



Service Campaign T3G Dealer Best Practice

Date: November 03, 2021

Attn: Dealer Principal/General Manager/Service Manager/Parts Manager

Subject: Service Campaign T3G: THETA GDI ENGINE DTC P1326 - ENGINE INSPECTION / REPLACEMENT (TSB 21-01-066H)

Updates to This Document	Date
<ul style="list-style-type: none"> • Service Actions: Revised Flow Charts • Warranty Information: Updates to Op Codes & Increased Labor Op times • Warranty Information: Claim submission process • Click here to watch Claim Submission Process Training Video 	11/03/21

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Campaign Overview

Affected Vehicles

Hyundai has launched a Service Campaign for applicable vehicles with 2.0L Turbo and 2.4L GDI engines that may experience the Check Engine warning lamp illuminated with DTC P1326.

Applicable Vehicles:

- Certain 2011-2014 MY Sonata (YF) vehicles with 2.0L Turbo and 2.4L engines
- Certain 2015-2019 MY Sonata (LF) vehicles with 2.0L Turbo and 2.4L engines
- Certain 2013-2018 MY Santa Fe Sport (AN) vehicles with 2.0L Turbo and 2.4L engines
- Certain 2019 MY Santa Fe (TM) vehicles with 2.0L Turbo and 2.4L engines
- Certain 2014-2015 MY Tucson (LM) vehicles with 2.4L engines
- Certain 2018-2019 MY Tucson (TL) vehicles with 2.4L engines
- Certain 2019 MY Veloster N (JSN) vehicles with 2.0L Turbo engines

Hyundai is initiating this action to ensure the quality of its vehicles and the continued satisfaction of Hyundai customers.

Description

Applicable vehicles with 2.0L T-GDI and 2.4L GDI engines may experience the Check Engine warning lamp illuminated with DTC P1326 and/or engine may exhibit Abnormal Engine Noise or No Crank/No Start condition. Follow the procedure to inspect the vehicle and replace the engine or update the engine ECU software based on the inspection results.

PLEASE NOTE:

- If a customer alleges to have experienced a fire related concern with their vehicle, please have them contact Consumer Affairs at 1-800-633-5151.
- If during the engine diagnosis, there is evidence of a fire or other components are in need of replacement due to fire, please disclose all affected parts to Warranty Prior Approval (PA) as part of the engine PA review process.

Readiness Checklist

The following items should be completed prior to performing TSB work:

Training:

- Training requirements recommended for Level of Technician Certification and/or Completed Coursework to perform TSB work:
 - Minimum Certified Level Certification
 - Successful completion of the Engine Technology - Classroom (#SVCET28_208) or the Engine Tech vILT Final Exam - Web (#SVCDENGVILTEXTW20_865) Course
- Ensure the entire team completes the "Engine Support" training course on HLP.

Special Service Tools:

- Ensure your dealer has all necessary Special Service Tools to perform campaign (see TSB #21-01-067 or latest version).



Shop Requirements:

- Ensure your dealer's shop is configured properly to use SST bearing clearance tester (bearing tool).
- Confirm the following pressures meet requirements. The correct ranges for VC/AP air pressures are also indicated with red/blue decals on the gauges:
- Shop air supply: 0.36MPa (50psi) minimum
 - AP: 0.1 ~ 0.11 MPa
 - VC: -73 ~ -83Kpa
- Bearing Tool SST Power Check
 - Supply 12 volts (or an alternate external AC/DC 13.8 volt power supply with at least ~2 amp output to the power cable connected to the bearing tool SST).

Warranty Information

Warranty Extension

The warranty for engine bearing wear or damage on the affected vehicles has been extended to a Limited Lifetime Warranty (Warranty Extension TXXI). The extension of the warranty will cover the short block assembly, consisting of the engine block, crankshaft and bearings, connecting rods and bearings, and pistons, in vehicles owned by individual consumers that have:

- Completed the Knock Sensor Detection System Software update AND
- The vehicle's Check Engine warning lamp is illuminated with DTC P1326 (Campaign T3G) OR
- The vehicle is experiencing an engine concern related to connecting rod bearing wear or damage.

Before Proceeding with T3G

Make sure to confirm diagnosis meets warranty eligibility requirements before proceeding with any repairs. If a vehicle is brought in for an engine condition unrelated to T3G (e.g. oil consumption), please follow the proper engine diagnosis procedures, and refer to standard warranty policies and procedures.

Prior Approval (PA)

If during the engine diagnosis or repair process, there is evidence of a fire or other components are in need of replacement due to fire, please disclose all affected parts to PA as part of the engine PA review process and await further direction prior to proceeding with repairs.

PA Approval is required for any engine replacement.

Use STUI on the GDS to take and submit pictures and videos as required while following the steps outlined in the T3G TSB.

The following documentation will be required as outlined in the T3G TSB:



Prior Approval Submission Documentation:

- ❖ Refer to chart below for items needed for submissions based on condition.

