



Classification:

EM13-002a

Reference:

ITB13-009a

Date:

September 4, 2013

2011 - 2013 QX56 AND M56; WHINE NOISE FROM ENGINE AREA

This bulletin has been amended. Several changes have been made to accommodate inclusion of M56 vehicles. Please discard previous versions of this bulletin.

APPLIED VEHICLES: 2011- 2013 QX56 (Z62)
2011- 2013 M56 (Y51)

IF YOU CONFIRM:

A whine type noise is coming from the Bank 2 (B2) side of the timing chain system.

- The noise is best heard from the high pressure fuel pump area.
- The noise should increase in frequency with engine speed (RPM).
- If the noise does not increase with engine speed, the timing chain system may not be the cause. Refer to the appropriate section of the Electronic Service Manual (ESM) for further diagnosis.

ACTION:

Replace the B2 oil jet, both timing chains, both crankshaft sprockets, and all guides listed in **PARTS INFORMATION** (page 2).

- Always replace all seals, o-rings and gaskets.
- Replace repair-related components as necessary.
- For repair procedure, refer to **SERVICE PROCEDURE** (starting on page 4).
- For QX56: Use Oil Jet Remover/Installer Kit J-51269 for oil jet removal, inspection, and installation.
- For M56: Use Installer J- 51316 along with Oil Jet Remover/Installer Kit J-51269 for oil jet removal, inspection, and installation.

NOTE: Essential Service Tool Oil Jet Remover/Installer Kit J-51269 was shipped April 2013 to all Infiniti dealerships. Dealer non-vehicle accounts were charged \$140.82 plus applicable taxes and freight. Essential Service Tool Oil Jet Installer J- 51316 (for M56) was shipped August 2013 with dealer non-vehicle accounts charged \$99.85 plus applicable taxes and freight.

Oil Jet Remover/Installer Kit J-51269 contains:

- J-51269-1 Remover
- J-51269-2 Installer
- Gauge Pin – GO/NO-GO

IMPORTANT: The purpose of **ACTION** above is to give you a quick idea of the work you will be performing. You **MUST** closely follow the entire **SERVICE PROCEDURE** as it contains information that is essential to successfully completing this repair.

Infiniti Bulletins are intended for use by qualified technicians, not 'do-it-yourselfers'. Qualified technicians are properly trained individuals who have the equipment, tools, safety instruction, and know-how to do a job properly and safely. **NOTE:** If you believe that a described condition may apply to a particular vehicle, **DO NOT** assume that it does. See your Infiniti dealer to determine if this applies to your vehicle.

PARTS INFORMATION

DESCRIPTION	PART NUMBER	Qty
JET - OIL TIMING (Oil Jet)	13081-1LA0A	1
CHAIN – CAMSHAFT (B1)	13028-1CA3A	1
CHAIN – CAMSHAFT (B2)	13028-1LA3A	1
GUIDE CHAIN TEN (B1)	13085 1CA1B	1
CHAIN GUIDE (B1)	13091 1CA1B	1
GUIDE CHAIN TEN (B2)	13085 1LA2A	1
CHAIN GUIDE (B2)	13091 1LA2A	1
SPROCET - CRANKSHAFT (B1)	13021-1CA0A	1
SPROCET - CRANKSHAFT (B2)	13021-1LA1A	1
LIFTER – VALVE	13231-1MC5E	1 (a)
TUBE ASSY FUEL	17520-1LA0B	1
TUBE ASSY FUEL	17520-1LA0C	1
SEAL – OIL CRANKSHAFT FRONT	13510-1LA0A	1 (a)
SEAL – O RING	15066-6N204	2 (a)
SEAL – O RING	15066-AR010	1 (a)
SEAL – O RING	15066-AR020	2 (a)
SEAL – O RING (6.84 MM)	15066- ZL80A	1 (a)
OIL FILTER	15208-31U0A	1
WASHER – DRAIN (Drain Plug Gasket)	11026-01M02	1 (a)
Nissan Liquid Gasket (sealant)	999MP-1217HP	(b) (c)

- (a) Always replace after every disassembly.
- (b) Bill out Nissan Liquid Gasket 1217HP (sealant) as **expense code 009**.
- (c) Order Nissan Liquid Gasket 1217HP (sealant) via the Maintenance Advantage website. The website can be accessed through www.nnanet.com (**NNANET.COM, Parts & Service, Maintenance Advantage-Tire/Wiper/Battery/Chemical**). Or call through the Infiniti Maintenance Advantage program: Phone: 877-INF-IMA1 (877-463-4621).

