

GRUPPO SELETTORE CAMBIO - GEAR SHIFT CONTROL ASSY - SCHLATWELLE GEMEISAM

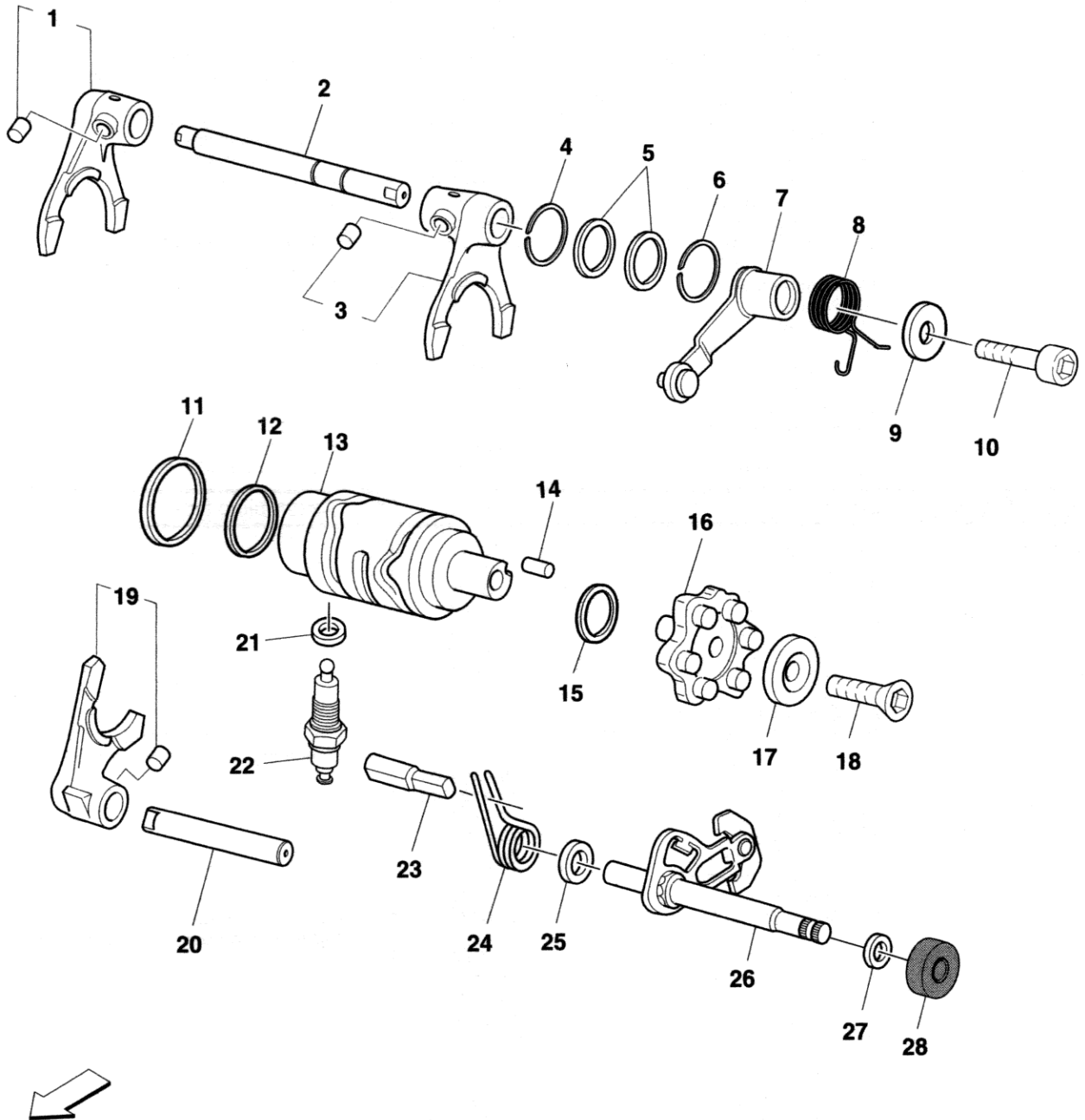
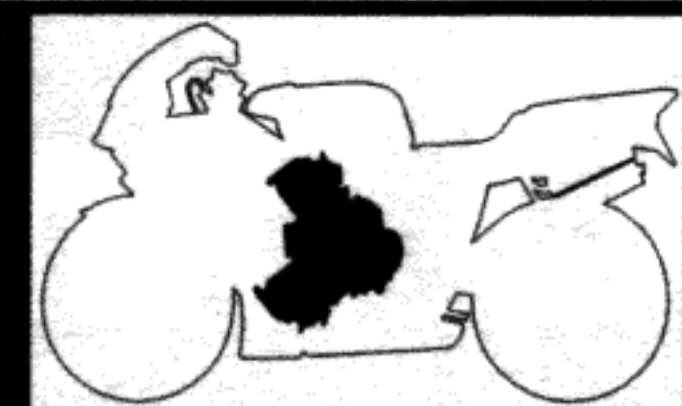
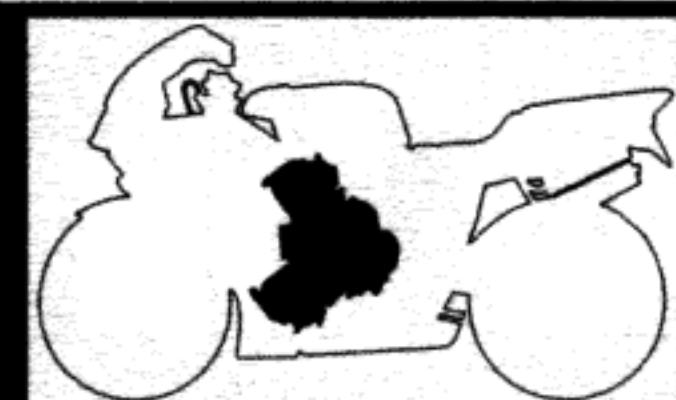


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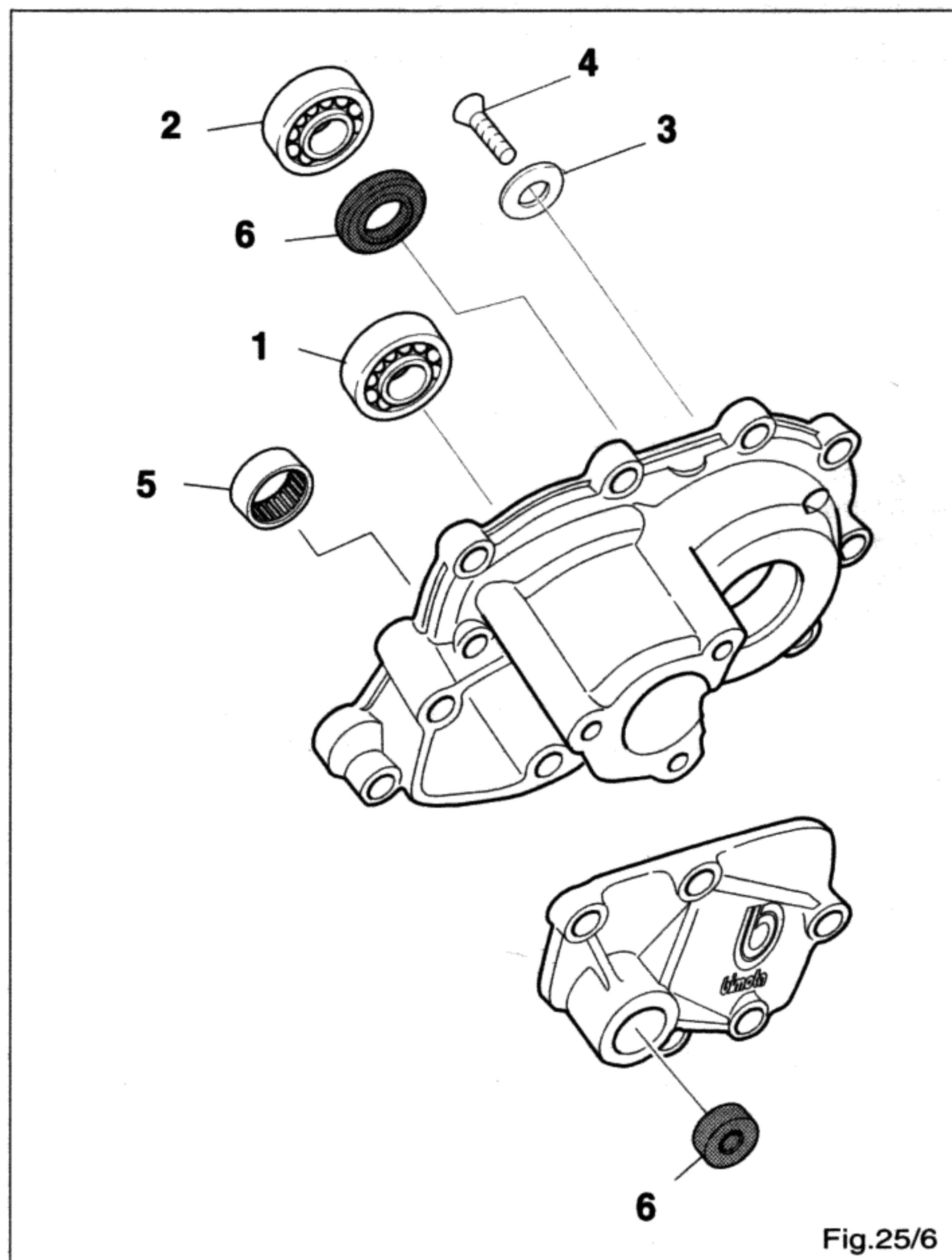
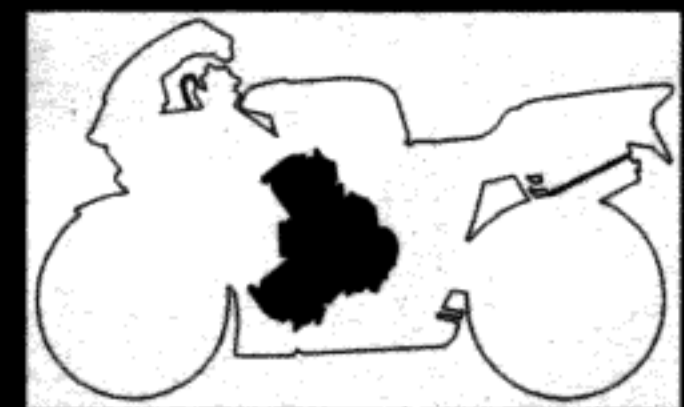


Montaggio su	Particolare	Codice	Qt.	Tipo di montaggio
Carter cambio	1 - Forchetta 1° - 4°	15-0078	1	
	2 - Albero	23-1115	1	
	3 - Forchetta 2° - 3°	15-0079	1	
	4 - Anello seeger	10-5058	1	
	5 - Rasamento sp. 0,7	25-4009-07	2	
	6- Anello seeger	10-5052	1	
	7 - Leva	19-0047	1	
	8 - Molla	20-1139	1	
	9 - Ranella sp. 1,5	25-4178	1	
	10 - Vite TCEI bassa M 6 x 12	29-5080	1	Frenafilletti Loxeal 83-21 Coppia di serraggio 0,8 ~ 1,0 Kg · m
	11 - Rasamento sp. 0,4	25-4181-04	1	
	12 - Rasamento sp. 0,5	25-4181-05	1	
	13 - Desmo	10-1204	1	
	14 - Linguetta	19-6026	1	
	15 - Rasamento sp. 0,5	25-4180-05	3	
	16- Selettore a stella	26-8191	1	
	17 - Ranella svasata	25-4171	1	
	18 - Vite TSPEI M 5 x 18	29-6073	1	Frenafilletti Loxeal 83-21 Coppia di serraggio 0,5 ~ 0,6 Kg · m
	19 - Forchetta 5° - 6°	15-0080	1	
	20 - Albero	23-1116	1	
	21 - Ranella	16-4244	1	
	22 - Interruttore spia folle	18-6018	1	
	23 - Spina	26-8198	1	
	24 - Molla	20-1138	1	
	25 - Distanziale	13-6107	1	
	26 - Perno selettore	26-0091	1	
	27 - Rasamento sp. 0,5	25-4059-05	1	
	28 - Anello di tenuta	10-6005	1	

Assembling on	Detail	Code	Qt.	Assembling type
Trasmission cover	1 - Shift fork 1° - 4°	15-0078	1	
	2 - Shaft	23-1115	1	
	3 - Shift fork 2° - 3°	15-0079	1	
	4 - Seeger ring	10-5058	1	
	5 - Shim (0,7 mm.)	25-4009-07	2	
	6- Seeger ring	10-5052	1	
	7 - Lever	19-0047	1	
	8 - Spring	20-1139	1	
	9 - Washer (shim 1,5 mm.)	25-4178	1	
	10 - Screw TCEI bassa M 6 x 12	29-5080	1	Paste for theards: Loxeal 83-21 Tightening torque: 0,8 ~ 1,0 Kg · m
	11 - Shim (0,4 mm.)	25-4181-04	1	
	12 - Shim (0,5 mm.)	25-4181-05	1	
	13 - Shift cam grooves	10-1204	1	
	14 - Woodruff key	19-6026	1	
	15 - Shim (0,5 mm.)	25-4180-05	3	
	16- Shift cam segment	26-8191	1	
	17 - Washer	25-4171	1	
	18 - Screw TSPEI M 5 x 18	29-6073	1	Paste for theards: Loxeal 83-21 Tightening torque: 0,5 ~ 0,6 Kg · m
	19 - Shift fork 5° - 6°	15-0080	1	
	20 - Shaft	23-1116	1	
	21 - Washer	16-4244	1	
	22 - Idlee switch	18-6018	1	
	23 - Pin	26-8198	1	
	24 - Spring	20-1138	1	
	25 - Spacer	13-6107	1	
	26 - Change shaft	26-0091	1	
	27 - Shim (0,5 mm.)	25-4059-05	1	
	28 - Seal ring	10-6005	1	



Einbau in	Einzelheit	Kodex	Qt.	Typ der einbau
Getriebedeckel gemeisam	1 - Einlegekeile - Ersten und Vierten	15-0078	1	
	2 - Welle	23-1115	1	
	3 - Einlegekeile - Sweiten und Dritten	15-0079	1	
	4 - Seegerring	10-5058	1	
	5 - Stärke (0,7 mm.)	25-4009-07	2	
	6- Seegerring	10-5052	1	
	7 - Hebel	19-0047	1	
	8 - Feder	20-1139	1	
	9 - Scheibe (1,5 mm.)	25-4178	1	
	10 - Schraube TCEI bassa M 6 x 12	29-5080	1	Paste für Gewinden: Loxeal 83-21 Anzugsmoment: 0,8 ~ 1,0 Kg · m
	11 - Stärke (0,4 mm.)	25-4181-04	1	
	12 - Stärke (0,5 mm.)	25-4181-05	1	
	13 - Schaltwalzennuten	10-1204	1	
	14 - Federkeil	19-6026	1	
	15 - Stärke (0,5 mm.)	25-4180-05	3	
	16- Schalwalzensegment	26-8191	1	
	17 - Scheibe	25-4171	1	
	18 - Schraube TSPEI M 5 x 18	29-6073	1	Paste für Gewinden: Loxeal 83-21 Anzugsmoment: 0,5 ~ 0,6 Kg · m
	19 - Einlegekeile - Fünfte und Sechste	15-0080	1	
	20 - Welle	23-1116	1	
	21 - Scheibe	16-4244	1	
	22 - Leerrlaufschalter	18-6018	1	
	23 - Stift	26-8198	1	
	24 - Feder	20-1138	1	
	25 - Distanzstück	13-6107	1	
	26 - Schaltwelle	26-0091	1	
	27 - Stärke (0,5 mm.)	25-4059-05	1	
	28 - Dichtungsring	10-6005	1	



### AEX02 - MONTAGGIO CUSCINETTI (carter cambio)

1. Riscaldare:  
carter del cambio a 130°  
Installare:  
cuscinetto a sfera "1" albero primario



**Punzone cuscinetti di banco 140610**

#### NOTA:

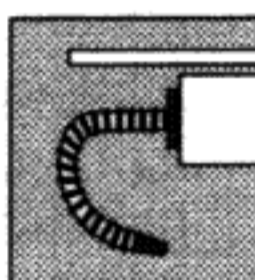
**Tutti i cuscinetti vanno montati con la scritta rivolta verso l'esterno.**

2. Installare :  
cuscinetto a sfera "2" albero secondario



**Punzone cuscinetto del cambio 140611**

3. Installare :  
vite "3" e ranella "4" (fermo cuscinetto sec. cambio)
4. Installare a carter freddo:  
cuscinetto a rulli "5"(desmo del cambio)



**Grasso ITP W LR 115**



**Punzone gabbia a rulli del desmo 140628**

### AEX04 - MONTAGGIO PARAOLI (carter cambio)

1. Installare a freddo:  
Paraoli "6" (Qt.2) nei carter cambio e selettore



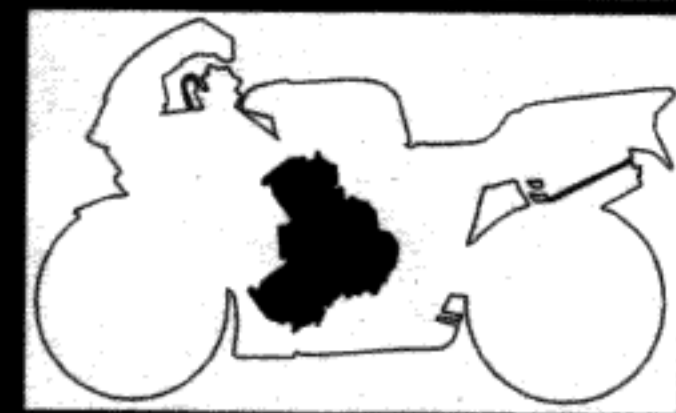
**Punzone paraolio carter cambio: 140613**



**Punzone paraolio carter selettore: 140619**

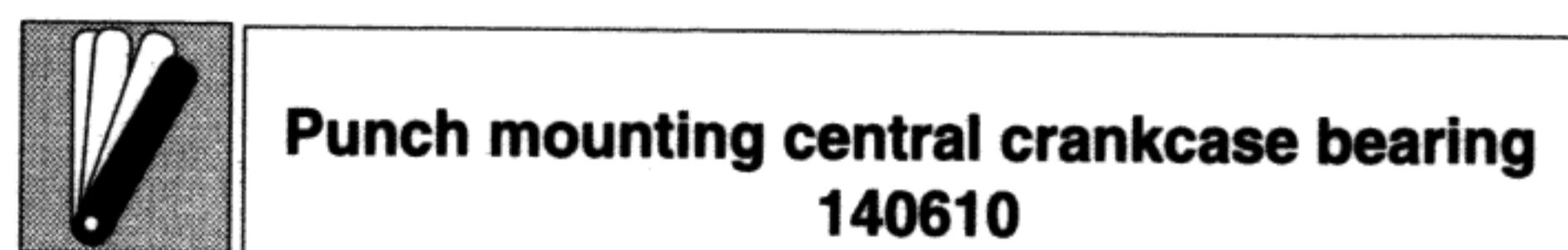
#### NOTA:

**I paraoli vanno montati secondo il verso indicato in figura sino ad arrivare in battuta sul cuscinetto.**



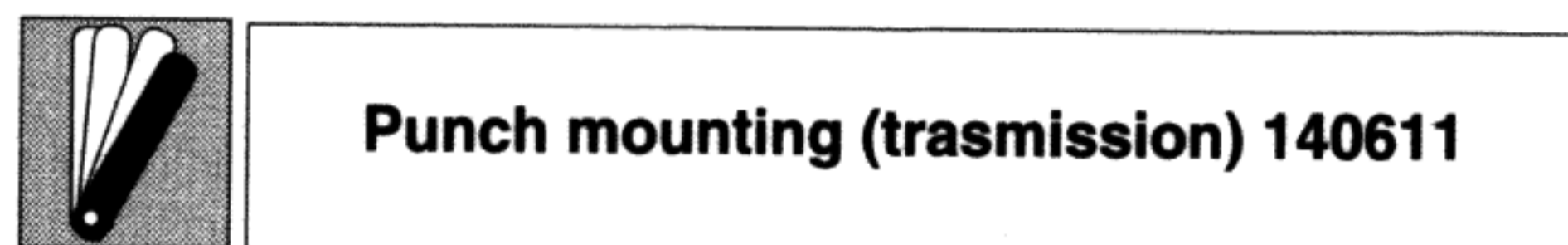
**AEX02 - ASSEMBLY BEARING (trasmission cover)**

- Heat:  
trasmission cover to 130°  
Install:  
bearing "1" of primary gear shift

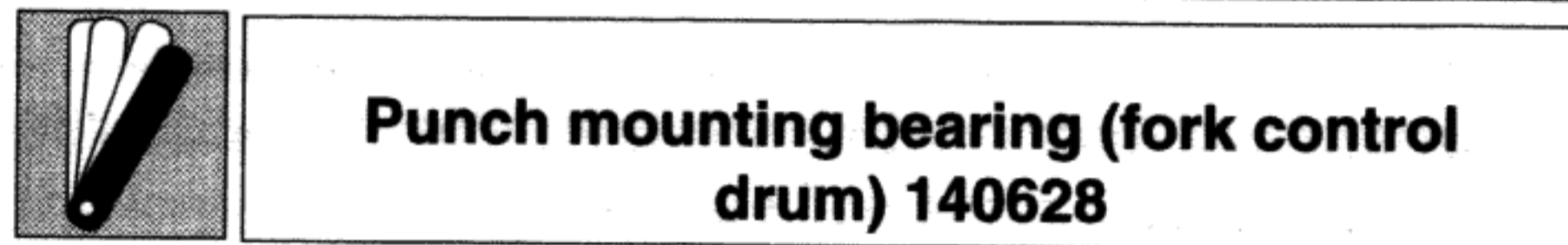
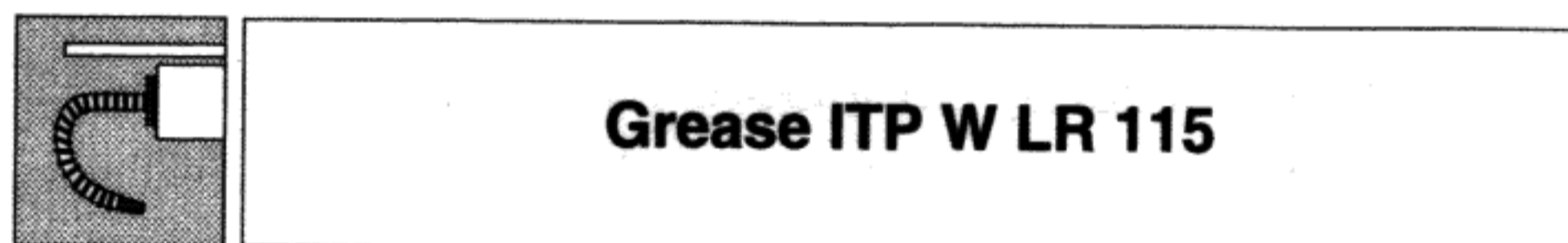


**NOTE:**  
All bearings are to be fitted with the writing turned outwards.

- Install :  
bearing "2" secondary shift of trasmission

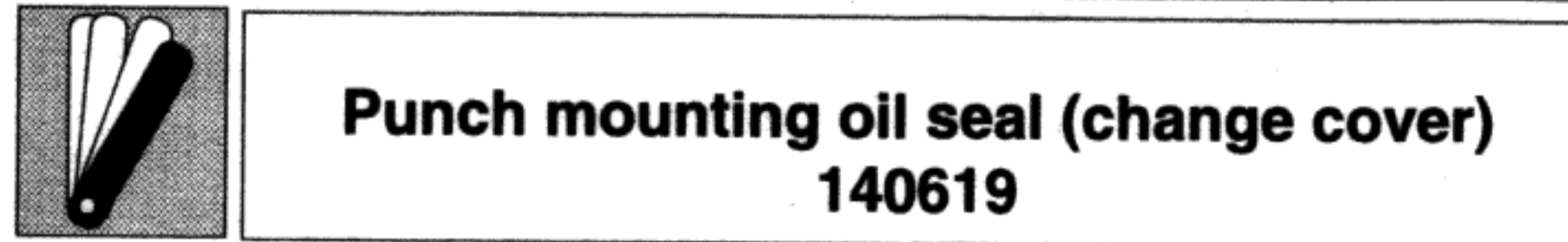
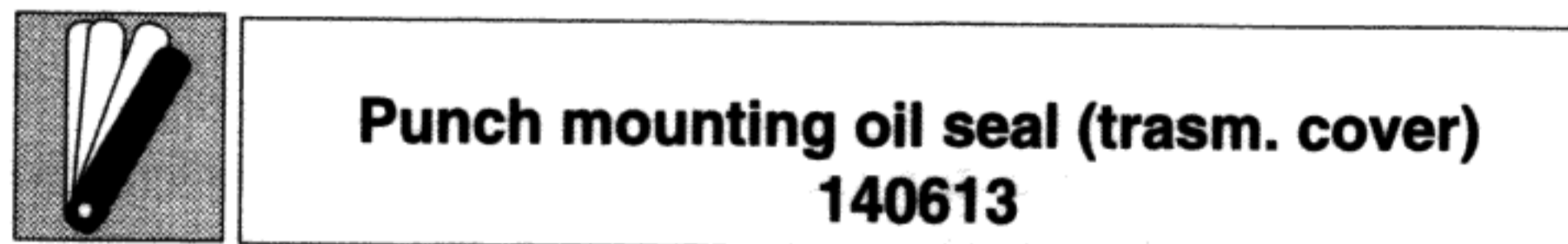


- Install :
- screw "3" and washer "4" (retainer of the bearing on the secondary shift of the trasmission)  
Install with cold cover:  
bearing "5"(fork control drum)



**AEX04 - ASSEMBLY OIL SEAL (trasmision cover)**

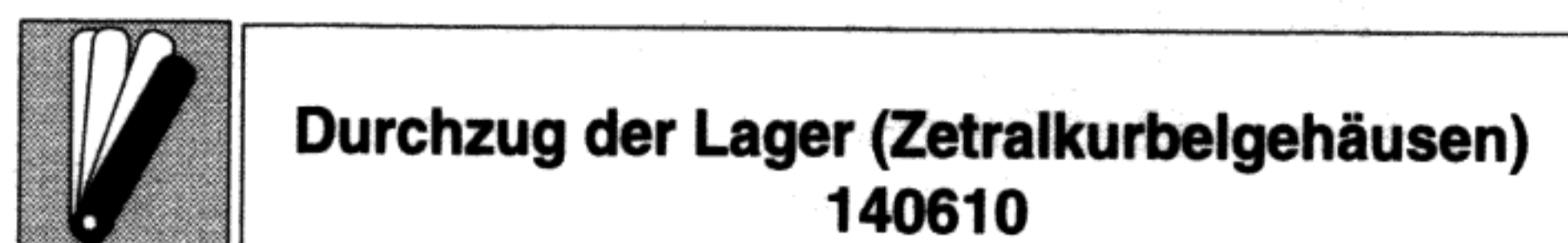
- Install at low temperature:  
oil seal "6" (Qt.2) to trasmission and change cover



**NOTE:**  
The oil seals are to be fitted according to the direction indicated in figure so that they press the bearing.

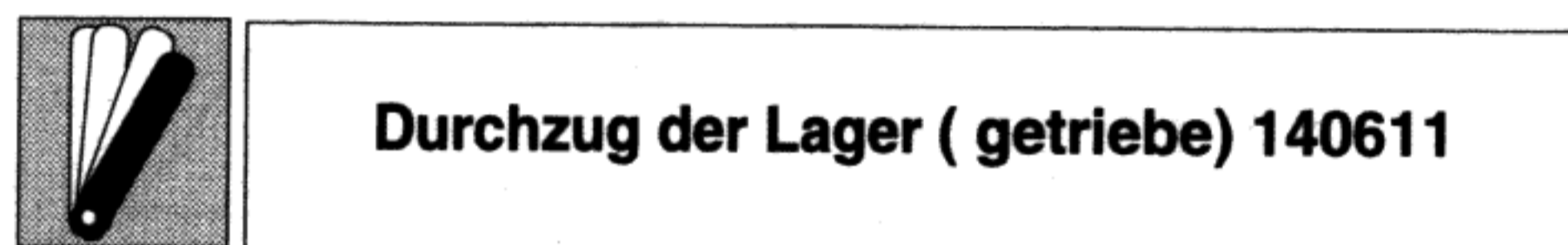
**AEX02 - EINBAU LAGER (Getriebedeckel)**

- Erwärmen:  
Getriebedeckel auf 130°  
Einbauen:  
Lager "1" dem Hauptwelle

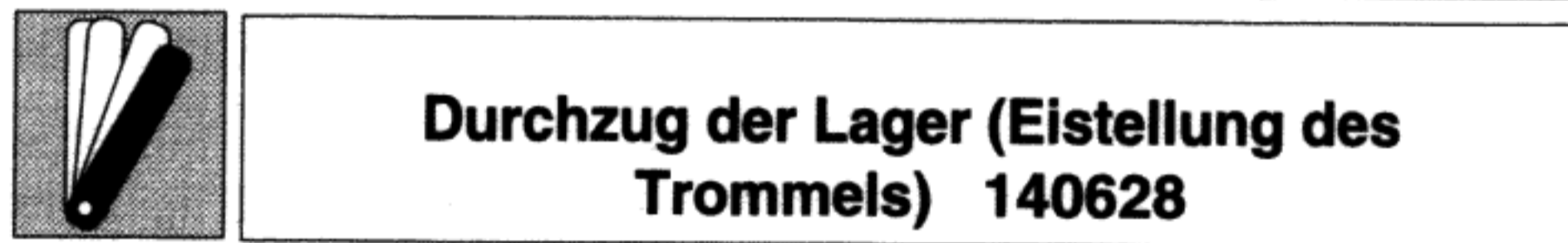


**HINWEIS:**  
Alle Lager mit der Schrift, die nach aussen zeigt, anbringen.

- Einbauen :  
lager "2" Getriebehaupt

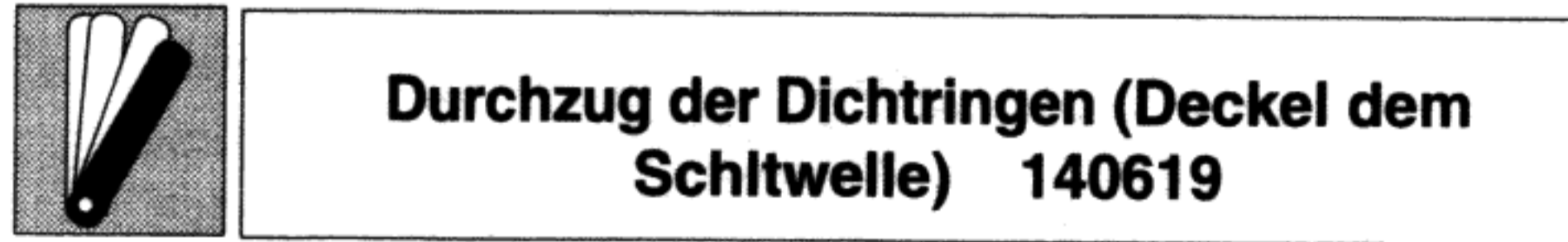
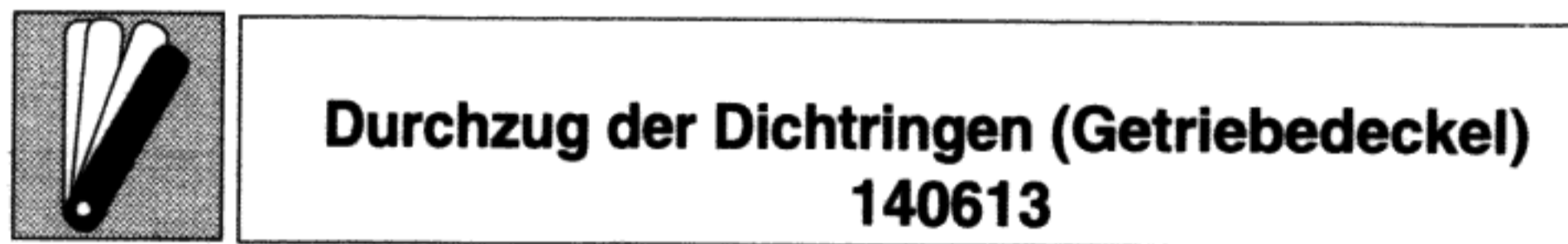


- Einbauen :  
schraube "3" und scheibe "4" (Feststellvorrichtung des Lagers auf dem Zweitwelle des Zahanradgetriebes)
- Bei kaltem Kurbelgehäuse installieren:  
lager "5"(Eistellung des Trommels)



**AEX04 - EINBAUEN DER DICHRINGEN (Getriebedeckel)**

- Bei kaltem Kurbelgehäuse installieren:  
Dichtringen "6" (Zahl 2) an Deckel dem Getriebe/Schltwelle



**HINWEIS:**  
Ölabdichtungen entsprechend der in dem Bild dargestellten Richtung so montieren, dass sie das Lager drücken.

