



GROUP	MODEL
ENG	2020-2023MY Forte (BDm) w/1.6L T-GDI 6-Speed M/T
NUMBER	DATE
243	June 2023

## TECHNICAL SERVICE BULLETIN

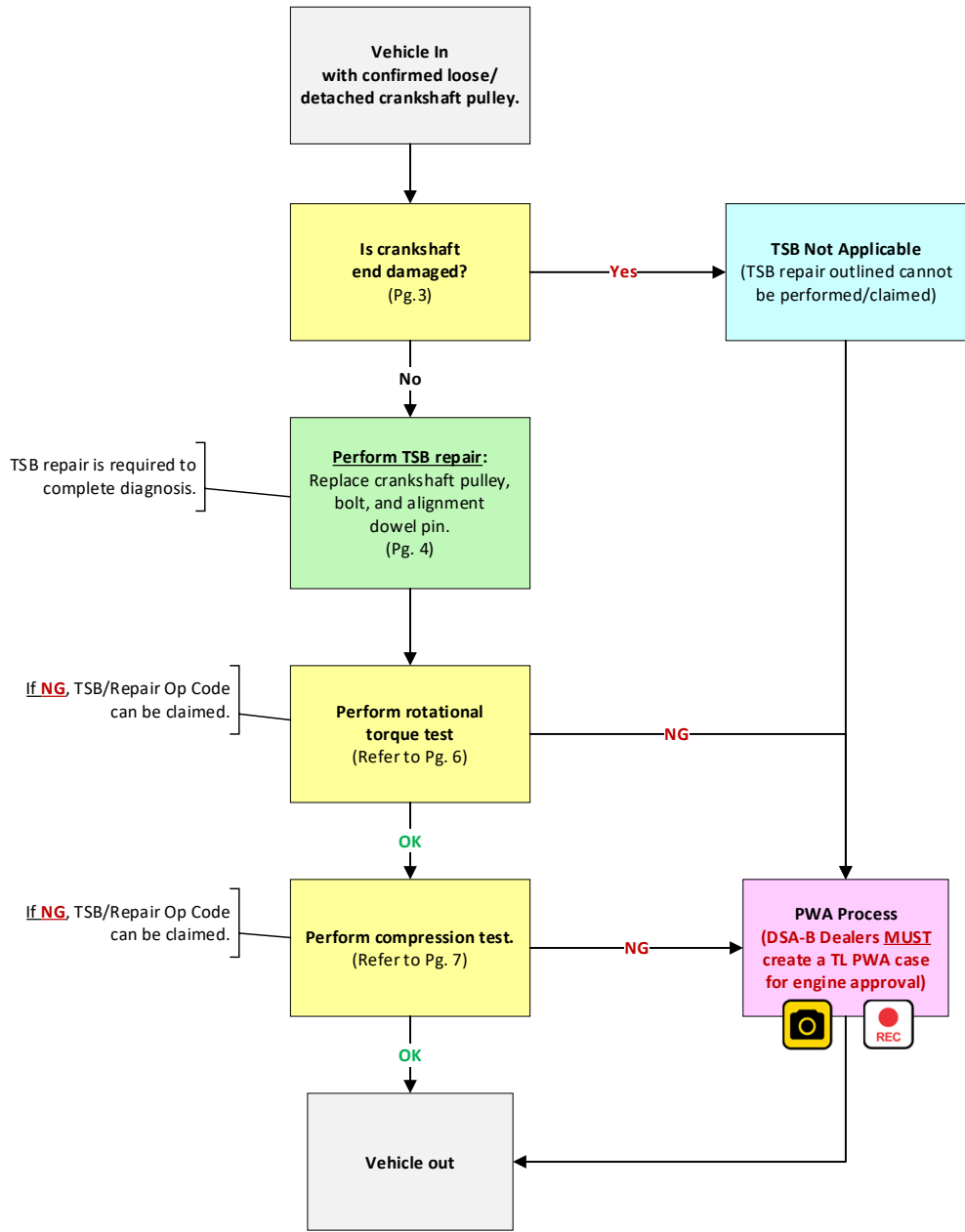
**SUBJECT: LOOSE CRANKSHAFT PULLEY PARTIAL REPAIR**

This bulletin provides information regarding a loose crankshaft pulley condition on certain 2020-2023MY Forte (BDm) vehicles equipped with a 1.6L T-GDI and 6-speed manual transmission, produced from May 15, 2019 through present, where excessive engine loads may cause the crankshaft pulley bolt to back out, causing the crankshaft pulley to come loose. If this condition occurs, a loose crankshaft pulley may cause the alignment dowel pin to shear and the crankshaft pulley to separate from the crankshaft. Follow the procedure outlined in this publication to replace the crankshaft pulley, bolt, and alignment dowel pin.



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**Flowchart:**



