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Your Vehicle: 2010 Audi Q7 Quattro (4LB) V6-3.0L DSL Turbo (CATA)



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Service and Repair

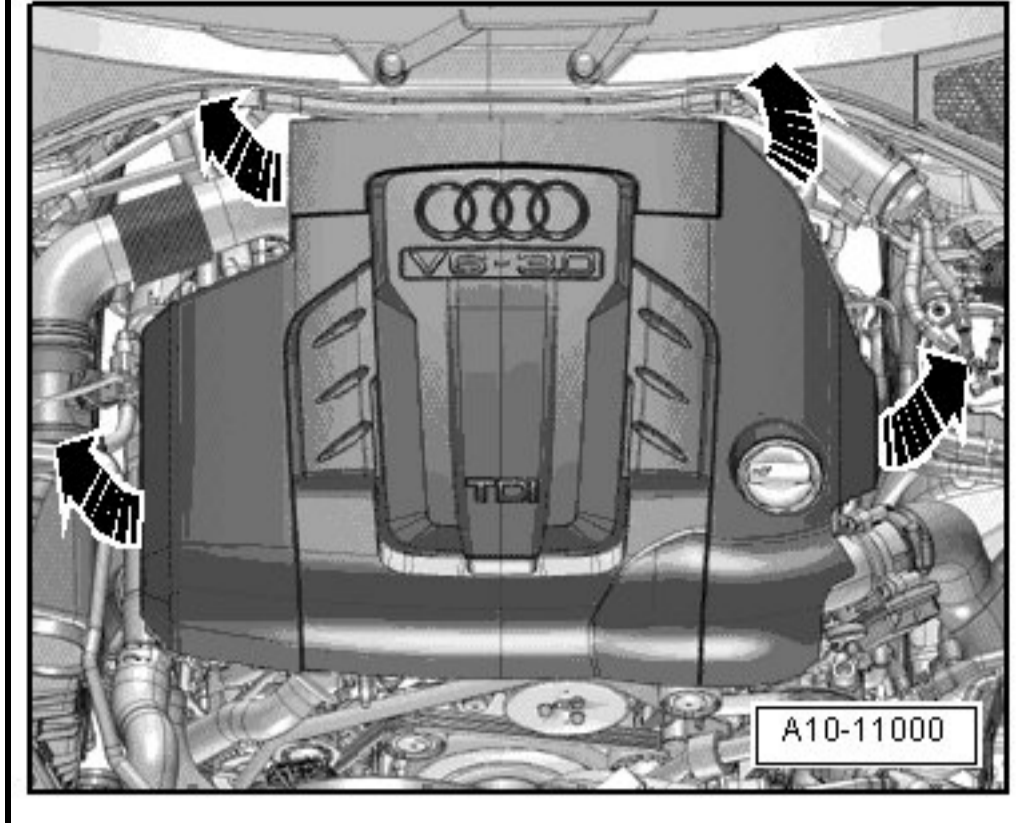
Turbocharger Control Module 1 (J724)

Special tools, testers and auxiliary items required

- ⌘ Tool for Replacing E-Positioner on Turbo (VAS 6395A) or (VAS 6395)
- ⌘ Wire Set (VAS 6395/2)
- ⌘ Bracket (VAS 6395/5)

Removing

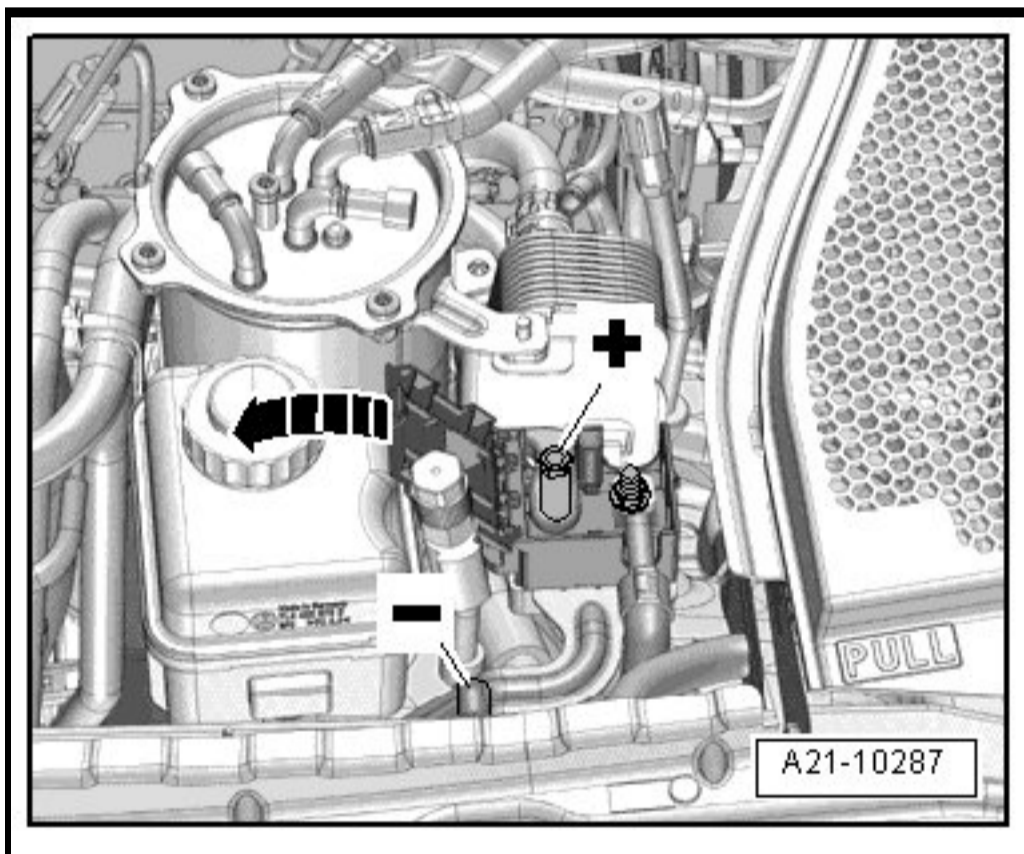
- Remove the engine cover - **arrows** -.



Zoom

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- Open the cover - **arrow** - over the positive terminal clamp.



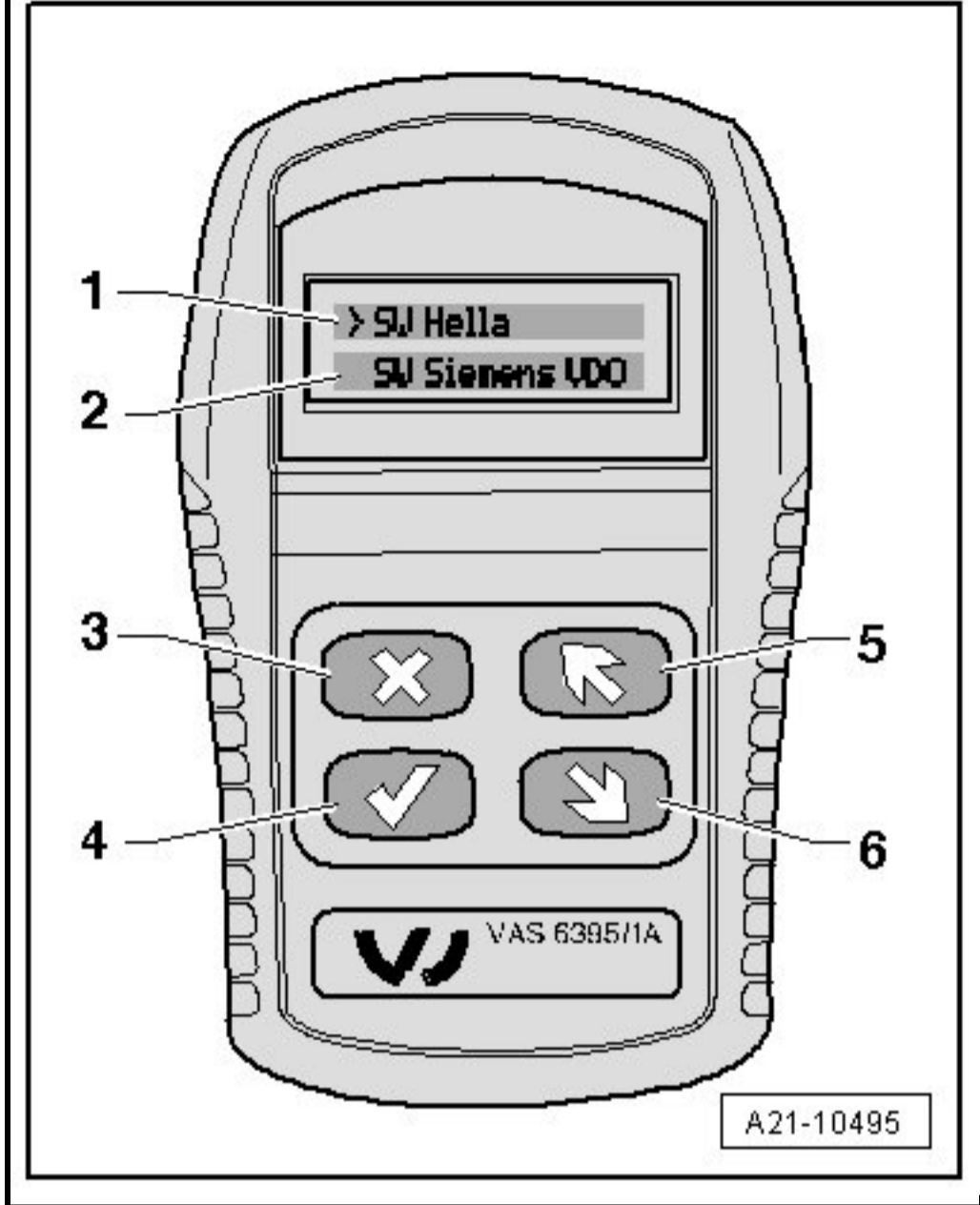
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- Connect the (VAS 6395) with the (VAS 6395/2) to the positive terminal and to the negative terminal.

Procedure for the E-box (VAS 6395/1A) :

- Select the software version using the [Up Arrow] - **5** - and [Down Arrow] - **6** - buttons.



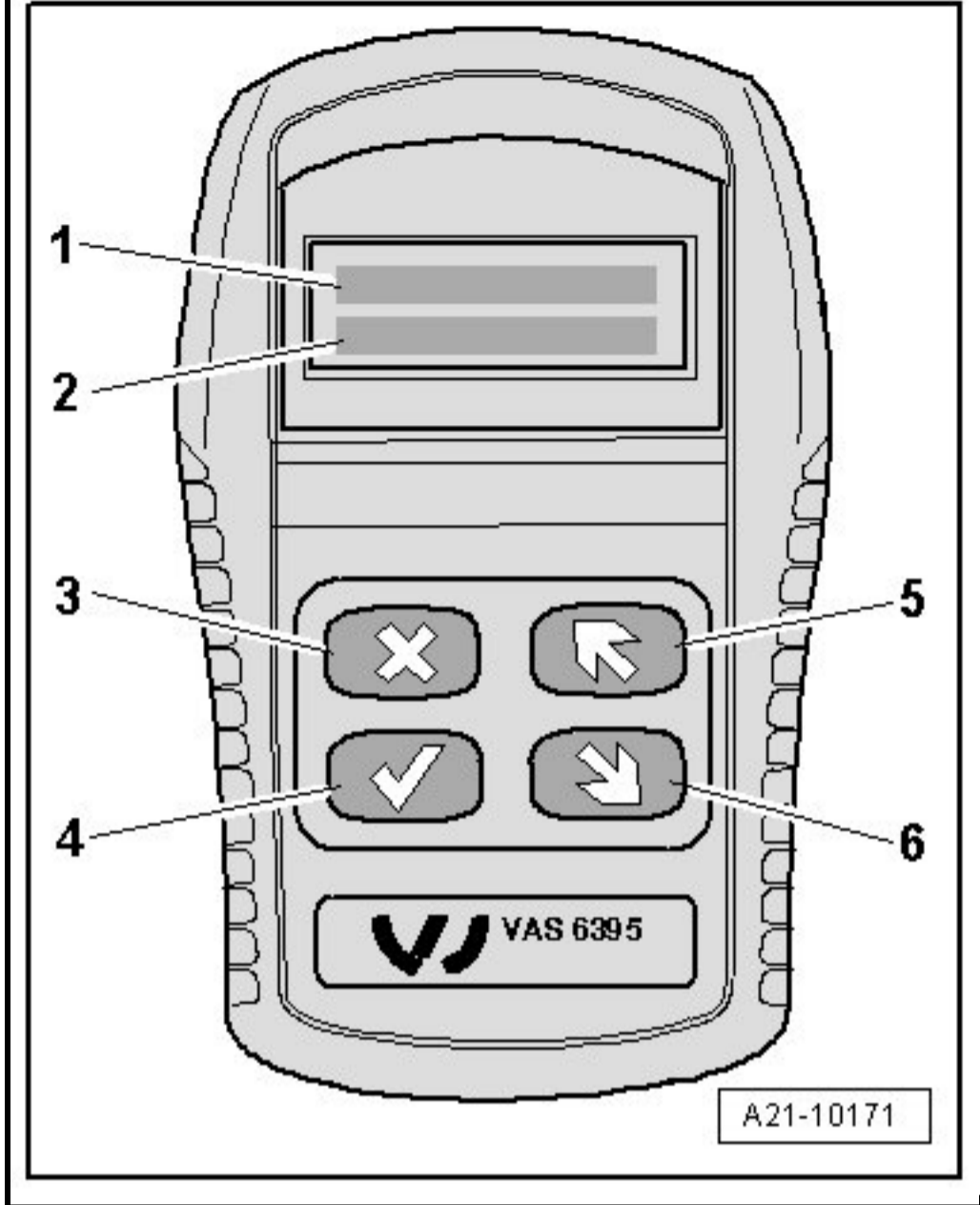
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- Press the v button - **4** - to confirm the software version.

