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<b>Model Year Start:</b> 2020	<b>Model:</b> Supra	<b>Prod Date Range:</b> [03/2019 - ]
<b>Title:</b> B58 (ENGINE MECHANICAL): CRANKSHAFT: DISASSEMBLY; 2020 MY Supra [03/2019 - ]		

## **DISASSEMBLY**

### **PROCEDURE**

#### **1. REMOVE ENGINE ASSEMBLY**

Click here [INFO](#)

#### **2. REMOVE SPARK PLUG**

Click here [INFO](#)

#### **3. REMOVE NO. 2 AIR CLEANER HOSE**

Click here [INFO](#)

#### **4. REMOVE OIL PAN DRAIN PLUG**

Click here [INFO](#)

#### **5. INSTALL OIL PAN DRAIN PLUG**

Click here [INFO](#)

#### **6. REMOVE NO. 1 FUEL PIPE SUB-ASSEMBLY**

Click here [INFO](#)

#### **7. REMOVE FUEL PUMP ASSEMBLY**

Click here [INFO](#)

#### **8. REMOVE FUEL INJECTOR ASSEMBLY (for Front Side)**

Click here [INFO](#)

#### **9. REMOVE FUEL INJECTOR ASSEMBLY (for Rear Side)**

Click here [INFO](#)

#### **10. REMOVE CAM TIMING OIL CONTROL SOLENOID ASSEMBLY**

Click here [INFO](#)

#### **11. REMOVE CYLINDER HEAD COVER SUB-ASSEMBLY**

Click here [INFO](#)

#### **12. REMOVE INTAKE MANIFOLD**

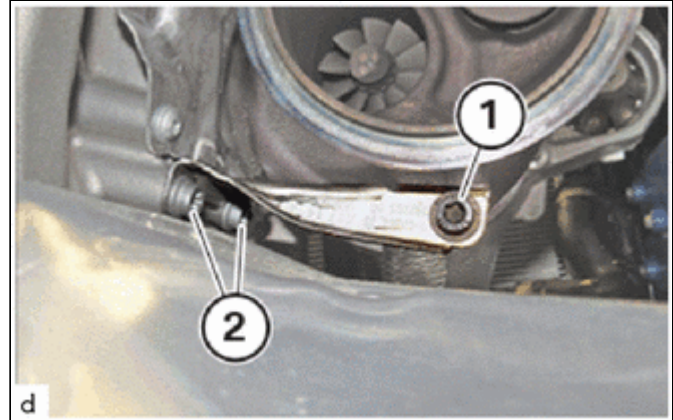
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#### **13. REMOVE OUTLET TURBO OIL PIPE**

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## 14. REMOVE TURBOCHARGER STAY

(a) Loosen T45 bolt (1).



(b) Release T45 bolts (2) and remove the turbocharger stay.

## 15. SET NO. 1 CYLINDER TO TDC (COMPRESSION)

(a) Turn the engine with the special tool 0 493 380 (11 6 480) to the TDC firing position of cylinder 1.

