

VIN:	XXXXXXX	Vehicle:	X'E84/OFF-ROAD VEHICLE/X1 18dX/N47/MANUAL/EUR/RL/2015/01
System Version:	3.47.30.13232	Data Version:	R3.47.30.13232

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21 21 500                      Removing and installing or replacing clutch (SAC 240)



**Special tools required:**

- [11 9 260](#)
- [21 2 141](#)
- [21 2 142](#)
- [21 2 170](#)
- [21 2 180](#)
- [21 2 200](#)
- [21 2 230](#)
- [21 2 250](#)



**Important!**

Do not clean self-adjusting clutch and flywheel with high pressure cleaner or washing machine as the proper function of adjustment unit and damping springs can no longer be guaranteed.

Clean friction surface only.

Check SAC clutch for wear and damage and replace if necessary.

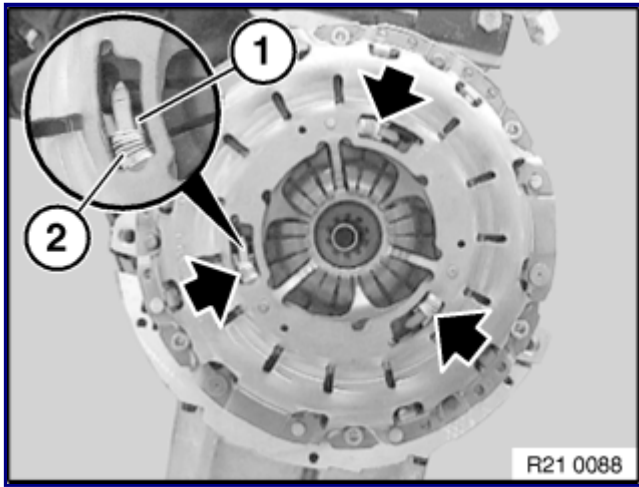


*Necessary preliminary tasks:*

- Remove [transmission](#).

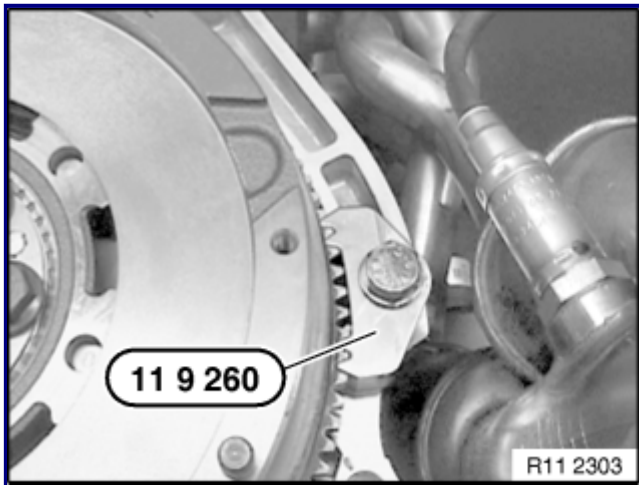
**Identification SAC clutch dia. 240 mm (Self Adjusting Clutch):**

- 3 openings each with a pressure piece (1) of adjustment ring and a pressure spring (2)

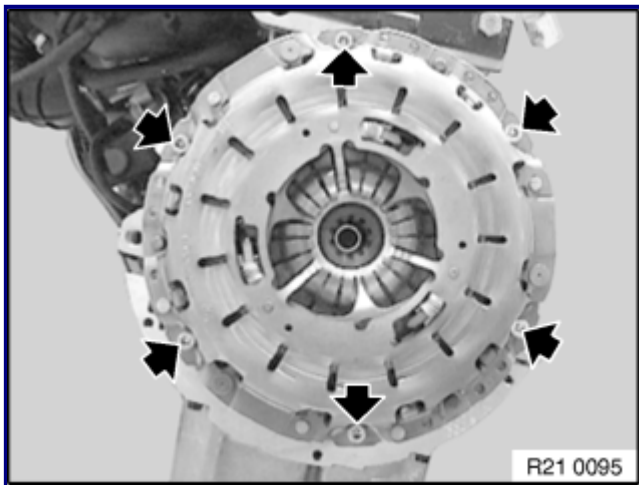


**Note:**

Image shows new position of synchronising keys.



Lock flywheel with special tool [11 9 260](#).



Unfasten bolts and remove SAC clutch from flywheel.

**Important!**

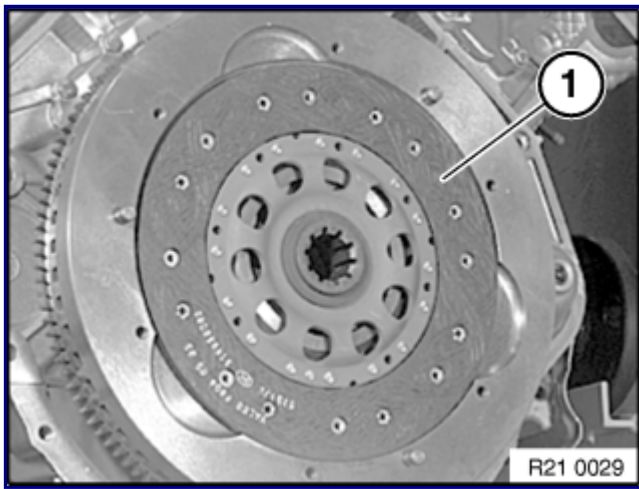
Do not use a special tool to detach SAC clutch from flywheel.

