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Special tools to disassemble  
and assemble the range  
synchroniser ring

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Rev. 01



**Special tools to disassemble  
and assemble the range  
synchroniser ring**

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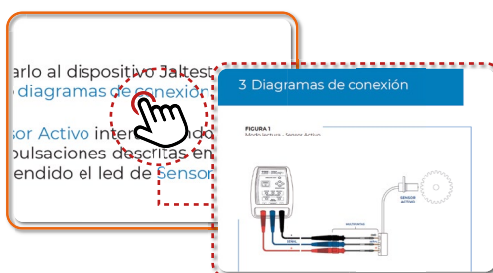
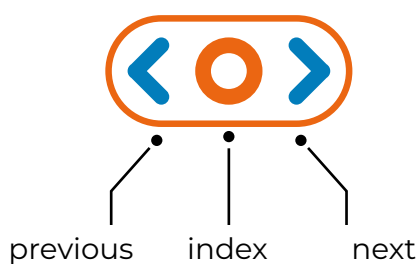
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# 1 General information

## 1.1 DESCRIPTION

Tool kit to disassemble and assemble the range synchroniser ring.

## 1.2 COMPOSITION

1. Tool to disassemble the range cover. [Ref. 50105132](#)
2. Wrench for hexagonal axle nut, dr. 1/2", 74mm. [Ref. 50105109](#)
3. Wrench for hexagonal axle nut, dr. 3/4", 50mm. [Ref. 50105127](#)
4. Screw to disassemble/assemble the gearbox. [Ref. 50105125](#)
5. Tool to disassemble/assemble the range synchroniser ring. [Ref. 50105121](#)
6. Tool to disassemble/assemble the range synchroniser ring. [Ref. 50105120](#)
7. Hydraulic cylinder. [Ref. 50105123](#)
8. Tool to disassemble/assemble the range synchroniser ring. Threaded bar. [Ref. 50105122](#)
9. Manual hydraulic pump. [Ref. 50105119](#)



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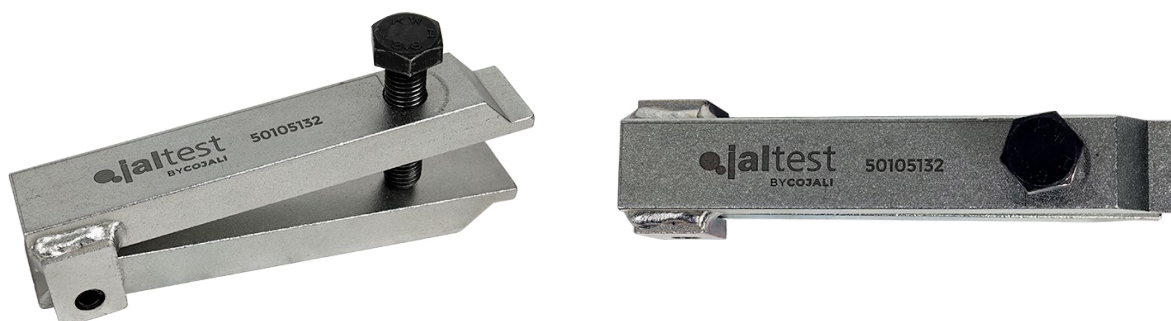
## 1.3 APPLICATION

AT and VT i-Shift/Optidriver gearboxes



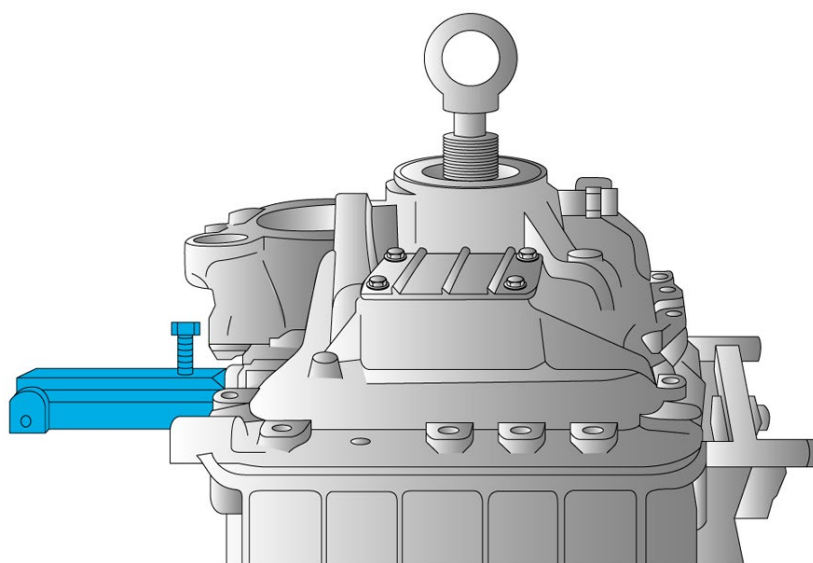
## 2 Component references

### 2.1 TOOL TO DISASSEMBLE THE RANGE COVER.



Reference: 50105132

[see on the website](#)





## 2.2 WRENCH FOR HEXAGONAL AXLE NUT, DR. 1/2", 74MM AND 3/4", 50MM.



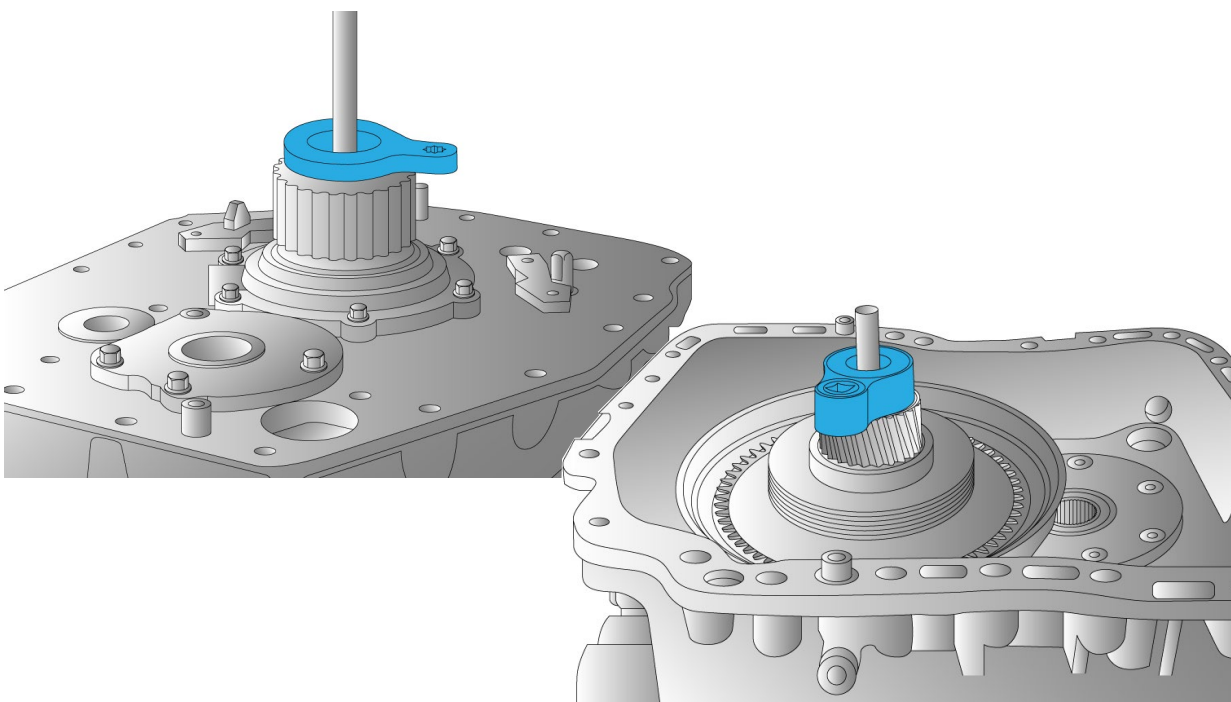
Reference: 50105109

[see on the website](#)



Reference: 50105127

[see on the website](#)



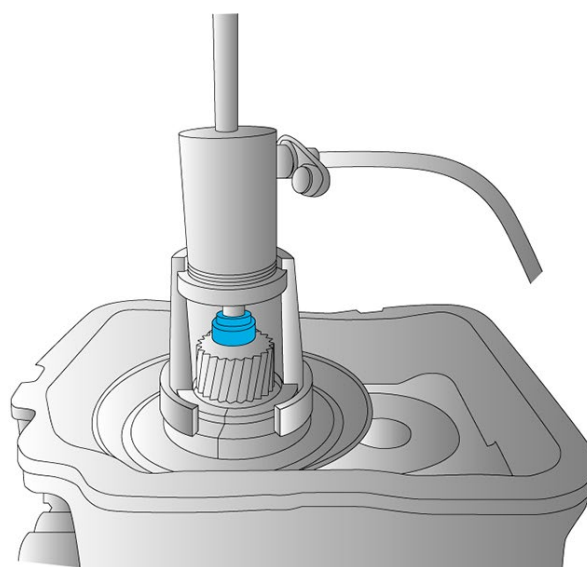


## 2.3 SCREW TO DISASSEMBLE/ASSEMBLE THE GEARBOX.



Reference: 50105125

[see on the website](#)





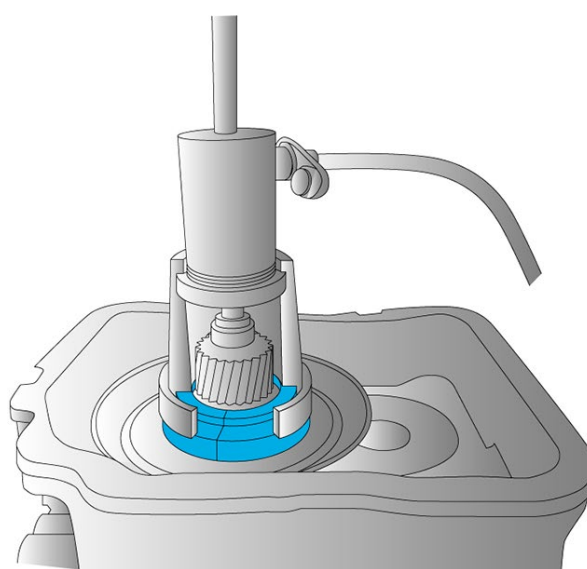


## 2.4 TOOL TO DISASSEMBLE/ASSEMBLE THE RANGE SYNCHRONISER RING.



Reference: 50105121

[see on the website](#)



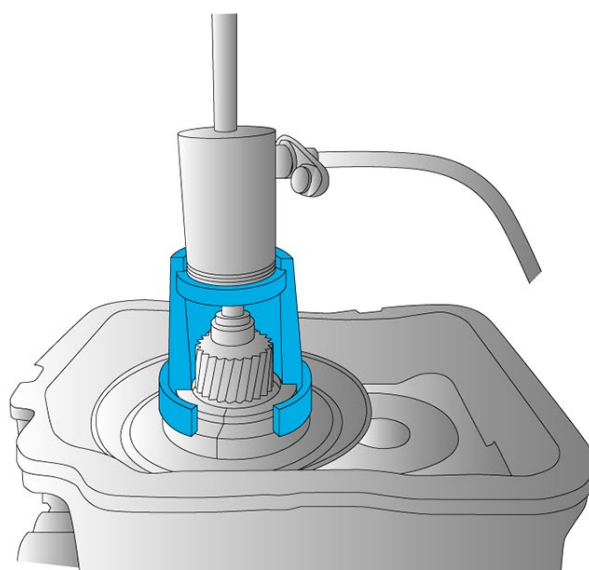


## 2.5 TOOL TO DISASSEMBLE/ASSEMBLE THE RANGE SYNCHRONISER RING.



Reference: 50105120

[see on the website](#)