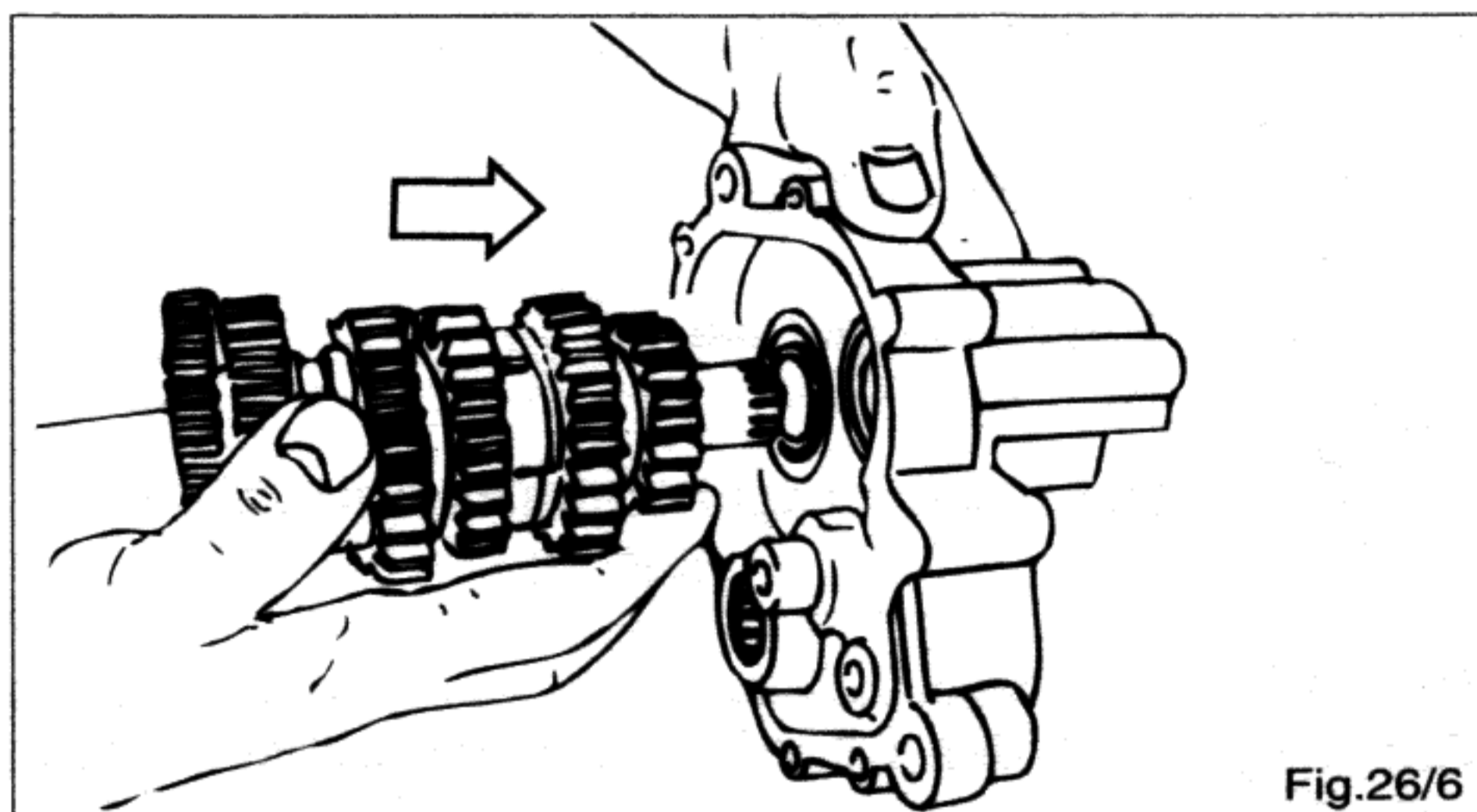
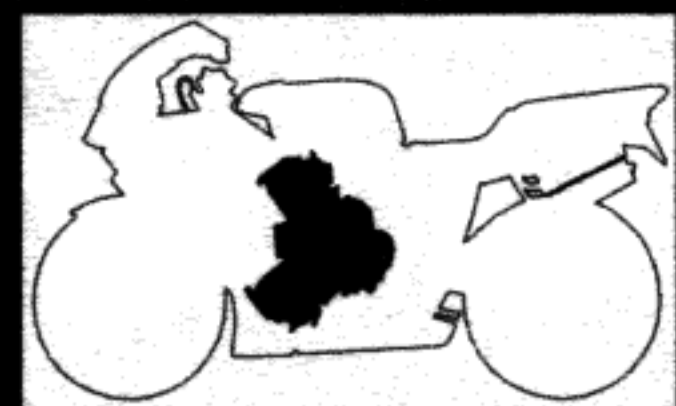


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### GCX01 - MONTAGGIO GRUPPO CAMBIO

1. Inserire nel carter cambio:  
alberi del cambio (primario e secondario)

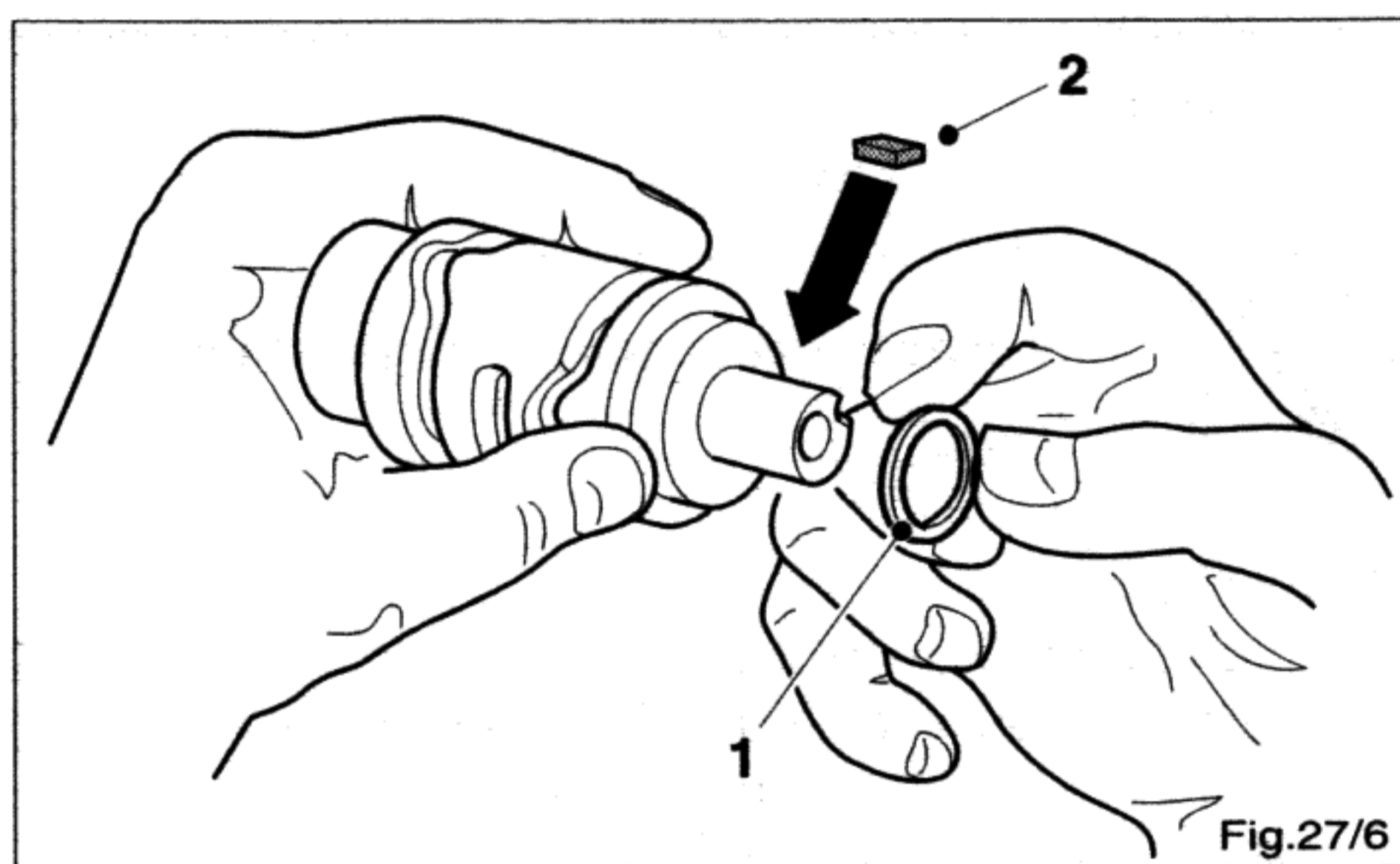


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2. Installare sul desmo:  
rasamento "1" (Qt. 3 - spessore 0,5 )  
spina "2" di centraggio

3. Inserire nel carter cambio:  
desmo del cambio "3"

#### NOTA:

**Il desmo va posizionato correttamente, facendo riferimento alla posizione della spina.**

rasamenti (spessore 0,4 e 0,5 - Qt.2)

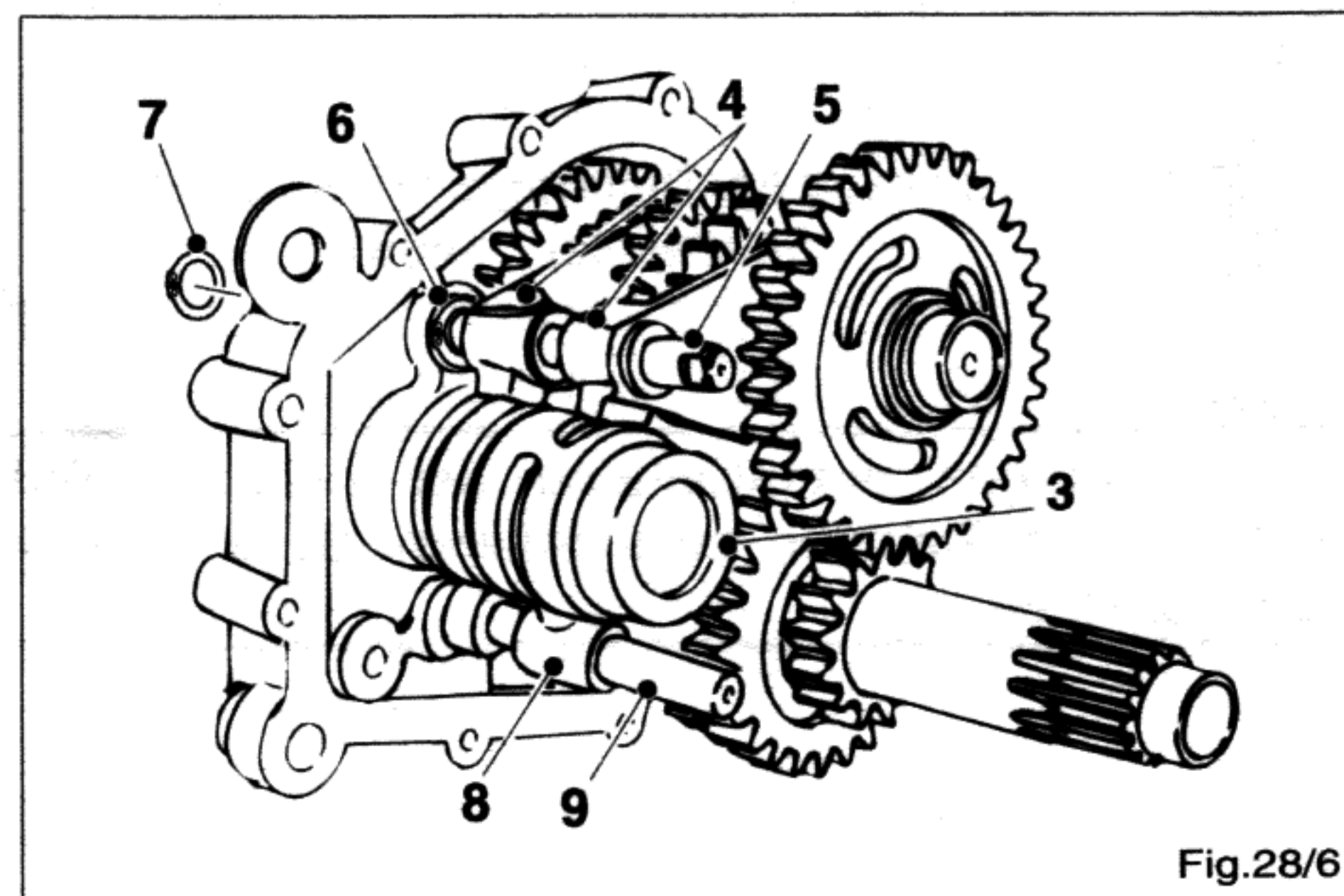
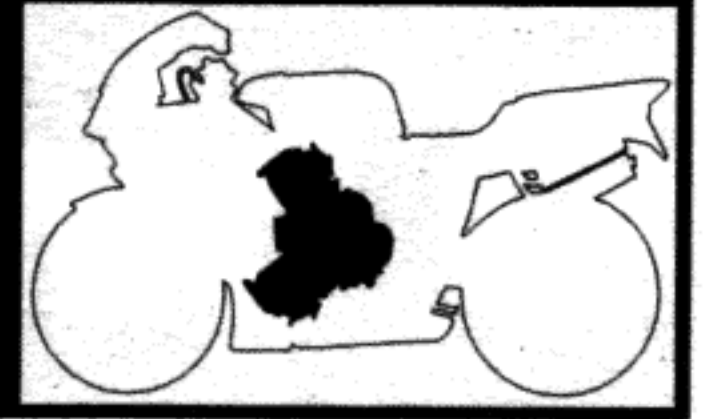


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4. Inserire nel carter cambio:  
forchette "4" (Qt.2)
5. Installare sull'alberino "5":  
seeger "6"  
rasamenti (spessore 0,7 - Qt.2)
6. Inserire nel carter cambio:  
alberino "5"  
seeger "7"
7. Inserire:  
forchetta "8"  
alberino "9"



**GCX01 - ASSEMBLY TRASMISSION ASSY**

1. Install to trasmission cover:  
trasmission shift (primary and secondary)

2. Install to fork control drum:  
shim "1" (Qt. 3 - 0,5 mm.)  
key "2" to centre fork control drum

3. Install to trasmission cover:  
fork control drum "3"

**NOTE:** \_\_\_\_\_

The fork control drum is to be fitted whit reference to the key position.

shim (Qt. 2 - 0,4 and 0,5 mm.)

4. Install to trasmission cover:  
shift fork "4" (Qt.2)
5. Install on shaft "5":  
circlip "6"  
shim (Qt.2 - 0,7 mm.)
6. Inserire nel carter cambio:  
shaft "5"  
circlip "7"
7. Install:  
shift fork "8"  
shaft "9"

**GCX01 - EISBAU WECHSELGETRIEBE**

1. Einbauen in Getriebedeckel:  
Hauptwelle und Getriebehaupt

2. Einbauen in Einstellung der Trommels :  
Stärke "1" (Zahl 3 - 0,5 mm.)  
Einlegekeile "2" mit Einstellung der Trommels einmitten

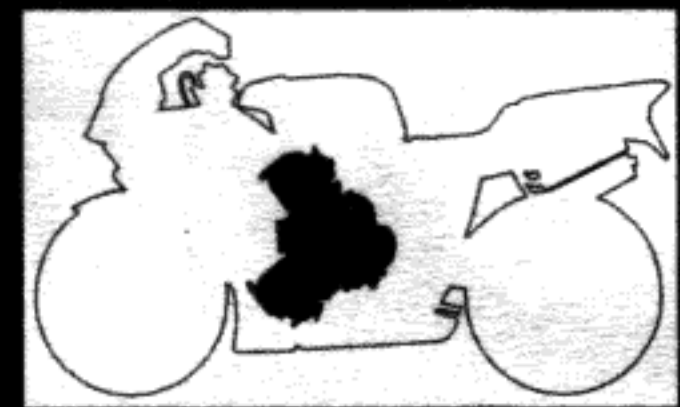
3. Einbauen in Getriebedeckel:  
Einstellung der Trommels "3"

**HINWEIS:** \_\_\_\_\_

Die Eistellung des Trommels für Gabelsteuerung erfolgt durch Bezug auf die Einlegekeile-position.

Stärke "1" (Zahl 2 - 0,4 und 0,5 mm.)

4. Einbauen in Getriebedeckel:  
Eintegekeile "4" (Zahl 2)
5. Einbauen in Welle "5":  
kolbenring "6"  
Stärke (Zahl 2 - 0,7 mm.)
6. Einbauen in Getriebedeckel:  
welle "5"  
kolbenring "7"
7. Einbauen:  
Eintegekeile "8"  
welle "9"



8. Installare nel carter:  
spina elastica "10" arresto selettore

**NOTA:**  
**Montare la spina a battuta sul carter.**

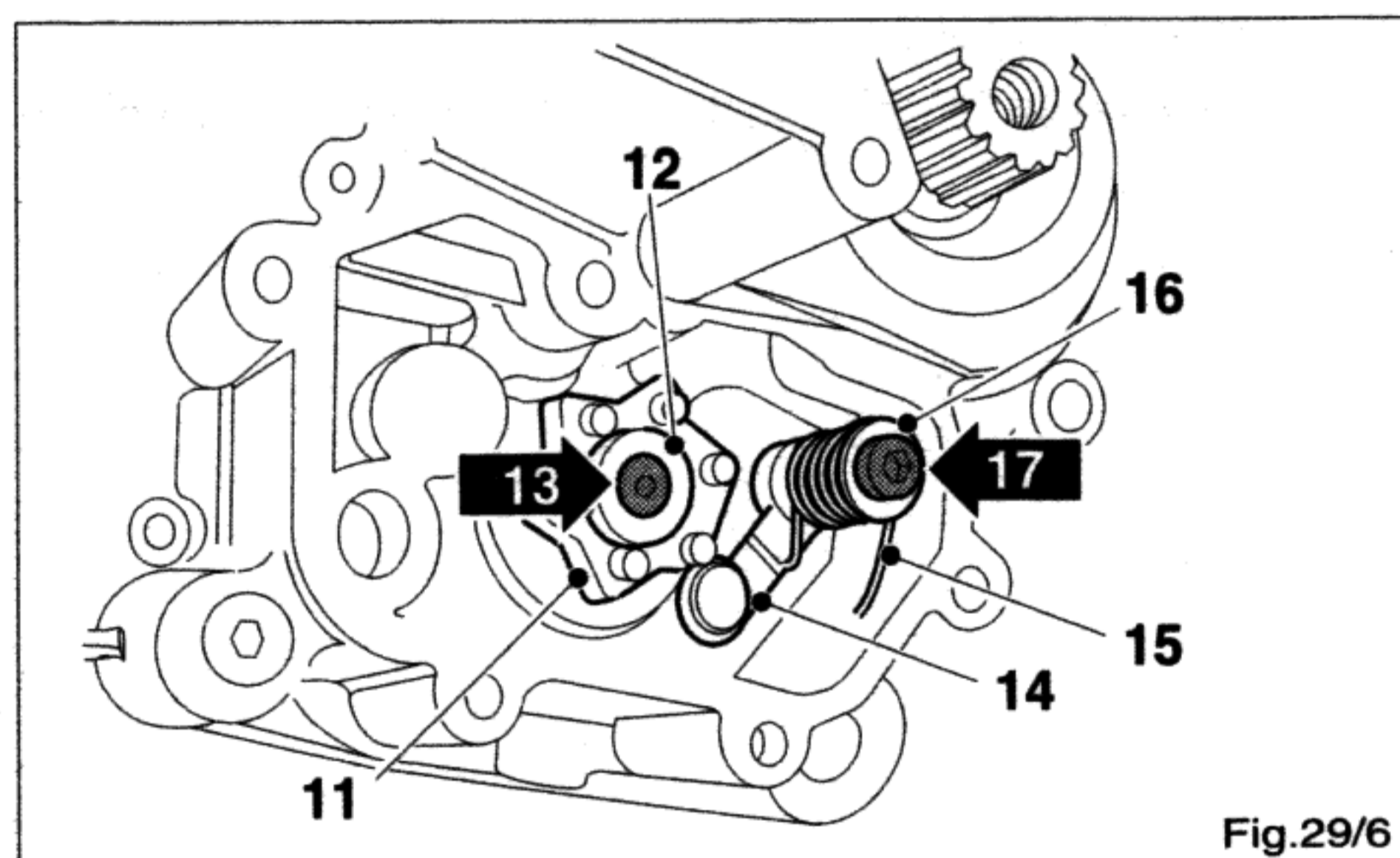
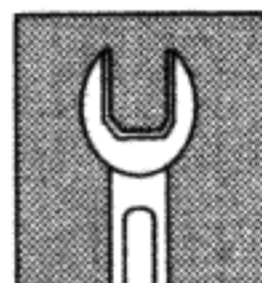


Fig.29/6

9. Installare:  
selettore del desmo "11"  
ranella svasata "12"
10. Serrare:  
vite "13" del selettore desmo



**Frenafilletti Loxeal 83-21**

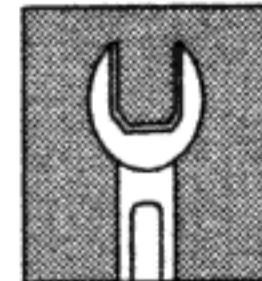


**Vite fissaggio selettore desmo:**  
**5~6 Nm ( 0,5~0,6 kg·m - 3,5~4,2 ft · lb)**

11. Installare:  
levetta selettore cambio "14"  
molla "15"  
ranella "16" (spessore 1,5)
12. Serrare:  
vite "17" della levetta selettore cambio



**Frenafilletti Loxeal 83-21**



**Vite fissaggio levetta selettore cambio:**  
**8~10 Nm ( 0,8~1,0 kg·m - 5,78~7,23 ft · lb)**

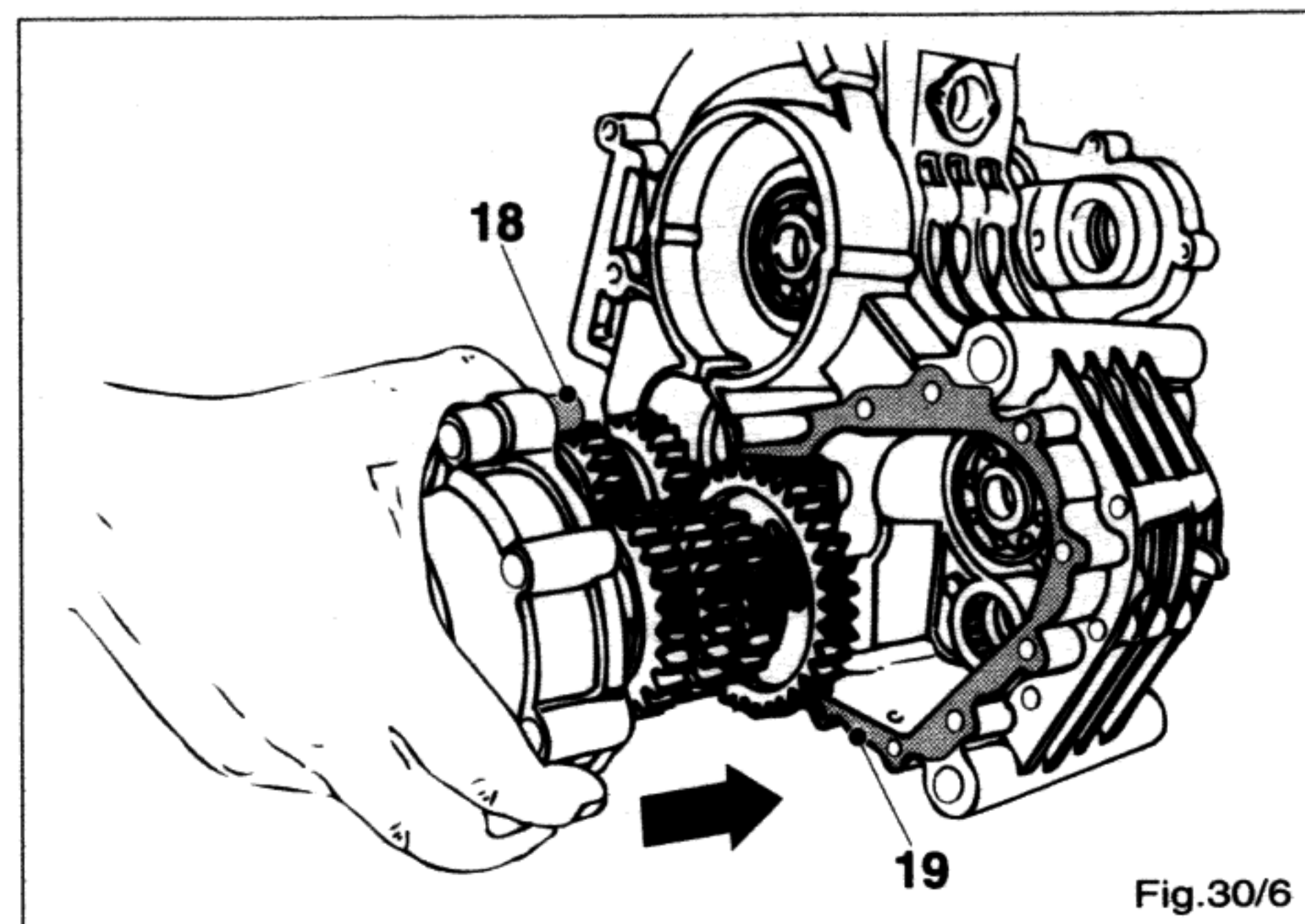
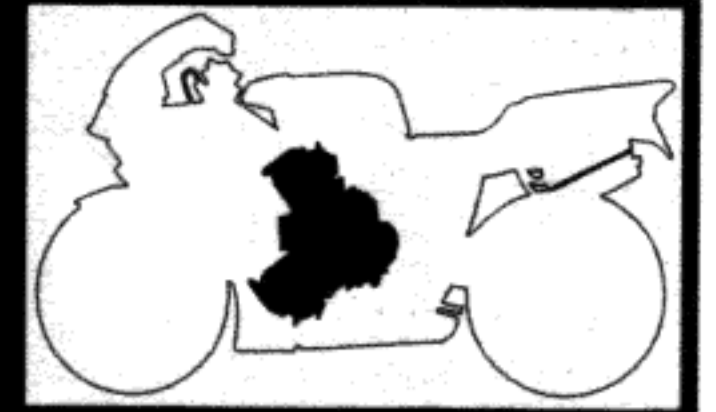


Fig.30/6

13. Posizionare:  
spine "18" (Qt.2) di centraggio  
guarnizione "19"
- Inserire:  
gruppo cambio





8. Install to cover:  
key "10" to centre shim cam segment

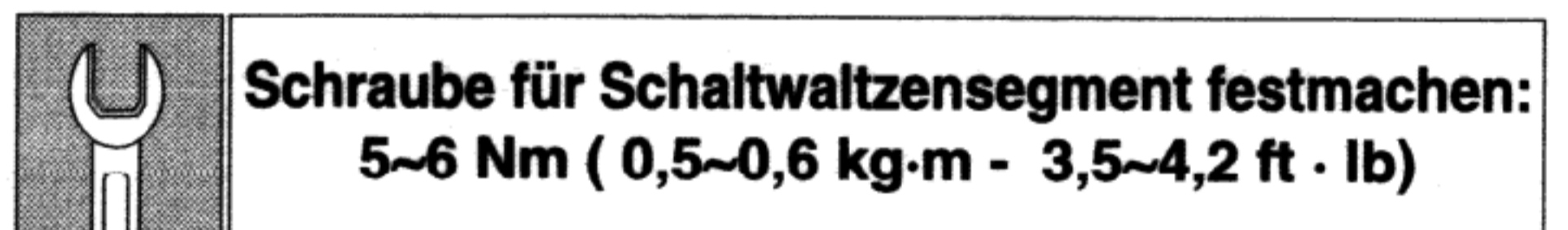
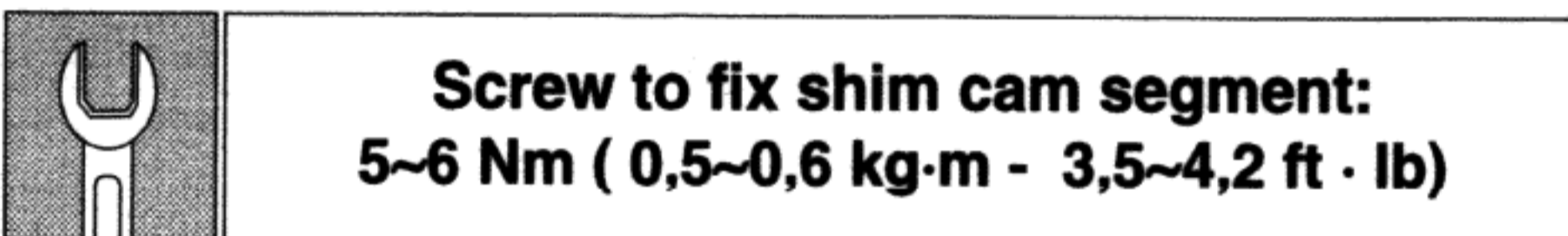
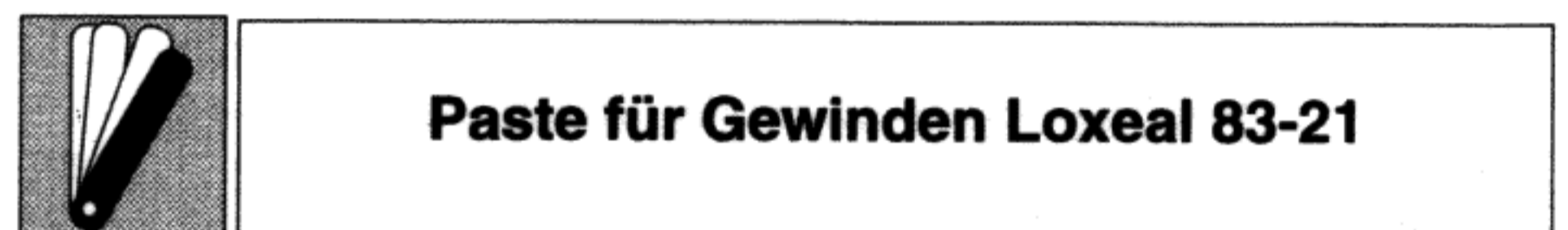
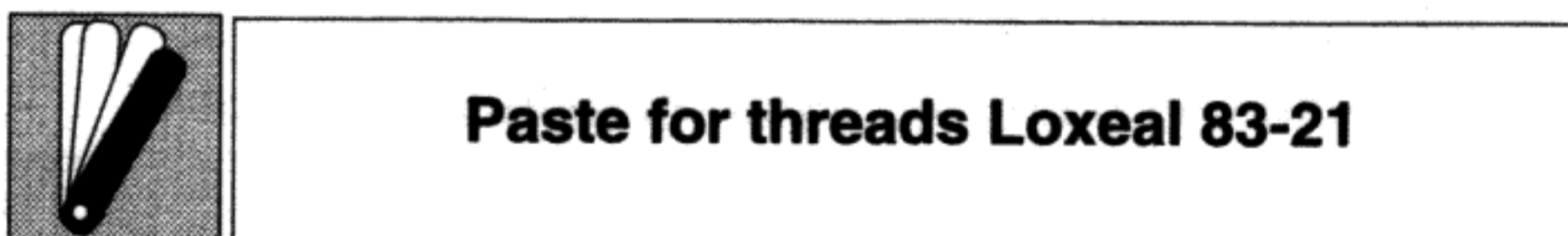
8. Einbauen in Deckel:  
Einlegekeite "10" mit Schaltwalsensegment einmetten

**NOTE:**  
The key are to be fitted so that they press against the main cover.

**HINWEIS:**  
Einlegekeite so montieren, dass sie die hauptdeckel drücken.

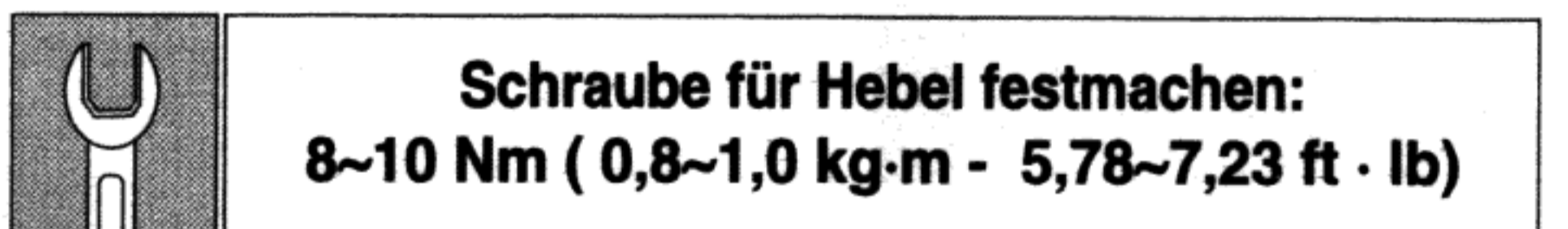
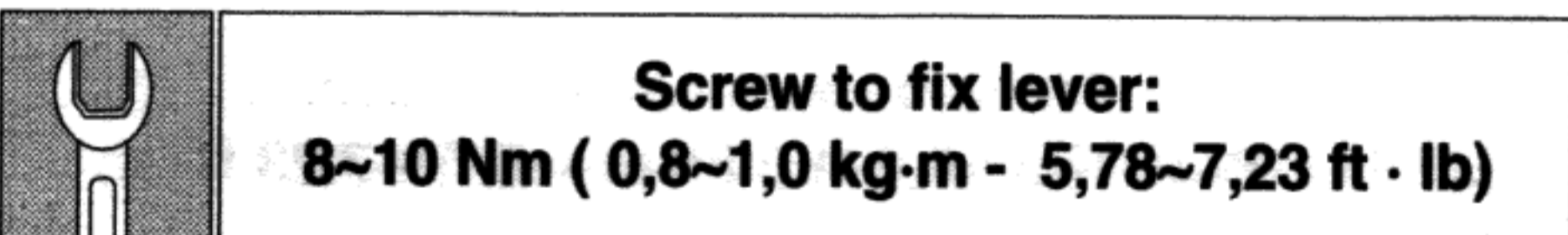
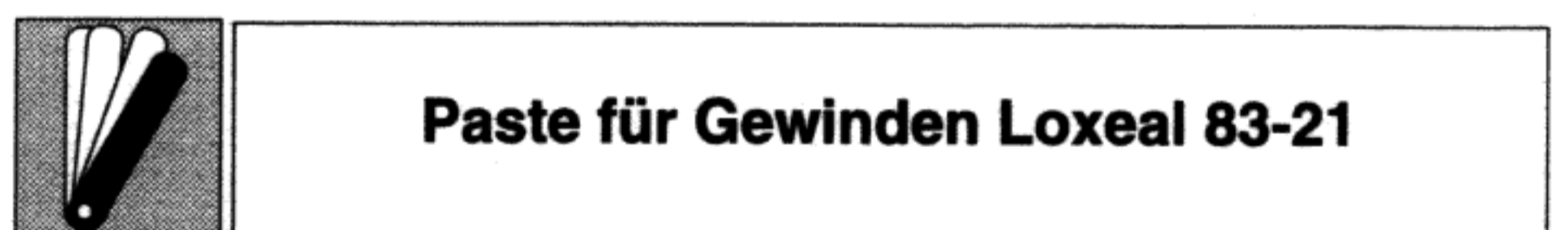
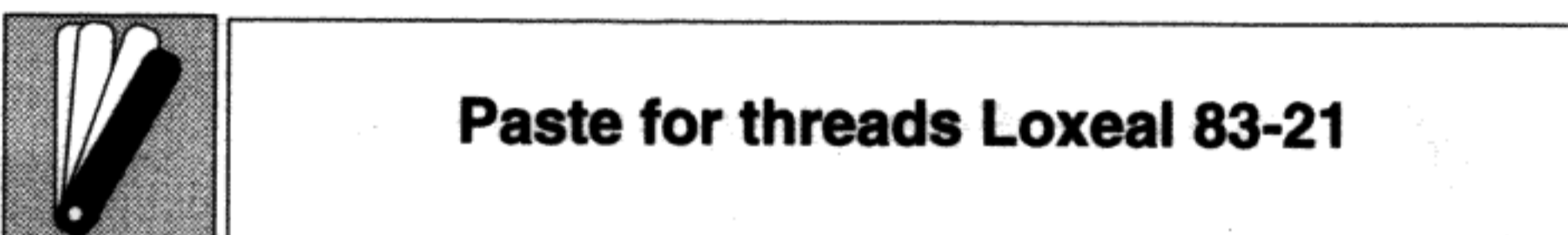
9. Install:  
shim cam segment "11"  
washer "12"  
10. Tighten:  
screw "13" to fix shim cam segment

9. Einbauen:  
Schaltwalsensegment "11"  
Scheibe "12"  
10. Festziehen:  
Schraube "13" für Schaltwalsensegment festmachen



