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Modello 500 V2

MANUALE D'OFFICINA

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1ª Edizione - 10/1997

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Model 500 V2

SERVICE MANUAL

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Cap. 6  
Cap. 6  
Kap. 6



**CARTER CENTRALI - CRANKCASE - KURBEKGEÄUSE**

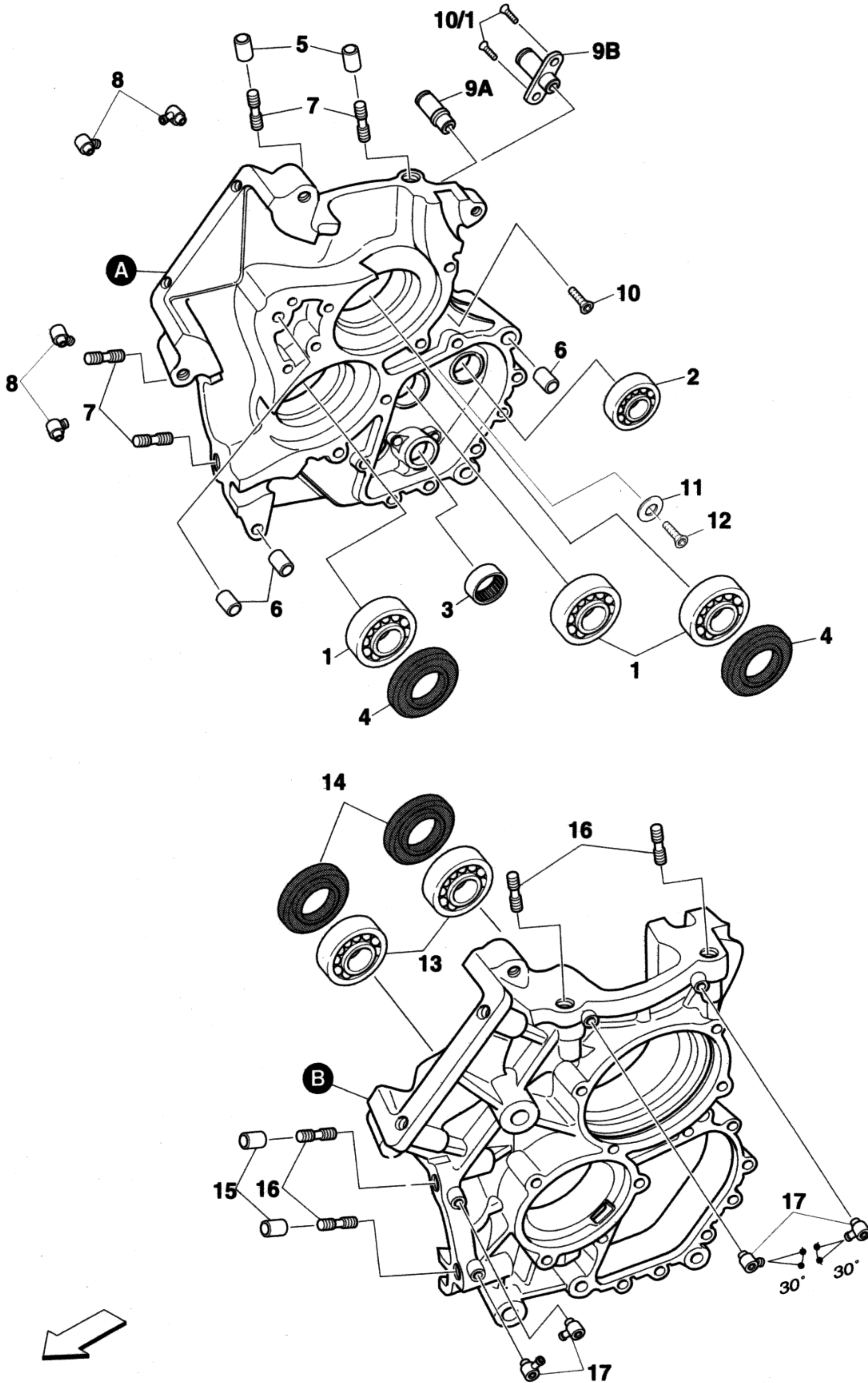


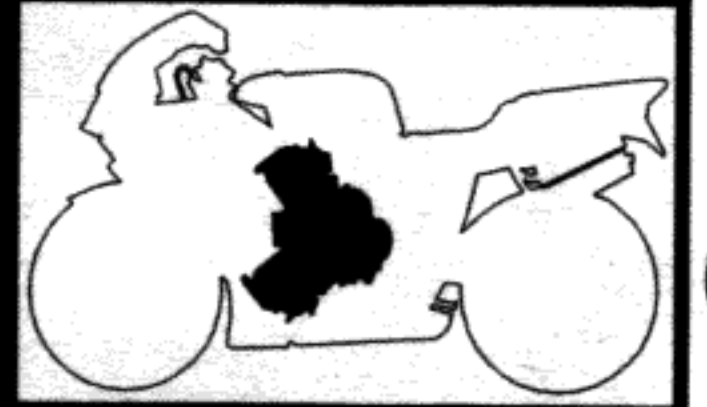
Fig.1/6





Particolare		Codice	Qt.	Tipo di montaggio
A- Carter motore Dx	1 - Cuscinetto a sfera	12-6044	3	A caldo (carter riscaldato a 130°)
	2 - Cuscinetto a sfera	12-6021	1	A caldo (carter riscaldato a 130°)
	3 - Cuscinetto a rulli	16-1046	1	A freddo (grasso ITP W LR 115)
	4 - Paraolio	10-6064	2	A freddo
	5 - Spina cilindrica	26-8197	2	
	6 - Spina cilindrica	26-8195	3	
	7 - Prigioniero	23-5047	4	Frenafilletti Loxeal 83/21
	8 - Valvole circuito olio	29-9014	4	A freddo (angolazione 30° come in figura)
	9 - Perno	23-1119	1	A freddo (grasso ITP W LR 115)
	9A - Perno	23-1125	1	
	10 - Vite TSPEI M6 x 25	29-2909	1	Loxeal 83/21-Coppia di ser. 1 Kg x m
	10A - Vite TSPEI M5 x 12	29-6090	2	Loxeal 83/21-Coppia di ser. 0,4 ÷ 0,6 Kg x m
11 - Ranella svasata	25-4171	1		
12 - Vite TSPEI M5 x 12	29-2880	1		
B- Carter motore Sx	13 - Cuscinetto a sfera	12-6044	2	A caldo (carter riscaldato a 130°)
	14 - Paraolio	10-6064	2	A freddo
	15 - Spina cilindrica	26-8197	2	
	16 - Prigioniero	23-5047	4	Frenafilletti Loxeal 83/21
	17 - Valvole circuito olio	29-0513	4	A freddo (angolazione 30° come in figura)
Detail		Code	Qt.	Assembling type
A- Right crankcase	1 - Bearing	12-6044	3	Heat the crankcase to 130°
	2 - Bearing	12-6021	1	Heat the crankcase to 130°
	3 - Bearing	16-1046	1	Cold (grease ITP W LR 115)
	4 - Gasket spare	10-6064	2	Cold
	5 - Pin	26-8197	2	
