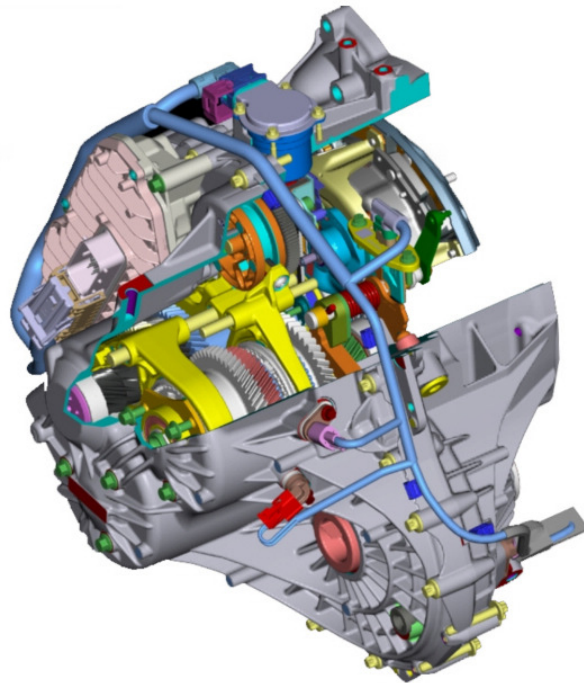


General Service Bulletin (GSB):	DPS6 Transmission and Dual Clutch Service
GSB Overview:	This Bulletin is a supplement to existing Workshop Manual (WSM) procedures for the DPS6 Transmission and Dual Clutch assembly.
NOTE: This information is not intended to replace or supersede any warranty, parts and service policy, Work Shop Manual (WSM) procedures or technical training or wiring diagram information.	

Ford Motor Company

# DPS6 Transmission and Dual Clutch Service



## **Purpose**

This bulletin is a supplement to the Online Workshop Manual procedures for removal, reset and installation of the DPS6 Transmission and Dual Clutch assembly. Outlined below are many of the distinct steps necessary to ensure an effective repair. The unique nature of the DPS6 Dual Clutch means that special care must be taken—and the prescribed Online Workshop Manual repair instructions must be followed—to eliminate costly comebacks and dissatisfied customers.

To help avoid repeat repairs, this bulletin has been designed with the demands of the technician in mind. Each topic covered in this bulletin includes 3 sections: “Concerns”, “Do’s and Don’ts” and “Pictures and Examples”.

- **Concerns**- Highlights areas of the clutch removal, reset or installation procedures in which special care must be taken.
- **Do’s and Don’ts**- Highlights the correct way, and the wrong way, in which an operation must be carried out.
- **Pictures and Examples**- Shows, in some instances, the correct method for performing a repair. At other times, the pictures demonstrate the type of clutch damage that can occur if the Workshop Manual steps are not followed.

Finally, this GSB is meant to be a guide in assisting you with the repair. It should only be used as a supplement and must not replace the Workshop Manual for any reason. With this in mind, the items listed below will help you to “Fix It Right The First Time”!

## **What’s New**

Version 2.0 – Added *Roll Restrictor Bolt Installation* section to address placement of bolts during transmission installation

Version 3.0 – Added *Flexplate-to-Clutch Indexing* section to highlight importance of proper clutch indexing

Added *Flexplate-to-Clutch Seating* sections (Parts 1-3) to address severe vibrations from improper seating of the clutch during transmission installation

Version 3.1 – Updated pictures in *Flexplate-to-Clutch Indexing* section (Part 3) to align with Workshop Manual

Version 3.2 – Updated pictures, directions and formatting in the *Flexplate-to-Clutch Seating* section (pgs 15-17), in order to align with the Workshop Manual and provide better clarity

## Contents

<u>Topic</u>	<u>Page Number</u>
<u>Clutch Removal</u>	
<b>Hollow Input Shaft Snap Ring</b> .....	4
<b>Clutch Lifting Legs</b> .....	5
<u>Clutch Reset</u>	
<b>Clutch 1 Reset</b> (Part 1) .....	6
<b>Clutch 1 Reset</b> (Part 2).....	7
<b>Clutch 2 Reset</b> (Part 1) .....	8
<b>Clutch 2 Reset</b> (Part 2).....	9
<b>Clutch 2 Locks</b> .....	10
<u>Clutch Installation</u>	
<b>Lubricant Application</b> .....	11
<b>Clutch 1 Hub Alignment</b> .....	12
<b>Clutch Lock Release</b> .....	13
<u>Transmission Installation</u>	
<b>Flexplate-to-Clutch Indexing</b> .....	14
<b>Flexplate-to-Clutch Seating</b> (Part 1).....	15
<b>Flexplate-to-Clutch Seating</b> (Part 2).....	16-17
<b>Roll Restrictor Bolt Installation</b> .....	18