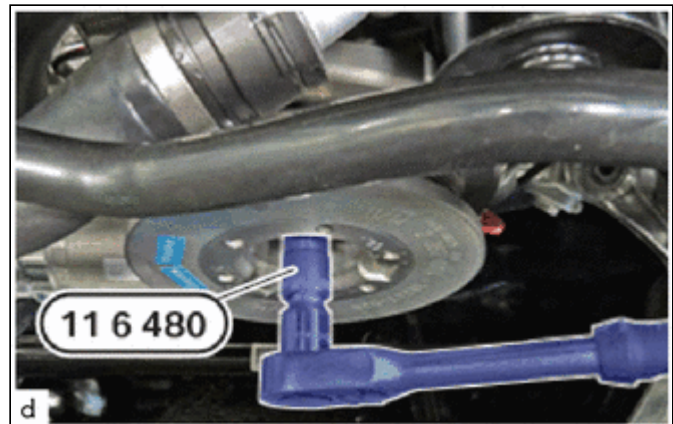
**SST: 09200-WA190**

### NOTICE:

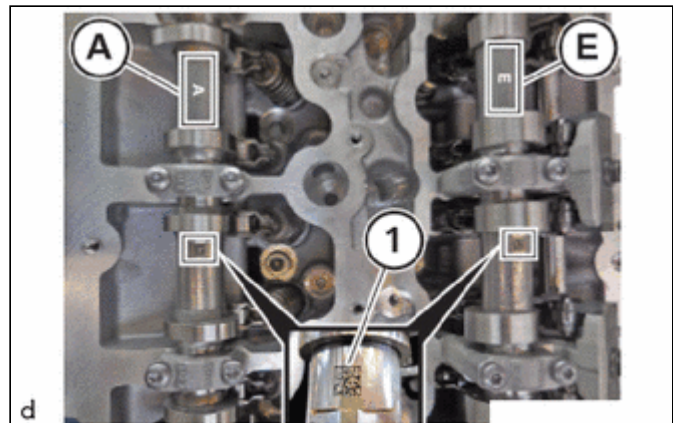
- Damage to the engine.

The engine may be damaged if it is manually rotated in the wrong direction.

- Always rotate the engine in the correct direction of rotation by hand: a) Clockwise, facing the crankshaft pulley assembly or b) Counter-clockwise, facing the timing chain. (b) only applies when the chain sub-assembly is installed.

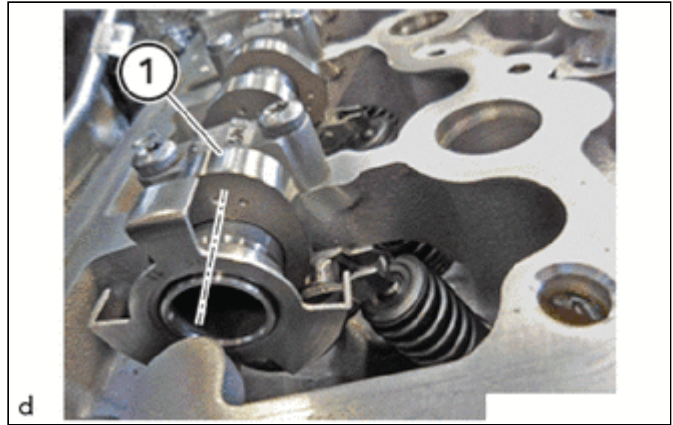


(b) Make sure that the marks (1) on the intake camshaft sub-assembly (E) and the exhaust camshaft sub-assembly (A) are legible from above.

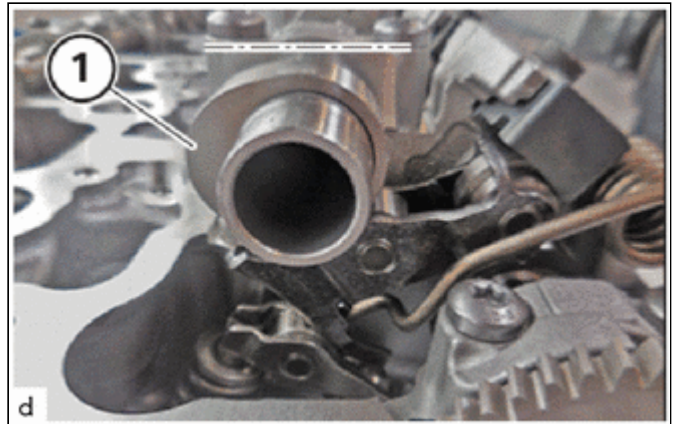


(c) Ensure that the cam (1) on the exhaust camshaft

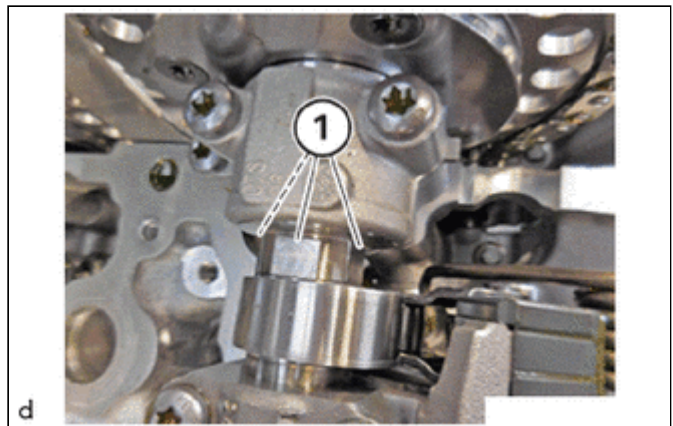
sub-assembly on cylinder 1 points to the inside right at a slight angle.



(d) Ensure that the cam (1) on the intake camshaft sub-assembly on cylinder 1 points to the inside left at an angle.