CLAIMS INFORMATION

** If determined during Inspection that the oil jet cannot be replaced, refer to the online WFRM for claims coding information for short block replacement.

M56 (Y51)

2WD Models

Submit a Primary Part (PP) type line claim using the following claims coding:

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Inspect and install Oil Jet and Timing Chains – 2wd	13028-1CA1A	AX40AA	ZL	32	10.1

4WD Models

Submit a Primary Part (PP) type line claim using the following claims coding:

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Inspect and install Oil Jet and Timing Chains – 4wd	13028-1CA1A	AX41AA	ZL	32	12.4

QX56 (Z62)

2WD Models

Submit a Primary Part (PP) type line claim using the following claims coding:

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Inspect and install Oil Jet and Timing Chains – 2wd	13028-1CA1A	AX40AA	ZL	32	11.8

4WD Models

Submit a Primary Part (PP) type line claim using the following claims coding:

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Inspect and install Oil Jet and Timing Chains – 4wd	13028-1CA1A	AX41AA	ZL	32	12.5

Expense Code:

EXPENSE CODE	DESCRIPTION	MAX AMOUNT
001	Oil	\$18.50
009	Sealant	\$8.00



Oil jet remover and installer; dealer tools may differ slightly

SERVICE PROCEDURE

Remove Oil Jet

NOTE: For easier viewing, most pictures of repairs are shown on a removed QX56 engine (M56 is similar). There is no need to remove the engine from either model vehicle to perform this repair.

1. Write down all radio station presets.

Presets	1	2	3	4	5	6
A						
B						
C						
SAT						

2. Disconnect both battery cables, negative cable first.

3. Remove both B1 and B2 timing chains and guides.

- For both model vehicles: Refer to the **B ENGINE > EM Engine Mechanical** section of the ESM.

IMPORTANT: Follow all related Warnings, Cautions, and Notes in the ESM.

NOTE: If the crankshaft is determined to be 360° off from 0° TDC on #1 cylinder compression stroke after removing the timing chain front cover, put the crankshaft pulley back on, and then rotate the crankshaft 360° (when camshaft and crankshaft sprocket mating marks are aligned).

4. Remove the B2 oil jet using Remover Tool J-51269-1 (see Figure 1).
 - a. Install the remover tool onto the oil jet and flush against the engine block (see cutaway, Figure 1).
 - Align the hex bolts to contact the oil jet's flat and worn sides.
 - Slide the threaded shaft all the way in the outer housing.
 - b. Hand tighten both hex bolts with an allen wrench.
 - Tighten enough to keep the remover tool from slipping, but no more.

