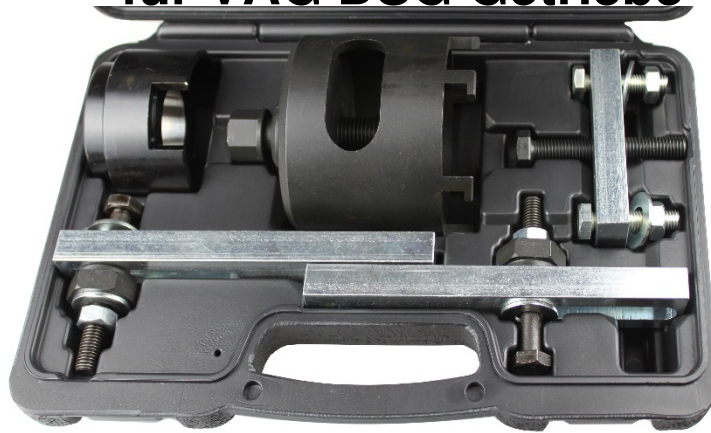


Doppelkupplungs-Reparatur-Werkzeugsatz für VAG DSG Getriebe



ALLGEMEIN

Dieser Reparatur-Werkzeugsatz wird benötigt bei Kupplungs-Reparaturen an folgenden Fahrzeugen: VW Golf (ab 2004), Golf Plus (ab 2005) mit 7-Gang Getriebe (Code 0AM), Audi A3 (ab 2004) mit 7-Gang Getriebe (Code 0AM) und Touareg (ab 2003) mit 6-Gang Getriebe (Code 08D).

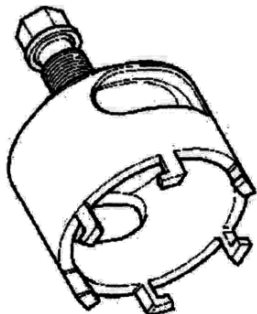
SICHERHEITSHINWEISE

- Vorsicht bei Arbeiten an heißen Motoren – Verbrennungsgefahr!
- Vorsicht bei Arbeiten an laufenden Motoren – lose Kleidung, Werkzeuge und andere Teile können von drehenden Motorteilen erfasst werden und zu Verletzungen führen.
- Zündschlüssel abziehen und Batterie Minus abklemmen, so verhindern Sie ein versehentliches Starten des Motors.
- Immer eine fahrzeugspezifische Service-Literatur verwenden, aus der können Daten und Hinweise zur Demontage und Einstellungen entnommen werden.
- Beachten Sie immer die Hinweise des Fahrzeugherstellers.

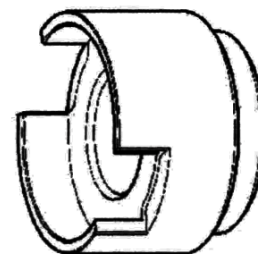


WERKZEUGE

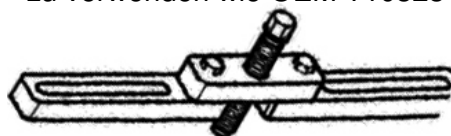
Abzieher
zu verwenden wie OEM T10373



Endmaß
zu verwenden wie OEM T10374



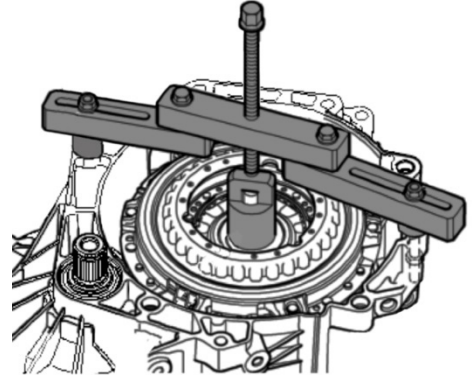
Brücke
zu verwenden wie OEM T10323



ANWENDUNG

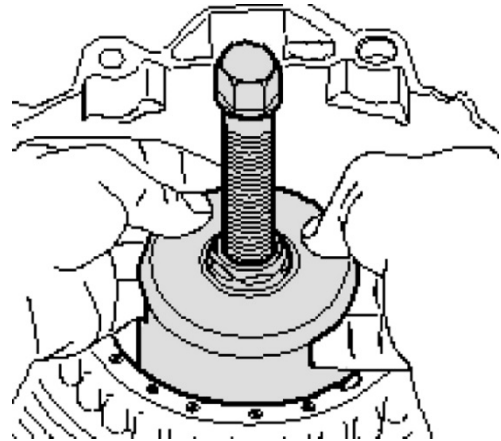
Abstützbrücke

1. Entfernen der Kupplungsnahe.
2. Kupplungs-Sicherungsring Demontieren (kann evtl. schwierig sein, da die Kupplung unter Vorspannung steht.)
3. Kupplung mit der Unterstützung Brücke, wie im Bild gezeigt, herunter drücken und Sicherungsring entfernen.



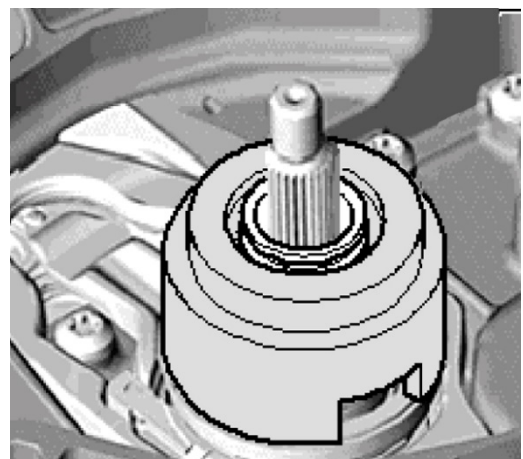
Abzieher

4. Nach der Demontage des Sicherungsring den Abzieher, wie in Abbildung gezeigt, Montieren und Kupplung durch Drehen der Spindel Abziehen.



Endmaß

5. Die Position des Lagers kann mit dem Endmaß eingestellt werden. Dazu wird ein Tiefenmesser benötigt. Genaue Maße und detaillierte Informationen zur Anwendung, bitte die Herstellerangaben beachten.



EINSTELLUNG

Position des Einrücklagers einstellen

Die Position der Einrücklager muss eingestellt werden, nachdem Einrücklager, Einrückhebel oder die Aufnahme des Einrückhebels erneuert wurde.

Die Anlagefläche (Getriebe zum Motor) muss frei von Unebenheiten sein, nur so ist eine gute Auflagefläche für das Lineal gewährleistet.

Beide Einrückhebel und ihre Einrücklager einbauen.

1,4 Millimeter Dicke Einstellscheibe auf jedes Lager (Pfeil) legen.

Da es sich um 2 Kupplungen handelt, folgen jetzt 2 Schritte zur Einstellung.

Bei diesen Arbeiten werden Sie verschiedene Messungen durchführen.

Jede Messung erfordert unterschiedliche Vorbereitungen und ein paar wenige Rechnungen.

Bitte halten Sie sich an diese Arbeitsabläufe.