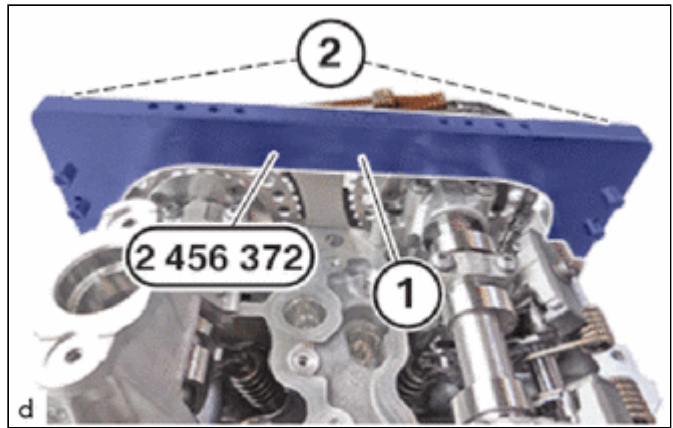


(e) Ensure that the flattened areas (1) on the intake camshaft sub-assembly and the exhaust camshaft sub-assembly point upwards.



(f) Position the basic carrier (1) from the set of special tools 2 456 372 on the cylinder head sub-assembly.

**SST: 09200-WA690**

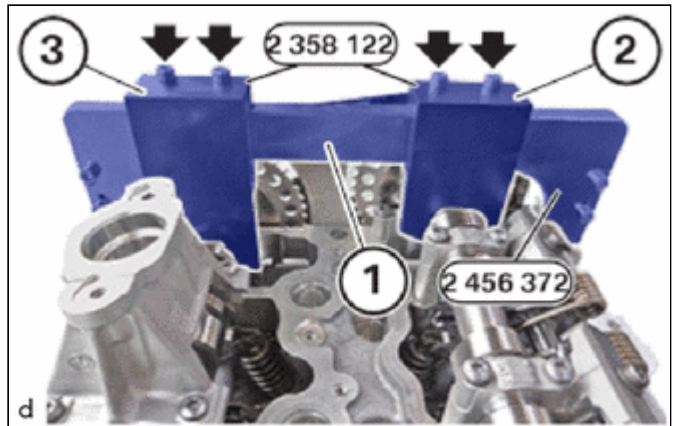


(g) Tighten the bolts (2) from the set of special tools 2 456 372 .

**SST: 09200-WA690**

**Torque:**

**8.0 N·m {82 kgf·cm, 71 in·lbf}**



(h) Position the test gauge (2) from the set of special tools 2 358 122 between the intake camshaft sub-assembly (1) and the basic carrier (3) from the set of special tools 2 456 372 .

**SST: 09200-WA380**

**SST: 09200-WA690**

(i) Position the test gauge (3) from the set of special tools 2 358 122 between the exhaust camshaft sub-assembly and the basic carrier (1) from the set of special tools 2 456 372 .

**SST: 09200-WA380**

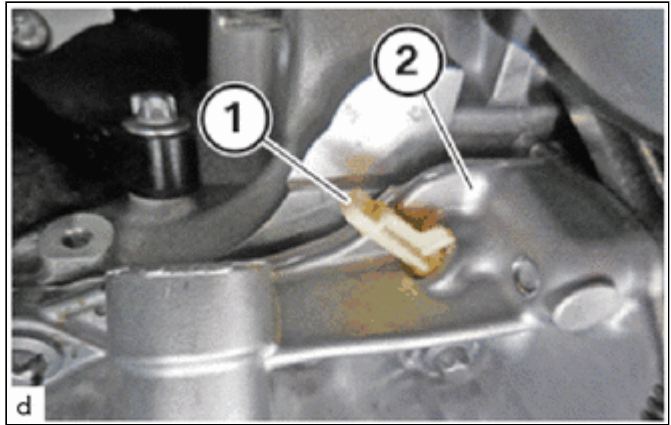
**SST: 09200-WA690**

(j) Tighten bolts (arrows).