	6 - Pin	26-8195	3	
	7 - Stud bolt	23-5047	4	Paste for threads: Loxeal 83/21
	8 - Lubrication circuit valve	29-9014	4	Heat (angle 30° as indicated in figure)
	9 - Pin	23-1119	1	Heat (grease ITP W LR 115)
	9A - Pin	23-1125	1	
	10 - Screw TSPEI M6 x 25	29-2909	1	Paste: Loxeal 83/21- Tightening torque: 1 Kg x m
	10A - Screw TSPEI M5 x 12	29-2880	2	Paste: Loxeal 83/21- Tightening torque: 0,4 ÷ 0,6 Kg x m
11 - Washer	25-4171	1		
12 - Screw TSPEI M5 x 12	29-2880	1		
B- Left crankcase	13 - Bearing	12-6044	2	Heat the crankcase to 130°
	14 - Gasket spare	10-6064	2	Cold
	15 - Pin	26-8197	2	
	16 - Stud bolt	23-5047	4	Paste for threads: Loxeal 83/21
	17 - Lubrication circuit valve	29-0513	4	Cold (angle 30° as indicated in figure)
Einzelheit		Kodex	Qt.	Typ der einbau
A- Kurberlgehause R.	1 - Lager	12-6044	3	Warm halten (Kurbelgehäusen auf 130° erwärmen)
	2 - Lager	12-6021	1	Warm halten (Kurbelgehäusen auf 130° erwärmen)
	3 - Lager	16-1046	1	Kalten (Schmiere ITP W LR 115)
	4 - Ersatzdichtung	10-6064	2	Kalten
	5 - Stift	26-8197	2	
	6 - Stift	26-8195	3	
	7 - Stiftschraube	23-5047	4	Paste für Gewinden: Loxeal 83/21
	8 - Ventil des Ölkreislaufes	29-9014	4	Kalten (Winkel 30° wie in Bild gemessen)
	9 - Bolzen	23-1119	1	Kalten (Schmiere ITP W LR 115)
	9A - Bolzen	23-1125	1	
	10 - Schraube TSPEI M6 x 25	29-2909	1	Paste: Loxeal 83/21- Anzugsmoment: 1 Kg x m
	10A - Schraube TSPEI M5 x 12	29-6090	2	Paste: Loxeal 83/21- Anzugsmoment: 0,4 ÷ 0,6 Kg x m
11 - Scheibe	25-4171	1		
12 - Schraube TSPEI M5 x 12	29-2880	1		
B- Kurberlgehause L.	13 - Lager	12-6044	2	Warm halten (Kurbelgehäusen auf 130° erwärmen)
	14 - Ersatzdichtung	10-6064	2	Kalten
	15 - Stift	26-8197	2	
	16 - Stiftschraube	23-5047	4	Paste für Gewinden: Loxeal 83/21
	17 - Ventil des Ölkreislaufes	29-0513	4	Kalten (Winkel 30° wie in Bild gemessen)