Remove clutch disc (1) from flywheel.

Clean flywheel, check for wear and damage.

Replace damaged flywheel.

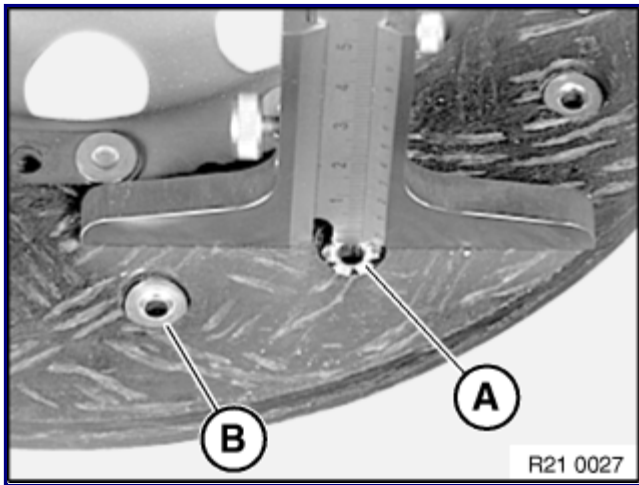
Check grooved ball bearing in crankshaft for ease of movement and tightness and if necessary replace grooved ball bearing.



### Important!

Always replace clutch discs fouled e.g. by oil, cleaning agent.

Check clutch disc for damage and friction rust in hub profile and replace if necessary.



Check clutch disc for wear:

Measure lining protrusion at lining rivets at closing head (A) in each case.

### Note:

Rivet connection

- A) Closing head
- B) Swage head

Replace clutch disc if lining protrusion at closing head (A) is less than 1 mm.

Push clutch disc onto the cleaned transmission input shaft and check for easy movability.



### Important!

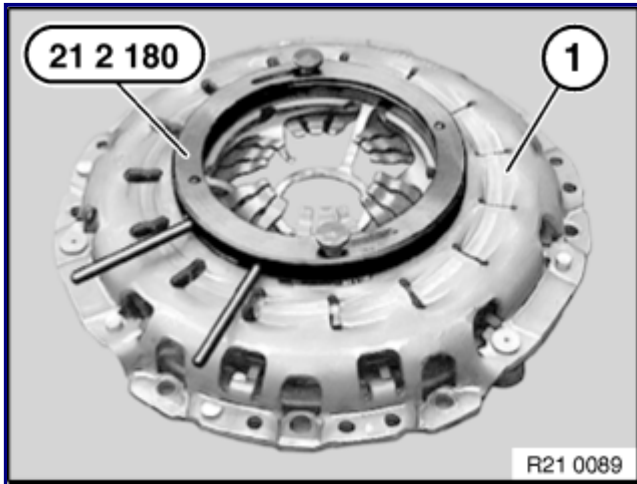
Do not clean self-adjusting clutch and flywheel with high pressure cleaner or washing machine as the proper function of adjustment unit and damping springs can no longer be guaranteed.

Clean friction surface only.

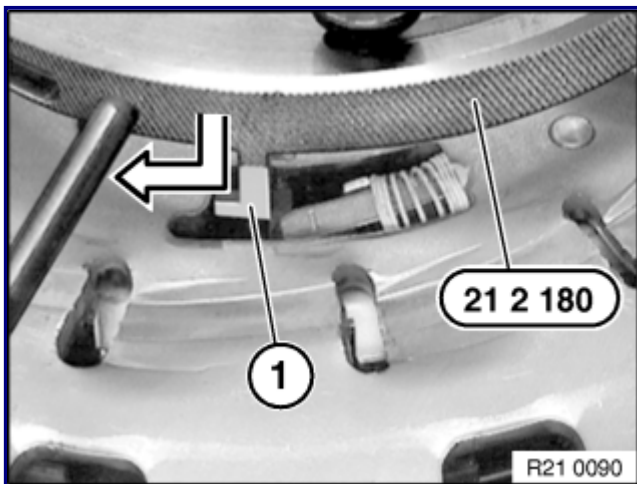
Check SAC clutch for wear and damage and replace if necessary.



## Reinstalling removed SAC clutch and clutch disc:

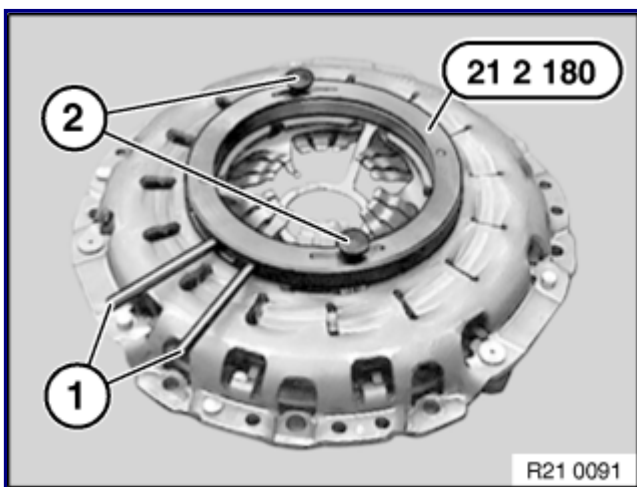


Set SAC clutch (1) down on a clean surface.  
Insert special tool [21 2 180](#) in SAC clutch (1).