	No Oil On Dipstick w/ Drained Engine Oil Measured Less Than 1.5 Quarts	External Damage or Cannot Rotate Crankshaft @94lb-ft	Bearing Clearance Test (BCT) "No Pass"	Bearing Clearance Test "Pass" with Engine Knocking Concern	Bearing Clearance Test "No BCT" Result w/ Additional Steps
Repair Order	✓	✓	✓	✓	✓
Engine Diagnosis Worksheet	✓	✓	✓	✓	✓
Towing Invoice	<i>If Applicable</i>	<i>If Available</i>	<i>If Available</i>	<i>If Applicable</i>	<i>If Applicable</i>
GDS DTC Freeze Frame Screen Print	✓	✓	✓	✓	✓
One Bearing Test Result Uploaded	N/A	N/A	✓	✓	✓
BCT Calibration Photo	N/A	N/A	✓	✓	✓
Photo of Oil Dipstick	✓	✓	✓	✓	✓
Photo of Oil Cap	✓	✓	✓	✓	✓
Photo of Oil Fill Hole	✓	✓	✓	✓	✓
Photo of Oil Drain Measurement	✓	<i>If No External Damage and No Oil On Dipstick</i>	<i>If No Oil On Dipstick</i>	<i>If No Oil On Dipstick</i>	<i>If No Oil On Dipstick</i>
Crank Rotation Video	N/A	<i>If Crankshaft Cannot Rotate</i>	N/A	N/A	N/A
Engine Noise Video	N/A	N/A	N/A	✓	N/A
Photo of Cylinder Block Damage	N/A	<i>If Applicable</i>	N/A	N/A	N/A
"No BCT" Error Code	N/A	N/A	N/A	N/A	✓
STUI Video of Skipped Cylinder Test	N/A	N/A	N/A	N/A	Per "No BCT" Result → AP/VC or Compression measurement
Copy of Maintenance Records	<i>If Requested by PA</i>	<i>If Requested by PA</i>	<i>If Requested by PA</i>	<i>If Requested by PA</i>	<i>If Requested by PA</i>
Photo of Valvetrain	<i>If Requested by PA</i>	<i>If Requested by PA</i>	<i>If Requested by PA</i>	<i>If Requested by PA</i>	<i>If Requested by PA</i>
Photo of Accident Damage	<i>If Applicable</i>	<i>If Applicable</i>	<i>If Applicable</i>	<i>If Applicable</i>	<i>If Applicable</i>

Proper Photos / Videos:

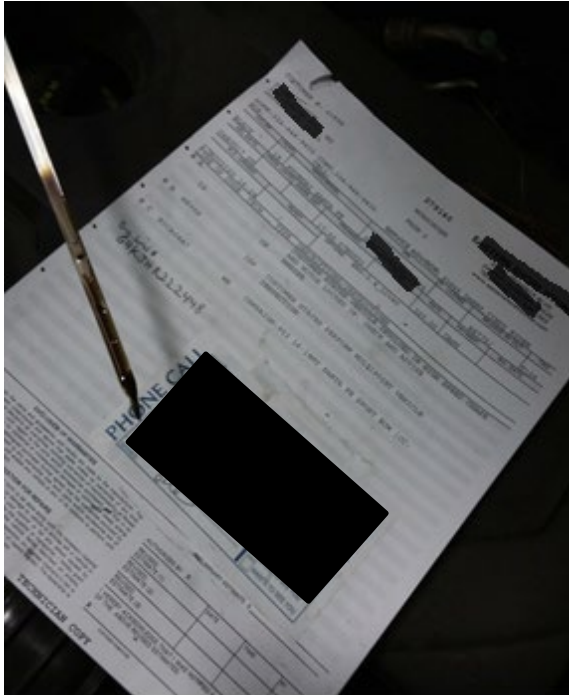
- ❖ VIN in view when photo is taken of the item in question. (**Windshield or doorjamb VIN Plate**)
 - **Exception:** For oil Measurement photo, a Repair Order in photo will suffice.
- ❖ Photo taken with clear focus, showing the item being presented.
- ❖ BCT Connection Calibration Test - show connections and gauges clearly (up to two photos)
Crank Rotation Video, Engine Noise Video, Skipped Cylinder AP/VC checking, or Skipped



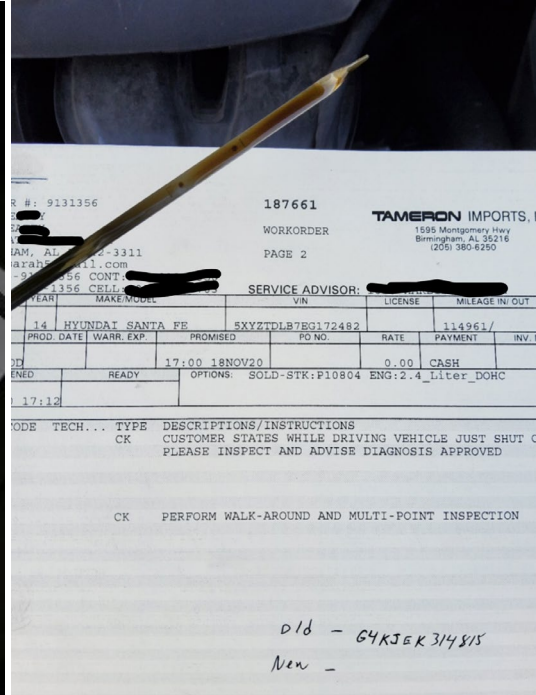
PA Submission Examples

The following are good and bad examples of pictures and video PA documentation submissions

