

**NP300 - Navara**



Nissan Strictly Confidential



# TechLine

## Issue Details - 1199166



Private and Confidential. Not for External Distribution

### Issue Information

Subject	d23 injector relaern process	Contact Name	daniel shand 4128
Issue Number	1199166	Date Submitted	05/12/2019 12:37PM
Status	Closed	Last Updated	05/12/2019 03:25PM

### Issue

#### Customer Complaint

could you please tell me where to find the relearn process for the injectors, the one that involves the drive cycle to get values to correct number? I cannot find it anywhere.<br/>Daniel

### Messages

#### 5 - Message to Dealer from Nissan

Action Owner: NJC0218  
Date Received: 05/12/2019 02:59PM  
Date Completed: 05/12/2019 02:59PM

#### Comments

Hey Daniel,<br/><br/>No worries at all!<br/><br/>Normally check the injector status, then all the connections especially rail pressure sensor, then you can proceed to carry out the injector re learn process before determining whether the timing is out.<br/><br/>Hope this helps!<br/>><br/>Kind regards,<br/>Jordan

#### 4 - Message from Dealer

Date Received: 05/12/2019 02:43PM  
Date Completed: 05/12/2019 02:59PM

#### Comments

thanks, im not actually doing it on a vehicle. I just couldn't remember the exact process, can this be used in the future for the knock that some of them get as a first step approach if needed?

#### 3 - Message to Dealer from Nissan

Action Owner: NJC0218  
Date Received: 05/12/2019 01:01PM  
Date Completed: 05/12/2019 01:40PM

#### Comments

Hi Daniel,<br/><br/>Hope you're having good day so far!<br/><br/>I will include the process here, however what is the reason why you're carrying out this procedure?<br/><br/>Take a screen shot of the current injector codes<br/>\* Recode injectors to a random code (ie. AAAAAAAA) as this will reset to base values<br/>\* Go back to home screen<br/>\* Recode the injectors to the correct value (if values are already correct then last coding didn't save, try again)<br/>\* Run engine and view all cylinder adaption values in data monitor (should be zero, if not then retry procedure)<br/>\* Screen shot of values at 0<br/>\* Find a long open stretch of road and drive the vehicle as per the following (brake pedal cannot be pressed as it will cancel the injector learning):<br/>-Drive in 3rd, 4th and 5th gear each up to 2.900RPM (do not exceed local speed limits) then coast to 1.200RPM<br/>-Carry out 10 times<br/>-Re-capture cylinder adaption values. If all are not at 7, drive cycle will need to be carried out until all reach 7. <br/>\* Send through a screen shot or recording of all at 7 and reassess.<br/><br/>Kind regards,<br/>Jordan



## Series date changes.

- Series 2 – 1<sup>st</sup> July 2016
- Series 3 – 27<sup>th</sup> November 2017

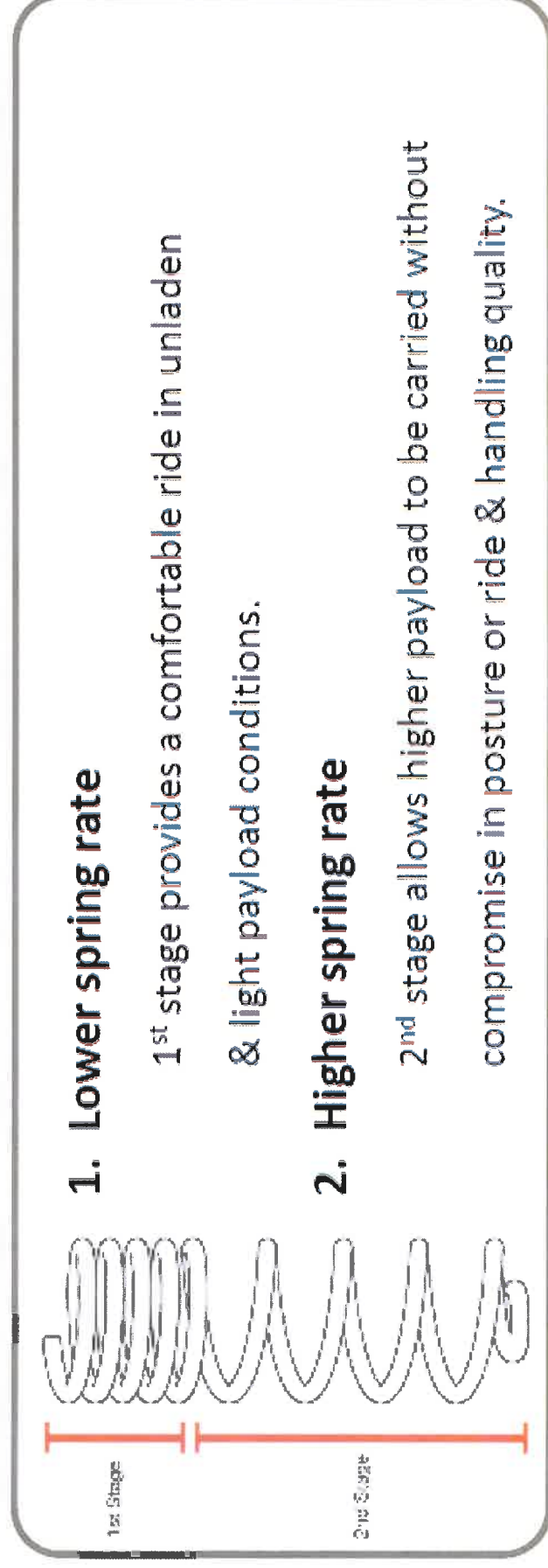
Category	Item	Applicable Grade
New Features	Around View Monitor (AVM)	ALL ST-X
	Electric anti-dazzle rear view mirror	ALL RX PU
	ISOFix	ALL DC
Product Enhancement	Digital speedometer*	ALL SL, ST, ST-X
	5-link suspension w/ high-posture & ASR local tuning	DC SL, ST, ST-X
	Steering gear ratio change	DC SL, ST, ST-X
	Tie down hook position changes*	ALL KC PU, ALL DC PU
Grade Optimisation	Rear view camera expansion	ALL RX PU
	Sat. navigation expansion	KC ST
	Leather/power/heated seats OPT	KC ST-X AT, DC ST-X