**CARTER CAMBIO E FRIZIONE - TRASMISSION AND CLUTCH COVER - GETRIEBE UND KUPPLUNG DEKEL**

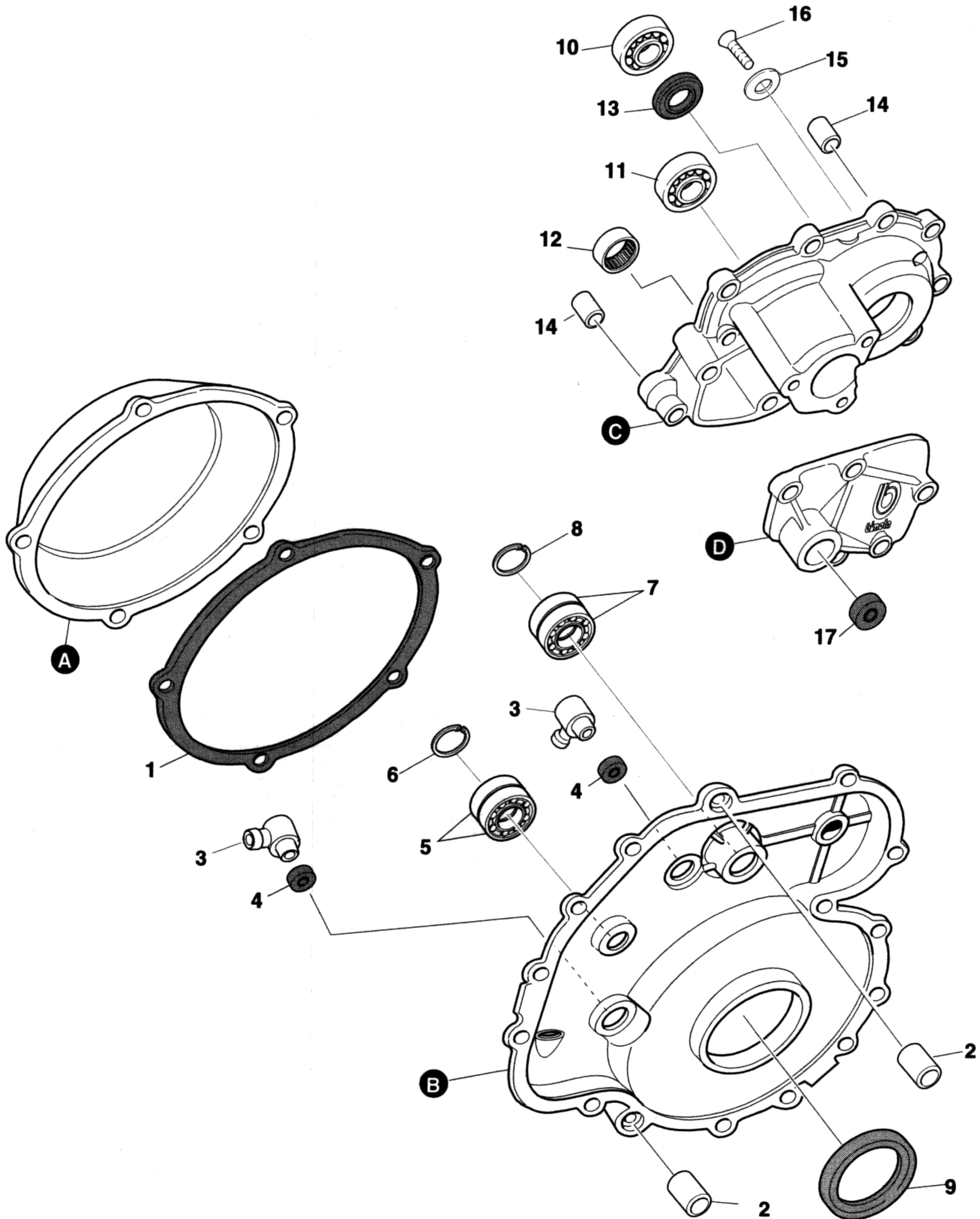
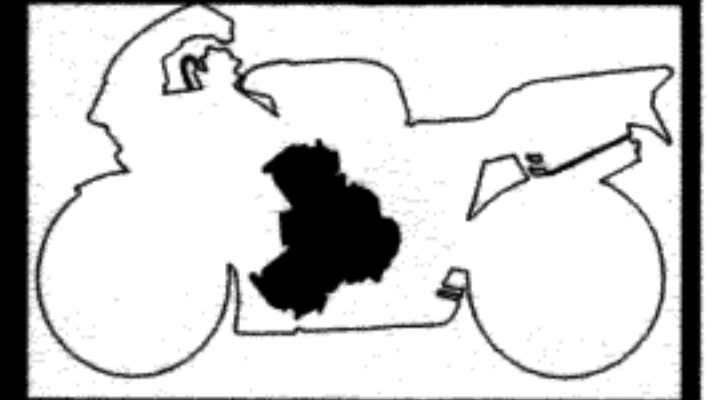