Good Dipstick Photo (see below)



Example 1



Example 2

Bad Dipstick Photo (see below)





Good Oil Drain Photo (see below)



Bad Oil Drain Photo (see below)





Good Oil Cap and Valvetrain Photos (see below)

<p>Oil filler cap: Clear view of cap underside</p>	<p>Oil filler opening: Clear view inside opening.</p>

When submitting a picture of the oil cap, please include it with a picture of the repair order showing the last 6 digits of the VIN as seen below

<p>HYUNDAI MOTOR AMERICA</p>			<p>R/O Open Date: 11/05/20 R/O Number: 27877/1</p>		
			<p>R/O Close Date: 11/06/20 Status: Reprint</p>		
<p>SERVICE DEPARTMENT HOURS 7:30 a.m. to 6:00 p.m. Monday - Friday 8:00 a.m. to 4:00 p.m. Saturday</p>			<p>Mileage In: 1879 Mileage Out: 1880</p>		
<p>Work Phone: _____ Home Phone: 657-265-3316</p>			<p>Service Advisor / Tag #: _____ Vehicle Identification Number: KMHSA123456789871</p>		
Year: 2020	Make: HYUNDAI	Model: SANTA FE HEV	Body: _____	Color: GRAY	License Number: _____
<p>AMOUNT</p>					
<p>Customer Concern: #1 - Check Engine Light is on</p>			<p>AMOUNT</p>		
<p>Oil filler cap: Clear view of cap underside</p>			<p>Oil filler opening: Clear view inside opening.</p>		
<p><small>TERMS: STRICTLY CASH UNLESS ARRANGEMENTS ARE MADE. I hereby authorize the repair work hereinafter to be done along with the necessary material and agree that you are not responsible for loss or damage to vehicles or articles left in the vehicle in case of fire, theft, or any other cause beyond your control or for any delays caused by unavailability of parts or delays in parts shipments by the supplier or transporter. I hereby grant you or your employees permission to operate the vehicle herein described on streets, highways, or elsewhere for the purpose of testing and/or inspection. An express merchant's lien is hereby acknowledged on above vehicle to secure the amount of repair fees.</small></p>			<p>LABOR: _____</p> <p>PARTS: _____ .00</p> <p>DEDUCTIBLE: _____ .00</p> <p>SURLET: _____ .00</p> <p>SHOP SUPPLIES: _____ .00</p> <p>HAZARDOUS MATERIALS: _____ .00</p> <p>SALES TAX OR TAX I.D.: _____</p> <p>SPECIAL ORDER DEPOSIT: _____</p> <p>DISCOUNTS: _____ .00</p> <p>TOTAL DUE: _____</p>		
<p><small>DISCLAIMER OF WARRANTIES: Any warranties on the products sold hereby are those made by the manufacturer. The seller hereby expressly disclaims all warranties, either express or implied, including any implied warranty of merchantability or fitness for a particular purpose, and the seller neither assumes nor authorizes any other person to assume for & any liability in connection with the sale of said products. Any limitations contained herein does not apply where prohibited by law.</small></p>			<p>NO RETURN ON ELECTRICAL OR SAFETY ITEMS OR SPECIAL ORDERS.</p> <p>X</p>		

Make sure the last 6 digits of the VIN are visible in your submission photo



Video Examples (click on link to watch)

- [Good Seized Engine Video 1](#)
- [Good Seized Engine video 2](#)
- [Bad Seized Engine Video 1](#)

Warranty Claim Submission

- Watch Claim Submission Training Video - <https://vimeo.com/642066125/1aec30b26a>
- Refer to TSB #21-01-067H (or latest version) for Campaign T3G OP Codes
 - Note: OP Codes for engine replacement must only be used if engine replacement is deemed necessary by the service procedure in the T3G TSB.

New Updates

- **2 claims** can now be submitted for this campaign:
 - 1 for the inspection portion
 - 1 for engine replacement/knock sensor portion as needed
 - An Op Code TSB with tables will be available to help determine which Op Codes should be used (see examples below)
 - One table for inspection portion will be provided for ALL models
 - Multiple tables with op codes for engine replacement/knock sensor replacement will be provided based upon model, model years, drive train, SCC (smart cruise control) and non-SCC criteria