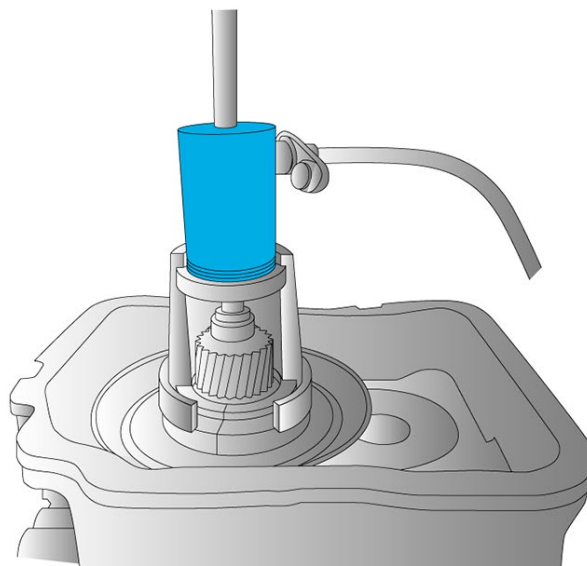


## 2.6 HYDRAULIC CYLINDER.



Reference: 50105123

[see on the website](#)



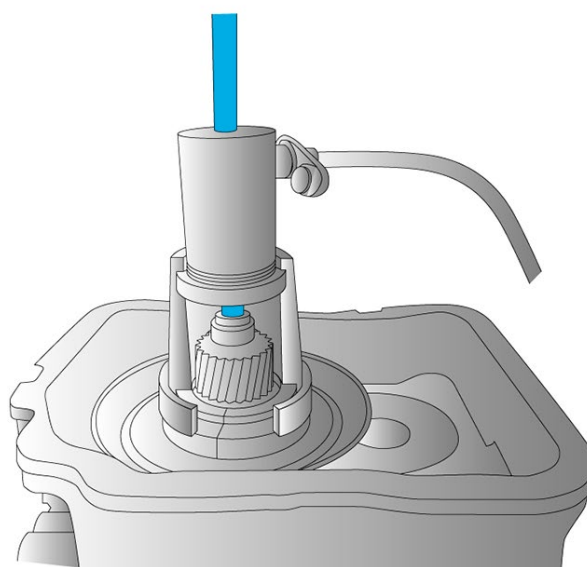


## 2.7 TOOL TO DISASSEMBLE/ASSEMBLE THE RANGE SYNCHRONISER RING. THREADED BAR.



Reference: 50105122

[see on the website](#)



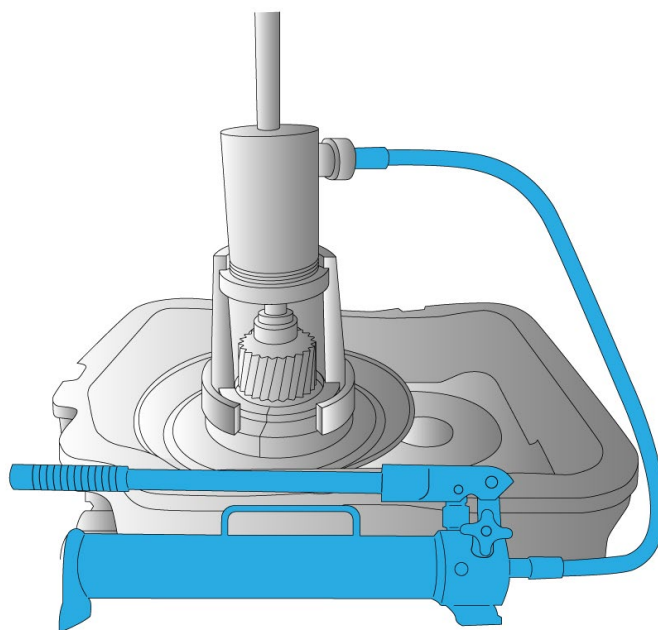


## 2.8 MANUAL HYDRAULIC PUMP.



Reference: 50105119

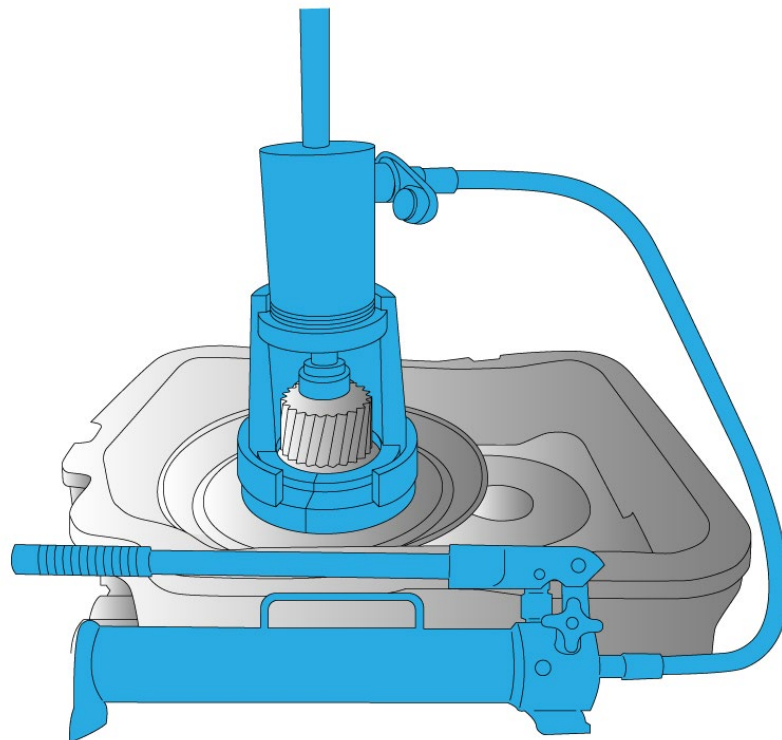
see on the website



# 3 Kit video



see video 



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**Herramientas especiales  
para desmontaje y montaje  
del anillo del sincronizador  
del range**

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para desmontaje y montaje  
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del range**

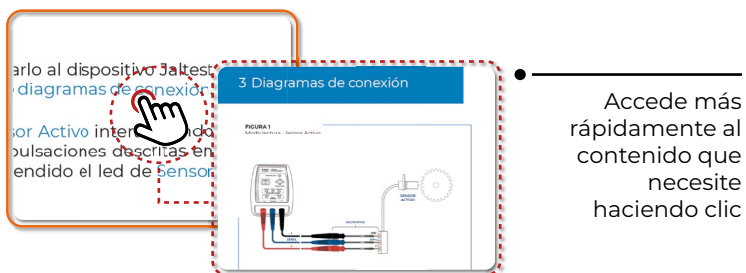
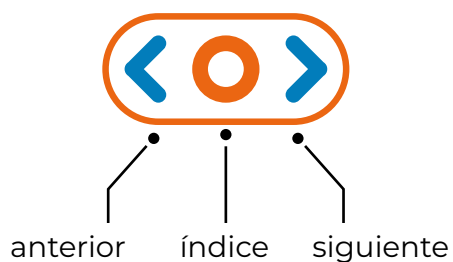
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## Fácil navegación



# 1 Información general

## 1.1 DESCRIPCIÓN

Conjunto de útiles y herramientas para realizar el desmontaje y montaje del anillo del sincronizador del range.

## 1.2 COMPOSICIÓN

1. Útil para desmontaje de la tapa del range. [Ref. 50105132](#)
2. Llave para tuerca de eje hexagonal, dr. 1/2", 74 mm. [Ref. 50105109](#)
3. Llave para tuerca de eje hexagonal, dr. 3/4", 50 mm. [Ref. 50105127](#)
4. Tornillo para desmontaje/montaje de la caja de cambios. [Ref. 50105125](#)
5. Útil para desmontaje/montaje del anillo del sincronizador del range. [Ref. 50105121](#)
6. Útil para desmontaje/montaje del anillo del sincronizador del range. [Ref. 50105120](#)
7. Cilindro hidráulico. [Ref. 50105123](#)
8. Útil para desmontaje/montaje del anillo del sincronizador del range. Barra roscada. [Ref. 50105122](#)
9. Bomba hidráulica manual. [Ref. 50105119](#)



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## 1.3 APLICACIÓN

Cajas de cambio i-Shift/Optidriver AT y VT

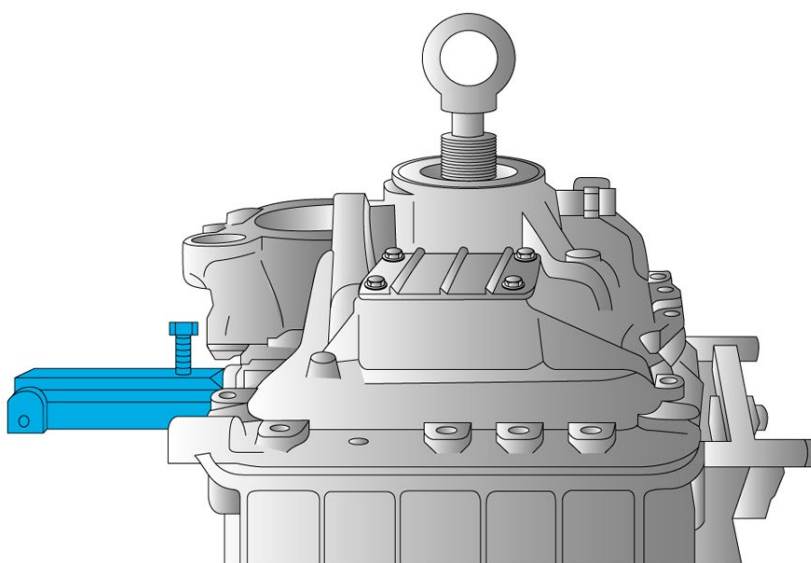
## 2 Referencias de componentes

### 2.1 ÚTIL PARA DESMONTAJE DE LA TAPA DEL RANGE



Referencia: 50105132

[ver en la web](#)



## 2.2 LLAVES PARA TUERCAS DE EJE HEXAGONAL, DR. 1/2", 74 MM y 3/4", 50 MM



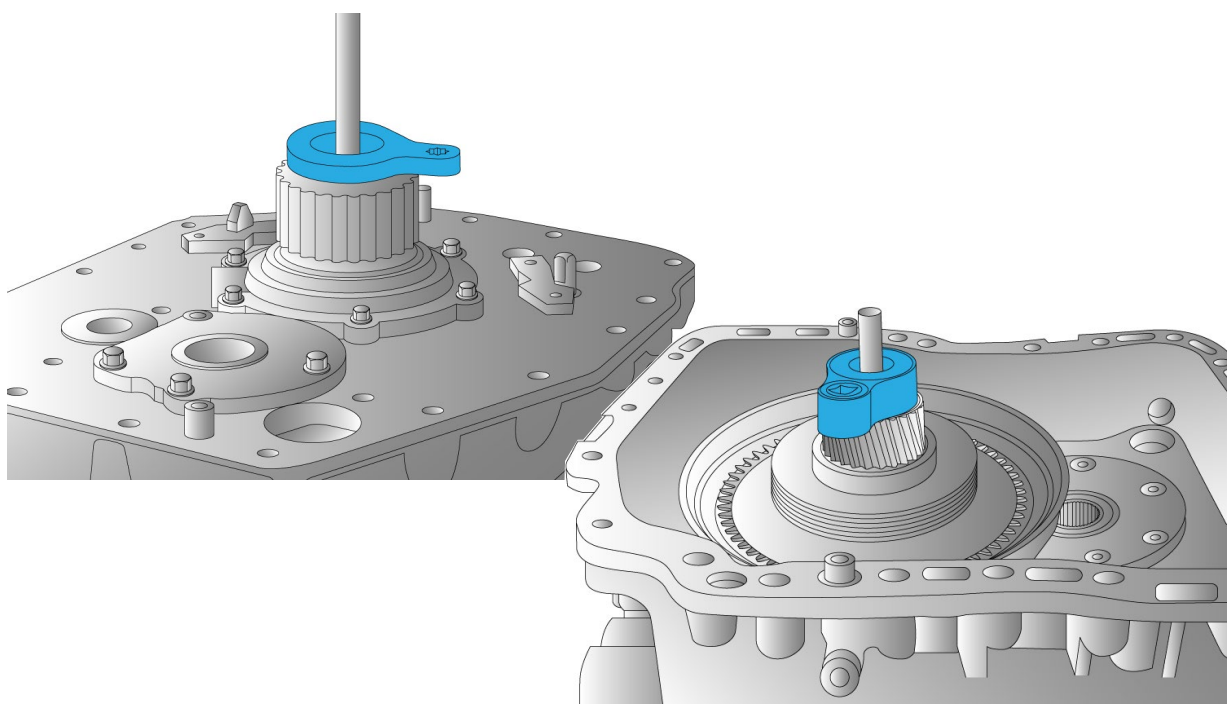
Referencia: 50105109

[ver en la web](#)



