor the TP V and TPREL PIDs for sudden changes while checking for intermittent TP circuit/connector concerns. Also check for loose/worn throttle plates. If no concern is found, GO to Pinpoint Test Z.
Applications without electronic throttle control: Intake Air System (air leaks)	GO to Pinpoint Test HU.
Additional Testing	GO to Pinpoint Test Z.

Chart 6

— Unique Idle Concerns: Low/Slow Idle

— Stalls/Quits: Deceleration

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Verify the fuel filler cap is properly tightened.	Visual
For A/T with stalls/quits on deceleration: Transmission	REFER to Automatic Transmission/Transaxle (Diagnosis by Symptom: Torque Convertor Operation Concerns).
Fuel Delivery System	GO to Pinpoint Test HC.
Applications without electronic throttle control: Intake Air System	GO to Pinpoint Test HU.
Base Engine	REFER to Engine.
Additional Testing	GO to Pinpoint Test Z.

Chart 7

— Backfires

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Secondary Ignition	GO to Pinpoint Test JB.
Fuel Delivery System	GO to Pinpoint Test HC.
Base Engine	REFER to Engine.
Exhaust System	GO to **HF8**.
Additional Testing	GO to Pinpoint Test Z.

Chart 8

— Lack/Loss of Power

Note: Verify the symptom is reported under normal driving conditions without excessive engine/vehicle load. Also, be aware of the engine RPM/speed limiting functions of the PCM.

Note: For applications with a knock sensor (KS), a lack of power may result when the vehicle is operated with a breakout box installed at the PCM. The KS circuits are not shielded in the breakout box, and KS signal noise may be noticed by the PCM. If this happens, spark timing will be retarded and a lack of power may result.

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
— Automatic Transmission Fluid — Throttle Linkage — Air cleaner element	Visual
Check the following PIDS: — DPFEGR (if equipped) (hot idle value within 0.15 volt of KOEO value) — LONGFT1/LONGFT2 (value between -20 and +20%) — **For vehicles equipped with IMTV:** IMTVF for both KOEO and KOER, with the transmission in PARK/NEUTRAL and the engine RPM greater than 3,000 RPM, the PID should indicate no fault (or NO) in both situations.	**DPFEGR PID value not within 0.15 volt of KOEO value:** • **For vehicles equipped with ESM EGR:** GO to **HH27**. • **All others:** GO to **HE57**. **LONGFT1/LONGFT2 value low (-):** Continue diagnosis. Concentrate checks in areas that would cause the engine to run rich. **LONGFT1/LONGFT2 value high (+):** Continue diagnosis. Concentrate checks in areas that would cause the engine to run lean. **IMTVF PID indicates a fault:** GO to **HU41**.
Fuel Delivery System	GO to Pinpoint Test HC.
Secondary Ignition	GO to Pinpoint Test JB.
Mass Air Flow (MAF) Sensor	GO to **DC26**.
Exhaust System	GO to **HF8**.
Base Engine	REFER to Engine.
Automatic Transmission	REFER to Automatic Transmission/Transaxle.
Brake System (brake drag or binding)	REFER to Brake System - General Information.
Supercharged applications: Supercharger Bypass System	GO to **KJ11**.
Additional Testing	GO to Pinpoint Test Z.

(Continued)

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Additional Checks: Note: Some applications have a PID that indicates whether the PCM is reducing torque (TQ_CNTL) (#095E b0), and if so, why the torque is being reduced (#095Eb1-13) (0 equals No torque reduction requested; 1 equals Torque Truncation. Cuts fuel to protect when the line pressure falls to a minimum limit; 2 equals Traction Control Event. Cuts fuel/spark for traction control; 3 equals Vehicle Speed Limit. Cuts fuel). — Customer driving habits — Correct PCM vehicle identification (VID) block information. REFER to Diagnostic Methods, Flash Electrically Erasable Programmable Read Only Memory (EEPROM). — IMRC linkage (if equipped) — Clutch (M/T) — Charging system — Engine RPM/speed	Visual. REFER to applicable ALLDATA System/Component.