\* Separate SOP timing of Jun '18 for digital speedometer & tie down hook changes as running change.

# Suspension changes

## Series 3 D23 5-Link Suspension / Steering Update

- 5-link suspension grades receive ride & handling enhancements with loading/towing in mind
- Adoption of a dual-rate rear spring system
- Locally tuned to Australian road conditions
- Improved handling while towing
- Improved rear posture in laden conditions (towing & payload)
- Faster steering gear ratio for more direct handling
- Applied to Dual Cab SL, ST & ST-X



## No part retro fitment

If a request to any dealer technicians for retro fitment is requested by sales staff and customers..

Please inform them.

**Retro fitment is not recommended.**

The introduction of the revised steering ratio and progressive suspension springs has required a recalibration of the vehicle's stability control systems.

With the adjusted recalibration of the vehicles yaw rate sensor, ABS and traction control systems the fitment of series 3 equipment with previous series of D23 should not be conducted.

## Clutch sticks in operation.

### Complaint :

Clutch operation sticks or is not smooth in operation.

### Cause:

Release bearing has insufficient lubrication

### Repair:

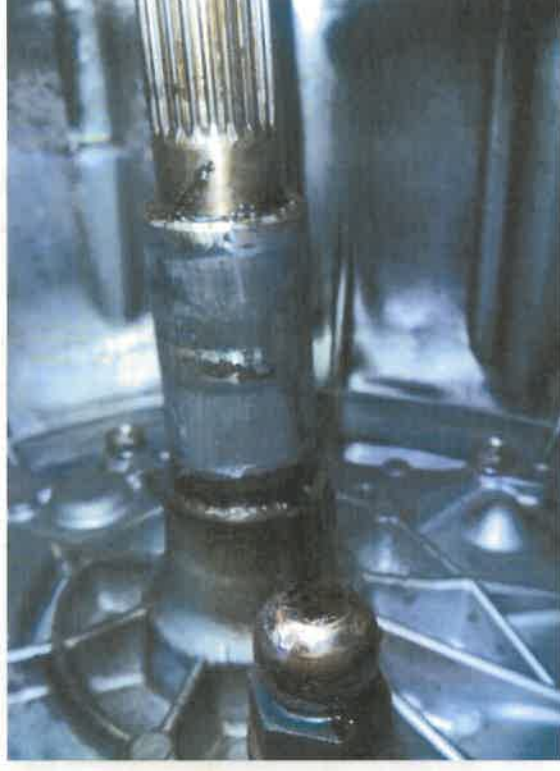
Replacement of release bearing and gear box snout, apply sufficient grease as per tech info 098.

### Lubricant specification:

Lithium based molybdenum disulphide grease must only be used

- Castrol Spheerol LMM
- Penrite Industrial Grade Bm3 NI Gi3
- BP Energrease RCG

- **TECH INFO 98**



# Transmission thumps out of park

## PRECAUTIONS

< PRECAUTION >

General Precautions

[7AT: RETR01B]

**Complaint:** Transmission thumps when selecting out of park position.

**Cause:** Park reverse clutch.

**Correction:**

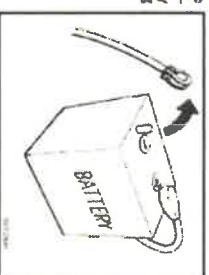
After conformation of the concern, determine if operation against another vehicle of the same specification.

**ESM confirms this will not cause damage and is normal operation.**

**Relearning the park reverse clutch may reduce this concern.**

- Occasionally, the parking gear may be locked with the torque insufficiently released, when stopping the vehicle by shifting the selector lever from "D" or "R" to "P" position with the brake pedal depressed. In this case, the shock with a thud caused by the abrupt release of torque may occur when shifting the selector lever from "P" position to other positions. However, this symptom is not a malfunction which results in the damage of parts.

- Turn ignition switch OFF and disconnect the battery cable from the negative terminal before connecting or disconnecting the A/T assembly harness connector. Because battery voltage is applied to TCM even if ignition switch is turned OFF.