**NOTICE**

If crankshaft end damage is present, follow the flowchart above and open a PWA Techline case for engine replacement. In some cases, it is necessary to repair the vehicle as outlined in this TSB to determine if engine repair is required. Engine replacement is not covered under this TSB. Be prepared to provide photo(s) and video to Techline for PWA process in the event it is required.

To ensure customer satisfaction and warranty coverage, always remember to refer to KDealer+ Warranty Coverage (validation) Inquiry Screen (Service → Warranty Coverage → Warranty Coverage Inquiry) to confirm powertrain warranty coverage eligibility.

Printed TSB copy is for reference only; information may be updated at any time. Always refer to KGIS for the latest information.



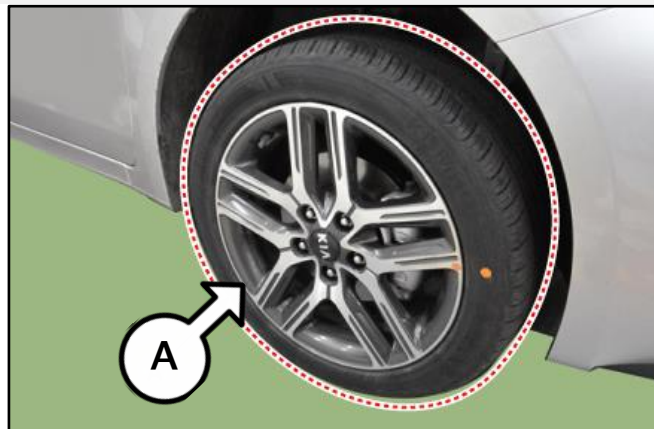
SUBJECT:

## LOOSE CRANKSHAFT PULLEY PARTIAL REPAIR

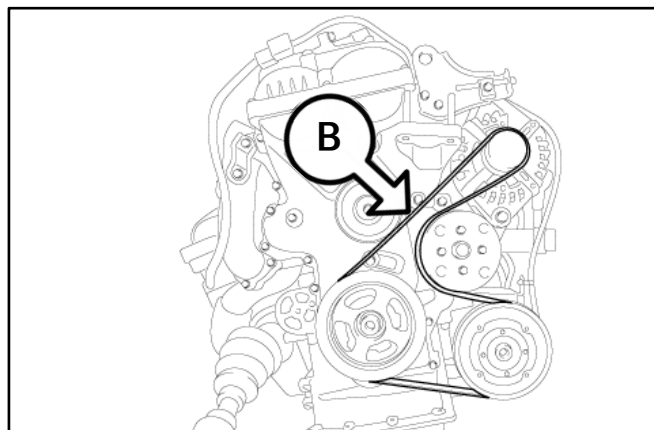
**Inspection Procedure:**

1. Remove the right front wheel (A).

**Note:** If the vehicle is in with a loose crankshaft pulley, it is possible that the drive belt came off. If the crankshaft pulley and belt are still attached, follow the steps below. Otherwise, skip to 4.