(Continued)

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
limiting functions of the PCM (look for incorrect high vehicle speed signal from ABS, VSS, or OSS)	

Chart 9

— Spark Knock

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Verify the engine operates at normal temperature	Visual. REFER to Engine Cooling or the Symptom Index to diagnose any cooling system concerns that are present.
Verify correct coolant level and coolant concentration	REFER to Engine Cooling for proper coolant concentrations and fill procedures.
Mass Air Flow (MAF) Sensor	GO to **DC26**.
Base Engine	REFER to Engine.
Fuel Delivery System	GO to Pinpoint Test HC.
Secondary Ignition System	GO to Pinpoint Test JB.
PCV System	GO to Pinpoint Test HG.
Engine Oil Quality	Visual
Additional Testing	GO to Pinpoint Test Z.

Chart 10

— Poor Fuel Economy

Note: Since driving styles can have a significant influence on fuel economy, verify the concern before starting an in-depth diagnosis. Also, the following external factors could contribute to poor fuel economy conditions:

Step 3: No DTCs Present Symptom Charts

- Stop and go driving
- Improper tire pressure and size
- Vehicle loads (such as trailer towing)
- Extended winter warm-up conditions
- High speed driving
- Improper axle ratio
- Road/weather conditions
- Aftermarket add-ons
- Short run operations
- Customer expectations

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Transmission Fluid Level	Visual
Check the following PIDs: — DPFEGR (if equipped) (hot idle value within 0.15 volt of KOEO value) — LONGFT1/LONGFT2 (value between -20 and +20%) — VPWR (value between 10.5 and 17.0 volts, and within 0.5 volt of battery voltage)	**DPFEGR PID value not within 0.15 volt of KOEO value:** • **For vehicles equipped with ESM EGR:** GO to **HH27.** • **All others:** GO to **HE57.** **LONGFT1/LONGFT2 value low (-):** Continue diagnosis. Concentrate checks in areas that would cause the engine to run rich. **LONGFT1/LONGFT2 value high (+):** Continue diagnosis. Concentrate checks in areas that would cause the engine to run lean. **VPWR not between 10.5 and 17.0 volts:** REFER to Battery and Charging System. **VPWR between 10.5 and 17.0 volts, but not within 0.5 volt of battery voltage:** CHECK the B+ supply to the PCM power relay. CHECK the VPWR circuit between the PCM and the PCM power relay. CHECK PWR GND circuits.
Verify the engine operates at normal temperature.	Visual. REFER to Engine Cooling or the Symptom Index, to diagnose any cooling system concerns that are present.
Secondary Ignition System	GO to Pinpoint Test JB.
Fuel System	GO to Pinpoint Test HC.
Exhaust System	GO to **HF8.**
Automatic Transmission	REFER to Automatic Transmission/Transaxle.
PCV System	GO to Pinpoint Test HG.
Additional Checks: — Correct PCM vehicle identification (VID) block information. Refer to Diagnostic Methods, Flash Electrically Erasable Programmable Read Only Memory (EEPROM). — Brake drag — Base engine concerns — Incorrect PCV valve — Contaminated MAF sensor — Intake air system	REFER to applicable ALLDATA System/Component.
Additional Testing	GO to Pinpoint Test Z.

Step 3, Chart 10

Step 3: No DTCs Present Symptom Charts

Chart 11

— Emissions Compliance

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Emissions Related Systems	GO to Pinpoint Test EM.

Chart 12

— Warning Indicators: PTO, MIL, TCIL, Temperature Warning Indicator Lamp or Gauge (applications with CHT sensor only), Check Fuel Cap Indicator Lamp, ETC Indicator Lamp

— PTO not working correctly

Note:

— If the symptom is both a MIL on and exhaust emission test failure, GO directly to Chart 11.