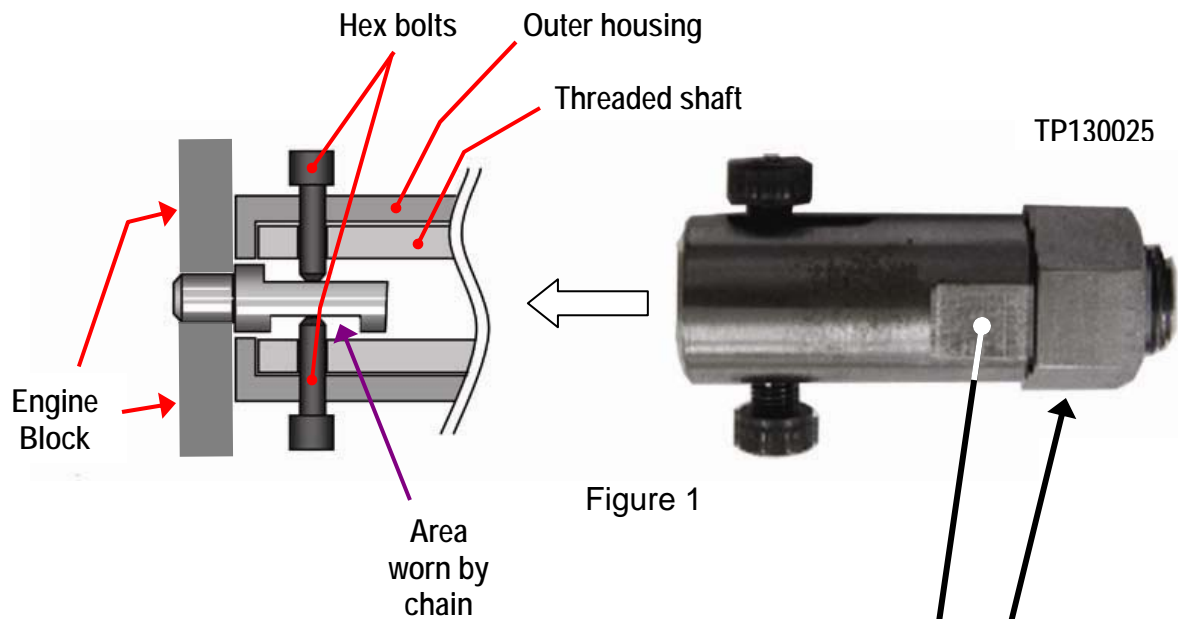


Figure 1

- c. Hold the remover tool's outer housing with a wrench while turning the nut clockwise.
 - This procedure will extract the oil jet from the block.
 - If the oil jet is not extracted on the first attempt, steps 4a - 4c will need to be performed a second time.

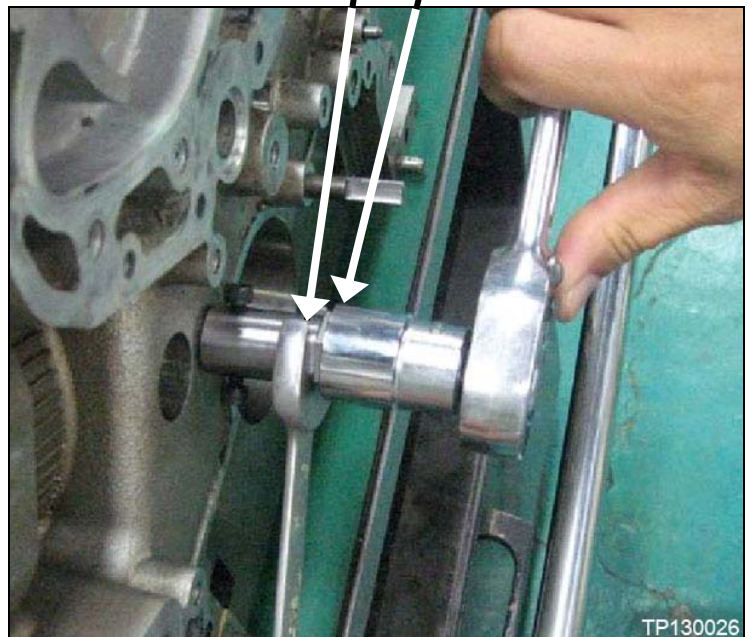


Figure 2

d. Determine if oil jet replacement is possible by inserting the gauge pin into the block's hole:

- If the gauge pin cannot be inserted in the hole more than 3 mm, oil jet replacement can be completed. Go to **Install Oil Jet** below.
- If the pin can be inserted in the hole more than 3 mm, this repair cannot be performed. Replace the "short engine" (short block) assembly.

NOTE: The gauge pin comes with essential tool J-51269 Oil jet Remover/Installer Kit.

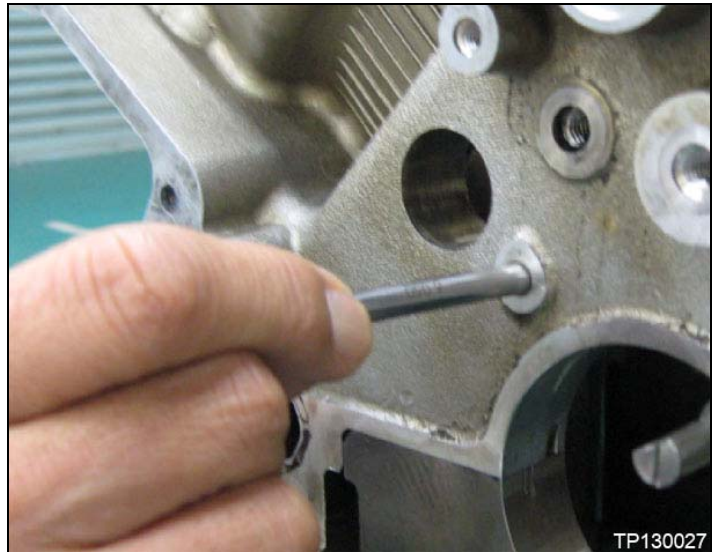


Figure 3

Install Oil Jet

1. Insert the new oil jet into the installer tool.

- For QX56, use tool J-51269-2.
- For M56, use tool J- 51316.
- See page 1 for tool information.