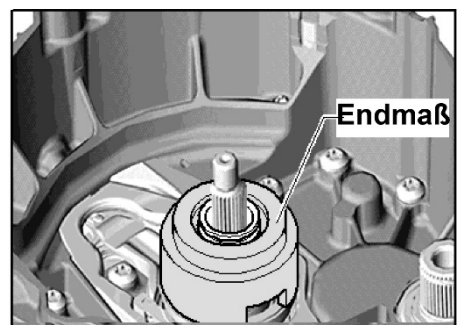
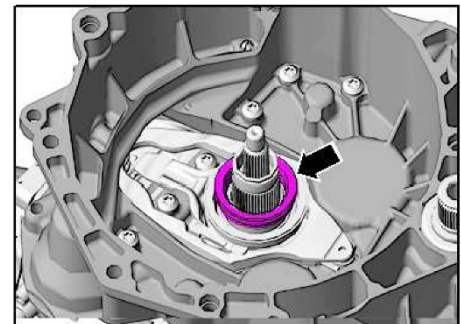
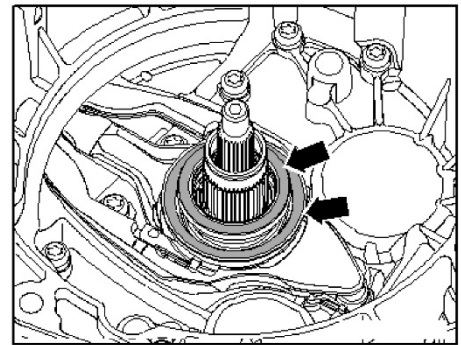
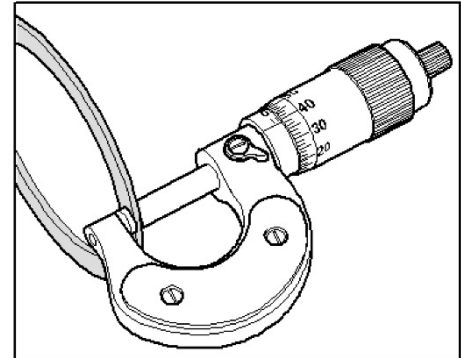
Begonnen wird mit dem großen Einrücklager für die Kupplung 1 (K1).

Erste Messung für die (K1)

Kleines Einrücklager mit der 1,4 Millimeter starken Einstellscheibe wieder herausnehmen.

Endmaß auf das große Einrücklager setzen.

Drücken Sie einmal auf das Endmaß und drehen Sie es dabei, so wird sichergestellt, dass das Endmaß richtig auf dem Lager sitzt.



Messlineal auf den Getriebeflansch legen und mit Tiefenmaß auf der Getriebewelle messen.

Gemessenen Wert unter der Bezeichnung (B) notieren.

Beispiel: B= 62,3 mm

Zweite Messung für die (K1)

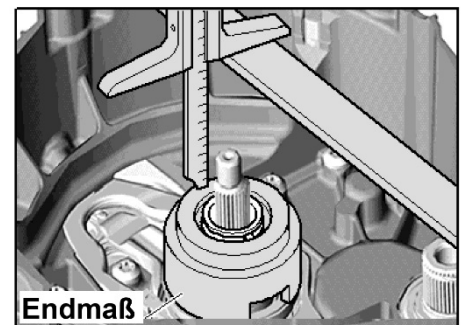
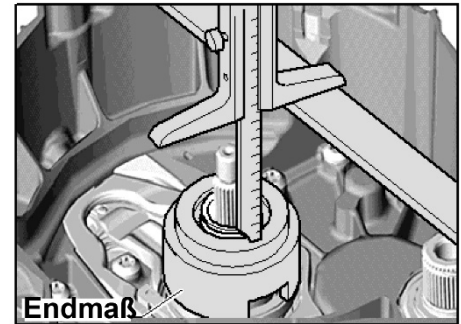
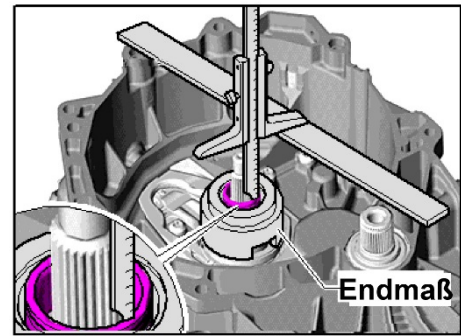
Distanz vom Lineal zum Endmaß messen. Damit diese Messung so genau wie möglich wird, setzen Sie den Tiefenmesser zweimal an gegenüberliegenden Stellen an. So ermitteln Sie einen noch genaueren Wert, die Ungenauigkeit durch das „Kippeln“ auf dem Einrücklager wird so minimiert.

Nehmen Sie also von beiden Messungen auf das Endmaß den Mittelwert. Gemessenen Wert unter der Bezeichnung (A) notieren.

Beispiel: A= 64 mm

Differenz der 2 Werte berechnen
 $A - B = ?$

**Anhand des Beispiels sieht die Rechnung so aus:
 $64,0 \text{ mm} - 62,3 \text{ mm} = 1,7 \text{ mm}$**



Entnehmen Sie die benötigte Stärke der Einstellscheibe der folgenden Tabelle.

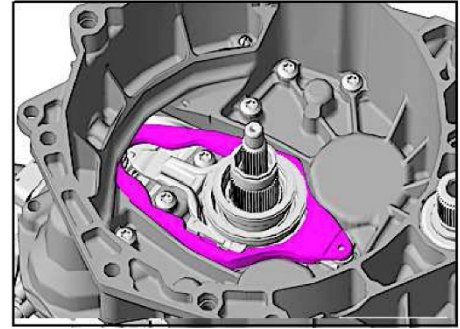
Ihr Messwert für Lager K1		benötigte Einstellscheibe
von	bis	
0,71 mm	0,9 mm	0,8 mm
0,91 mm	1,1 mm	1,0 mm
1,11 mm	1,3 mm	1,2 mm
1,31 mm	1,5 mm	1,4 mm
1,51 mm	1,7 mm	1,6 mm
1,71 mm	1,9 mm	1,8 mm
1,91 mm	2,1 mm	2,0 mm
2,11 mm	2,3 mm	2,2 mm
2,31 mm	2,5 mm	2,4 mm
2,51 mm	2,7 mm	2,6 mm
2,71 mm	2,9 mm	2,8 mm

Im Beispiel wird eine 1,6 mm starke Einstellscheibe benötigt.

Immer nur eine Einstellscheibe verwenden, legen Sie niemals 2 Einstellscheiben übereinander um das benötigte Maß zu erhalten.

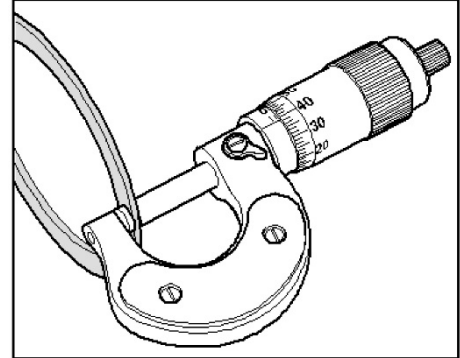
Hiermit ist die Position des Lagers K1 eingestellt

Größeren Einrückhebel für die folgende (K2) Messung wieder herausnehmen.