α In this example, Hella software - **1** - is selected.

Procedure for the E-box (VAS 6395/1) :



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Check the E-positioner tester (VAS 6395 /1) software version:

Danger of damaging the turbocharger control module 1 (J724).

- ⌘ **Make sure the correct software is loaded in the (VAS 6395 /1) before performing the following procedure:**

If the correct software is loaded, the following will be displayed on the (VAS 6395/1) (2 seconds after the voltage supply is connected):

1. > 1. START
2. 2. NEXT [>]

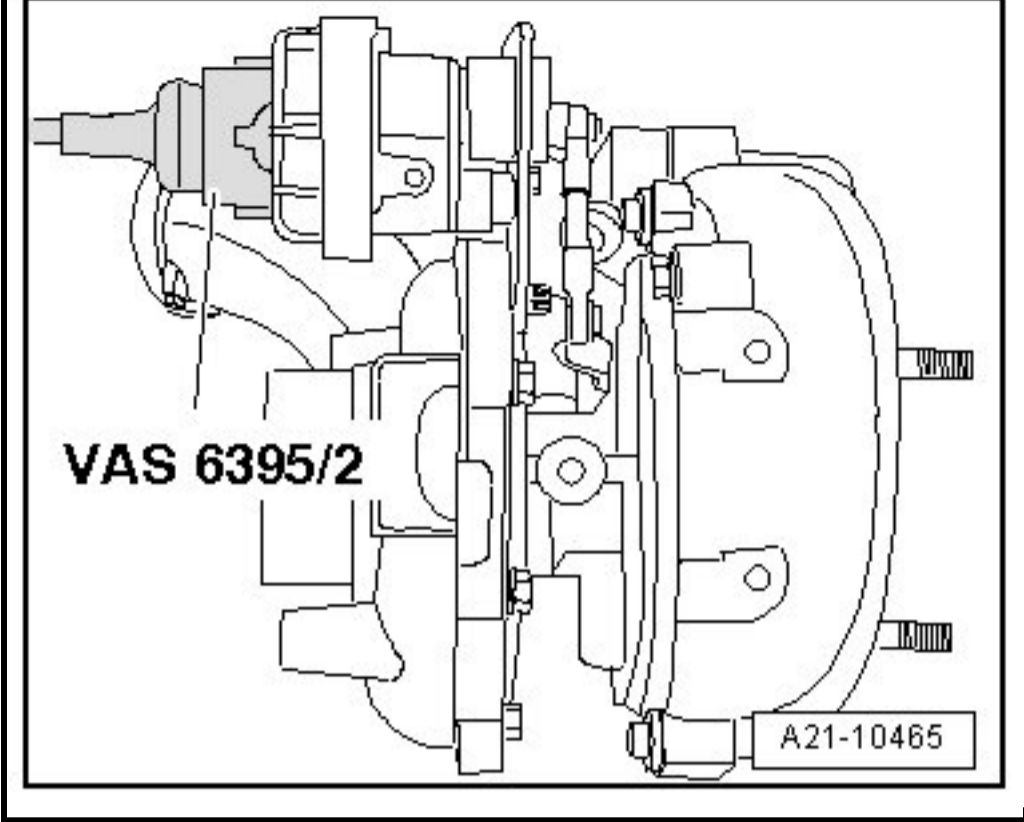
⌘ If the following appears in the display, then incorrect software has been loaded:

- ⌘ 1. >TEST
- ⌘ 2. LEARN

⌘ If this is the case, then download the software from "Audi Service Net", "Workshop Equipment".

For both E-boxes:

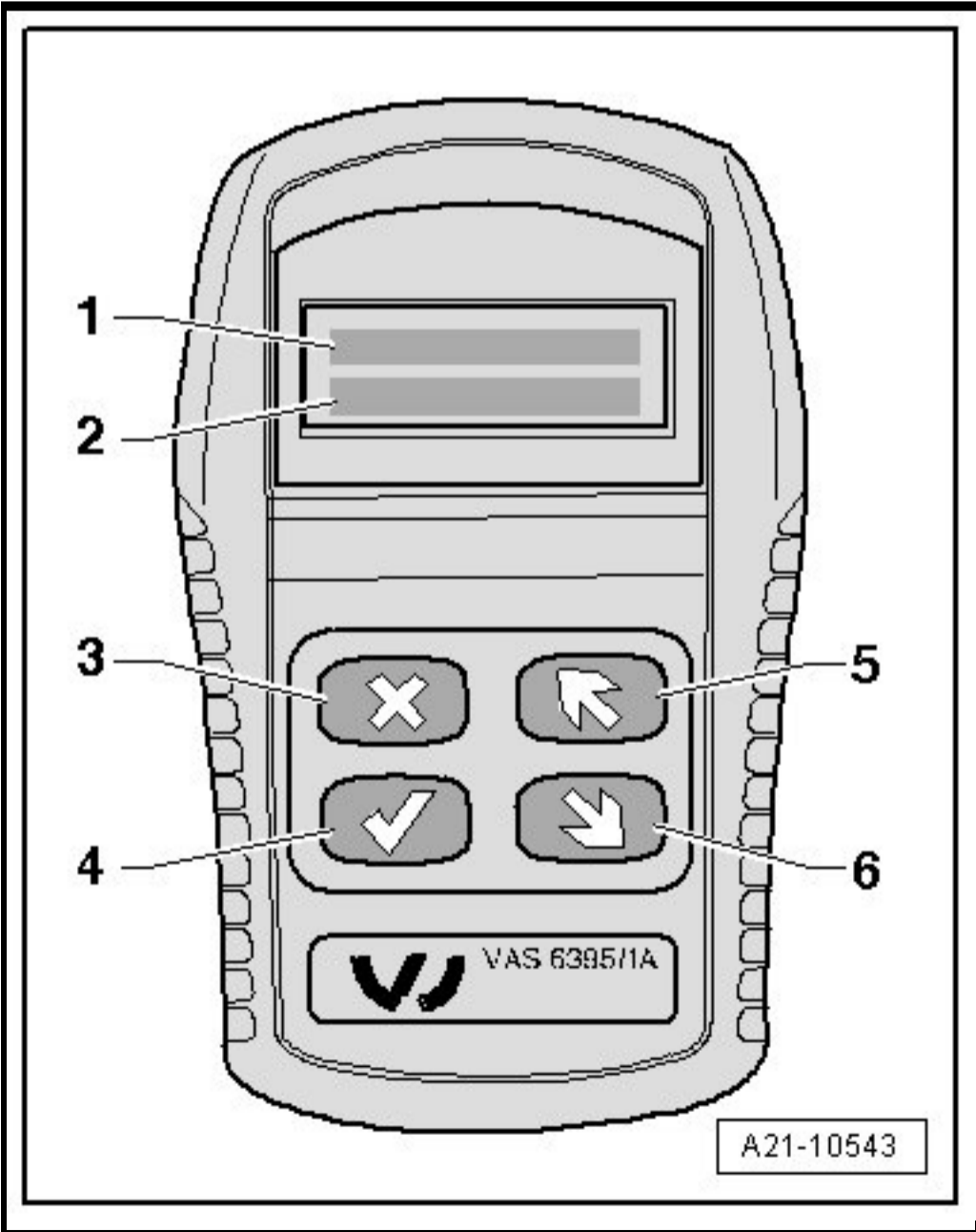
- Disconnect the turbocharger control module 1 connector.



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- Connect the (VAS 6395/2) to the turbocharger control module 1 and to the (VAS 6395 /1A).

The (VAS 6395 /1A) displays:



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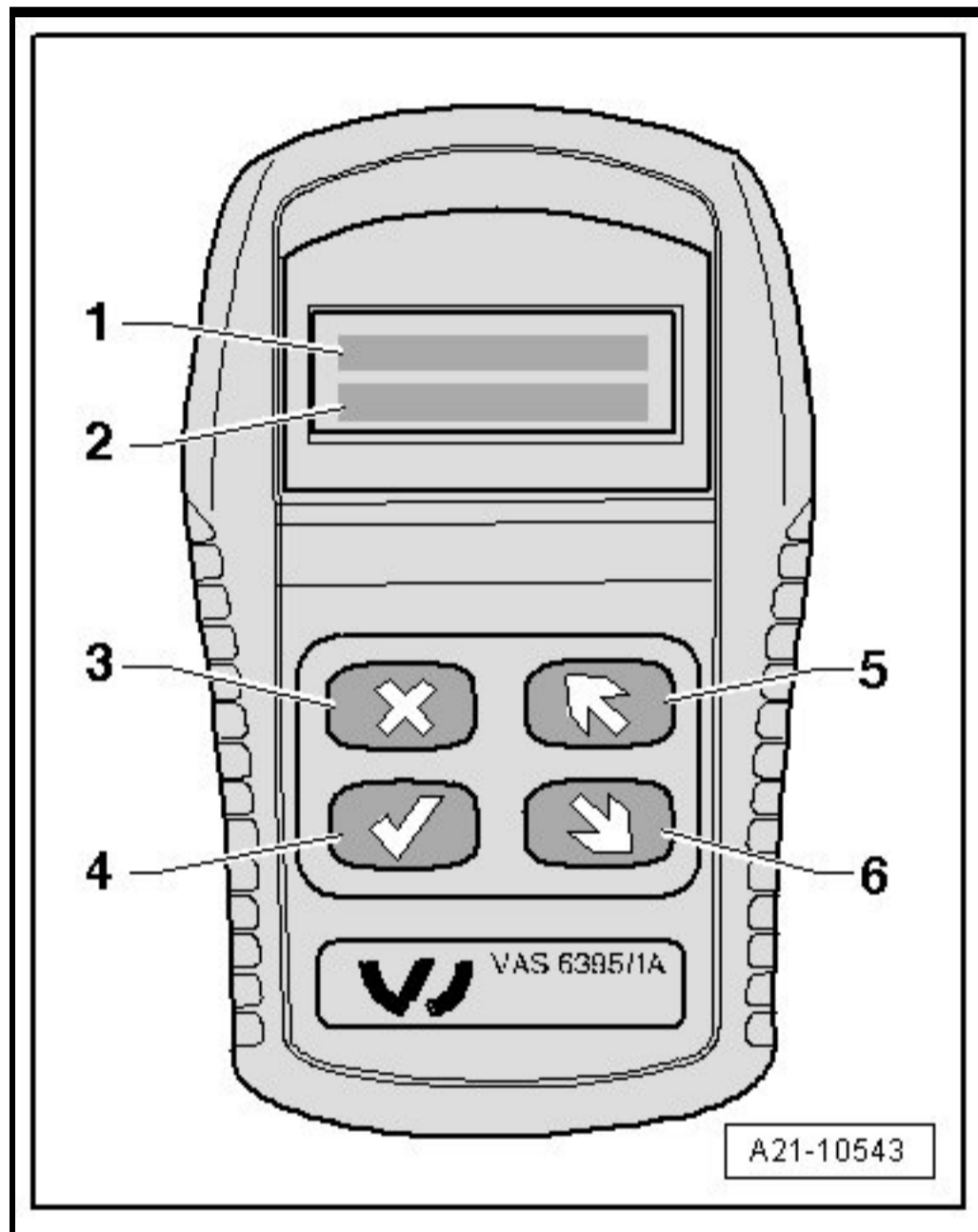
1. > 1. START

2. 2. NEXT [>]

- Press the v button - **4** - to continue.

⌘ The (VAS 6395 /1A) checks the turbocharger control module 1 adjustment range in steps to determine if the end points are being reached. "CHECK" appears in the display.

(VAS 6395 /1A) display:



Zoom

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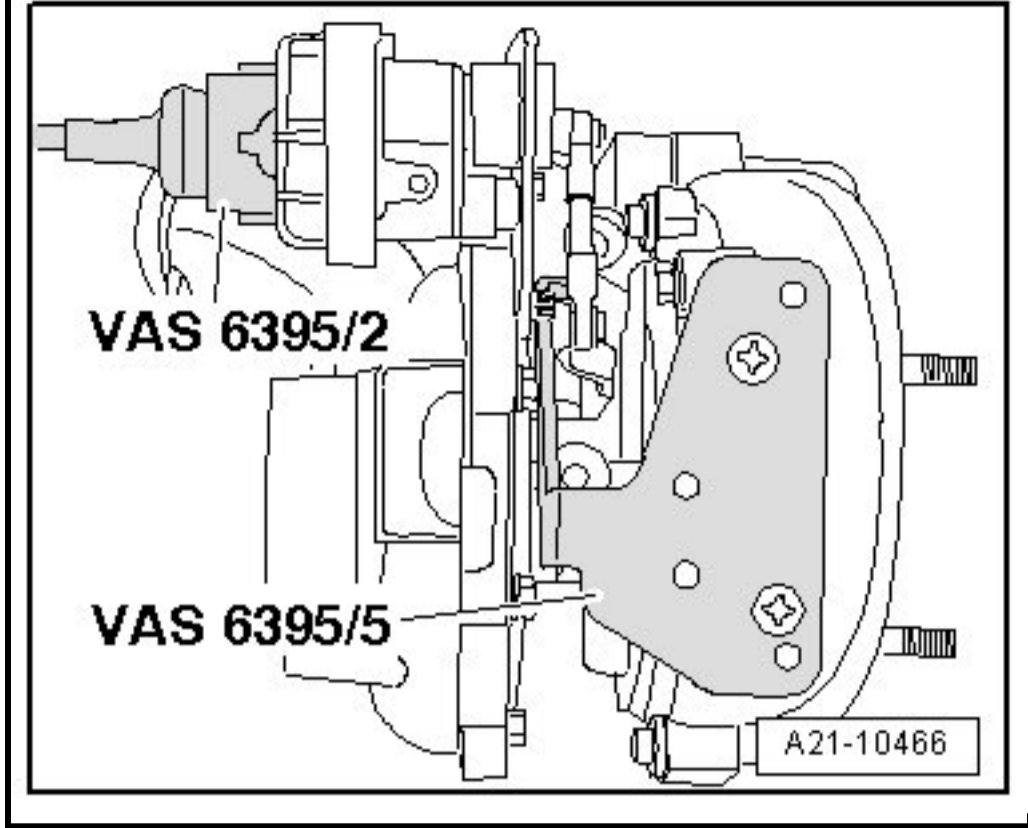
1.