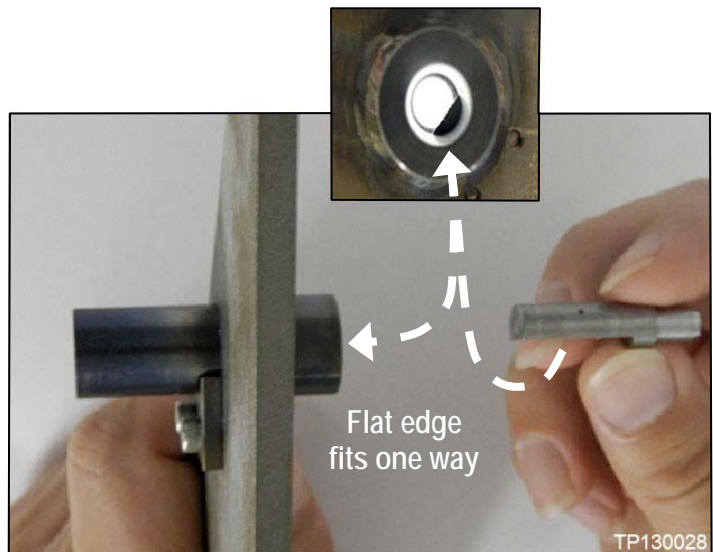


Figure 4

2. Mount the installer tool to the block.

- With the oil jet inserted in the installer tool, position the other end of the oil jet in the block's hole, and then align and finger tighten the three bolts.
- Finger tighten the bolts enough to position the installer tool flush with the block.

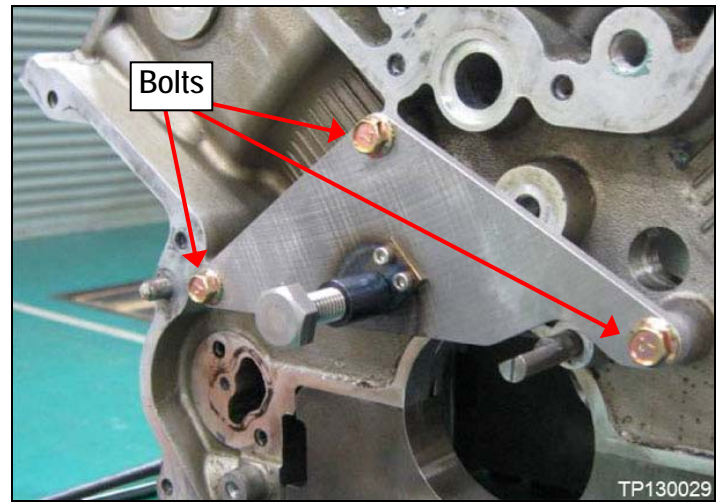


Figure 5; QX56

- **For M56:** Before tool installation, make sure old sealant has been removed from the mounting surface on the block.

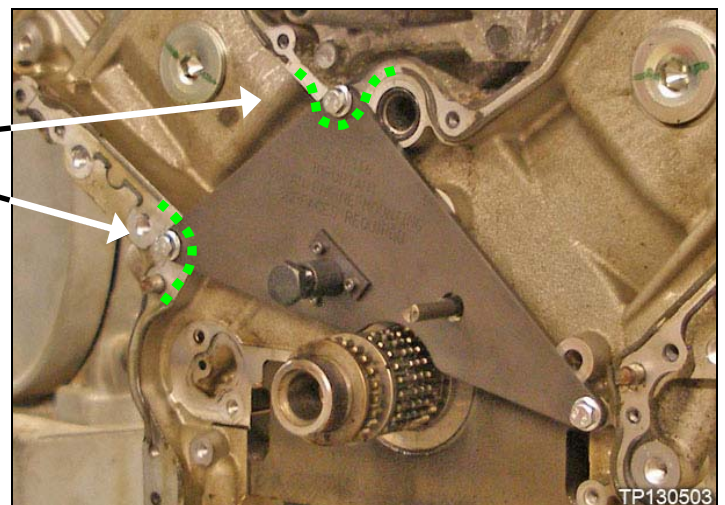


Figure 6; M56

3. Install the press bolt with your fingers until it bottoms out on top of the oil jet.
4. Next, tighten the press bolt two (2) full turns.
 - Confirm the oil jet is centered and aligned.
5. With a suitable tool, hand tighten, but not over-tighten, the three bolts.
 - Make sure the installer tool is flush with the block.