— If the engine is a no start, GO directly to Chart 3.

— If the engine runs rough at idle, GO directly to Chart 1.

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Verify the fuel filler cap is properly tightened.	Visual
Trucks with power take off (PTO) and MIL concern: PTO input to the PCM	**E-Series and F-Series:** GO to Pinpoint Test FB.
PTO Indicator never on, always on: PTO circuits	**E-Series and F-Series:** GO to **FB6**.
PTO not working correctly: PTO operation	**E-Series and F-Series:** GO to Pinpoint Test FB.
MIL always on when the engine is running (no DTCs): MIL circuits	**Crown Victoria/Grand Marquis, Explorer Sport Trac, and Ranger:** GO to Pinpoint Test NB. **All others:** REFER to Instrument Cluster.

(Continued)

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
TCIL always on when the engine is running (no DTCs): TCIL circuits	**Crown Victoria/Grand Marquis, Excursion, Explorer Sport Trac, E-Series, and Ranger:** GO to **TB7**. **All others:** REFER to Instrument Cluster.
MIL never on: (including the bulb check when the engine is first started): MIL circuits	**Crown Victoria/Grand Marquis, Explorer Sport Trac, and Ranger:** GO to **NB3**. **All others:** REFER to Instrument Cluster.
TCIL never on: TCIL circuits	**Crown Victoria/Grand Marquis, Excursion, Explorer Sport Trac, and Ranger:** GO to **TB9**. **All others:** REFER to Instrument Cluster.
Temperature warning indicator lamp or gauge concerns (applications with CHT sensor only): Engine cooling system or lamp circuits	**If engine is overheating:** REFER to Engine Cooling. Be aware that since a PCM DTC was not received, the PCM has not attempted to turn the lamp on. **If engine operates at normal temperature:** GO to **DL28**.
Check fuel cap indicator lamp always on or off: Check the fuel indicator lamp circuits	**Crown Victoria/Grand Marquis, Explorer Sport Trac, and Ranger:** Indicator Lamp Always On, GO to **HX44**. Indicator Lamp Always Off, GO to **HX45**. **All others:** REFER to Instrument Cluster.
ETC indicator lamp never/always on: ETC indicator lamp circuits	REFER to Instrument Cluster.
Additional Testing	GO to Pinpoint Test Z.

Chart 13

— Automatic Transmission (A/T) Shift Concerns: Upshift, Downshift, Engagement

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Transmission	REFER to Automatic Transmission/Transaxle.
Additional Tests	GO to Pinpoint Test Z.

Step 3: No DTCs Present Symptom Charts

Chart 14

— Instrumentation: Tachometer Inoperative, Speedometer/Odometer Inoperative, Boost Gauge indicates higher than normal boost (supercharger applications), Fuel Gauge Inoperative

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Tachometer inoperative: Applications with CTO circuit from the PCM	GO to Pinpoint Test JH.
Speedometer/odometer inoperative:	**Applications with manual shift-on-the-fly (MSOF) transfer case using a transfer case speed sensor (TCSS):** GO to **DP16**. **Applications with manual transmissions using a vehicle speed sensor (VSS):** GO to Pinpoint Test DP. **Applications with manual transmissions using an output shaft speed (OSS) sensor:** GO to Pinpoint Test TJ.
Boost gauge indicates higher than normal boost: Supercharger bypass control Intercooler system	**Supercharger bypass control:** GO to Pinpoint Test KJ. **Intercooler system:** GO to **KP8**.
Fuel gauge inoperative: Fuel gauge always indicates full or empty.	**For vehicles with hardwired fuel level indicator (FLI) circuit input to PCM (Crown Victoria/Grand Marquis, Explorer Sport Trac, Ranger):** GO to **HX37**. **All others:** REFER to Instrument Cluster.
Instrumentation	REFER to Instrument Cluster.