2. [OK]

⌘ If "[OK]" appears in the display, then the turbocharger control module 1 adjustment range is in order.

⌘ If "FAULT [OK]" appears in the display, tap the side of the turbocharger control module 1 housing several times with a screwdriver handle and then touch the v button - **4** - to repeat the test.

- Tighten the countersunk bolts already installed in the (VAS 6395/5) to 8 Nm.

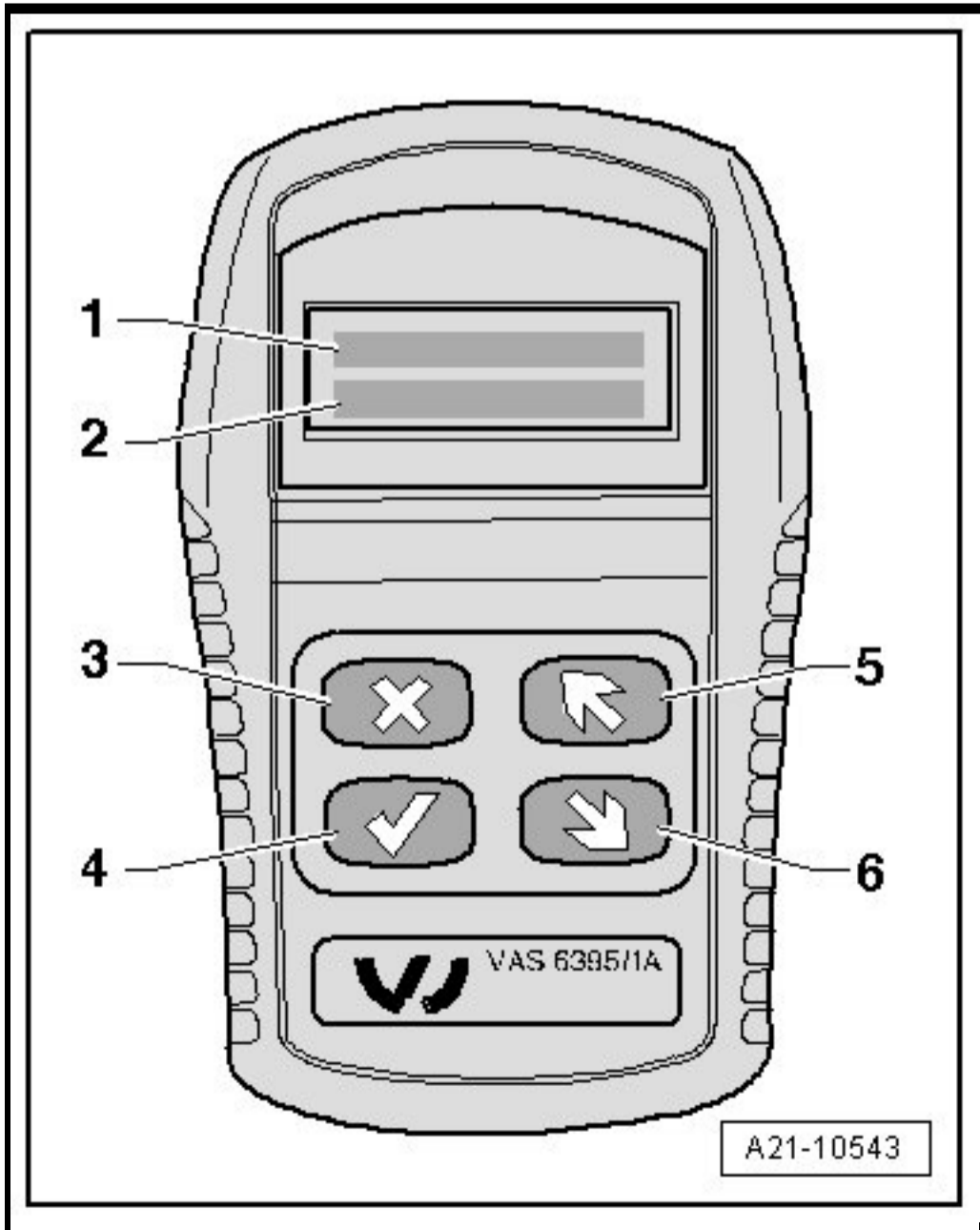


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Incorrect measurement because the (VAS 6395/5) was secured incorrectly.

- ⊠ **Use only the countersunk bolts supplied with the bracket to secure it.**
- ⊠ **Do not loosen the bracket until the procedure is completed.**

- Press the v button - **4** - to continue.



- α To determine the voltage, the turbocharger control module 1 will check back and forth several times between the stops.
- α Then the turbocharger control module 1 will go into the in installation position.
- While determining the voltage, tap on the side of the turbocharger control module 1 housing with the handle of a screwdriver until the following appears in the display:

The r (VAS 6395 /1A) displays:

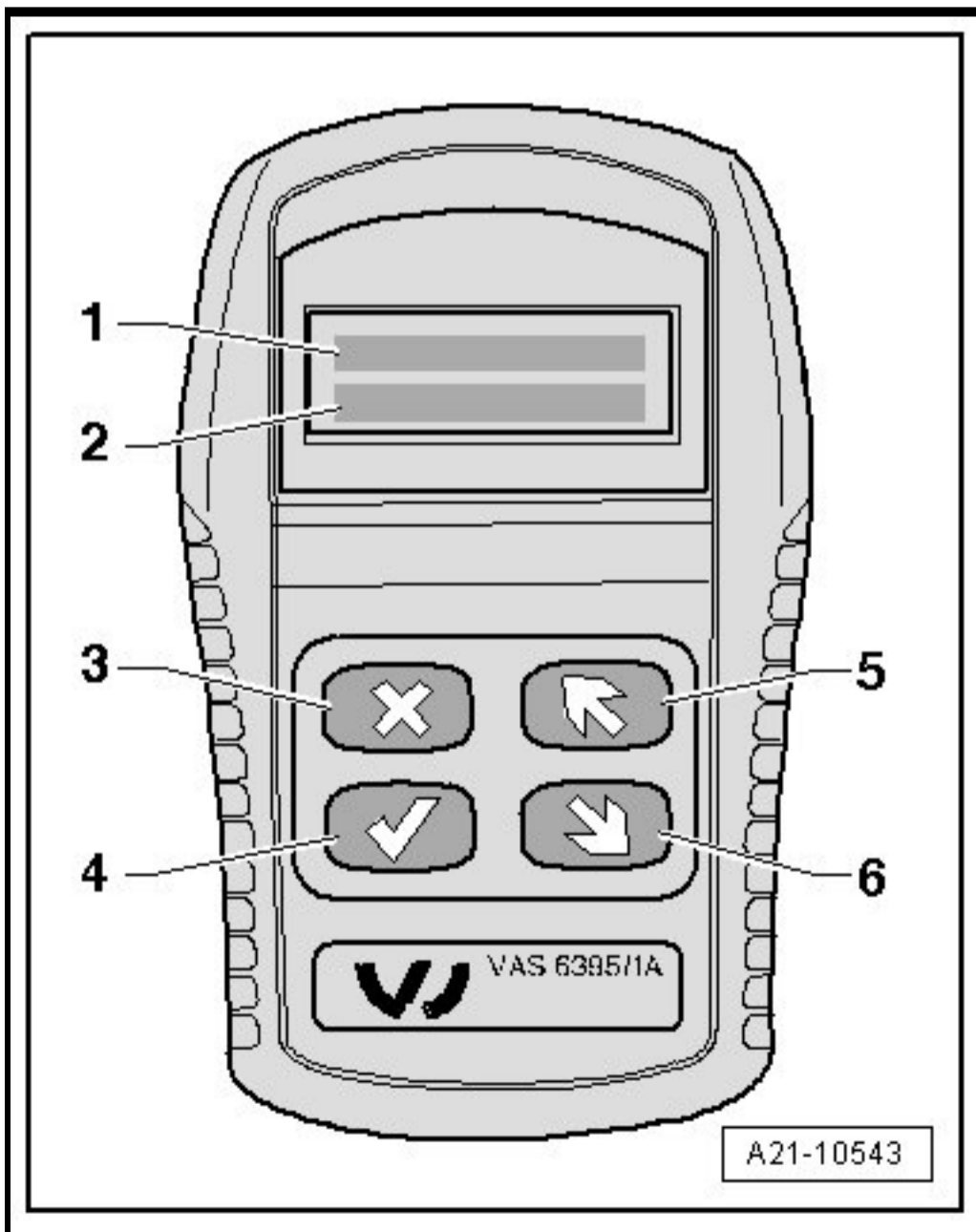
1. X,XXX V
2. [[Up Arrow]][[Down Arrow]][OK]

- Write down the voltage.

α Specified value: 3.3 to 3.7 V.

α If "FAULT [OK]" appears or if the voltage is less than 3.3 V or greater than 3.7 V, disconnect the (VAS 6395 /1A) and repeat the entire procedure.

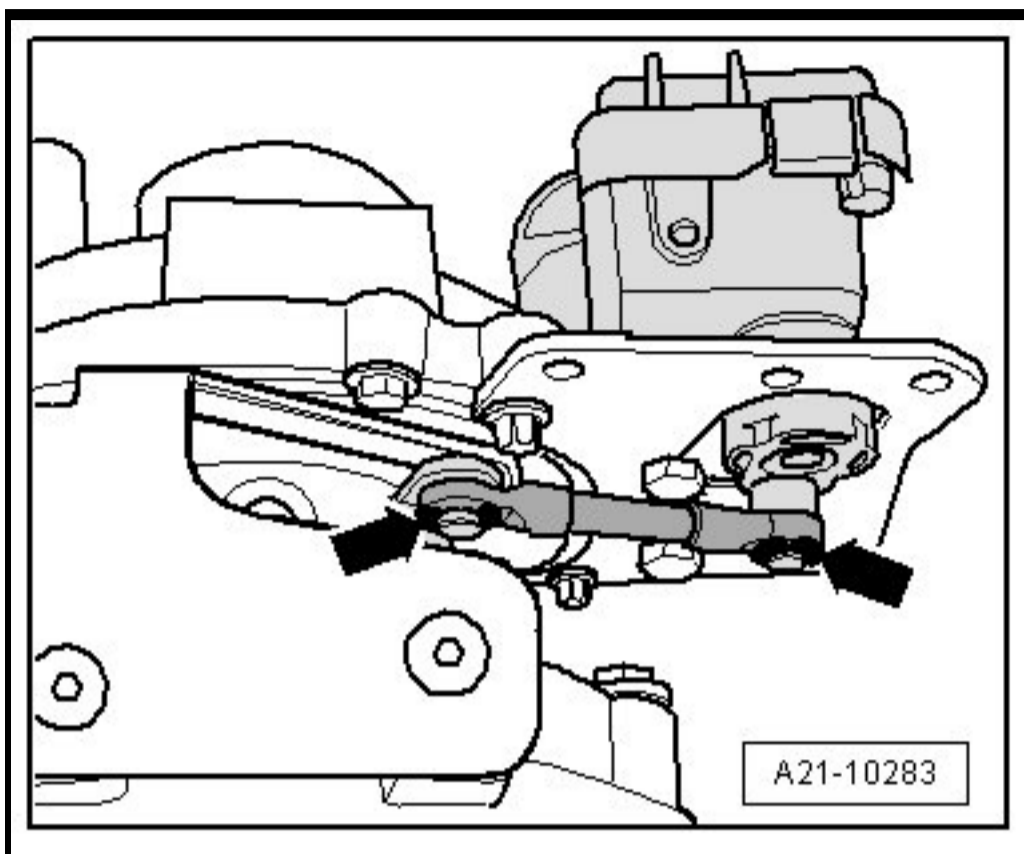
The (VAS 6395 /1A) displays:



1. X,XXX V

2. [[Up Arrow]][[Down Arrow]][OK]