Fig.2/6

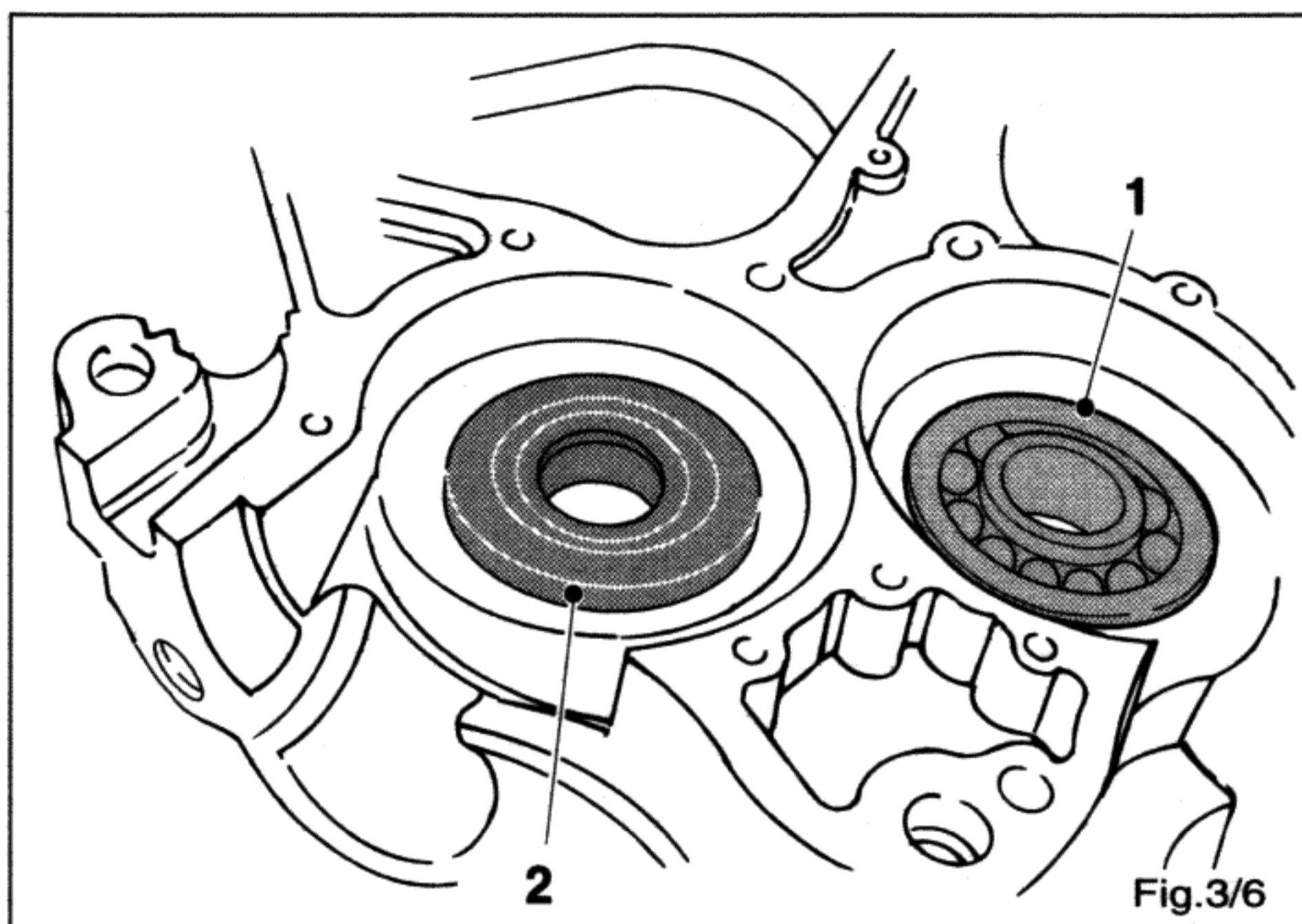
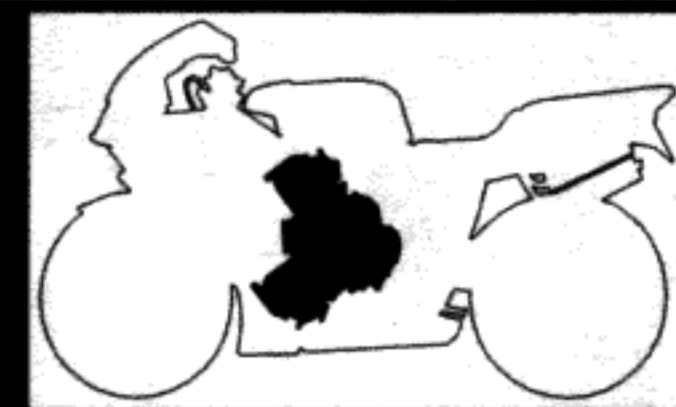


	Particolare	Codice	Qt.	Tipo di montaggio
A- Coperchio frizione	1 - Guarnizione	16-4267	1	
B- Carter frizione	2 - Spina cilindrica	26-8196	2	A freddo (angolati come in figura)
	3 - Valvole circuito olio	29-0513	2	A freddo
	4 - Anello di tenuta	10-6056	2	A freddo
	5 - Cuscinetto a sfera	12-6042	1	A caldo (carter riscaldato a 130°)
	6 - Anello seeger	10-5059	1	
	7 - Cuscinetto a sfera	12-6041	1	A caldo (carter riscaldato a 130°)
	8 - Anello seeger	10-5051	1	
	9 - Paraolio	10-6058	1	A freddo
	C- Carter del cambio	10 - Cuscinetto a sfera	12-6044	1
11 - Cuscinetto a sfera		12-6021	1	A caldo (carter riscaldato a 130°)
12 - Cuscinetto a rulli		16-1047	1	A freddo (grasso ITP W LR 115)
13 - Paraolio		10-6060	1	A freddo
14 - Spina cilindrica		26-8148	2	
15 - Ranella svasata		25-4171	1	
16 - Vite TSPEI M5 x 12		29-2880	1	
D- Carter selettore	17 - Paraolio	10-6005	1	A freddo