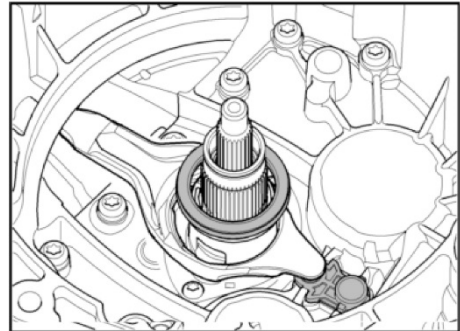


Erste Messung für die (K2)

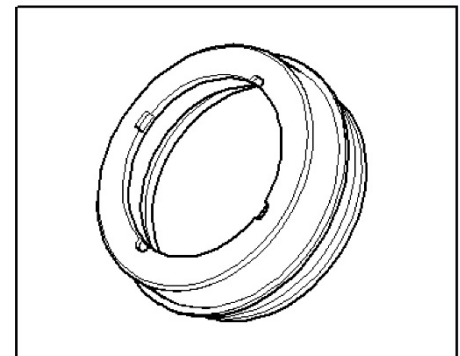
Nehmen Sie eine 1,4 mm starke Einstellscheibe.



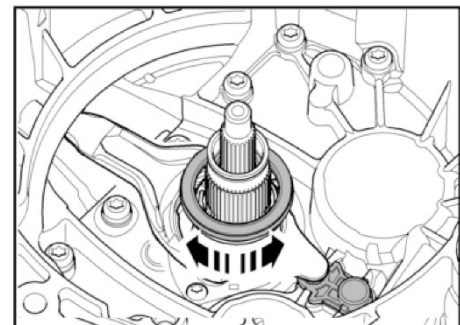
Nur das kleine Lager mit einer 1,4 mm dicken Einstellscheibe einsetzen.



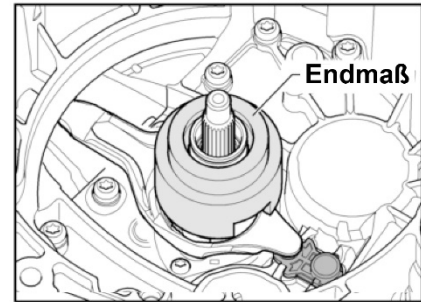
Das kleine Einrücklager passt wegen der 4 Nuten nur in einer Stellung.



Durch Drehen prüfen ob das Lager richtig eingebaut ist und die Nuten richtig sitzen.



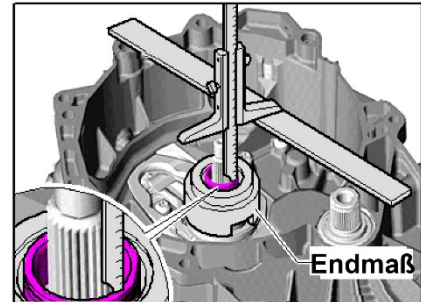
Endmaß auf das kleine Lager setzen.



Mit Tiefenmaß auf die Getriebewelle messen.

Diesen Wert unter der Bezeichnung (B) notieren.

Beispiel: B = 62,3 Millimeter



Zweite Messung für die (K2)

Distanz vom Lineal zum Endmaß messen.

Damit diese Messung so genau wie möglich wird, setzen Sie den Tiefenmesser zweimal an gegenüberliegenden Stellen an.

So ermitteln Sie einen genaueren Wert, die Ungenauigkeit durch das „Kippeln“ auf dem Einrücklager wird so minimiert.

Nehmen Sie von beiden Messungen auf das Endmaß den Mittelwert.

Gemessenen Wert unter der Bezeichnung (A) notieren.

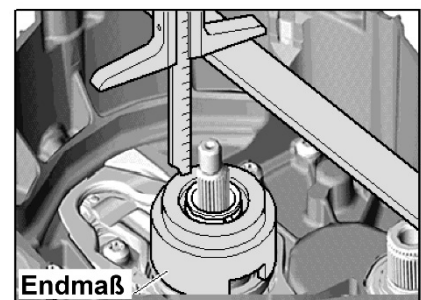
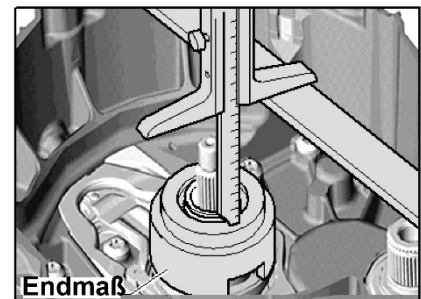
Beispiel: A= 63,5 mm

Differenz der 2 Werte berechnen

$A - B = ?$

Anhand des Beispiels sieht die Rechnung so aus:

$63,5 \text{ mm} - 62,3 \text{ mm} = 1,2 \text{ mm}$



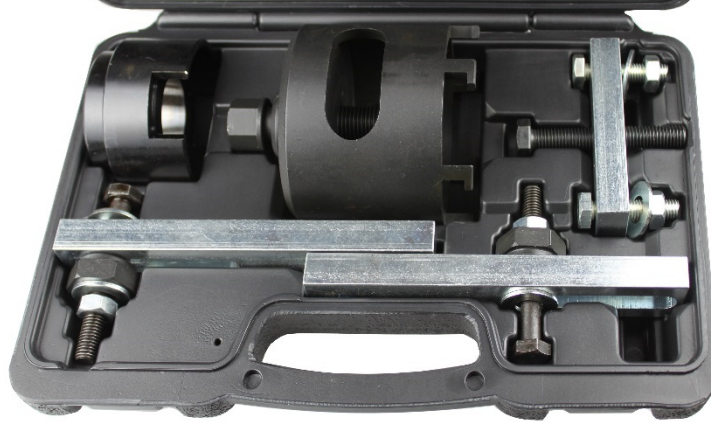
Entnehmen Sie die benötigte Stärke der Einstellscheibe der folgenden Tabelle.

Ihr Messwert für Lager K2		benötigte Einstellscheibe
von	bis	
0,71 mm	0,9 mm	0,8 mm
0,91 mm	1,1 mm	1,0 mm
1,11 mm	1,3 mm	1,2 mm
1,31 mm	1,5 mm	1,4 mm
1,51 mm	1,7 mm	1,6 mm
1,71 mm	1,9 mm	1,8 mm
1,91 mm	2,1 mm	2,0 mm
2,11 mm	2,3 mm	2,2 mm
2,31 mm	2,5 mm	2,4 mm
2,51 mm	2,7 mm	2,6 mm
2,71 mm	2,9 mm	2,8 mm

Im Beispiel wird eine 1,2 mm starke Einstellscheibe benötigt.

Immer nur eine Einstellscheibe verwenden, legen Sie niemals 2 Einstellscheiben übereinander um das benötigte Maß zu erhalten. Hiermit ist die Position des Lagers K2 eingestellt

Duplex clutch repair kit for VAG DSG transmissions



GENERAL

This repair kit is needed for servicing clutches in the following car types:
VW Golf (since 2004), Golf Plus (since 2005) with 7-drive transmission (Code 0AM), Audi A3 (since 2004) with 7-drive transmission (Code 0AM) and Touareg (since 2003) with 6-drive transmission (Code 08D).