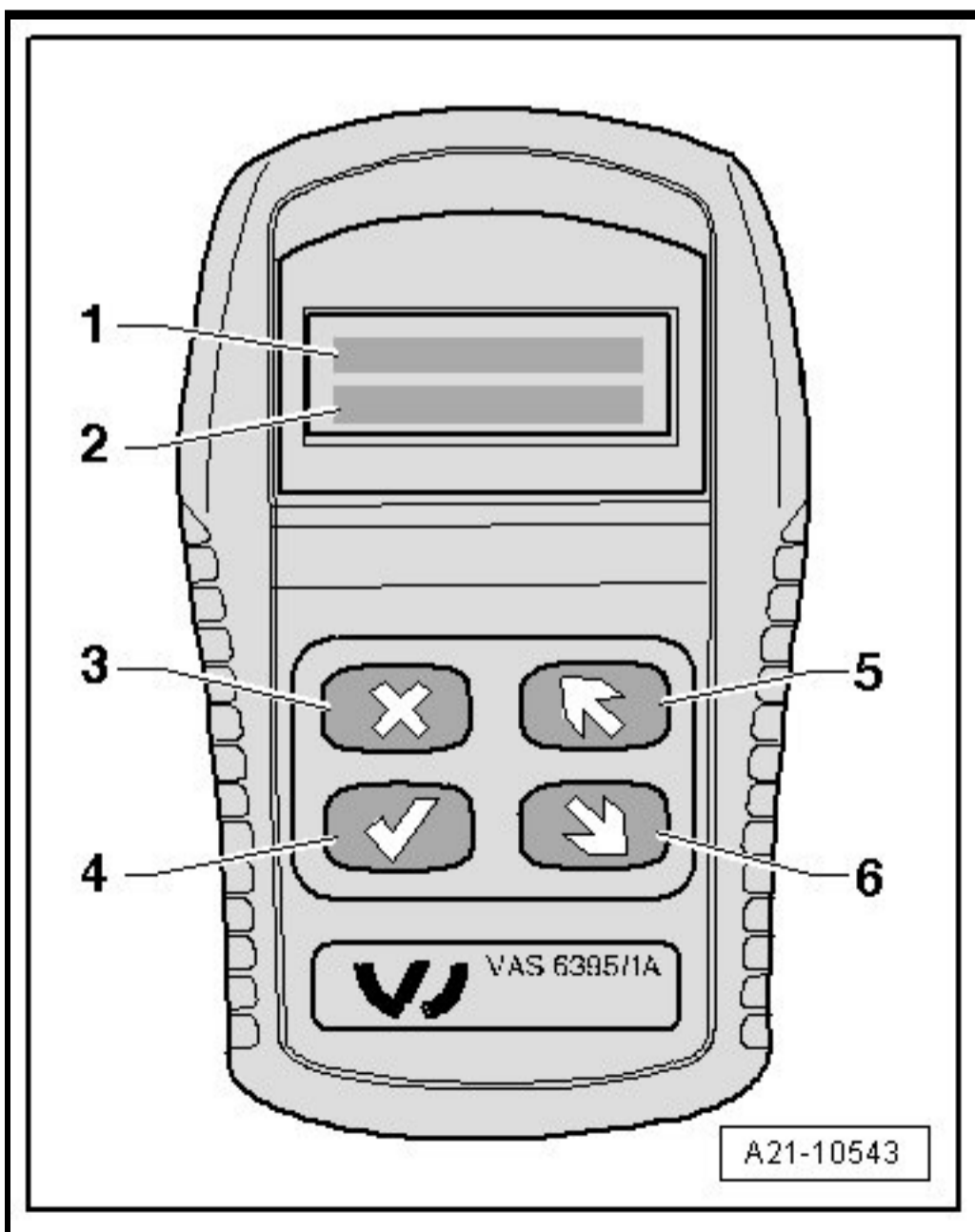
- Adjust the turbocharger control module 1 using the [Up Arrow] - **5** - or [Down Arrow] - **6** - buttons so that the coupling rod is accessible for removal.
- Remove the circlips - **arrows** - and disconnect the coupling rod.



Zoom

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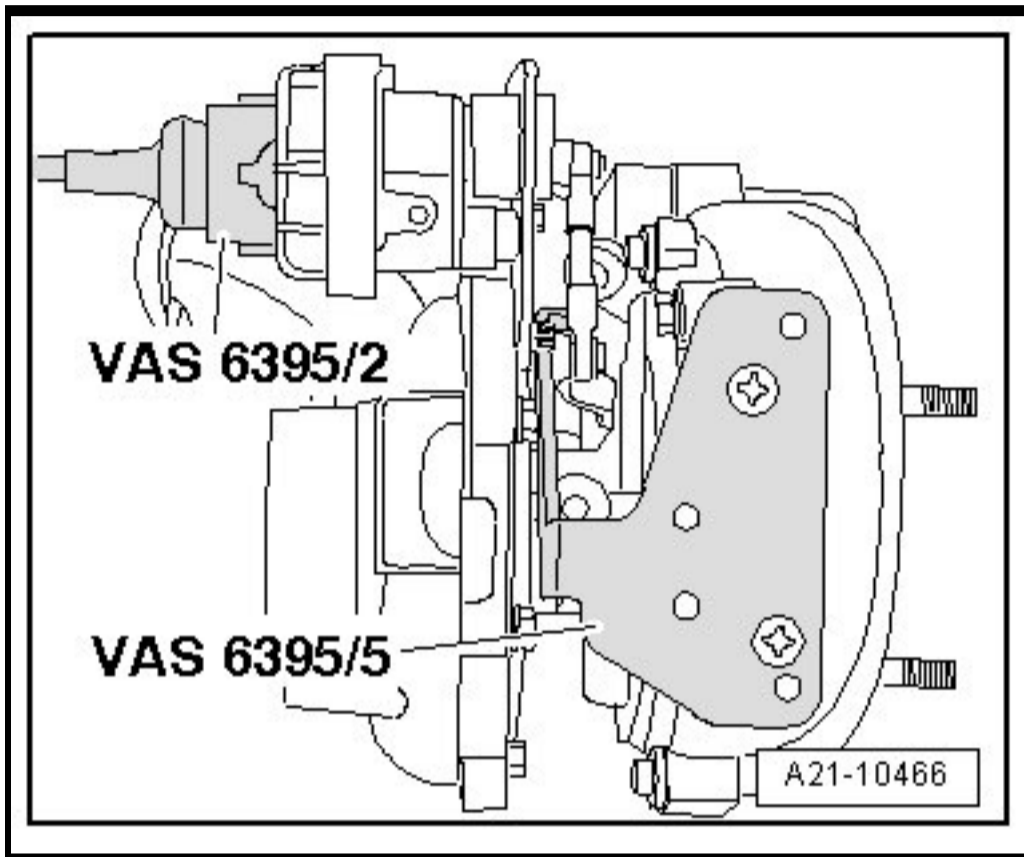
The (VAS 6395 /1A) displays:



1. X,XXX V

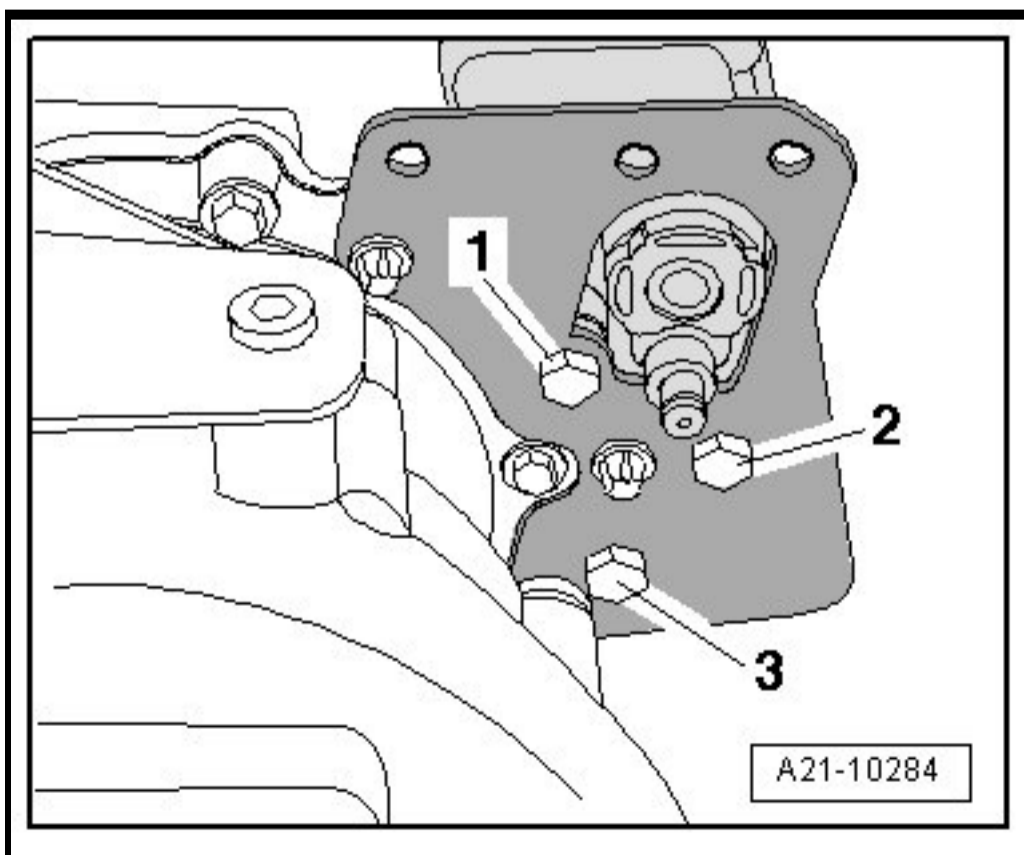
2. [[Up Arrow]][[Down Arrow]][OK]

- Adjust turbocharger control module 1 using the [Up Arrow] - **5** - or [Down Arrow] - **6** - buttons so that the bolts for turbocharger control module 1 are accessible.
- Disconnect the (VAS 6395/2) from the turbocharger control module 1.



The voltage supply for the (VAS 6395 /1A) must remain connected.

- Remove the bolts - **1**, **2** and **3** - and dispose of them.



- Remove the old turbocharger control module 1 and dispose of it.

Make sure there are 3 insulating washers between the turbocharger control module 1 and the bracket.

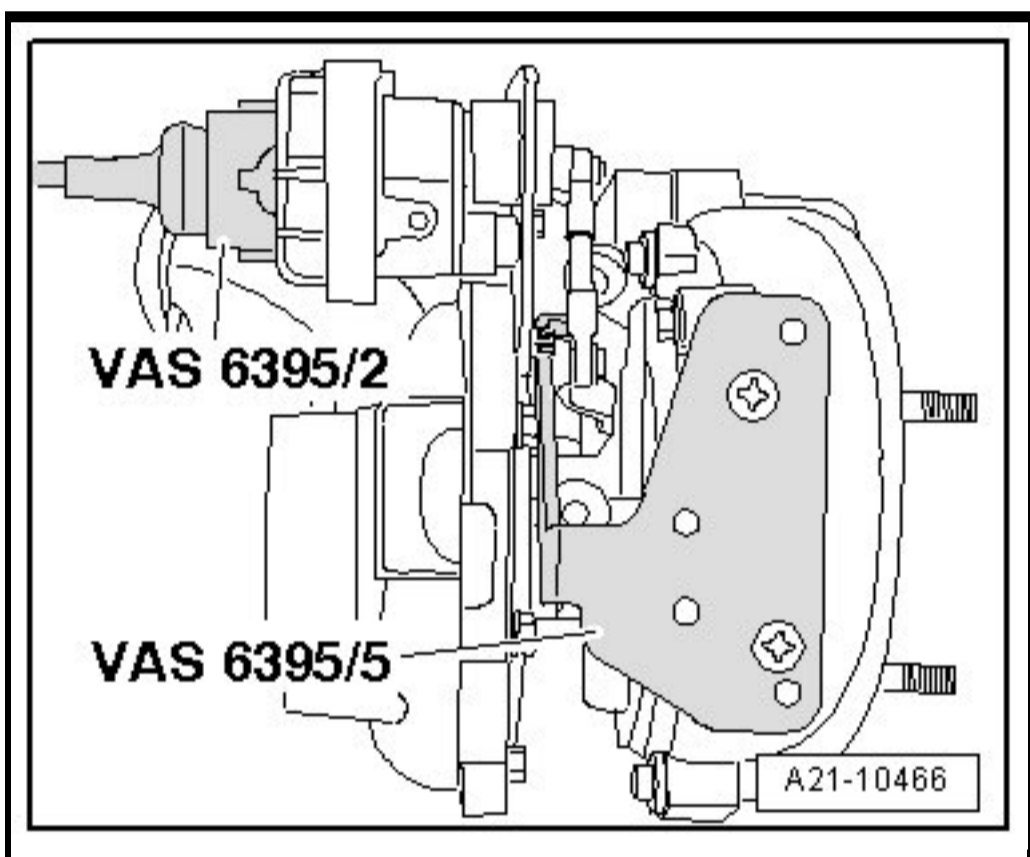
- Install the new turbocharger control module 1 in reverse order.
- Install the new bolts as follows:

1. M6 x 15 with the narrow shaft
2. M6 x 15 with the narrow shaft
3. M6 x 15

- Only tighten the bolts by hand.

⊠ The turbocharger control module 1 must contact the retaining plate without play, but it must be possible to move it by hand.