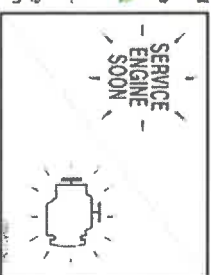


TM

- Perform "DTC (Diagnostic Trouble Code) CONFIRMATION PROCEDURE" after performing each TROUBLE DIAGNOSIS. If the repair is completed DTC should not be displayed in the "DTC CONFIRMATION PROCEDURE".
- Always use the specified brand of ATF. Refer to [M-27-7-2000](#).

### NOT RECOMMENDED

- Use lint-free paper or cloth rags during work.
- Dispose of the waste oil using the methods prescribed by law, ordinance, etc. after replacing the ATF.
- Before proceeding with disassembly, thoroughly clean the outside of the transmission. It is important to prevent the internal parts from becoming contaminated by dirt or other foreign matter.
- Disassembly should be done in a clean work area.
- Use lint-free paper or towels for wiping parts clean. Common shop rags can leave fibers that could interfere with the operation of the transmission.
- Place disassembled parts in order for easier and proper assembly.
- All parts should be carefully cleaned with a general purpose, non-flammable solvent before inspection or reassembly.
- Gaskets, seals and O-rings should be replaced any time the A/T is disassembled.
- It is very important to perform functional tests whenever they are indicated.
- The valve body contains precision parts and requires extreme care when parts are removed and serviced. Place disassembled valve body parts in order for easier and proper assembly. Care will also prevent springs and small parts from becoming scattered or lost.
- Properly installed valves, sleeves, plugs, etc., will slide along bores in valve body under their own weight.
- Before assembly, apply a coat of recommended ATF to all parts. Apply petroleum jelly to protect O-rings and seals or hold bearings and washers in place during assembly. Never use grease.
- Extreme care should be taken to avoid damage to O-rings, seals and gaskets when assembling.
- When the A/T drain plug is removed, only some of the ATF is drained. Old ATF will remain in torque converter and ATF cooling system.
- Always follow the procedures under "Changing when changing ATF. Refer to [TM-2-1-1000](#) Chapter 2.
- Occasionally the parking gear may be locked with the torque insufficiently released, when stopping the vehicle by shifting the selector lever from "D" or "R" to "P" position with the brake pedal depressed. In this case, the shock with a thud caused by the abrupt release of torque may occur when shifting the selector lever from "P" position to other positions. However, this symptom is not a malfunction which results in the damage of parts.



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## Transmission thumps out of park

### D23 clunking into Park relearn procedure for Rev/B learning method

1st relearn - Confirm Trans oil temp is between **15°C~60°C**

- 1) Ignition "ON"
- 2) Shift to "N" range and keep 5 sec.
- 3) Shift to "R" range and keep 5 sec.
- 4) Repeat step 2) and 3) about 10 times.

2<sup>nd</sup> relearn - Confirm Trans oil temp is **between 60°C~100°C**

- 1) Ignition "ON"
- 2) Shift to "N" range and keep 5 sec.
- 3) Shift to "R" range and keep 5 sec.
- 4) Repeat step 2) and 3) about 10 times.

3<sup>rd</sup> relearn - Confirm Trans oil temp is between **100°C~120°C**

- 1) Ignition "ON"
  - 2) Shift to "N" range and keep 5 sec.
  - 3) Shift to "R" range and keep 5 sec.
- Repeat step 2) and 3) about 10 times

# Boost Solenoid

## Complaint:

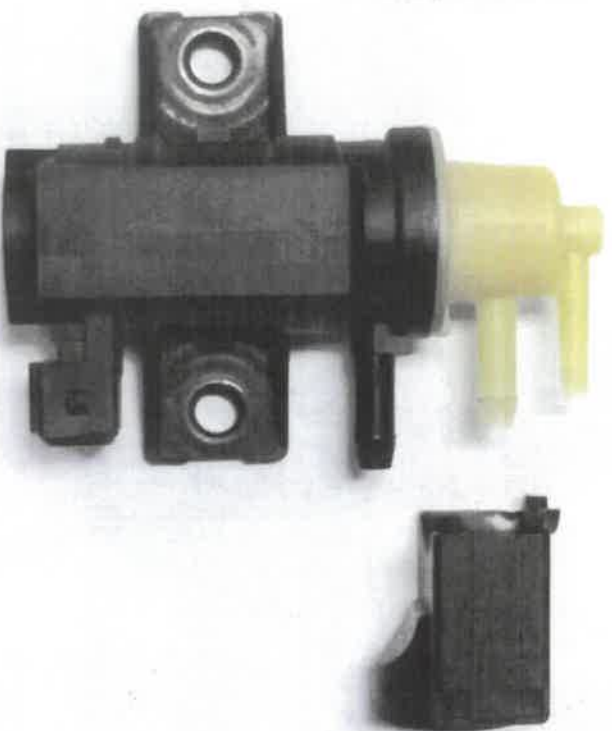
- Lack of power while driving / low boost available
- Mil light on with DTC's P0471 or P2263