### *Note:*

Locking hooks (1) of special tool [21 2 180](#) must engage in openings of SAC clutch.



Press special tool [21 2 180](#) together at handles (1) as far as it will go and grip firmly.

At same time tighten down knurled screws (2).

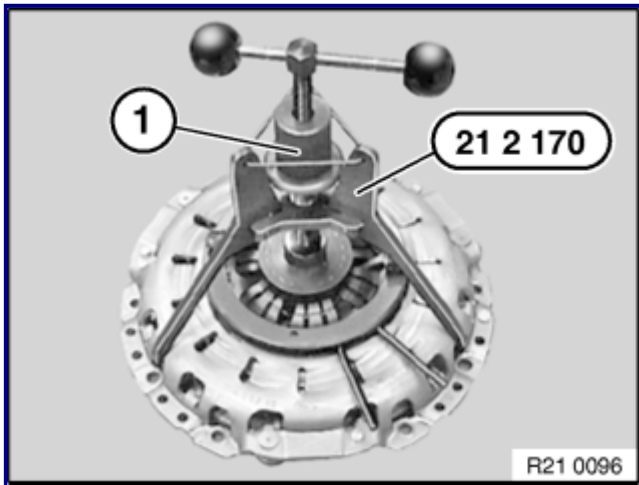
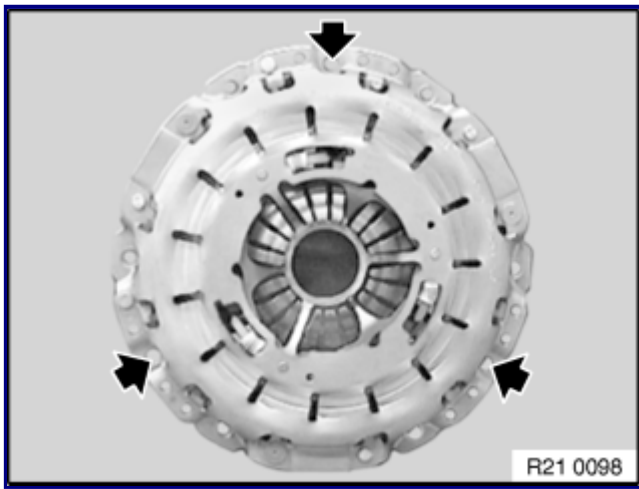
Adjustment ring of SAC clutch is now secured in its original position (wear position).

### **Important!**

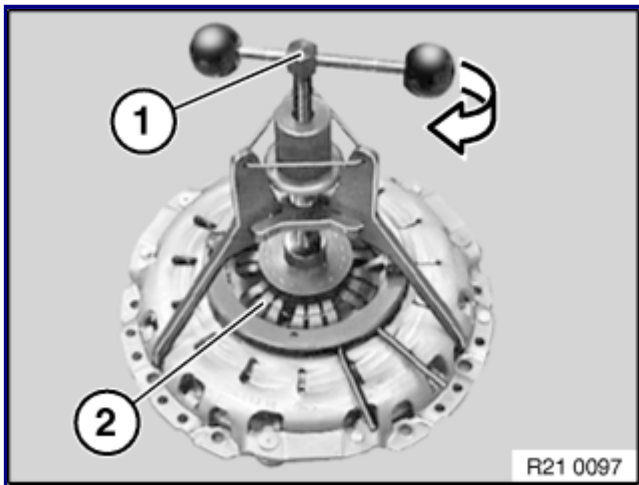
Do not reset adjustment ring to new position.

### *Note:*

Fit special tool [21 2 170](#) only in area of bore holes for dowel pins.



Fit special tool [21 2 170](#) and tighten down at knurled screw (1).



Screw in spindle (1) until diaphragm spring (2) is tensioned up to stop.

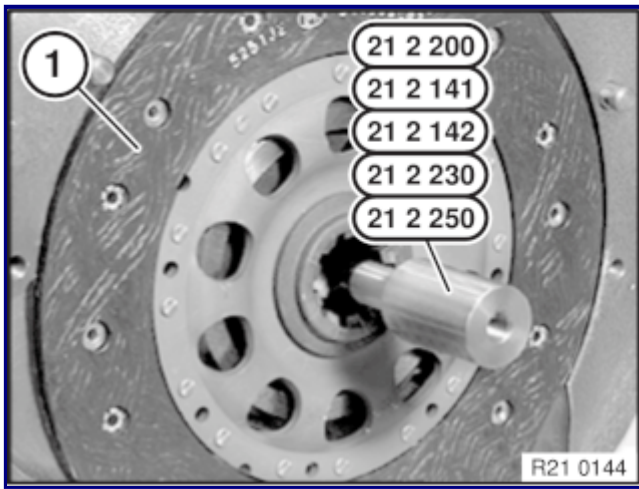


### Important!

Handle clutch disk carefully, do not touch surfaces of friction pads.

Install clutch disc in correct position.

Note designation for "engine side" / "transmission side".