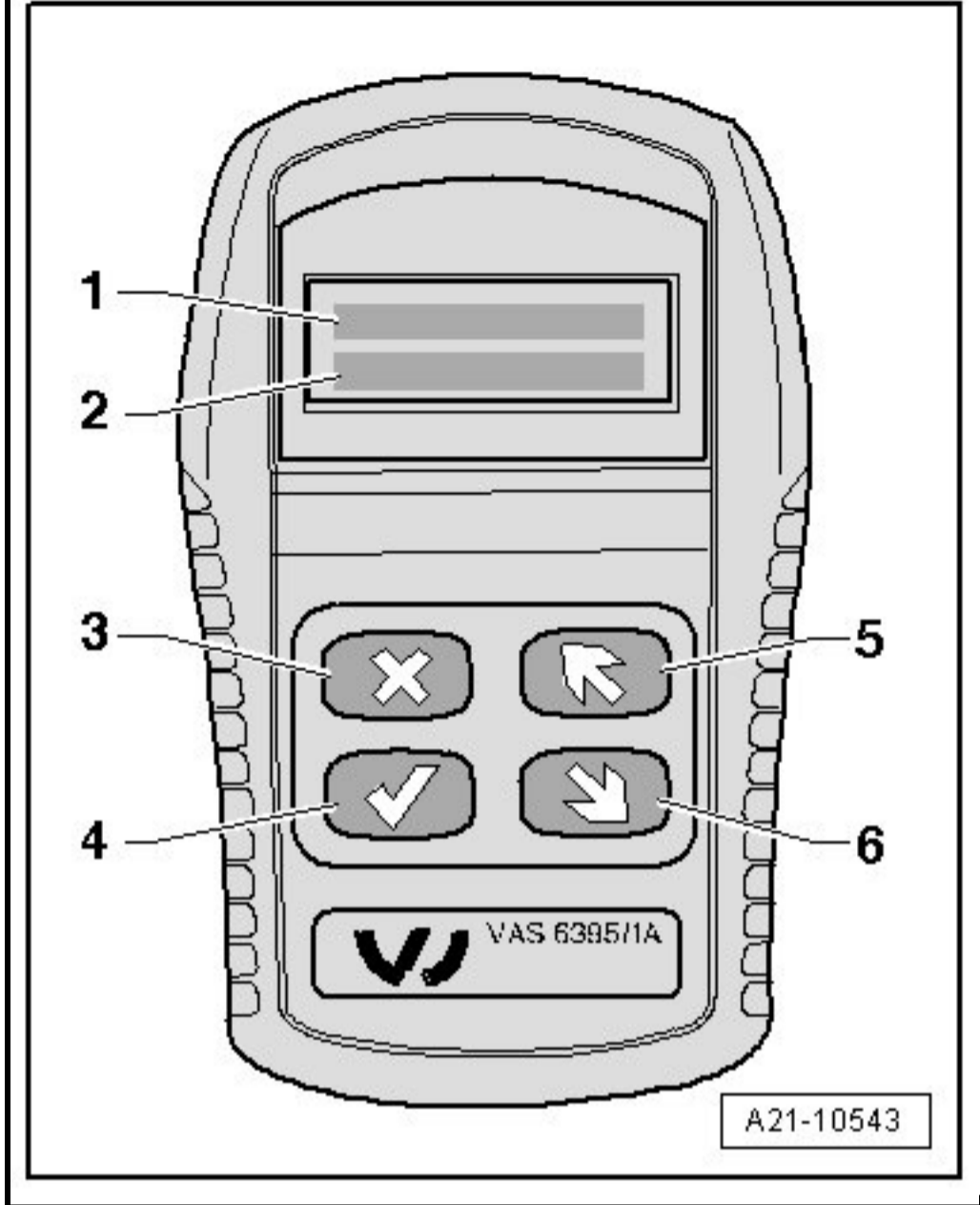
- Connect the (VAS 6395/2) to the new turbocharger control module 1.



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- Press the v button - **4** - to continue.

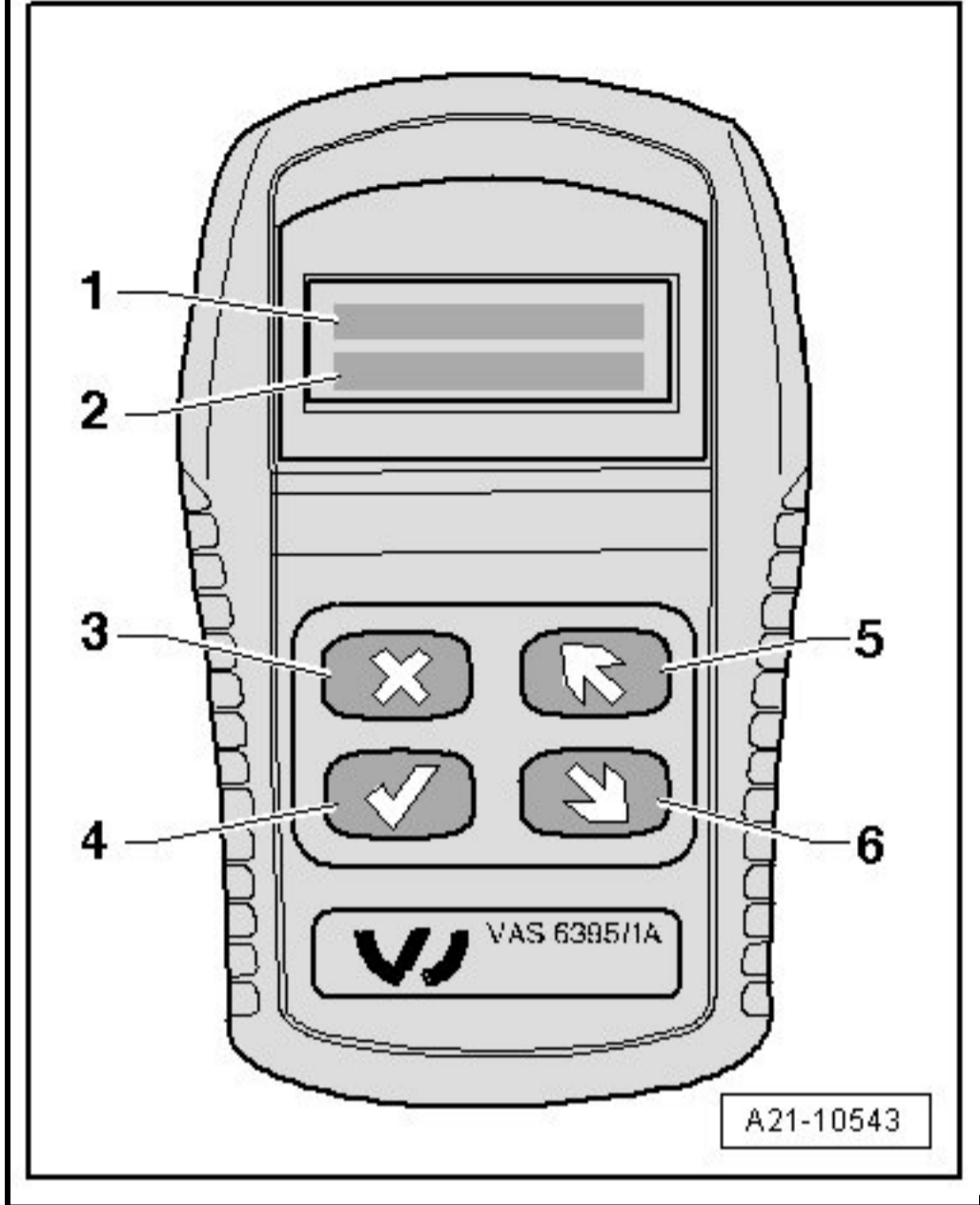


[Zoom](#) [Sized for Print](#)

The (VAS 6395 /1A) displays:

1. > 1. START
2. 2. NEXT [>]

- Select "NEXT" using the [Down Arrow] button - **6** -.
- Press the v button - **4** - to continue.



Zoom Sized for Print

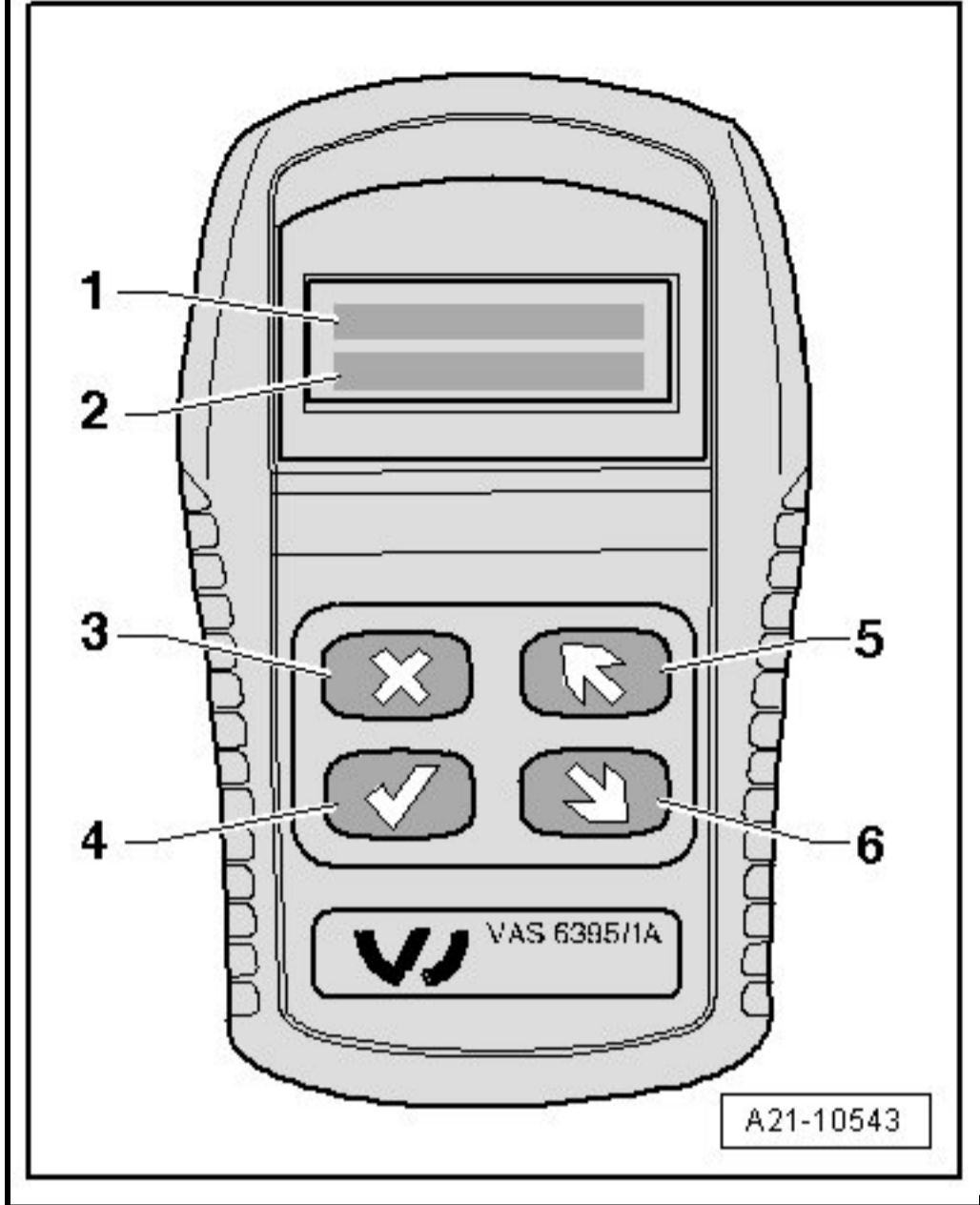
α The turbocharger control module 1 moves down the adjustment range.

The r (VAS 6395 /1A) displays:

1. X,XXX V
2. [OK]

α If "FAULT" appears in the display, then replace the new turbocharger control module 1 again.

- Press the v button - **4** - to continue.