## Cause:

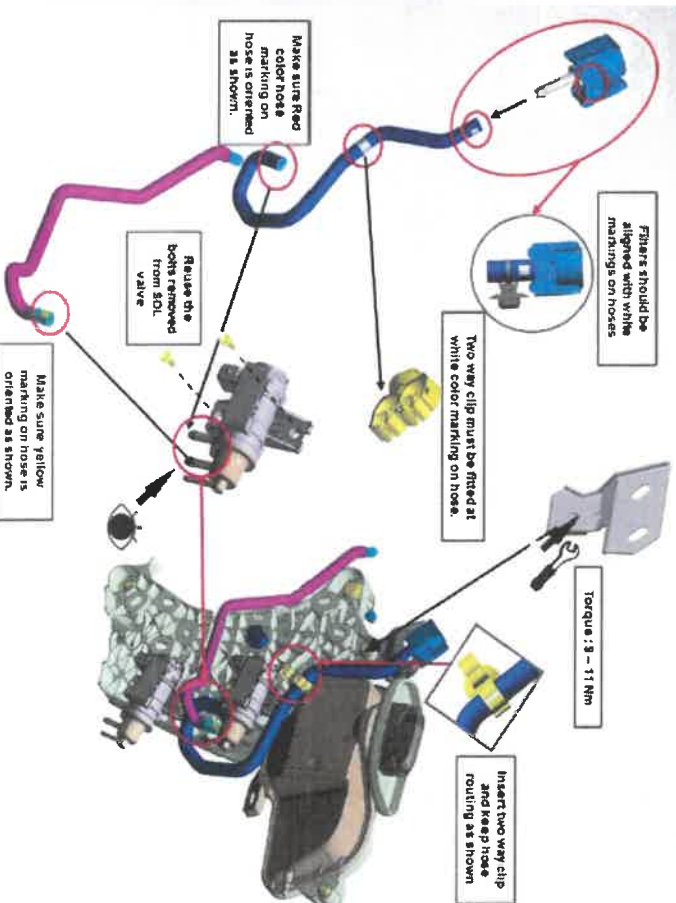
- Additional to Tech Info 038 faults discovered
- Port filter on solenoids block with dust or debris
- Effects cars used in off road applications

## Rectification:

- Refer to Tech Info 072 for repair procedure.



## Service kit - ST engines: A4956-00Q2B

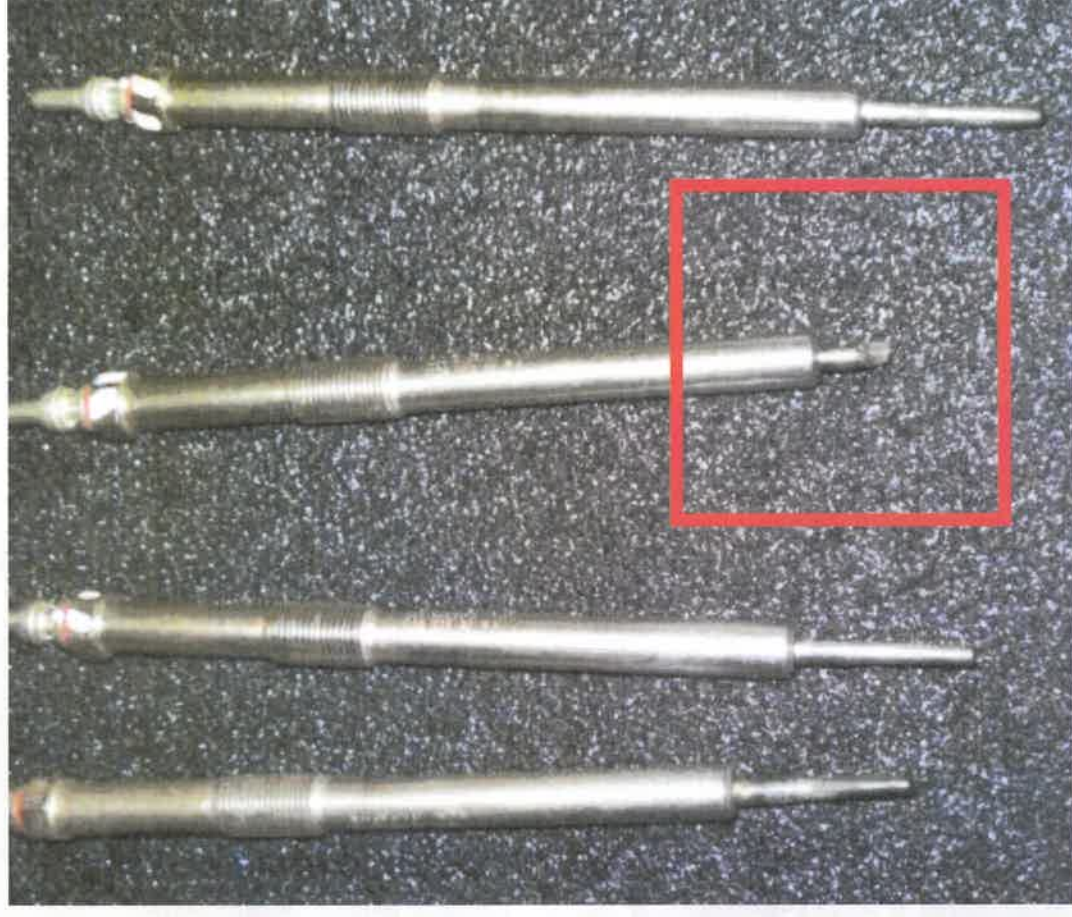


## D23 Glow plug concern

**Complaint : Noise from engine and runs rough**

**Cause : Glow tip snapped off due to possible excessive high voltage spike on start up**

**Correction : Concern is still under investigation, looking at possible ECU programming, Engineering has requested further IQ case contacts if this concern has been noted.**