Centre clutch disc (1) with special tool.

Special tool Transmission

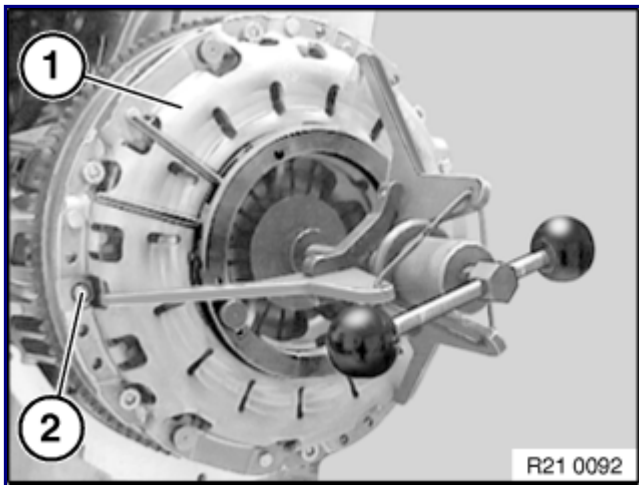
[21 2 141](#) S6S 420G; S6S 560G; S5D 390Z

[21 2 142](#) S5D 200G; S5D 250G; S5D 260Z; S5D 310Z

[21 2 200](#) GS6-37BZ

[21 2 230](#) GS6-53DZ

[21 2 250](#) GS6-17BG



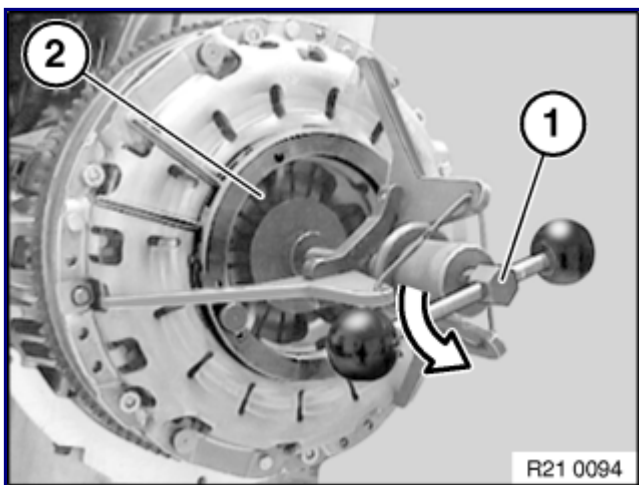
Fit SAC clutch (1) on flywheel.

Pay attention to dowel pins (2).

SAC clutch (1) must be secured by way of dowel pins (2).

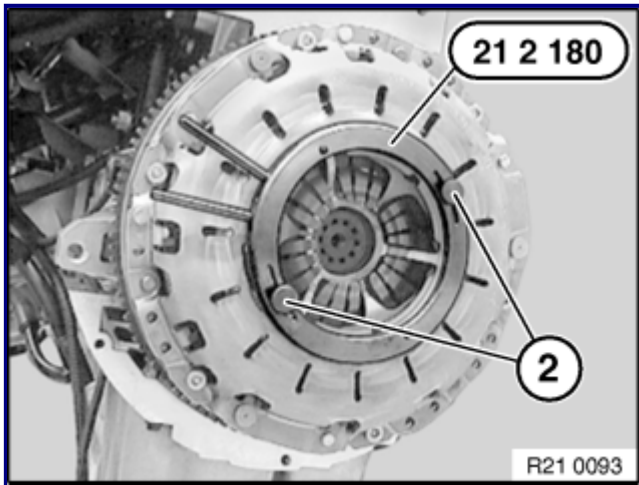
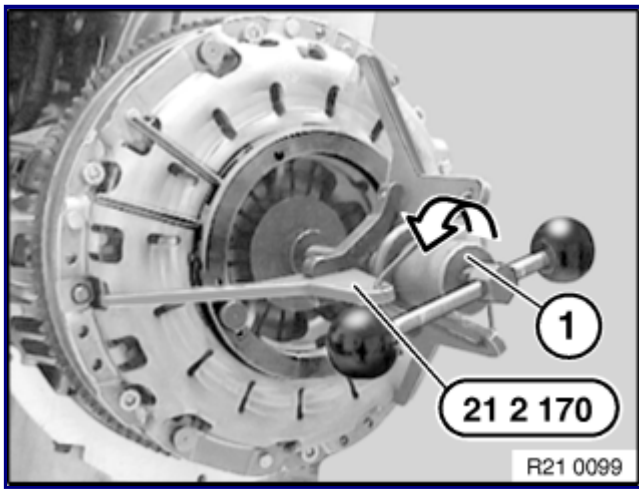
Install and tighten down screws.

Tightening torque: [21 21 1AZ](#).