Referencia: 50105127

[ver en la web](#)



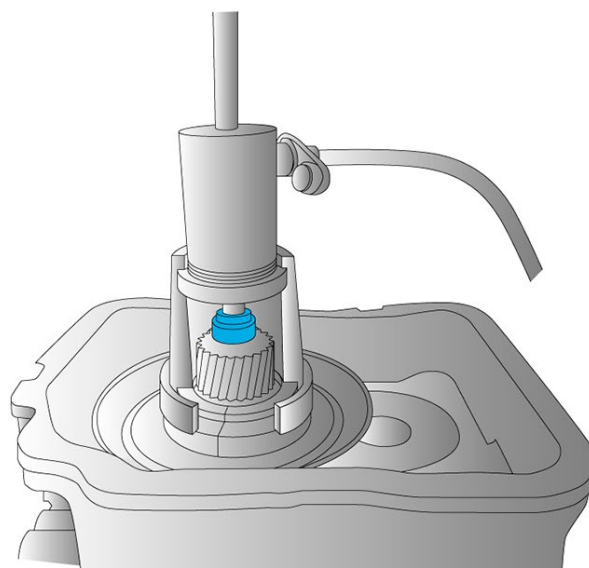


## 2.3 TORNILLO PARA DESMONTAJE/MONTAJE DE LA CAJA DE CAMBIOS



Referencia: 50105125

[ver en la web](#)

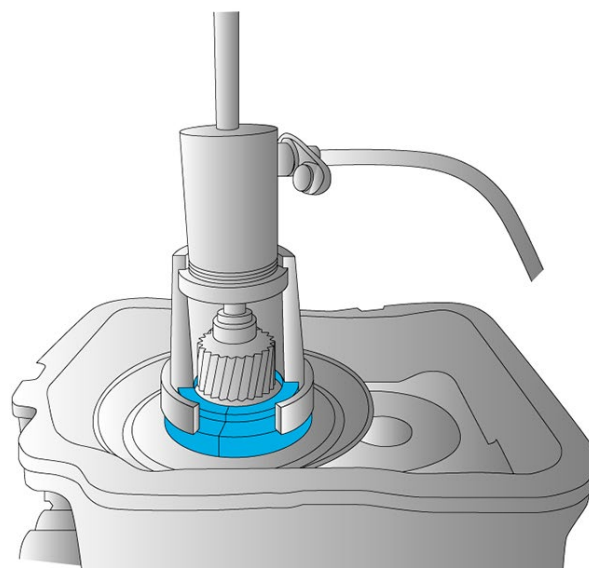


## 2.4 ÚTIL PARA DESMONTAJE/MONTAJE DEL ANILLO DEL SINCRONIZADOR DEL RANGE.



Referencia: 50105121

[ver en la web](#)



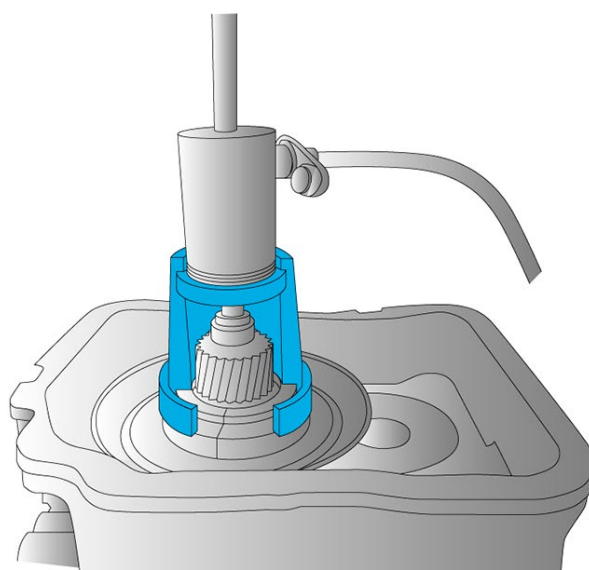


## 2.5 ÚTIL PARA DESMONTAJE/MONTAJE DEL ANILLO DEL SINCRONIZADOR DEL RANGE.



Referencia: 50105120

[ver en la web](#)



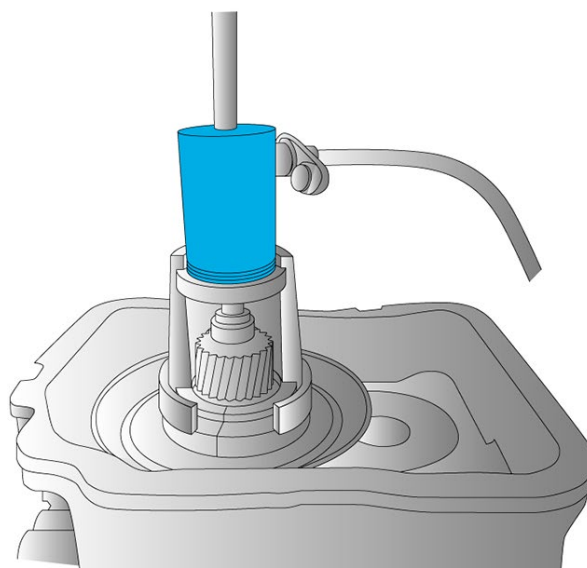


## 2.6 CILINDRO HIDRÁULICO



Referencia: 50105123

[ver en la web](#)

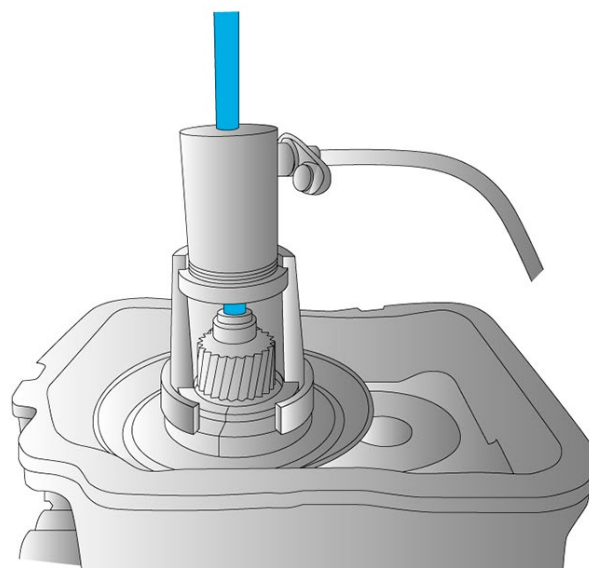


## 2.7 ÚTIL PARA DESMONTAJE/MONTAJE DEL ANILLO DEL SINCRONIZADOR DEL RANGE. BARRA ROSCADA

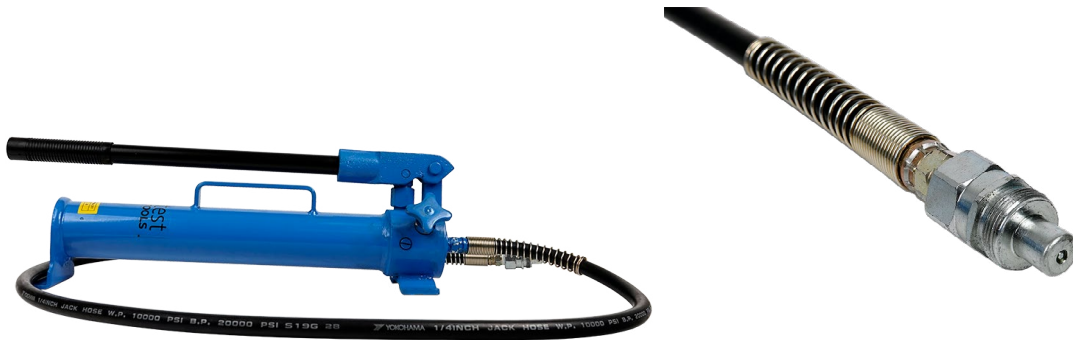


Referencia: 50105122

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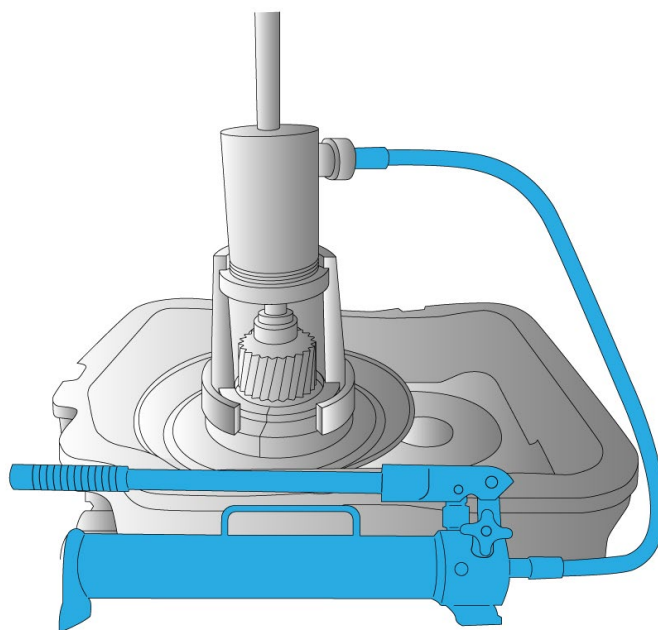


## 2.8 BOMBA HIDRÁULICA MANUAL



Referencia: 50105119

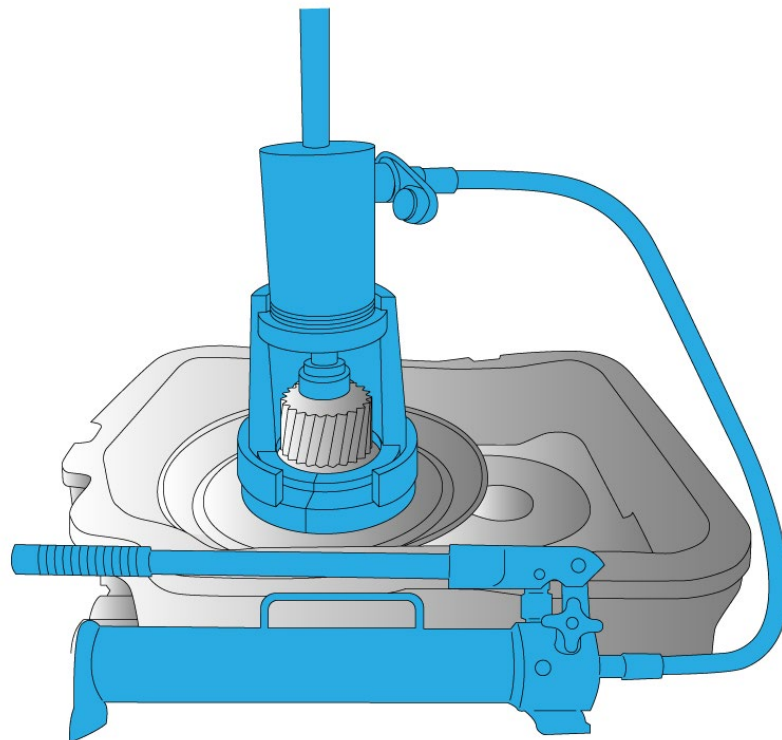
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## 3 Vídeo del conjunto



ver vídeo



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Outils spéciaux pour  
le démontage et le  
montage de l'anneau du  
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démontage et le montage de  
l'anneau du synchroniseur  
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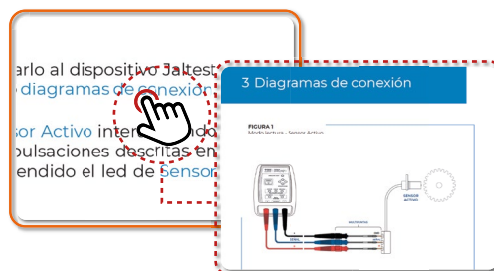
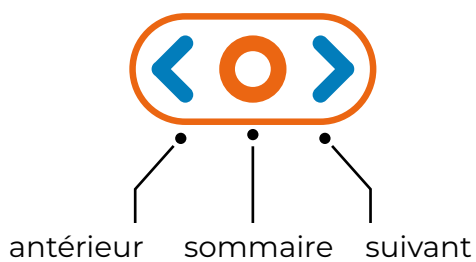
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Accédez plus rapidement au contenu dont vous avez besoin en cliquant





# 1 Information générale

## 1.1 DESCRIPTION

Ensemble des outils pour réaliser le démontage et le montage de l'anneau du synchroniseur du range.