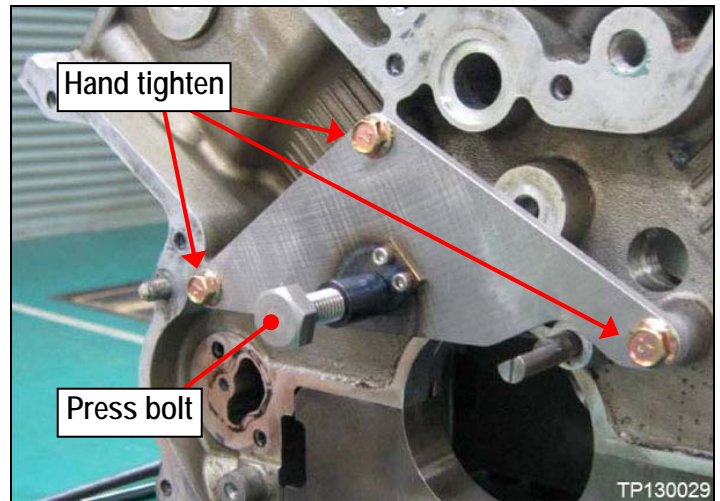


Figure 7

6. Tighten the press bolt until the oil jet bottoms out on the block.



Figure 8

7. Confirm the following:

- a. The notch on the oil jet is within $\pm 10^\circ$ of the 12 o'clock position.

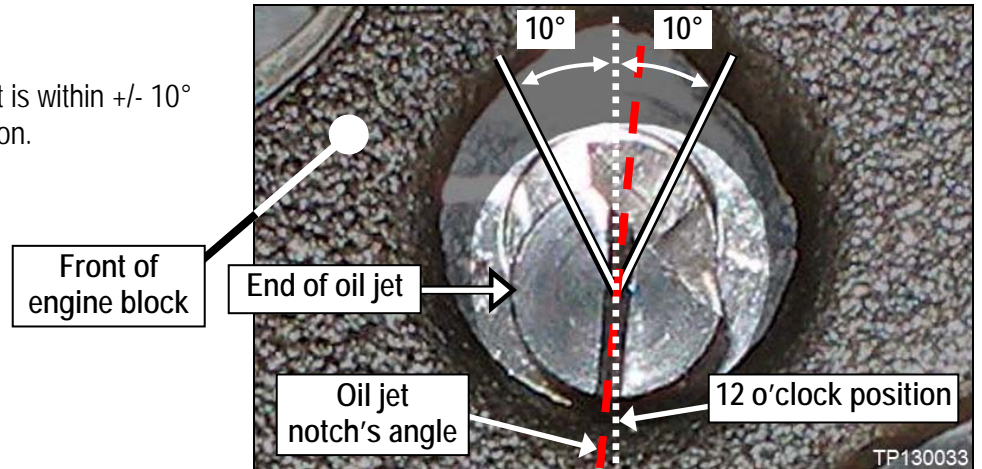


Figure 9; example of installation

- b. Confirm the oil jet is flush with the block.

- If the oil jet is not properly installed on the first attempt, steps 2 - 7 will need to be performed a second time.