Inspection Op Codes

MY/MODEL/ENGINE	DESCRIPTION	OP CODE	OP TIME
ALL 11-18MY 2.0T and 2.4L	KSDS AND/OR P1326 CEL ON (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (NO) + OIL DRAIN ≥ 1.5QT (NO) + SUBMIT PA	10D191R0	0.3
	KSDS AND/OR P1326 CEL ON (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (NO) + OIL DRAIN ≥ 1.5QT (YES) + CRANK ROTATION (NO) + OIL DRAIN ≥ 1.5QT (YES) + CRANK ROTATION (NO) + OIL DIPSTICK (NO) + OIL DRAIN ≥ 1.5QT (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (NO) + OIL DRAIN ≥ 1.5QT (YES) + CRANK ROTATION (YES) + BCT RESULT (NO PASS)	10D191R1	1.7
	KSDS AND/OR P1326 CEL ON (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (NO) + OIL DRAIN ≥ 1.5QT (YES) + CRANK ROTATION (YES) + BCT RESULT (NO PASS)	10D191R2	1.4
	KSDS AND/OR P1326 CEL ON (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (NO) + OIL DRAIN ≥ 1.5QT (YES) + CRANK ROTATION (NO) + OIL DIPSTICK (NO) + OIL DRAIN ≥ 1.5QT (YES) + CRANK ROTATION (YES) + BCT RESULT (PASS)	10D191R3	1.1
	KSDS AND/OR P1326 CEL ON (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (NO) + OIL DRAIN ≥ 1.5QT (YES) + CRANK ROTATION (YES) + BCT RESULT (NO BCT)	10D191R4	1.7
	KSDS AND/OR P1326 CEL ON (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (YES) + CRANK ROTATION (YES) + BCT RESULT (NO PASS)	10D191R5	1.1
	KSDS AND/OR P1326 CEL ON (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (YES) + CRANK ROTATION (YES) + BCT RESULT (PASS)	10D191R6	0.8
	KSDS AND/OR P1326 CEL ON (YES) + EXTERNAL DAMAGE (NO) + OIL DIPSTICK (YES) + CRANK ROTATION (YES) + BCT RESULT (NO BCT)	10D191R7	1.4

Look for model and engine type

Make sure you choose the correct inspection procedure

2011-13 Sonata (YF) 2.0T, FWD, Non-SCC

DESCRIPTION	OP CODE	TIME	ENGINE	SVC KIT 1	SVC KIT 2	OIL COOLER PIPE	KNOCK SENSOR
REPLACE ENGINE (OE) + NEW ECM S/W AVAILABLE (NO)	10D192AA	5.8	211012GK60QDQ	211112GK60QDQ	211112GK70QDQ	257402G650QDQ	N/A
REPLACE ENGINE (REMAN) + NEW ECM S/W AVAILABLE (NO)	10D192AC	5.8	211012GK60QDHRM	211112GK60QDQ	211112GK70QDQ	257402G650QDQ	N/A
REPLACE ENGINE (OE) + NEW ECM S/W AVAILABLE (YES) + ECM UPDATE (YES)*	10D192AB	5.7	211012GK60QDQ	211112GK60QDQ	211112GK70QDQ	257402G650QDQ	N/A
REPLACE ENGINE (REMAN) + NEW ECM S/W AVAILABLE (YES) + ECM UPDATE (YES)*	10D192AD	5.7	211012GK60QDHRM	211112GK60QDQ	211112GK70QDQ	257402G650QDQ	N/A
ABNORMAL ENGINE NOISE (NO) + REPLACE KNOCK SENSOR + ECM UPDATE (NO)	10D192AE	N/A	N/A	N/A	N/A	N/A	392502G700
ABNORMAL ENGINE NOISE (YES) + REFER TO HTSS (YES)/SUBMIT PA + ECM UPDATE (NO)	10D192AF	6.3	N/A	N/A	N/A	N/A	N/A
ABNORMAL ENGINE NOISE (YES) + REFER TO HTSS (YES)/SUBMIT PA + ECM UPDATE (YES)*	10D192AG	6.3	N/A	N/A	N/A	N/A	N/A
ABNORMAL ENGINE NOISE (YES) + REFER TO HTSS (YES)/SUBMIT PA + REPLACE ENGINE (OE) + NEW ECM S/W AVAILABLE (NO)	10D192AH	6.4	211012GK60QDQ	211112GK60QDQ	211112GK70QDQ	257402G650QDQ	N/A
ABNORMAL ENGINE NOISE (YES) + REFER TO HTSS (YES)/SUBMIT PA + REPLACE ENGINE (REMAN) + NEW ECM S/W AVAILABLE (NO)	10D192AJ	6.4	211012GK60QDHRM	211112GK60QDQ	211112GK70QDQ	257402G650QDQ	N/A
ABNORMAL ENGINE NOISE (YES) + REFER TO HTSS (YES)/SUBMIT PA + REPLACE ENGINE (OE) + NEW ECM S/W AVAILABLE (YES) + ECM UPDATE (YES)*	10D192AI	6.3	211012GK60QDQ	211112GK60QDQ	211112GK70QDQ	257402G650QDQ	N/A
ABNORMAL ENGINE NOISE (YES) + REFER TO HTSS (YES)/SUBMIT PA + REPLACE ENGINE (REMAN) + NEW ECM S/W AVAILABLE (YES) + ECM UPDATE (YES)*	10D192AK	6.3	211012GK60QDHRM	211112GK60QDQ	211112GK70QDQ	257402G650QDQ	N/A

Look for model and engine type

Make sure you choose the correct description for the repair performed

*Please submit an additional campaign claim under service campaign 953 for performing software update



- For op codes with an asterisk (*), please submit a separate campaign claim under 953 for software update.
 - The Campaign 953 Engine ECM update is only required if new software is available. These particular op codes are identified in the tables below with an asterisk (*).
- For 2017MY Sonata engine replacement, please refer to page 1 of TSB # 21-01-067H (or latest version).
- **For 11-18MY vehicles: Submit claim(s) on Campaign Claim Entry Screen.**
- **For 19MY vehicles: Submit Claim (s) on Warranty Claim Entry Screen. Use Q75 for Nature code, ZZ1 for Cause Code.**
- Cutoff Dates are as follows:
 - For **RO open date prior to** 11/03/21, please use op codes under previous TSB # 20-01-024H-2. This TSB will be left available for the immediate future for claim reference.
 - For **RO open date on or after** 11/03/21, please use op code on this TSB # 21-01-067H.