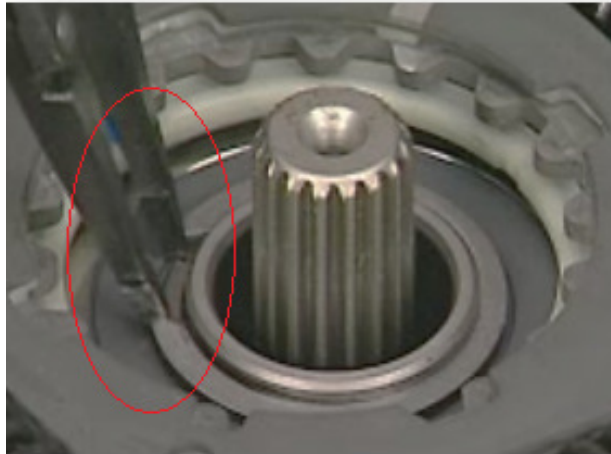
# Clutch Removal

## Topic: Hollow Input Shaft Snap Ring

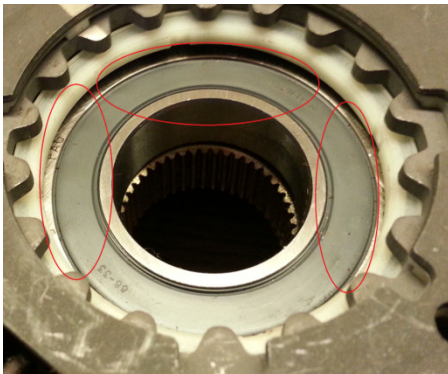
**Concern:** Incorrect hollow input shaft snap ring removal can damage the bearing seal and result in abnormal noises and vibrations in addition to premature clutch or input shaft failure.

- **Do:** Remove the snap ring using suitable snap ring pliers.
- **NOTE:** To prevent bearing seal damage, remove special tools 307-675/1 and 307-675/4 after pressing the clutch onto the hollow input shaft and before attempting snap ring removal
- **Don't:** Damage the bearing seal during snap ring removal.

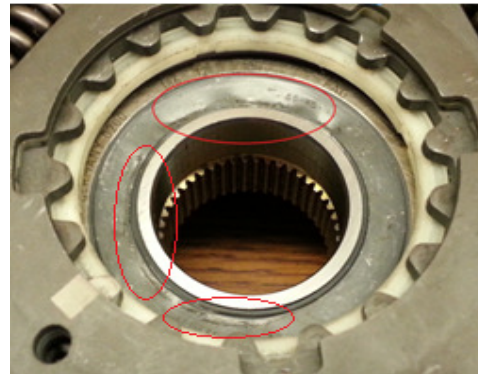
Ex: Correct snap ring removal



Ex: Intact bearing seal from proper snap ring removal



Ex: Bearing seal damage from improper snap ring removal



## Topic: Clutch Lifting Legs

**Concern:** Incorrect placement of the clutch lifting legs can result in damage to the clutch assembly.

- **Do:** Install clutch lifting legs on the studs adjacent to the “LUK” manufacturing stamps.
- **Don't:** Install clutch lifting legs on the studs that are not adjacent to the manufacturing stamps.

Ex: Correct lifting leg installation



Ex: Incorrect lifting leg installation



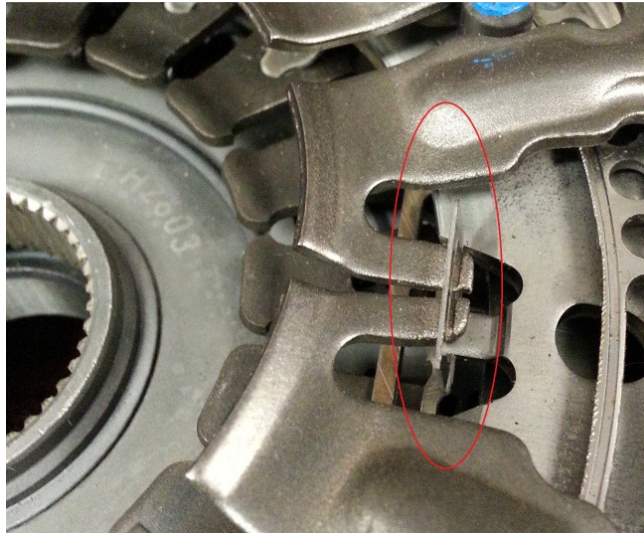
# Clutch Reset

## Topic: Clutch 1 Reset (Part 1)

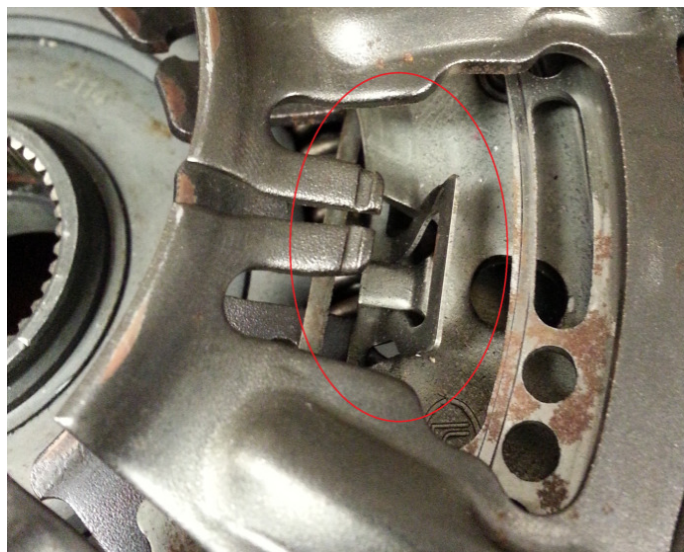
**Concern:** Factory-supplied clutch assemblies are shipped pre-set and locked. Attempting to reset a locked clutch assembly can damage the clutch spring fingers. You must ensure a clutch assembly is unlocked before attempting to reset.

- **Do:** Verify that all clutch locks are released before attempting reset.
- **Don't:** Attempt to reset a locked clutch.