**Torque:**

**8.0 N·m {82 kgf·cm, 71 in·lbf}**

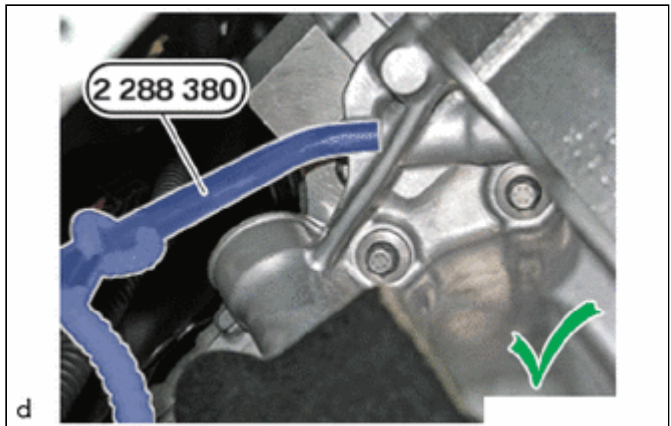
(k) Guide out and remove sealing cap (1) on oil pan sub-assembly (2).



(l) Position the special tool 2 288 380 correctly in the dowel hole .

**SST: 09200-WA570**

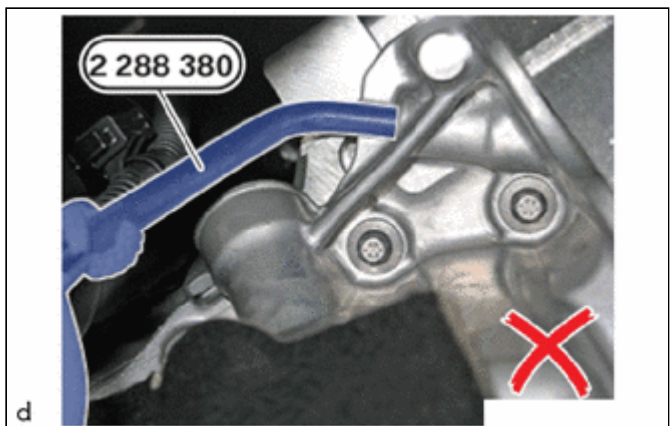
(1) The engine is in the TDC firing position of cylinder 1.



(m) Make sure that the special tool 2 288 380 is not positioned incorrectly.

**SST: 09200-WA570**

(1) The TDC firing position of cylinder 1 was not reached.



## 16. REMOVE NO. 1 CHAIN TENSIONER ASSEMBLY

Click here [INFO](#)

## 17. LOOSEN INTAKE CAMSHAFT TIMING GEAR BOLT ASSEMBLY

Click here [INFO](#)

## 18. LOOSEN EXHAUST CAMSHAFT TIMING GEAR BOLT ASSEMBLY

Click here [INFO](#)

### **19. REMOVE INTAKE CAMSHAFT TIMING GEAR BOLT ASSEMBLY**

Click here [INFO](#)

### **20. REMOVE EXHAUST CAMSHAFT TIMING GEAR BOLT ASSEMBLY**

Click here [INFO](#)

### **21. REMOVE CAMSHAFT TIMING GEAR ASSEMBLY**

Click here [INFO](#)

### **22. REMOVE CAMSHAFT TIMING EXHAUST GEAR ASSEMBLY**

Click here [INFO](#)

### **23. REMOVE SST**

Click here [INFO](#)

### **24. REMOVE CYLINDER HEAD SUB-ASSEMBLY**

Click here [INFO](#)

### **25. REMOVE CYLINDER HEAD GASKET**

Click here [INFO](#)

### **26. REMOVE CRANKSHAFT PULLEY ASSEMBLY**

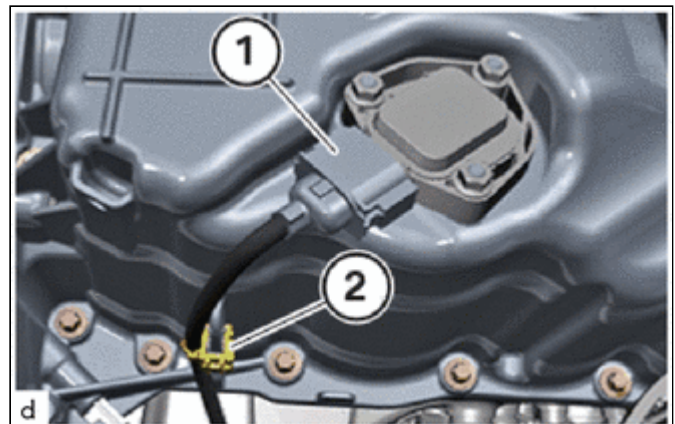
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### **27. REMOVE DRIVE PLATE AND RING GEAR SUB-ASSEMBLY**

