

## 1.1 Exploded view - poly V-belt drive

### 1 - Poly V-belt

- Check for wear
- Do not kink
- Removing and installing ⇒ [page 18](#)
- Routing of poly V-belt ⇒ [page 16](#)
- Before removing, mark direction of rotation with chalk or felt-tip pen
- When installing, make sure it is properly seated on pulleys

### 2 - Vibration damper

- Removing and installing ⇒ [page 19](#)
- Can only be installed in one position

### 3 - Bolt

- Renew after removing
- 50 Nm +90°

### 4 - Bolt

- 45 Nm

### 5 - Tensioner

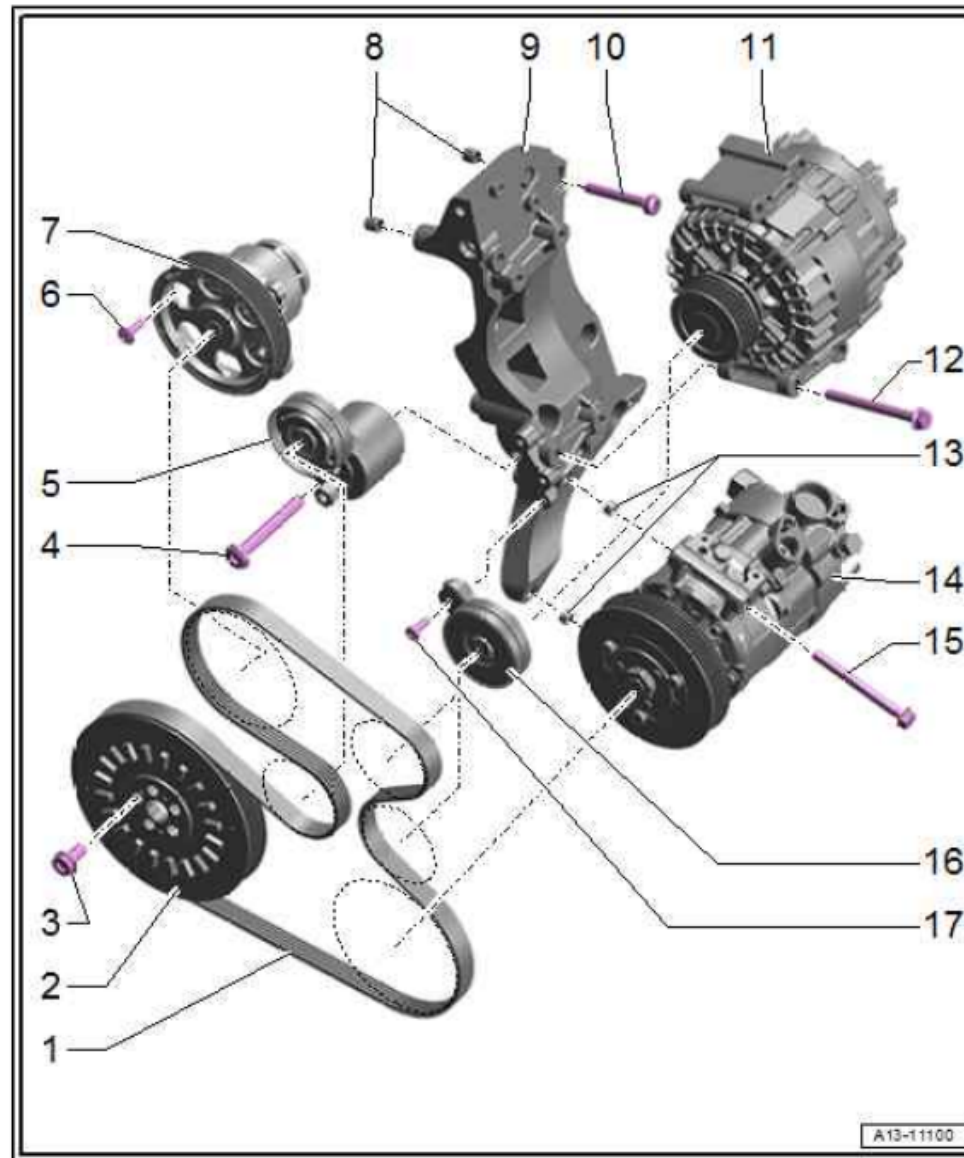
- For poly V-belt
- Removing and installing ⇒ [page 18](#)