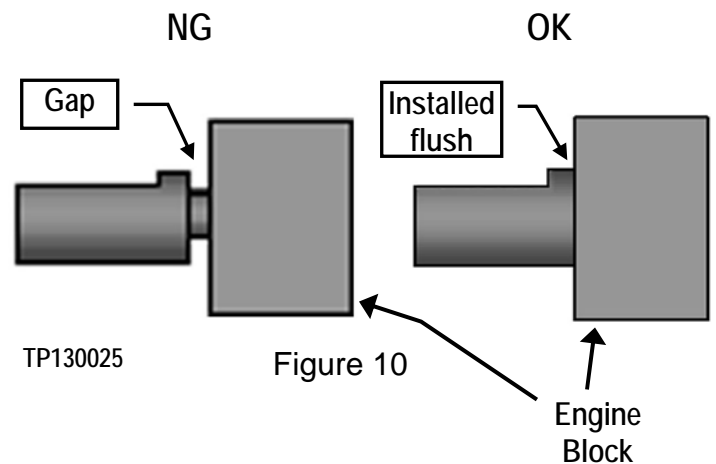


Figure 10

8. Once proper oil jet installation is confirmed, reassemble the engine with new B1 and B2 timing chains and guides.

- See the next two pages for pictures of an engine with assembled timing chains and guides.
- Always replace related seals, o-rings and gaskets as noted in the ESM.
- For both model vehicles: Refer to the **B ENGINE > EM Engine Mechanical** section of the ESM.

9. Install the battery cables, negative cable last.

10. Reprogram the radio presets.

11. Reset / initialize all applied systems i.e. power windows, clock, sunroof, etc.

On this and the next page: QX56 engine shown, M56 engine similar.

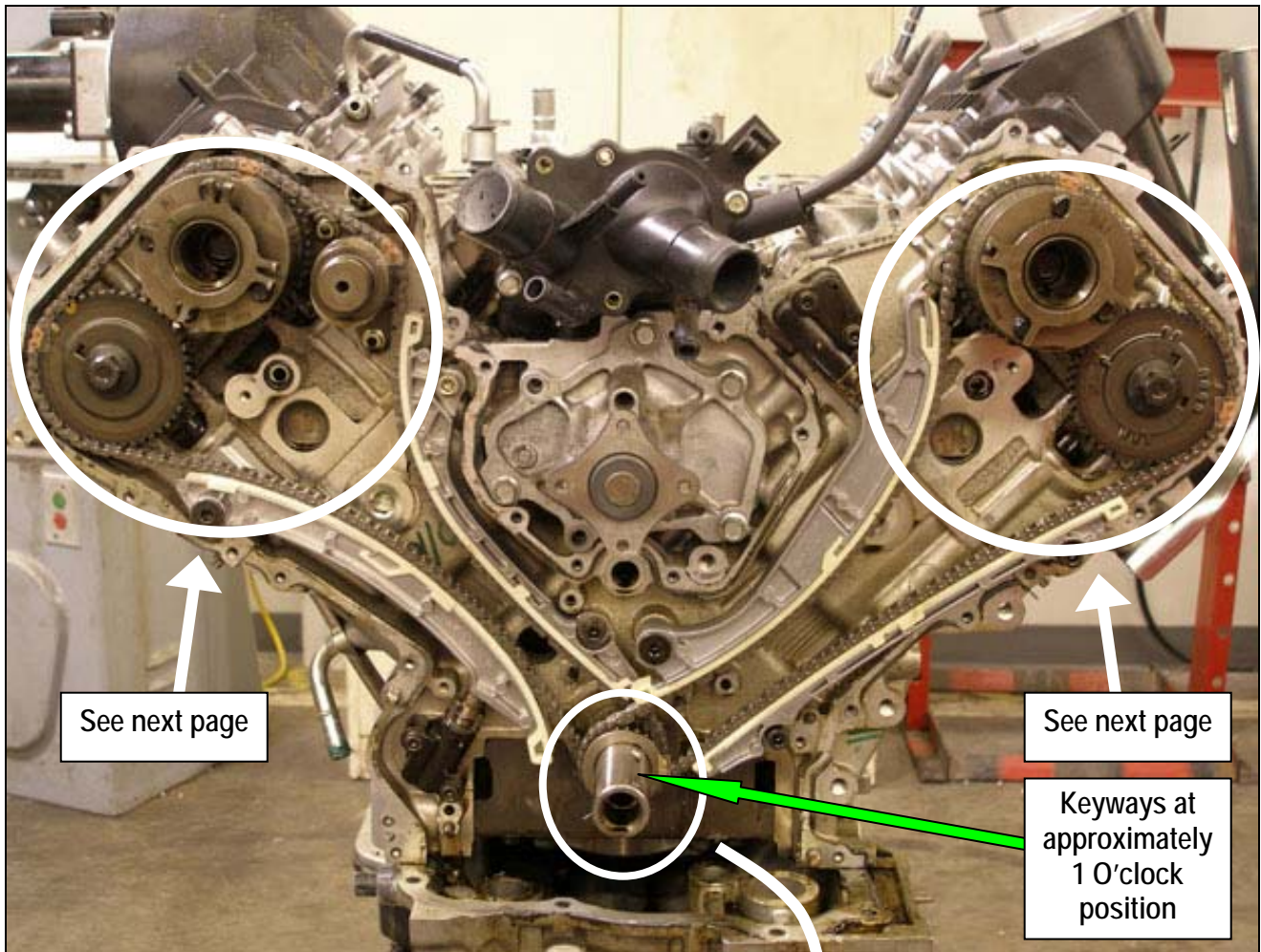
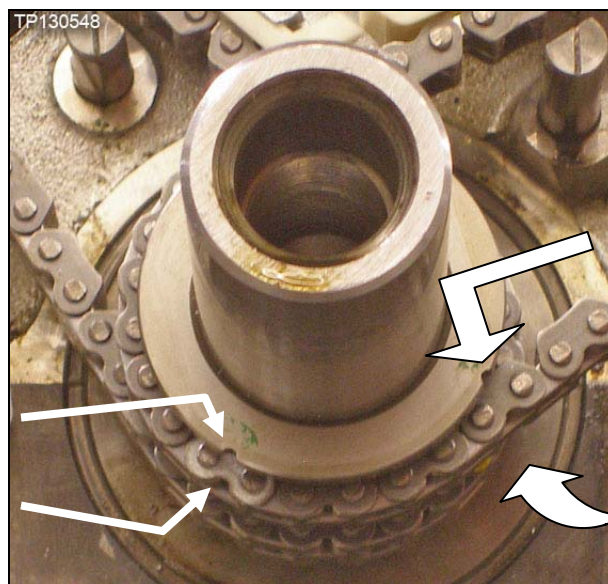