Chart 15

— Oil System Concerns: High Oil Consumption, Leaks

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
PCV System	GO to Pinpoint Test HG.
Base Engine	REFER to Engine.
Additional Checks — External leaks — Proper dipstick — Proper oil viscosity	Visual

Step 3: No DTCs Present Symptom Charts

Chart 16

— Cooling System Concerns: Electric Cooling Fan(s) Does Not Operate (Low, Medium, High or Variable speed)

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Electric Cooling Fan Components	**Crown Victoria/Grand Marquis, Five Hundred/Freestyle/Montego, LS, Thunderbird, and Town Car:** GO to **KN9.** **All others:** GO to **KF56.**
Cooling System	REFER to Engine Cooling.

Chart 17

— Cooling System Concerns: Electric Cooling Fan(s) Always Runs

Note: This chart is intended to only diagnose an electric cooling fan that always runs with a cool engine and the A/C and defroster off.

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Cooling fan circuits and ACPSW or ACP circuits	**Crown Victoria/Grand Marquis, Five Hundred/Freestyle/Montego, LS, Thunderbird, and Town Car:** VERIFY results of the Quick Test. Visually INSPECT the cooling fan for concerns. **Mustang 4.0L, Freestar/Monterey and Aviator:** GO to **KF56.** **All others:** GO to **KF55.**
Cooling System	REFER to Engine Cooling.

Chart 18

— Exhaust System Concerns: Visible Smoke

Note: Black smoke indicates a rich fuel mixture, blue smoke indicates burning oil, and white smoke indicates water in the combustion chamber.

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Base Engine	REFER to Engine.
Black smoke: Fuel Delivery System	GO to Pinpoint Test HC.
Black smoke: Ignition System	GO to Pinpoint Test JB.
Blue smoke: PCV System	REFER to Engine System - General Information for a description of the Oil Consumption Test.

Chart 19

— Fuel System Concerns: Odor, Engine Compartment

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
EVAP System	Visual.
Fuel System	Visual. GO to Pinpoint Test HC.

Chart 20

— Engine Noise (under hood)

Note: Attempt to identify the source of the noise. If the noise is from a source other than those listed below, refer to the Symptom Index (for noise such as spark knock) or the applicable ALLDATA System/Component.

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Snap noise that may be due to secondary ignition arcing: Secondary Ignition System	**Coil on plug ignition systems:** CHECK the condition of the spark plug boots. **All others:** GO to Pinpoint Test JB.

Step 3: No DTCs Present Symptom Charts

Chart 21

— Climate Control: Lack of cooling, A/C not functioning, A/C always on, or A/C compressor runs continuously

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
A/C System	**If sent here from the Workshop Manual with WACF PID indicating a fault (or YES):** GO to Diagnostic Trouble Code (DTC) Charts and Descriptions and follow the directions for KOEO DTC P0645. **All others:** REFER to Climate Control System - General Information.

Chart 22

— Exhaust System Concerns: Odor (Sulfur or Rotten Egg Smell)

Note: A slight sulfur smell may be normal. Catalysts with less than 8,000-16,000 kilometers (5,000-10,000 miles), new vehicle or replaced catalyst, are likely to have a sulfur smell due to the highly active state of new catalysts. Replacing the catalyst can actually make the symptom worse.

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Check for any driveability or exhaust smoke symptoms.	REFER to Step 2: No DTC(s) Present Symptom Chart Index for direction to repair other symptoms.
Fuel Delivery System	GO to Pinpoint Test HC.
Fuel Source	Talk with the customer. Since sulfur content can vary in different fuels, suggest trying a different fuel source.

Chart 23

— Starting Concerns: No Crank

Step 3: No DTCs Present Symptom Charts

SYSTEM/COMPONENT	REFERENCE (Pinpoint Test unless noted)
Add-on Anti-Theft Devices	Visual. CHECK with the customer.
Anti-Theft	REFER to Anti-Theft.
Base Engine (Starting System)	REFER to Engine.

Step 3, Chart 23