## 1.2 COMPOSITION

1. Outil d'extraction du carter du groupe multiplicateur du range.  
Réf. 50105132
2. Outil pour écrou hexagonal d'arbre secondaire de boîte de vitesses, d. 1/2", 74 mm. Réf. 50105109
3. Outil pour écrou hexagonal d'arbre secondaire de boîte de vitesses, d. 3/4", 50 mm. Réf. 50105127
4. Vis pour le démontage/montage du module range de la boîte de vitesses.  
Réf. 50105125
5. Bague d'appui pour le démontage/montage de l'anneau du module range de la boîte de vitesses.  
Réf. 50105121
6. Bague d'appui pour le démontage/montage de l'anneau du module range de la boîte de vitesses.  
Réf. 50105120
7. Vérin hydraulique. Réf. 50105123
8. Tige filetée pour le démontage/montage de l'anneau du groupe multiplicateur du range. Réf. 50105122
9. Pompe hydraulique manuelle. Réf. 50105119



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## 1.3 APPLICATION

Boîte de vitesses i-Shift/Optidriver AT et VT



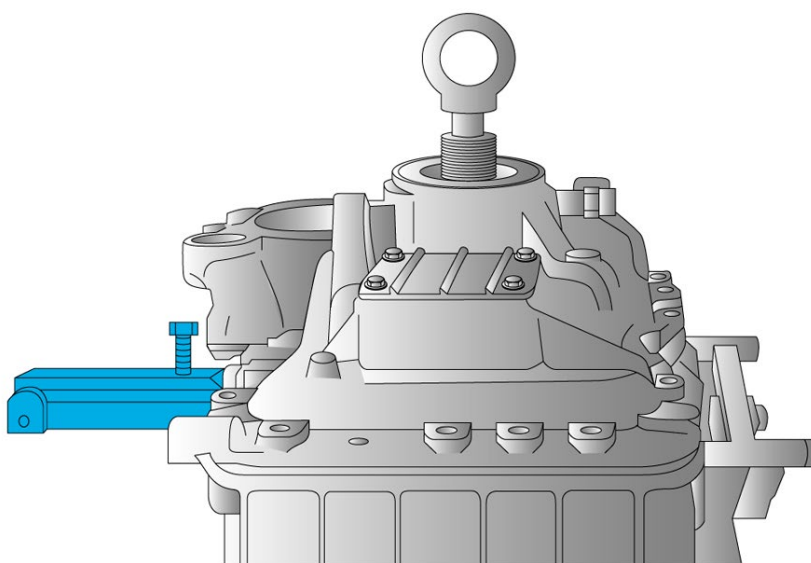
## 2 Références des composants

### 2.1 OUTIL D'EXTRACTION DU CARTER DU GROUPE MULTIPLICATEUR DU RANGE.



Référence: 50105132

[voir sur le site web](#)



## 2.2 OUTIL POUR ÉCROU HEXAGONAL D'ARBRE SECONDAIRE DE BOÎTE DE VITESSES, D. 1/2", 74 MM ET 3/4", 50 MM



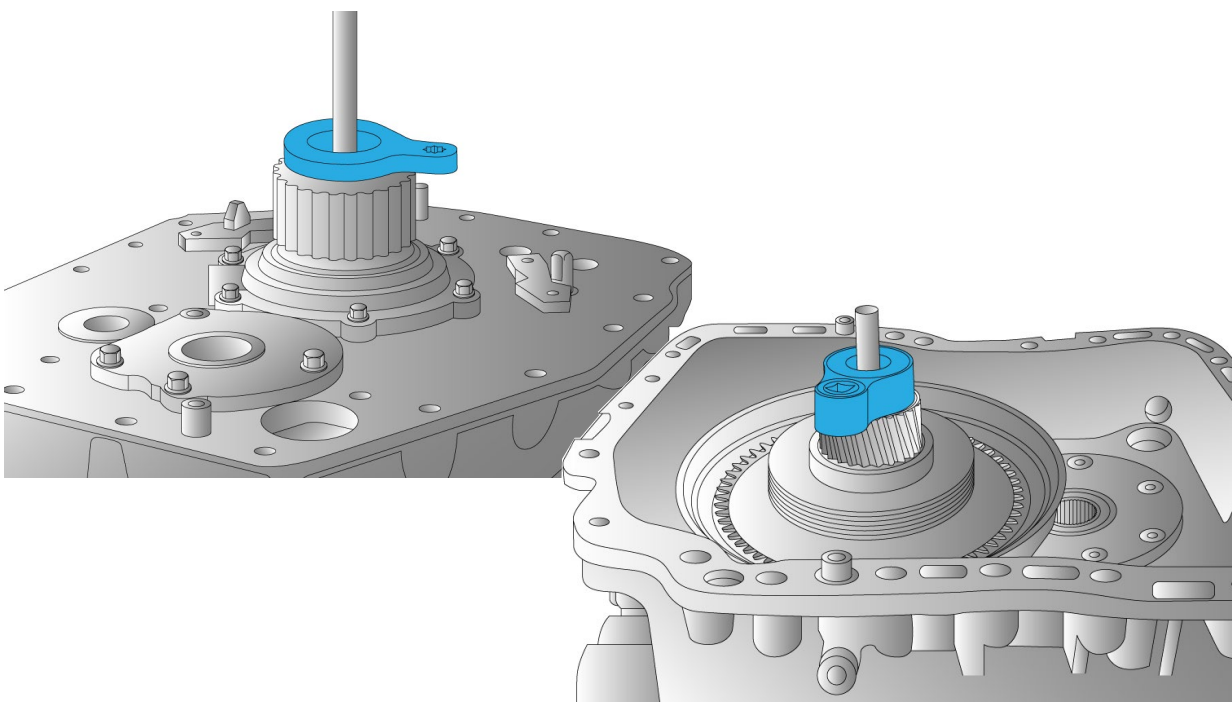
Référence: 50105109

[voir sur le site web](#)



Référence: 50105127

[voir sur le site web](#)



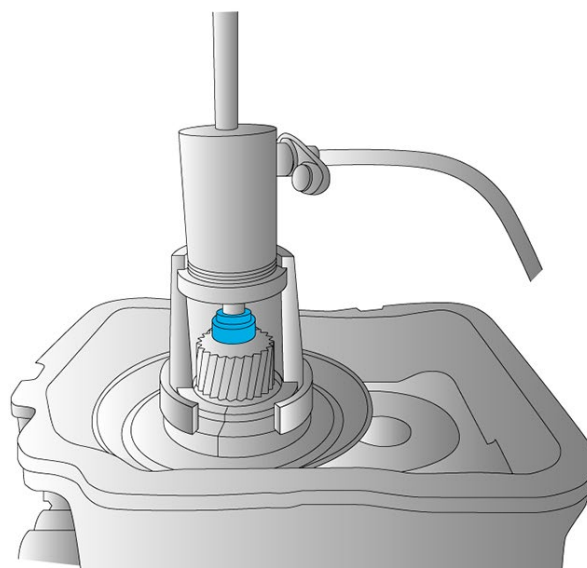


## 2.3 VIS POUR LE DÉMONTAGE/MONTAGE DU MODULE RANGE DE LA BOÎTE DE VITESSES.



Référence: 50105125

[voir sur le site web](#)



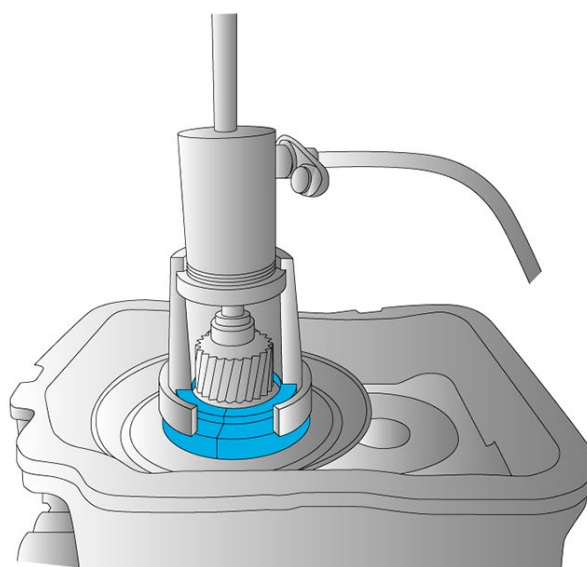


## 2.4 BAGUE D'APPUI POUR LE DÉMONTAGE/ MONTAGE DE L'ANNEAU DU MODULE RANGE DE LA BOÎTE DE VITESSES.



Référence: 50105121

[voir sur le site web](#)



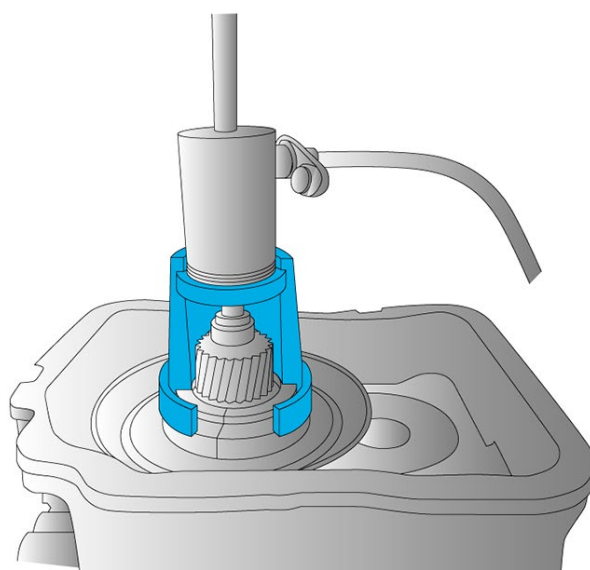


## 2.5 BAGUE D'APPUI POUR LE DÉMONTAGE/ MONTAGE DE L'ANNEAU DU MODULE RANGE DE LA BOÎTE DE VITESSES.



Référence: 50105120

[voir sur le site web](#)