Figure 11; # 1 piston set at top dead center compression stroke



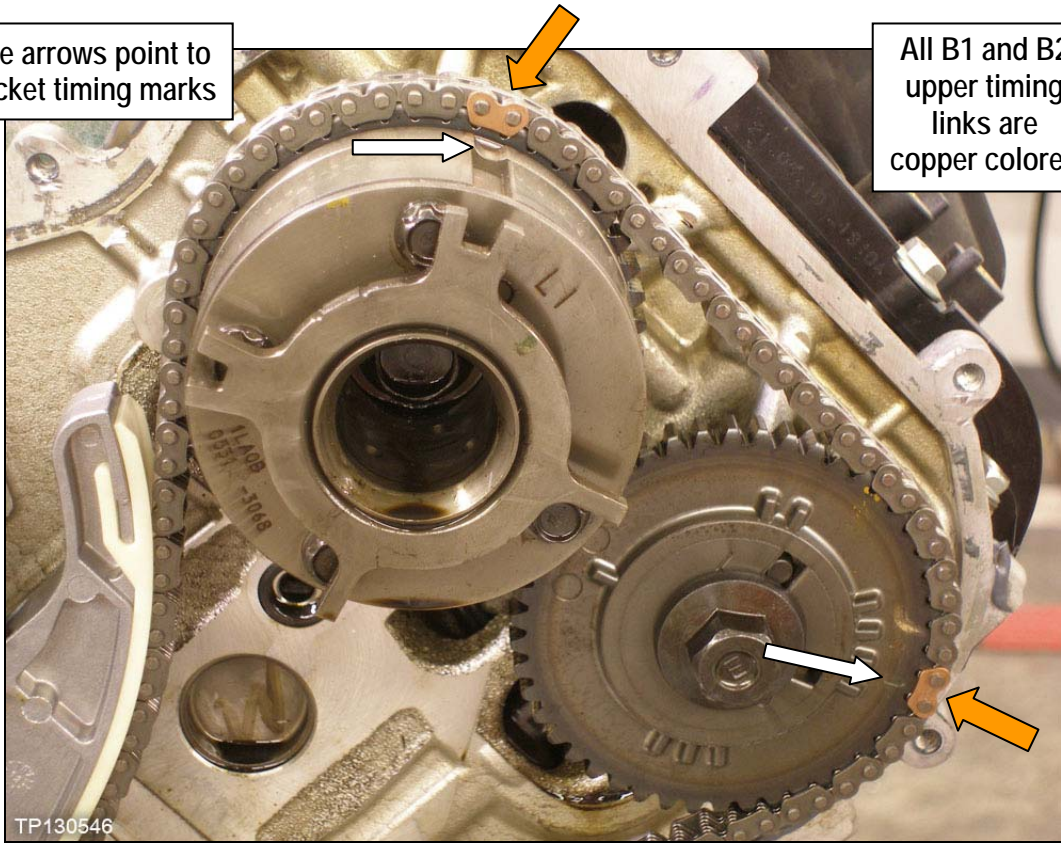
White link on B1 (front) timing chain, and its crankshaft sprocket timing mark