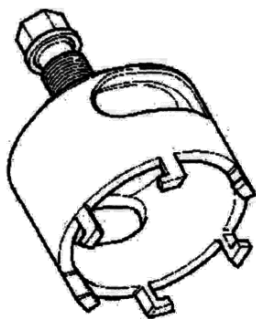
SAFETY ADVICE

- Be careful when working on heated up engines – risk of burn!
- Be careful when working on running engines – loose clothing, tools and other thing might be caught up in revolving parts of the engine and cause sever injuries.
- Remove the ignition key and the negative terminal of the car's battery so that you avoid an unintended ignition of the engine.
- Always consult specific servicing handbooks for detailed information about check operations and technical data concerning the assembly and disassembly of the clutch unit.
- Always obey the instructions of the vehicle manufacturer.

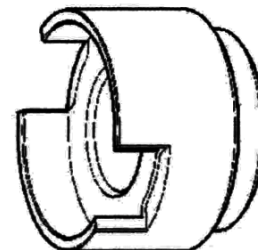


TOOLS

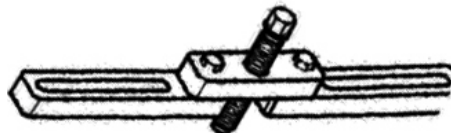
Puller
to be used as OEM T10373



Slip gauge
to be used as OEM T10374



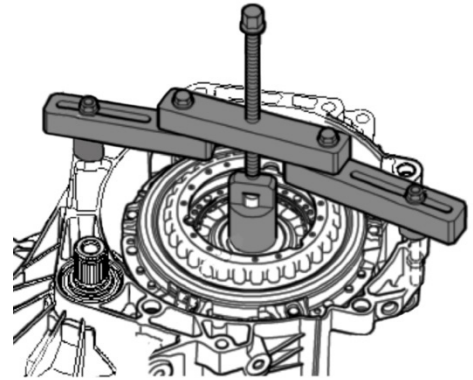
Support bridge
to be used as OEM T10323



INSTRUCTION

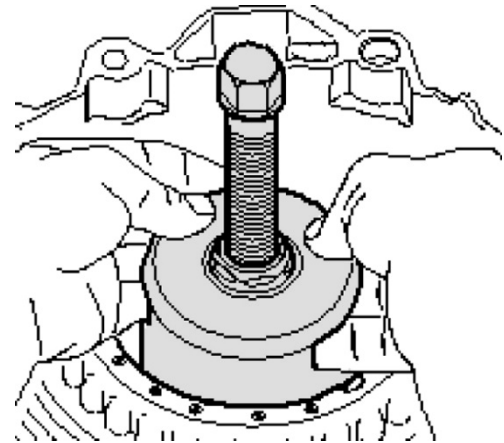
Support bridge

1. Remove clutch hub.
2. Disassemble lock ring of the clutch (this might be difficult because the clutch is under strong tension)
3. Release the clutch by using the support bridge as shown in the picture.



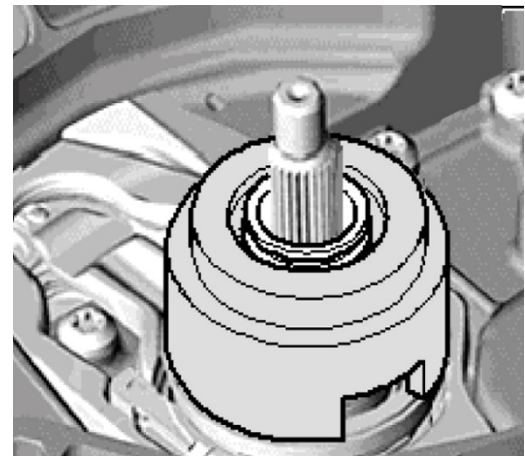
Puller

4. After the disassembly of the lock ring you can attach the puller as shown and disassemble the clutch by turning the puller spindle.



Slip gauge

5. You can adjust the position of the engaging bearings by using the slip gauge. Use a depth gauge for measuring. For exact dimensions and detailed information about how to do it, consult the manufacturer's handbook.



ADJUSTMENT

Adjust position of the engaging bearings.

It is necessary to adjust the position of the engaging bearings after replacing the engaging bearings, the starting lever or the starting lever seating.

The locating face (gearbox/motor) has to be completely level in order to make sure for a good rest for the ruler.

Installation of the two starting levers and their engaging bearings.

Place the 1.4 millimeter thick dial on each bearing (arrow).

As there are 2 clutches, there will be 2 steps of adjusting them.

You will be doing several measurements while carrying out this operation.

Each measurement requires different preparations and a few simple calculations.

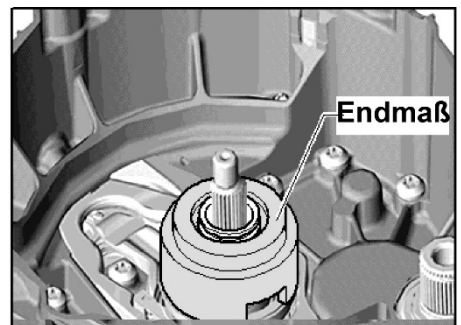
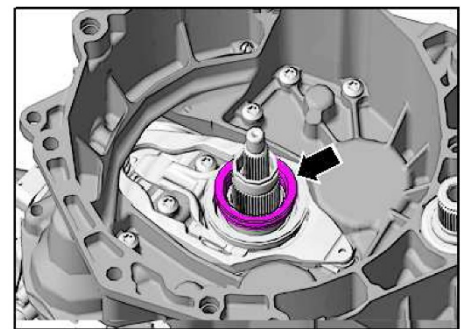
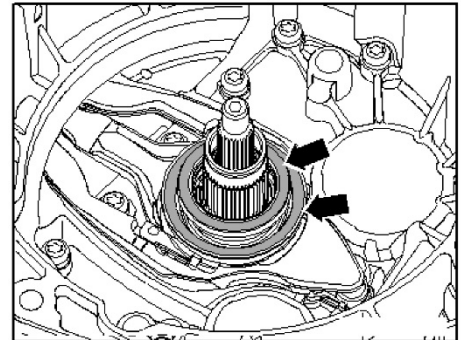
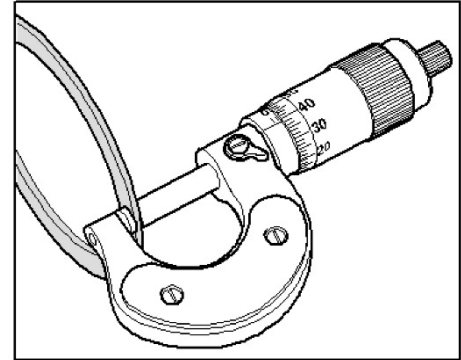
Please strictly follow these operating sequences.

You will start with the big engaging bearing for clutch 1 (K1).

First measurement for (K1)

Remove the small engaging bearing with the 1.4 millimeter thick dial.

Place the slip gauge on the big engaging bearing. Exert some pressure on the slip gauge and rotate it to make sure for the correct seating of the slip gauge on the bearing. (Endmaß = slip gauge)



Place the ruler on the gearbox flange and use the depth gauge for your measurement of the depth down to the gear shaft.

Note down the measured value as (B).