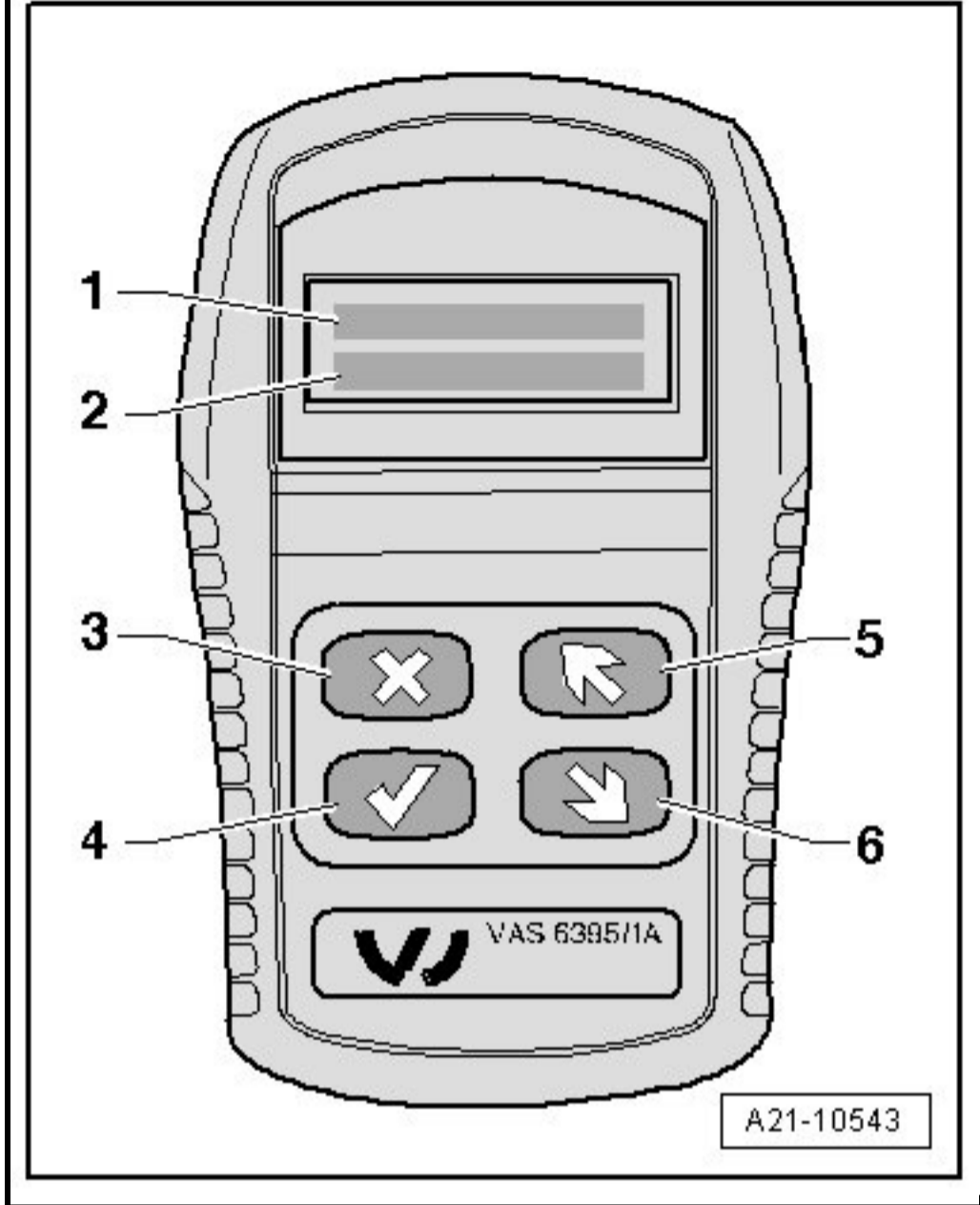


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The (VAS 6395 /1A) displays:

- 1.

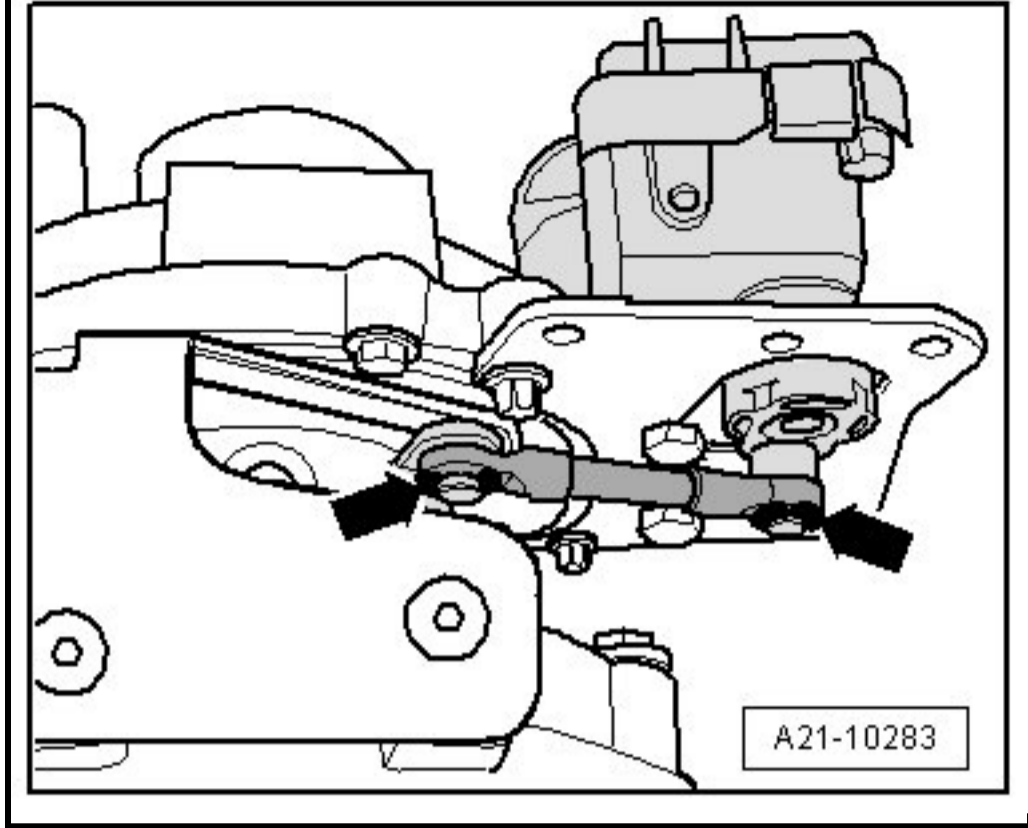
2. [OK]
 - Press the v button - **4** - to continue.



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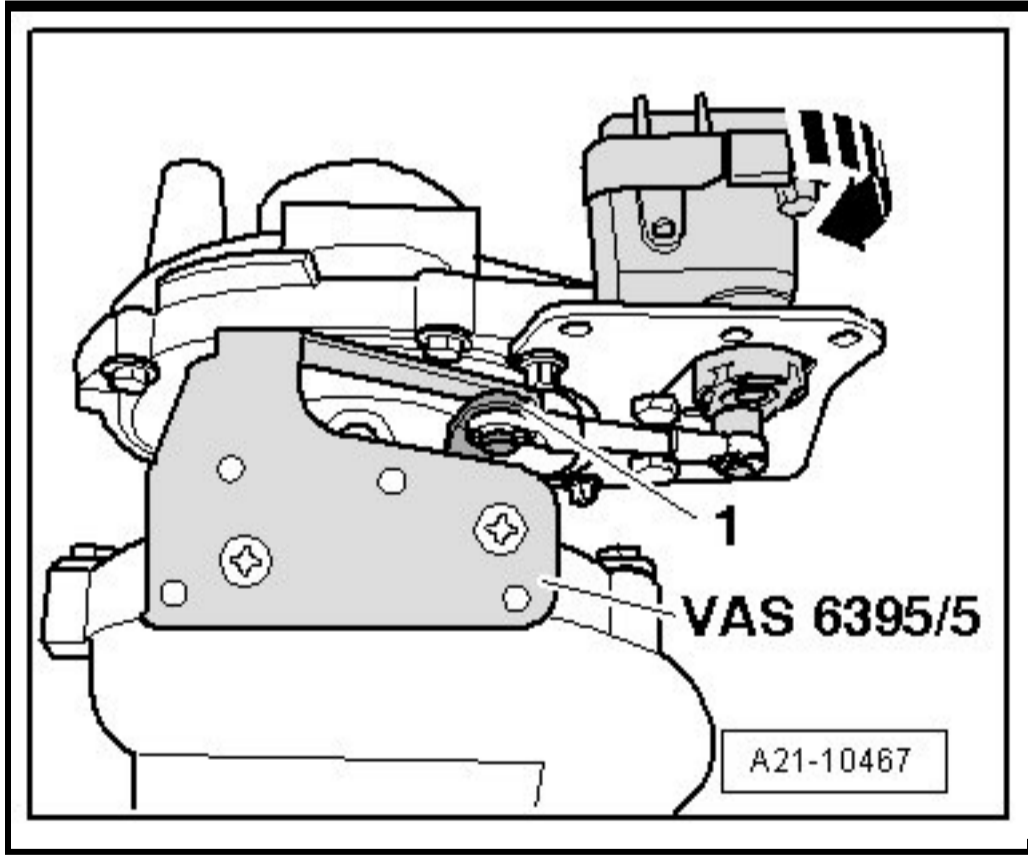
The (VAS 6395 /1A) displays:

1. X.XXX V (starting up voltage)
 2. [OK]
- α The turbocharger control module 1 moves into the installation position.
- Install the coupling rod.



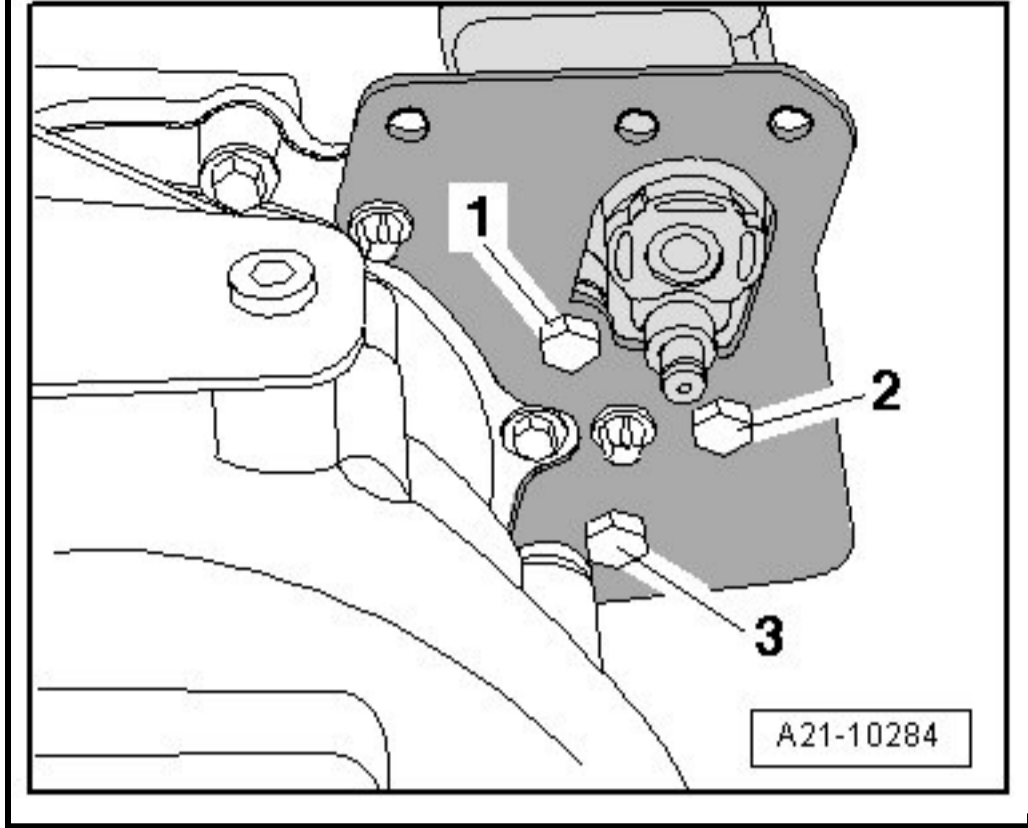
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- ⌘ Installation position: Attach the thicker eye to the turbocharger control module 1 shaft.
 - Install the circlips - **arrows** -.
- ⌘ The circlips must engage audibly.
 - Gently push the turbocharger control module 1 to the rear - **arrow** -, just until the lever - **1** - touches the (VAS 6395/5).



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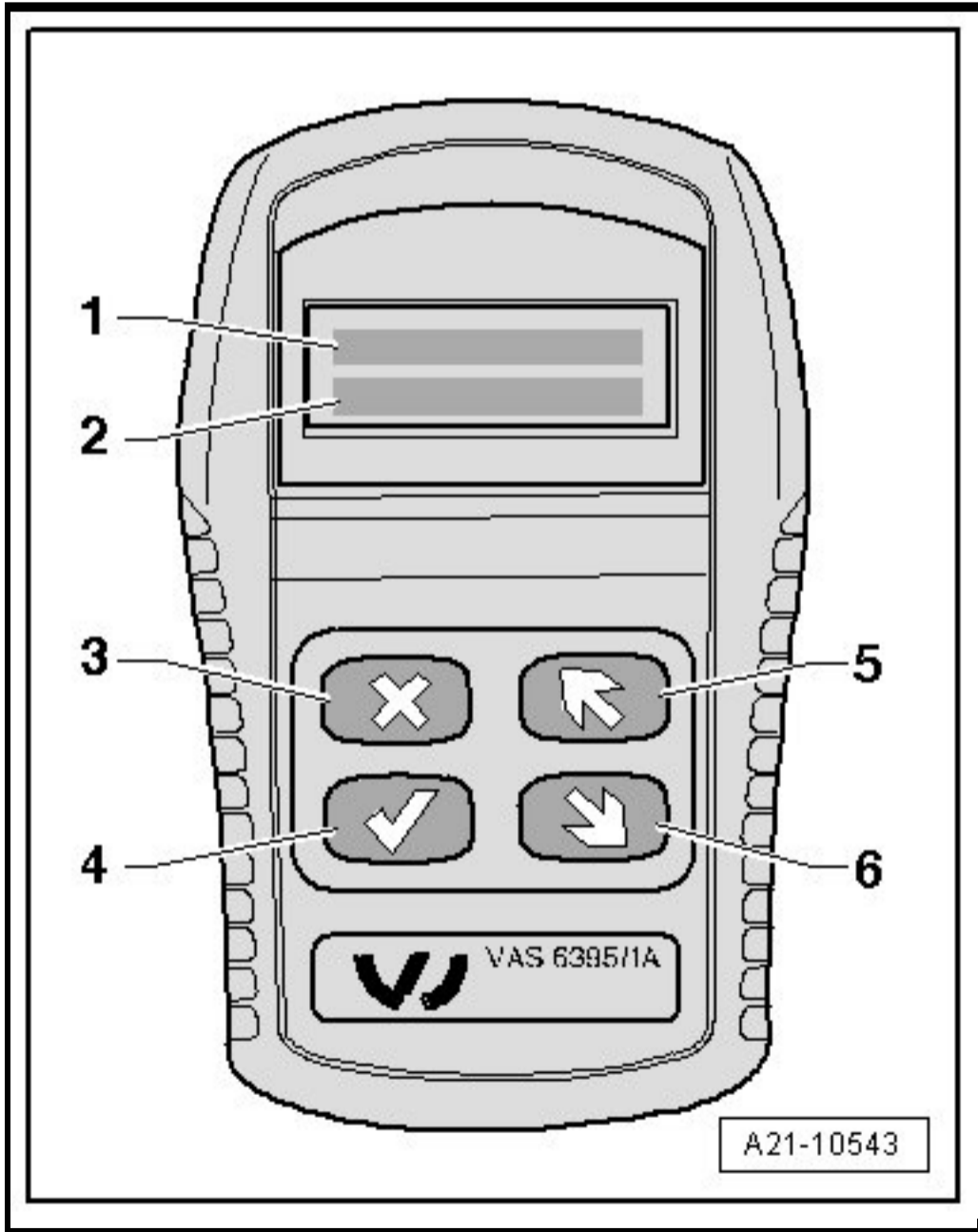
- Hold the turbocharger 1 [control module](#) in this position.
- Tighten the bolts - **1, 2 and 3** - to 5 Nm.