Ex: Locked clutch 1 spring fingers



Ex: Unlocked clutch 1 fingers



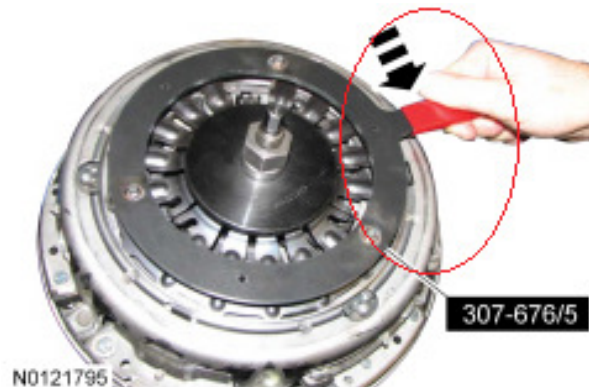
**Topic: Clutch 1 Reset (Part 2)**

**Concern:** Failure to move clutch 1 self-adjusters to their stops (rotated clockwise) can result in damage to the clutch.

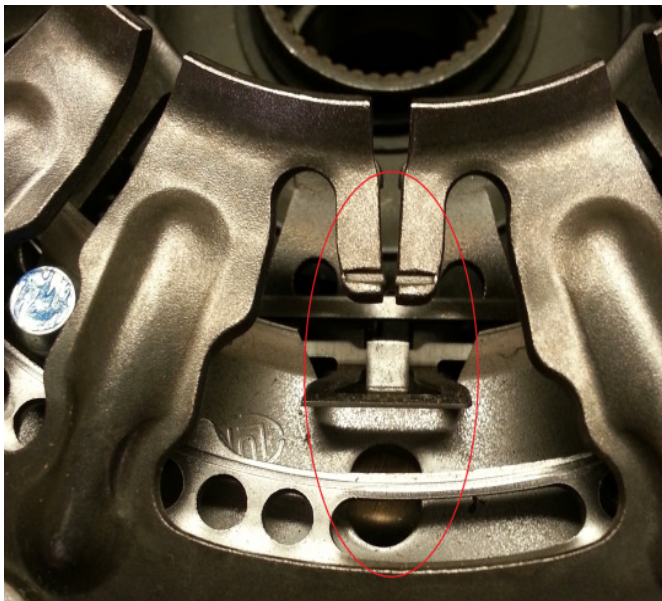
**NOTE:** The adjusters must be held at their stops while compressing clutch.

- **Do:** Follow the instructions listed in the online Workshop Manual to reset clutch 1.
- **Don't:** Attempt to tighten special tool 307-676/3 before moving the clutch 1 self-adjusters clockwise to their stops using special tool 307-676/5.

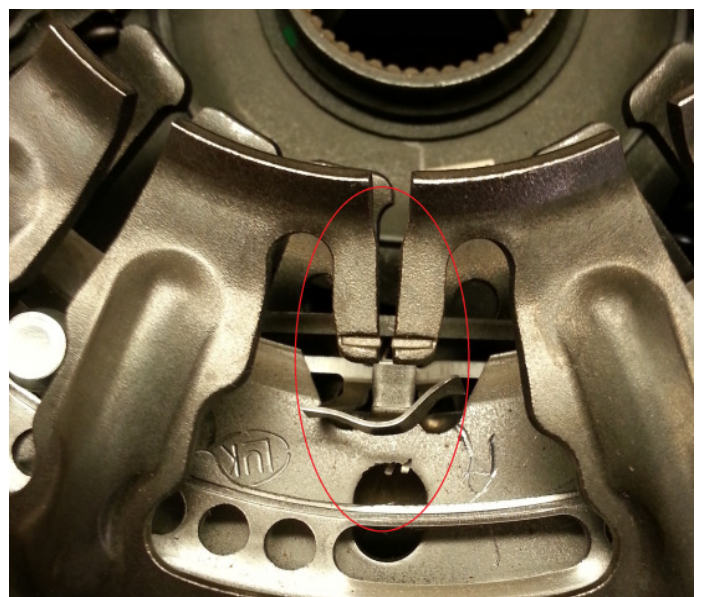
Ex: Proper resetting of clutch 1



Ex: Clutch 1 locks free from damage



Ex: Damaged clutch 1 lock caused by attempting to lock spring fingers before moving the self-adjusters



**Topic: Clutch 2 Reset (Part 1)**

**Concern:** Improper alignment of clutch 2 reset tool 307-676/2 can result in the release of the clutch 1 locks.

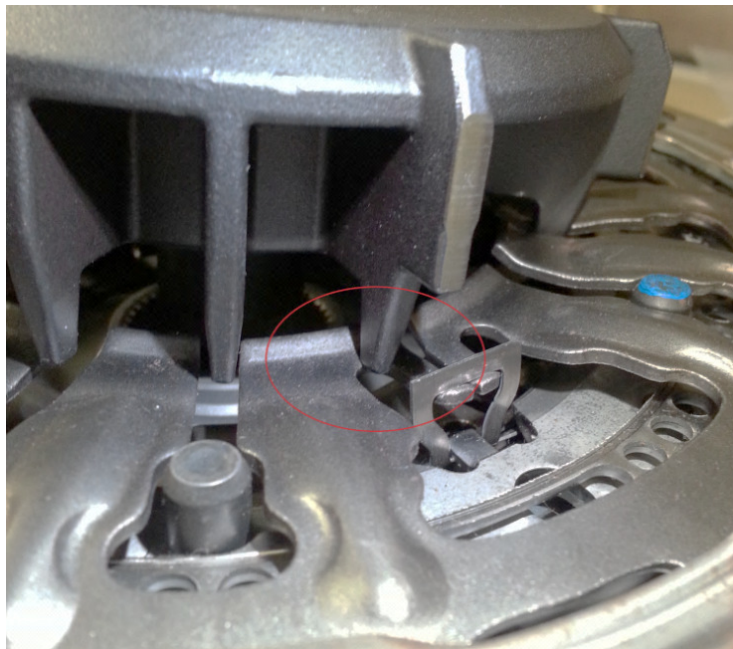
**NOTE:** New clutch assemblies are shipped pre-set and locked from the factory.