### 6 - Bolt with rubber grommet

- Tightening torque ⇒ [Item 8 \(page 144\)](#)

### 7 - Coolant pump

- Removing and installing ⇒ [page 147](#)



### 8 - Dowel sleeves

- For bracket for ancillaries

### 9 - Bracket for ancillaries

- Removing and installing ⇒ [page 21](#)

### 10 - Bolt

- Tightening torque and sequence ⇒ [page 17](#)

### 11 - Alternator

- Removing and installing ⇒ Electrical system; Rep. gr. 27 ; Alternator; Removing and installing alternator

### 12 - Bolt

- Tightening torque ⇒ Electrical system; Rep. gr. 27 ; Alternator; Exploded view - alternator

### 13 - Dowel sleeves

- For air conditioner compressor

### 14 - Air conditioner compressor

- Removing and installing ⇒ Heating, air conditioning; Rep. gr. 87 ; Air conditioner compressor; Detaching and attaching air conditioner compressor at bracket

### 15 - Bolt

- Tightening torque ⇒ Heating, air conditioning; Rep. gr. 87 ; Air conditioner compressor; Exploded view - air conditioner compressor drive unit

### 16 - Idler roller

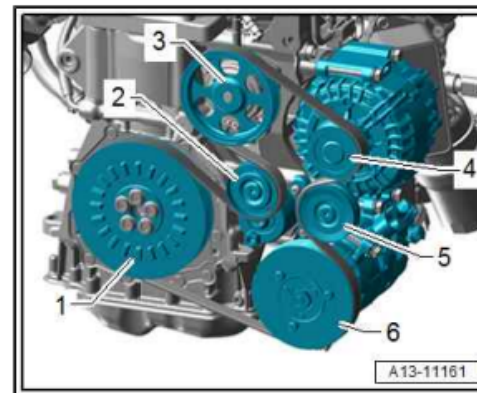
### 17 - Bolt

- 8 Nm

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### Routing of poly V-belt

- 1 - Vibration damper
- 2 - Tensioner
- 3 - Coolant pump
- 4 - Alternator
- 5 - Idler roller
- 6 - Air conditioner compressor



## 1.2 Exploded view - sealing flange (pulley end)

### 1 - Bolt

- Tightening torque  
⇒ [Item 3 \(page 15\)](#)