Example: B= 62.3 mm

Second measurement for (K1)

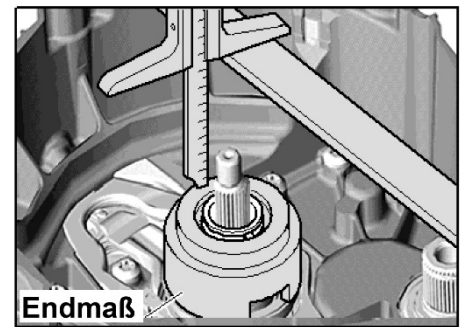
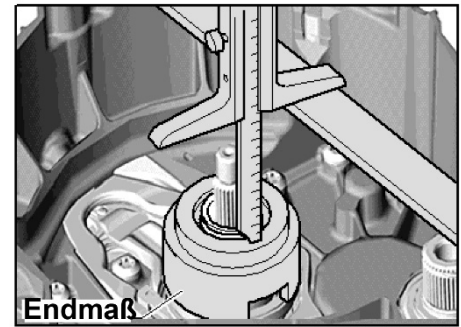
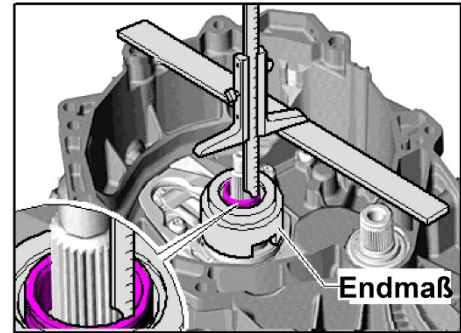
Measure the distance from the ruler down to the slip gauge. Make this measurement as precisely as possible by taking readings from two opposite positions. Thus, the determined value will be more precise, and any inaccuracy caused by a „tilting“ on the engaging bearing will be minimized.

Take the mean value of both measurements on the slip gauge. Note down the value as (A).

Example: A= 64 mm

Calculate the difference of the 2 values
 $A - B = ?$

**In our example the calculation is as follows:
 $64.0 \text{ mm} - 62.3 \text{ mm} = 1.7 \text{ mm}$**



Refer to the below table for the required thickness of the dial.

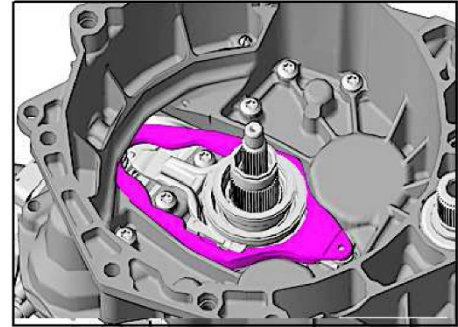
Your reading for bearing K1		
from	to	required dial
0.71 mm	0.9 mm	0.8 mm
0.91 mm	1.1 mm	1.0 mm
1.11 mm	1.3 mm	1.2 mm
1.31 mm	1.5 mm	1.4 mm
1.51 mm	1.7 mm	1.6 mm
1.71 mm	1.9 mm	1.8 mm
1.91 mm	2.1 mm	2.0 mm
2.11 mm	2.3 mm	2.2 mm
2.31 mm	2.5 mm	2.4 mm
2.51 mm	2.7 mm	2.6 mm
2.71 mm	2.9 mm	2.8 mm

In our example we need a 1.6 mm thick dial.

Never use more than a single dial. Never place 2 dials on top of each other to reach the required thickness.

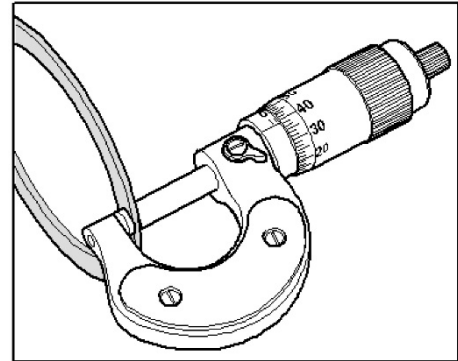
Following this procedure, the position of the bearing K1 will be adjusted.

Remove again the bigger starting lever for the subsequent (K2) measurement.

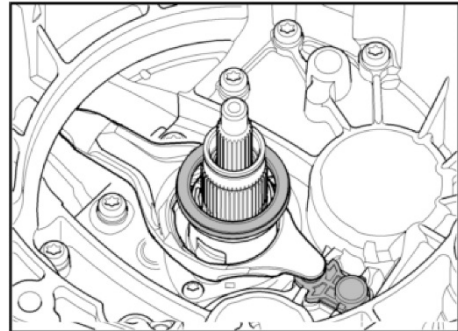


First measurement for (K2)

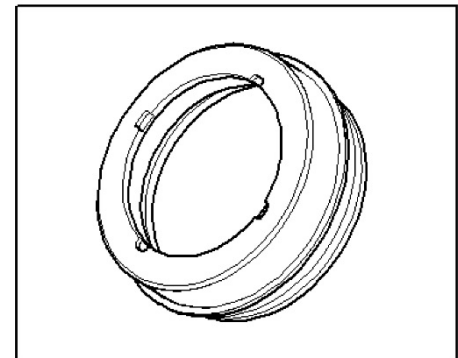
Use a 1.4 mm thick dial.



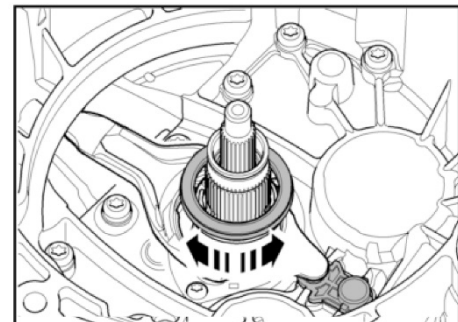
Install the small bearing only with a 1.4 mm thick dial.



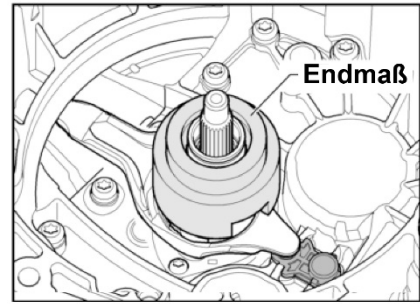
The small engaging bearing will only lock into one position because of the 4 grooves.



Rotate to check that the bearing is correctly installed with the grooves in their right position.



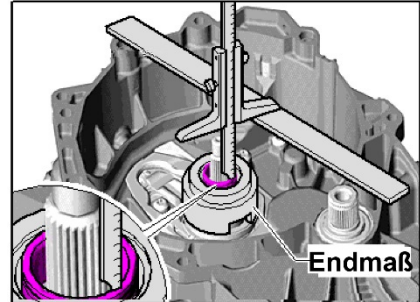
Place the slip gauge onto the small bearing.



Use the depth gauge to measure down to the gear shaft.

Note down this value as (B).

Example: B = 62.3 millimeters



Second measurement for (K2)

Measure the distance from the ruler down to the slip gauge. Make this measurement as precisely as possible by taking readings from two opposite positions.