# Engine Knocking Noise

Complaint:

- Deep tone knocking noise coming from engine bay under acceleration

Cause:

- Uncontrolled combustion due to injection phase control (pre / post injection)
- Has been mistaken for big end bearing failure

Rectification:

**STEP1: Is it injector knock?**

- Recalibrating the fuel injectors with incorrect values
- Input the correct calibration values and save
- Drive the vehicle so learnt values are complete to confirm if the noise is not apparent

**DOES THE NOISE COMPLETELY ELIMINATE?**

Items other than injectors have caught Technicians out

## D23 Injector knock

### Procedure to confirm the cause:

- Reproduce the concern.
- Determine cylinder/s the noise is occurring from using chassis ears.
- Test Rail sensor, wriggle harness and check terminal tension (video)
- Reset the injector coding to reset the injectors learned values.
- Confirm the noise is no longer present and determine if further road testing is required or if you will release the vehicle to the customer to monitor.

### If concern reoccurs:

- **Confirm the noise is not something else - REFER TO ATTACHED VIDEO**
- **Contact Techline proceed with pump timing inspection as per FL18-001**
- **If found to be timed correctly proceed with injector replacement.**

# D23 Injector knock still present

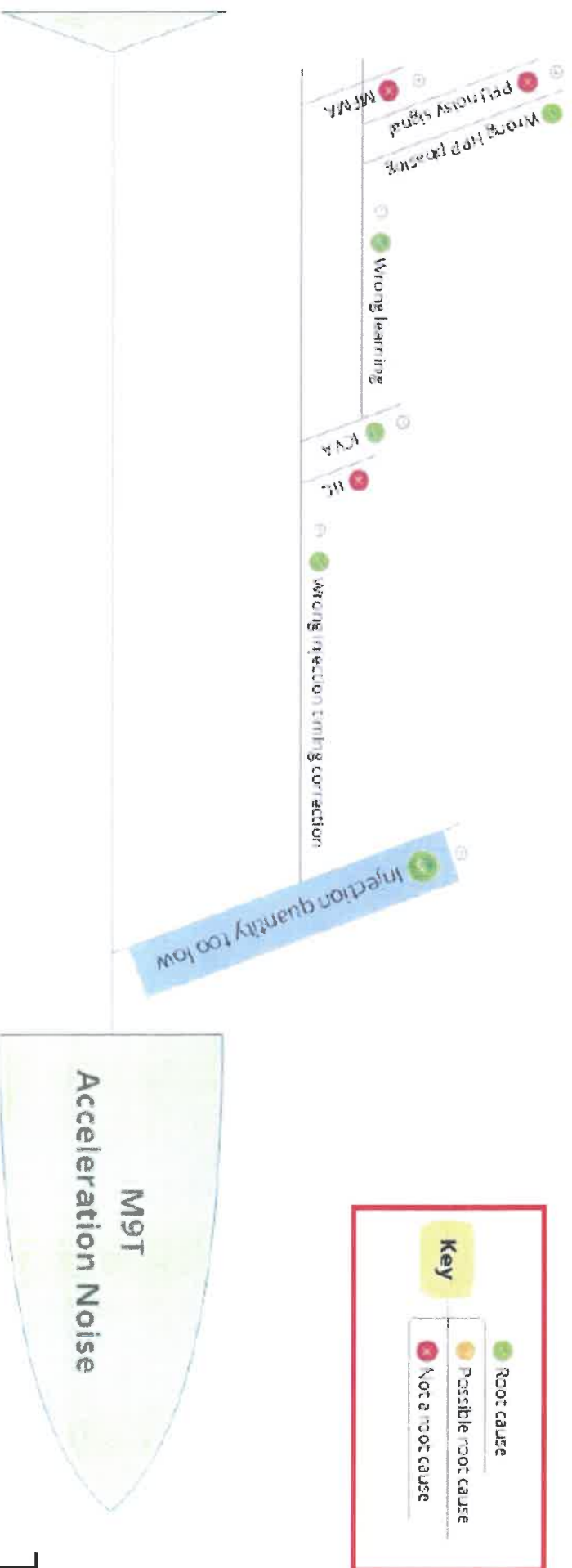
Complaint : Knocking noise from engine comes back again

**AFTER INJECTOR RELEARN**

Cause : Fuel pump timing incomplete, the physical symptom being that the injector flow is reduced because of wrong correction from ICVA (Injector Control Valve Adaptation).

The noise is coming from an excessive reduction of the Injection Timing (Ti) applied to the injector. It can lead to cut the pilot injections quantity becoming too low.