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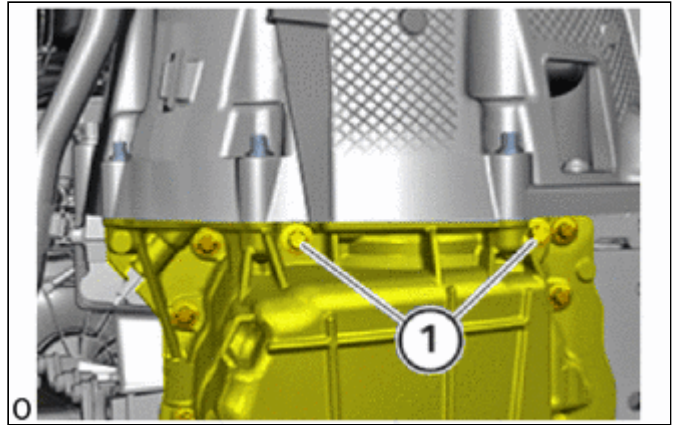
### **28. REMOVE OIL PAN SUB-ASSEMBLY**

(a) Unlock and loosen connector (1).

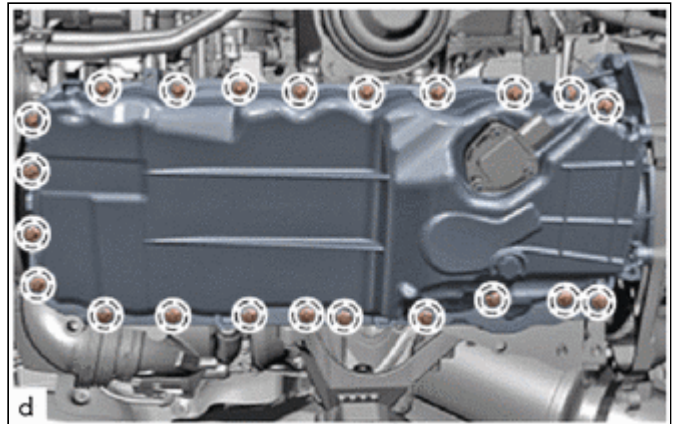


(b) Loosen clamp (2).

(c) Loosen E10 bolts (1).



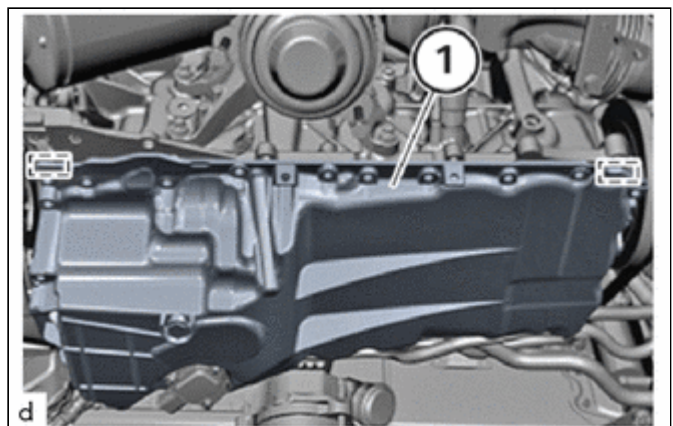
(d) Unscrew all of the E10 bolts (marks).



(e) Release the oil pan sub-assembly (1) in the marked areas.

**HINT:**

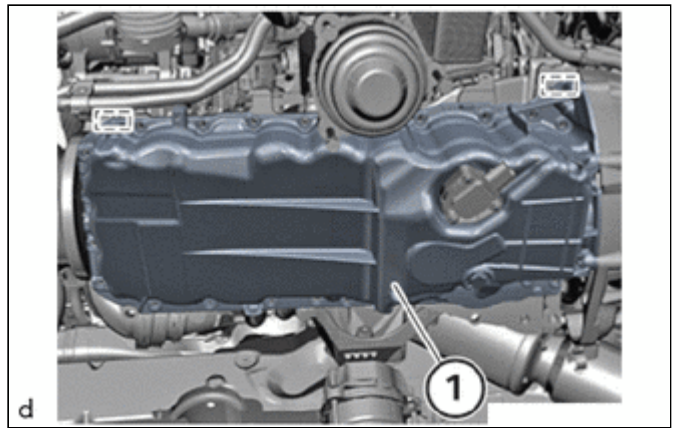
Increased force may be necessary during disassembly because the component is bonded with seal packing.



(f) Release the oil pan sub-assembly (1) in the marked areas.