Updated Labor Times

- Additional op time of 0.3 M/H has been added to applicable labor operations where a BCT Test has been completed & the result is 'NO PASS'.
- Additional op time of 0.6 M/H has been added to applicable labor operations where a BCT Test has been performed (but could not completed) and the result is 'NO BCT'.
- Additional op time of 0.6 M/H has been added to applicable labor operations where a BCT Test has been completed, the result is 'PASS', and Abnormal Engine Noise is heard (engine knocks).

What else you should know:

- If a **part is in need of replacement** and the failure is directly caused by Campaign T3G related engine failure, or if **additional labor** is required while performing Campaign T3G:
 - Submit one compiled separate claim using the same Repair Order number AND
 - Submit with 21101NTT using the engine Causal Part number associated with the T3G OP Code AND
 - Ensure part replacement and punch times are accurate and that they match the labor performed along with the service manager's signature approving the TT time.
 - For TT time best practices, refer to Hyundaidealer.com > Service Tab > Documents Library > Warranty > ATT-NTT Documentation and Claim Submission Guide
 - Note: If the part replacement does not require additional labor, follow the above steps and use the system minimum of .1 labor time with a quantity of 1.
- If a **part is found in need of replacement** while performing this campaign and the affected part (**failure not directly caused by Campaign T3G**) is still under warranty, submit a separate claim using the same Repair Order. If the affected part(s) are out of warranty, request a Prior Authorization # for goodwill consideration prior to completing the Campaign.

PLEASE NOTE: General engine replacement for conditions outside of those contained within the Campaign T3G TSB are not eligible for Warranty Extension TXXI .



Service Actions

***IMPORTANT Dealer Stock and Retail Vehicles ***

Dealers must perform Service Campaign T3G on all vehicles that return with DTC P1326



Reservation – Always check the Vehicle Information Screen in WebDCS for open campaigns and recalls, and advise the customer on time requirements. If there is an open recall 132 or 162, make sure to complete prior to

Determining if T3G is required.

- Make sure to check your appointment reservation settings and verify customer information. This will help reduce unplanned work and speed up the customer check in process.
- Make sure to review Blue Link alerts with DTC P1326 and reach out accordingly.
- Provide customer with transportation options such as SRC or alternative vehicle.



Readiness – Review this announcement and the accompanying FAQs with all Service and Parts staff including Reservationist/BDC. Also, complete all applicable training, check your reservation capacity settings (you can set separate capacities for every recall/campaign), confirm email addresses for campaign appointments, and that you have all necessary tools, campaign parts and shop equipment as needed.

- **Recommended Level of Technician Certification and/or Completed Coursework to perform TSB work:**
 - **Minimum Certified Level Certification**
 - **Successful completion of the Engine Technology - Classroom (#SVCET28_208) or the Engine Tech vILT Final Exam - Web (#SVCDENGVILTEXTW20_865) Course**
- Make sure to have necessary Special Service Tools to perform campaign (see latest TSB for more details).
- This campaign can possibly require additional repairs after initial inspection; make sure to prepare for unplanned work and maintain sufficient staff to keep vehicles moving through the shop.
- **Ensure the entire team completes the “Engine Support” training course on HLP.**



Reception – Always check the Vehicle Information Screen in WebDCS for open campaigns and recalls, and print a copy for technicians. **If there is an open recall 132 or 162, make sure to complete prior to determining if T3G is required.** Provide SRC or an alternative vehicle, as needed. If a customer has declined the campaign, note this on the repair order and request the customer’s signature next to the statement.

- It is important to explain to each customer during the reception step of the service process what happens if their vehicle requires additional repairs after the inspection process.
- Make sure to advise customers of potential vehicle down time and provide alternative transportation such as an SRC or 3rd party rental.
 - All customers that come in with P1326 or “Engine Protection Mode” should be provided an SRC or alternative 3rd Party Rental. **All SRC or Rental claims will be reimbursed regardless of PA’s decision to cover the engine replacement.**
- Do not charge diagnosis for vehicles that previously had campaign 953 performed and return to the dealership in “Engine Protection Mode” or with DTC P1326.

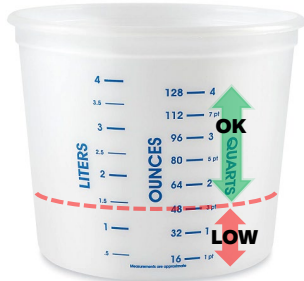


Repair – Always plug in the GDS before starting the repair. Make sure to complete an MPI on all vehicles and Quality Control your work. **If there is an open recall 132 or 162, make sure to complete prior to determining if T3G is required.**

- **Please review the TSB thoroughly as the service procedures have been updated.**
- **Please view service procedure flow chart in latest repair TSB.**
- **Make sure to check through GDS that the vehicle has the latest software installed.**
- Confirm the GDS-M has the latest software update prior to plugging it in to the vehicle.
- This campaign can possibly require additional repairs. Make sure to refer to the most current TSB for all necessary steps of the repair process and the **Service Procedure Flowchart**.
- Make sure to quality control work after repair is complete and confirm condition is resolved.
- Record the audio station presets (XM,AM,FM, etc) prior to disconnecting the battery.
- Clear DTC P1326 with engine **ON**. P1326 may reset if not cleared with the Engine **ON**.