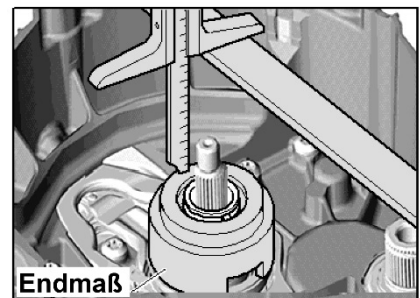
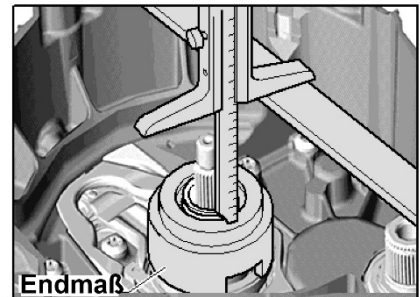
Thus, the determined value will be more precise, and any inaccuracy caused by a „tilting“ on the engaging bearing will be minimized.

Take the mean value of both measurements on the slip gauge. Note down the value as (A).

Example: A= 63.5 mm

Calculate the difference of the 2 values
 $A - B = ?$

**In our example the calculation is as follows:
 $63.5 \text{ mm} - 62.3 \text{ mm} = 1.2 \text{ mm}$**



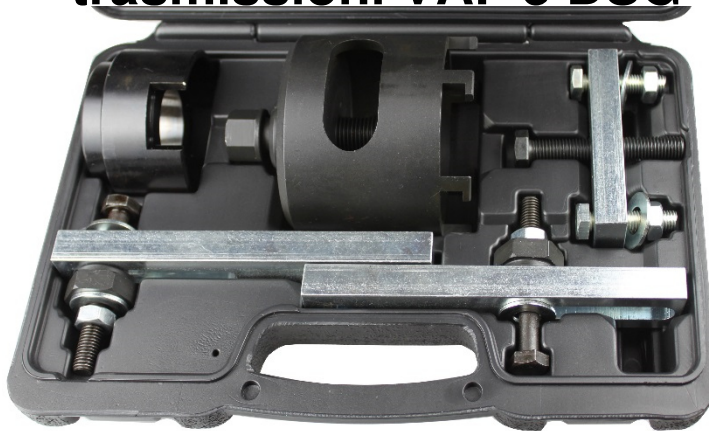
Refer to the below table for the required thickness of the dial.

Your reading for the bearing K2		
from	to	required dial
0.71 mm	0.9 mm	0.8 mm
0.91 mm	1.1 mm	1.0 mm
1.11 mm	1.3 mm	1.2 mm
1.31 mm	1.5 mm	1.4 mm
1.51 mm	1.7 mm	1.6 mm
1.71 mm	1.9 mm	1.8 mm
1.91 mm	2.1 mm	2.0 mm
2.11 mm	2.3 mm	2.2 mm
2.31 mm	2.5 mm	2.4 mm
2.51 mm	2.7 mm	2.6 mm
2.71 mm	2.9 mm	2.8 mm

In our example we need a 1.2 mm thick dial.

Never use more than a single dial. Never place 2 dials on top of each other to reach the required thickness. Following this procedure, the position of the bearing K2 will be adjusted.

Kit di riparazione della frizione duplex per le trasmissioni VAF e DSG



GENERALE

Questo kit di riparazione è necessario per la manutenzione delle frizioni nei seguenti tipi di auto: VW Golf (dal 2004), Golf Plus (dal 2005) con trasmissione a 7 marce (Codice 0AM), Audi A3 (dal 2004) con trasmissione a 7 marce (Codice 0AM) e Touareg (dal 2003) con trasmissione a 6 marce (Codice 08D).

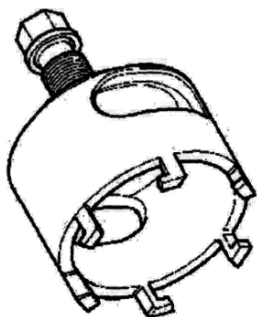
CONSIGLI DI SICUREZZA

- Fare attenzione quando si lavora su motori caldi– rischio di bruciatura!
- Fare attenzione quando si lavora su motori accesi – vestiti larghi, attrezzi e altre cose possono essere prese in parti girevoli del motore e cause gravi danni.
- Rimuovere la chiave d'accensione e il terminale negativo della batteria dell'auto così che si possa evitare una accensione involontaria del motore.
- Consultare sempre un manuale di servizio specifico per informazioni dettagliate sul controllo delle operazioni e i dati tecnici riguardanti l'assemblaggio e il disassemblaggio dell'unità della frizione.
- Rispettare sempre le istruzioni del costruttore del veicolo.

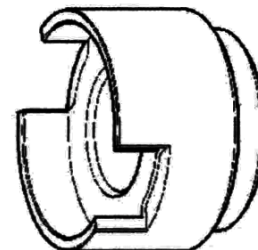


ATTREZZI

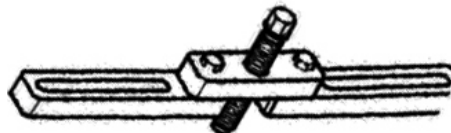
L'estrattore deve essere usato come OEM T10373



Calibro scorrevole deve essere usato come OEM T10374



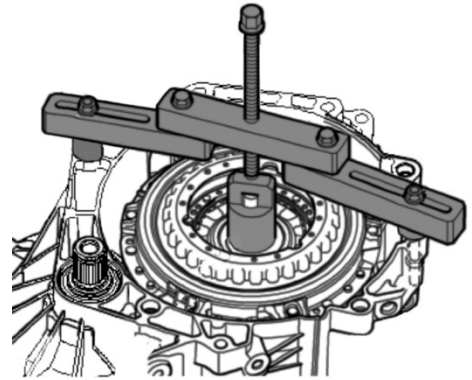
Ponte di supporto deve essere usato come OEM T10323



ISTRUZIONI

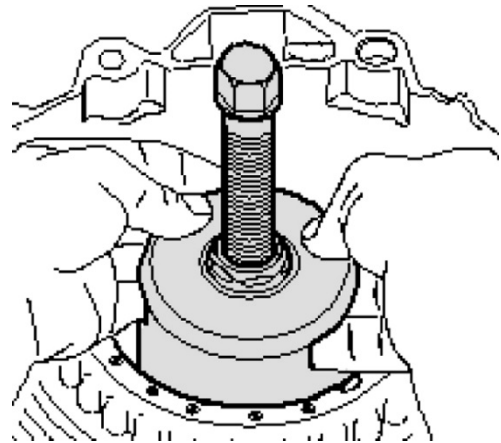
Ponte di supporto

1. Rimuovere il mozzo della frizione.
2. Disassemblare l'anello di chiusura della frizione (questo può essere difficile perché la frizione è sotto forte tensione)
3. Rilasciare la frizione usando il ponte di supporto come mostrato in figura.



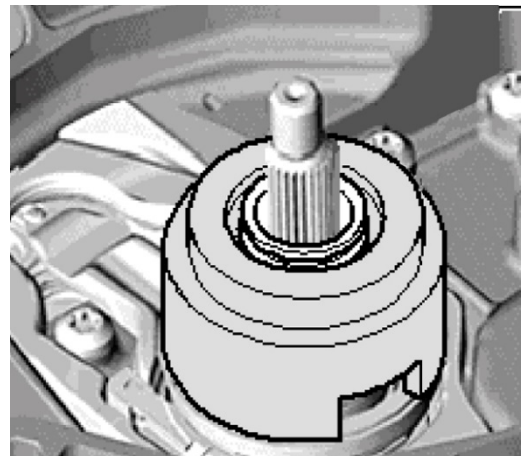
Estrattore

4. Dopo il disassemblaggio dell'anello di chiusura si può attaccare l'estrattore come mostrato e disassemblare la frizione tirando il mandrino dell'estrattore.