	Detail	Code	Qt.	Assembling type
A- Clutch cover	1 - Gasket	16-4267	1	
B- Clutch side cover	2 - Pin	26-8196	2	Cold (as indicated in figure)
	3 - Lubrication circuit valve	29-0513	2	Cold
	4 - Seal ring	10-6056	2	Cold
	5 - Bearing	12-6042	1	Heat the crankcase to 130°
	6 - Seeger ring	10-5059	1	
	7 - Bearing	12-6041	1	Heat the crankcase to 130°
	8 - Seeger ring	10-5051	1	
	9 - Gasket spare	10-6058	1	Cold
	C- Transmission cover	10 - Bearing	12-6044	1
11 - Bearing		12-6021	1	Heat the crankcase to 130°
12 - Bearing		16-1047	1	Cold (grease ITP W LR 115)
13 - Gasket spare		10-6060	1	Cold
14 - Pin		26-8148	2	
15 - Washer		25-4171	1	
16 - Screw TSPEI M5 x 12		29-2880	1	
D- Change cover	17 - Gasket spare	10-6005	1	Cold

	Einzelheit	Kodex	Qt.	Typ der einbau
A- Kupplungsdeckel	1 - Dichtung	16-4267	1	
B- Deckel der Kupplungsseite	2 - Stift	26-8196	2	Kalten (Positionwinkel wie in Bild gemessen)
	3 - Ventil des Ölkreislaufes	29-0513	2	Kalten
	4 - Dichtungsring	10-6056	2	Kalten
	5 - Lager	12-6042	1	Warm halten (Kurbelgehäusen auf 130° erwärmen)
	6 - Seegerring	10-5059	1	
	7 - Lager	12-6041	1	Warm halten (Kurbelgehäusen auf 130° erwärmen)
	8 - Seegerring	10-5051	1	
	9 - Ersatzdichtung	10-6058	1	Kalten
	C- Getriebedeckel	10 - Lager	12-6044	1
11 - Lager		12-6021	1	Warm halten (Kurbelgehäusen auf 130° erwärmen)
12 - Lager		16-1047	1	Kalten (Schmiere ITP W LR 115)
13 - Ersatzdichtung		10-6060	1	Kalten
14 - Stift		26-8148	2	
15 - Scheibe		25-4171	1	
16 - Schraube TSPEI M5 x 12		29-2880	1	
D- Deckel dem Schwelle	17 - Ersatzdichtung	10-6005	1	Kalten





#### AEX02 - MONTAGGIO CUSCINETTI (carter centrali)

1. Riscaldare:  
carter centrali a 130°  
Installare:  
cuscinetti di banco "1" (Qt.5) nei carter



**Punzone cuscinetti di banco 140610**

#### NOTA:

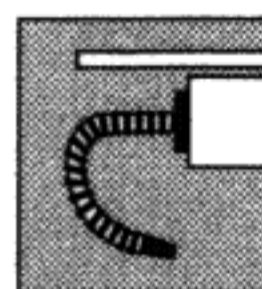
**Tutti i cuscinetti vanno montati con la scritta rivolta verso l'esterno.**