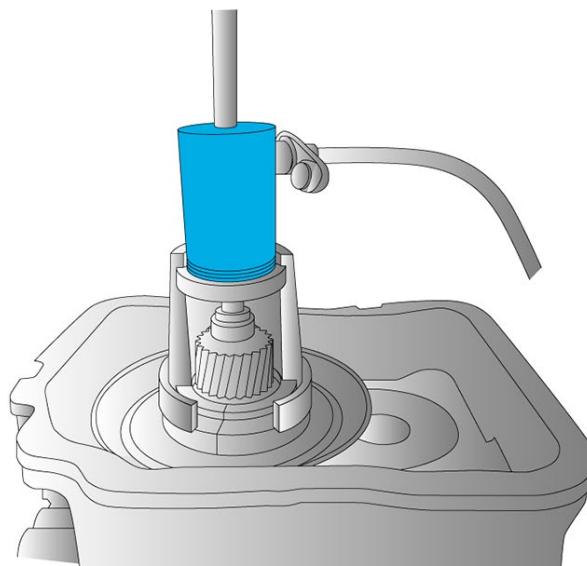


## 2.6 VÉRIN HYDRAULIQUE.



Référence: 50105123

[voir sur le site web](#)



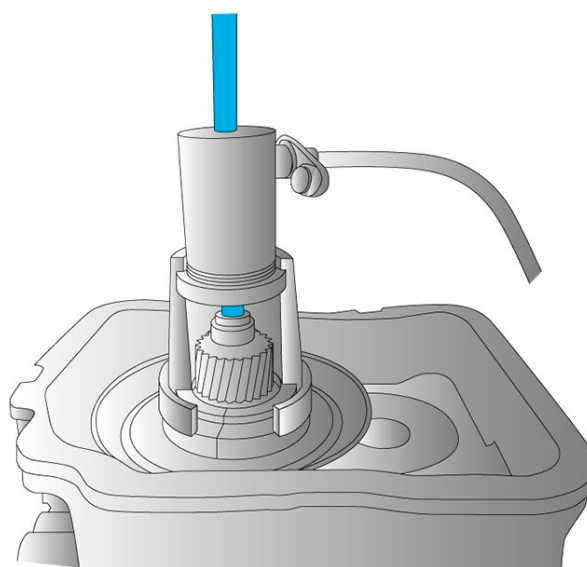


## 2.7 TIGE FILETÉE POUR LE DÉMONTAGE/MONTAGE DE L'ANNEAU DU GROUPE MULTIPLICATEUR DU RANGE.



Référence: 50105122

[voir sur le site web](#)





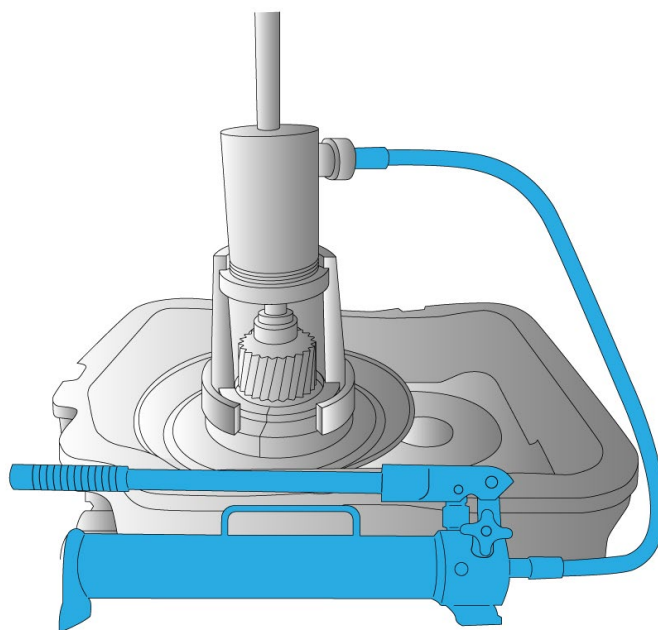


## 2.8 POMPE HYDRAULIQUE MANUELLE.

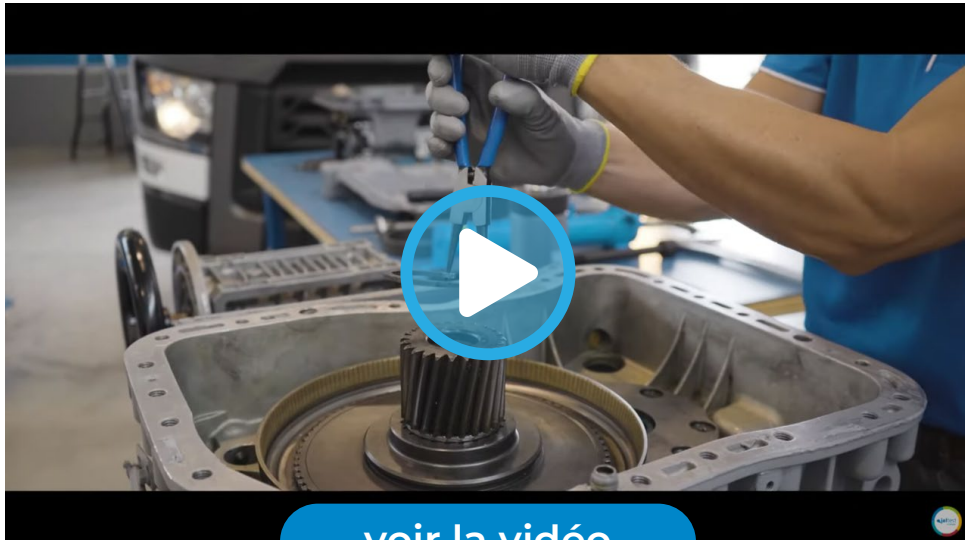


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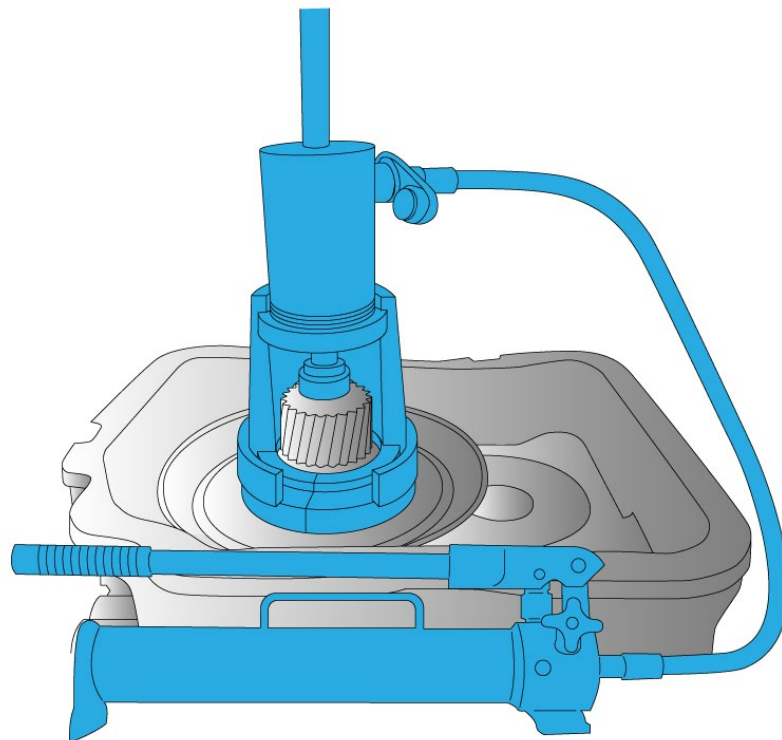
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## 3 Vidéo de l'ensemble



voir la vidéo



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Spezialwerkzeuge zur  
Demontage und Montage  
des Range-Synchronrings

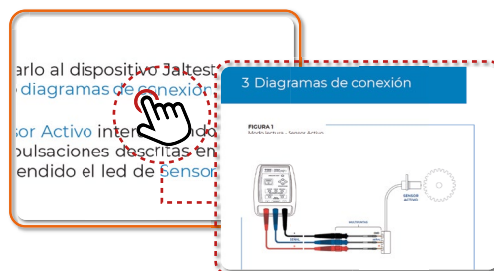
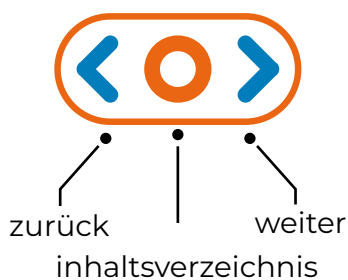
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## Einfaches Surfen



Schneller auf den Inhalt zugreifen, den Sie brauchen - mit einem Klick

# 1 Allgemeine Informationen

## 1.1 BESCHREIBUNG

Gruppe von Spezialwerkzeugen zur Demontage und Montage des Range-Synchronrings.

## 1.2 BESTEHEND AUS:

1. Spezialwerkzeug zur Demontage der Range-Abdeckung. [Produktref.-Nr. 50105132](#)
2. Sechskant-Achsmutterschlüssel, 1/2 Zoll, 74 mm. [Produktref.-Nr. 50105109](#)
3. Sechskant-Achsmutterschlüssel, 3/4 Zoll, 50 mm. [Produktref.-Nr. 50105127](#)
4. Schraube zur Demontage/Montage des Getriebes. [Produktref.-Nr. 50105125](#)
5. Spezialwerkzeug zur Demontage/Montage des Range-Synchronrings. [Produktref.-Nr. 50105121](#)
6. Spezialwerkzeug zur Demontage/Montage des Range-Synchronrings. [Produktref.-Nr. 50105120](#)
7. Hydraulikzylinder. [Produktref.-Nr. 50105123](#)
8. Spezialwerkzeug zur Demontage/Montage des Range-Synchronrings. Gewindestange. [Produktref.-Nr. 50105122](#)
9. Manuelle Hydraulikpumpe. [Produktref.-Nr. 50105119](#)



## 1.3 ANWENDUNGSBEREICH

- i-Shift/Optidriver AT und VT-Getriebe

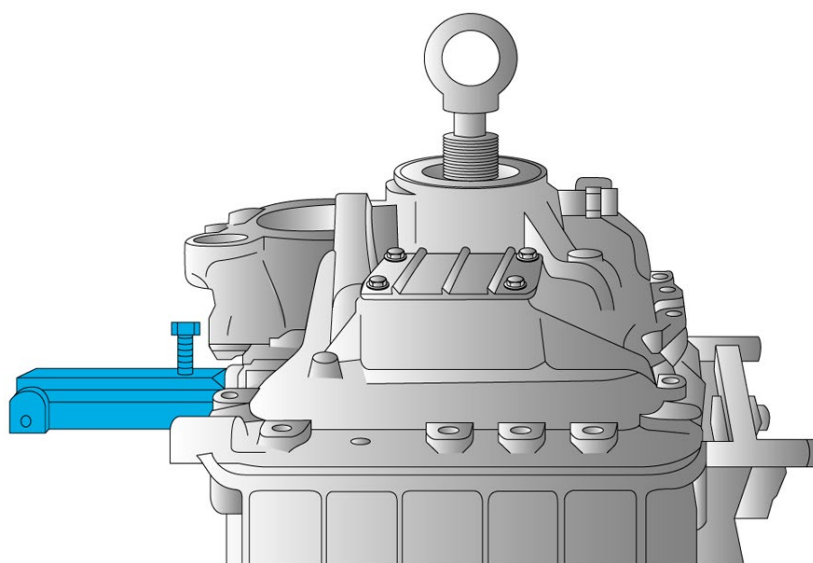
## 2 Produktreferenz-Nrn. der Komponenten

### 2.1 SPEZIALWERKZEUG ZUR DEMONTAGE DER RANGE-ABDECKUNG



Produktreferenz-Nr. 50105132

[Auf der Website ansehen](#)