- **Do:** Properly align special tool 307-676/2 before attempting to compress clutch.
- **Don't:** Misalign special tool 307-676/2 or release of clutch 1 locks will occur.

Ex: Proper alignment of tool 307-676/2 (tool falls between clutch 1 spring fingers)



Ex: Improper alignment of tool 307-676/2 (tool rests on clutch 1 spring fingers)





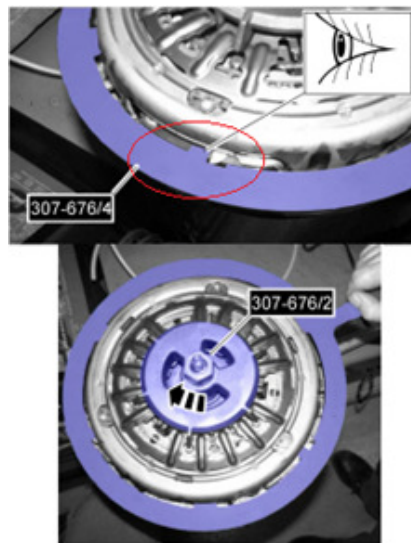
## Topic: Clutch 2 Reset (Part 2)

**Concern:** Failure to move clutch 2 self-adjusters to their stops (rotated counterclockwise) can result in damage to the clutch spring fingers.

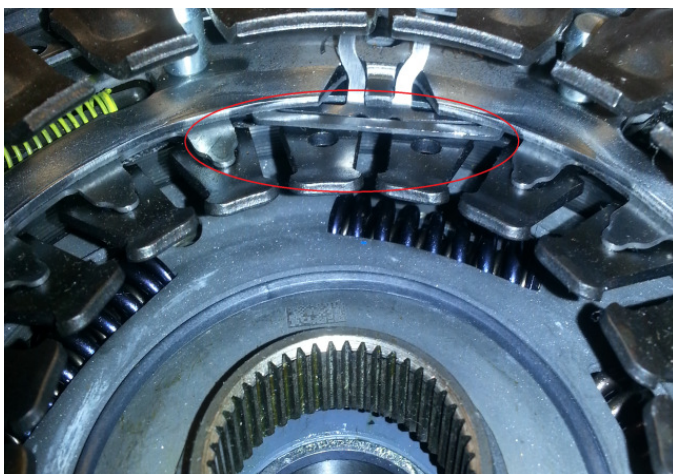
**NOTE:** The adjusters must be held at their stops while compressing clutch.

- **Do:** Follow the instructions listed in the online Workshop Manual to reset clutch 2.
- **Don't:** Attempt to tighten special tool 307-676/2 before moving the clutch self-adjusters counterclockwise to their stops using special tool 307-676/4.

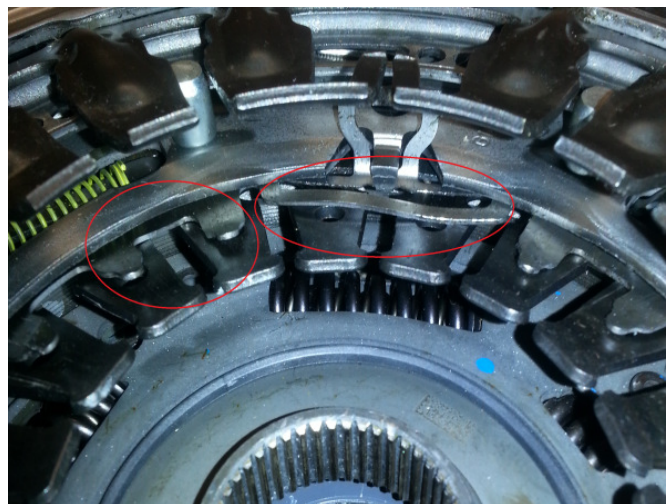
Ex: Proper resetting of clutch 2



Ex: Clutch 2 locks free from damage



Ex: Damage to locks caused by improper resetting of clutch 2



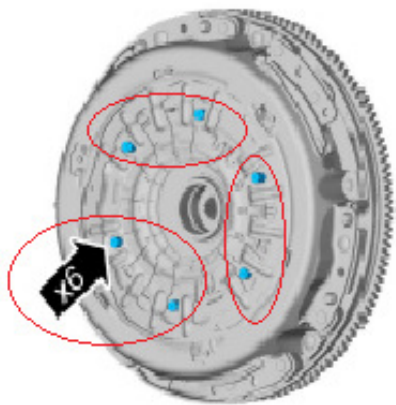
## Topic: Clutch 2 Locks

**Concern:** Failure to engage at least 6 of the clutch 2 locks can result in damage to the clutch or engagement system.

**NOTE:** Audible click noises will be heard as the locks engage the spring fingers.

- **Do:** Properly lock at least 6 of the clutch 2 locks. The 6 locks must align with the clutch studs (shown below).
- **Don't:** Attempt installation of the clutch with fewer than 6 clutch 2 locks engaged.