### 2 - Washer

### 3 - Vibration damper

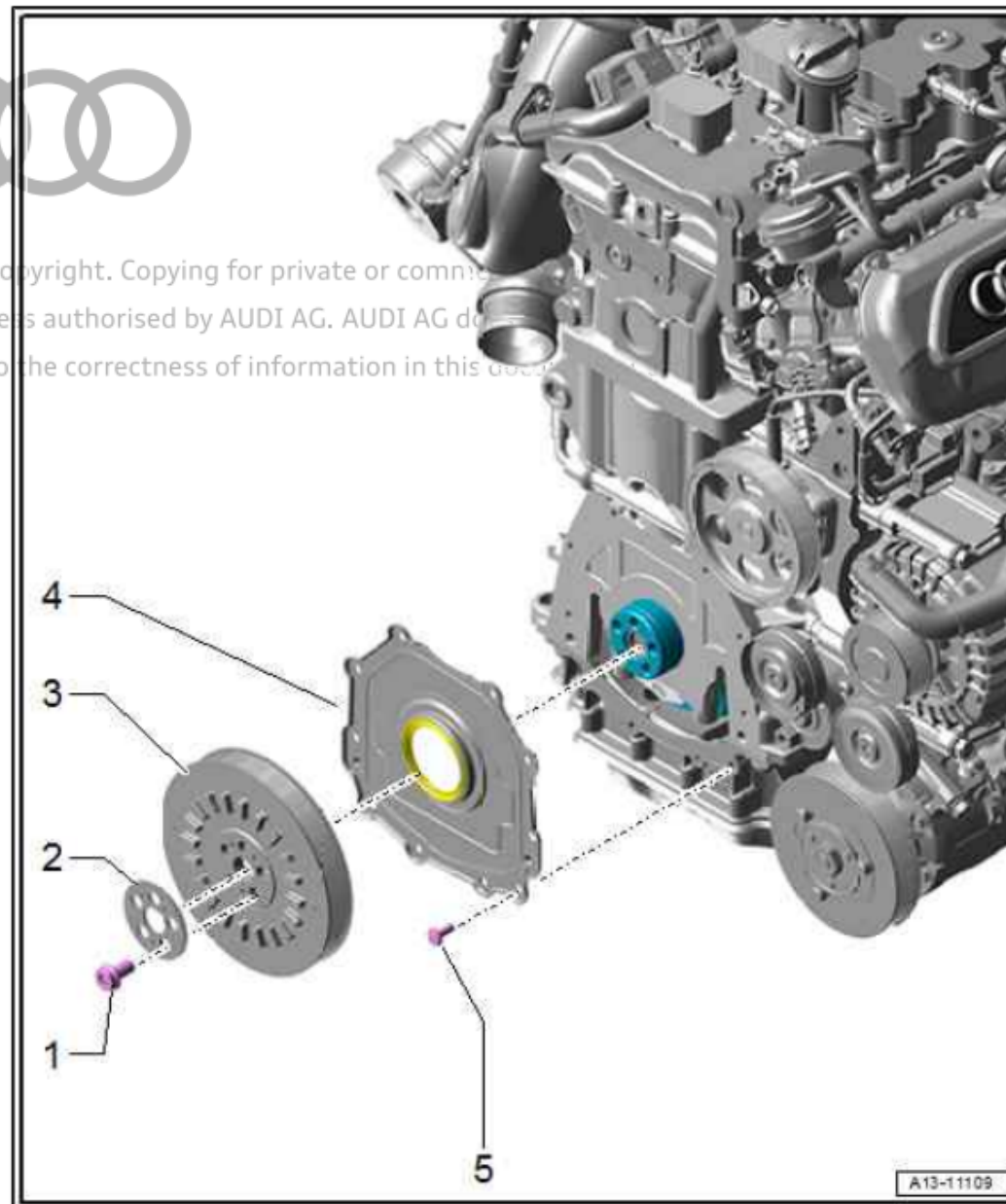
- Version fitted in vehicle may differ from illustration
- Exploded view  
⇒ [page 15](#) with respect to the correctness of information in this document
- Can only be installed in one position.

### 4 - Sealing flange (pulley end)

- With centring collar
- Renew after removing
- Apply sealant when installing; refer to ⇒ [Electronic parts catalogue](#)
- Removing and installing  
⇒ [page 22](#)

### 5 - Bolt

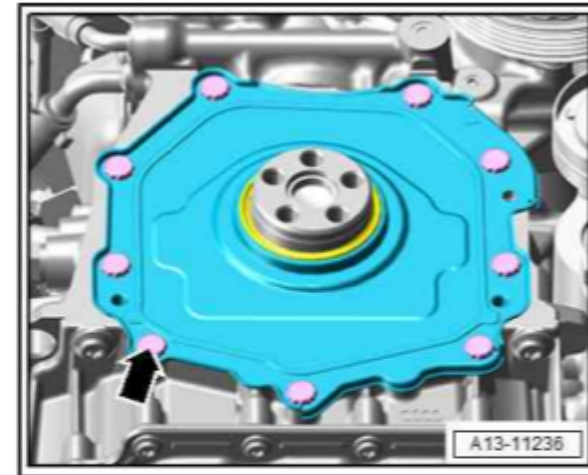
- Tightening torque and sequence ⇒ [page 18](#)



### Sealing flange (pulley end) - tightening torque and sequence

- After removing, renew bolts tightened with specified tightening angle.
- Tighten bolts -arrow- alternately in stages:

Stage	Tightening torque
1.	Screw in by hand until contact is made
2.	3 Nm in diagonal sequence
3.	45° in diagonal sequence



JDY Performance crank seal bolt torque limit is 10NM  
do not need 45 degree diagonal sequence