2. Installare :  
cuscinetto a sfera "2" (secondario cambio) nel carter Dx



**Punzone cuscinetto del cambio 140611**

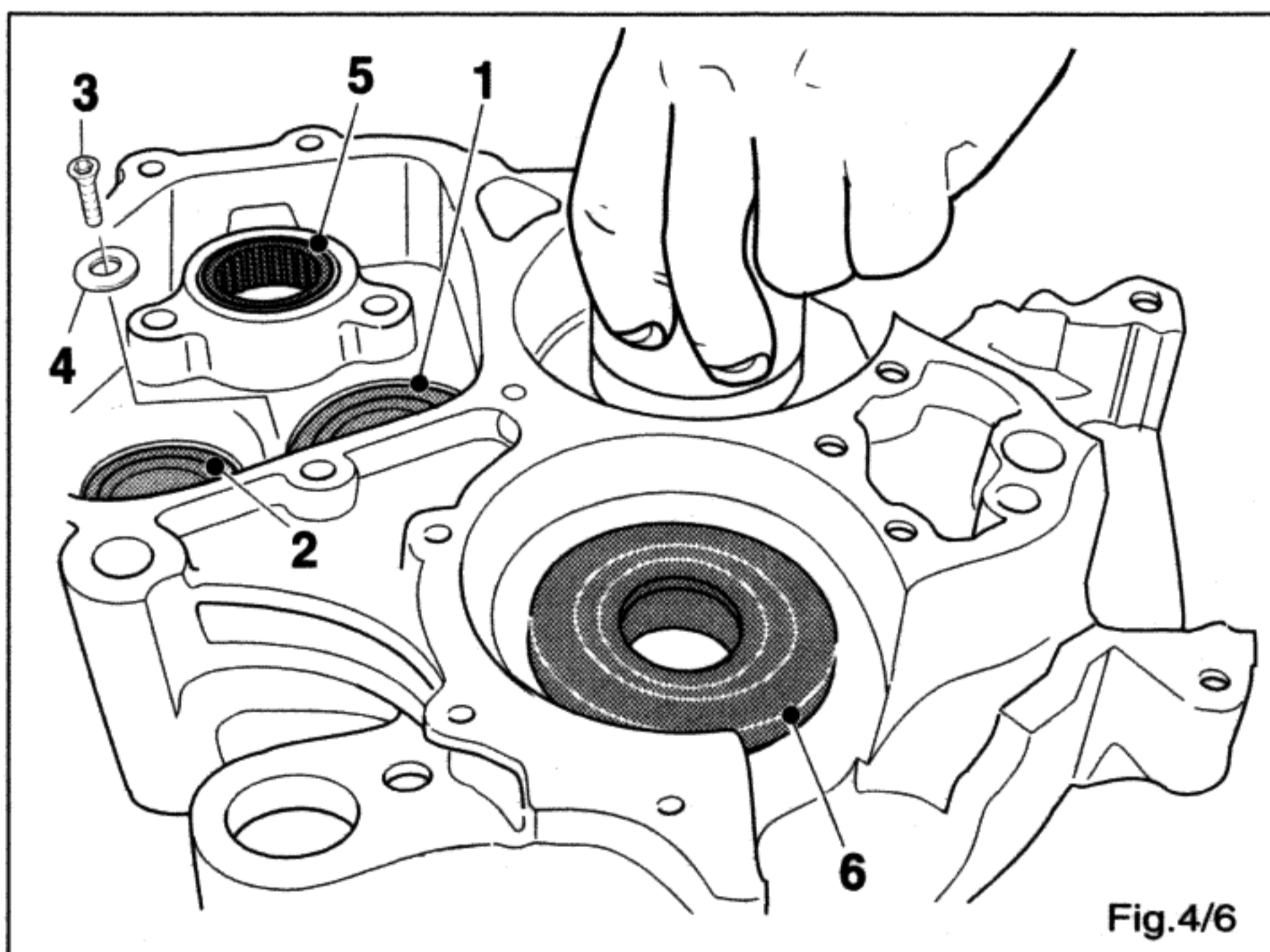
3. Installare :  
vite "3" e ranella "4" (fermo cuscinetto primar. cambio)
4. Installare a carter freddo:  
cuscinetto a rulli "5" (desmo del cambio) nel carter Dx