11. Install:  
lever "14"  
spring "15"  
washer "16" (1,5 mm.)  
12. Tighten:  
screw "17" to fix lever

11. Einbauen:  
hebel "14"  
feder "15"  
scheibe "16" (1,5 mm.)  
12. Festziehen:  
Schraube "17" für Hebel festmachen



13. Positioner:  
pin "18" (Qt.2) to center cover  
gasket "19"  
Install:  
trasmission assy

13. Positionieren:  
stift "18" (Zahl 2) mit Deckel einmetten  
dichtung "19"  
Einbauen:  
Getriebewelle gemeinsam

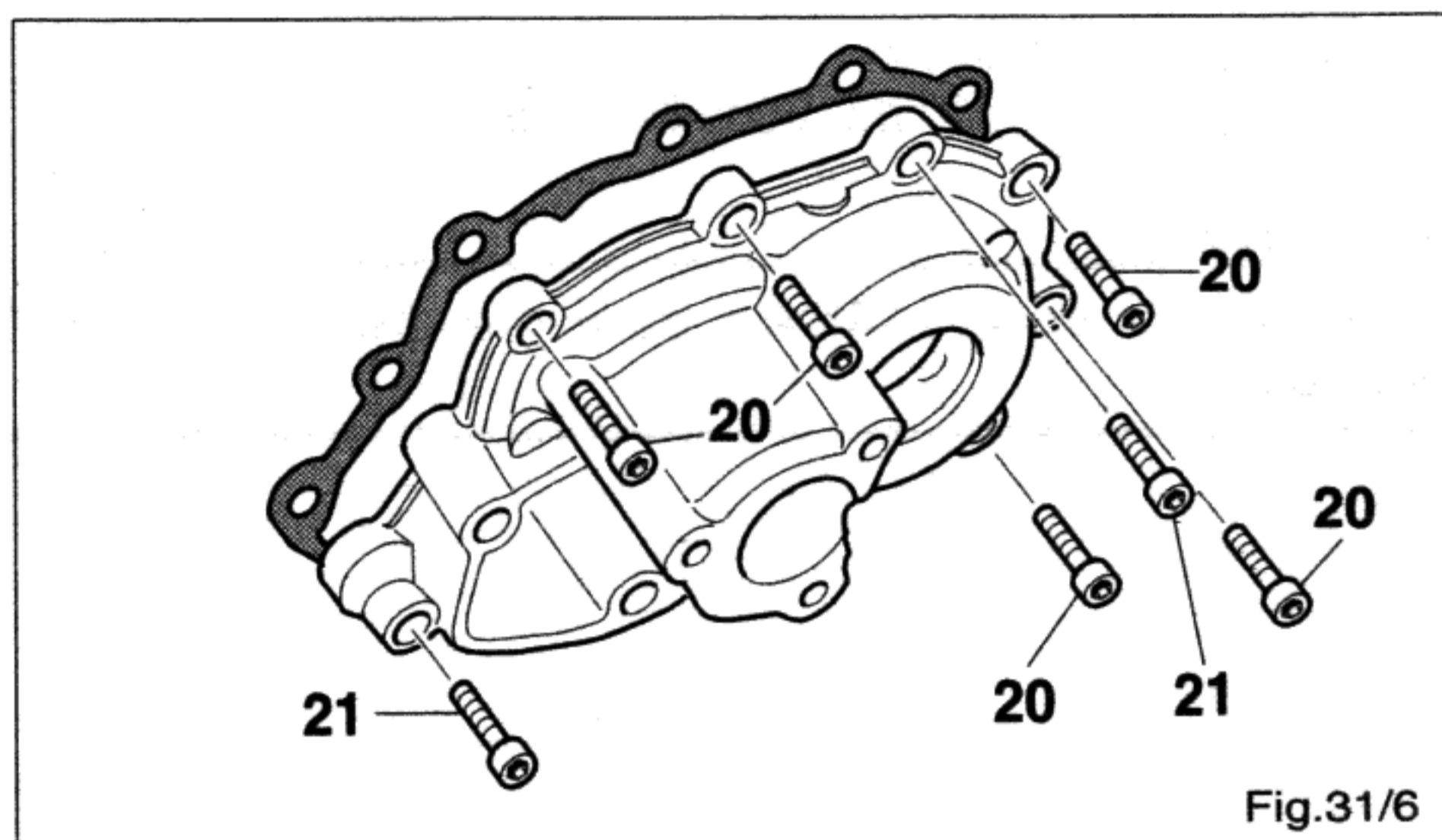
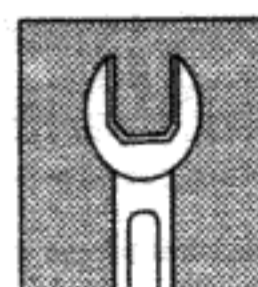


Fig.31/6

14. Serrare:

viti "20" (Qt. 5 - TCEI M 6 x 35) del carter cambio  
viti "21" (Qt. 2 - TCEI M 8 x 40) del carter cambio



**Viti chiusura carter cambio:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

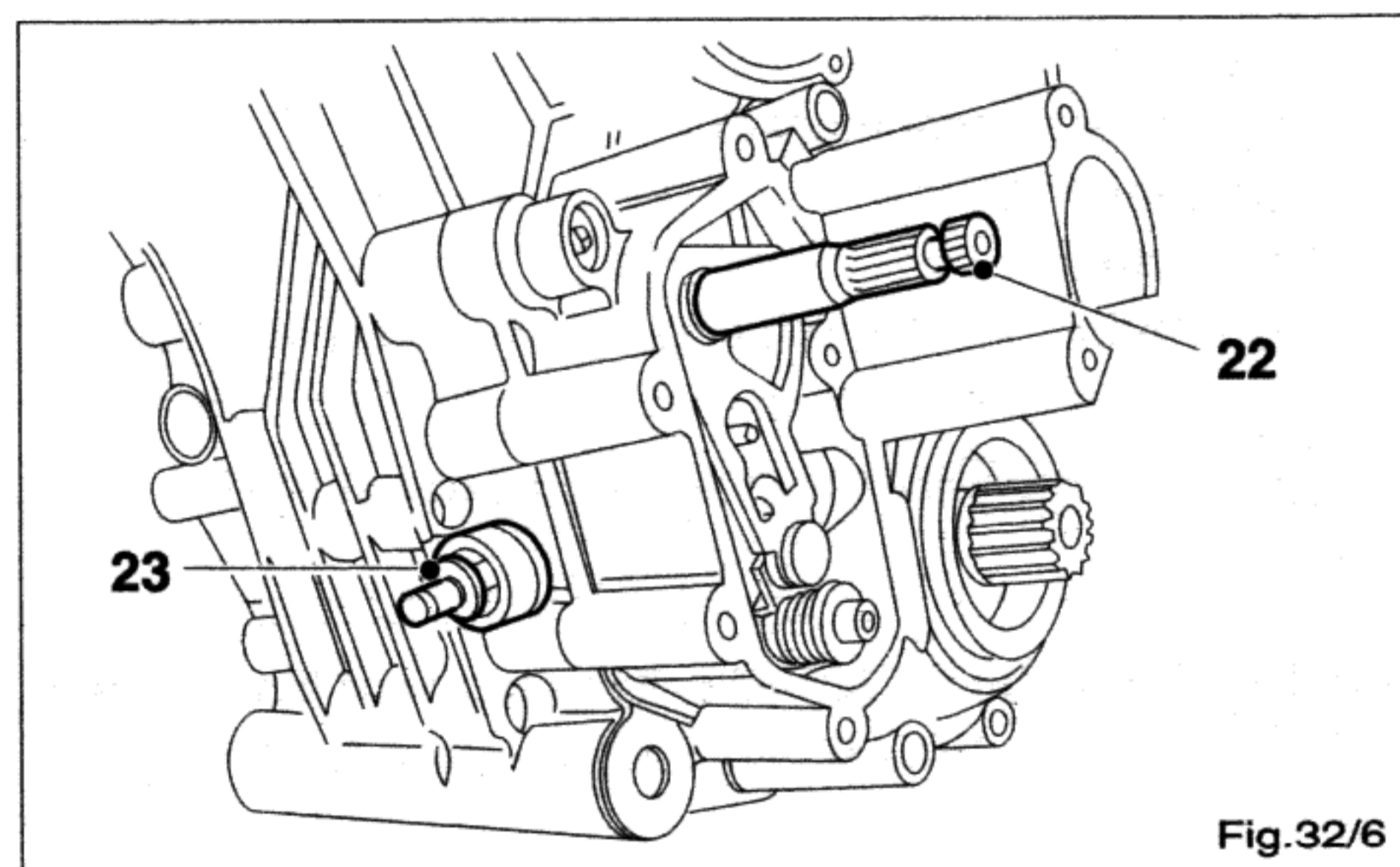


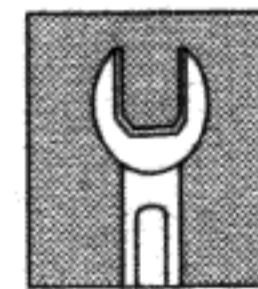
Fig.32/6

15. Installare:

molla  
distanziale  
alberino selettore cambio "22"  
rasamento (spessore 0,5)

16. Installare e serrare:

ranella e interruttore posizione marce "23"



**Interruttore posizione della folle:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

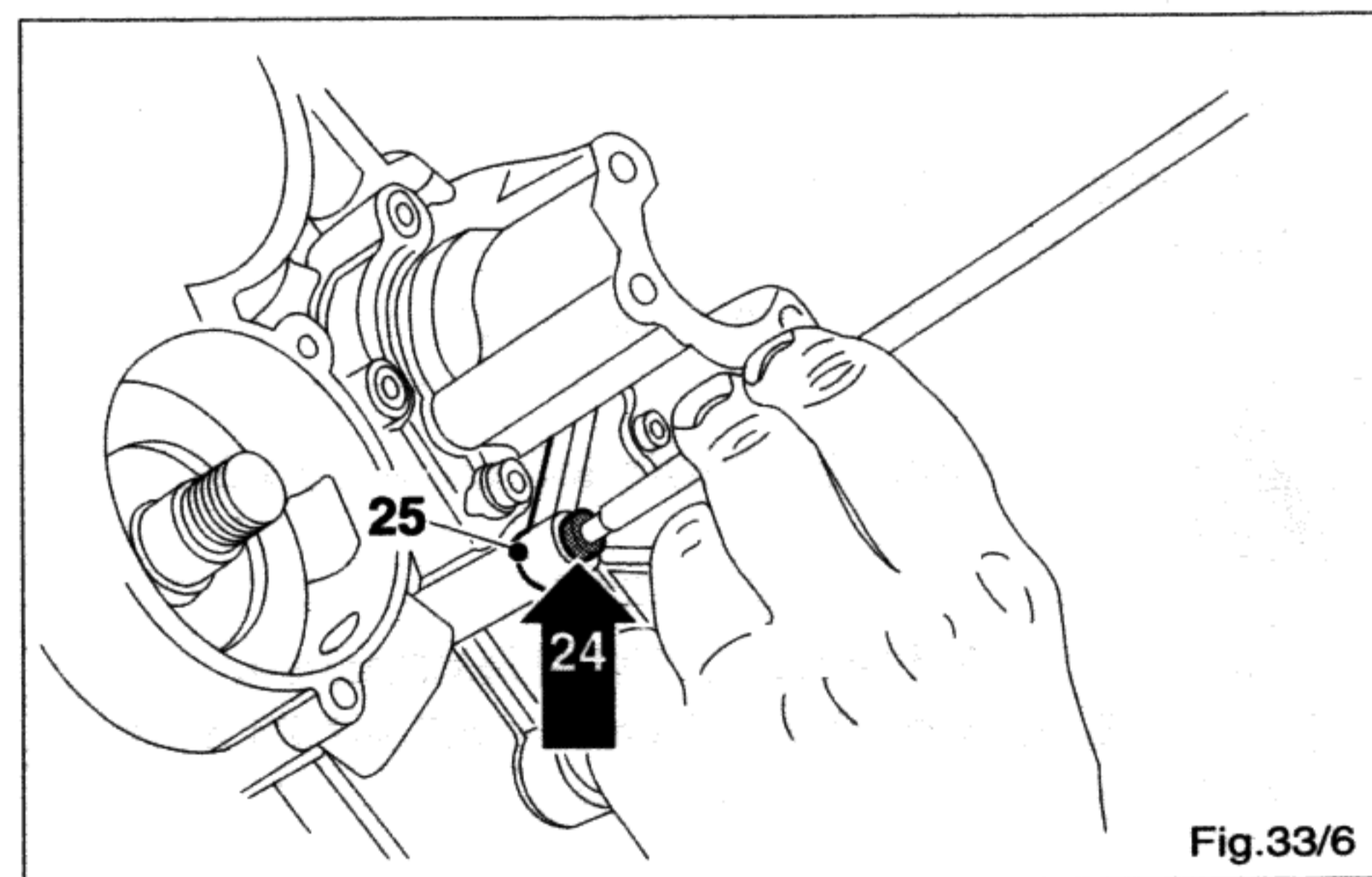


Fig.33/6

17. Posizionare:

guarnizione

18. Serrare:

viti "24" (Qt. 1 - TCEI M 6 x 16) del carter selettore "25"  
(Qt. 4 - TCEI M 6 x 55)



**Frenafilette Loxeal 83-21**



**Viti chiusura carter selettore:**  
8~10 Nm ( 0,8~1,0 kg·m - 5,78~7,23 ft · lb)

19. Verificare:

gioco assiale dell'alberino selettore "22" del cambio



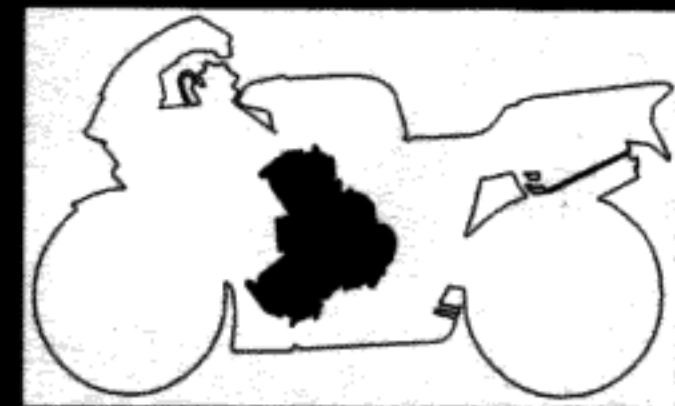
**Gioco assiale dell'alberino selettore :**  
0,3 mm. (0,011 in)

20. Verificare:

funzionalità del cambio

**NOTA:**

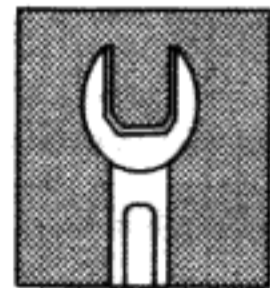
**La prova della funzionalità del cambio va effettuata lasciandolo in folle.**



14. Tighten:

screws "20" (Qt. 5 - TCEI M 6 x 35)

screws "21" (Qt. 2 - TCEI M 8 x 40)

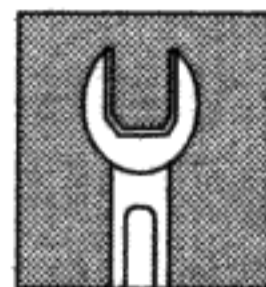


**Screws to fix trasmission cover:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

14. Festziehen:

Schrauben "20" (Zahl 5 - TCEI M 6 x 35)

Schrauben "21" (Zahl 2 - TCEI M 8 x 40)



**Schrauben für Getriebedeckel festmachen:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

15. Install:

spring

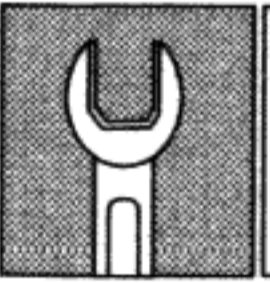
spacer

change shaft "22"

shim (0,5 mm.)

16. Install and tighten:

washer and idlee switch "23"



**Idlee switch:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

15. Einbauen:

feder

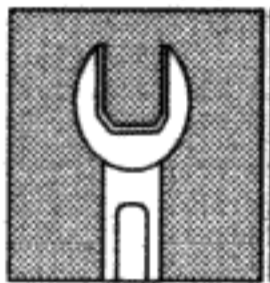
distanzstück

schaltwelle "22"

Stärke (0,5 mm.)

16. Einbau und festziehen:

scheibe und leerlaufschalter "23"



**Leerlaufschalter:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

17. Positioner:

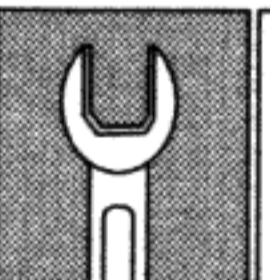
gasket

18. Tighten:

screws "24"(Qt. 1 - TCEI M 6 x 20) (Qt. 4 - TCEI M 6 x 55) of change cover "25"



**Paste for theards: Loxeal 83-21**



**Screws to fix change cover:**  
8~10 Nm ( 0,8~1,0 kg·m - 5,78~7,23 ft · lb)

17. Positioneren:

dichtung

18. Festziehen:

schrauben "24"(Zahl 1 - TCEI M 6 x 20) (Zahl 4 - TCEI M 6 x 55) dem Deckel dem Schalwelle "25"



**Paste für Gewinden: Loxeal 83-21**



**Schrauben für Deckel dem Schaltwelle festmachen:**  
8~10 Nm ( 0,8~1,0 kg·m - 5,78~7,23 ft · lb)

19. Inspect:

axial clearance of change shaft "22"



**Limit axial clearance of change shaft:**  
0,3 mm. (0,011 in)

19. Prüfen:

Axialspiel der Schaltwelle "22"



**Max. Zul. Axialspiel der Schaltwelle :**  
0,3 mm. (0,011 in)

20. Inspect:

trasmission functionality test

**NOTE:**

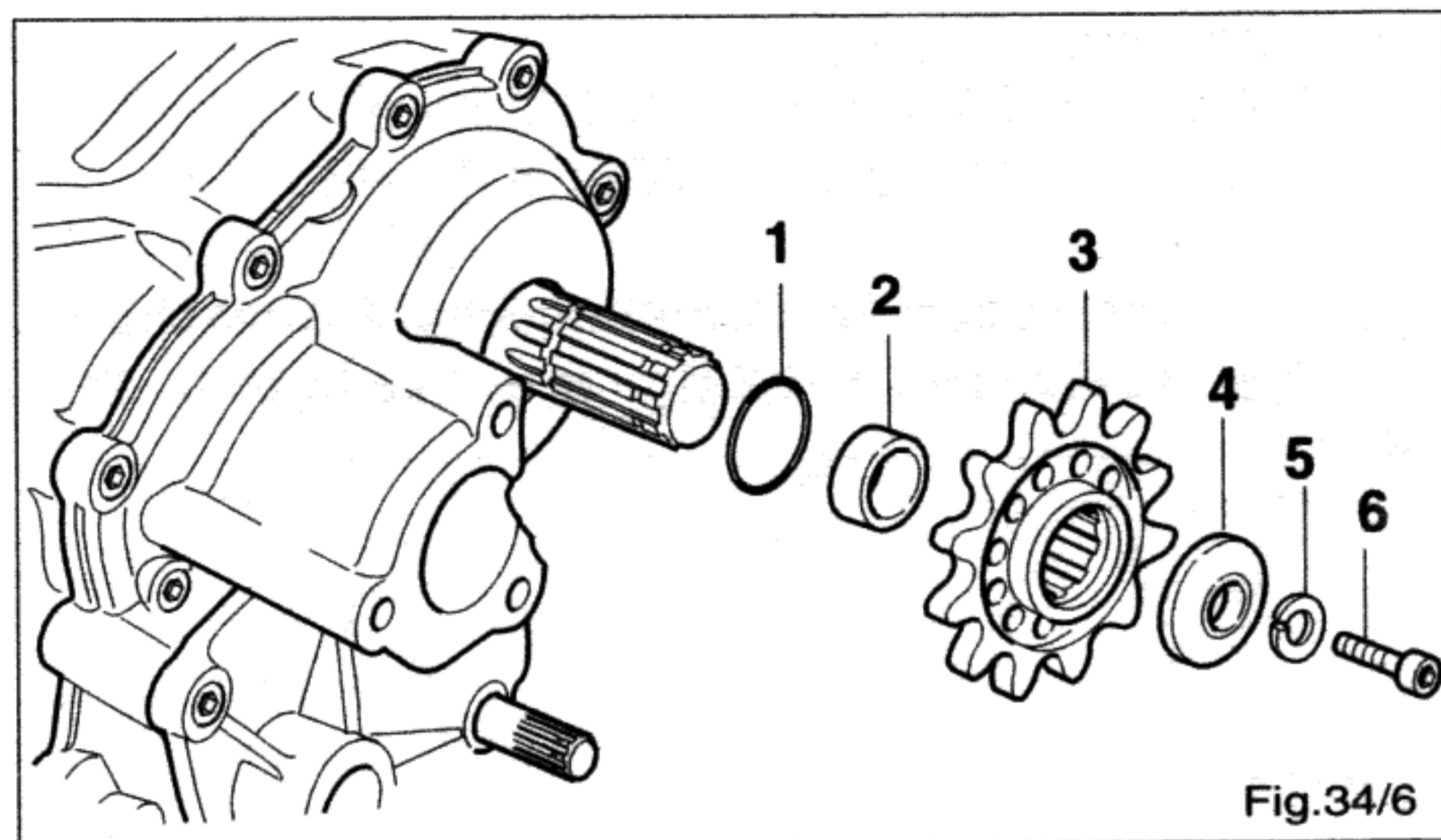
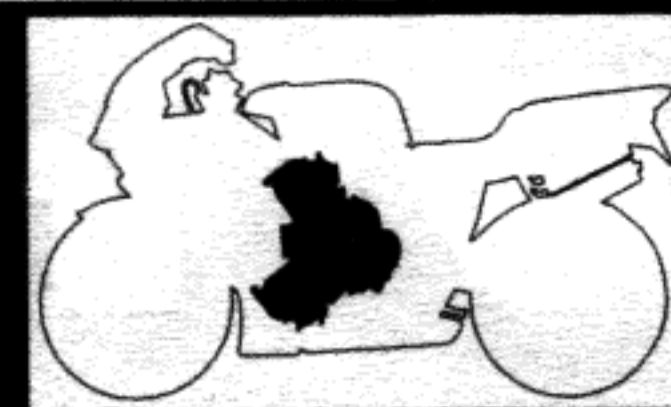
Be sure that the chosen gear in idlee position during the trasmission functionality test.

20. Prüfen:

Abnahmeprüfung der Wechselgetriebe

**HINWEIS:**

Abnahmeprüfung der Wechselgetriebe unterziehen wann den eingreifenden Gang in den Leerlauf schalten.

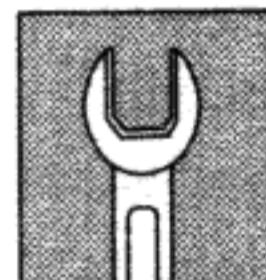
**MONTAGGIO PIGNONE MOTORE**

1. Installare:  
anello O.R. "1" nella sede dell'albero secondario  
distanziale "2"

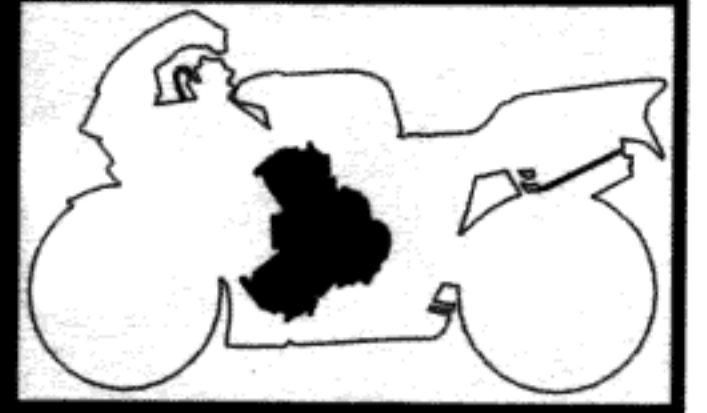
**NOTA:**  
**Ingrassare l'anello O.R. e il distanziale per facilitare il loro montaggio.**

2. Installare:  
pignone "3"  
boccola "4"  
ranella grower "5"

Serrare:  
vite "6" bloccaggio pignone



**Vite bloccaggio pignone:**  
**50 ~ 55 Nm ( 5,0~5,5 kg·m - 36,1~39,7 ft · lb)**



### ASSEMBLY ENGINE PINION

1. Install:  
O.Ring "1" on the secondary shft side  
spacer "2"

**NOTE:** \_\_\_\_\_  
**Grease O-Ring and the spacer to make their fitting easy.**

2. Install:  
drive sprocket "3"  
bolt "4"  
washer grower "5"  
Tighten:  
screw "6" to fix drive sprocket



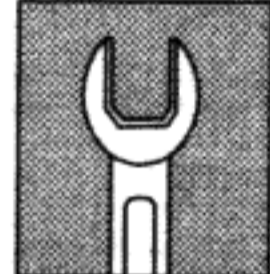
**Screw to fix drive sprocket:**  
50 ~ 55 Nm ( 5,0~5,5 kg·m - 36,1~39,7 ft · lb)

### EINBAU DICHTUNRING

1. Einbauen:  
O.Ringe"1" an Zweitwellesitz  
distanzstück "2"

**HINWEIS:** \_\_\_\_\_  
**O-Ringe und Distanzring schmieren um ihre Montage zu erleichtern.**

2. Einbauen:  
fantriebkettenrad "3"  
mutter "4"  
scheibe grower "5"  
Festziehen:  
Schraube "6" für Fantriebkettenrad festmacher



**Schraube für Fantriebkettenrad festmacher:**  
50 ~ 55 Nm ( 5,0~5,5 kg·m - 36,1~39,7 ft · lb)

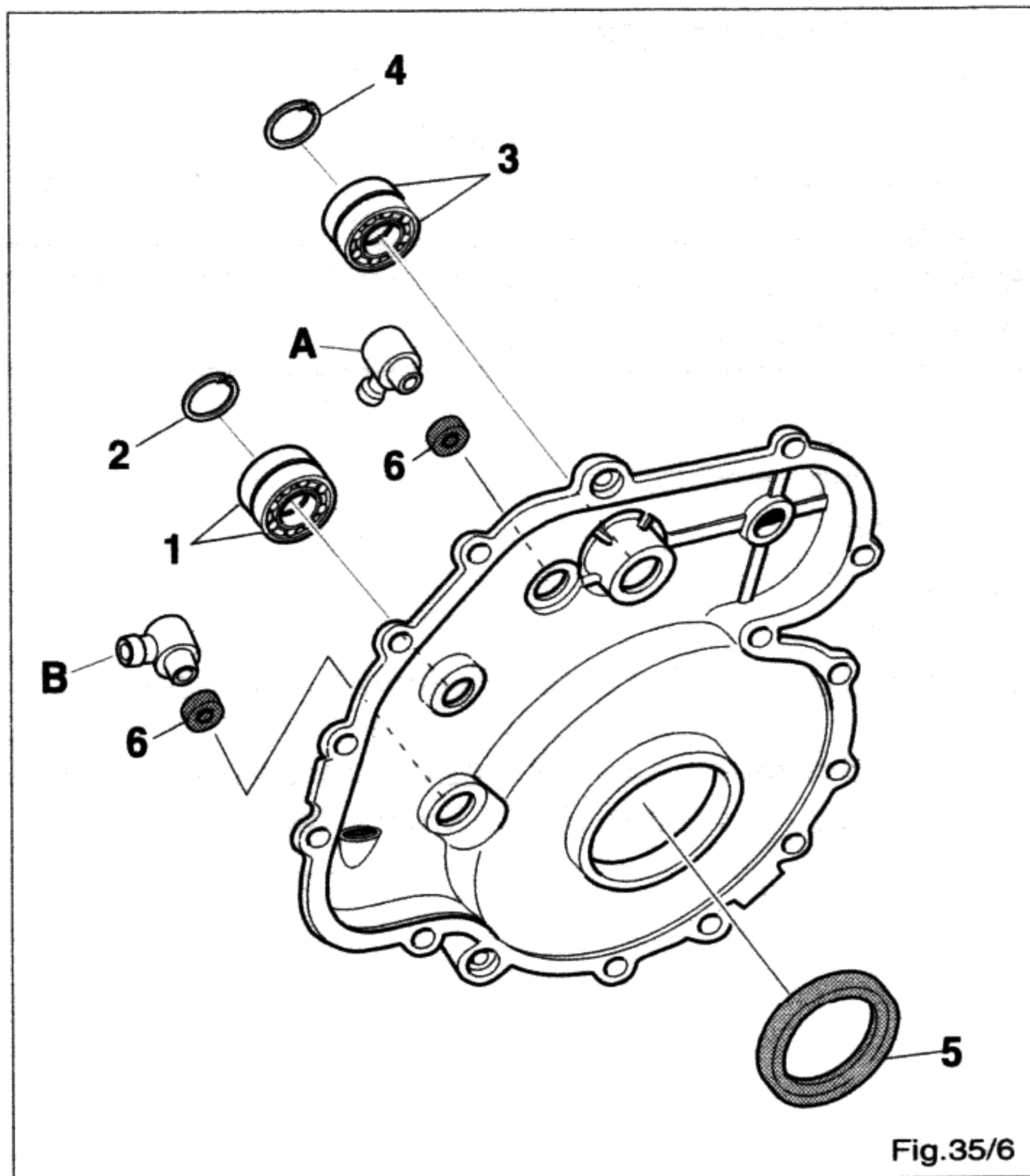
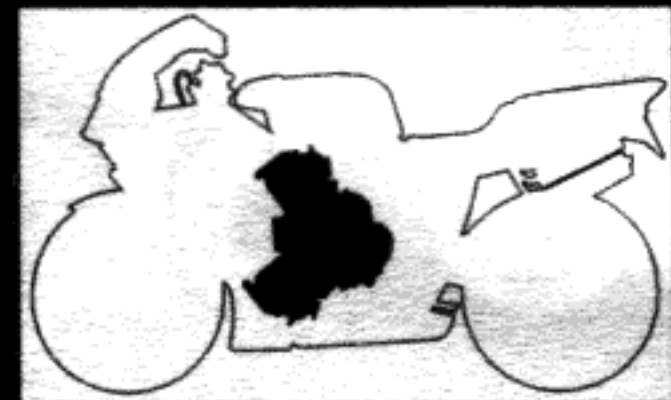


Fig.35/6

**AEX02 - MONTAGGIO CUSCINETTI (carter frizione)**

1. Riscaldare:  
carter frizione a 130°  
Installare:  
cuscinetti a sfera "1" (Qt.2) albero pompa olio



**Punzone cuscinetto carter frizione: 140620**

**NOTA:**  
Tutti i cuscinetti vanno montati con la scritta rivolta verso l'esterno.

2. Installare :  
anello seeger "2"
3. Installare :  
cuscinetti a sfera "3" (Qt.2) albero pompa acqua



**Punzone cuscinetto carter frizione: 140620**

4. Installare :  
anello seeger "4"

**AEX04 - MONTAGGIO PARAOLI (carter frizione)**

1. Installare a freddo:  
Paraolio frizione "5"



**Punzone paraolio campana frizione: 140617**

2. Installare a freddo:  
Paraolio valvole olio "6" (Qt.2)



**Punzone paraolio valvola olio: 140615**

**NOTA:**  
I paraoli vanno montati secondo il verso indicato in figura sino ad arrivare in battuta sul cuscinetto.

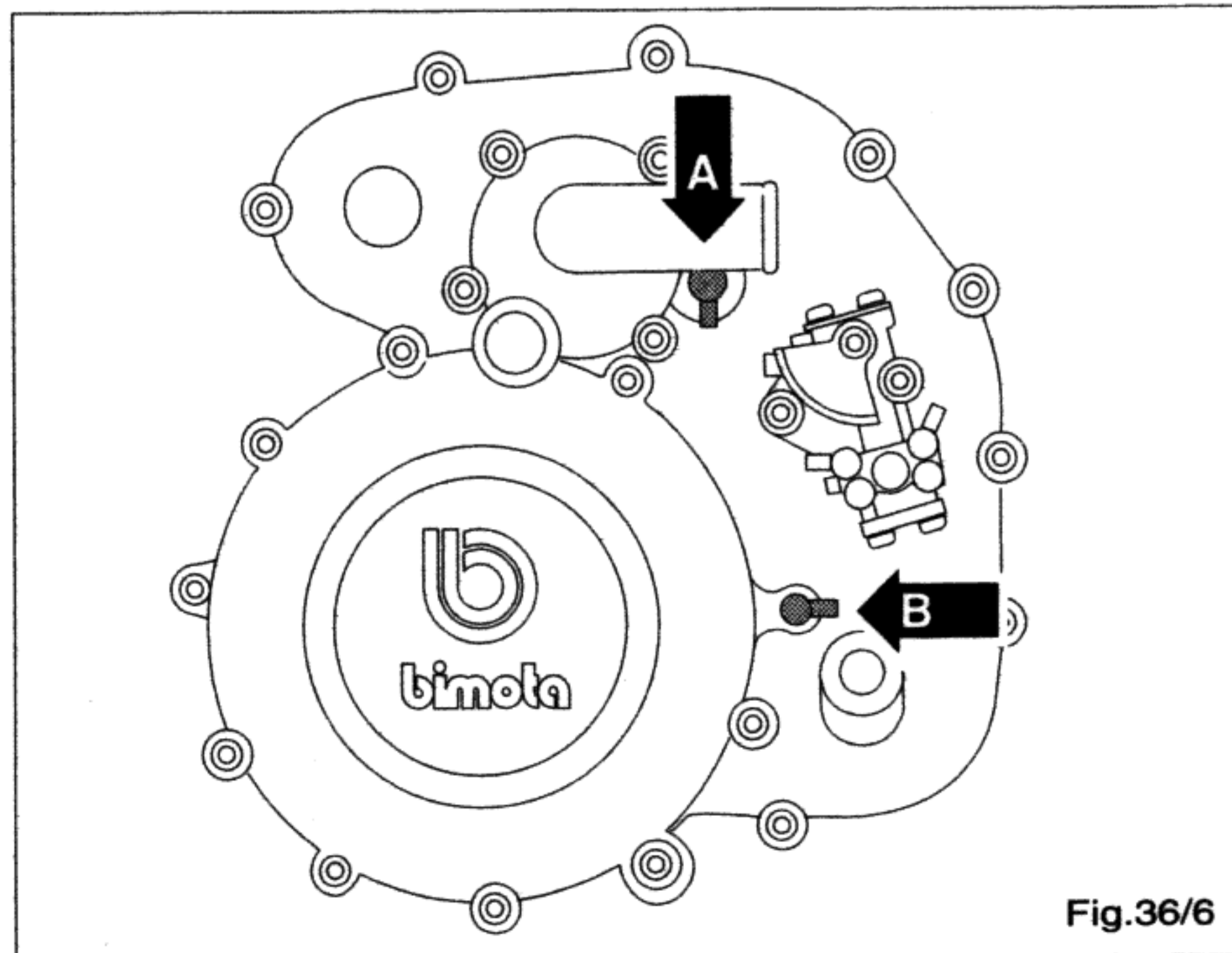


Fig.36/6

**COMPLETAMENTO CARTER FRIZIONE**

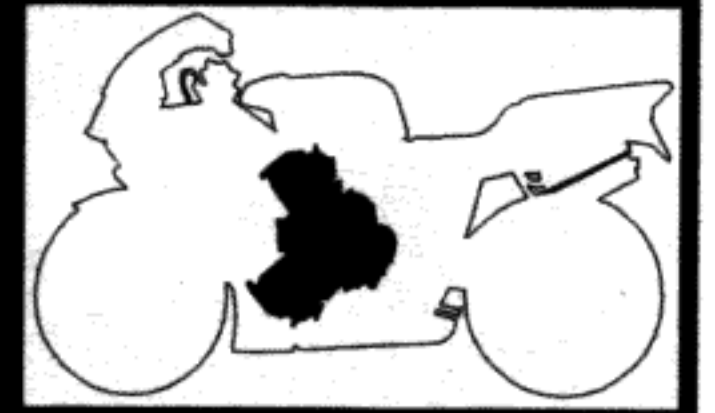
1. Installare a freddo:  
valvole circuito dell'olio "A" e "B" (Qt.2)



**Posizione valvola circuito dell'olio "A":  
verticale**



**Posizione valvola circuito dell'olio "B":  
orizzontale**



**AEX02 - ASSEMBLY BEARING ( clutch side cover)**

- Heat:  
clutch side cover to 130°  
Install:  
bearing "1" (Qt.2) oil pump shaft



Punch mounting clutch side cover bearing:  
140620

**NOTE:**

All bearings are to be fitted with the writing turned outwards.