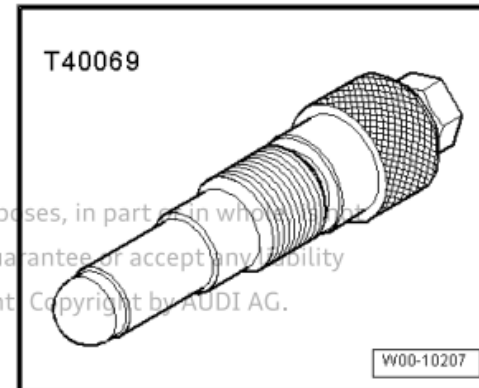
## 1.5 Removing and installing vibration damper

### Special tools and workshop equipment required

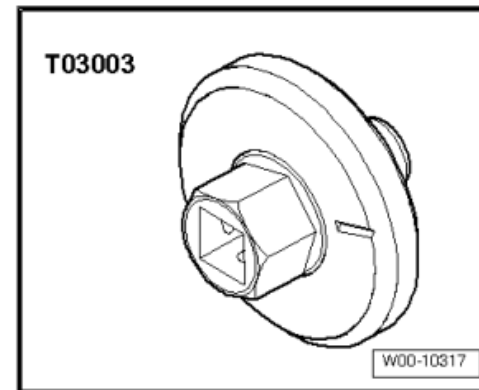
- ◆ Locking pin - T40069-



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- ◆ Key - T03003A-



### Preparing tool ( key - T03003- ):

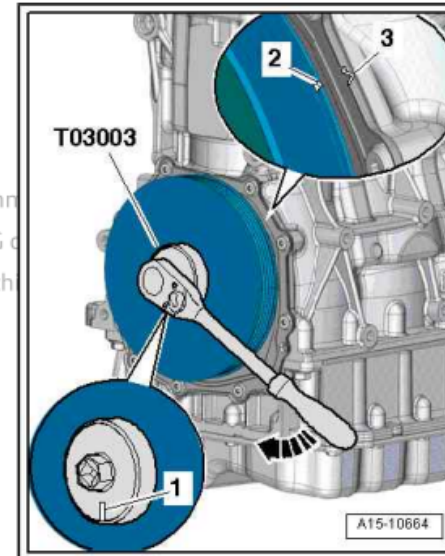
- If only key - T03003- is available, bolt must be removed so that it can be applied to vibration damper.

### Removing

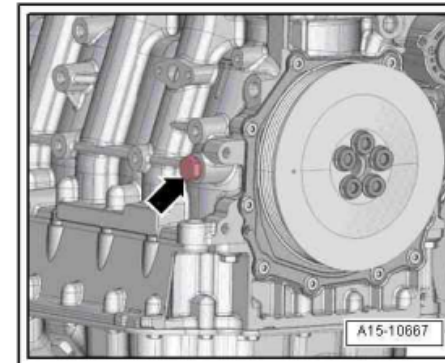
- Remove poly V-belt ⇒ [page 18](#) .
- Remove noise insulation ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Removing and installing noise insulation .

- Turn crankshaft with wrench - T03003A- in normal direction of rotation -arrow- to "TDC" position.
- Notch -1- in wrench - T03003A- must be perpendicular to sealing surface of sump.
- Marking -2- on vibration damper must be opposite marking -3- on sealing flange.

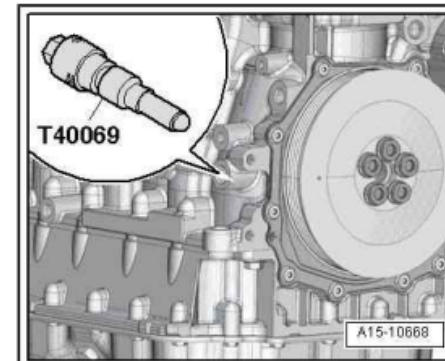
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- Unscrew plug -arrow- for "TDC" marking from cylinder block.



- Screw locking pin - T40069- into locating groove and tighten to 15 Nm. If necessary, turn crankshaft backwards and forwards slightly to fully centralise locking pin.