Correction :Fuel pump timing to be checked as per FFL18-001



## YS23 pump phasing FACTORY check

**Complaint:** Knocking noise apparent after injector relearn

**Cause:** Pump phasing not timed with camshaft

**Correction:**

**Green dot check before 1<sup>st</sup> March build production**

**MUST COMMUNICATE WITH TECHLINE BEFORE CONDUCTING**

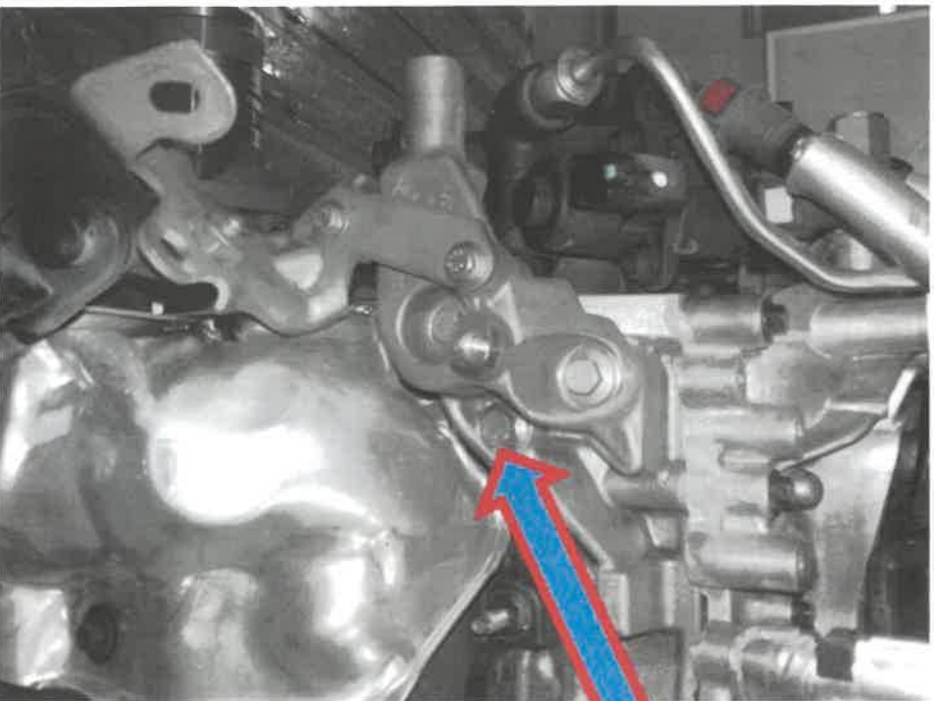


2. Confirm dot mark check with next process  
→ [Adoption ENG. no YS23-356152A \(1 Mar '17\)](#)

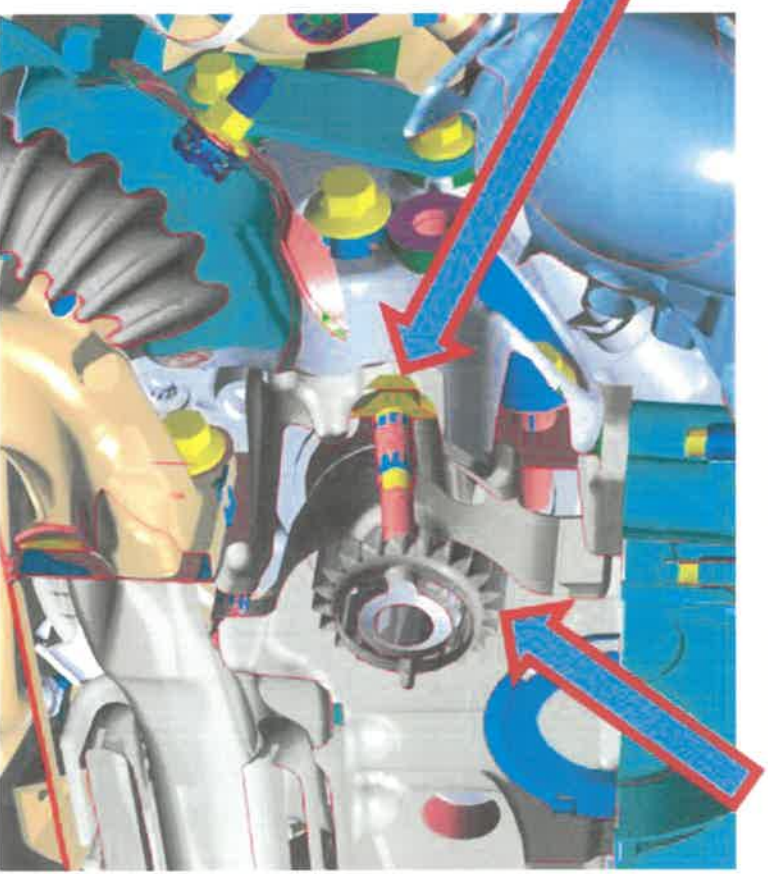
# Pump timing DETAIL

What is being timed when we confirm pump timing....