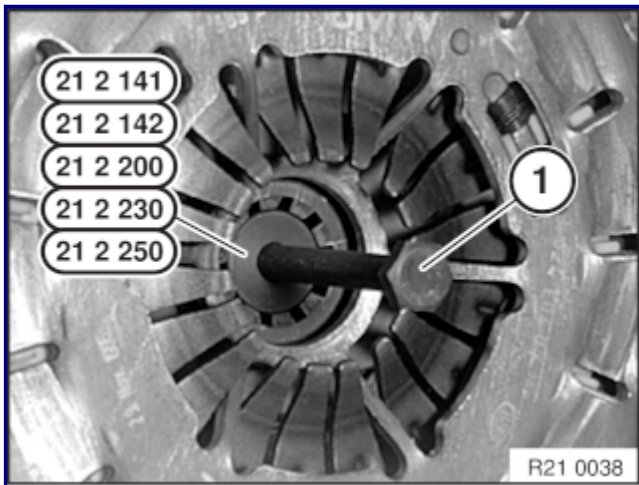


Release spindle (1) until load is fully removed from diaphragm spring (2).

Release knurled screw (1) and remove special tool [21 2 170](#) from SAC clutch.



Release knurled screws (2) and remove special tool [21 2 180](#) from SAC clutch.



Withdraw special tool from clutch disc with aid of accompanying screw (1).



#### Installing removed SAC clutch with new clutch disc:

*Installation note:*

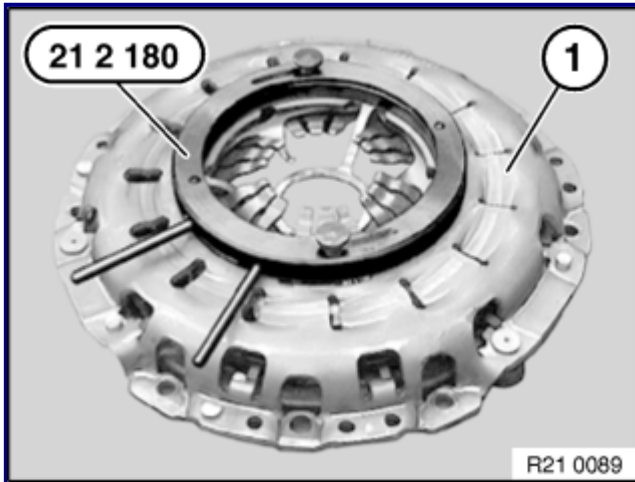
Screws must be replaced.

Joining torque and angle of rotation must be observed without fail.



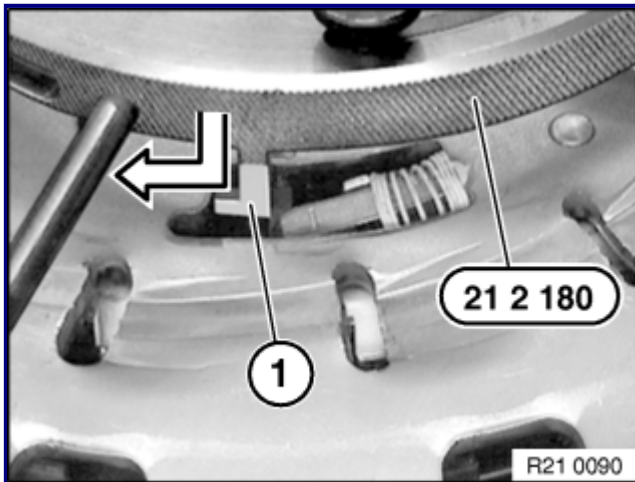
### Important!

Before installing an SAC clutch which has been in service with a new clutch disc: always reset adjusting ring in new position.



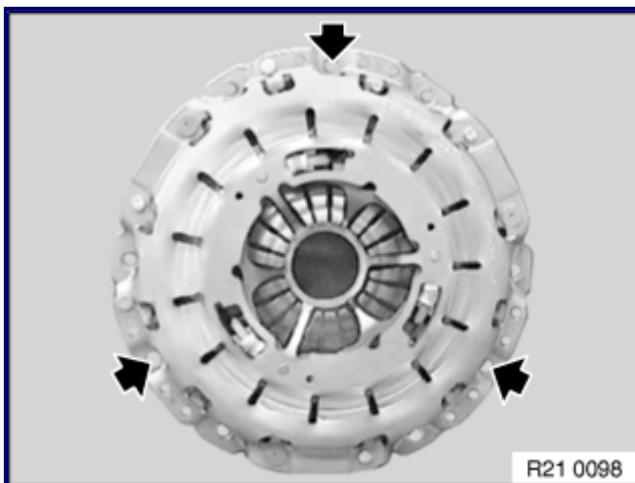
Set SAC clutch down on a clean surface.

Insert special tool [21 2 180](#) in SAC clutch (1).