- Unscrew bolts -arrow- and remove vibration damper.

### Installing

Installation is carried out in reverse order; note the following:

- After removing, renew bolts tightened with specified tightening angle.

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The vibration damper can only be fitted in one position.

- Remove locking pin - T40069- .
- Install poly V-belt ⇒ [page 18](#) .

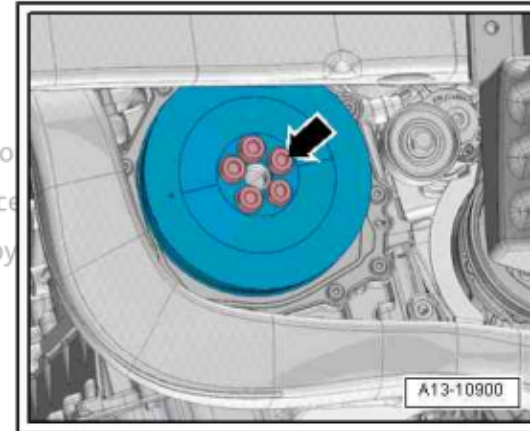
### Tightening torques

- ◆ ⇒ [“3.1 Exploded view - crankshaft”, page 31](#)
- ◆ ⇒ General body repairs, exterior; Rep. gr. 66 ; Noise insulation; Exploded view - noise insulation

## 1.6 Removing and installing bracket for ancillaries

### Removing

- Remove tensioner for poly V-belt ⇒ [page 18](#) .
- Remove engine mountings ⇒ 5-cylinder direct injection engine (2.5 ltr. 4-valve TFSI); Rep. gr. 10 ; Assembly mountings; Removing and installing engine mountings .
- Remove radiator cowl ⇒ 5-cylinder direct injection engine (2.5 ltr. 4-valve TFSI); Rep. gr. 19 ; Radiator/radiator fans; Removing and installing radiator cowl .
- Remove air conditioner compressor ⇒ Heating, air conditioning; Rep. gr. 87 ; Air conditioner compressor; Detaching and attaching air conditioner compressor at bracket .
- Remove alternator ⇒ Electrical system; Rep. gr. 27 ; Alternator; Removing and installing alternator .

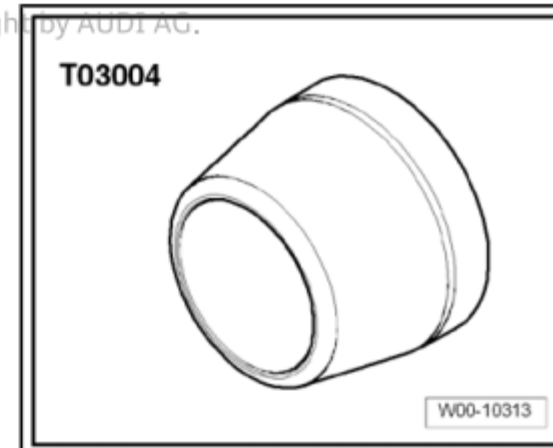


## 1.7 Removing and installing sealing flange (pulley end)

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**Special tools and workshop equipment required** does not guarantee or accept any liability

◆ **Assembly sleeve - T03004-** of information in this document. Copyright by AUDI AG.



- ◆ Electric drill with plastic brush
- ◆ Safety goggles
- ◆ Sealant ⇒ Electronic parts catalogue

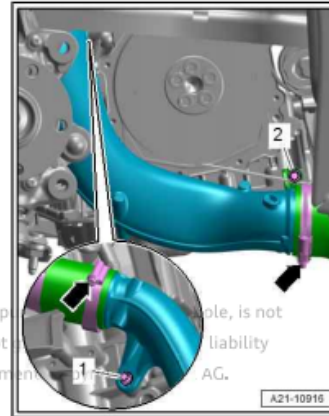


### Procedure

- Remove vibration damper => [page 19](#).
- Remove bolts -1, 2-
- Release hose clips -arrows- and detach air pipe.



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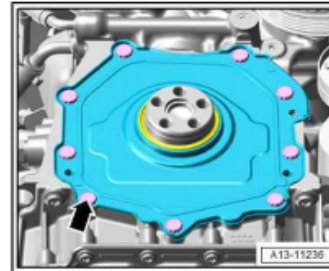
- Remove bolts -arrow-
- Release sealing flange from bonded joint.
- Renew sealing flange after removing.