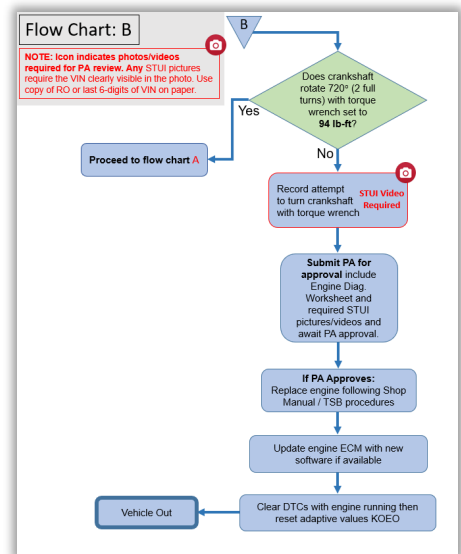
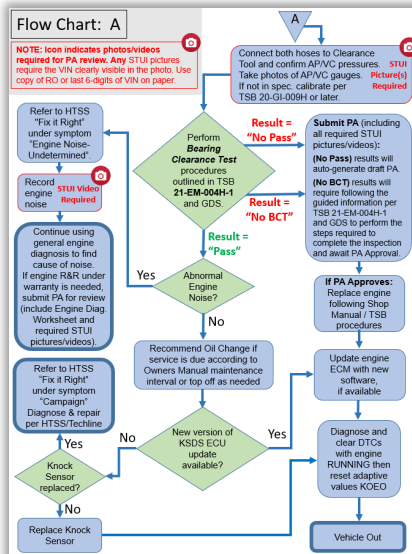
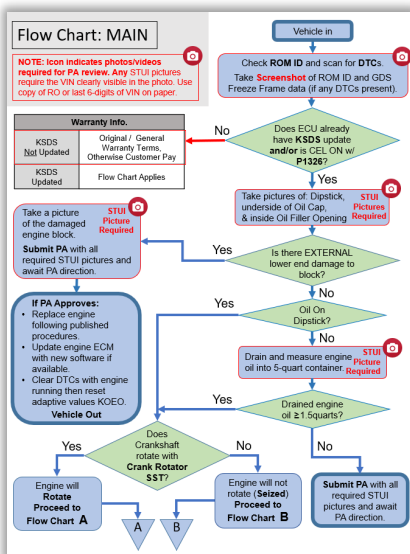


- If an engine replacement is required, PA may request dealers to perform additional steps before approving replacement. Dealers will be compensated for this additional time and such steps may include connecting the GDS to retrieve additional information from the vehicle.
- Use the **Service Process Results Worksheet** (reference latest repair TSB) as a guide to help diagnose the vehicle. This is not mandatory and should be used as a tool to assist.



Options / Tests / Procedures	Perform Procedures / Test Results /				
	11	12	13	14	15
Vehicle Model Year	16	17	18	19	20
Vehicle Model Type	SONATA		SANTA FE SPORT		
	TUCSON		VELOSTER N		
Vehicle Engine Size	2.4L		2.0T		
Smart Cruise Control (SCC)	Yes		No		
All Wheel Drive (AWD)	Yes		No		
ECU already has KSDS Update and/or CEL ON w/ P1326	Yes		No		
External Lower End Damage To the Block	Yes		No		
Oil On Dipstick	Yes		No		
No Oil Found On Dipstick: Oil Drain Procedure Required →			Drained Engine Oil at 1.5 Quarts (or higher)		
			Yes No		
Crank Rotation (w/ 94 lb-ft. or less)	Yes		No		
Bearing Clearance Test Performed	Yes	No			
Bearing Clearance Test Result	BCT PASS	BCT NO PASS	NO BCT		
Abnormal Engine Noise	Yes		No		
Knock Sensor Replaced (in this Repair Order)	Yes		No		
Replaced Engine (in this Repair Order)	Yes	NEW	REMAN		
ECM Newly Updated* (in this Repair Order)	Yes		No		
*Submit separate 953 campaign claim Referred to HTSS Diagnostics	Yes		No		

- Follow the **Service Procedure Flowchart** found in the latest TSB and update the Engine ECM if new version is available (Campaign 953).



- **Important: If a vehicle passes the bearing inspection test, but DTC P1326 comes back on after the code is cleared, contact Techline for further assistance on diagnosing the vehicle.**

REMINDER - PLEASE NOTE:

- If a customer alleges to have experienced a fire related concern with their vehicle, please have them contact 1-800-633-5151.
- If during the engine diagnosis, there is evidence of a fire or other components are in need of replacement due to fire, please disclose all affected parts to PA as part of the engine PA review process.



Return – Review all completed campaign and repairs to answer any customer questions. Also, schedule the customer's next service.