Calibro scorrevole

5. Si può regolare la posizione dei cuscinetti nell'ingranaggio usando il calibro scorrevole. Usare un metro per misurare la profondità. Per le esatte dimensioni e informazioni dettagliate su come fare, consultare il manuale del costruttore.



REGOLAZIONE

Regolare la posizione dei cuscinetti nell'ingranaggio.

È necessario regolare la posizione dei cuscinetti nell'ingranaggio dopo aver sostituito i cuscinetti nell'ingranaggio o la leva d'inizio.

La parte localizzata (scatola del cambio/motore) dee essere completamente livellata al fine di assicurare un buon appoggio alla riga.

Installazione delle due leve d'inizio e dei loro cuscinetti nell'ingranaggio.

Un disco spesso 1.4 millimetri su ogni cuscinetto (freccia).

Siccome ci sono 2 frizioni, ci saranno 2 step di regolazione di queste.

Verranno fatte molte misurazioni mentre verrà effettuata questa operazione.

Ogni misurazione richiede diverse preparazioni e pochi semplici calcoli.

Per favore seguire tassativamente queste sequenze di operazione.

Si inizierà con il grande cuscinetto nell'ingranaggio la frizione 1 (K1).

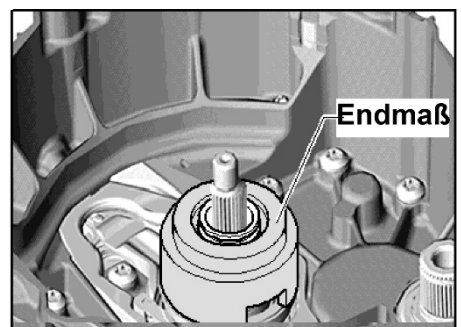
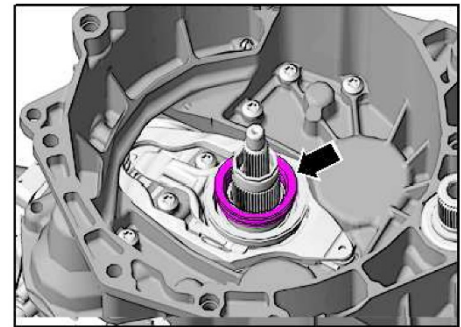
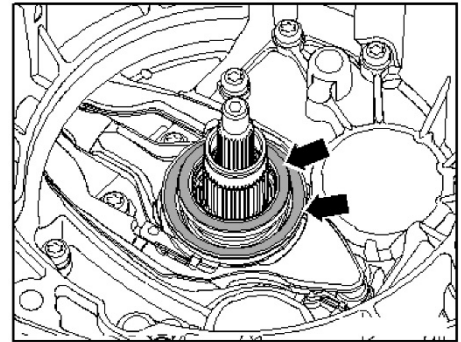
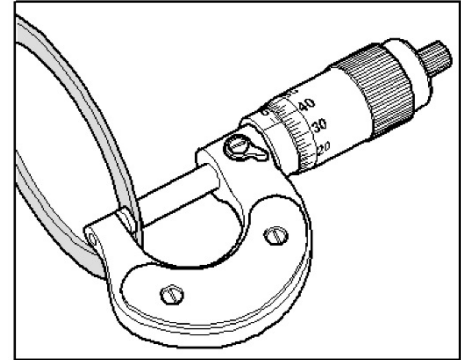
Prima misurazione per (K1)

Rimuovere il piccolo cuscinetto nell'ingranaggio con il disco spesso 1.4 millimetri.

Posizionare il calibro scorrevole sul grande cuscinetto nell'ingranaggio.

Esercitare un po' di pressione sul calibro a scorrimento e ruotarlo per assicurarsi la corretta posizione del misuratore sul cuscinetto.

(Endmaß = calibro scorrevole)



Posizionare la riga sulla flangia della scatola del cambio e usare il calibro di profondità per le vostre misurazioni della profondità sotto la leva del cambio.

Annotare il valore misurato come (B).

Esempio: B= 62.3 mm

Seconda misurazione per (K1)

Misurare la distanza dalla riga in giù verso il calibro scorrevole.

Fare questa misurazione il più precisamente possibile prendendo le letture da due posizioni opposte.

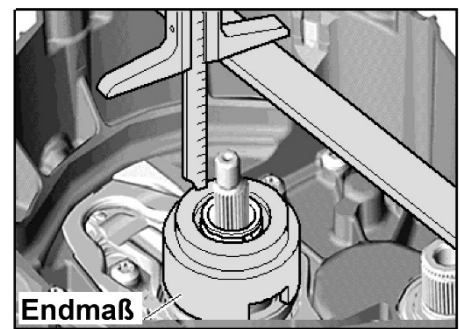
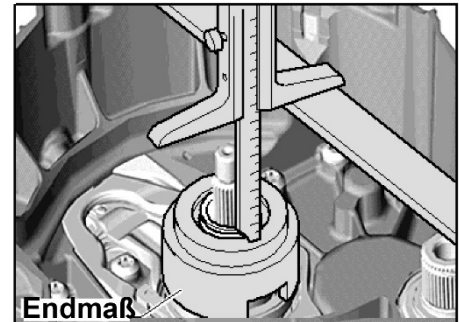
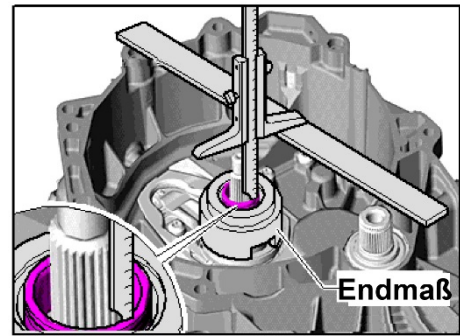
Quindi, il valore determinato sarà più preciso, e qualsiasi imprecisione causata da una „inclinazione“ sul cuscinetto nell'ingranaggio verrà minimizzata.

Tenere il valore medio di entrambe le misurazioni sul calibro scorrevole. Annotare il valore come (A).

Esempio: A= 64 mm

Calcolare la differenza dei 2 valori
A - B = ?

**Nel nostro esempio il calcolo è il seguente:
64.0 mm – 62.3 mm = 1.7 mm**



Fare riferimento alla tabella sottostante per lo spessore del disco richiesto.