## 2.2 SECHSKANT-ACHSMUTTERSCHLÜSSEL, 1/2", 74 MM und 3/4", 50 MM



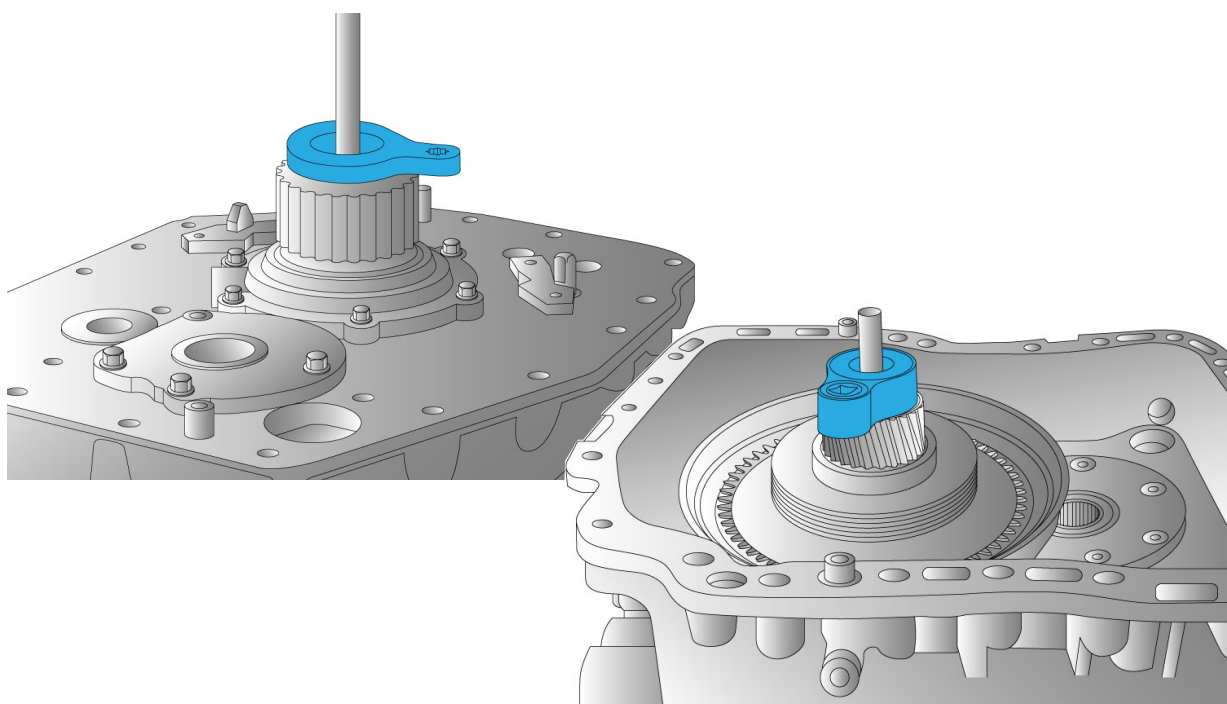
Produktreferenz-Nr. 50105109

[Auf der Website ansehen](#)



Produktreferenz-Nr. 50105127

[Auf der Website ansehen](#)

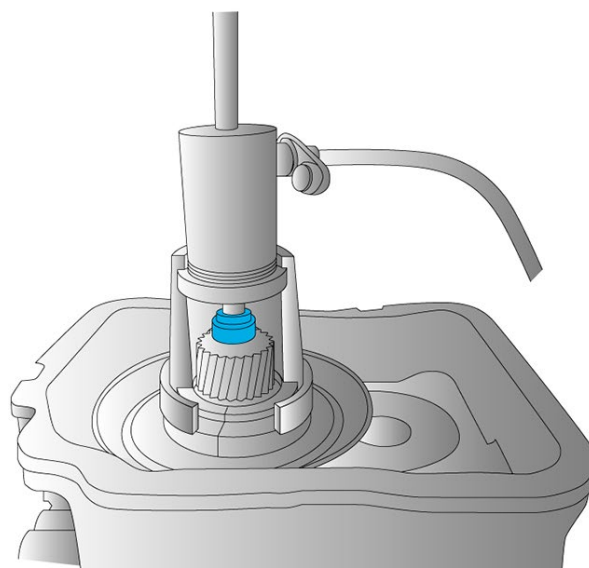


## 2.3 SCHRAUBE ZUR DEMONTAGE/MONTAGE DES GETRIEBES



Produktreferenz-Nr. 50105125

[Auf der Website ansehen](#)

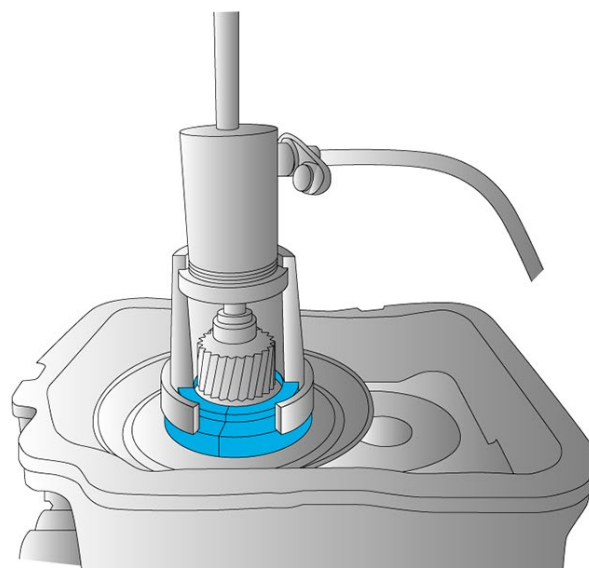


## 2.4 SPEZIALWERKZEUG ZUR DEMONTAGE/ MONTAGE DES RANGE-SYNCHRONRINGS



Produktreferenz-Nr. 50105121

[Auf der Website ansehen](#)

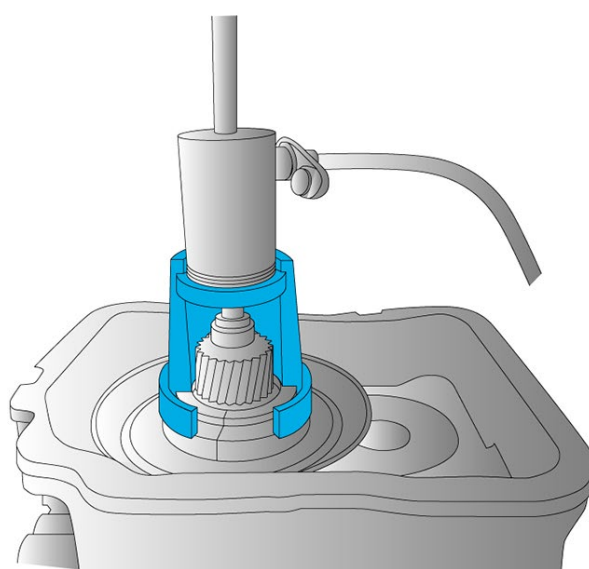


## 2.5 SPEZIALWERKZEUG ZUR DEMONTAGE/ MONTAGE DES RANGE-SYNCHRONRINGS



Produktreferenz-Nr. 50105120

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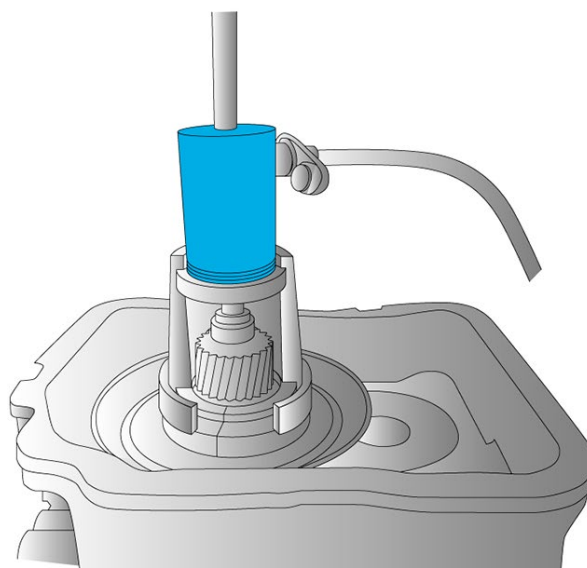


## 2.6 HYDRAULIKZYLINDER



Produktreferenz-Nr. 50105123

[Auf der Website ansehen](#)

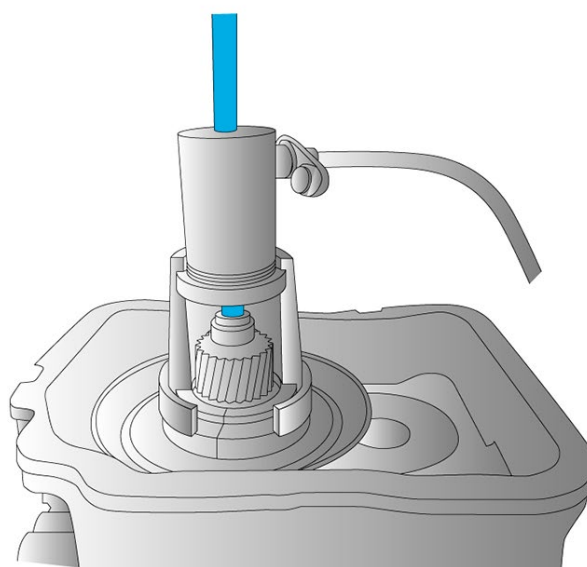


## 2.7 SPEZIALWERKZEUG ZUR DEMONTAGE/MONTAGE DES RANGE-SYNCHRONRINGS. GEWINDESTANGE

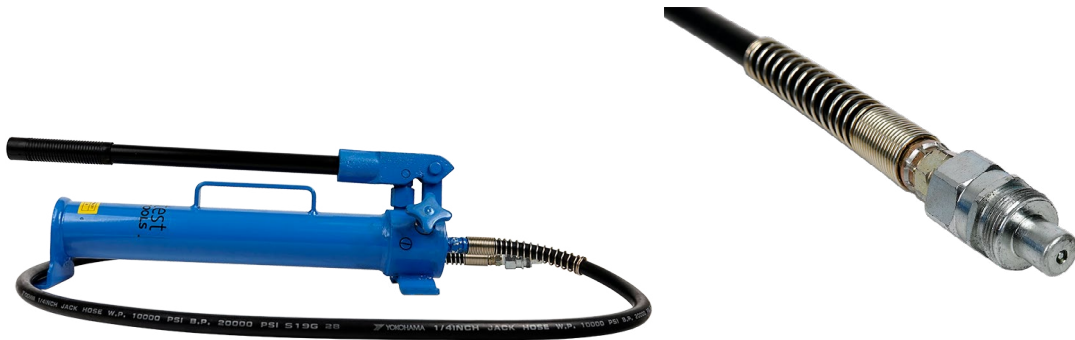


Produktreferenz-Nr. 50105122

[Auf der Website ansehen](#)