#### Caution

**Make sure sealant residue does not enter lubrication system.**

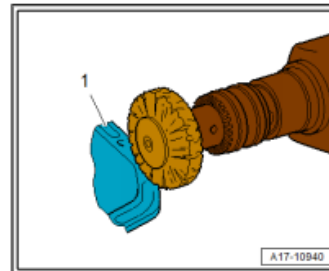
- ◆ Cover open area of cylinder block with a cloth.



#### WARNING

**Risk of eye injury.**

- ◆ Put on safety goggles.



- Use e.g. rotating plastic brush to remove sealant residue on cylinder block -1-
- Clean sealing surfaces and crankshaft journals; they must be free of oil and grease.
- Do not additionally oil or grease sealing lip of oil seal in sealing flange.

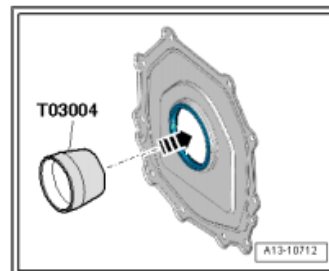


#### Caution

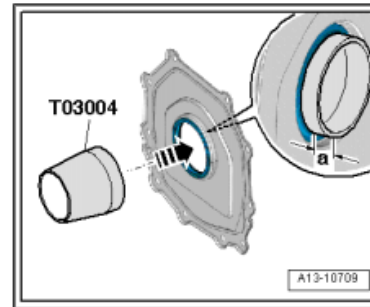
**Risk of damage to oil seal in sealing flange**

- ◆ To make sure sealing lip of oil seal does not fold over when installing, the following procedures must be performed.

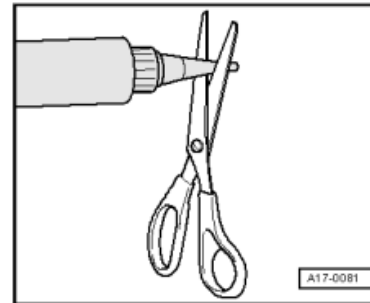
- Use assembly sleeve - T03004- to widen sealing lip of oil seal in sealing flange, as shown.
- Small diameter faces oil seal.



- After five minutes, remove assembly sleeve - T03004- , turn it over and insert into oil seal again.
- Large diameter faces oil seal.
- Assembly sleeve - T03004- must protrude by distance -a- at inside of flange
- Distance -a- = approx. 3 mm.

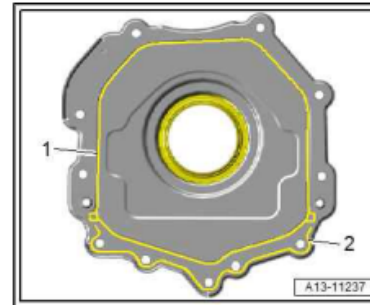


- Note expiry date of sealant.
- Cut off nozzle of tube at front marking (nozzle  $\varnothing$  approx. 2 mm).



**Caution**  
*Make sure lubrication system is not clogged by excess sealant.*  
 ♦ *The sealant bead must not be thicker than specified.*

- Apply bead of sealant -A- onto clean sealing surface of sealing flange.
- Width of sealant bead: 3 mm.
- The sealing flange must be installed within 5 minutes after applying sealant.



- Use assembly sleeve - T03004- to carefully fit sealing flange onto crankshaft journal and press onto cylinder block evenly (note centring collar on left and right).
- Secure sealing flange with bolts.
- Install vibration damper [⇒ page 19](#) .

#### Tightening torques

- ♦ [⇒ Fig. "Sealing flange \(pulley end\) - tightening torque and sequence", page 18](#)
- ♦ [⇒ "2.2 Exploded view - hose connections for charge air system", page 178](#)
- ♦ [⇒ 5-cylinder direct injection engine \(2.5 ltr. 4-valve TFSI\); Rep. gr. 21; Charge air system; Exploded view - charge air system](#)