Yellow link on B2 timing chain (hidden behind B1 chain), and its frontal crankshaft sprocket timing mark

Figure 12

White arrows point to sprocket timing marks

All B1 and B2 upper timing links are copper colored

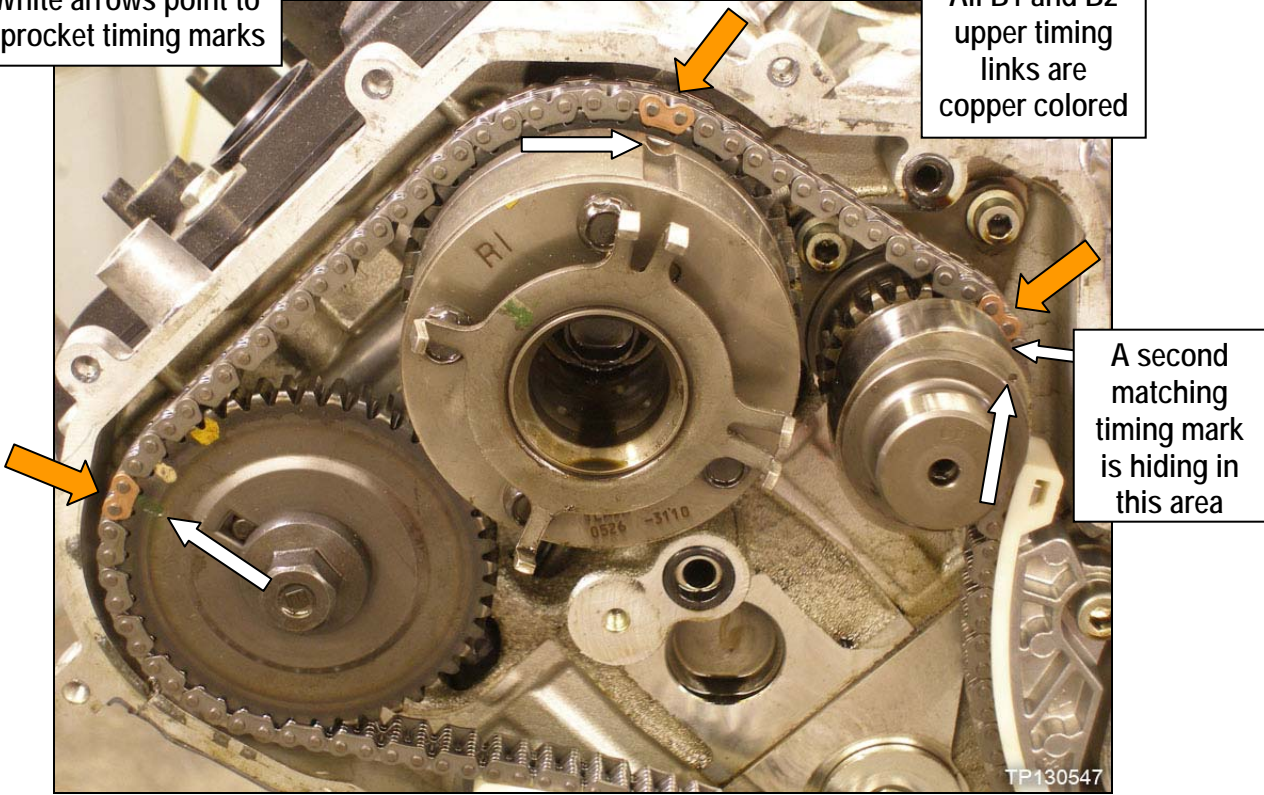


TP130546

Figure 13; B1

White arrows point to sprocket timing marks

All B1 and B2 upper timing links are copper colored



TP130547

Figure 14; B2