Ex: Properly locked clutch 2



Ex: Unlocked clutch 2



# Clutch Installation

## Topic: Lubricant Application

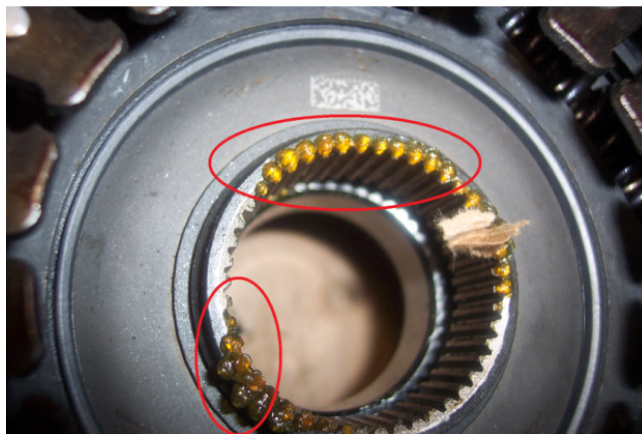
**Concern:** Application of grease in excess of approximately **1 gram** to the input shaft splines can result in excess transfer to, and contamination of, the clutch friction plates.

- **Do:** Remove old grease from input shaft splines. Evenly apply only **1 gram** (approx. 1/3 of packet) of the supplied grease.
- **Don't:** Apply grease on top of the old grease on the input shaft splines or directly on the clutch hub splines.

Ex: Normal minimal transfer of grease to the clutch splines from proper application to the input shafts



Ex: Excessive transfer of grease resulting from excessive or uneven application on input shafts

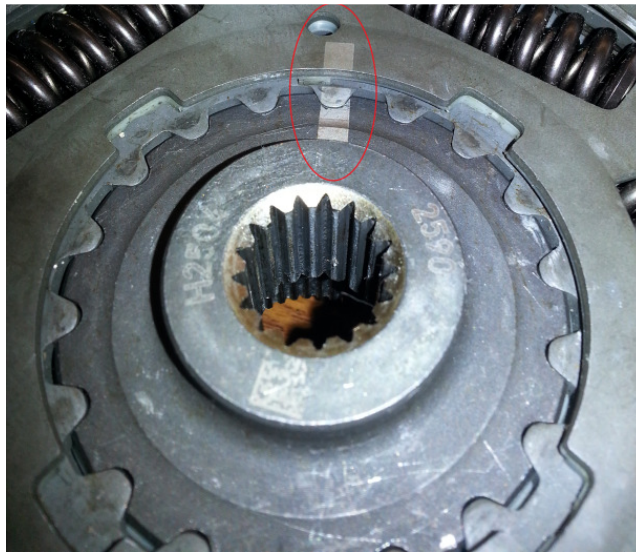


## Topic: Clutch 1 Hub Alignment

**Concern:** Incorrect alignment of the clutch 1 hub to the clutch 1 friction plate can result in an imbalance that is measured as a 1<sup>st</sup> order engine vibration.

- **Do:** Align the markings on the clutch 1 hub and clutch 1 friction plate during installation.  
**NOTE: The plastic tab in the snap ring groove should align with the balance marks.**
- **Don't:** Install the hub into the clutch without aligning the markings.

Ex: Properly aligned clutch 1 hub



Ex: Improperly aligned clutch 1 hub



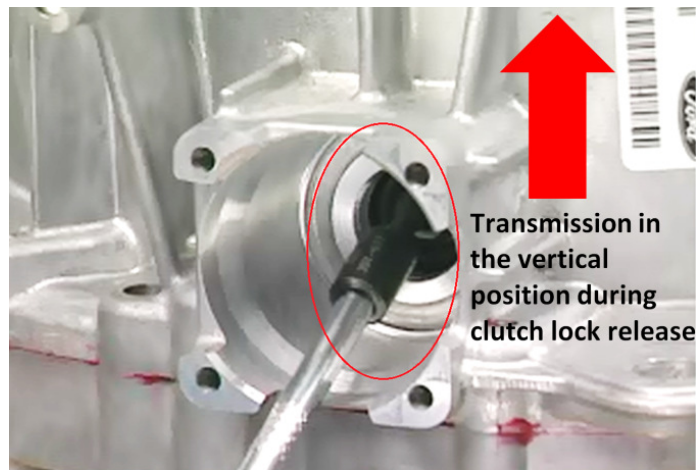
## Topic: Clutch Lock Release

**Concern:** Misalignment of the clutch engagement system Z-washers caused by moving the transmission to the horizontal position before releasing the clutch locks.

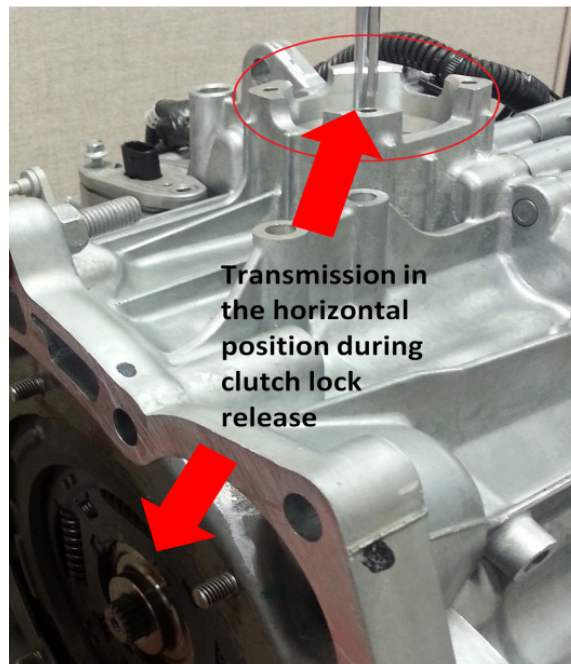
**NOTE:** Improper clutch lock release may result in failure of the clutch adaptive learn procedure and DTCs.