- Install :  
seeger ring "2"
- Install :  
bearing "3" (Qt.2) water pump shaft



Punch mounting clutch side cover bearing:  
140620

- Install :  
seeger ring "4"

**AEX04 - ASSEMBLY OIL SEALS (Clutch side cover)**

- Install at low temperature:  
clutch oil seal "5"



Punch mounting oil seal (clutch housing):  
140617

- Install at low temperature:  
oil seals "6" (Qt.2) of lubrication circuit valve



Punch mounting oil seal (valve): 140615

**NOTE:**

The oil seals are to be fitted according to the direction indicated in figure so that they press the bearing.

**CLUTCH SIDE COVER FINISHING**

- Install at low temperature:  
valve "A" and "B" (Qt.2) of lubrication circuit



Position lubrication circuit valve "A":  
vertical



Position lubrication circuit valve "B":  
horizontal

**AEX02 - EINBAU DER LAGER (Deckel der Kupplungsseite)**

- Erwärmen:  
Deckel der Kupplungsseite auf 130°  
Einbauen:  
lager "1" (Zahl 2) dem Ölpumpewelle



Durchzug der Lager (Deckel der Kupplungsseite)  
140620

**HINWEIS:**

Alle Lager mit der Schrift, die nach aussen zeigt, anbringen.

- Einbauen :  
Seegeringe "2"
- Einbauen :  
lager "3" (Zahl .2) dem Wasserpumpewelle



Durchzug der Lager (Deckel der Kupplungsseite)  
140620

- Einbauen :  
Seegeringe "4"

**AEX04 - EINBAUEN DER DICHRINGEN**

- Bei kaltem Kurbelgehäuse installieren:  
Dichtringen "5" dem Kupplung



Durchzug der Dichtringen (Kupplungsäuse):  
140617

- Bei kaltem Kurbelgehäuse installieren:  
Dichtringen "6" (Zahl 2) dem Ventils der Öllkreislaufes



Durchzug der Dichtringen (Ventils der Öllkreislaufes):140615

**HINWEIS:**

Ölabdichtungen entsprechend der in dem Bild dargestellten Richtung so montieren, dass sie das Lager drücken.

**NACHBEARBEITUNG DER DECKEL KUPPLUNGSEITE**

- Bei kaltem Kurbelgehäuse installieren:  
Ventils der Öllkreislaufes "A" und "B" (Zahl 2)



Position Ventils der Öllkreislaufes "A":  
vertikal



Position Ventils der Öllkreislaufes "B":  
horizontal

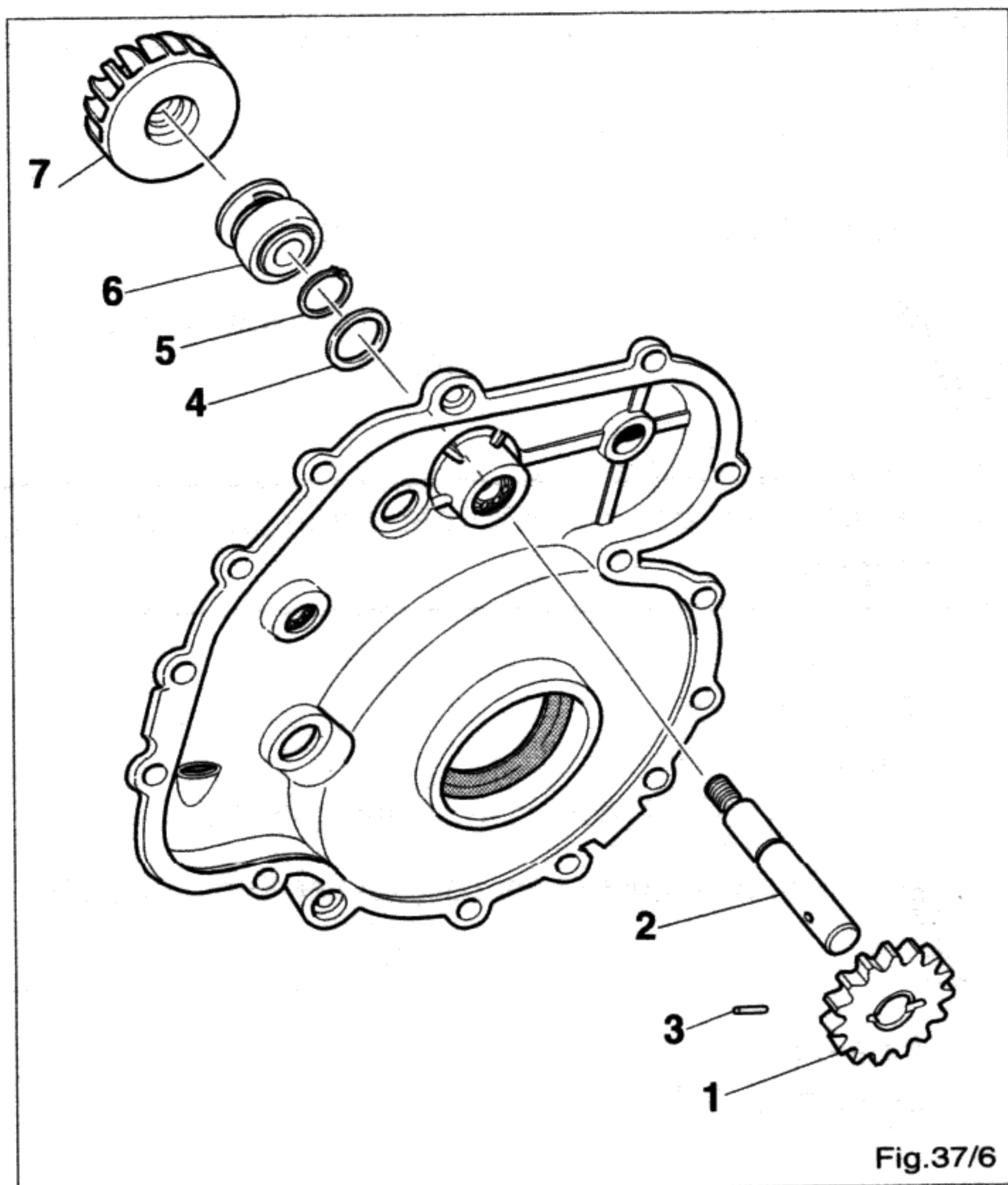
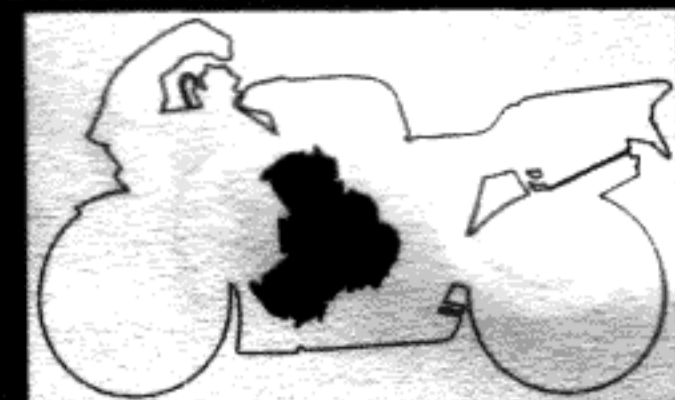


Fig.37/6

## CBX03 - MONTAGGIO POMPA ACQUA

- Inserire:  
ingranaggio "1" sull'albero "2"  
spina "3" nella sede  
albero con ingranaggio nel carter  
rasamento "4" (spessore 0,5)
- Installare:  
anello seeger "5"  
paraolio "6" ceramico

### NOTA:

Inserire il paraolio fino a battuta nel verso indicato in figura, ossia con la parte in ceramica in esterno.

Serrare:  
girante "7" pompa acqua



Frenafiletta Loxeal 83-21



Girante pompa acqua:  
7 Nm ( 0,7 Kg · m - 5,0 ft · lb)



Chiave fermo girante pompa acqua  
140635

- Verificare:  
gioco assiale dell'albero pompa acqua



Gioco assiale albero pompa acqua:  
0,2 ~0,5 mm. (0,008 ~ 0,019 in)

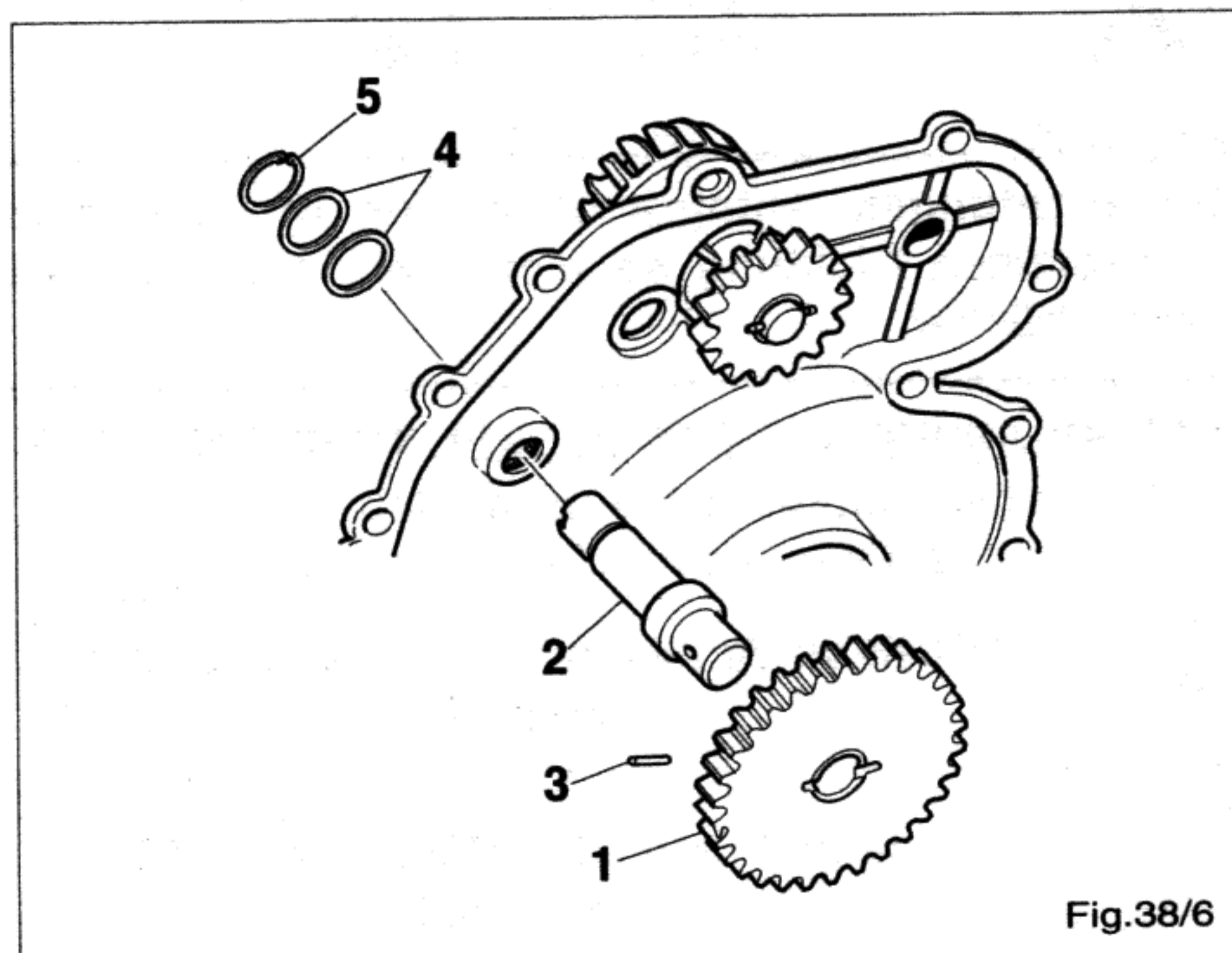


Fig.38/6

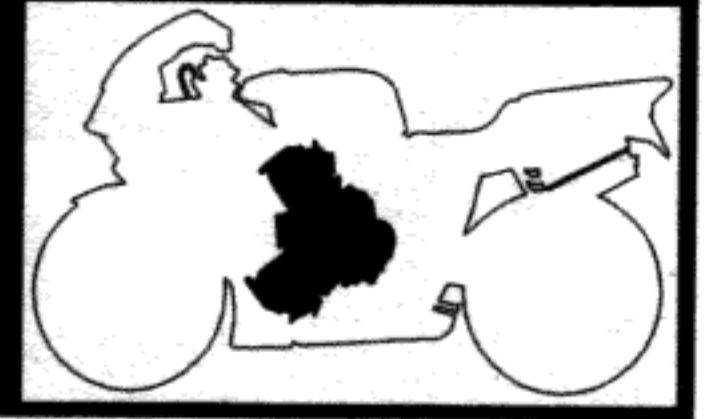
## BAX02 - MONTAGGIO INGRANAGGIO POMPA OLIO

- Inserire:  
ingranaggio "1" sull'albero "2"  
spina "3" nella sede
- albero con ingranaggio nel carter  
rasamenti "4" (spessore 0,5 - Qt.2)
- Installare:  
anello seeger "5"
- Verificare:  
gioco assiale dell'albero pompa olio



Gioco assiale albero pompa olio:  
0,2 ~0,55 mm. (0,008 ~ 0,021 in)





### CBX03 - ASSEMBLY WATER PUMP

1. Install:
  - gear "1" on shaft "2"
  - pin "3" on the side
  - shaft with gear on the cover
  - shim "4" ( 0,5 mm.)
2. Install:
  - seeger ring "5"
  - oil seal "6"

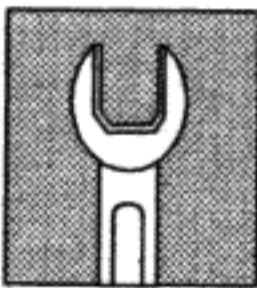
#### NOTE:

The oil seal are to be fitted according to the direction indicated in figure with earthenware side toward outside.

Tighten:  
rotor "7" (water pump)



Paste for threads Loxeal 83-21



Rotor water pump:  
7 Nm ( 0,7 Kg · m - 5,0 ft · lb)



Water pump locking wrench 140635

4. Inspect::  
axial clearance of water pump shaft



Limit axial clearance (water pump shaft):  
0,2 ~0,5 mm. (0,008 ~ 0,019 in)

### CBX03 - EINBAU WASSERPUMPE

1. Einbauen:
  - getriebe "1" an welle "2"
  - einlegekeite "3" (an Seite)
  - welle mit getriebe an deckel
  - Stärke "4" (0,5 mm.)
2. Einbauen:
  - seegering"5"
  - dichtringen "6"

#### HINWEIS:

Dichtringen entsprechend der in dem Bild dargestellten Richtung so montieren, mit Tonseite nach Außerhalb gelegen.

Festziehen:  
laufrad "7" (Wasserpumpe)



Paste für Gewinden Loxeal 83-21



Laufrad der Wasserpumpe:  
7 Nm ( 0,7 Kg · m - 5,0 ft · lb)



Der Wasserpump-laufrad spezielle  
Verzeuge 140635

4. Prüfen:  
Axialspiel der Wasserpumpewelle



Max. Zul.Axialspiel der Wasserpumpewelle:  
0,2 ~0,5 mm. (0,008 ~ 0,019 in)

### BAX02 - ASSEMBLY OIL PUMP GEAR

1. Install:
  - gear "1" on shaft "2"
  - pin "3" on the side
2. shaft with gear on the cover  
shim "4" ( Qt. 2 - 0,5 mm.)  
Install:  
seeger ring "5"
3. Inspect::  
axial clearance of oil pump shaft



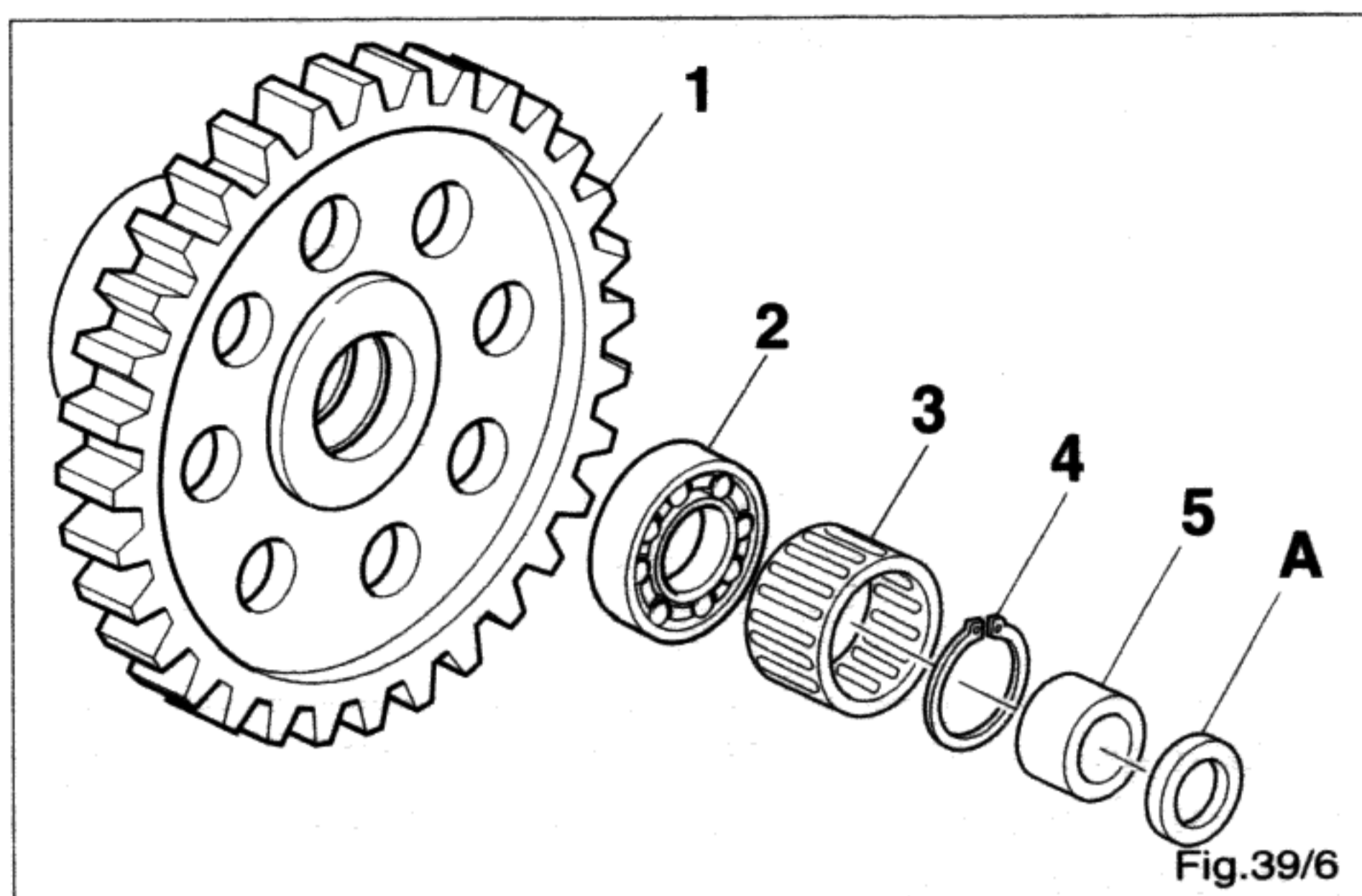
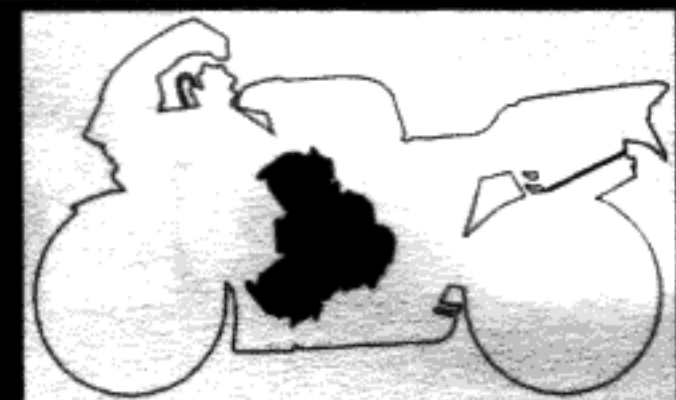
Limit axial clearance (oil pump shaft):  
0,2 ~0,55 mm. (0,008 ~ 0,021 in)

### BAX02 - EINBAU ÖLPUMPEGETRIEBE

1. Einbauen:
  - getriebe "1" an welle "2"
  - einlegekeite "3" (an Seite)
2. welle mit getriebe an deckel  
Stärke "4" (Zahl 2 - 0,5 mm.)  
Einbauen:  
seegering"5"
3. Prüfen:  
Axialspiel der Ölpumpewelle

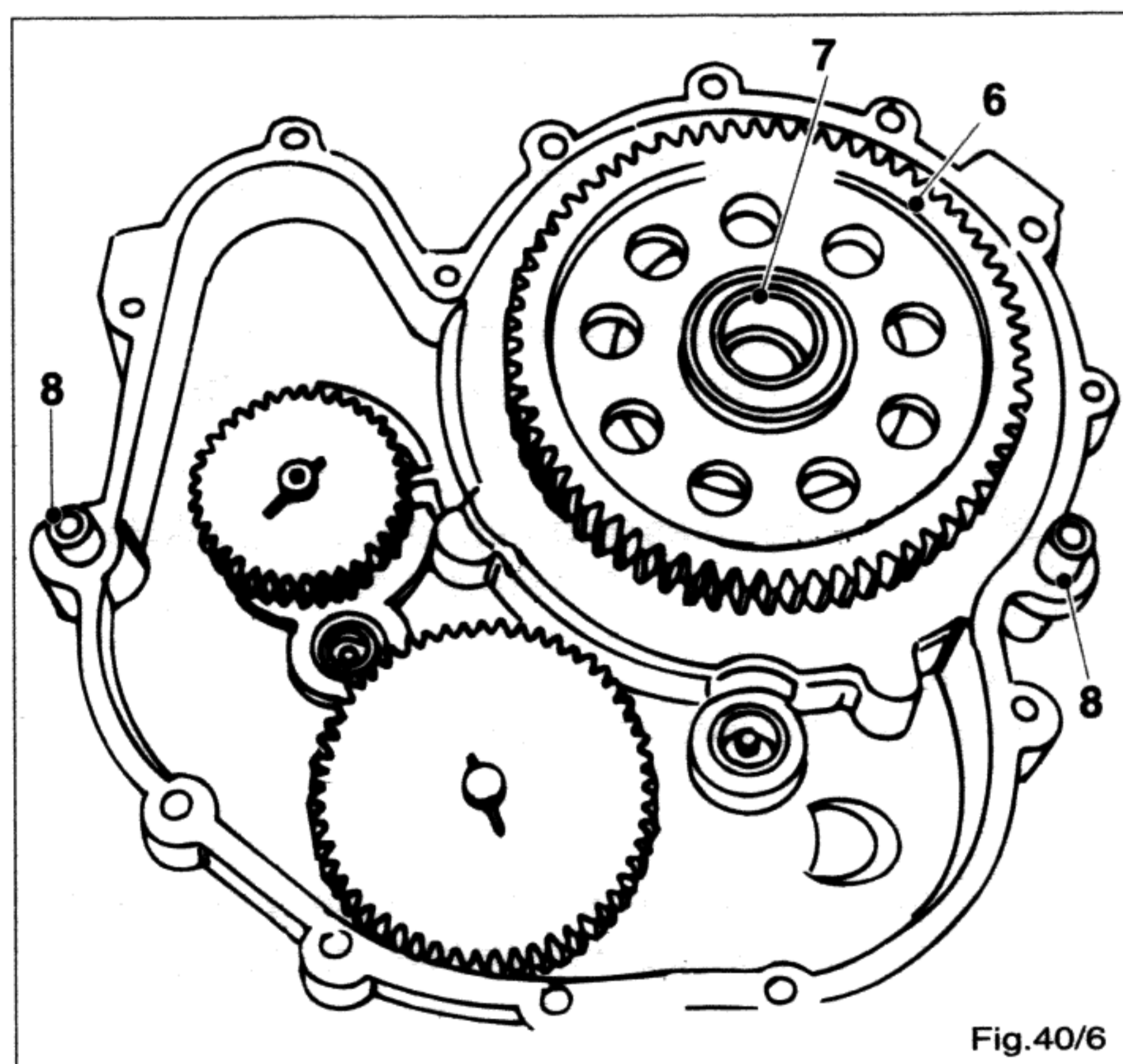


Max. Zul.Axialspiel der Ölpumpewelle:  
0,2 ~0,55 mm. (0,008 ~ 0,021 in)



### GAX02 - MONTAGGIO INGRANAGGIO FRIZIONE

1. Inserire nell'ingranaggio "1":  
cuscinetto "2"  
cuscinetto a rulli "3"  
anello seeger "4"  
anello interno "5"  
distanziale "A" (solo per motori da Nr. 001 a Nr. 600)

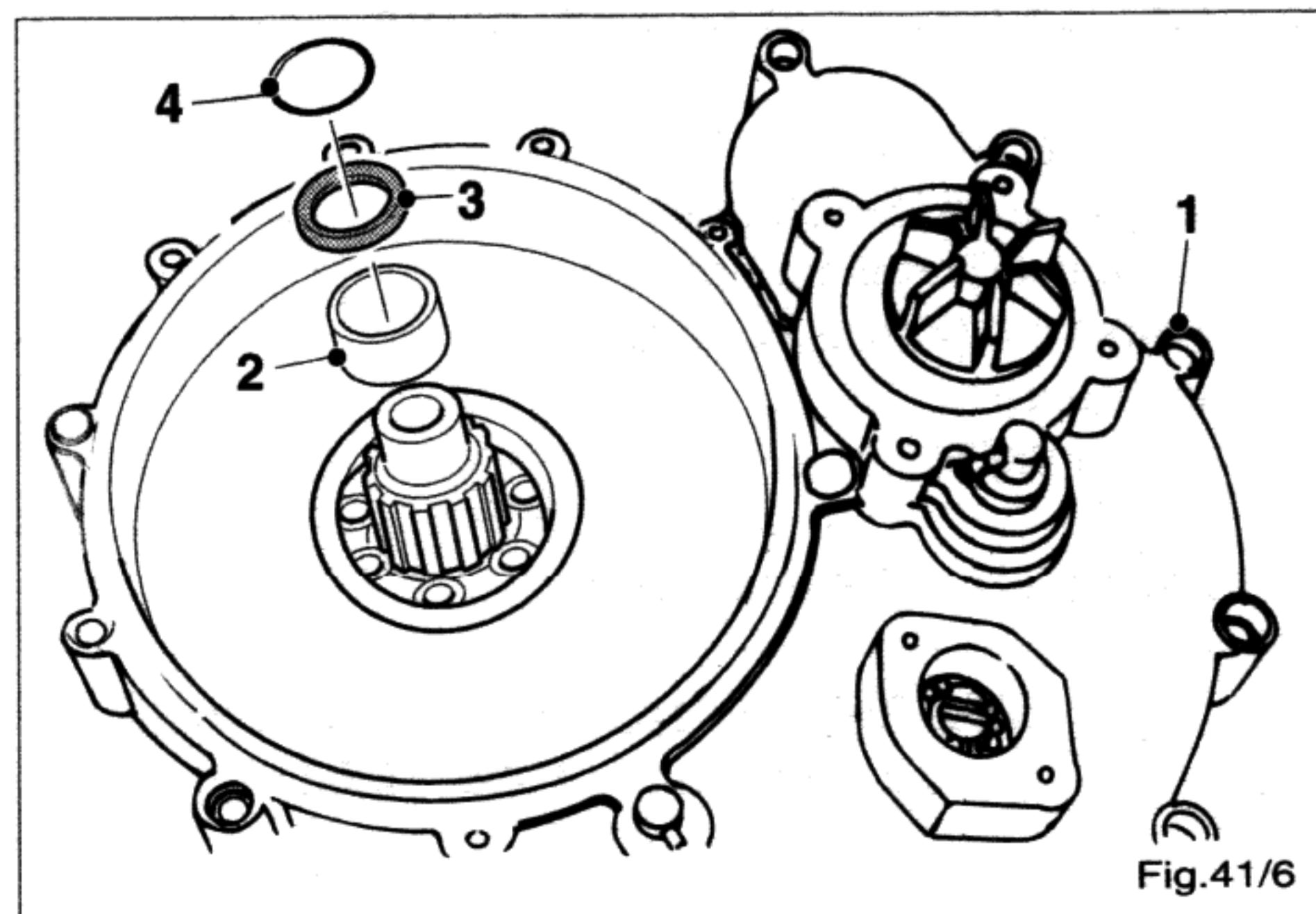


2. Inserire nel carter frizione:  
ingranaggio frizione "6" completo  
distanziale "7"
3. Applicare:  
pasta di tenuta sulla superficie interna carter frizione



**Pasta di tenuta : Loctite 510**

4. Installare:  
spine di centraggio "8" (Qt.2)

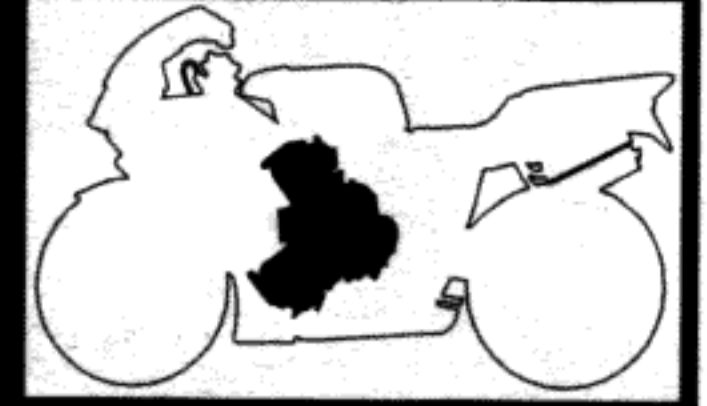


### GAX07 - MONTAGGIO CARTER FRIZIONE

1. Installare:  
carter frizione "1" completo

**NOTA:**  
Ingrassare gli alberi motore per facilitarne l'ingresso nel carter facendo attenzione a non ostruirne i fori in testa.

2. Installare:  
distanziale "2"  
anello di tenuta "3"  
anello O.R. "4"



### GAX02 - ASSEMBLY CLUTCH GEAR

1. Install on gear "1":
  - bearing "2"
  - bearing "3"
  - seeger ring "4"
  - interior ring "5"
  - spacer "A" (Assembled only engine for Nr. 001 to Nr. 600)

2. Install on clutch side cover:
  - clutch gear assy "6"
  - spacer "7"
3. Apply:
  - sealing paste on the internal surface of cluct side cover



**Sealing paste : Loctite 510**

4. Install:
  - pin "8" (Qt.2) for to centre clutch side cover

### GAX02 - EINBAU KUPPLUNGETRIEBE

1. Einbauen in getriebe "1":
  - lager "2"
  - lager "3"
  - seegering "4"
  - innering "5"
  - Distanzstück "A" (Allein Motoren von Zahl 001 an Zahl 600 einschließlich)

2. Einbauen in Deckel dem Kupplungseite:
  - Kupplungetriebe "6"
  - distanzstück "7"
3. Auftragen:
  - Dichtungspaste auf die Innenfläche des Deckel (Kupplung)



**Dichtungspaste : Loctite 510**

4. Einbauen:
  - Stift "8" (Zahl 2) mit Deckel eimettel

### GAX07 - ASSEMBLY CLUTCH SIDE COVER

1. Install:
  - clutch side cover "1"

**NOTE:** Grease the motor shafts to make the entering into the crankcase easy: do not obstructe the holes on the top end.

2. Install:
  - spacer "2"
  - circlip "3"
  - O-Ring "4"

### GAX07 - EINBAU DECKEL DEM KUPPLUNGSEITE

1. Einbauen:
  - Deckel (Kupplung) "1"

**HINWEIS:** Die Motorwellen zum leichten Eingang in den Kurbelgehäuse schmieren: die Bohrungen am Oberende nicht verstopfen.