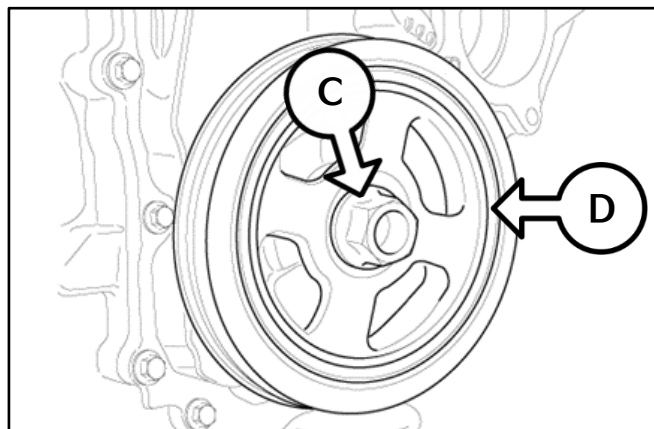
2. **If applicable:** Remove the drive belt (B) by referring to "Maintenance → Powertrain → Drive Belt → Repair procedures" in the applicable Shop Manual on KGIS.



3. **If applicable:** Remove crankshaft bolt (C) to remove the crankshaft pulley (D).



Tightening torque for Crankshaft Bolt (B):  
34.0 - 38.3 lb.ft (46.1 - 52.0 N.m) + 53°



4. Inspect the crankshaft end for damage (where the pulley and/or dowel pin cannot not be reinstalled:

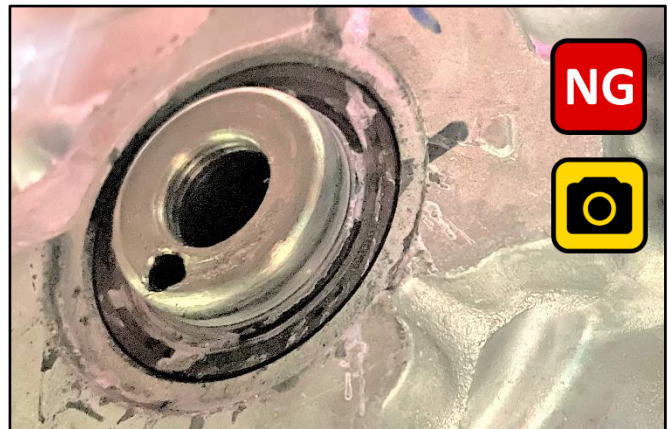
- If crankshaft end is not damaged (**OK**), proceed to the 'Repair Procedure' on page 4.
- If crankshaft end is damaged (**NG**), then the engine will require to be replaced. **DSA-B Dealers: MUST** create a Techline case (PWA) and include photos/video of the damage.



No damage to crankshaft end.



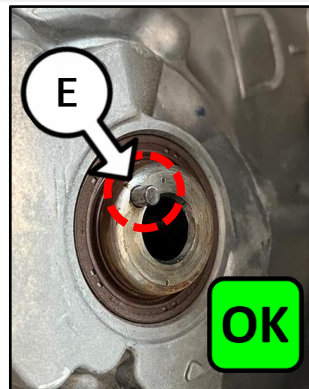
Damaged crankshaft end.



Damaged crankshaft end (dowel pin hole).

### Repair Procedure: (Dowel Pin)

1. Inspect the dowel alignment pin (E).
  - If dowel pin has not sheered off (**OK**), remove dowel pin and proceed to 'Installation Procedure'.
  - If dowel pin has sheered off (**NG**), proceed to step 2-3. The continue to 'Installation Procedure' on page 5.
2. Carefully drill a hole into the dowel pin, using a drill bit smaller than the dowel pin diameter.
3. Using a bolt extractor, carefully remove the broken dowel pin.