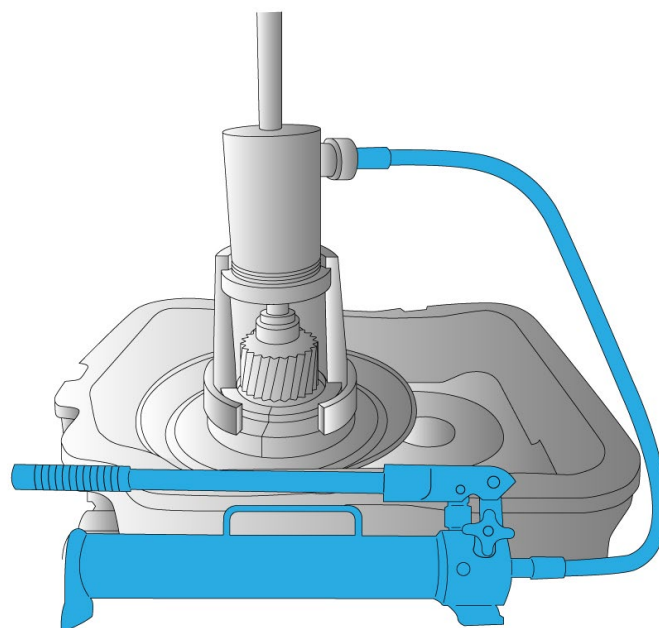


## 2.8 MANUELLE HYDRAULIKPUMPE



Produktreferenz-Nr. 50105119

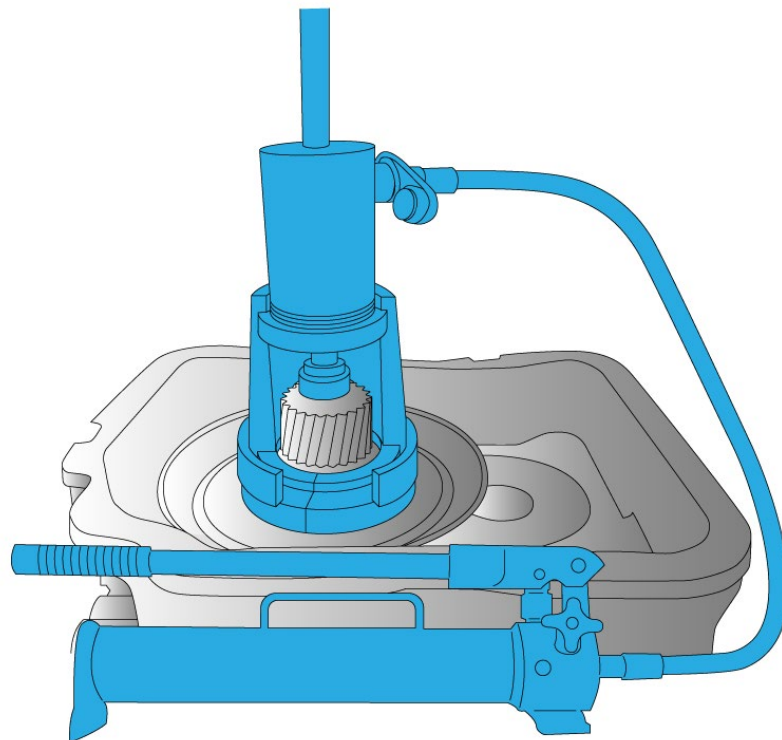
[Auf der Website ansehen](#)



## 3 Video des Bausatzes



Video anschauen





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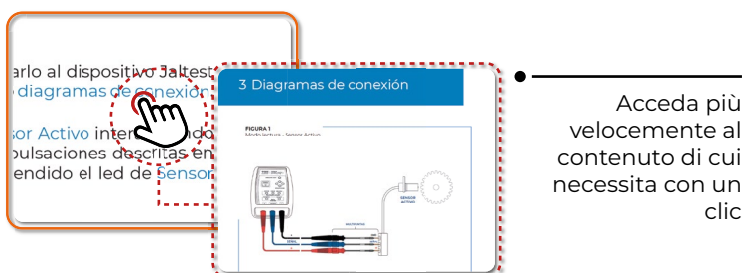
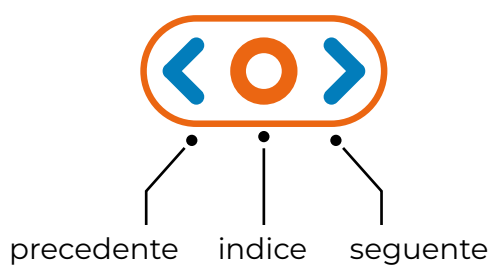
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# Indice

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2. Referenze dei componenti	5
3. Video dell'insieme	13

## Navigazione facilitata



# 1 Informazioni generali

## 1.1 DESCRIZIONE

Insieme di utensili e attrezzi per smontare e montare l'anello del sincronizzatore del range.

## 1.2 COMPOSIZIONE

1. Utensile per smontare il tappo del range. [Ref. 50105132](#)
2. Chiave per dado dell'asse esagonale, dr. 1/2", 74 mm. [Ref. 50105109](#)
3. Chiave per dado dell'asse esagonale, dr. 3/4", 50 mm. [Ref. 50105127](#)
4. Vite per smontare/montare la scatola del cambio. [Ref. 50105125](#)
5. Utensile per smontare/montare l'anello del sincronizzatore del range. [Ref. 50105121](#)
6. Utensile per smontare/montare l'anello del sincronizzatore del range. [Ref. 50105120](#)
7. Cilindro idraulico. [Ref. 50105123](#)
8. Utensile per smontare/montare l'anello del sincronizzatore del range. Barra filettata. [Ref. 50105122](#)
9. Pompa idraulica manuale. [Ref. 50105119](#)



1



2



3



4



5



6



7



8



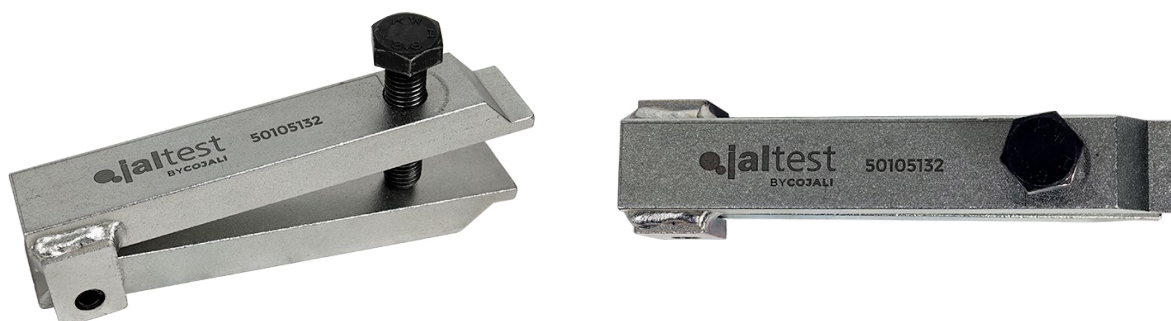
9

## 1.3 APPLICAZIONI

Scatole del cambio i-Shift/Optidriver AT e VT

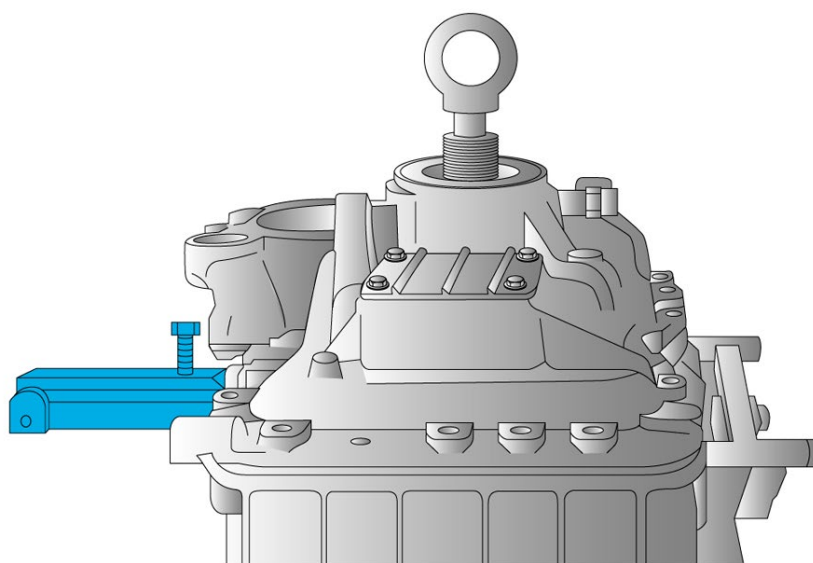
## 2 Referenze dei componenti

### 2.1 UTENSILE PER SMONTARE IL TAPPO DEL RANGE.



Referenza: 50105132

[vedere nel sito web](#)



## 2.2 CHIAVE PER DADO DELL'ASSE ESAGONALE, DR. 1/2", 74 MM e 3/4", 50 MM



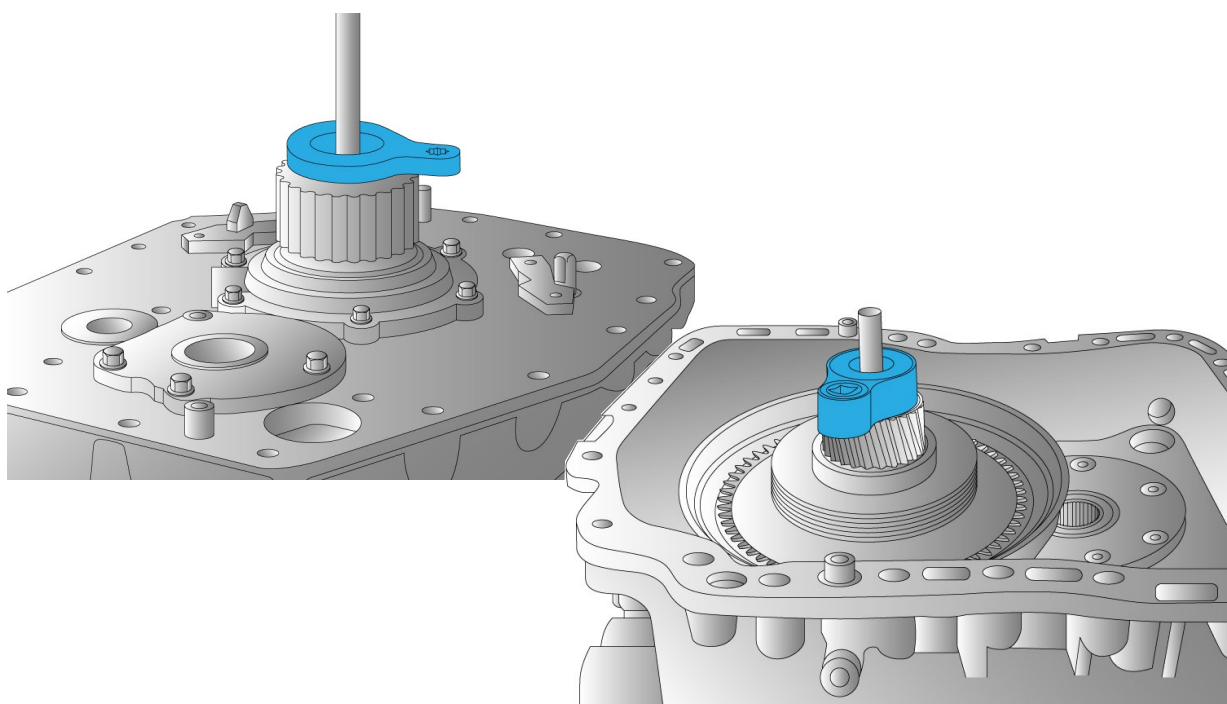
Referenza: 50105109

[vedere nel sito web](#)



Referenza: 50105127

[vedere nel sito web](#)



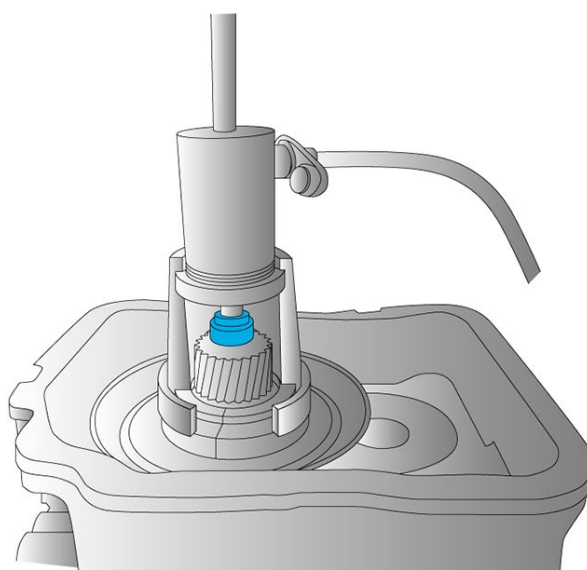


## 2.3 VITE PER SMONTARE/MONTARE LA SCATOLA DEL CAMBIO.



Referenza: 50105125

[vedere nel sito web](#)