- **Do:** Release the clutch locks before moving the transmission from the vertical position.
- **Don't:** Move the transmission from the vertical position before releasing the clutch locks.

Ex: Proper release of clutch locks



Ex: Improper release of clutch locks



# Transmission Installation

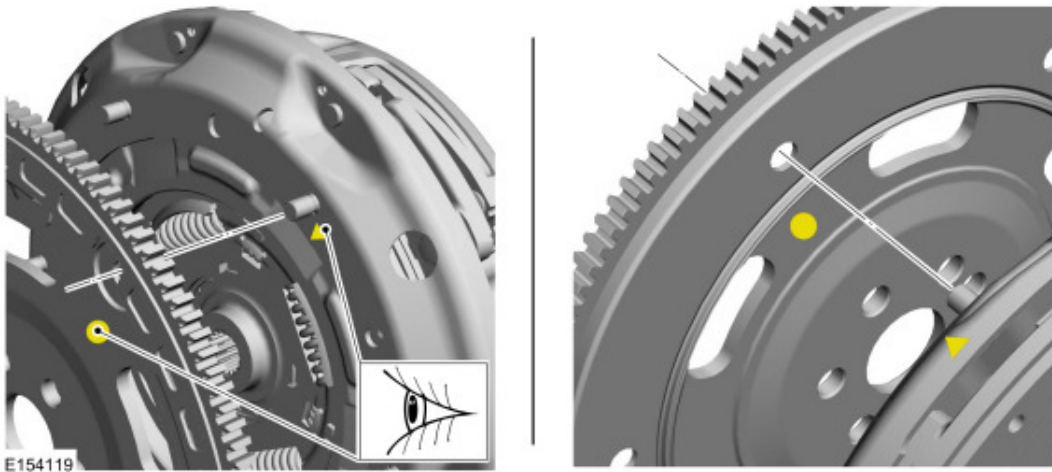
## Topic: Flexplate-to-Clutch Indexing

**Concern:** Severe powertrain vibration caused by improperly indexed flexplate and clutch.

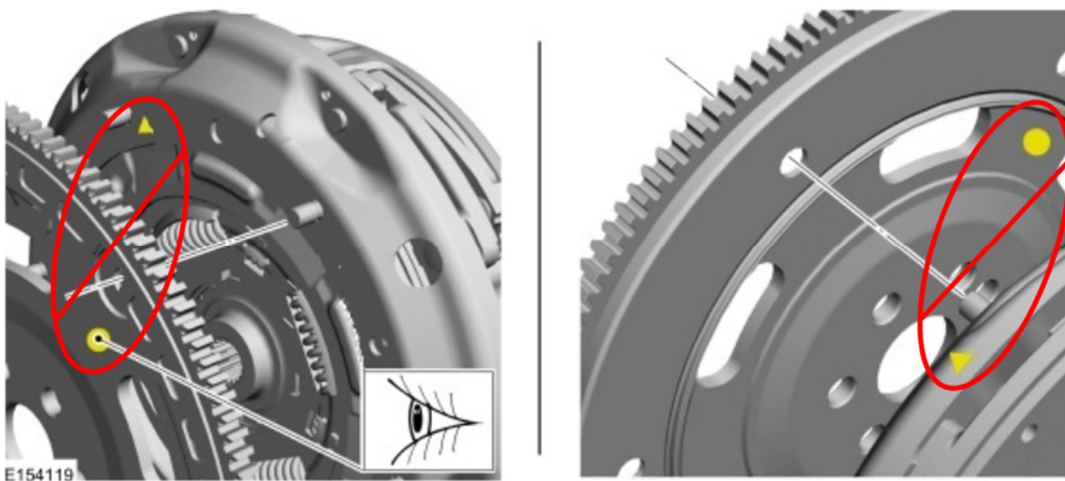
**NOTE:** Index markings on the clutch or flexplate may be difficult to see. Adding paint dots near these markings prior to transmission installation can aid proper indexing. Failure to properly index the clutch can induce a severe 1<sup>st</sup> order engine vibration.

- **Do:** Align the index marks on the flexplate and clutch during transmission installation.
- **Don't:** Misalign the index marks on the flexplate and clutch during transmission installation.