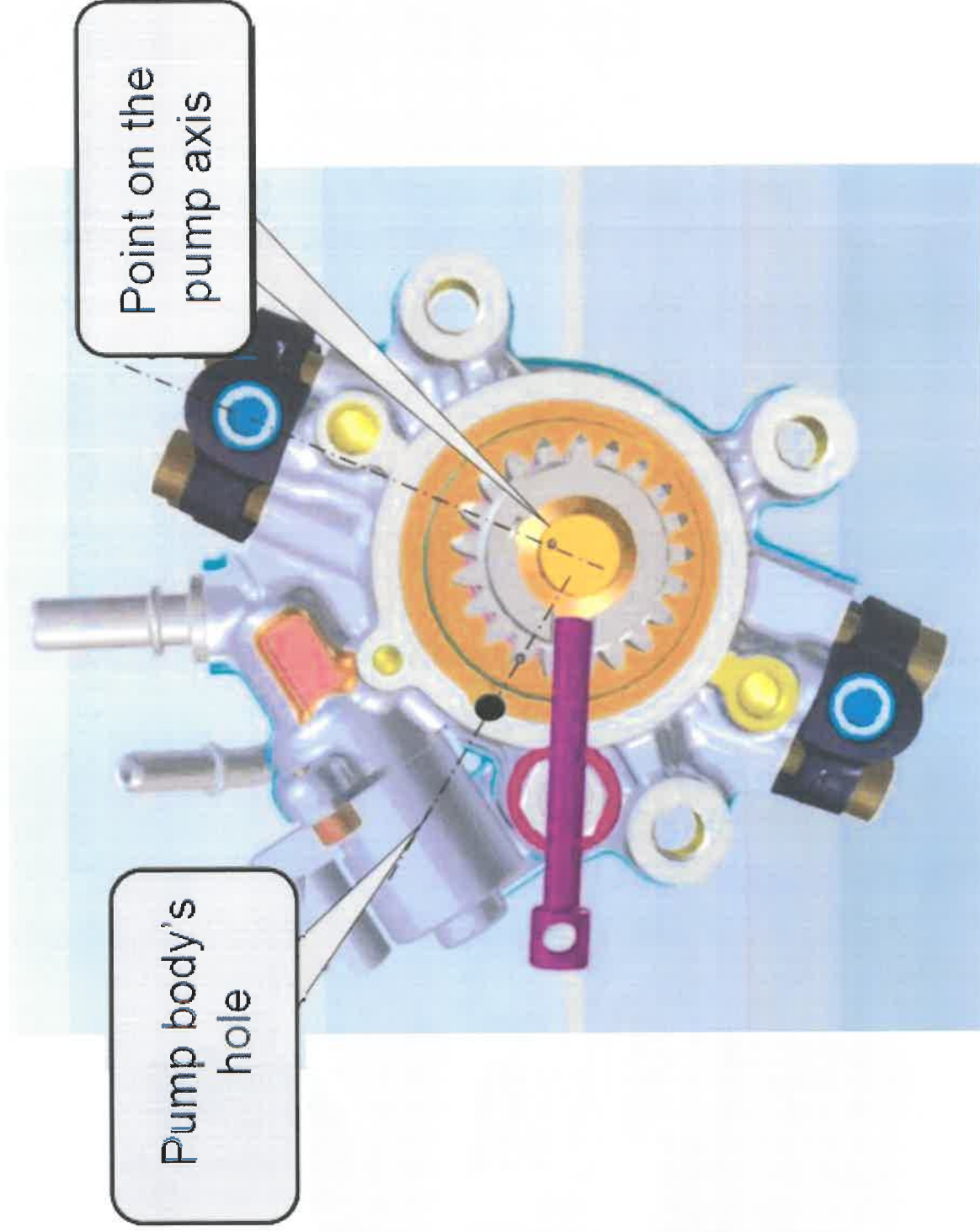
TDC 1#



Screw to  
access HP  
Pump Gear



# Alignment of pump gear

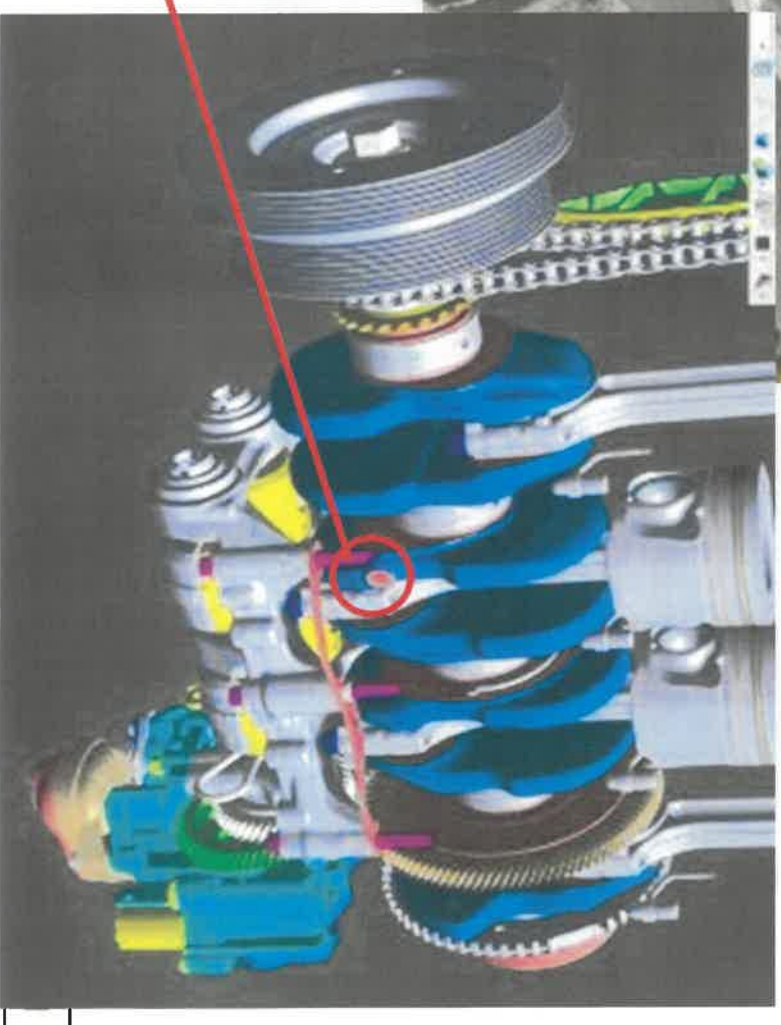


# D23 Injector knock

Crankshaft Pin locking Top Dead Centre.



Stopping point



## EGR Leak, High Pitch Noise

### Complaint:

High pitched whine noise while under acceleration  
Can be easily mistaken for Turbo whistle type noise

### Cause:

EGR pipe fracture or EGR pipe flange gasket leak

### Rectification:

- Replacement of EGR pipe and gasket is required

### IMPORTANT:

- Sound can be mistaken for injector tapping or knock (pipe fractured)
- Turbo replacement has been carried out for this issue with no resolution.
- Don't get caught out with miss diagnosis.



# I-key Error on ADAD

## Complaint:

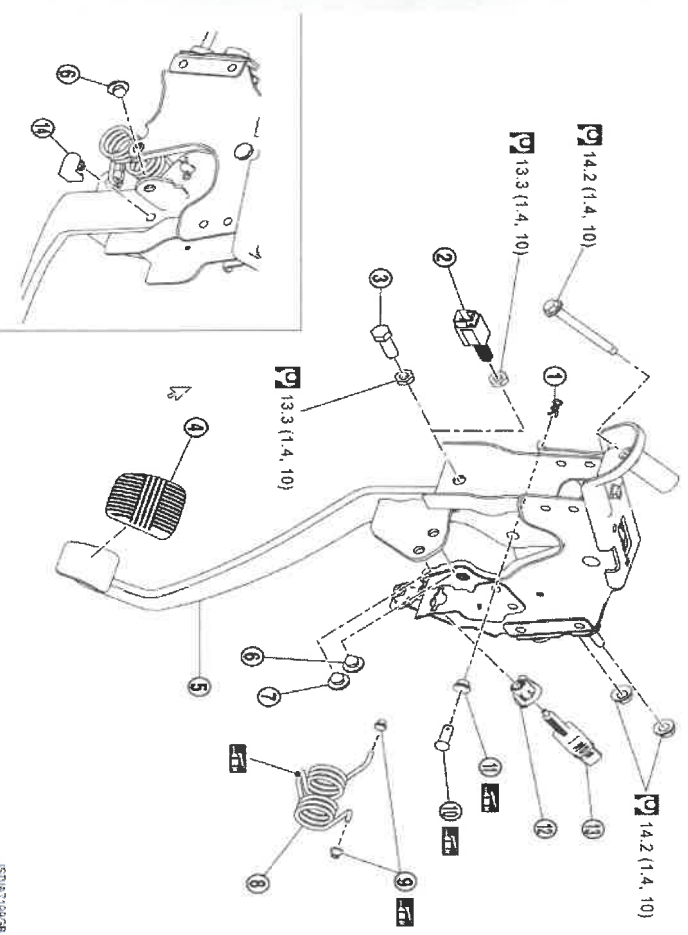
- I - key warning light in ADAD
- Engine will not engage starter motor unless gear lever is in neutral position

## Cause:

- ECM and BCM logic detects an incorrect clutch pedal position
  - Clutch pedal depressed for more than 30 gear changes without release above first gear, combined with accelerator input being received (riding/resting on the clutch pedal)
- DTC's logged in BCM and ECM
  - P0833-29 Clutch switch signal inconsistency (Clutch pedal switch "B" circuit)
  - B26E8 Clutch switch
  - B26FB Clutch switch

## Rectification:

- Refer to Tech Info 067 for further info
- Confirm adjustment of clutch pedal position 1 as per ESM
- Customer education
  - Refer to Starting and driving section in owners manual.



## Heater cold & Engine coolant temp low.

### Complaint:

Heater is not getting hot, blows cool air and engine temperature gauge only reaching ~75deg C

### Cause:

Thermo management control solenoid not operating

### Rectification:

Check Thermo management control solenoid via work support and confirm if the solenoid not can be operated in its full travel

- Listen for clicking noise
- Otherwise remove and conduct work support
- Replacement of the valve is necessary