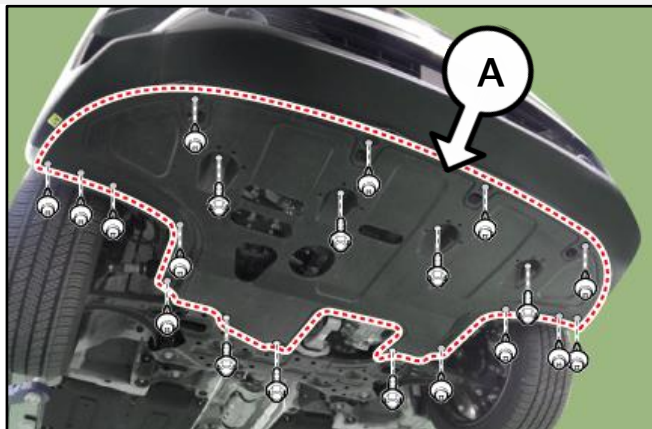


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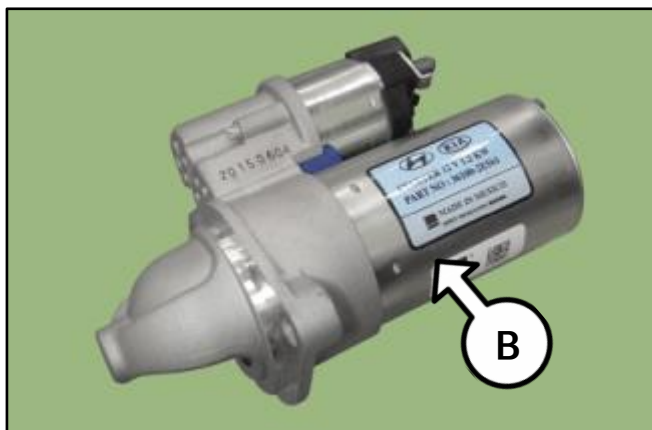
## LOOSE CRANKSHAFT PULLEY PARTIAL REPAIR

**Installation Procedure:** (Crank Pulley)

1. Remove the engine room under cover (A).

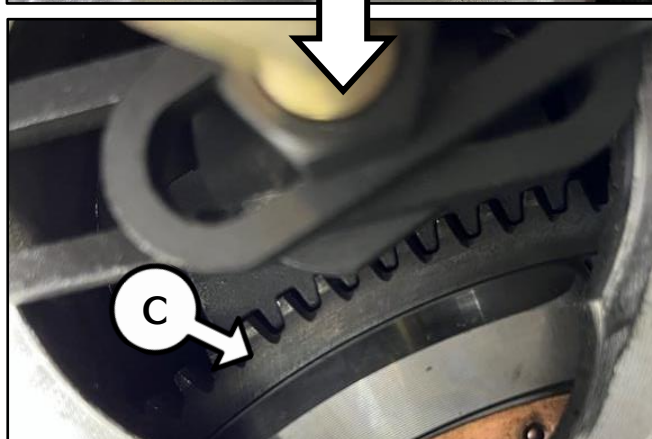
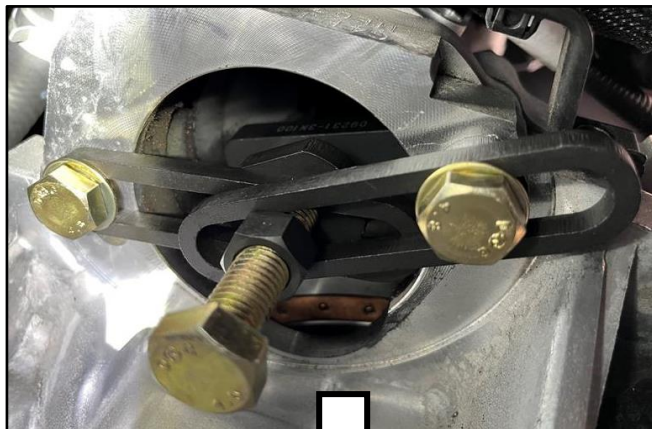


2. Remove the starter (B) by referring to "Engine Mechanical System → Starting System → Starter → Repair procedures" in the applicable Shop Manual on KGIS.