Ex: Properly indexed flexplate and clutch



Ex: Improperly indexed flexplate and clutch

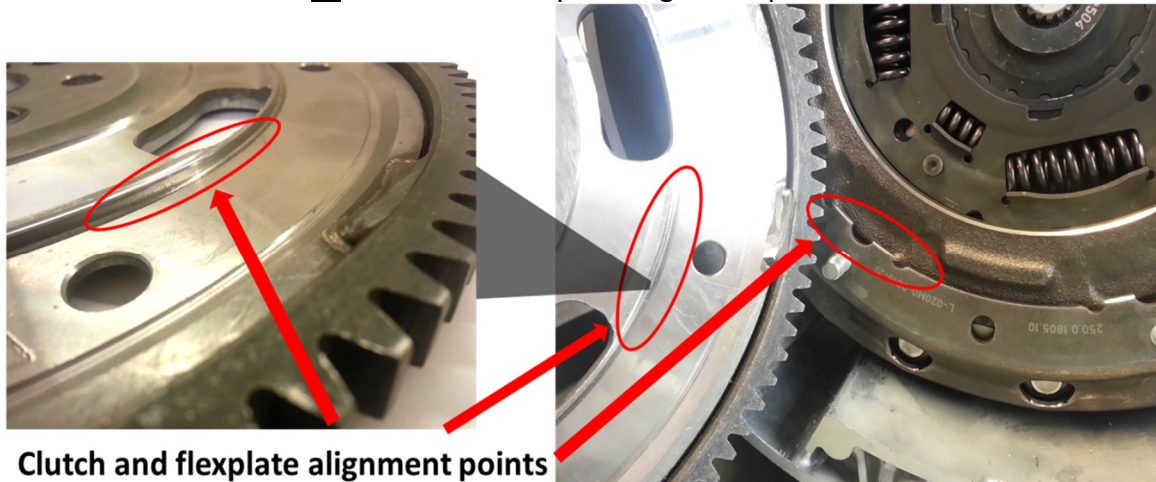


**Topic: Flexplate-to-Clutch Seating (Part 1)**

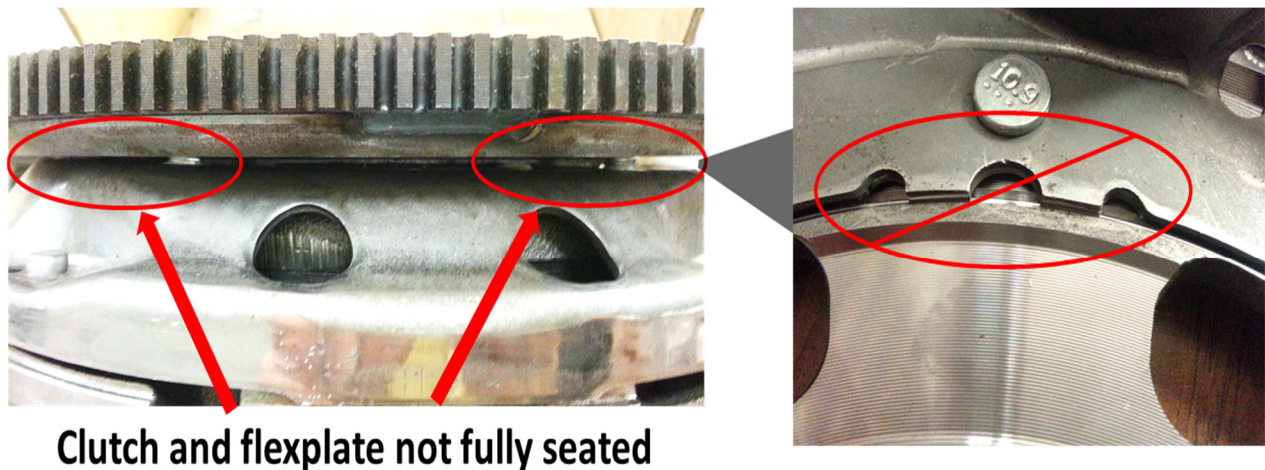
**Concern:** Severe powertrain vibration and/or engine misfire DTCs caused by improperly seated flexplate and clutch.

- **Reference:** The following photos highlight the chamfered alignment points on the flexplate and clutch. The flexplate-to-clutch nut tightening sequence found in the Workshop Manual allows the chamfered alignment points to center and fully seat the clutch onto the flexplate.

Ex: Clutch and flexplate alignment points



Ex: Improperly seated clutch\*- Interference of alignment tabs



\*Clutch has been disassembled to educate GSB users about the root cause of post-repair vibrations. During transmission installation, this area of the clutch will not be visible. Pictures used in the examples were taken from the perspective of the clutch facing the engine.

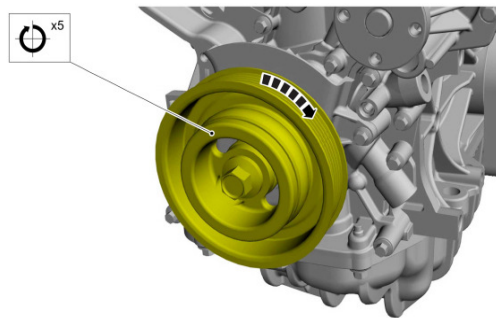
**Topic: Flexplate-to-Clutch Seating (Part 2)**

**Concern:** Severe powertrain vibration and/or engine misfire DTCs caused by improperly seated flexplate and clutch.

**NOTE:** Failure to follow the Crankshaft rotation step, flexplate-to-clutch nut tightening sequence, or over-tightening the nuts during the first stage of the torque sequence, will cause the clutch and flexplate alignment points to bind and prevent the clutch from fully seating.

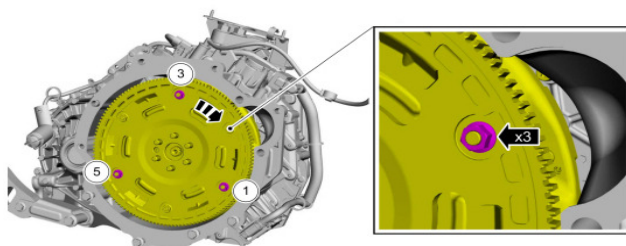
- **Do:** Rotate Crankshaft **CLOCKWISE** 5 times as listed in the online Workshop Manual and ensure the clutch studs *move freely* prior to flexplate-to-clutch nut installation. Install and tighten the flexplate-to-clutch nuts following the 2 torque stages listed in the online Workshop Manual.