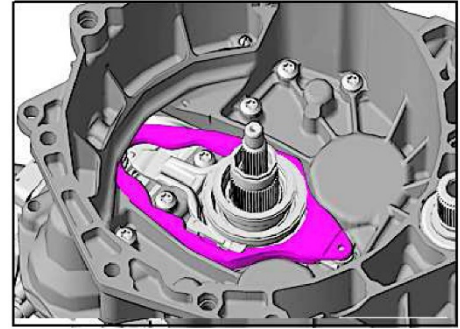
Tua lettura per il cuscinetto K1		
da	a	Disco richiesto
0.71 mm	0.9 mm	0.8 mm
0.91 mm	1.1 mm	1.0 mm
1.11 mm	1.3 mm	1.2 mm
1.31 mm	1.5 mm	1.4 mm
1.51 mm	1.7 mm	1.6 mm
1.71 mm	1.9 mm	1.8 mm
1.91 mm	2.1 mm	2.0 mm
2.11 mm	2.3 mm	2.2 mm
2.31 mm	2.5 mm	2.4 mm
2.51 mm	2.7 mm	2.6 mm
2.71 mm	2.9 mm	2.8 mm

Nel nostro esempio c'è bisogno di un disco spesso 1.6 mm.

Non usare mai più di un disco singolo. Non posizionare mai 2 dischi uno sopra all'altro per raggiungere lo spessore richiesto.

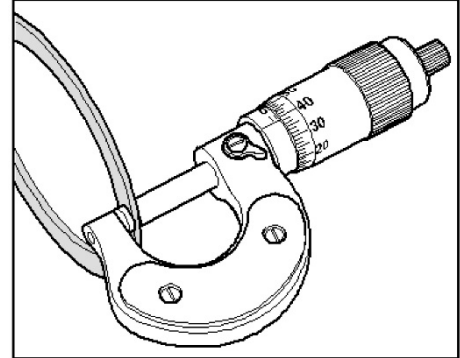
Seguendo questa procedura, la posizione del cuscinetto K1 verrà regolata.

Rimuovere ancora la leva d'inizio più grande per la successiva misurazione (K2).

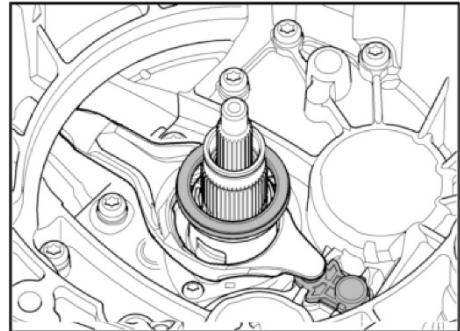


Prima misurazione per (K2)

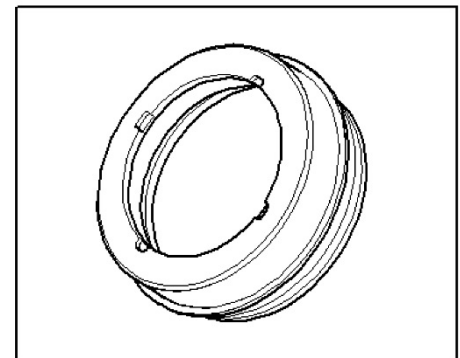
Usare un disco spesso 1.4 mm .



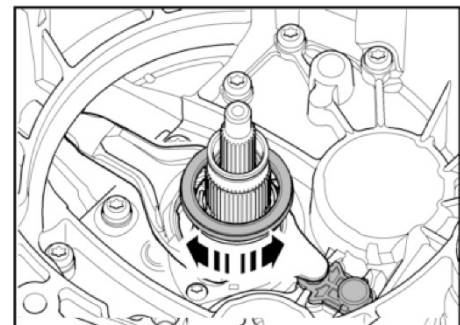
Installare solo il cuscinetto piccolo con un disco spesso 1.4 mm.



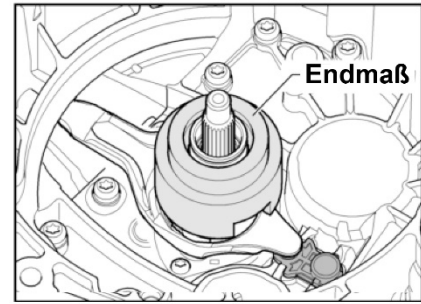
Il piccolo cuscinetto d'ingranaggio si chiuderà solo in una posizione a causa delle 4 scanalature.



Ruotate per controllare che il cuscinetto sia stato installato e con le scanalature nella loro giusta posizione



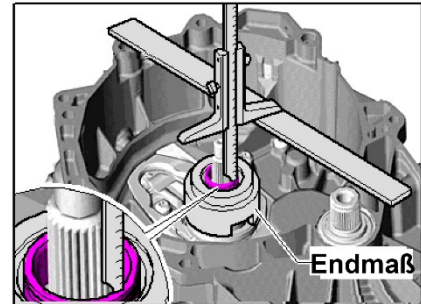
Posizionare il calibro scorrevole nel piccolo cuscinetto.



Usare un misuratore di profondità per misurare giù verso la leva del cambio .

Annotare questo valore come (B).

Esempio: B = 62.3 millimetri



Seconda misurazione per (K2)

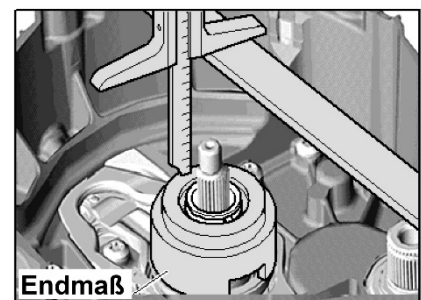
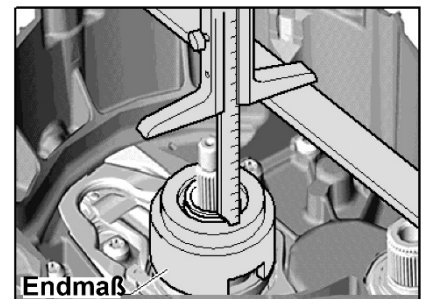
Misurare la distanza dalla riga giù verso il calibro scorrevole. Fare questa misurazione il più precisamente possibile tenendo le letture da due posizioni opposte. Quindi, il valore determinato sarà più preciso, e qualsiasi imprecisione causata da una „inclinazione“ sul cuscinetto nell'ingranaggio sarà minimizzata.

Prendere il valore medio di entrambe le misurazioni sul calibro scorrevole. Annotare il valore come (A).

Esempio: A= 63.5 mm

Calcolare la differenza dei 2 valori
 $A - B = ?$

**Nel nostro esempio il calcolo è il seguente:
 $63.5 \text{ mm} - 62.3 \text{ mm} = 1.2 \text{ mm}$**



Fare riferimento alla tabella sottostante per lo spessore del disco richiesto.

La vostra lettura per il cuscinetto K2		
da	a	Disco richiesto
0.71 mm	0.9 mm	0.8 mm
0.91 mm	1.1 mm	1.0 mm
1.11 mm	1.3 mm	1.2 mm
1.31 mm	1.5 mm	1.4 mm
1.51 mm	1.7 mm	1.6 mm
1.71 mm	1.9 mm	1.8 mm
1.91 mm	2.1 mm	2.0 mm
2.11 mm	2.3 mm	2.2 mm
2.31 mm	2.5 mm	2.4 mm
2.51 mm	2.7 mm	2.6 mm
2.71 mm	2.9 mm	2.8 mm

Nel nostro esempio noi abbiamo bisogno di un disco spesso 1.2 mm.

Non usare mai più di un disco singolo. Non posizionare mai 2 dischi uno sopra l'altro per raggiungere lo spessore richiesto. Seguendo questa procedura, la posizione del cuscinetto K2 verrà regolata.