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- Press the v button - 4 - to continue.



Zoom

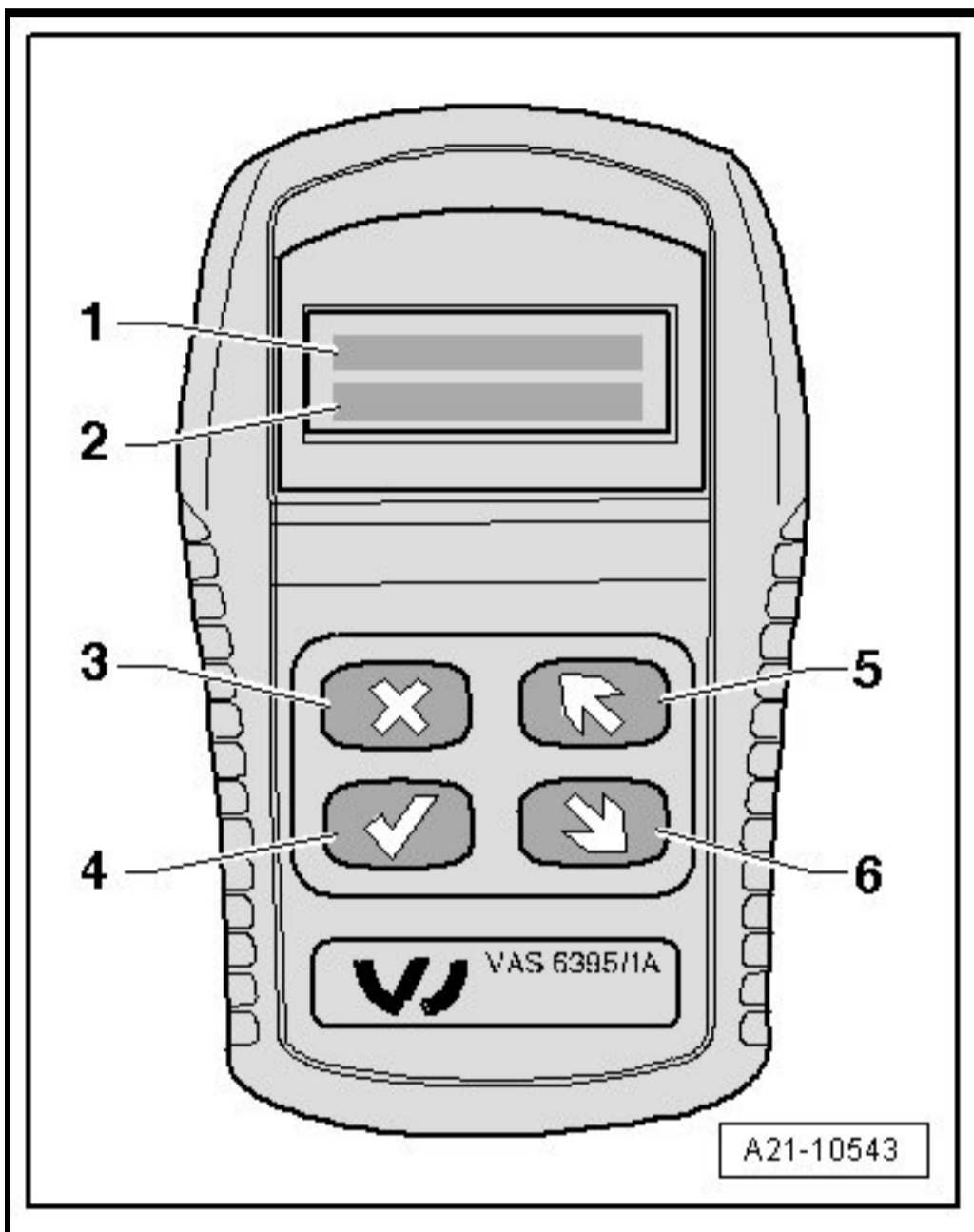
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α The turbocharger control module 1 will move back and forth several times between the stops and will be set to the start up voltage.

The (VAS 6395 /1A) displays:

1. X.XXX V (starting up voltage)
 2. [OK]
- ⌘ If [OK] appears in the display, stop the adjustment.
 - ⌘ If "CHECK" appears in the display, continue as follows.

Procedure, if "CHECK" Appears in the Display:



Zoom

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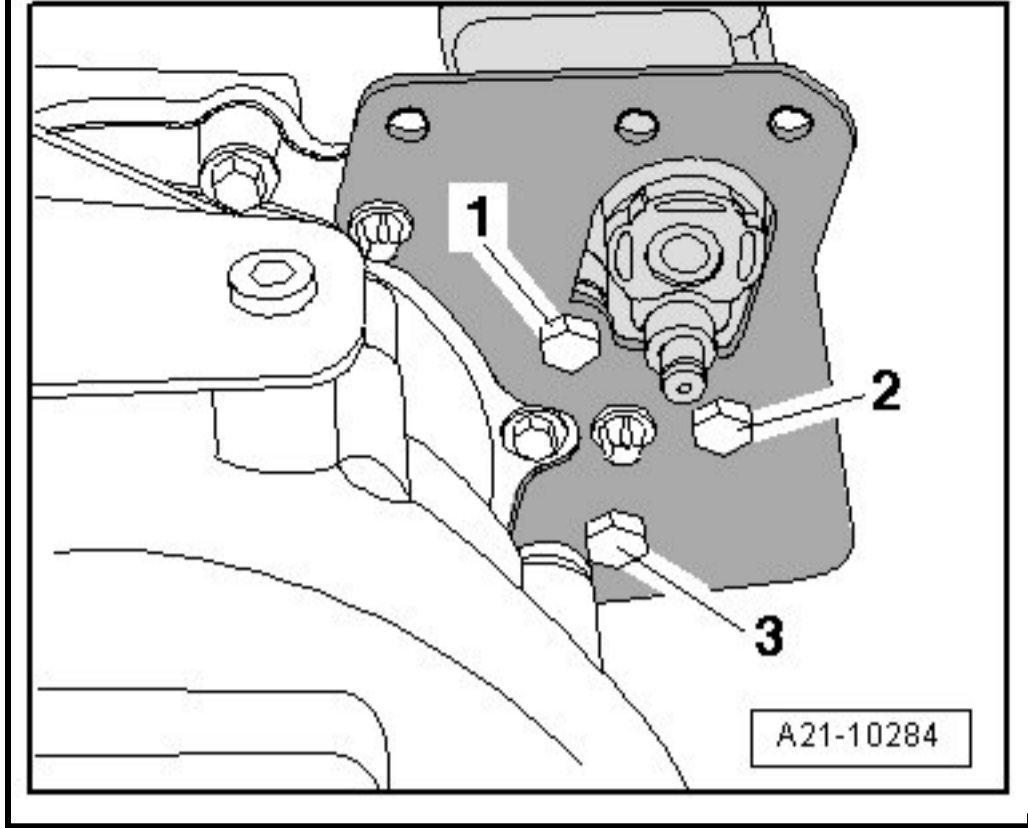
The (VAS 6395 /1A) displays:

1. [<<<]
2. CHECK

or

1. [>>>]
2. CHECK

- Loosen the bolts - **1, 2 and 3** - just enough so that is possible to move the turbocharger control module 1 with slight resistance in the direction specified.

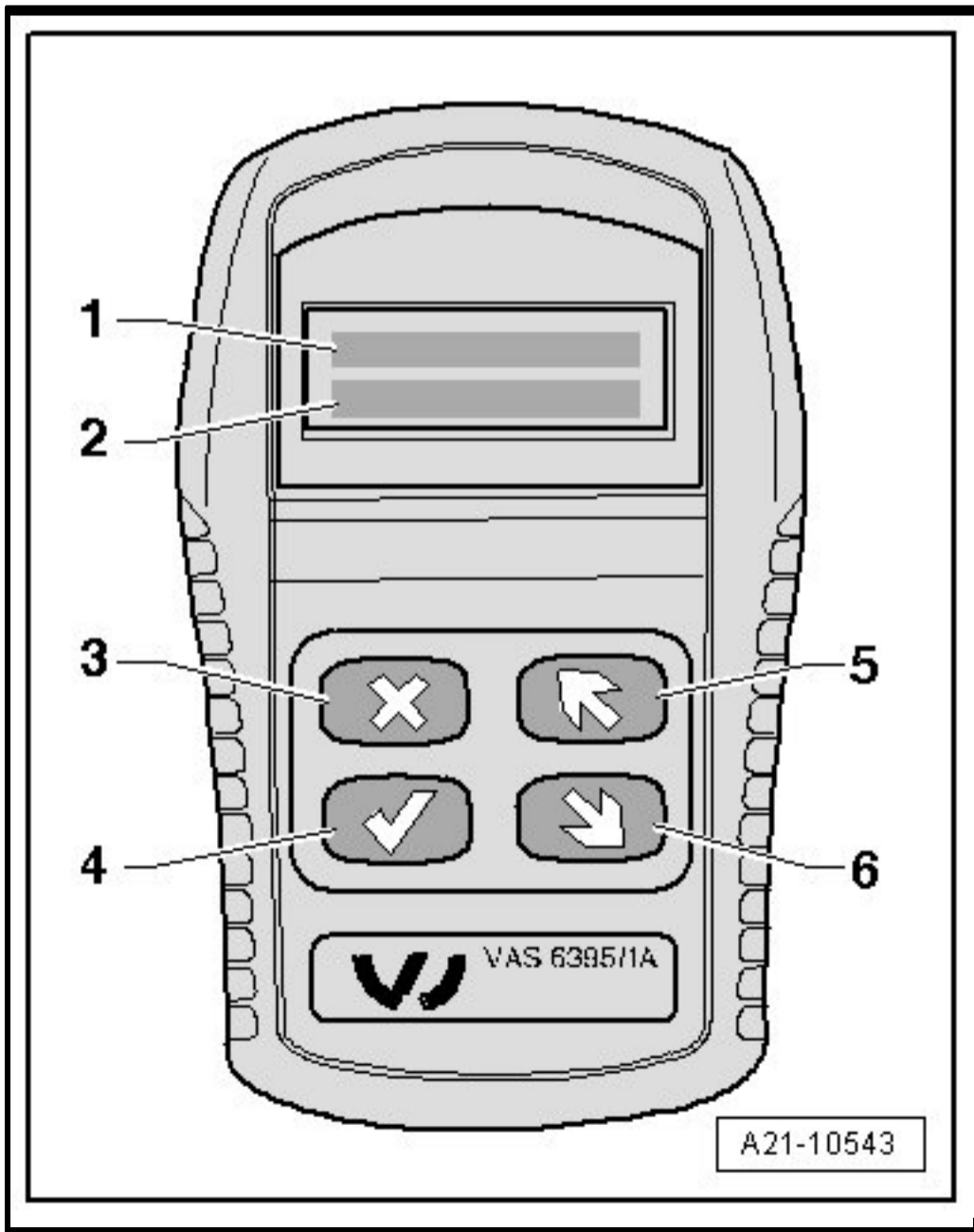


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- ⌘ If [<<<] appears in the display, then slightly move the turbocharger control module 1 in direction of travel.
- ⌘ If [>>>] appears in the display, slightly move the turbocharger control module 1 opposite the drive direction.

- Tighten the bolts - **1, 2 and 3** - to 5 Nm.
- Press the v button - **4** - to continue.