2. Einbauen:
  - distanzstück "2"
  - sprengringe "3"
  - O-Ringe "4"

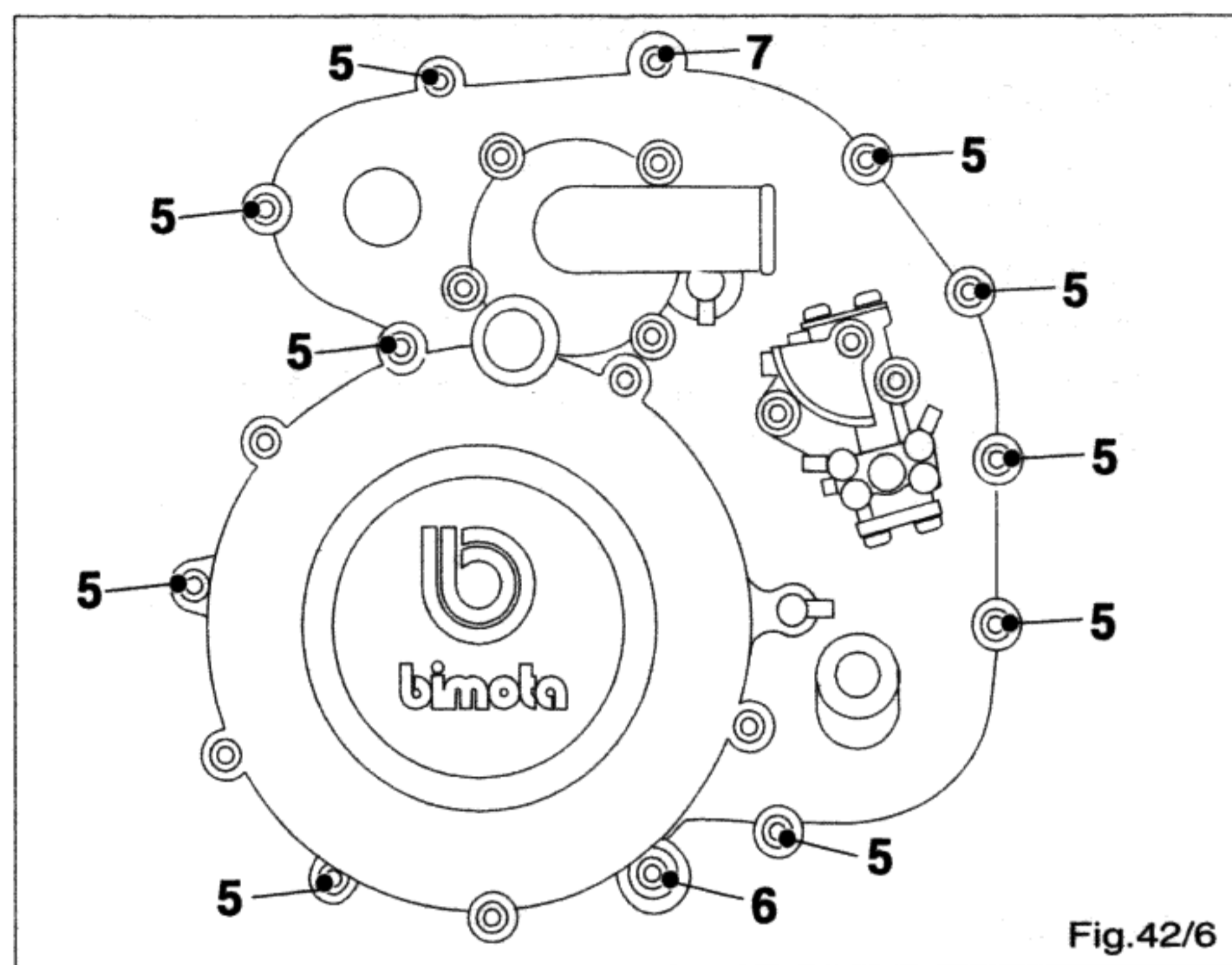
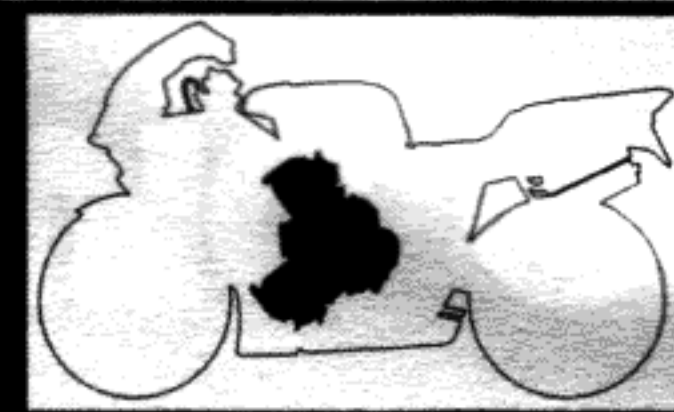
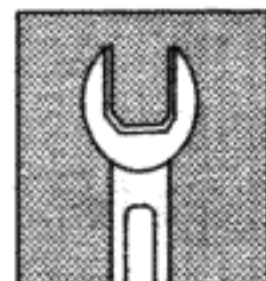


Fig.42/6

3. Serrare:  
viti "5" (TCEI M 6 x 40 - Qt.10)  
vite "6" (TCEI M 6 x 55 )  
vite "7" (TCEI M 6 x 120 )



**Viti fissaggio carter frizione:**  
**8~10 Nm ( 0,8~1 Kg · m - 8,75~7 ft · lb)**

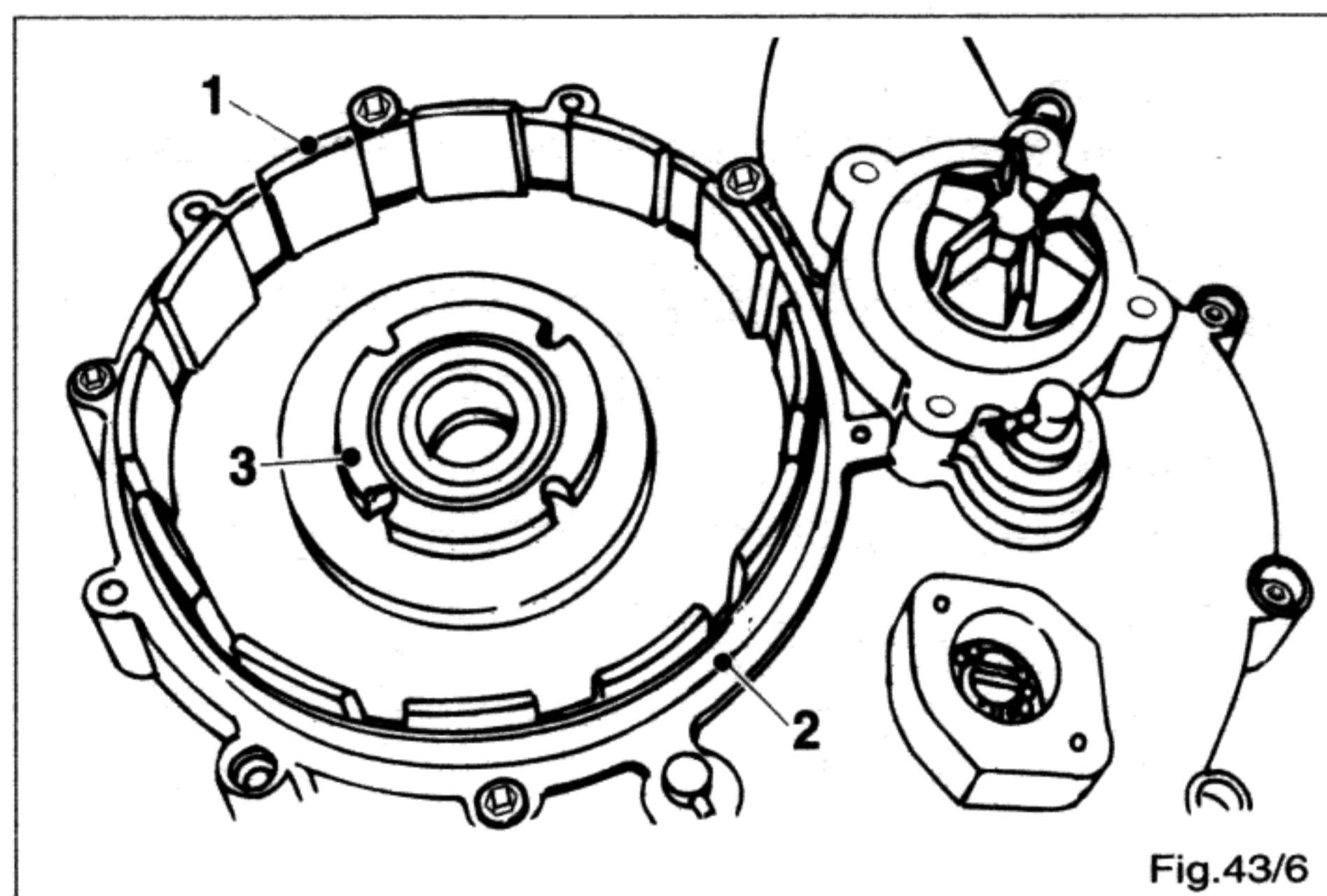


Fig.43/6

**GAX01 - MONTAGGIO ELEMENTI FRIZIONE**

**NOTA:**

**Tutti i particolari che compongono la frizione devono essere asciutti al momento del loro montaggio.**

1. Inserire campana frizione "1":  
anello "2"
2. Inserire:  
campana frizione "1" (con anello montato)

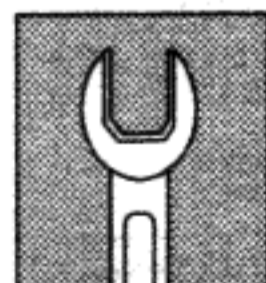
**NOTA:**

**Ingrassare l'anello O.R. montato sull'albero primario per facilitare l'inserimento della campana frizione.**

3. Serrare:  
ghiera "3"



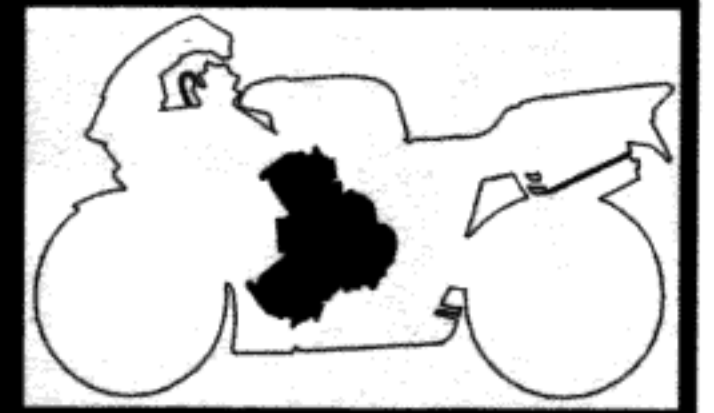
**Frenafiletta Loxeal 83-21**



**Ghiera bloccaggio campana frizione:**  
**100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)**

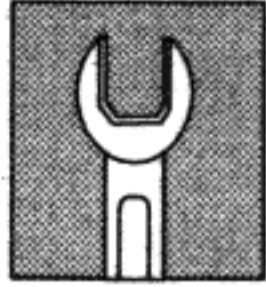


**Chiave fermo ghiera frizione 140629**



3. Tighten:

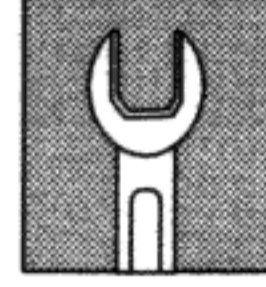
- screws "5" (TCEI M 6 x 40 - Qt.10)
- screw "6" (TCEI M 6 x 55 )
- screw "7" (TCEI M 6 x 120 )



**Screws to fix clutch side cover:**  
8~10 Nm ( 0,8~1 Kg · m - 8,75~7 ft · lb)

3. Festziehen:

- schrauben "5" (TCEI M 6 x 40 - Zahl 10)
- schraube "6" (TCEI M 6 x 55 )
- schraube "7" (TCEI M 6 x 120 )



**Schrauben für Deckel (Kupplung) festmacher:**  
8~10 Nm ( 0,8~1 Kg · m - 8,75~7 ft · lb)

**GAX01 - CLUTCHING ELEMENTS FITTING**

**NOTE:**

**Make sure that all parts of the clutch are dry before their fitting.**

1. Install on clutch housing "1":  
ring "2"
2. Install:  
clutch housing "1" (whit ring)

**NOTE:**

**Grease O.Ring to fix on primary shaft of trasmission to make clutch housing fitting easy.**

**GAX01 - MONTAGE DER KUPPLUNGSELEMENTE**

**HINWEIS:**

**Sich vergewissern, dass alle Bestandteile der kupplung während ihrer Montage trocken sind.+**

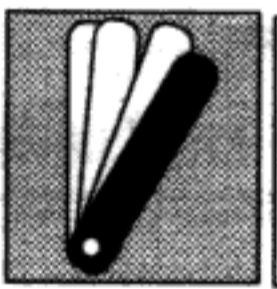
1. Einbauen an Kupplungsgehäuse "1":  
ring "2"
2. Einbauen:  
kupplungsgehäuse "1" (mit ring)

**HINWEIS:**

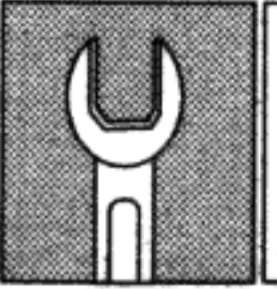
**O. Ring, für Zweitwelle (Wechselgetriebe), schmiere un Kupplungehäuse Montage zu erleichtern.**

Tighten:

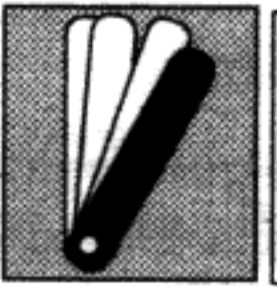
3. ring nut "3"



**Paste for threads Loxeal 83-21**



**Ring nut (Clutch housing):**  
100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)



**Clutch ring nut retainer wrench 140629**

Festziehen:

- nutmutter"3"



**Paste für Gewinden Loxeal 83-21**



**Nutmutter der Kupplunggehäuse:**  
100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)



**Der Nutmutter spezielle Verzeuge 140629**

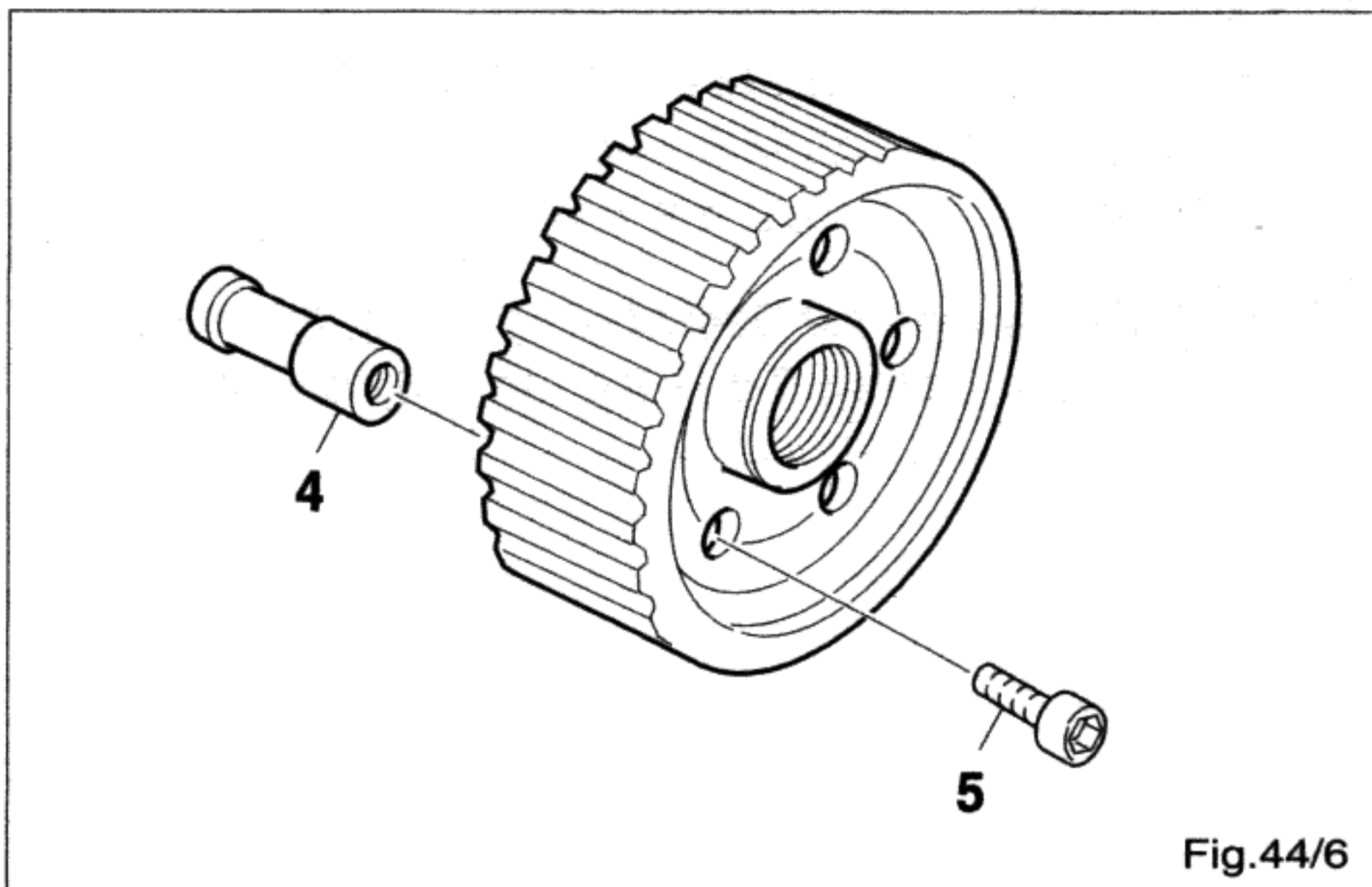
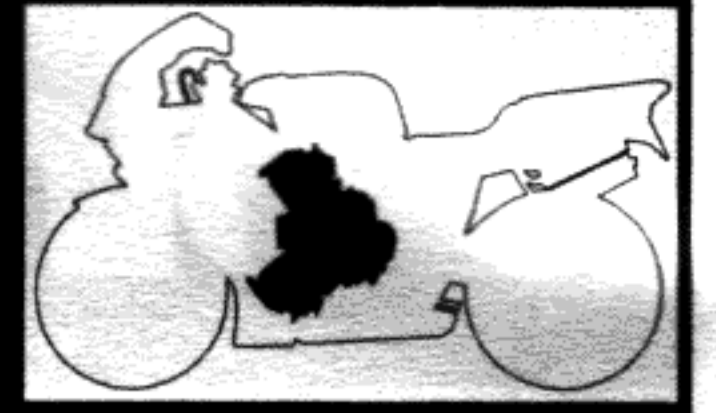
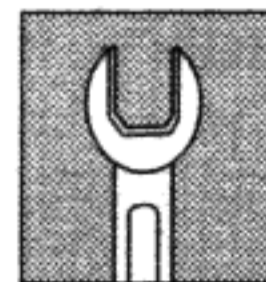


Fig.44/6

3. Serrare:  
vite "5" (TCEI M 6 x 16 - Qt.6)

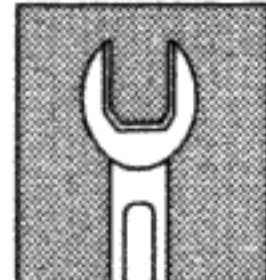


**Viti bloccaggio colonnette tamburo frizione:**  
8~10 Nm ( 0,8~1 kg·m - 5,73~7,23 ft · lb)

colonnette "4" (Qt.6)



**Frenafretti Loxeal 83-21**



**Colonnette tamburo frizione:**  
8~10 Nm ( 0,8~1 kg·m - 5,73~7,23 ft · lb)

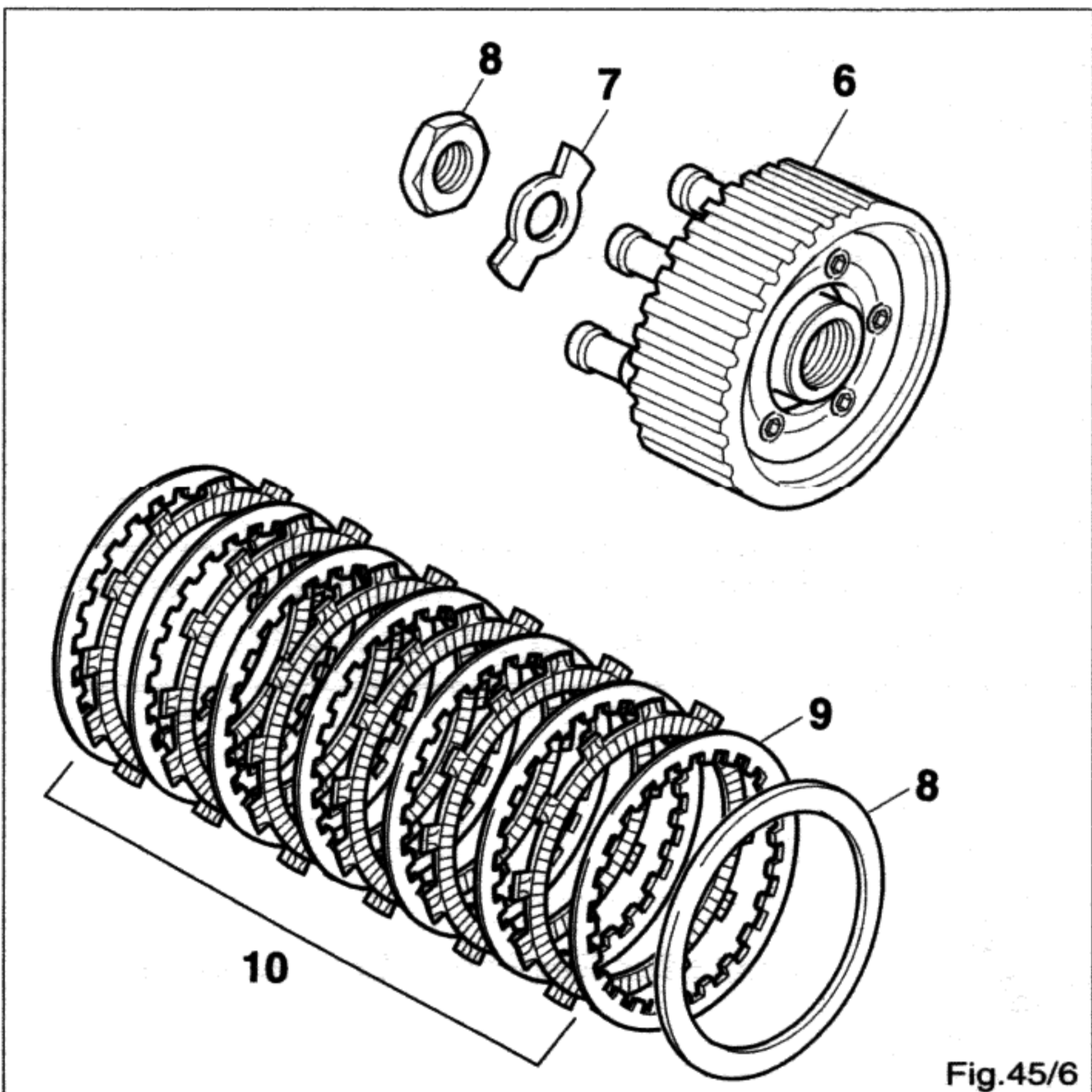
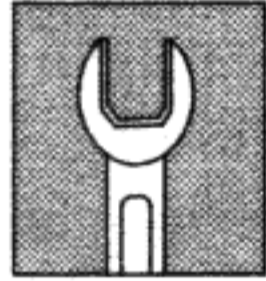


Fig.45/6

4. Installare:  
tamburo "6" completo  
ranella ferma-dado "7"

5. Serrare:  
dado "8"



**Dado bloccaggio tamburo frizione:**  
100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)



**Chiave fermo tamburo frizione 140640**

6. Piegare:  
ranella "7"

**NOTA:**  
Piegare ranella sul tamburo nell'apposita fresatura che coincide con il riferimento di fase segnato sul tamburo. Piegare l'altra aletta sul dado.

7. Installare:  
molla di carico "8"

**NOTA:**  
La molla di carico va montata nel verso indicato in figura.

disco dentellato "9" (spessore 1,9)  
dischi frizione "10" intervallati  
(Qt.6 - sinterizzati dentatura esterna)  
(Qt.6 - dentatura interna)

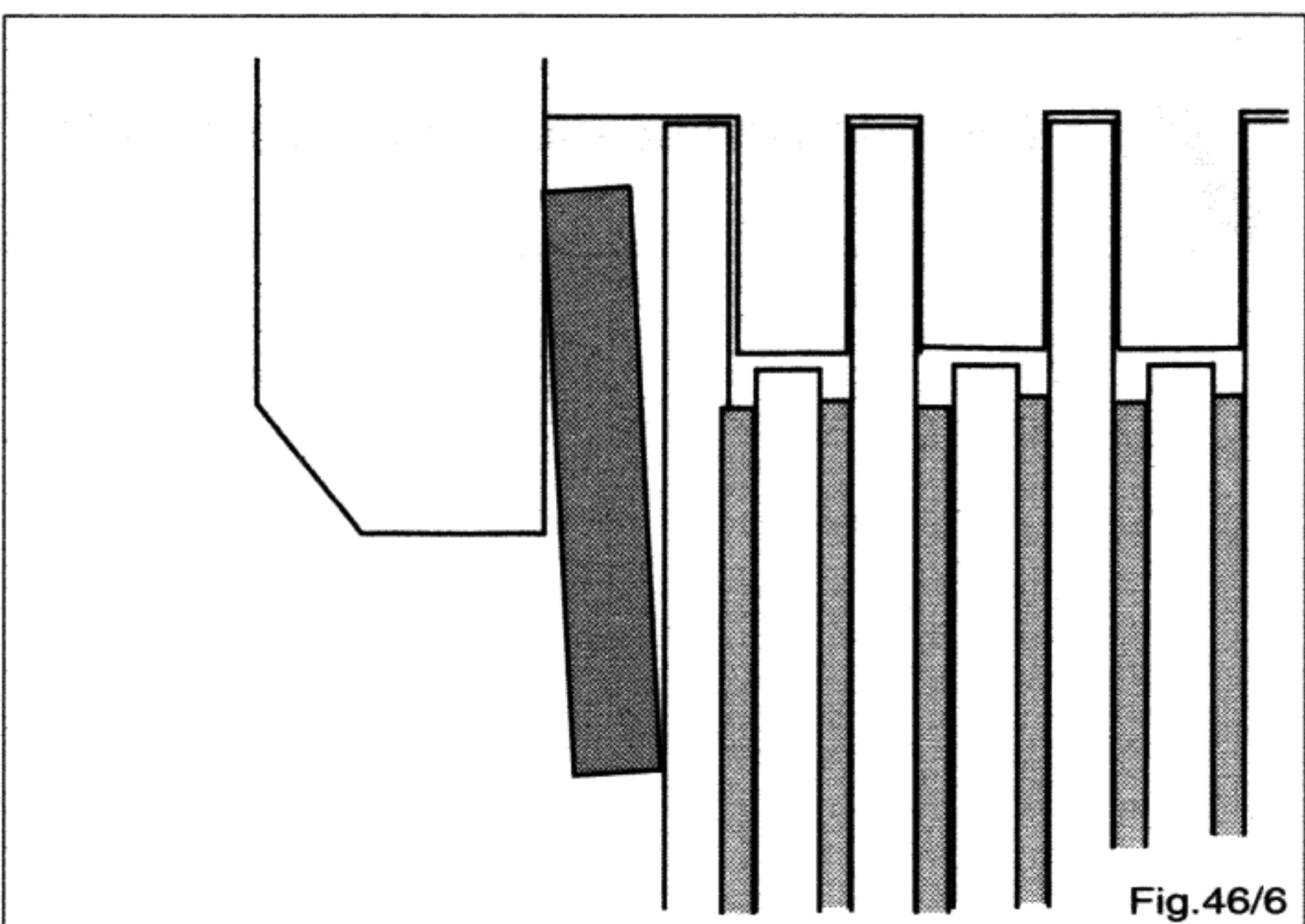
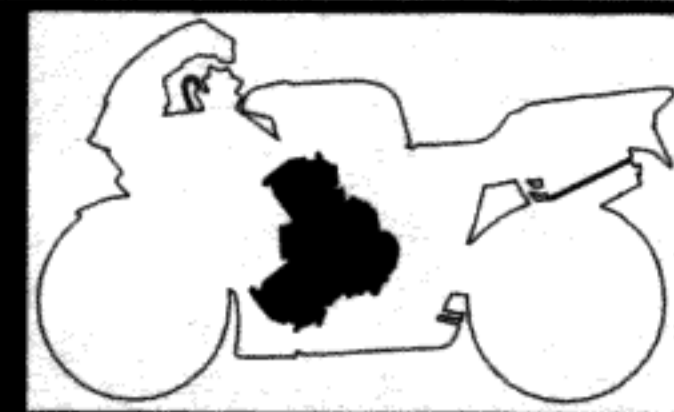
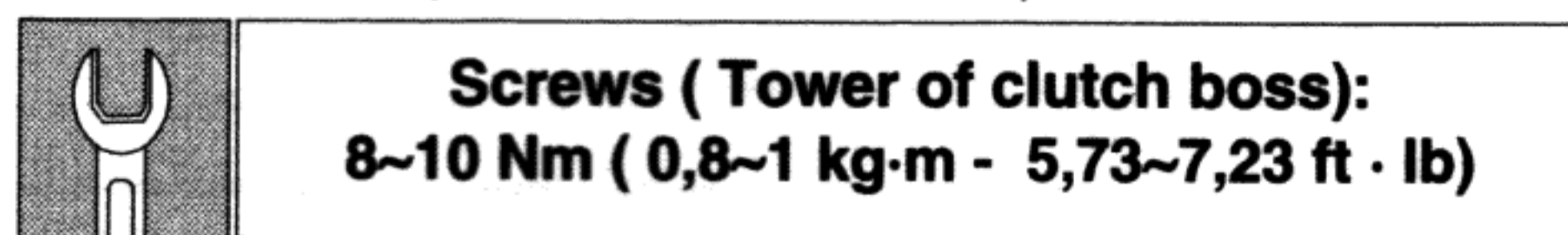


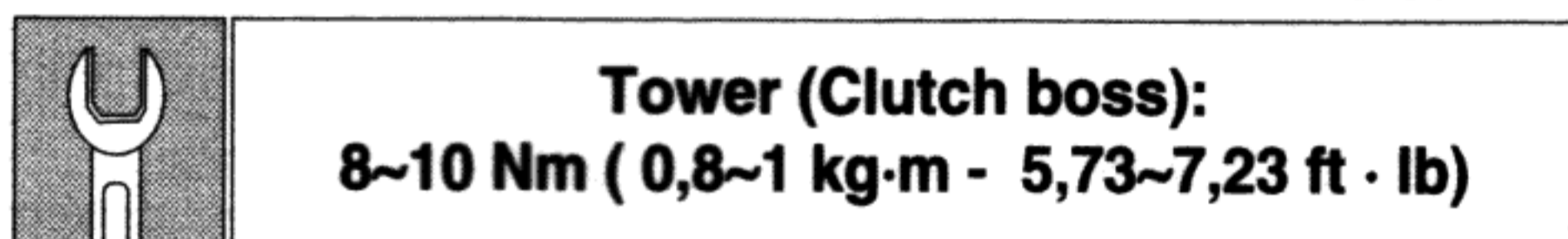
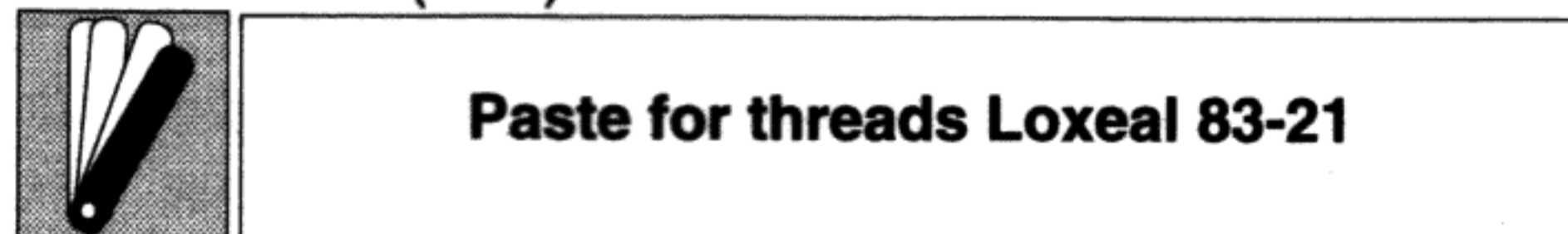
Fig.46/6



3. Tighten:  
screw "5" (TCEI M 6 x 16 - Qt.6 )

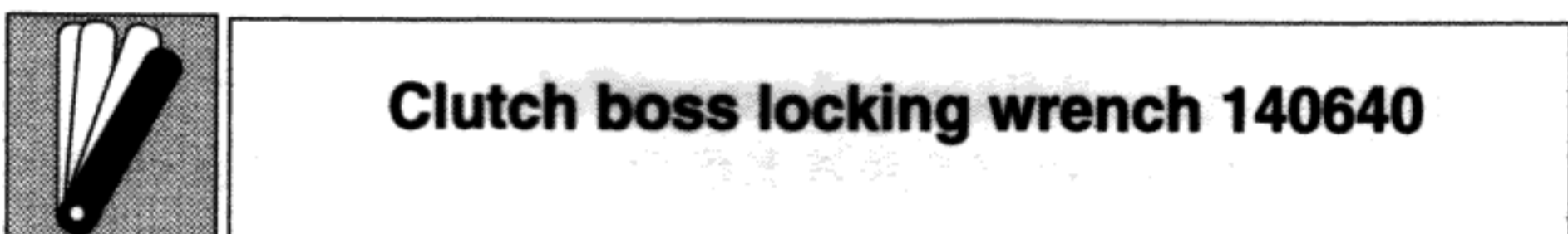
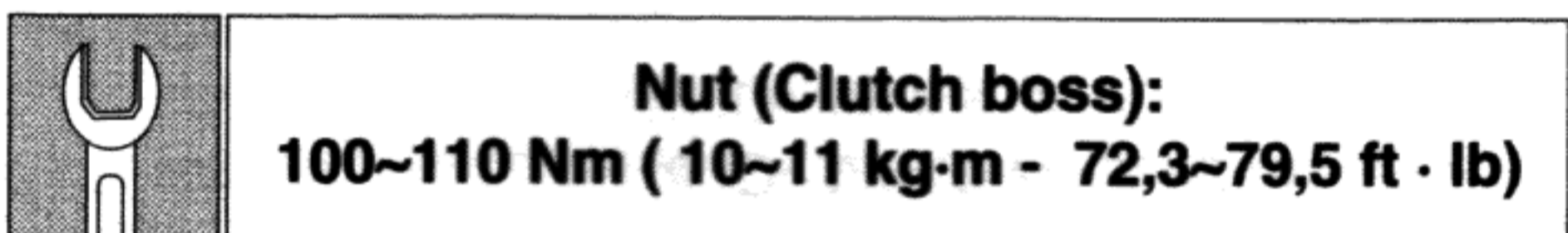


tower "4" (Qt.6)



4. Install:  
clutch boss "6"  
lock washer tab "7"

5. Tighten:  
nut "8"



6. Bend:  
washer "7"

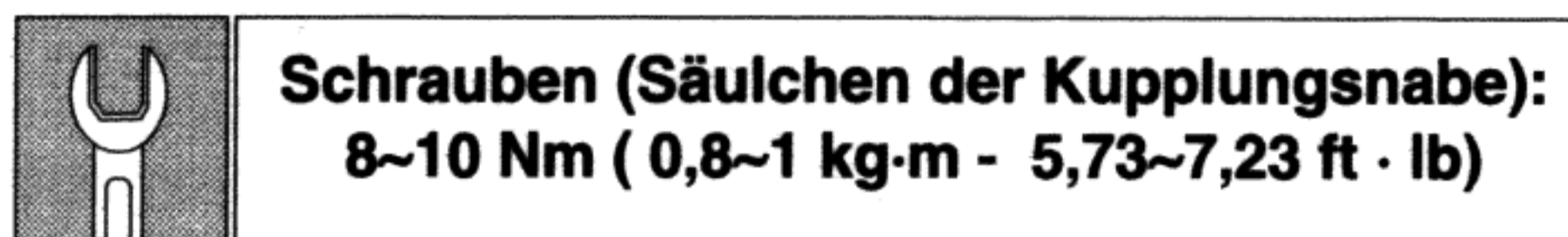
**NOTE:**  
Bend the washer on the drum in the proper milled part which coincides with the phase reference marked on the drum. Bend the other wing on the nut.