**HINT:**

Increased force may be necessary during disassembly because the component is bonded with seal packing.



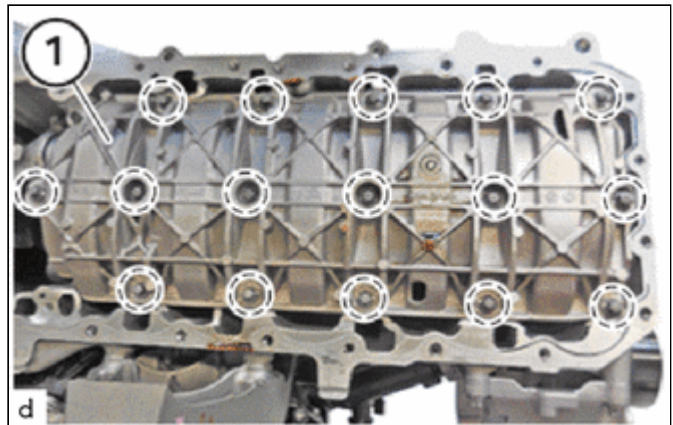
(g) Guide out oil pan sub-assembly (1) toward the bottom and remove.

### 29. REMOVE OIL PUMP ASSEMBLY

Click here [INFO](#)

### 30. REMOVE NO. 1 OIL PAN BAFFLE PLATE

(a) Unscrew all E10 bolts (markings).



(b) Guide out and remove the No. 1 oil pan baffle plate (1).

### 31. REMOVE CONNECTING ROD SUB-ASSEMBLY

Click here [INFO](#)

### 32. REMOVE TIMING GEAR CASE

Click here [INFO](#)

### 33. REMOVE TIMING CHAIN COVER OIL SEAL

Click here [INFO](#)

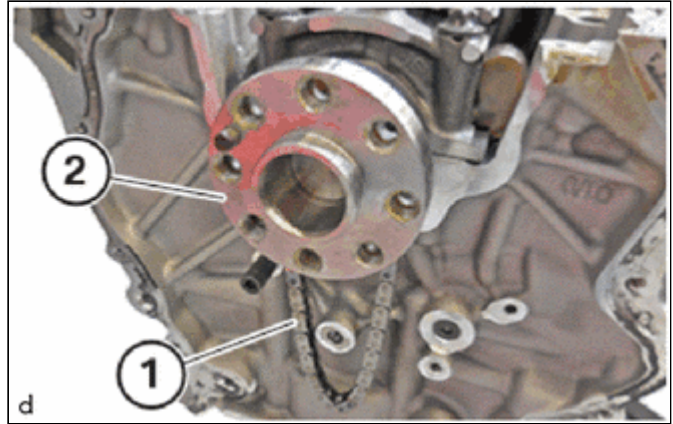
### 34. REMOVE CHAIN SUB-ASSEMBLY

Click here [INFO](#)

### 35. REMOVE OIL PUMP DRIVE CHAIN SUB-ASSEMBLY



- (a) Guide out and remove oil pump drive chain sub-assembly (1) from crankshaft (2).



### 36. REMOVE CRANKSHAFT

**NOTICE:**

- Engine damage caused by incorrectly installed crankshaft bearings and crankshaft bearing caps.

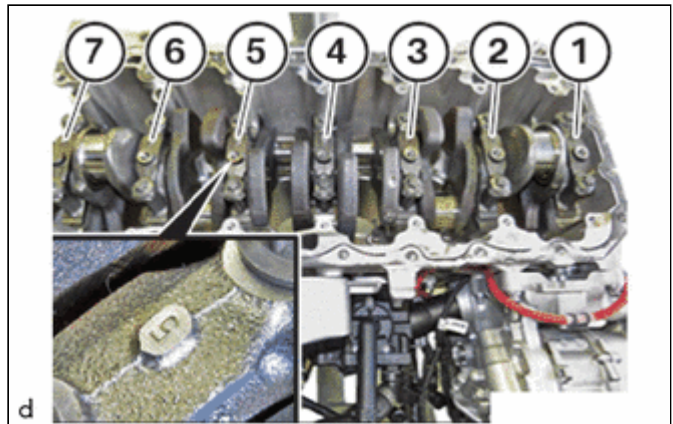
Engine damage may result from incorrectly installing crankshaft bearings and crankshaft bearing caps.

- Always install all crankshaft bearings and crankshaft bearing caps in the same position from which they were removed.