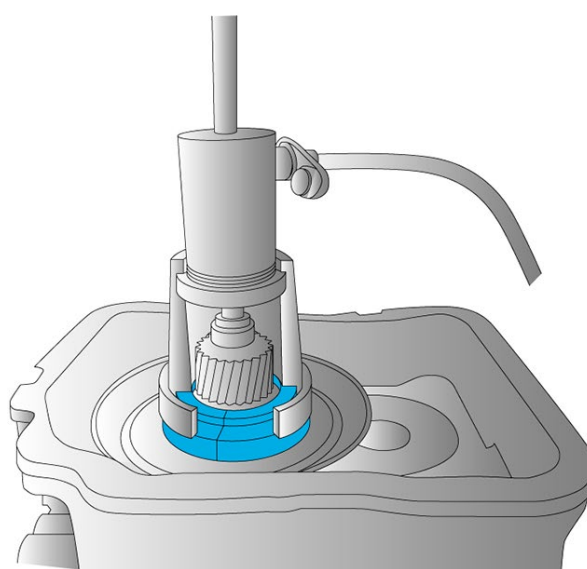


## 2.4 UTENSILE PER SMONTARE/MONTARE L'ANELLO DEL SINCRONIZZATORE DEL RANGE.



Referenza: 50105121

[vedere nel sito web](#)

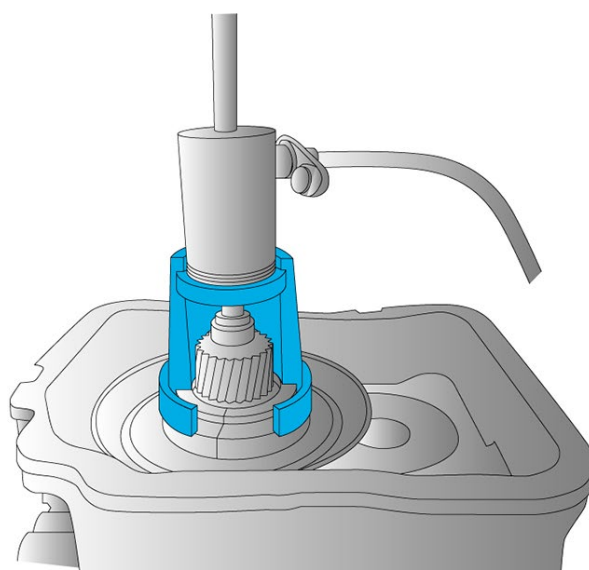


## 2.5 UTENSILE PER SMONTARE/MONTARE L'ANELLO DEL SINCRONIZZATORE DEL RANGE.



Referenza: 50105120

[vedere nel sito web](#)

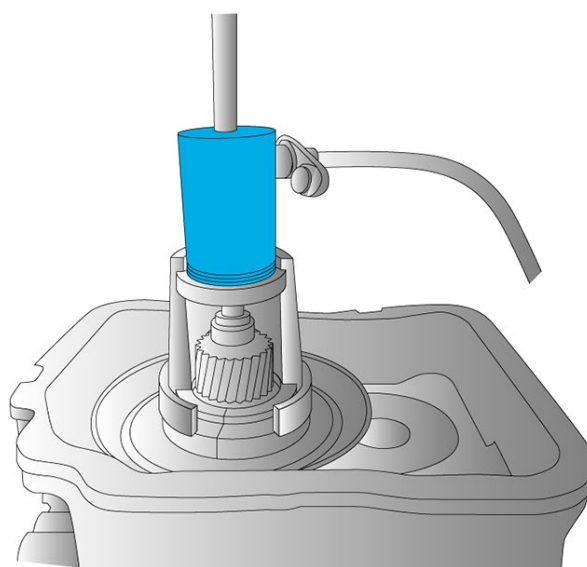


## 2.6 CILINDRO IDRAULICO.



Referenza: 50105123

[vedere nel sito web](#)

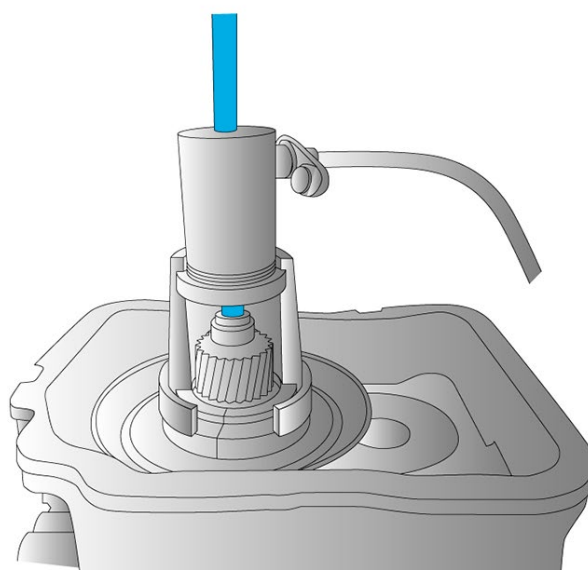


## 2.7 UTENSILE PER SMONTARE/MONTARE L'ANELLO DEL SINCRONIZZATORE DEL RANGE. BARRA FILETTATA.



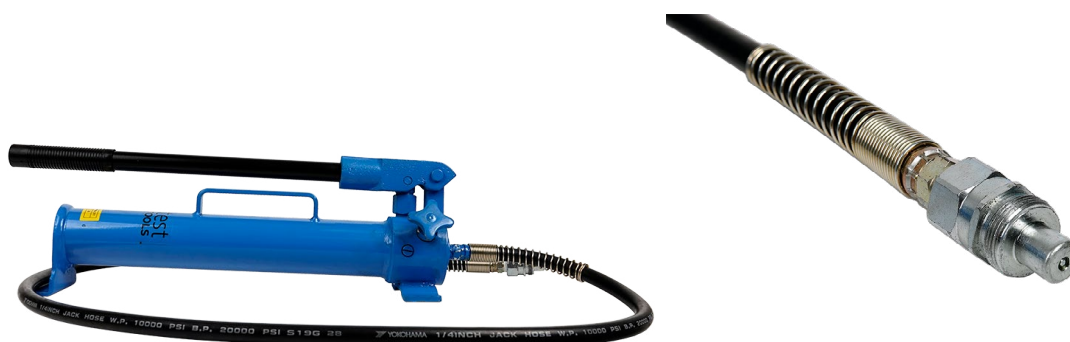
Referenza: 50105122

[vedere nel sito web](#)



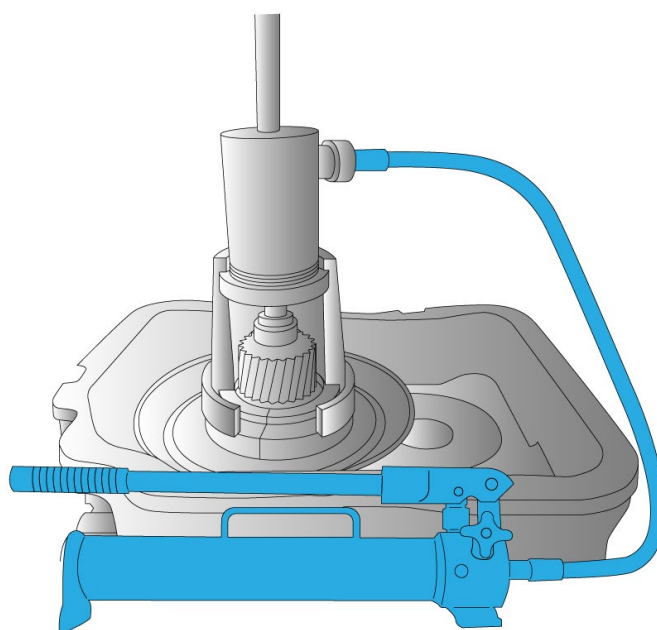


## 2.8 POMPA IDRAULICA MANUALE.

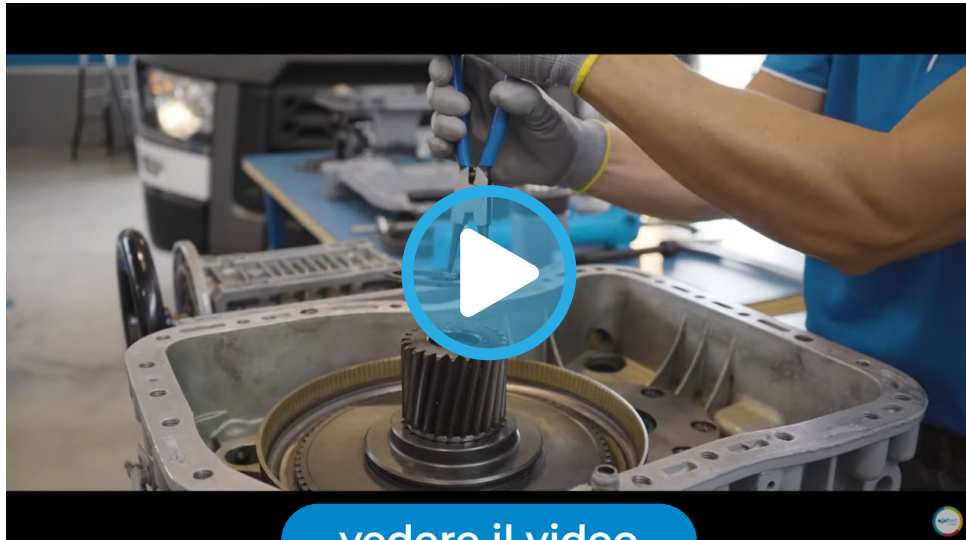


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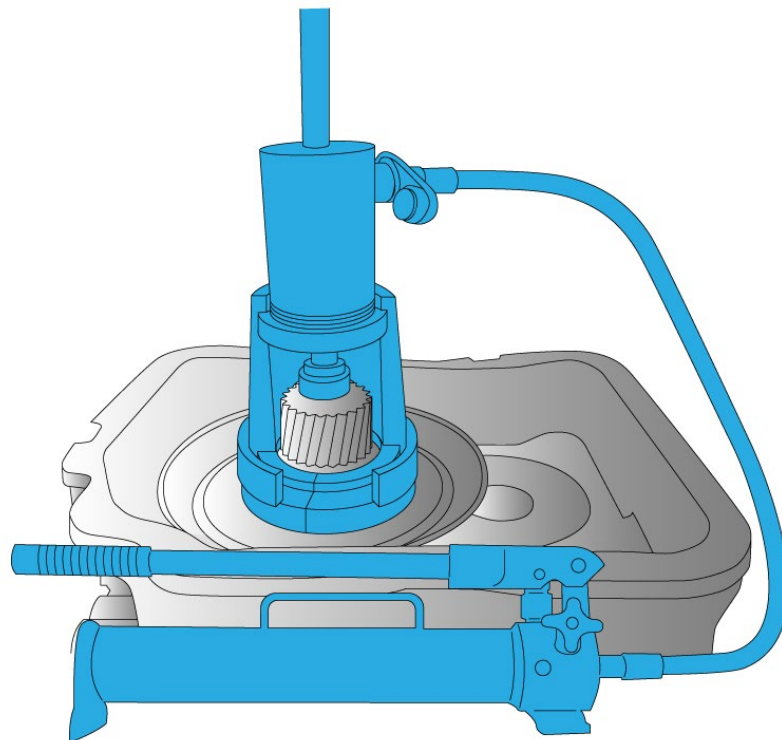
[vedere nel sito web](#)



## 3 Video dell'insieme



vedere il video



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