7. Install:  
friction plates "8"

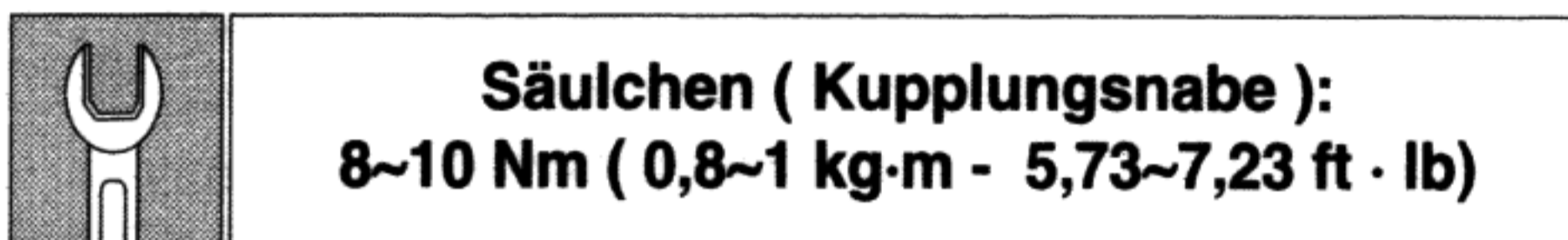
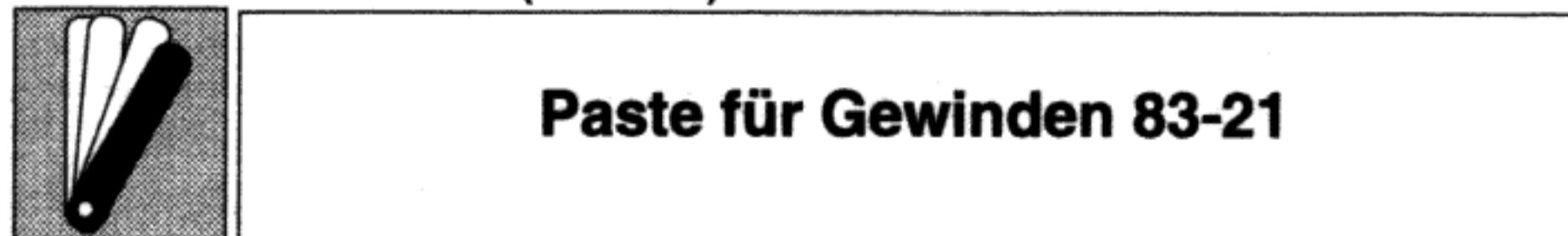
**NOTE:**  
The friction plate are to be fitted according to the direction indicated in figure.

clutch plate "9" (1,9 mm.)  
pressure plate "10" spaced  
(Qt.6 - sintered whit external toothing)  
(Qt.6 - whit internal toothing)

3. Festziehen:  
schrauben "5" (TCEI M 6 x 16 - Zahl 6 )

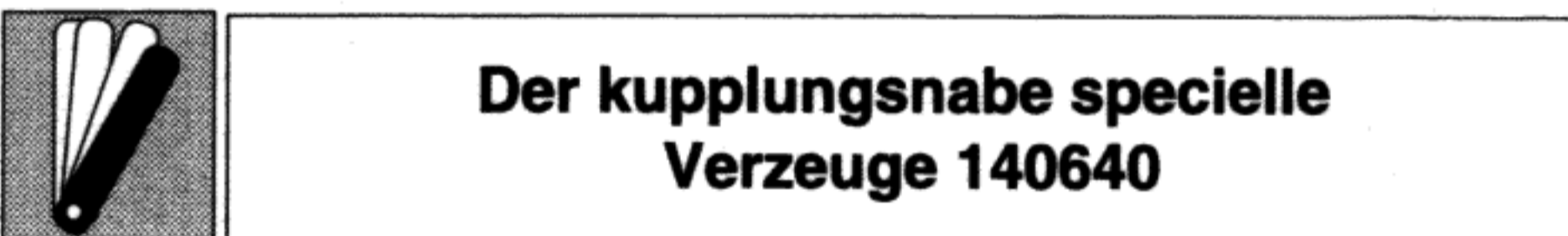
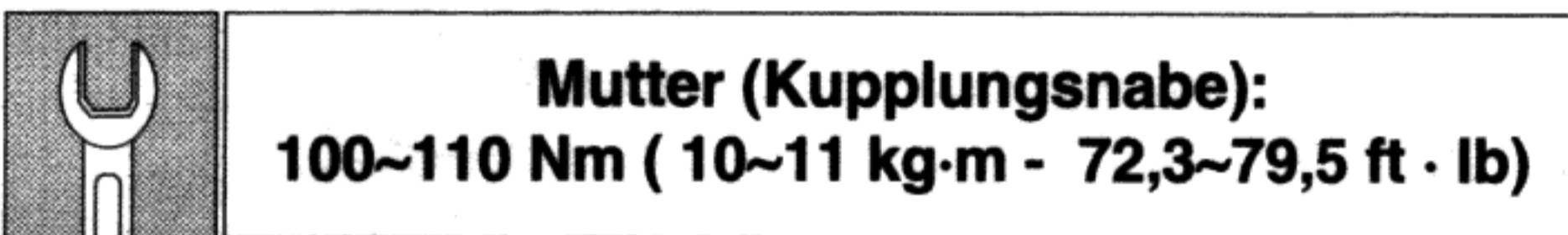


Säulchen "4" (Zahl 6)



4. Einbauen:  
Kupplungsnahe "6"  
Lasche der Sicherungsscheibe "7"

5. Festziehen:  
mutter "8"



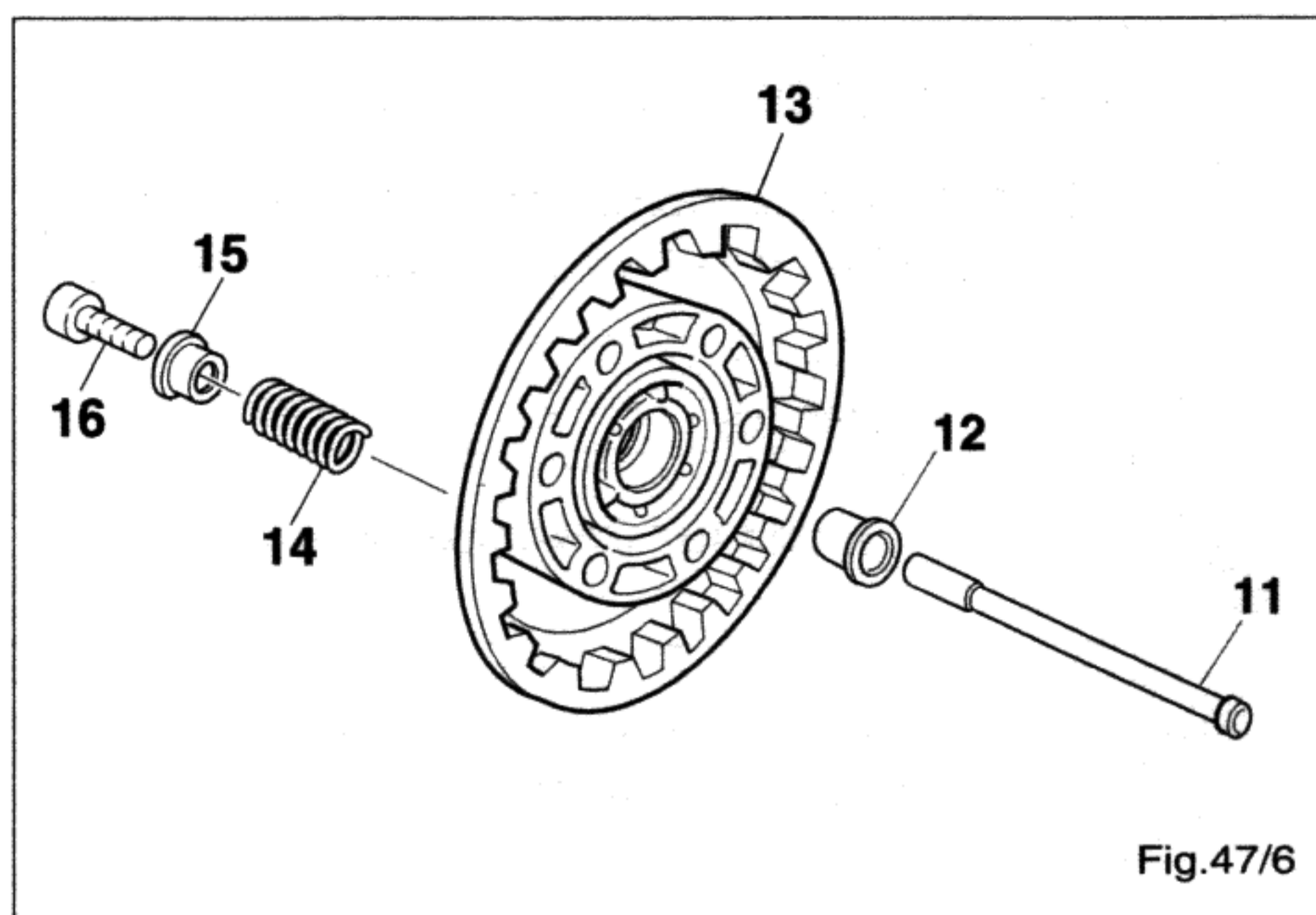
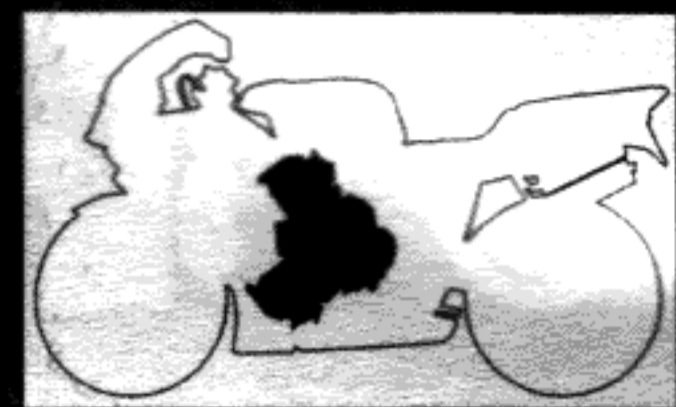
6. Biegen:  
scheibe "7"

**HINWEIS:**  
Scheibe auf dem Trommel in dem zweckmässigen gefrästen Teil, der mit dem Phasenbezugzeichen auf dem Trommel zusammenfällt, biegen. Den anderen Lappen auf der Mutter biegen.

7. Einbauen:  
reibrscheibe "8"

**HINWEIS:**  
reibrscheibe entsprechend der in dem Bild dargestellten Richtung so montieren.

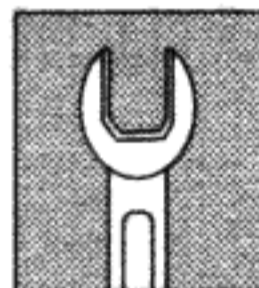
kupplungscheiben "9" (1,9 mm.)  
andruckscheibe "10" in Abständen  
(Zahl 6 - gesintert mit Aussenverzahnung)  
(Zahl 6 - mit Innerverzahnung)



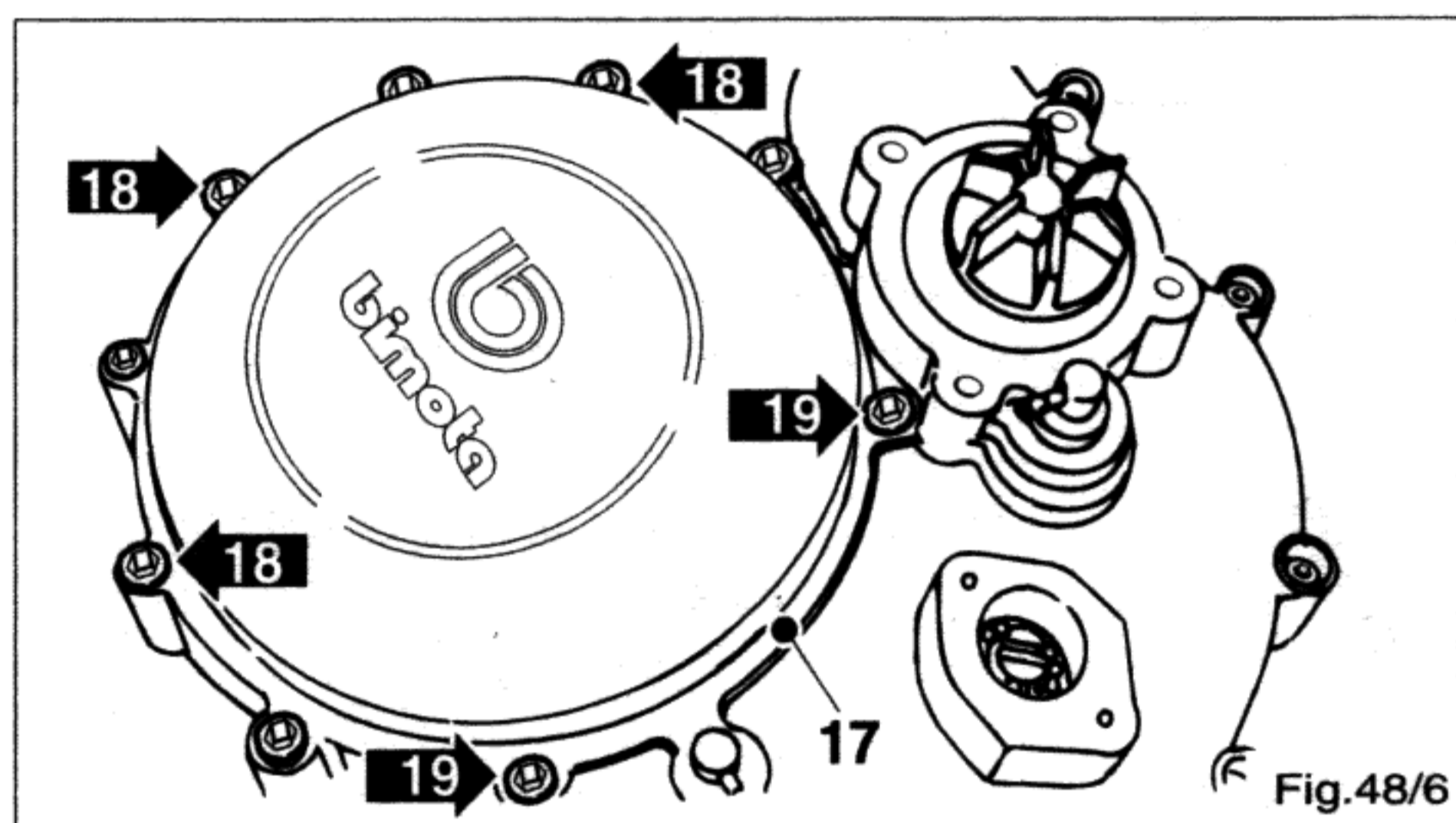
8. Installare:  
asta comando frizione "11"  
piatello "12"  
piattello spingidisco "13"

**NOTA:**  
**Montare il piattello spingidisco in fase con il tamburo frizione allineando i rispettivo riferimenti.**

9. Installare:  
molle "14" (Qt. 6)  
bicchierino "15" (Qt.6)  
10. Serrare:  
viti "16" (Qt.6)



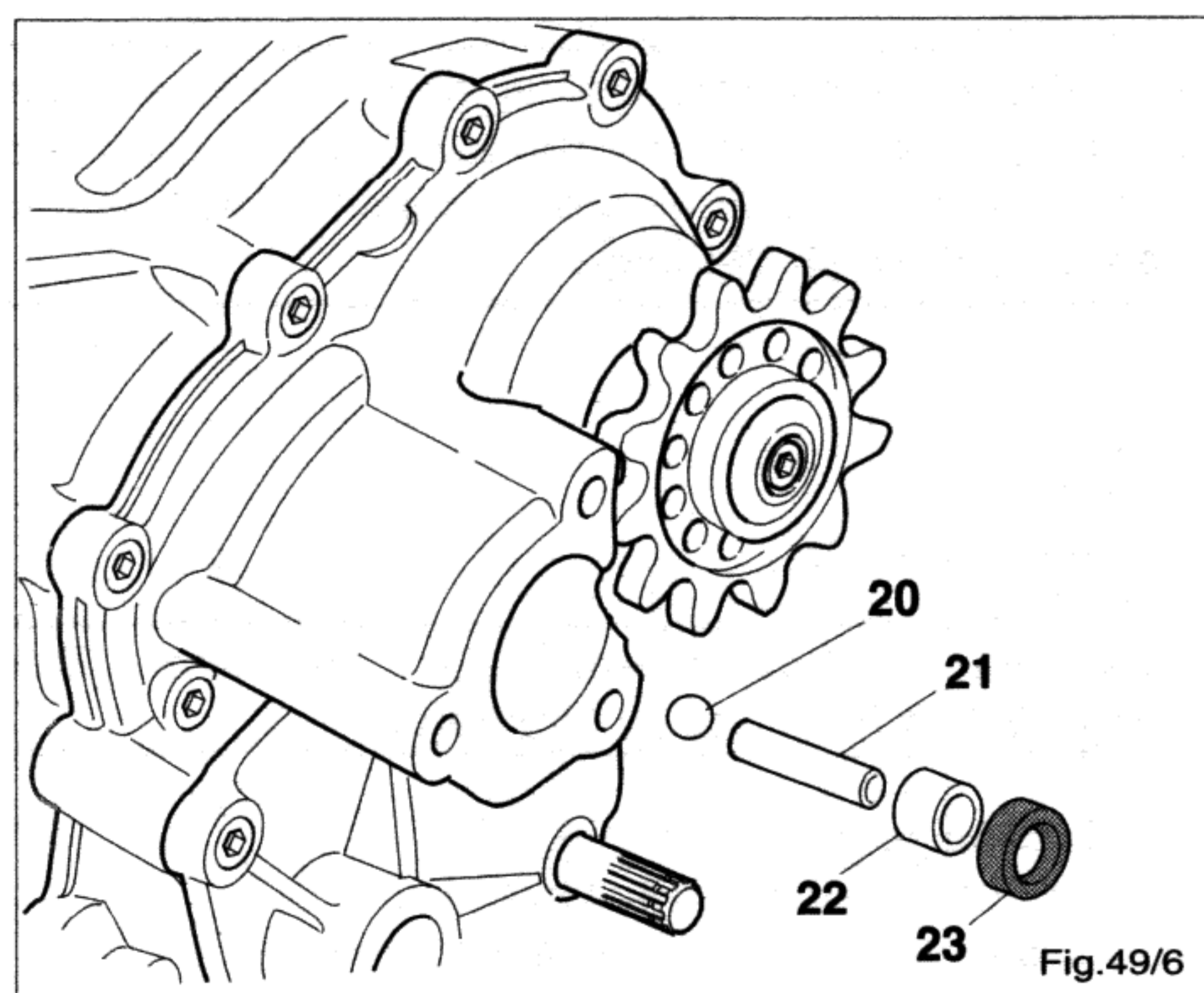
**Viti spingidisco frizione:**  
**8~10 Nm ( 0,8~1 Kg · m - 5,78~7,23 ft · lb)**



11. Installare:  
guarnizione  
coperchio "17" frizione  
12. Serrare:  
viti "18" (TCEI M 6 x 55 - Qt.3)  
viti "19" (TCEI M 6 x 20 - Qt.2)

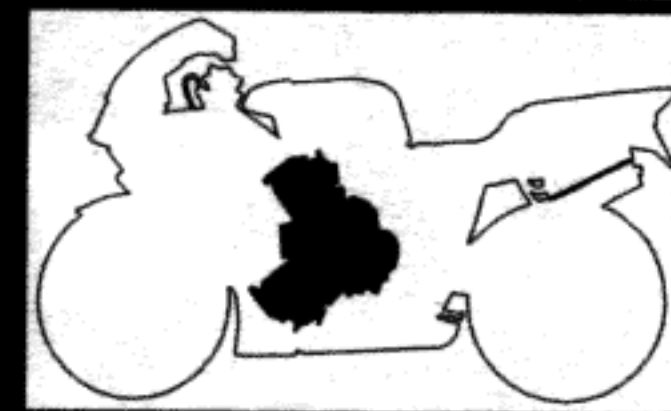


**Viti fissaggio coperchio frizione:**  
**8~10 Nm ( 0,8~1 Kg · m - 5,78~7,23 ft · lb)**



13. Installare:  
sfera "20"  
terminale "21" asta frizione  
boccola "22"  
anello di tenuta "23"



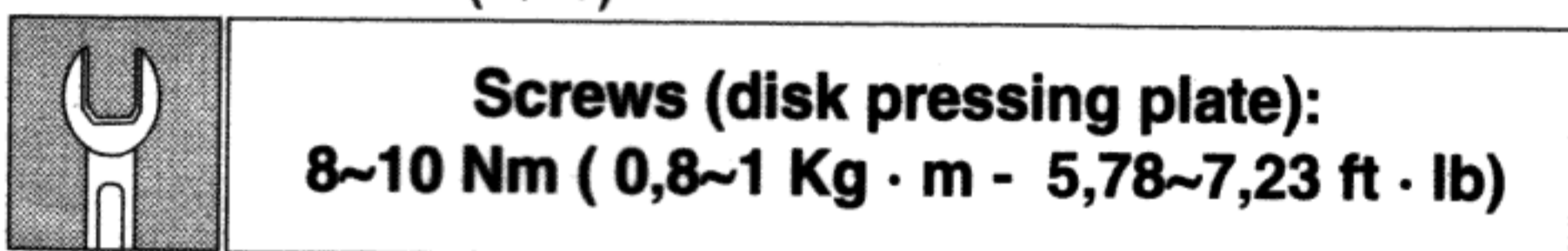


8. Install:  
push rod control clutch "11"  
plate "12"  
disk pressing plate "13"

**NOTE:**  
**Fit the disk pressing plate in phase with the clutch drum by aligning the relative reference elements.**

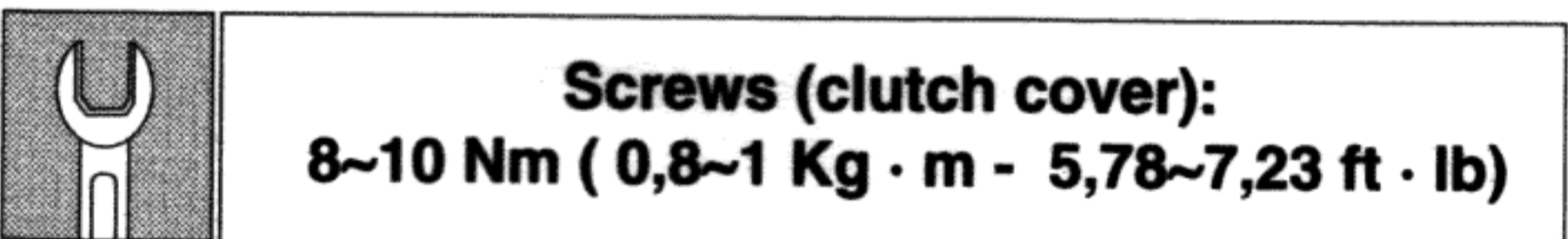
9. Install:  
springs "14" (Qt. 6)  
cup "15" (Qt.6)

10. Tighten:  
screws "16" (Qt.6)



11. Install:  
gasket  
clutch cover "17"

12. Tighten:  
screws "18" (TCEI M 6 x 55 - Qt.3)  
screws "19" (TCEI M 6 x 20 - Qt.2)



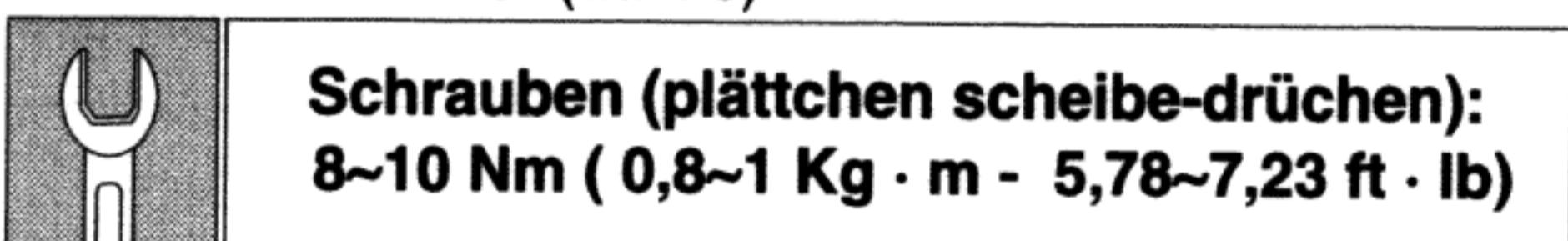
13. Install:  
ball "20"  
end "21" (push rod)  
bush "22"  
circlip "23"

8. Einbauen:  
stosstange "11"  
plättchen "12"  
plättche scheibe-drüchen "13"

**HINWEIS:**  
**Teller, der die Scheibe schiebt, in Phase mit dem Kupplungstrommel montieren durch Ausrichtung der betreffenden Bezugzeichen.**

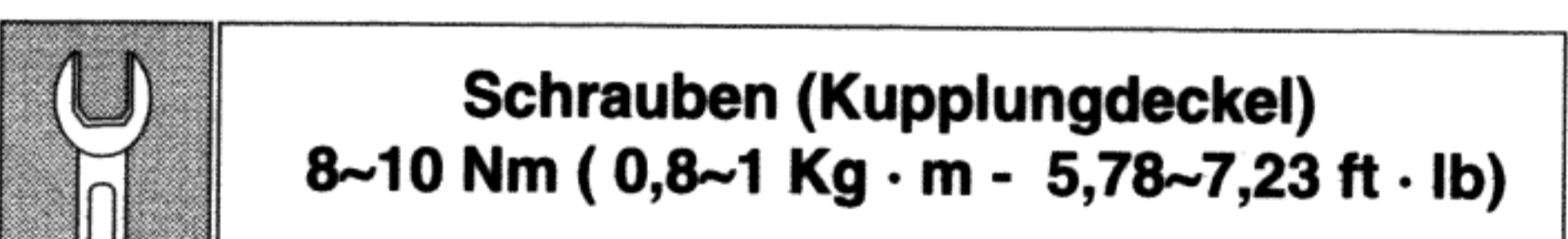
9. Einbauen:  
feder "14" (Zahl 6)  
teller "15" (Zahl 6)

10. Festziehen:  
schrauben "16" (Zahl 6)

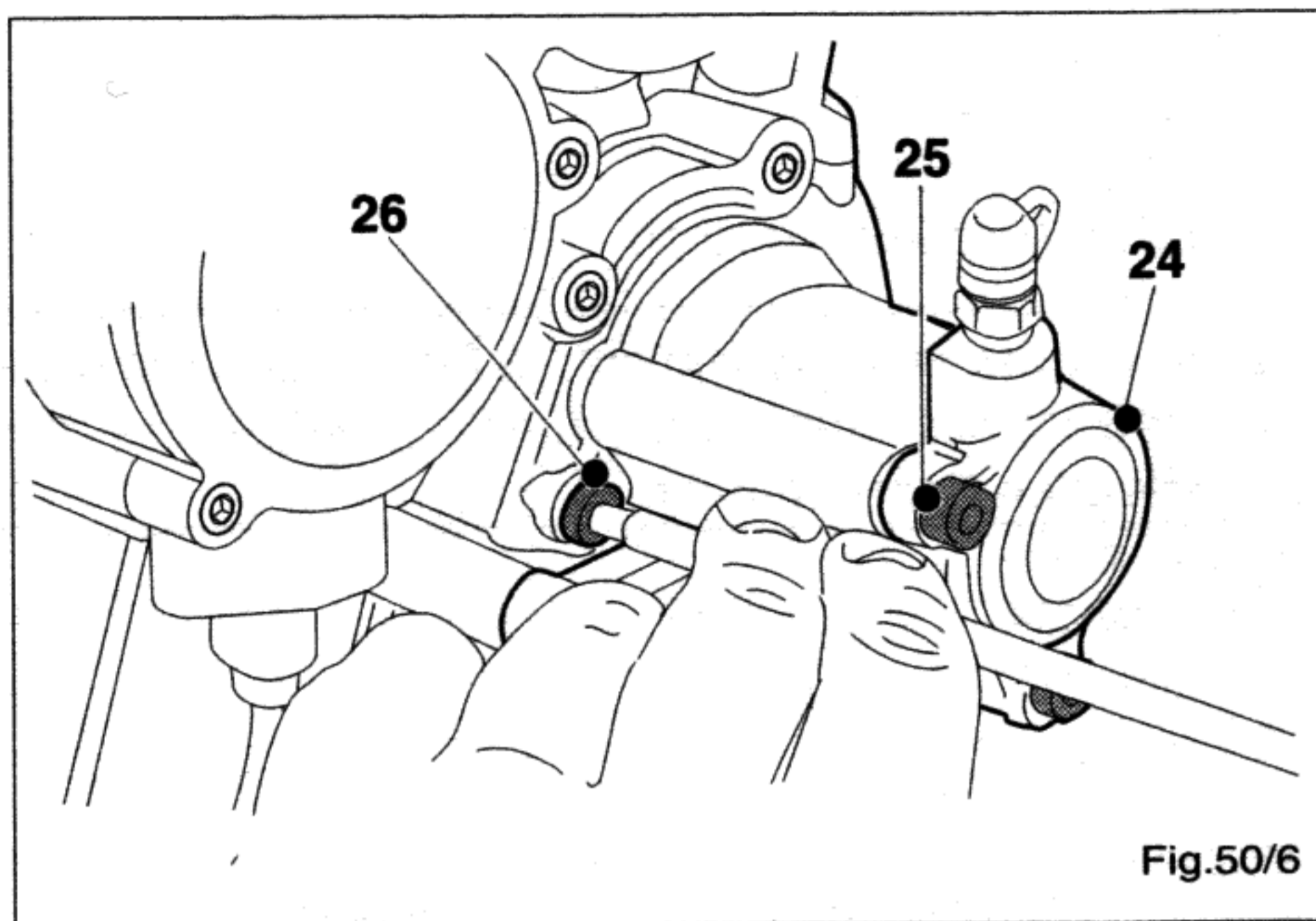
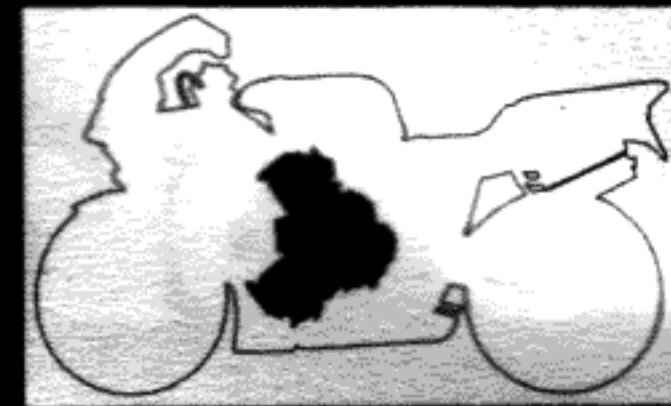


11. Einbauen:  
dichtung  
Kupplungsdeckel "17"

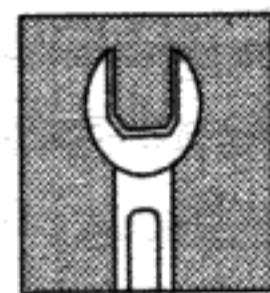
12. Festziehen:  
schrauben "18" (TCEI M 6 x 55 - Zahl 3)  
schrauben "19" (TCEI M 6 x 20 - Zahl 2)



13. Einbauen:  
kugel "20"  
endstosstange "21"  
buchse "22"  
sprengringe "23"

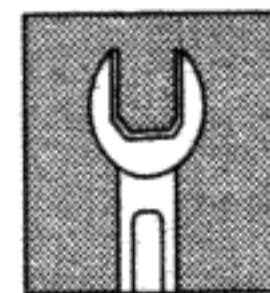


14. Installare:  
cilindro comando frizione "24"  
Serrare:  
viti "25" (TCEI M 6 x 20 - Qt.3)

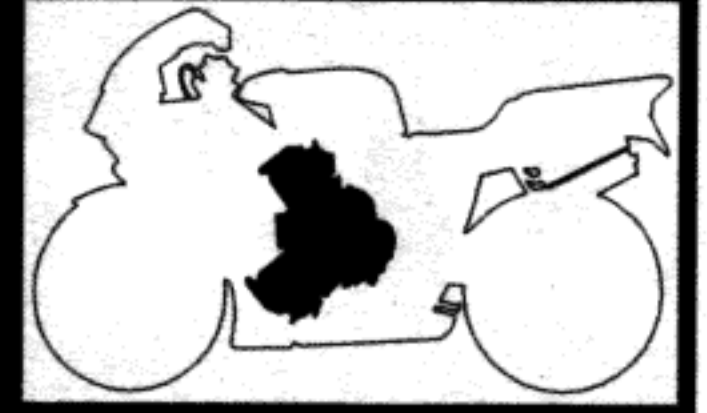


**Viti cilindro comando frizione:**  
8~10 Nm ( 0,8~1 Kg · m - 5,78~7,23 ft · lb)

- Serrare:  
vite "26" (TCEI M 6 x 10 con ranella in rame ) livello olio



**Vite livello olio motore:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

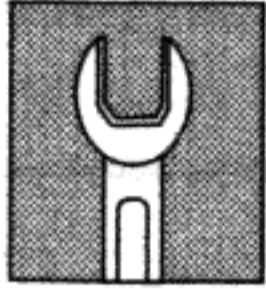


14. Install:

cylinder "24" control clutch

Tighten:

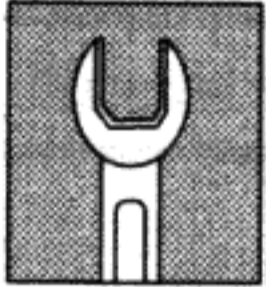
screws "25" (TCEI M 6 x 20 - Qt.3)



**Screws (cylinder control clutch):**  
8~10 Nm ( 0,8~1 Kg · m - 5,78~7,23 ft · lb)

Tighten:

screw "26" (TCEI M 6 x 10 whit copper washer) of oil level



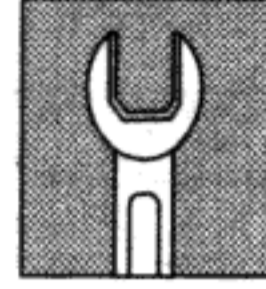
**Oil level screw**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

14. Einbauen:

Zylinder "24" Kupplungshebel

Festziehen:

schrauben "25" (TCEI M 6 x 20 - Zahl 3)



**Schrauben (Zylinder Kupplungshebel):**  
8~10 Nm ( 0,8~1 Kg · m - 5,78~7,23 ft · lb)

Festziehen:

schraube "26" Ölstand (TCEI M 6 x 10 mit Küpferscheibe)



**Schraube Ölstand:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

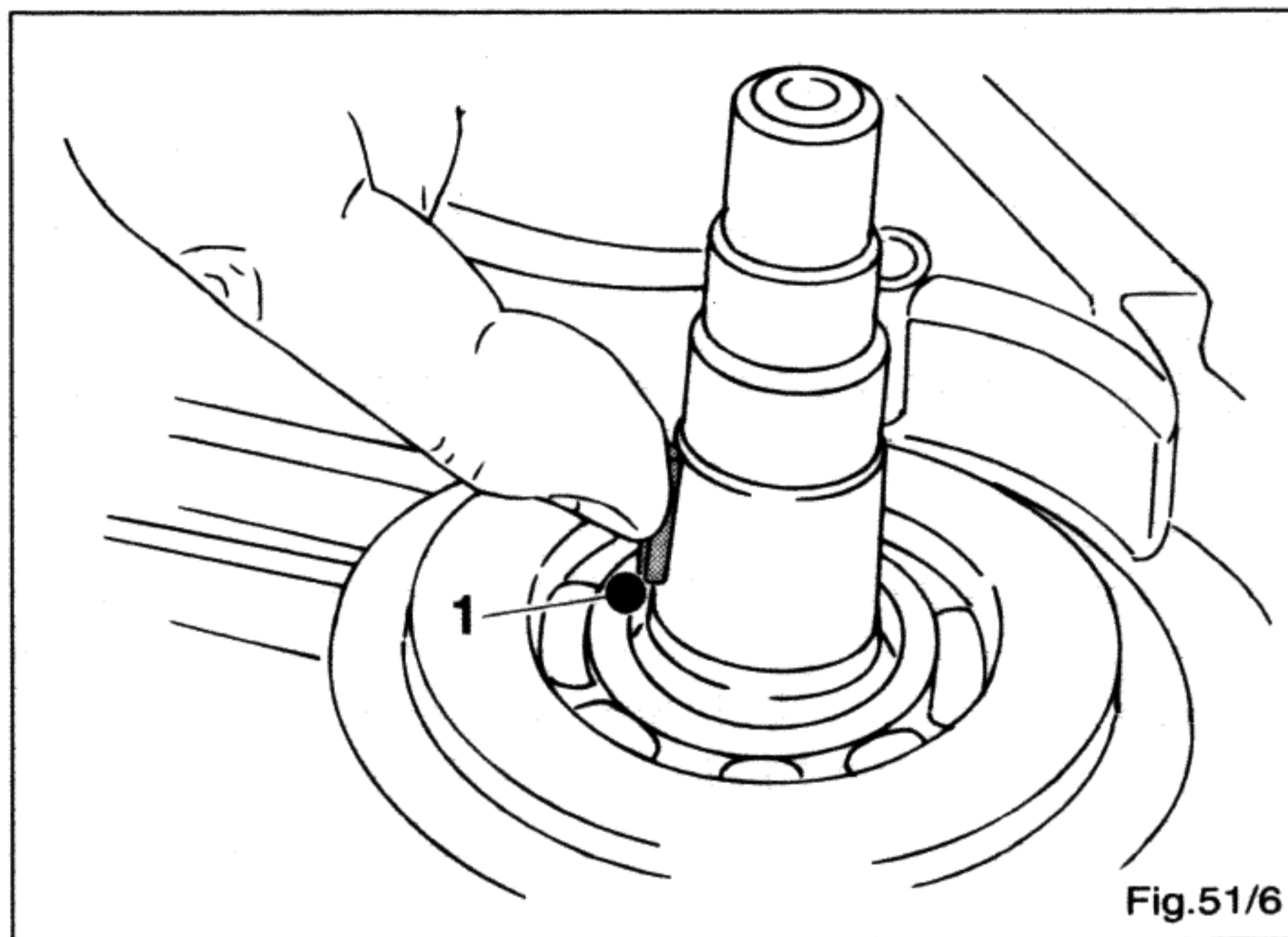
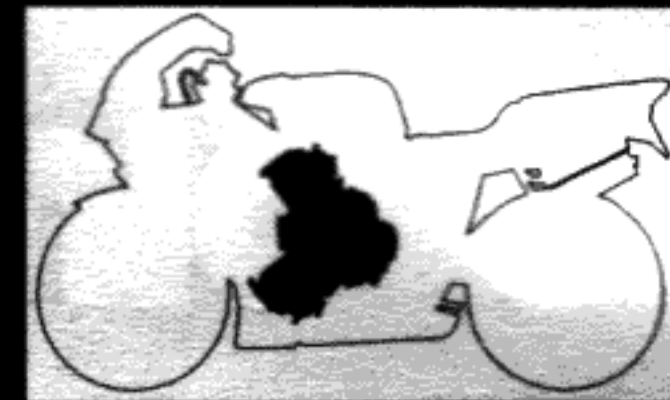