- (a) Observe the assignment and numbering (1) to (7) of the crankshaft bearing caps.

(1) (1) = Engine, front (vibration damper)

(2) (7) = Clutch side

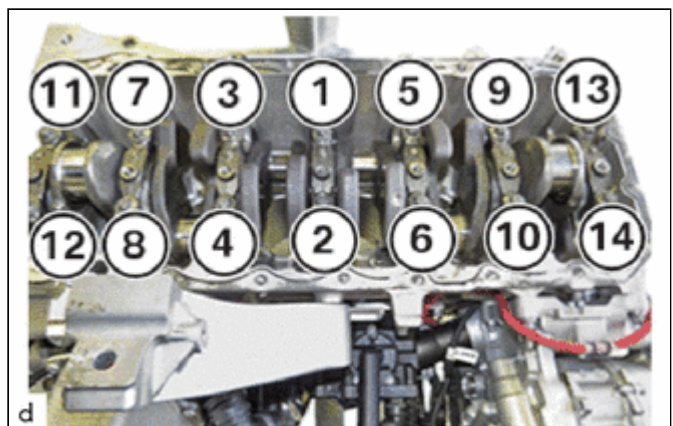


- (b) Loosen E14 bolts in the order (14) to (1).

**HINT:**

The crankshaft bearing cap, crankshaft bearing are aligned with each other.

Always install the crankshaft bearing cap, crankshaft bearing in the cylinder from which they were removed.



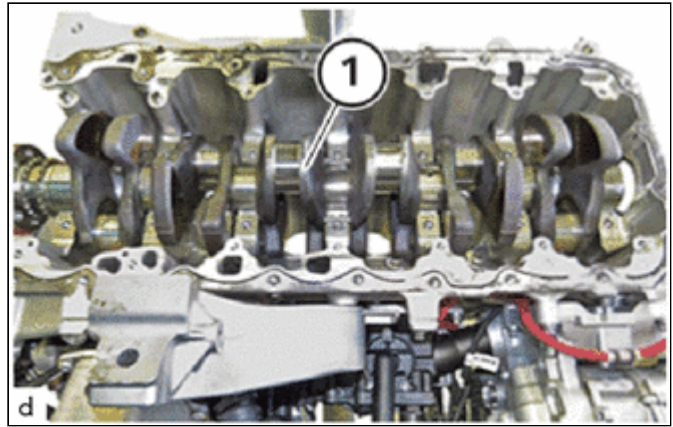
(c) Remove the crankshaft (1).

**CAUTION:**

- Heavy component.

Heavy components can lead to injury or damage.

- Remove and install heavy components with the aid of another person/other persons.



### 37. REMOVE CRANKSHAFT BEARING

**NOTICE:**

- Engine damage caused by incorrectly installed crankshaft bearings and crankshaft bearing caps.

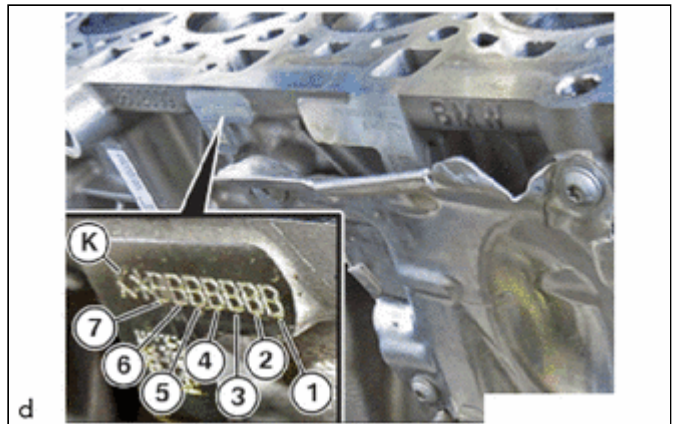
Engine damage may result from incorrectly installing crankshaft bearings and crankshaft bearing caps.

- Always install all crankshaft bearings and crankshaft bearing caps in the same position from which they were removed.

(a) Enter the code letter on the crankcase in the table.