Ex: Proper crankshaft rotation (clockwise)

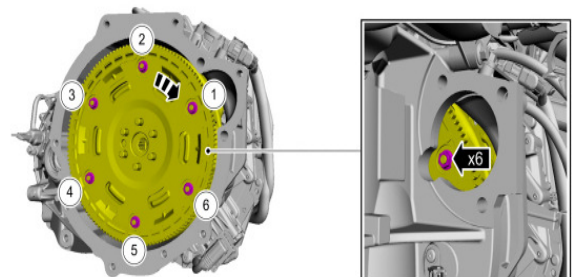


Ex: Proper tightening sequence

Stage 1 torque sequence



Stage 2 torque sequence

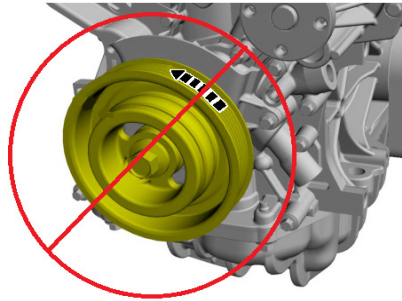




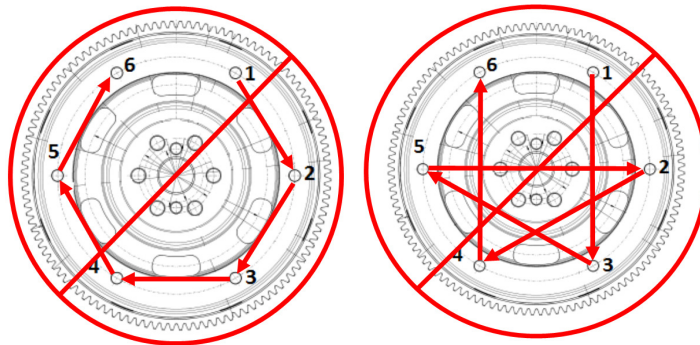
## Topic: Flexplate-to-Clutch Seating (Part 2 - contd)

- **Don't:** Rotate the engine improperly or tighten the flexplate-to-clutch nuts in any order but the prescribed sequence in the WSM and this GSB.

Ex: Improper crankshaft rotation (counter clockwise)



Ex: Improper tightening sequence



**NOTE:** If excessive powertrain vibration is present after clutch installation, remove the flexplate-to-clutch nuts and ensure the clutch studs *move freely*. Follow the installation and torque procedures again as outlined in the WSM and this GSB. Seating the clutch properly to the flexplate should correct the vibration concern.

**Topic: Roll Restrictor Bolt Installation (Focus Only)**

**Concern:** Failure to install the roll restrictor bolts in the proper location may result in a vibration that is most noticeable in Reverse with the engine off idle.

- **Do:** Use the shorter bolt to attach the roll restrictor to the subframe.
- **Don't:** Use the longer bolt to attach the roll restrictor to the subframe.

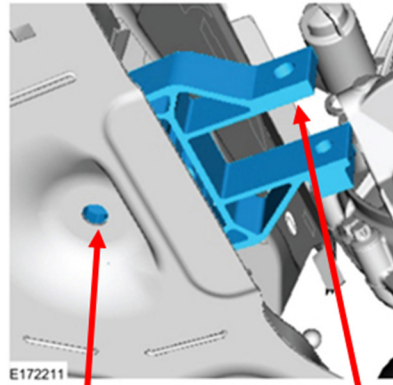
Ex: Proper roll restrictor bolt usage



Subframe to roll restrictor bolt (shorter)

Transmission to roll restrictor bolt (longer)

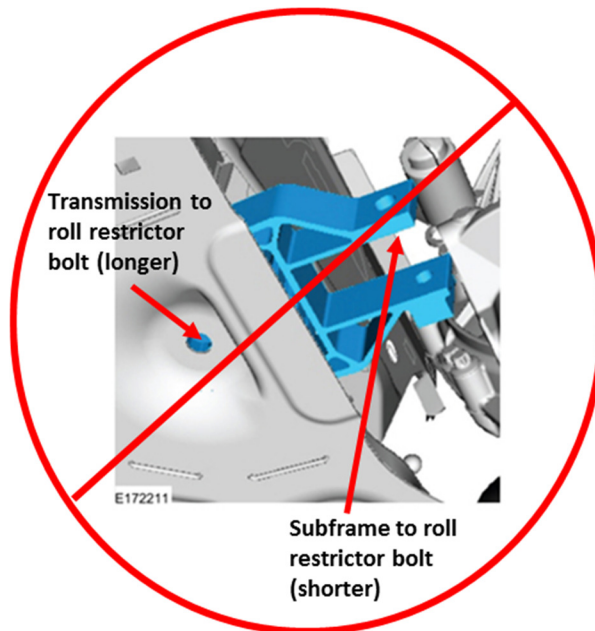
Ex: Correct location of roll restrictor bolts



Subframe to roll restrictor bolt (shorter)

Transmission to roll restrictor bolt (longer)

Ex: Incorrect location of roll restrictor bolts



Transmission to roll restrictor bolt (longer)

Subframe to roll restrictor bolt (shorter)