Fig.51/6

**EDX01 - GENERATORE E QUADRO SEGNALI**

1. Posizionare:  
chiavetta "1" su albero motore super. (lato generatore)

**NOTA:**  
**Sgrassare tutte le parti coniche degli alberi motore prima del montaggio degli ingranaggi.**

2. Installare:  
ranelle "2" (Qt.2)  
rotore "3"

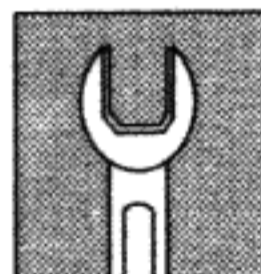
**NOTA:**  
**Il rotore va montato come in figura.**

statore "4"

**NOTA:**  
**Lo statore va posizionato con il cavo rivolto verso l'esterno in direzione dell'uscita sul coperchio del generatore: le asole (Qt.4) devono essere in corrispondenza delle viti del coperchio.**

ranella ondulata "5"

2. Serrare:  
dado "6" bloccaggio generatore



**Dado bloccaggio generatore:**  
**100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)**

3. Posizionare:  
chiavetta su albero motore inferiore (lato generatore)

4. Installare:  
quadro segnali "7"  
ranella ondulata "8"

5. Serrare:  
dado "9" bloccaggio generatore



**Dado bloccaggio quadro segnali:**  
**100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)**

6. Installare:  
anello O.R. "10"  
guarnizione "11"

**NOTA:**  
**Montare una guarnizione di spessore adeguato (0,5 o 1 mm.) per ottenere la distanza consigliata tra sensore e quadro segnali.**



**Distanza tra sensore e quadro segnali:**  
**0,8~ 1 mm. (0,031~ 0,039 in)**

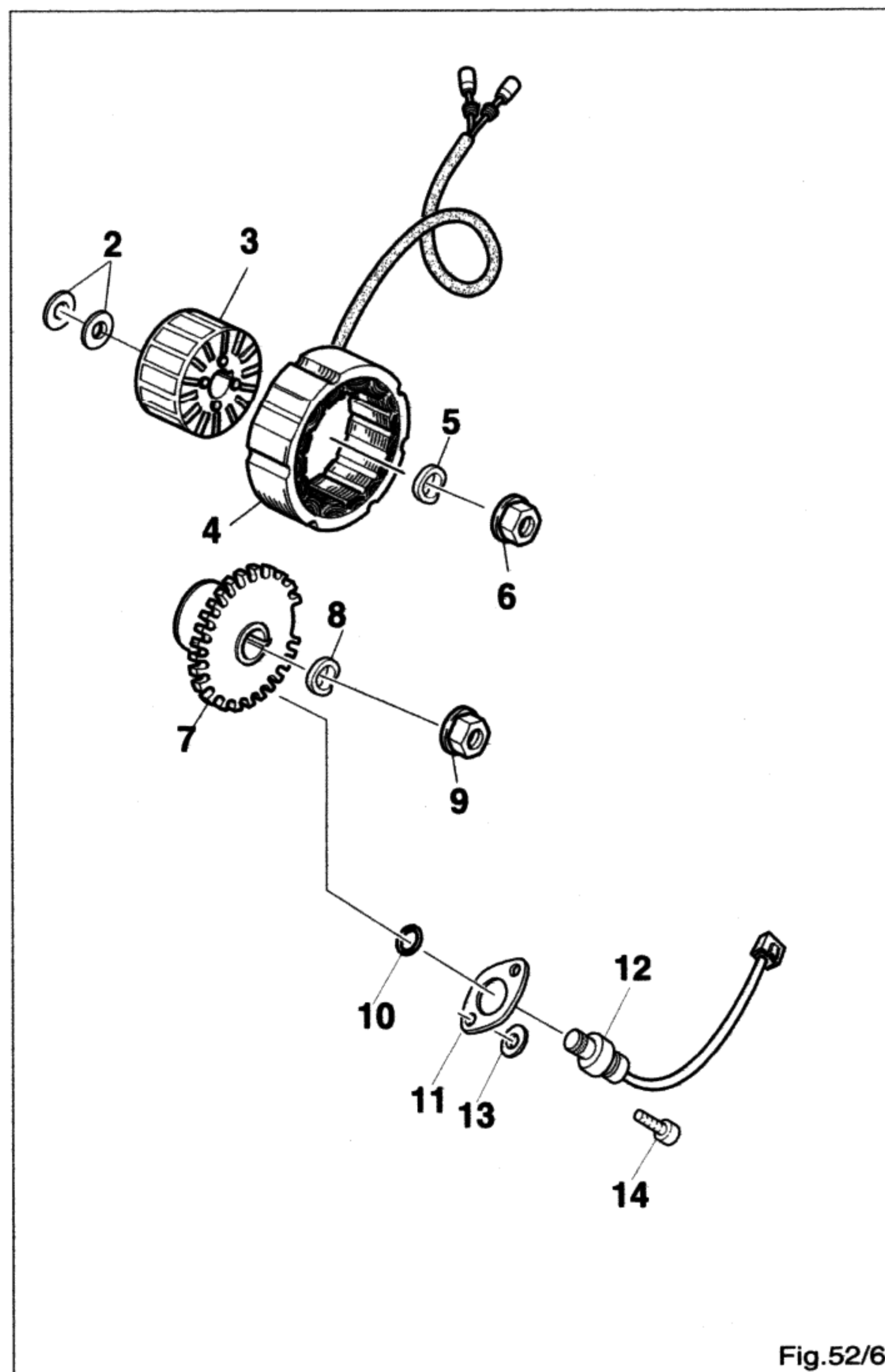
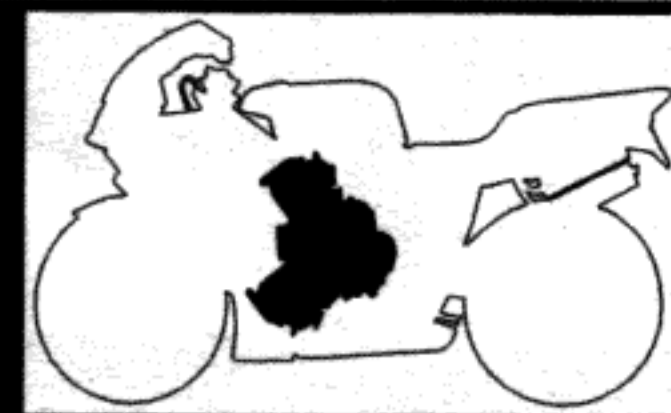


Fig.52/6



### EDX01 - GENERATOR AND MOTOR SIGNALWHEEL

1. Position:  
key "1" on crankshaft upper (generator side)

**NOTE:**  
Degrease all conical parts of motor shafts before fitting the gears.

2. Install:  
washers "2" (Qt.2)  
rotor "3"

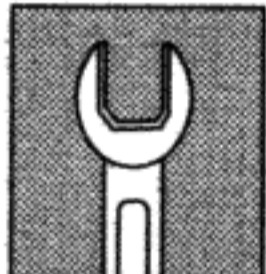
**NOTE:**  
Mount the rotor as indicated in figure.

stator "4"

**NOTE:**  
Set the stator with the cable turned outwards in direction of exit on the generator cover: position of slots (Qt.4) corresponding to the cover screws.

washer corrugated "5"

2. Tighten:  
nut "6" (generator)

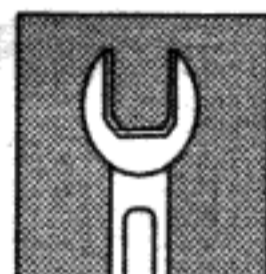


**Nut (Generator):**  
100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)

3. Position:  
key "1" on crankshaft lower (generator side)

4. Install:  
engine signalwheel "7"  
washer corrugated "8"

5. Tighten:  
nut "9" (signalwheel)



**Nut (Signalwheel):**  
100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)

6. Install:  
O-Ring "10"  
gasket "11"

**NOTE:**  
Fit a seal of proper thickness (0,5 o 1 mm.) to get the right distance between sensor and signalwheel.



Limit clearance distance between sensor and signalwheel: 0,8~ 1 mm. (0,031~ 0,039 in)

### EDX01 - SCHWUNGRAD UND SIGNALTAFEL

1. Positionieren:  
einlegekeile "1" an Kurbervelle ober (Schwungradseite)

**HINWEIS:**  
Vor Montage der Zahräder alle Kegelteile der Motorwellen entfetten.

2. Einbauen:  
scheibe "2" (Zahl 2)  
laufrad "3"

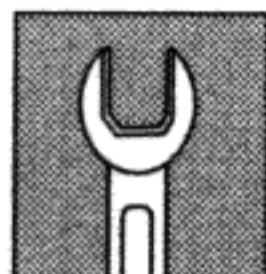
**HINWEIS:**  
Rotor wie das Bild zeigt montieren.

stator "4"

**HINWEIS:**  
Stator so anbringen, dass der Kabel nach aussen in Richtung des Ausgangs auf dem Deckel des Generators zeigt: die Schlitz (Qt.4) sollen in der den Schrauben des Deckels entsprechenden Position sein.

Wellscheibe "5"

2. Festziehen:  
mutter "6" (Schwungrad)



**Mutter (Schwungrad):**  
100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)

3. Positionieren:  
einlegekeile "1" an Kurbervelle unter (Schwungradseite)

4. Einbauen:  
signaltafel "7"  
Wellscheibe "8"

5. Festziehen:  
mutter "9" (signaltafel)



**Mutter (Signaltafel):**  
100~110 Nm ( 10~11 kg·m - 72,3~79,5 ft · lb)

6. Einbauen:  
O-Ringe "10"  
dichtung "11"

**HINWEIS:**  
Eine Dichtung mit geeigneter Dicke (0,5 o 1 mm.) montieren um den richtigen Abstand zwischen Sensor und Signaltafel zu erreichen.



Max. Zu. Abstand zwischen Sensor und Signaltafel:  
0,8~ 1 mm. (0,031~ 0,039 in)

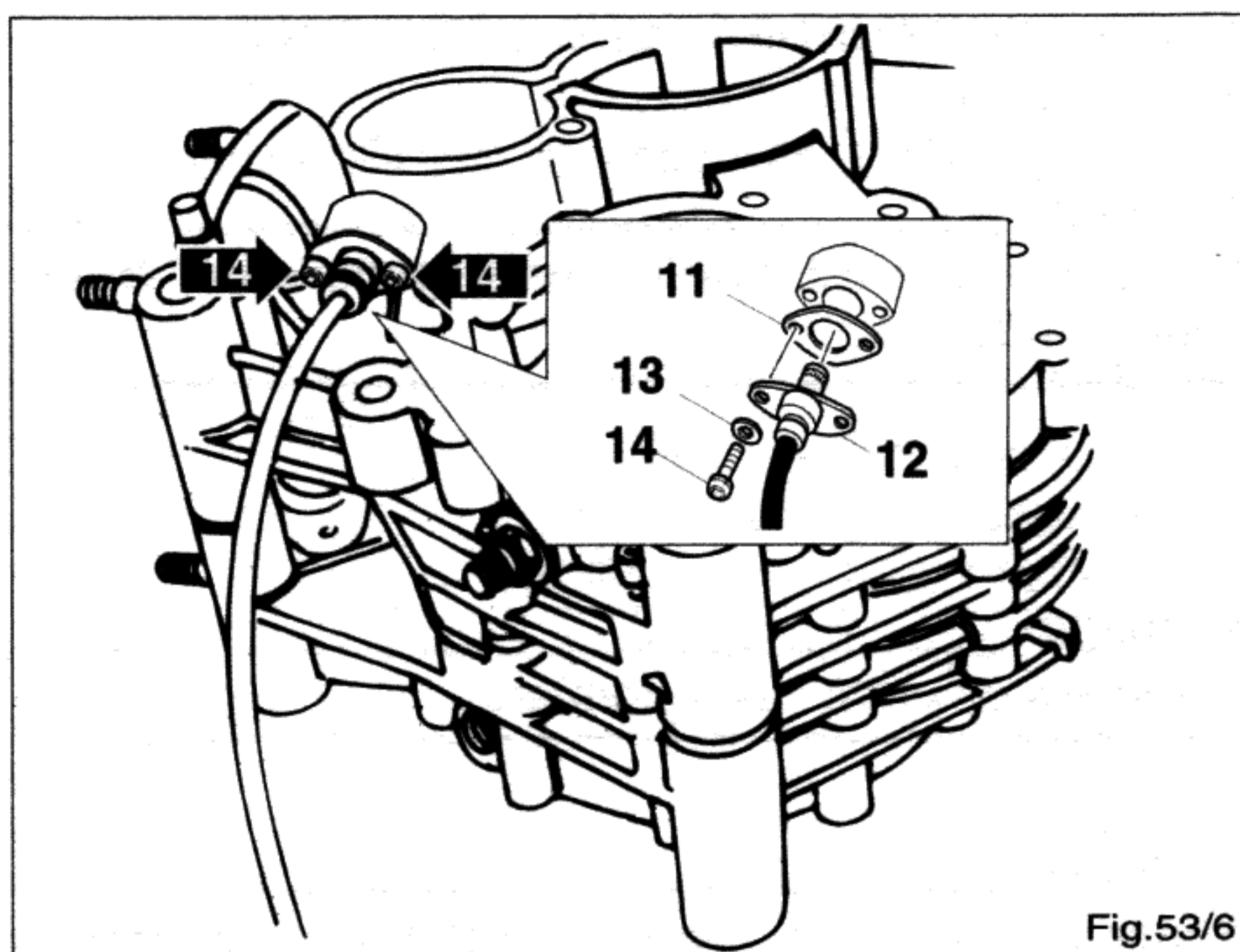
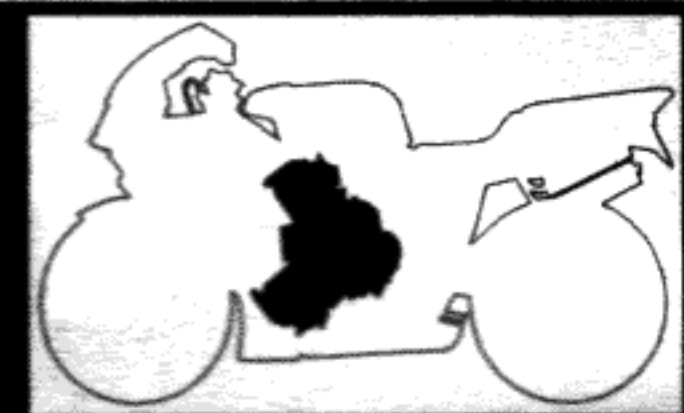
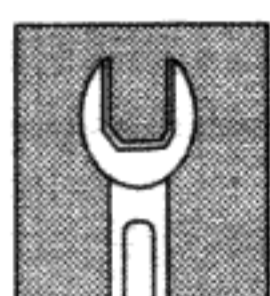


Fig.53/6

7. Installare:  
sensore giri motore "12"  
molle a tazza "13" (Qt.2)
8. Serrare:  
viti "14" (TCEI M 4 x12- Qt. 2) sensore giri motore



**Viti sensore giri motore:**  
3,5~4 Nm ( 0,35~0,4 kg·m - 2,53~2,89 ft · lb)

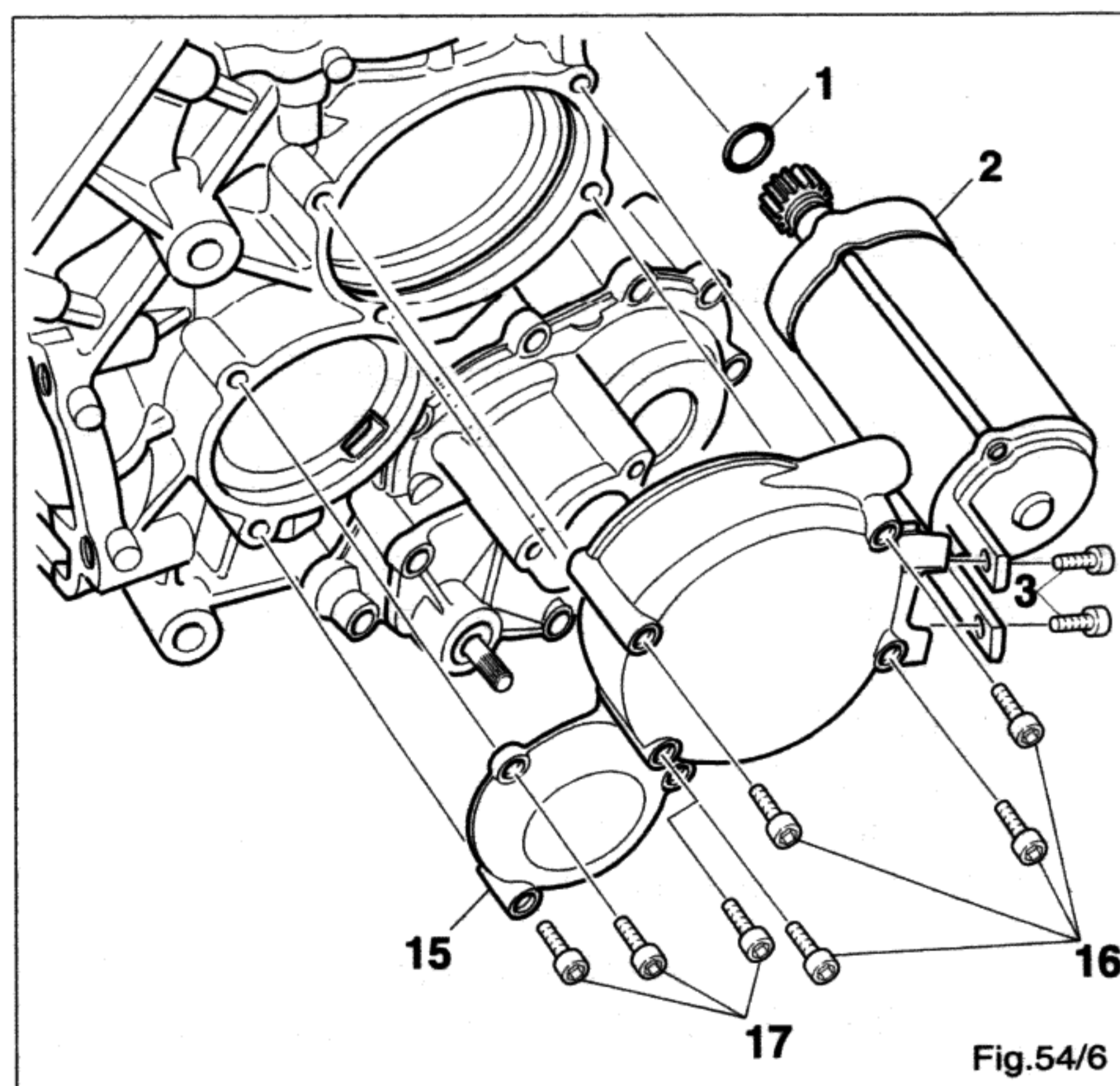


Fig.54/6

9. Installare:  
guarnizione  
coperchio generatore "15"
10. Serrare:  
viti "16" (TCEI M 5 x 70 - Qt. 4) carter generatore  
viti "17" (TCEI M 5 x 16 - Qt. 3) carter generatore



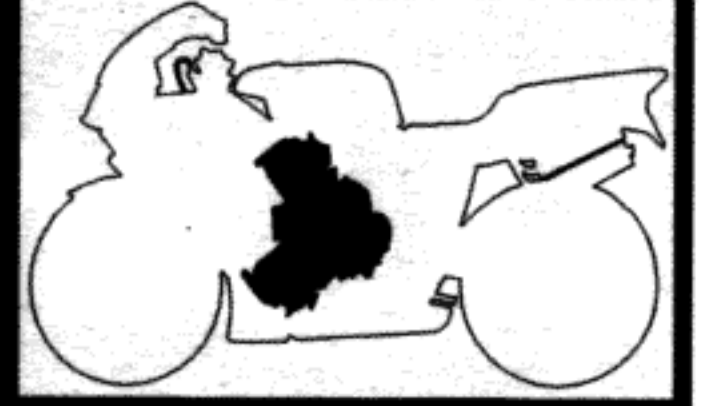
**Viti coperchio generatore:**  
6 Nm ( 0,6 kg·m - 4,34 ft · lb)

#### ECX01 - MONTAGGIO MOTORINO AVVIAMENTO

1. Installare:  
anello O.R. "1"  
motorino d'avviamento "2"
2. Serrare:  
viti "3" (TCEI M 6 x 25 - Qt. 2) motorino d'avviamento



**Viti fissaggio motorino avviamento:**  
8~10 Nm ( 0,8~1 kg·m - 5,78~7,23 ft · lb)

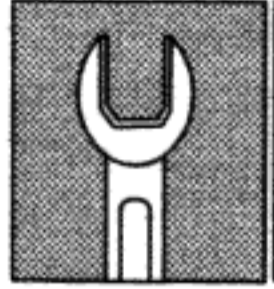


7. Install:

rpm sensor (pick-up) "12"  
washers "13" (Qt.2)

8. Tighten:

screws "14" (TCEI M 4 x12- Qt. 2) rpm sensor



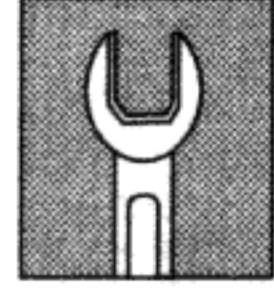
**Screws (RPM sensor pick-Up):**  
3,5~4 Nm ( 0,35~0,4 kg·m - 2,53~2,89 ft · lb)

7. Einbauen:

Taktmotorsensor "12"  
scheiben "13" (Zahl 2)

8. Festziehen:

Schrauben"14"(TCEI M4 x 12 - Zahl 2) der Taktmotorsensor



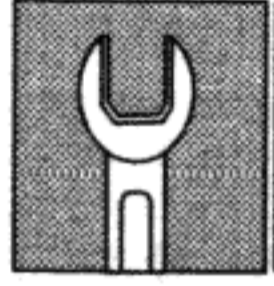
**Schrauben (Taktmotorsensor):**  
3,5~4 Nm ( 0,35~0,4 kg·m - 2,53~2,89 ft · lb)

9. Install:

gasket  
generator cover "15"

10. Tighten:

screws "16" (TCEI M 5 x 70 - Qt. 4) generator cover  
screws "17" (TCEI M 5 x 16 - Qt. 3) generator cover



**Screws (generator cover):**  
6 Nm ( 0,6 kg·m - 4,34 ft · lb)

Einbauen:

9. dichtung  
Schwungradeckel "15"

Festziehen:

10. Schrauben "16" (TCEI M 5 x 70 - Zahl 4) Schwungradeckel  
Schrauben "17" (TCEI M 5 x 16 - Zahl 3) Schwungradeckel



**Schrauben (Schwungradeckel):**  
6 Nm ( 0,6 kg·m - 4,34 ft · lb)

### ECX01 - ASSEMBLY STARTING MOTOR

1. Install:

O-Ring "1"  
starting motor "2"

2. Tighten:

screws "3" (TCEI M 6 x 25 - Qt. 2) starting motor



**Screws (Starting motor):**  
8~10 Nm ( 0,8~1 kg·m - 5,78~7,23 ft · lb)

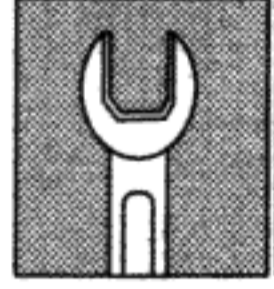
### ECX01 - EINBAU ANLASSERMOTOR

1. Einbauen:

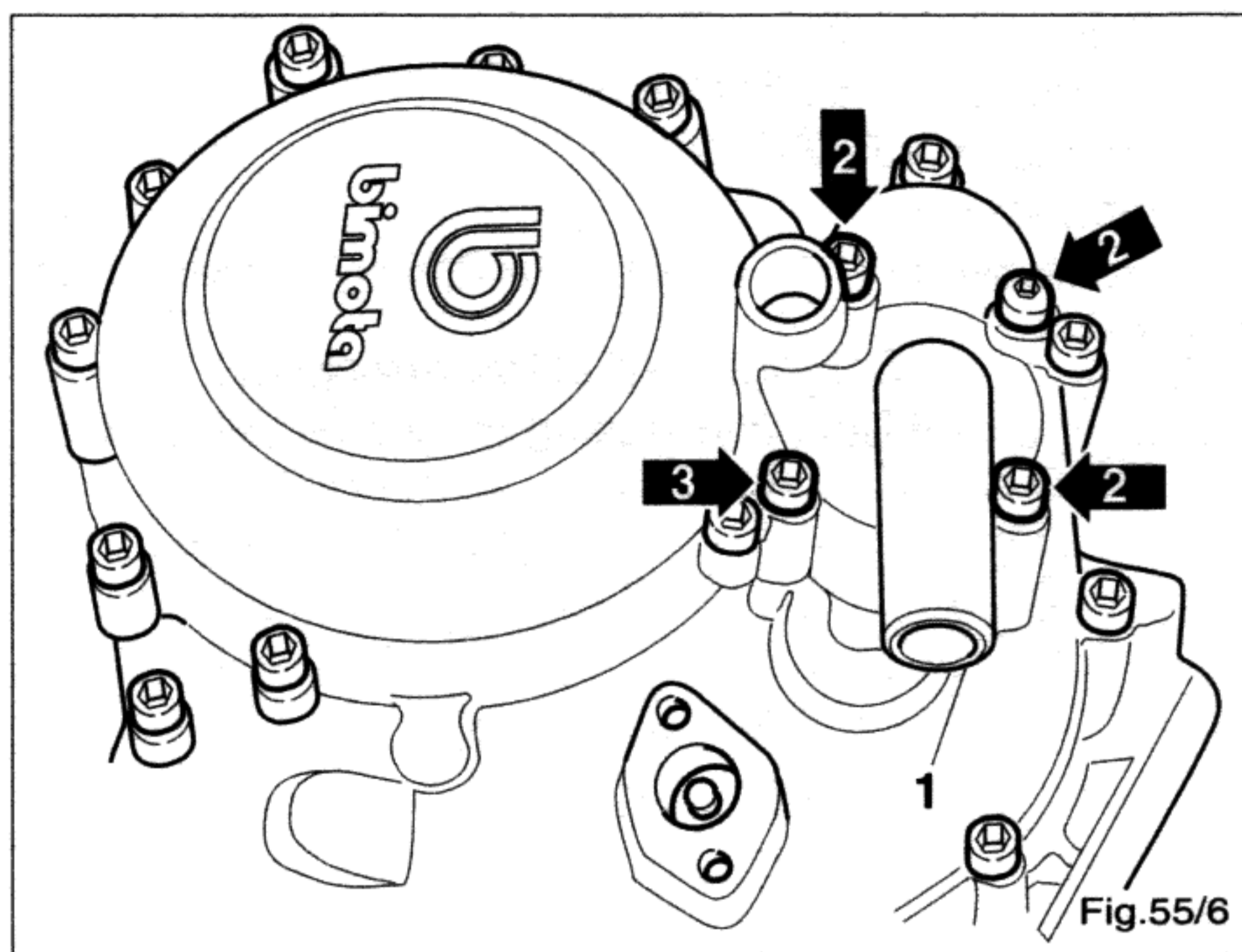
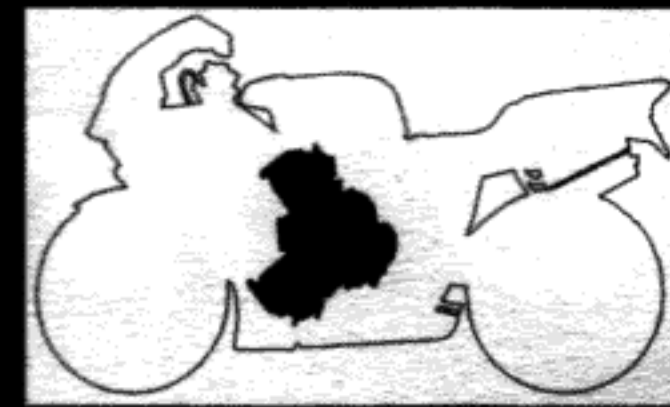
O-Ringe "1"  
anlassermotor "2"

2. Festziehen:

Schrauben"3" (TCEI M 6 x 25 - Zahl 2) der Anlassermotor

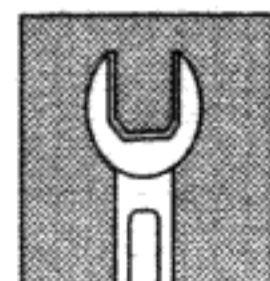


**Schrauben (Anlassermotor):**  
8~10 Nm ( 0,8~1 kg·m - 5,78~7,23 ft · lb)

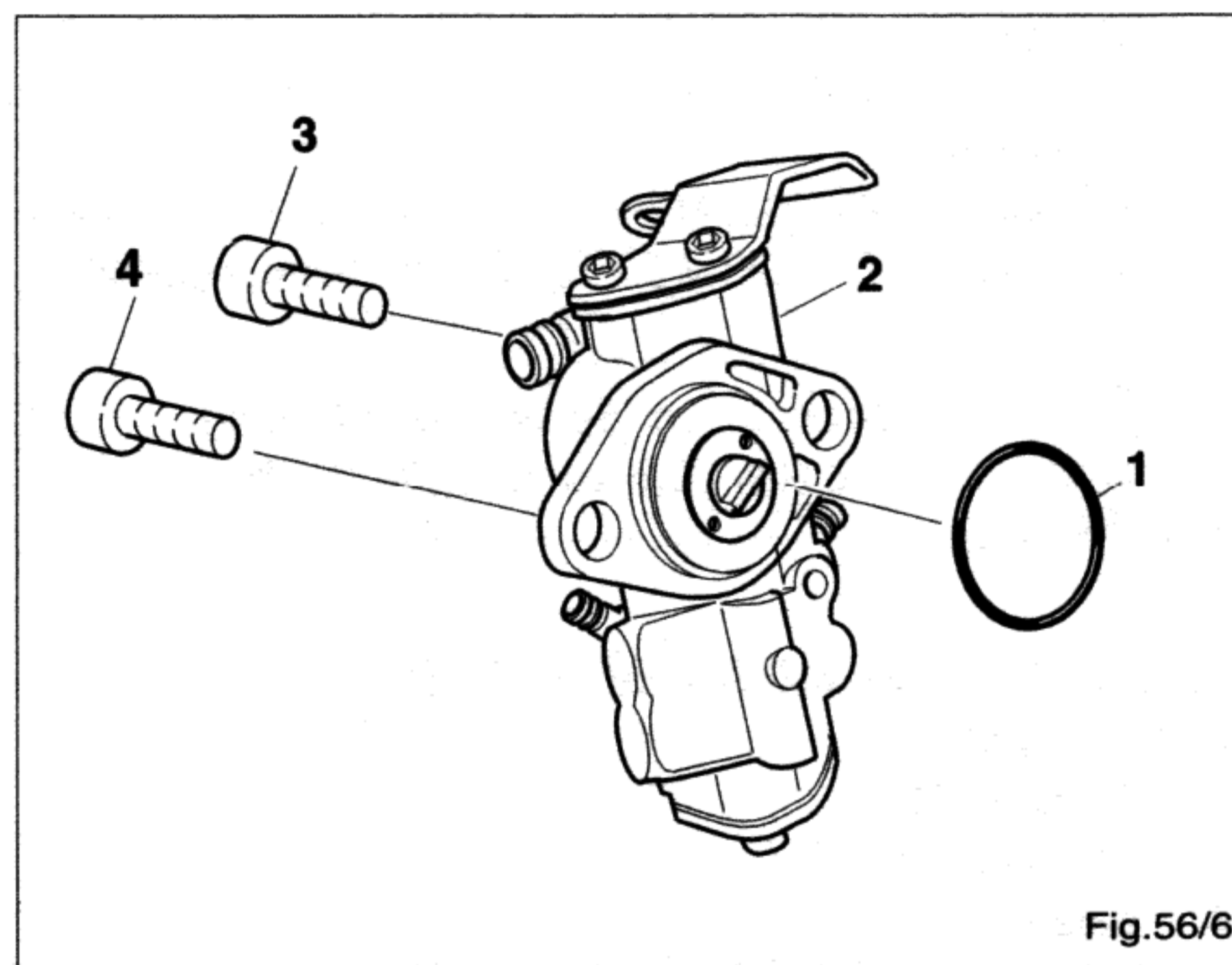


### MONTAGGIO COPERCHIO POMPA ACQUA

1. Installare:  
coperchio "1" pompa acqua
2. Serrare:  
viti "2" (TCEI M 6 x 45 - Qt.3)  
vite "3" (TCEI M 6 x 35)

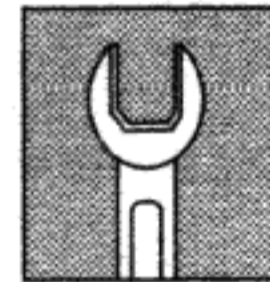


**Viti fissaggio coperchio pompa acqua:**  
8~10 Nm ( 0,8~1 kg·m - 5,78~7,23 ft · lb)



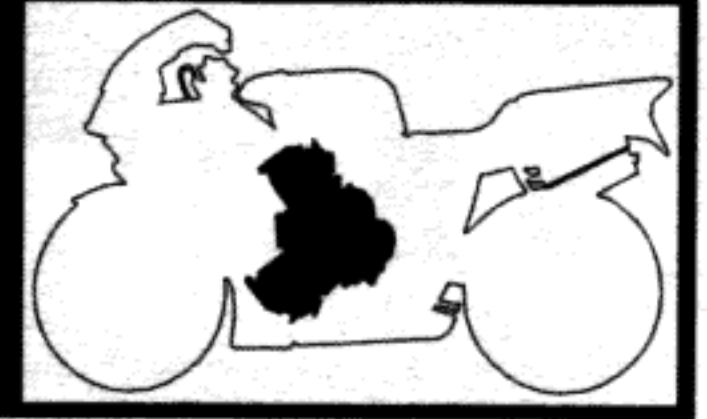
### BAX01 - MONTAGGIO POMPA OLIO

1. Installare:  
anello O.R. "1"  
pompa olio "2"
2. Serrare:  
vite "3" (TCEI M 5 x 20)  
vite "4" (TCEI M 5 x 30)



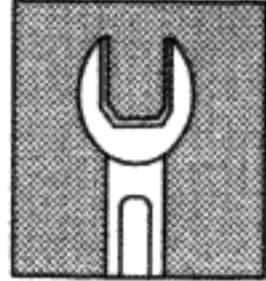
**Viti fissaggio pompa olio:**  
6~7 Nm ( 0,6~0,7 Kg · m - 4,34~5,06 ft · lb)