(1) K = Clutch side

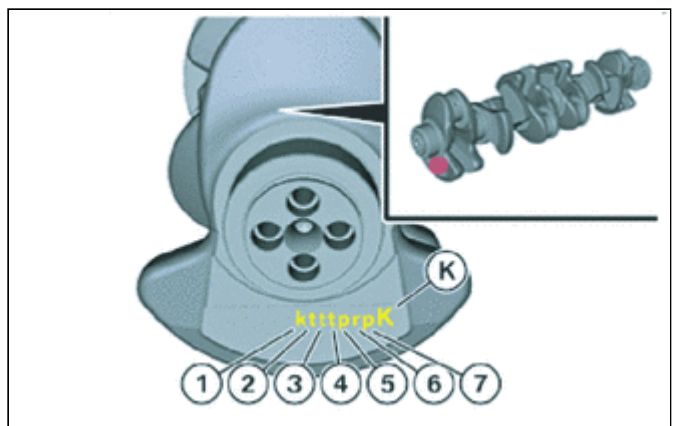
(2) The position numbers (7) to (1) describe the bearing seats 7 to 1. The identification number is always located on the crankshaft bearing caps.



(b) Enter the identification numbers on the crankshaft in the table.

(1) K = Clutch side

(2) The position numbers (1) to (7) describe the bearing seats 1 to 7. The identification number is always located on the crankshaft bearing



(c) Enter the code letters of the crankcase and the identification numbers of the crankshaft.

	Code letter on the crankcase	Key performance indicator on the crankshaft
Bearing seat 1		
Bearing seat 2		
Bearing seat 3		
Bearing seat 4		
Bearing seat 5		
Bearing seat 6		
Bearing seat 7		

(d) Use the table below to determine the number of the crankshaft bearings.

**HINT:**

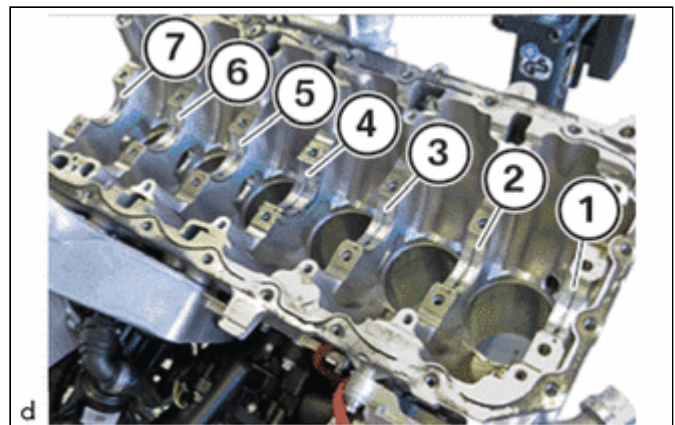
- Click PDF button.
- The following illustration is an example.

Table for the classification of crankshaft bearing 1, 2, 3, 5, 6

Crankshaft bearing (1) without lubrication groove in the crankshaft bearing cover.  
 Crankshaft bearing (2) with lubrication groove in the crankcase

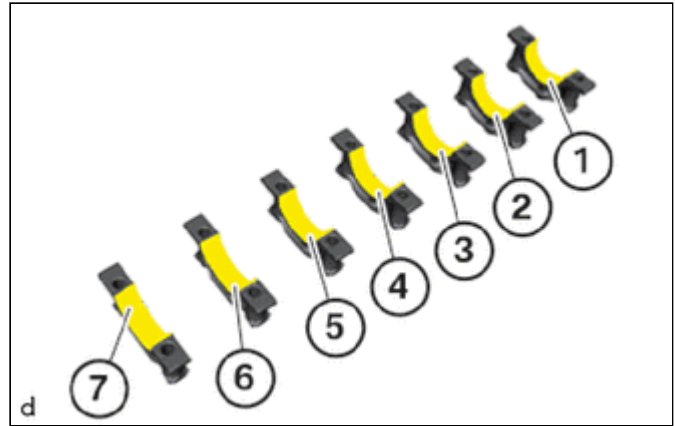
		Upper case letter on the crankcase																									
		A	B	C	D	E	H	J	K	L	M	N	P	R	T	U	V	W	X	Y	Z						
	a→	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1						
	a→	1	1	1	1	1	1	1	1	1	1	1	1	1	2	2	2	2	2	2	2						

(e) Remove the crankshaft bearings with lubricating groove (1) to (3) and (5) to (7) from the crankcase.



(f) Remove the upper crankshaft thrust washer with lubricating groove (4) from the crankcase.

(g) Remove the crankshaft bearings (1) to (3) and (5) to (7) from the crankshaft bearing cap.



(h) Remove the lower crankshaft thrust washer (4) from the crankshaft bearingcap.