### Note:

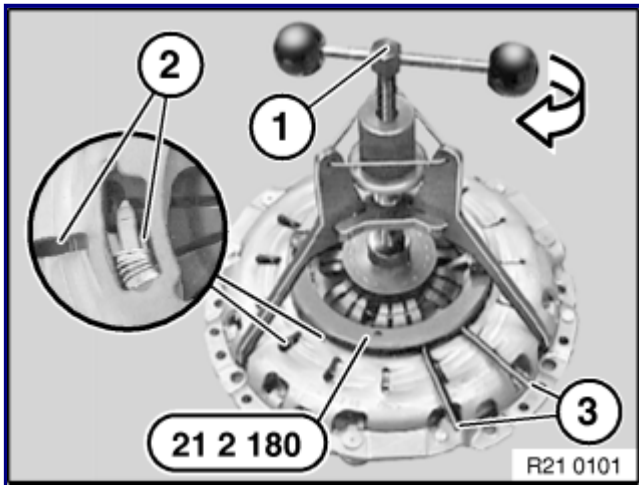
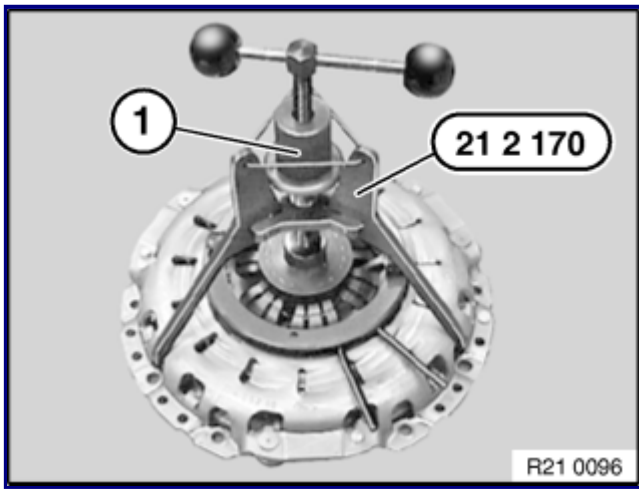
Locking hooks (1) of special tool [21 2 180](#) must engage in openings of SAC clutch.



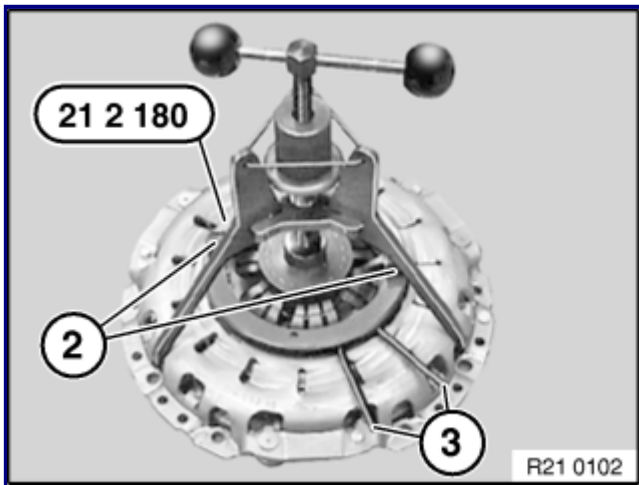
### Note:

Fit special tool [21 2 170](#) only in area of bore holes for dowel pins.

Fit special tool [21 2 170](#) and tighten down at knurled screw (1).



Screw in spindle (1) until adjustment ring of SAC clutch (2) can be turned with special tool [21 2 180](#) at handles (3).

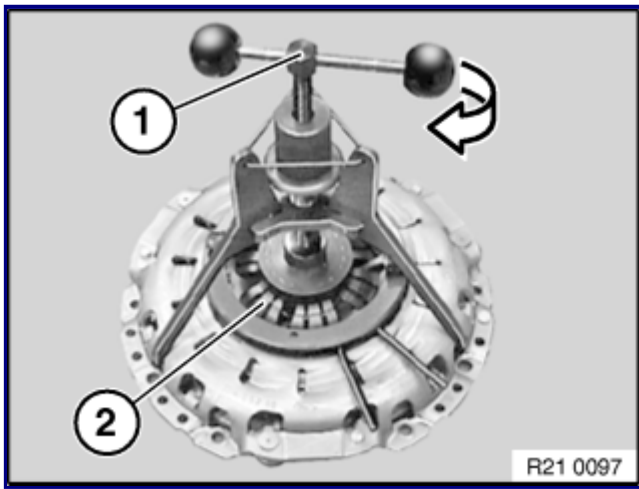


Press special tool [21 2 180](#) together at handles (3) as far as it will go and grip firmly.

At same time tighten down knurled screws (2).

Adjustment ring of SAC clutch is now secured in new position.

Screw in spindle (1) until diaphragm spring (2) is tensioned up to stop.



### Important!

Handle clutch disk carefully, do not touch surfaces of friction pads.

Install clutch disc in correct position.

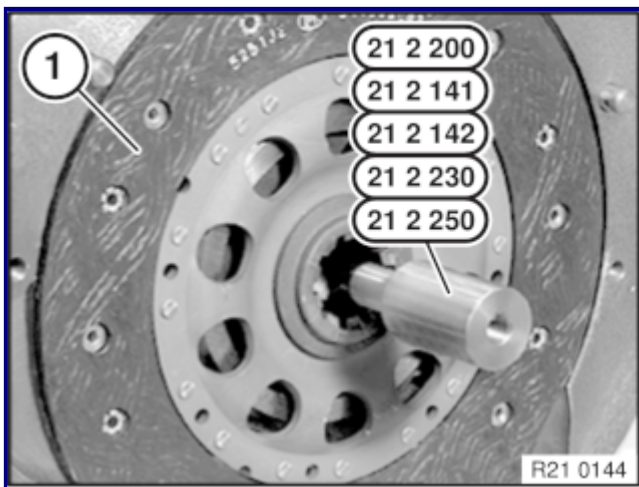
Note designation for "engine side" / "transmission side".

### Installation note:

N52

Screws must be replaced.