Hyundai
Assurance Car Care



- It's important to explain to each customer during the return step of the service process that the 953 Engine Improvement Campaign is still active and they should contact the dealership if any Check Engine Light is illuminated or Engine Protection Mode is activated.
- If a vehicle passes the bearing inspection test, ask your technician to print a copy of the results and present to the customer. Also, remember to inform the customer whose vehicle passed the bearing inspection test, that the vehicle has received the latest software update to monitor the health of their vehicle.



Reconnect – Follow up for customer satisfaction.



Service Process Results Worksheet: (Print copies of the form below in this page for multiple uses.)

6-Digit VIN:	Repair Order #:					
Options / Tests / Procedures		(Circle ALL Vehicle Options / Test Results / Performed Procedures That Apply)				
Vehicle Model Year	11	12	13	14	15	
	16	17	18	19		
Vehicle Model Type	SONATA		SANTA FE SPORT			
	TUCSON		VELOSTER N			
Vehicle Engine Size	2.4L		2.0T			
Smart Cruise Control (SCC)	Yes		No			
All Wheel Drive (AWD)	Yes		No			
ECU already has KSDS Update and/or CEL ON w/ P1326	Yes		No			
External Lower End Damage To the Block	Yes		No			
Oil On Dipstick	Yes		No			
No Oil Found On Dipstick: Oil Drain Procedure Required →			Drained Engine Oil at 1.5 Quarts (or higher)			
			Yes	No		
Crank Rotation (w/ 94 lb-ft. or less)	Yes		No			
Bearing Clearance Test Performed	Yes	No				
Bearing Clearance Test Result	BCT <u>PASS</u>		BCT <u>NO PASS</u>		<u>NO BCT</u>	
Abnormal Engine Noise	Yes		No			
Knock Sensor Replaced (in this Repair Order)	Yes		No			
Replaced Engine (in this Repair Order)	Yes	NEW		No		
		REMAN				
ECM Newly Updated* (in this Repair Order) *Submit separate 953 campaign claim	Yes		No			
Referred to HTSS Diagnostics	Yes		No			



Special Service Tools (SST)

Review the Special Service Tools required starting on page 1 of TSB 21-01-066H (or latest version).

- Engine Bearing Clearance Tester set (bearing tool)



- For Bearing Clearance Tester **software** related issues, contact GIT 1-888-437-0308
- For Bearing Clearance Tester **hardware** related issues, refer to HTSS: "Fix it Right" Under Symptom "SST – Other"
- **Bearing tool warranty:**
 - 12 month warranty (does not include damage or abuse)
 - If defective:
 1. Utilize published resources to determine part needed
 2. Order applicable part listed in the T3G TSB
 3. Submit the warranty claim in Sublet as follows:
 - Use the related T3G VIN (or recent T3G VIN) in the claim
 - Use the bearing tester tool replacement part as the Causal Part
 - Use the first 5 digits of the part plus "AZZ" as the Labor Op
 - Use X1 Sublet Code
 - Attach parts invoice
 - Claim will be paid at dealer cost, no part markup and no labor
 4. Follow standard Warranty Procedure for parts retention
 5. Return the replaced/defective part to the Warranty Technical Center (WTC) by following the WTC part callback request instructions
 6. Please note: If the part failure is determined to be caused by damage or abuse, the warranty claim is subject to chargeback







- Torque Wrench Socket
- Injector Combustion Seal Ring Installer (Only needed if engine replacement is required. Refer to TSB# 19-FL-001H for detailed usage instructions)
- 5 quart container






Individual Components of Engine Bearing Set

Please refer to TSB # 21-EM-004H-1 – Bearing Clearance Test Service Procedure for Bearing Clearance Test SST components.

TOOL NAME	PART NUMBER	FIGURE
Engine Bearing Clearance Tester (Main Body)	KQ231-2T100QQH	
Spark Plug Rod (Connection for Clearance Gauge)	KQ231-2T101QQH (M12 type) KQ231-2T107QQH (M14 type)	
Crankshaft Rotator Tool	KQ231-2T102QQH	
Clearance Gauge	KQ231-2T103QQH	
Power Supply Cable	KQ231-2T104QQH	
Test Hose (Air Hose for Clearance Gauge)	KQ231-2T105QQH	

NOTE: Normal Warranty Applies.

Optional Tool:

Part Name	Part Number / Figure	Note
17 mm 12-Point Metric Flank Drive® Reversible Ratcheting Box/ Speed Open-End Combination Wrench	(Snap-on) SRXRM17 	For unfastening torque converter bolts to separate engine/trans between bellhousing if engine cannot rotate.

Parts

Refer to TSB #21-01-066H (or latest version) for the parts required based on the vehicle inspection results.

NOTE: Use the Service Process Results Worksheet in the following page as a guide to determine the appropriate Part Number(s).

1. Order the required parts based on the vehicle inspection results outlined in the Service Procedure Flowchart. (Use the Service Process Results Worksheet found on page 4 of the latest TSB as a guide to determine the appropriate part numbers.)

2. Refer to TSB #21-01-067H (or latest version) for parts information.

Note: Make sure to reference HMA Warranty Policy prior to ordering a reman engine. A standard service engine or QQH engine is required in certain cases.