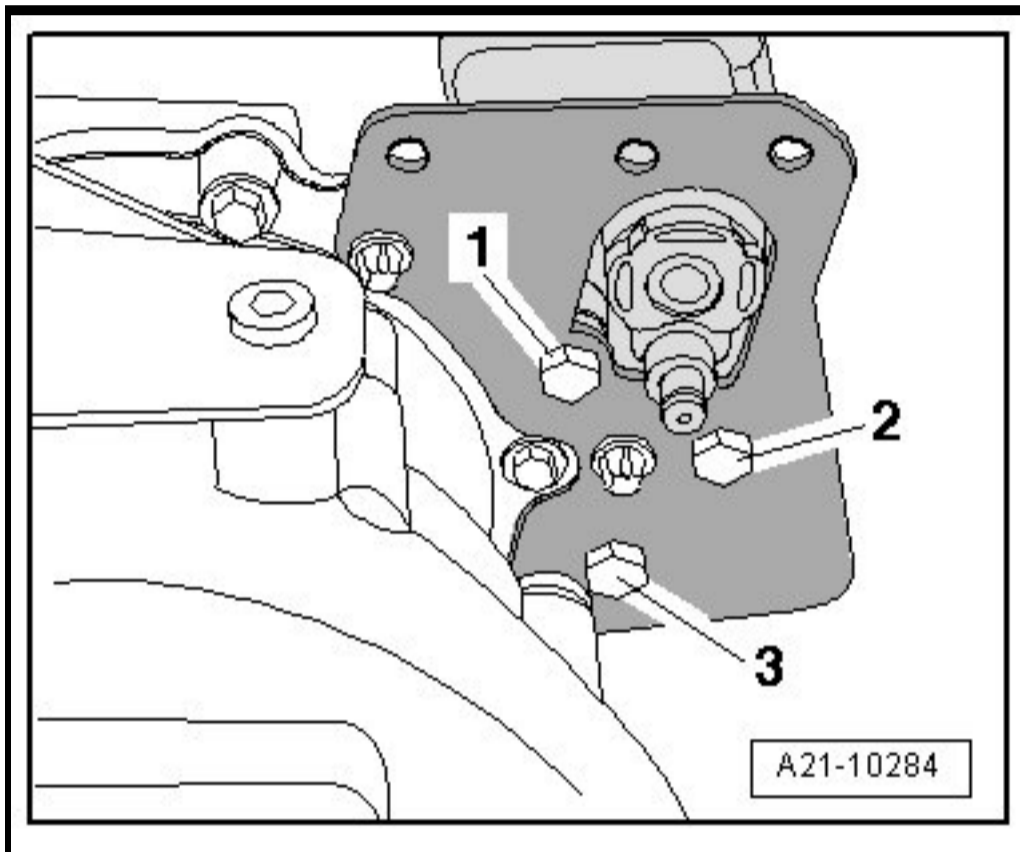


- α The turbocharger control module 1 will move again back and forth several times between the stops and will be set to the start up voltage.

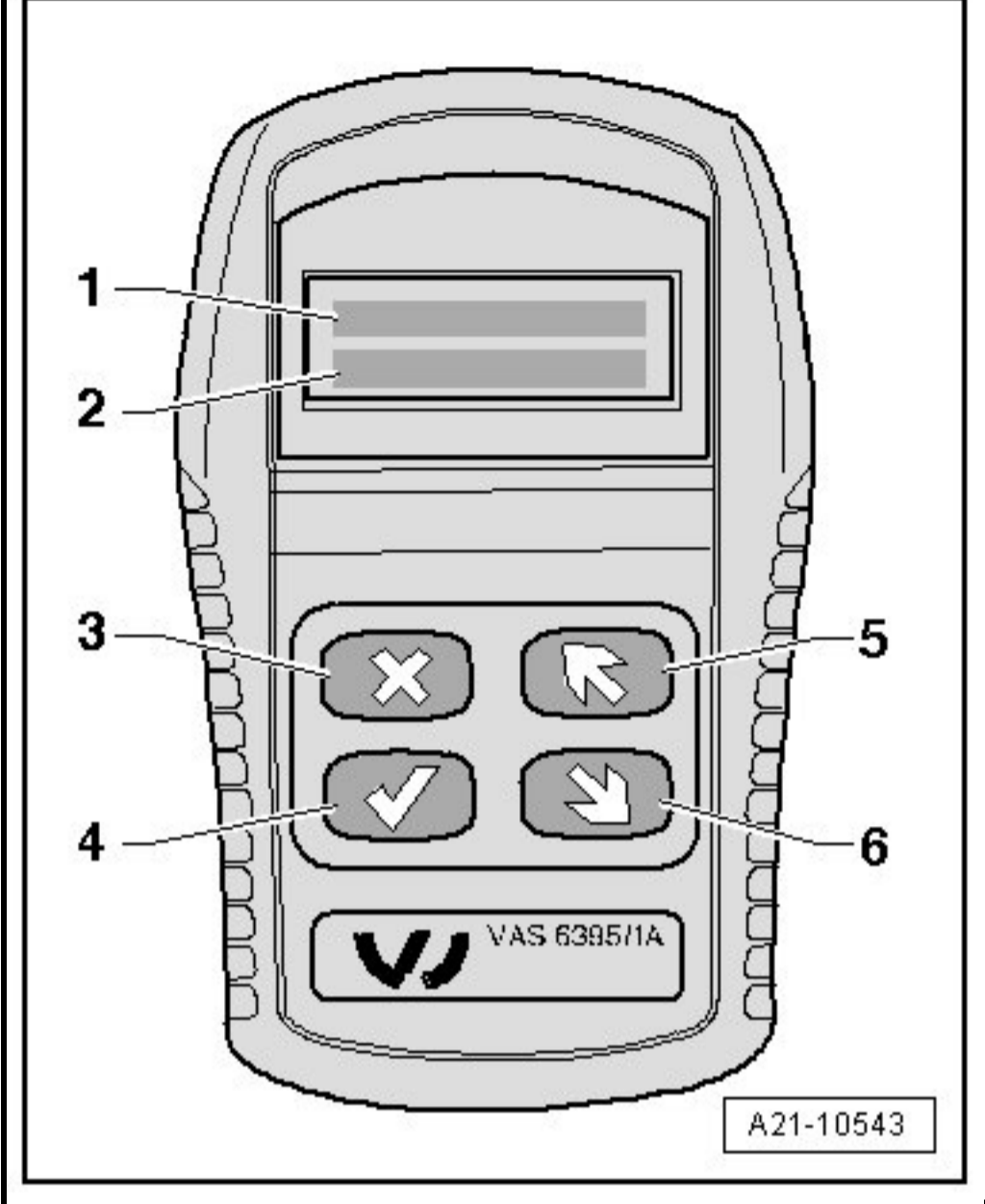
The (VAS 6395 /1A) displays:

1. X.XXX V (starting up voltage)
2. [OK]

Complete the Adjustment:



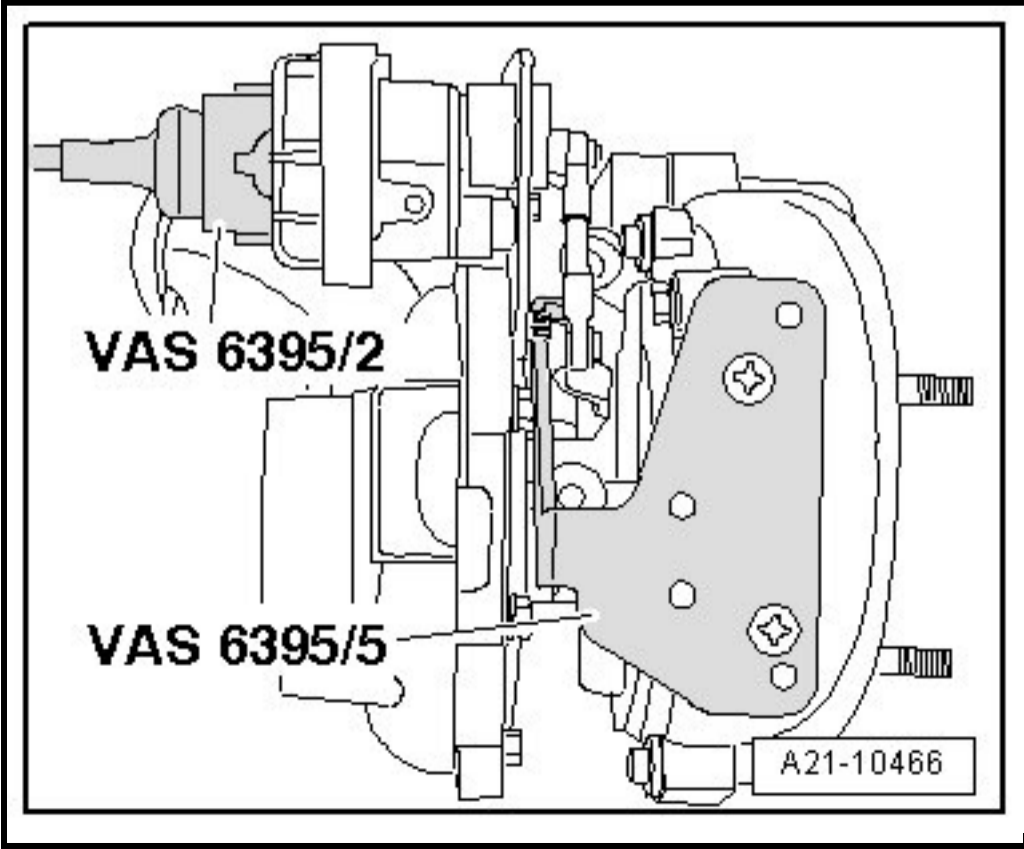
- Tighten the bolts - **1**, **2** and **3** - to 10 Nm.
- Press the v button - **4** - to continue.



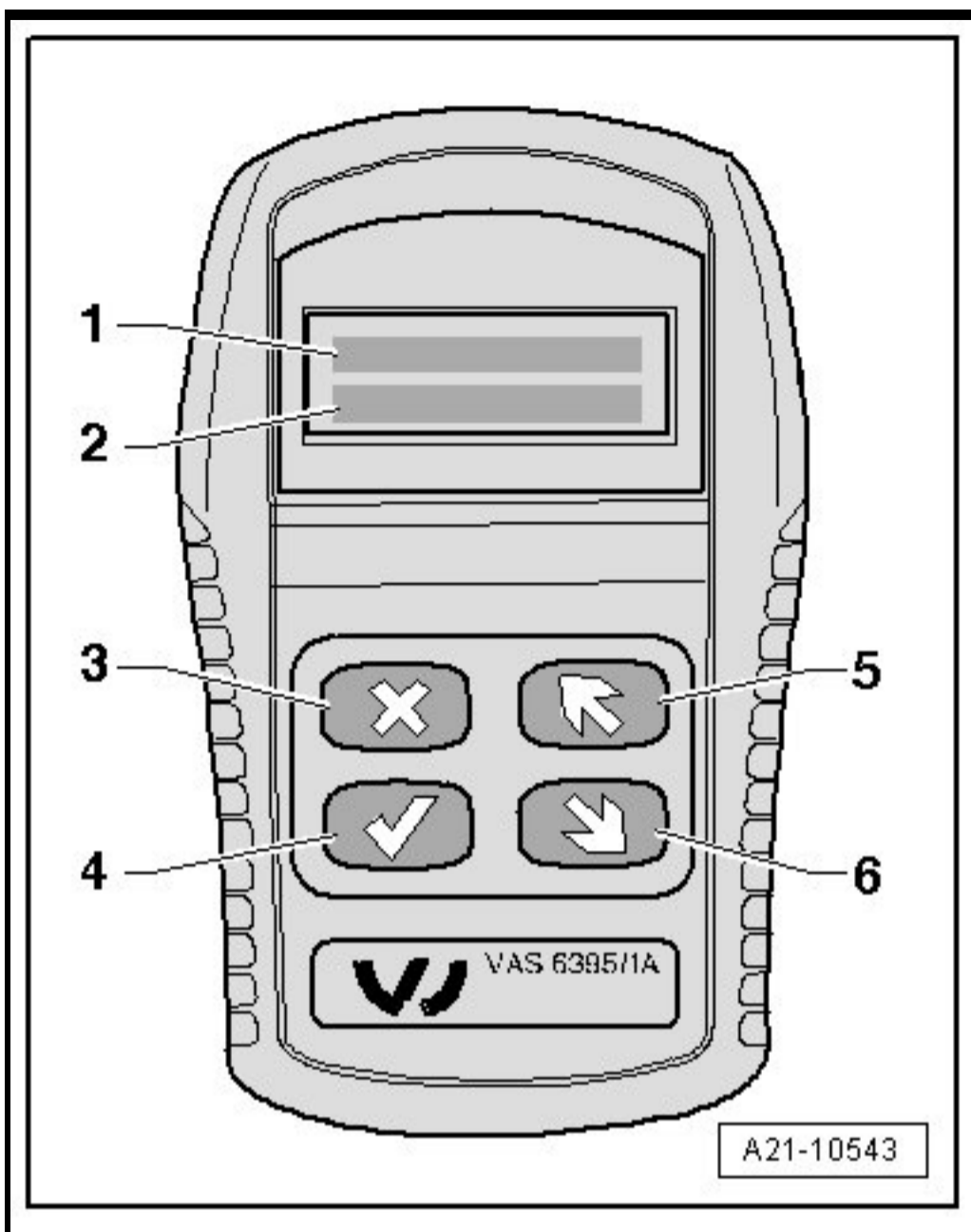
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The (VAS 6395 /1A) displays:

- 1. X,XXX V
- 2. [OK]
- Remove the (VAS 6395/5).



- Press the v button - **4** - to continue.



- ⌘ The turbocharger control module 1 goes to the end points.
- ⌘ If "FAULT" appears in the display, then replace the new turbocharger control module 1 again.

The (VAS 6395 /1A) displays:

1.

2. [OK]

- ⌘ The adjustment is complete.

- Disconnect the (VAS 6395 /1A) connector.

Assembly is performed in reverse order.