Jointing torque and angle of rotation must be observed without fail.



Centre clutch disc (1) with special tool.

Special tool    Transmission

[21 2 141](#)    S6S 420G; S6S 560G; S5D 390Z

[21 2 142](#)    S5D 200G; S5D 250G; S5D 260Z; S5D 310Z

[21 2 200](#)    GS6-37BZ

[21 2 230](#)    GS6-53DZ

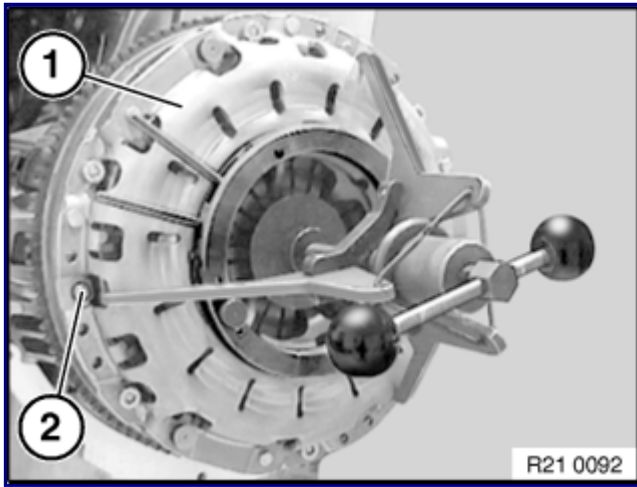
[21 2 250](#)    GS6-17BG

Fit SAC clutch (1) on flywheel.

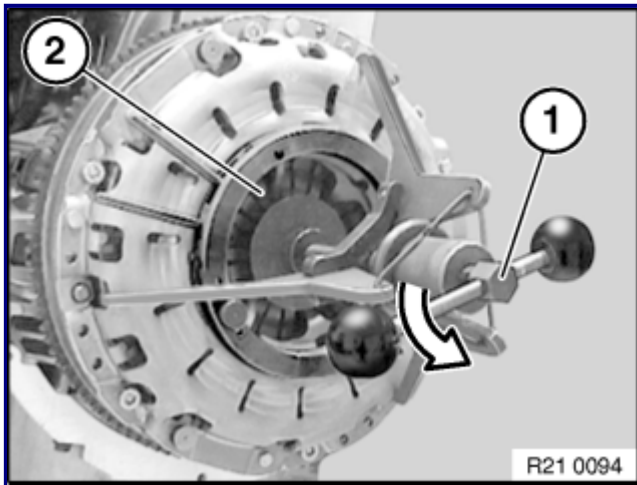
Pay attention to dowel pins (2).

SAC clutch (1) must be secured by way of dowel pins (2).

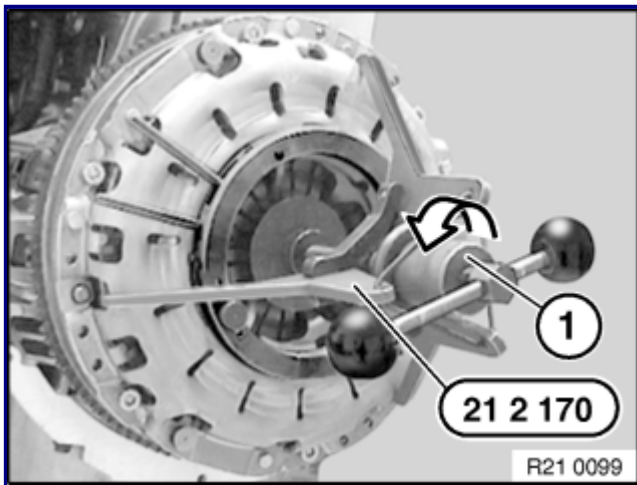
Install retaining screws of SAC clutch and tighten down.



Tightening torque: [21 21 1AZ](#).

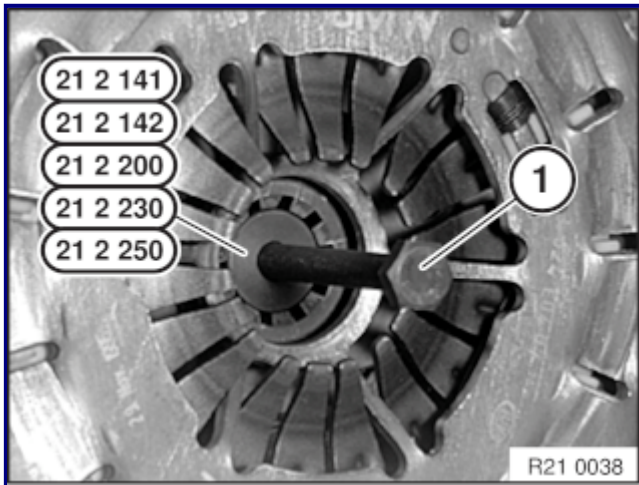
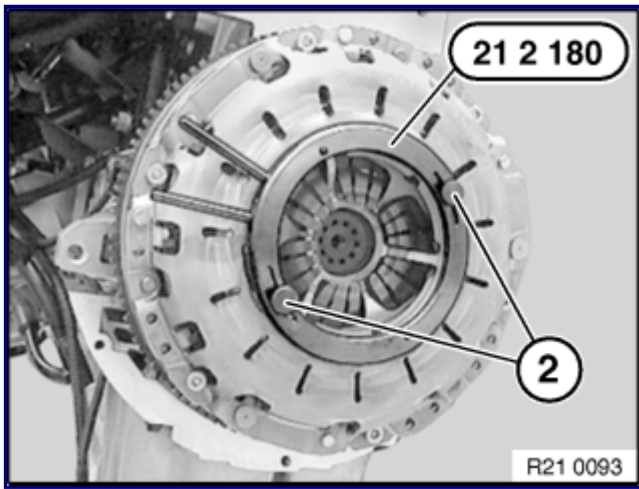


Release spindle (1) until load is fully removed from diaphragm spring (2).