3. Install the SST ring gear stopper/adaptor to the flywheel (C), as shown.

- SST 09231 3N100
- SST 09321 2B100

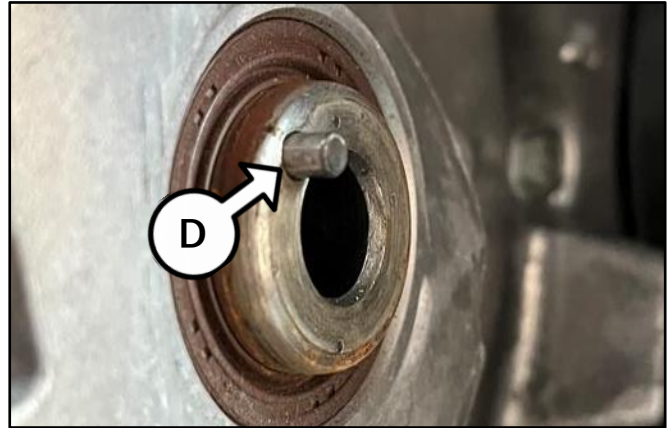
**TECH TIP**

SST 09231 3N100 and 09321 2B100 align with the flywheel teeth to ensure the flywheel does not move when torquing the crankshaft bolt.

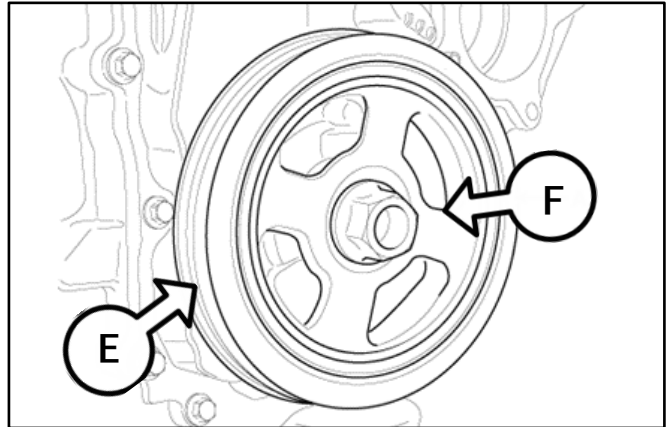
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4. Insert the new dowel pin (D) on the crankshaft end.



5. Install the new crankshaft pulley (E).



6. Install the new crankshaft bolt (F).

7. Reinstall all other removed parts in reverse order.

8. Perform engine rotational torque inspection using a torque wrench and set it to 94 ft. lb.

- If engine rotational torque is less than 94 ft. lb., (OK) proceed to step 9 to perform a compression test.
- If engine rotational torque is greater than 94 ft. lb., (NG), then the engine will require to be replaced. **DSA-B Dealers: MUST** create a Techline case (PWA) and include photos/video of the damage.



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9. Perform a compression test by referring to “Engine Mechanical System → Compression Test” in the applicable Shop Manual on KGIS.
  - If compression test results are within specification (**OK**), proceed to step 10.
  - If compression test results are not within specification (**NG**), then the engine will require to be replaced. DSA-B Dealers: MUST create a Techline case (PWA) and include photos/video of the damage.



**Note:** Reference [VID052](#) Tech Toolbox: Compression Test and [TBO18](#) Technician Basics: Cylinder Compression Test.

10. Reinstall all removed parts in reverse order.
11. Confirm normal vehicle operation.

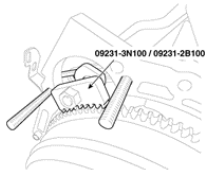
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## LOOSE CRANKSHAFT PULLEY PARTIAL REPAIR




## AFFECTED VEHICLE RANGE:

Model	Production Date Range
Forte (BD/BDm)	May 15, 2019 to Present

## REQUIRED TOOL:

Tool Name	Tool Part Number	Figure	Comments
Torque wrench	N/A		Locally Sourced
Torque Angle Meter			
Extractor			
Ring Gear Stopper Adapter	09231 3N100		For removal of Damper Pulley
Ring Gear Stopper	09231 2B100		

## REQUIRED PART:

Part Name	Part Number	Figure	Qty.
Damper Pulley	23123 2B720		1
Crankshaft Bolt	23127 2B700		
Dowel Pin	23128 2B000		

## WARRANTY INFORMATION:

N Code: I3T C Code: ZZ3

Claim Type	Causal P/N	Qty.	Repair Description	Labor Op Code	Op Time	Replacement P/N	Qty.
W	23123 2B720	1	Crankshaft Pulley + Crankshaft Bolt + Dowel Pin Replacement	23123F03	2.6 M/H	23127 2B700 <u>and</u> 23128 2B000	1

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