### ASSEMBLY WATER PUMP COVER

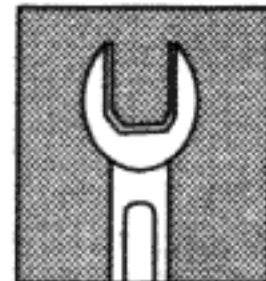
1. Install:  
water pump cover "1"
2. Tighten:  
screws "2"(TCEI M 6 x 45 - Qt.3)  
screw "3"(TCEI M 6 x 35)



**Screws (water pump cover):**  
8~10 Nm ( 0,8~1 kg·m - 5,78~7,23 ft · lb)

### EINBAU WASSERPUMPEDECKEL

1. Einbauen:  
Wasserpumpendeckel "1"
2. Festziehen:  
schrauben "2"(TCEI M 6 x 45 - Zahl 3)  
schraube "3"(TCEI M 6 x 35)



**Schrauben (Wasserpumpendeckel):**  
8~10 Nm ( 0,8~1 kg·m - 5,78~7,23 ft · lb)

### BAX01 - ASSEMBLY OIL PUMP

1. Install:  
O-Ring "1"  
oil pump "2"
2. Tighten:  
screw "3" (TCEI M 5 x 20)  
screw "4" (TCEI M 5 x 30)



**Screws (Oil pump):**  
6~7 Nm ( 0,6~0,7 Kg · m - 4,34~5,06 ft · lb)

### BAX01 - EINBAU ÖLPUMPE

1. Einbauen:  
O-Ringe "1"  
Ölpumpe "2"
2. Festziehen:  
schraube "3" (TCEI M 5 x 20)  
schraube "4" (TCEI M 5 x 30)



**Schrauben (Ölpumpe):**  
6~7 Nm ( 0,6~0,7 Kg · m - 4,34~5,06 ft · lb)

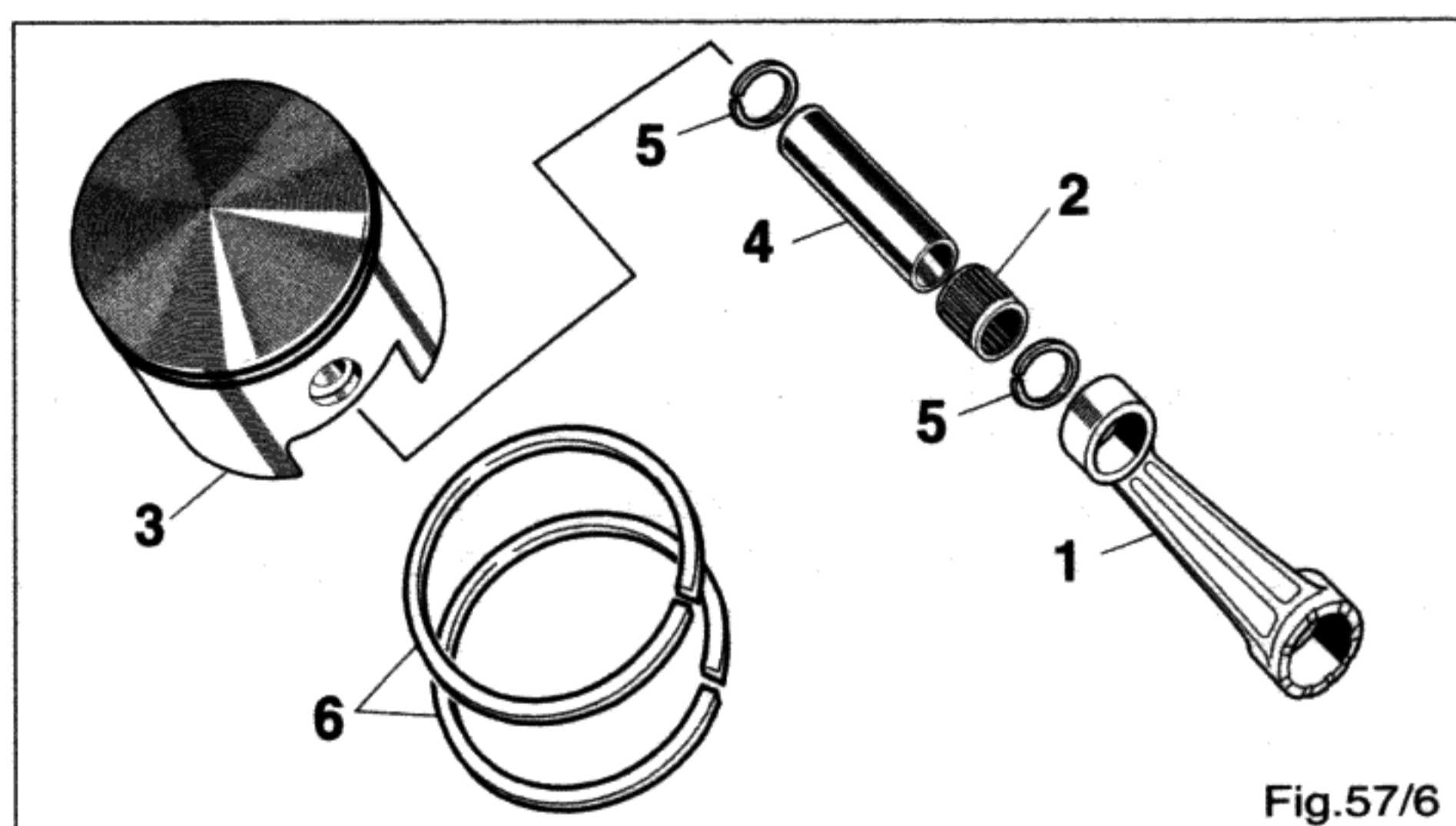
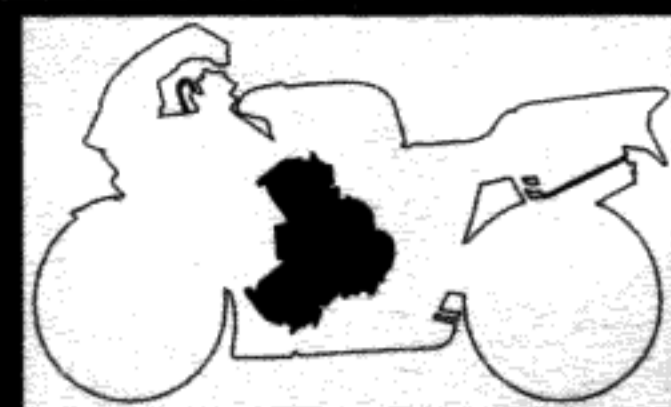


Fig.57/6

### AFX01 - MONTAGGIO PISTONE

1. Installare su biella "1":  
cuscinetti di biella "2"
2. Inserire nel pistone "3":  
spinotto "4"  
fermo dello spinotto del pistone "5"  
fasce elastiche "6" (Qt.2)

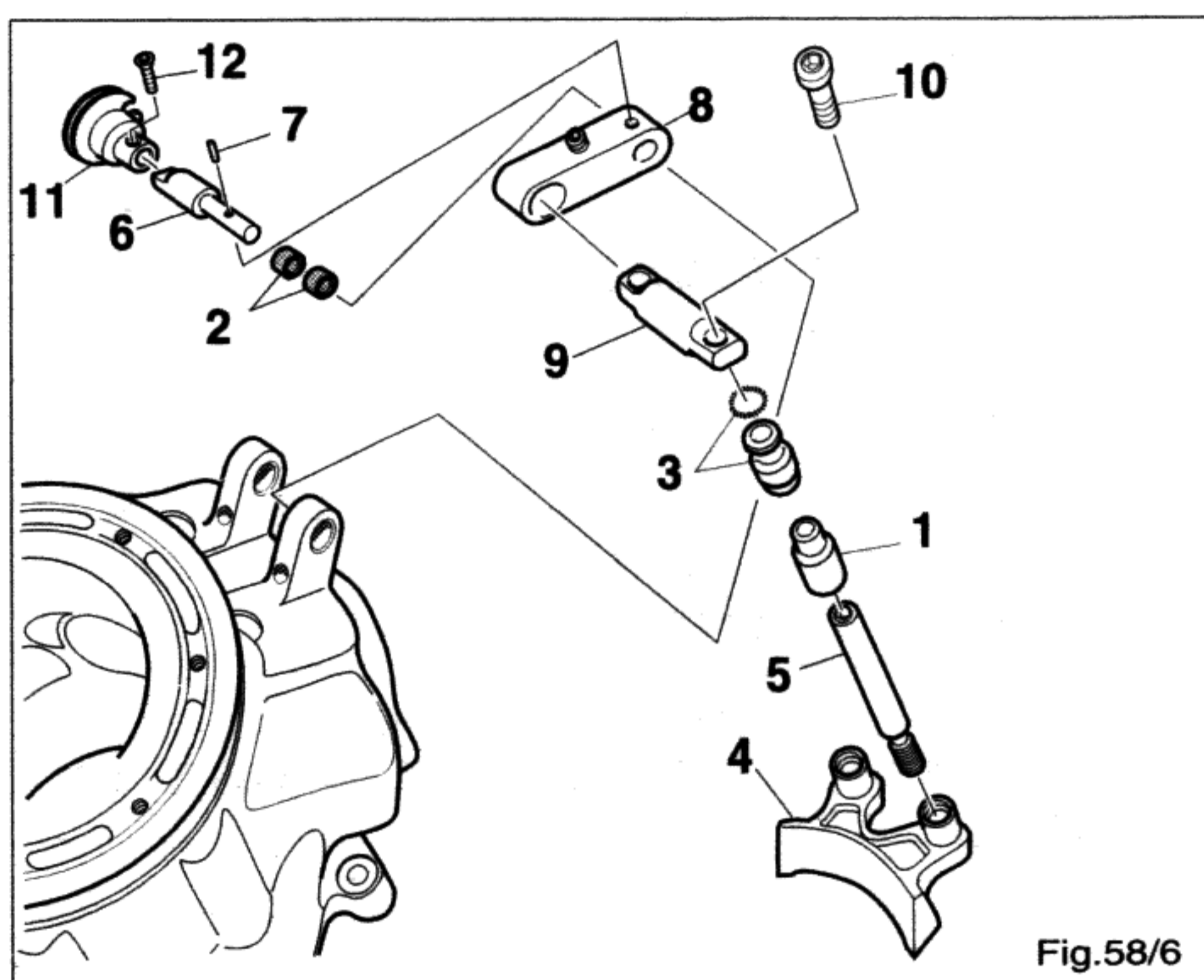


Fig.58/6

### AGX01 - MONTAGGIO VALVOLA DI SCARICO

1. Inserire a caldo (cilindro a 50° ~ 60°):  
boccole "1"(Qt.2)  
boccole "2"(Qt.2)
2. Inserire in sede:  
gommino "3"
3. Inserire in sede:  
valvola di scarico "4"
4. Inserire e serrare:  
perni "5" (Qt.2)
5. Inserire :  
albero "6"  
spina "7"
6. Ruotare:  
bilancere "8"
7. Inserire:  
albero forcella "9"
8. Serrare:  
viti "10" (TCEI M 5 x 20 - Qt.2)
9. Inserire:  
puleggia "11"
10. Serrare:  
vite "12" (TSPEI M 4 x 12)

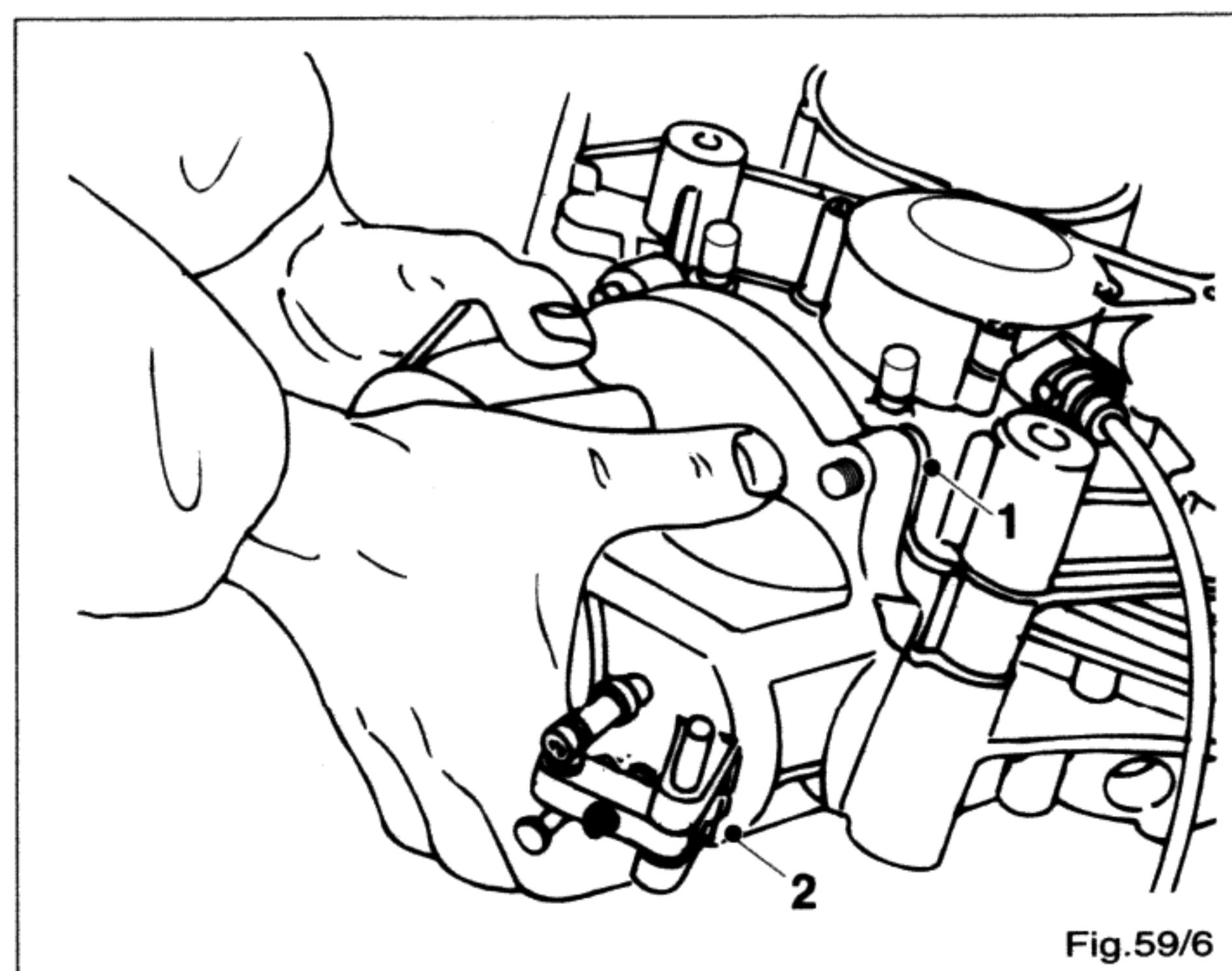
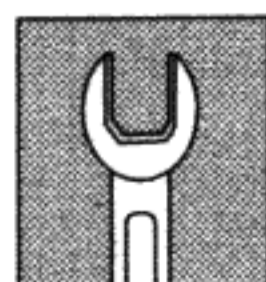


Fig.59/6

### ACX01 - MONTAGGIO CILINDRO

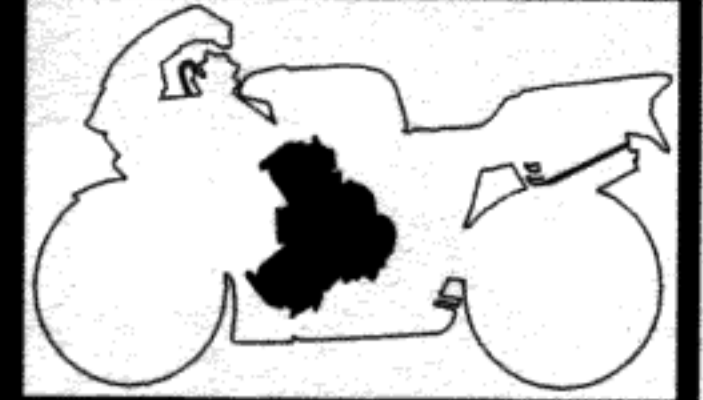
1. Inserire:  
guarnizione "1"  
cilindro "2"
2. Serrare:  
dadi (Qt.4) fissaggio cilindro



**Dadi fissaggio cilindro:**  
40~42 Nm ( 4,0~4,2 kg·m - 28,93~30,37 ft · lb)



**Chiave serraggio dadi cilindri 215000191**



### AFX01 - ASSEMBLY PISTON

1. Install on connecting rod "1":  
connecting rod bearing "2"
2. Install on piston "3":  
Piston pin "4"  
piston pin clips "5"  
piston ring "6" (Qt.2)

### AFX01 - EINBAU KOLBEN

1. Einbauen in Pleuelaugenl "1":  
Pleuelaugenlager "2"
2. Einbauen in kolben "3":  
Kolbenbolzen "4"  
Kolbenbolzen-Sicherungsringe "5"  
kolbenringe "6" (Zahl 2)

### AGX01 - ASSEMBLY EXHAUST VALVE

1. Install (temoerature cylinder : 50° ~ 60°):  
bush "1"(Qt.2)  
bush "2"(Qt.2)
2. Istall on side:  
rubber "3"
3. Istall on side:  
exhaust valve "4"
4. Install and tighten:  
pins "5" (Qt.2)
5. Install :  
shaft "6"  
pin "7"
6. Turn:  
balance "8"
7. Install:  
fork shaft"9"
8. Tighten:  
screws"10" (TCEI M 5 x 20 - Qt.2)
9. Install:  
pulley "11"
10. Tighten:  
screw "12" (TSPEI M 4 x 12)

### AGX01 - EINBAU AUSLASS-VENTIL

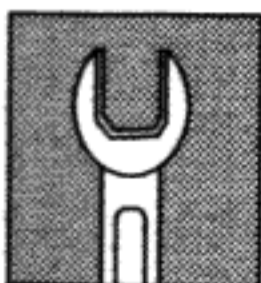
1. Einbauen (Zylindertemperature: 50° ~ 60°):  
buchse "1"(Zahl 2)  
buchse "2"(Zahl 2)
2. Einbauen an Seite:  
dichtung "3"
3. Einbauen an Seite:  
auslass-ventil"4"
4. Einbauen und Festziehen:  
paßstifte "5" (Zahl 2)
5. Einbauen:  
welle "6"  
key "7"
6. Drehen:  
schwinghebel "8"
7. Einbauen:  
gabelwelle "9"
8. Festziehen:  
schrauben "10" (TCEI M 5 x 20 - Zahl 2)
9. Einbauen:  
antriebsrolle "11"
10. Festziehen:  
schraube"12" (TSPEI M 4 x 12)

### ACX01 - ASSEMBLY CYLINDER

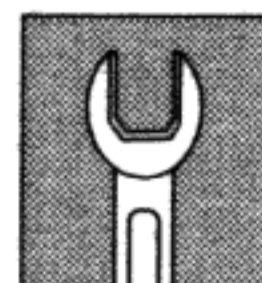
1. Install:  
gasket "1"  
cylinder "2"
2. Tighten:  
nuts (Qt.4) to fix cylinder

### ACX01 - EINBAU ZYLINDER

1. Einbauen:  
dichtung "1"  
zylinder "2"
2. Festziehen:  
mutter (Zahl 4) für Zylinder festmachen



**Nuts (cylinder):**  
40~42 Nm ( 4,0~4,2 kg·m - 28,93~30,37 ft · lb)



**Mutter (Zylinder):**  
40~42 Nm ( 4,0~4,2 kg·m - 28,93~30,37 ft · lb)



**Cylinder nuts fighting wrench 215000191**



**Der Zylindermutter spezielle Verzeuge  
215000191**

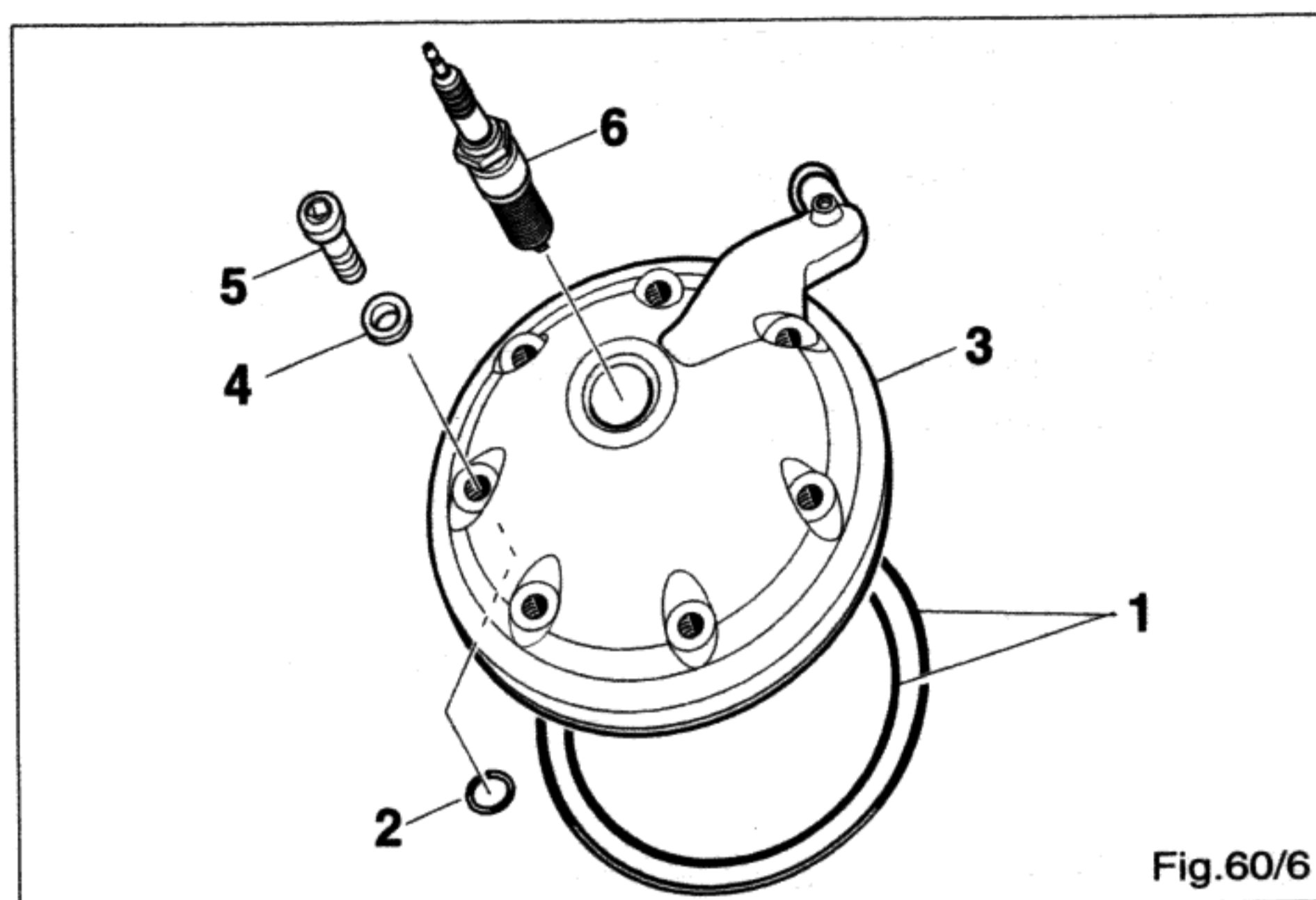
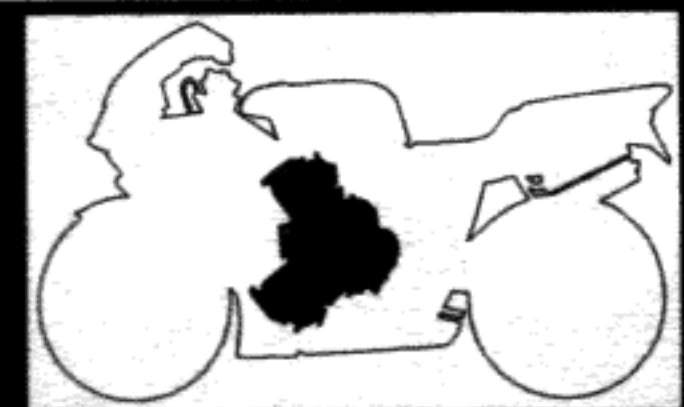


Fig.60/6

### ABX01 - MONTAGGIO TESTA CILINDRO

1. Posizionare:  
anelli O.R. "1" (Qt.2)  
anelli O.R. "2" (Qt.7)
2. Installare:  
testa cilindro "3"  
ranelle "4" (Qt.7)
3. Serrare:  
viti "5" (TCEI M6 x 25 - Qt.7) fissaggio testa cilindro



**Vite fissaggio testa cilindro:**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

candela "6"

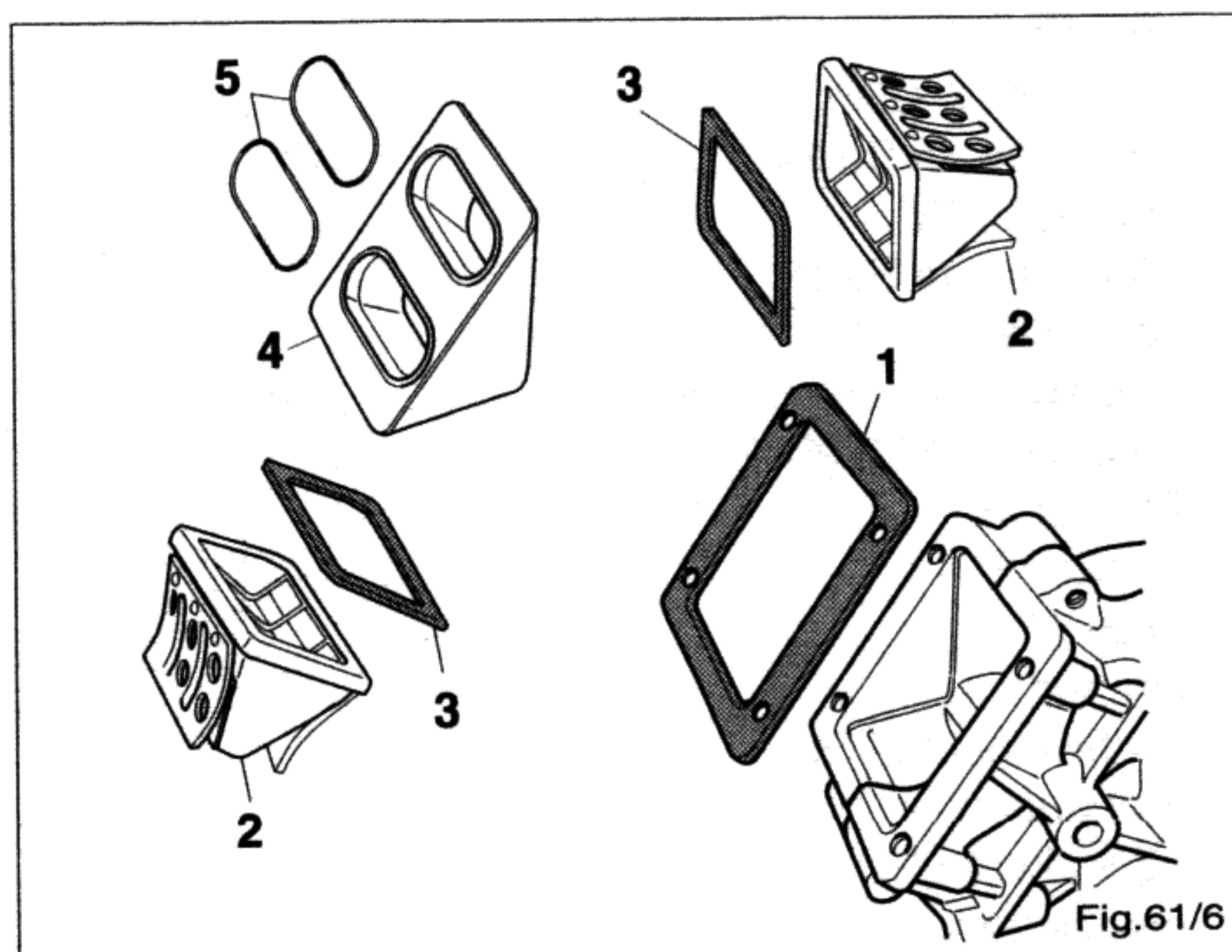


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### DEX01 - MONTAGGIO CORPO FARFALLATO

1. Installare:  
guarnizione "1"  
lamelle aspirazione "2" (Qt. 2)  
guarnizione "3" (Qt. 2)  
distanziale "4"  
anelli O.R. "5" (Qt.2)

2. corpo farfallato "6"  
Serrare:  
viti "7" (Qt.4) corpo farfallato

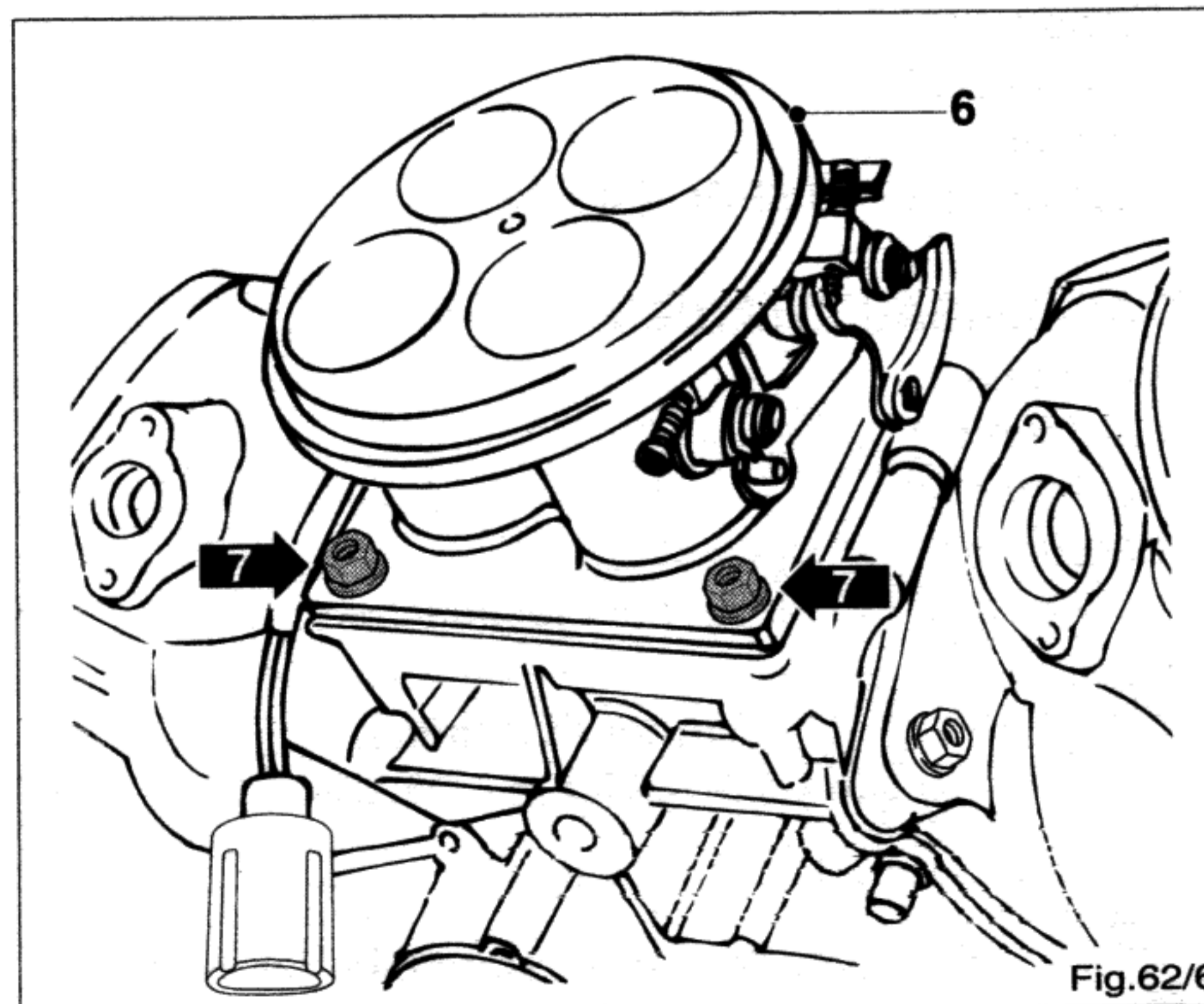
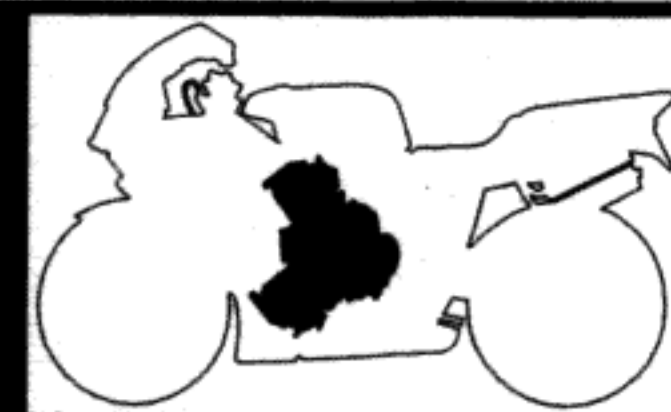
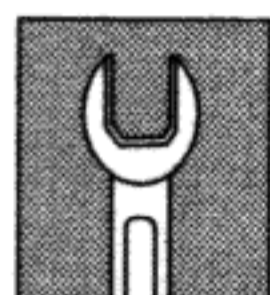


Fig.62/6



### ABX01 - ASSEMBLY CYLINDER HEAD

1. Position:
  - O.Ring "1" (Qt.2)
  - O.Ring "2" (Qt.7)
2. Install:
  - cylinder head "3"
  - washer "4" (Qt.7)
3. Tighten:
  - screws "5" (TCEI M6 x 25 - Qt.7) to fix cylinder head



**Screws (Cylinder head):**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

spark plug "6"

### ABX01 - EINBAU ZYLINDERKOPF

1. Positionieren:
  - O. Ringe "1" (Zahl 2)
  - O.Ringe "2" (Zahl 7)
2. Einbauen:
  - zylinderkopf "3"
  - scheibe "4" (Zahl 7)
3. Festziehen:
  - schrauben "5" (TCEI M6 x 25 - Zahl 7) Zylinderkopf



**Schrauben (Zylinderkopf):**  
10~12 Nm ( 1~1,2 Kg · m - 7,23~8,68 ft · lb)

zündkerzen "6"

### DEX01 - ASSEMBLY HOUSING

1. Install:
  - gasket "1"
  - reed-valve "2" (Qt. 2)
  - gasket "3" (Qt. 2)
  - spacer "4"
  - O.Ring "5" (Qt.2)

2. housing "6"  
Serrare:
  - screws "7" (Qt.4) housing

### DEX01 - EINBAU KORPER

1. Einbauen:
  - dichtung "1"
  - lzungeventile "2" (zahl 2)
  - dichtung "3" (Zahl 2)
  - distanzstück "4"
  - O.Ringe "5" (Zahl 2)

2. korp "6"  
Serrare:
  - Schrauben "7" (Zahl 4) der Korp