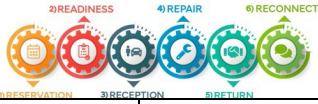


Key Contact Information

Key Contact Information		
Dealer Support	Contact Information	Description
Parts	HyundaiPartsHotline@MobisUSA.com 1-800-545-4515	Parts ordering hotline
Techline	1-800-325-6604	Vehicle Technical Support for Hyundai Dealer Technicians
Warranty HELPREP Line	1-877-446-2922	Warranty Claim questions for Hyundai Dealers
Warranty Prior Approval (PA) Center	PA@hmausa.com	Warranty Prior Approval (PA) Center for Hyundai Dealers
Xtime Technical Support	Support@xtime.com 1-866-984-6355	Assistance with Car Care Scheduling: <ul style="list-style-type: none"> Appointment / Shop Capacity Management / Campaign Integration / Operation Codes
AutoLoop Technical Support	Support@autoloop.com 1-877-850-2010	Assistance with Car Care Scheduling: <ul style="list-style-type: none"> Appointment / Shop Capacity Management / Campaign Integration / Operation Codes
CDK Technical Support	https://serviceconnect.support.cdk.com/	Assistance with Car Care Scheduling: <ul style="list-style-type: none"> Appointment / Shop Capacity Management / Campaign Integration / Operation Codes
Customer Support	Contact Information	Description
Hyundai Customer Care Center (Recall/Campaign Questions)	1-855-671-3059	Customer questions or concerns related to recall or service campaigns
Hyundai Recall / Campaign Website	www.hyundaiusa.com/recall	Updated information related to the specific recall or service campaign
Hyundai Customer Care Center (General Questions)	1-800-633-5151	Customers general questions, <u>non-campaign related</u>
Hyundai Roadside Assistance	1-800-243-7766	Hyundai Roadside Assistance
Key Reference Information		
Name	Source	
Campaign Central	Consolidated repository of recall and service campaign dealer best practices. Located on the service tab homepage in www.HyundaiDealer.com	
Car Care Scheduling (Xtime) - Tutorials	www.HyundaiDealer.com > Service > Dealer Resources > Documents Library > Car Care Scheduling	
Car Care Scheduling (Xtime) - Recall Appointment Notification	<ol style="list-style-type: none"> 1. Log into Xtime 2. Under the menu at the top left, select 'CONFIGURE' 3. Under the dealership tab, click "EMAIL COMMUNICATION" 4. Slide the toggle to "ADVANCED" 5. Populate as many e-mails as desired in the "PARTS DESK EMAIL FIELD" 	
Parts – Campaign Parts Management (CPM) Procedure	As applicable; www.HyundaiDealer.com > Parts > Documents Library > Campaign Parts Management	



Hyundai
Assurance Car Care



Service Rental Car (SRC) Program	<p>SRC Documentation: www.HyundaiDealer.com > Service tab > Documents Library > Service Rental Car</p> <p>TSD: www.HyundaiDealer.com > Service tab > SRC Fleet Mgmt Software</p> <p>Insurance: www.HyundaiDealer.com > Service tab > SRC Insurance</p>
Technical Service Bulletin (TSB)	www.HyundaiDealer.com > Service tab > Hyundai Tech Info
Uncompleted Campaign VIN Listing	<p>A listing of vehicles is located on WEBDCS> SERVICE tab> select UNCOMPLETED CAMPAIGN VIN LISTING</p> <p>– Dealer Stock (New, SRC, CPO, etc.) and Retailed.</p>
Recall Campaign Website	www.hyundaiusa.com/recall
NHTSAWebsite	www.safercar.gov



Appendix

Previous Updates To This Document	Date
<ul style="list-style-type: none"> Warranty Section: Revised procedures for consequential & additional time Warranty Section: Revised PA process and new PA document requirements checklist Service Section: Updates to the Service Procedure and Revised Service Procedure Flow Chart. Service Section: New OP Code reference chart for technicians to fill out (optional) 	12/18/20
<ul style="list-style-type: none"> Update: Updated to reference TSB #20-01-004H-2 that revises the Service Procedure, Parts and Warranty Information. 	11/12/20
<ul style="list-style-type: none"> Update: Added section to include process “Before Proceeding with T3G”, update to description, and update to reference TSB #20-01-004H-1 to revise the Parts and Warranty information which includes T3G OP Code/Part Number Reference TSB #20-01-024H 	6/3/20
<ul style="list-style-type: none"> Update: PA Approval is automatically created for OP Codes with engine replacement (No Pass Result). 	2/27/20
<ul style="list-style-type: none"> Update: References updated TSB #20-01-004H and revision to the Service Procedures 	2/18/20
<ul style="list-style-type: none"> Update: References updated TSB #19-01-006H-4 and add 19MY Sonata, Santa Fe, Tucson, and Veloster N 	10/28/19
<ul style="list-style-type: none"> Update <ul style="list-style-type: none"> References updated TSB #19-01-006H-3 and modifies the Service Procedure to update the Engine ECM. Additional ECM update added to the service procedure, see flowchart found on page 8 for service procedure flow of TSB #19-01-006H-3. 	10/3/19
<ul style="list-style-type: none"> Update: References updated TSB #19-01-006H-2 with added Service Actions and Parts Information 	04/22/19
<ul style="list-style-type: none"> Update: References updated TSB #19-01-006H-1 with added Service Actions and Parts Information 	04/03/19
<ul style="list-style-type: none"> Service Campaign T3G Launch 	02/15/19