Release knurled screw (1) and remove special tool [21 2 170](#) from SAC clutch.

Release knurled screws (2) and remove special tool [21 2 180](#) from SAC clutch.



Withdraw special tool from clutch disc with aid of accompanying screw (1).



### Installing new SAC clutch:

*Installation note:*

N52

Screws must be replaced.

Joining torque and angle of rotation must be observed without fail.



### Important!

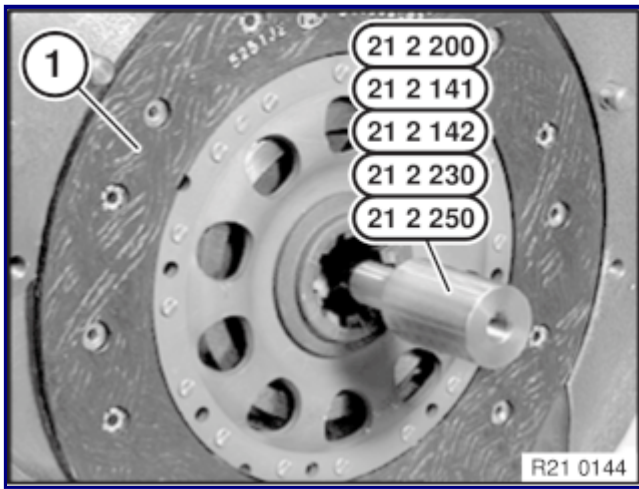
Handle clutch disk carefully, do not touch surfaces of friction pads.

Install clutch disc (1) in correct position.

Note designation for "engine side"/"transmission side".

The clutch disengagement module contained in the new AT clutch set absolutely **must** be installed.

Centre clutch disc (1) with special tool.



Special tool Transmission

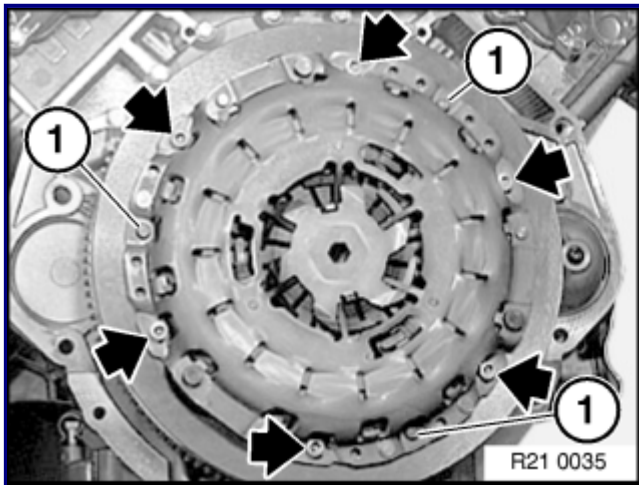
[21 2 141](#) S6S 420G; S6S 560G; S5D 390Z

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[21 2 200](#) GS6-37BZ

[21 2 230](#) GS6-53DZ

[21 2 250](#) GS6-17BG



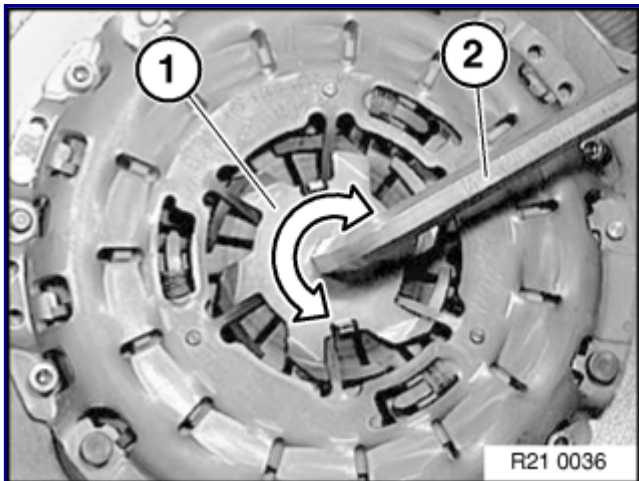
Push SAC clutch onto dowel pins (1) located in flywheel and screw down.

Tightening torque: [21 21 1AZ](#).



### Important!

Locking piece (1) may only be removed with SAC screw-mounted clutch!



Carefully unscrew locking piece (1) clockwise or anticlockwise with a hexagon socket wrench 14 A/F (2).

### Note:

A slight snapping of the plate spring while unscrewing is possible.

Withdraw special tool from clutch disc with aid of accompanying screw (1).