**Grasso ITP W LR 115**



**Punzone gabbia a rulli del desmo 140628**



#### AEX04 - MONTAGGIO PARAOLI (carter centrali)

1. Installare a freddo:  
Paraoli di banco "6" (Qt.4) nei carter centrali

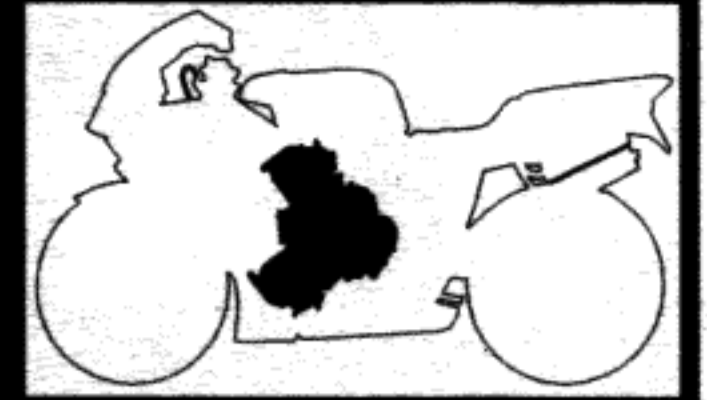


**Punzone paraolio carter centrali 140609**

#### NOTA:

**I paraoli vanno montati secondo il verso indicato in figura sino ad arrivare in battuta sul cuscinetto. Dopo ogni intervento sui cuscinetti montare sempre paraoli nuovi.**





**AEX02 - ASSEMBLY BEARING (crankcase)**

- Heat:  
crankcase to 130°  
Install:  
bearing "1" (Qt.5) to crankcase



**Punch mounting central crankcase bearing  
140610**

**NOTE:**

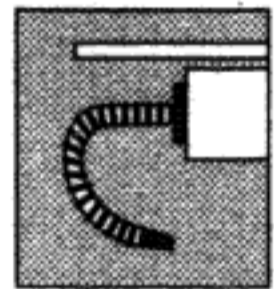
All bearings are to be fitted with the writing turned outwards.

- Install :  
bearing "2" (secondary shift of trasm.) to R.H. crankcase



**Punch mounting trasmission bearing  
140611**

- Install :  
screw "3" and washer "4" (retainer of the bearing on the primary shift of the trasmission)
- Install with cold crankcaser:  
bearing "5" (fork control drum) to R.H. crankcase



**Grease ITP W LR 115**



**Punch mounting bearing (fork control drum) 140628**

**AEX04 - ASSEMBLY OIL SEALS (crankcase)**

- Install at low temperature:  
oil seal "6" (Qt.4) to central crankcase



**Punch mounting oil seal (central crankcase) 140609**

**NOTE:**

The oil seals are to be fitted according to the direction indicated in figure so that they press the bearing. After every intervention on the bearings always mount the new oil seals.

**AEX02 - EINBAU DER LAGER (Zetralkurbelgehäusen)**

- Erwärmen:  
Zetralkurbelgehäusen auf 130°  
Einbauen:  
lager "1" (Zahl 5) an Kurbelgehäusen



**Durchzug der Lager (Zetralkurbelgehäusen)  
140610**

**HINWEIS:**

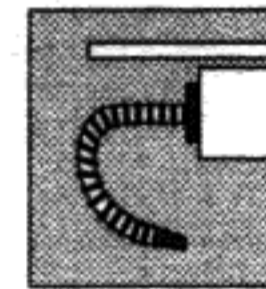
Alle Lager mit der Schrift, die nach aussen zeigt, anbringen.

- Einbauen :  
lager "2" (Zweitwelle des Zaharadge.) an Kurbelgehäuse R.



**Durchzug der Lager (Getriebe)  
140611**

- Einbauen :  
schraube "3" und scheibe "4" (fFeststellvorrichtung des Lagers auf dem Primärteil des Zahanradgetriebes)
- Bei kaltem Kurbelgehäuse installieren:  
lager "5" (Eistellung des Trommels) an Kurbelgehä. R.



**Schmiere ITP W LR 115**



**Durchzug der Lager (Eistellung des Trommels) 140628**

**AEX04 - EINBAUEN DER DICHRINGEN (Zetralkurbelgehäu.)**

- Bei kaltem Kurbelgehäuse installieren:  
Dichtringen "6" (Zahl 4) an Zetralkurbelgehäusen



**Durchzug der Dichtringen  
(Zetralkurbelgehäusen) 140609**

**HINWEIS:**

Ölabdichtungen entsprechend der in dem Bild dargestellten Richtung so montieren, dass sie das Lager drücken. Nach jedem Eingriff auf den Lagern immer neue Ölabdichtungen montieren.



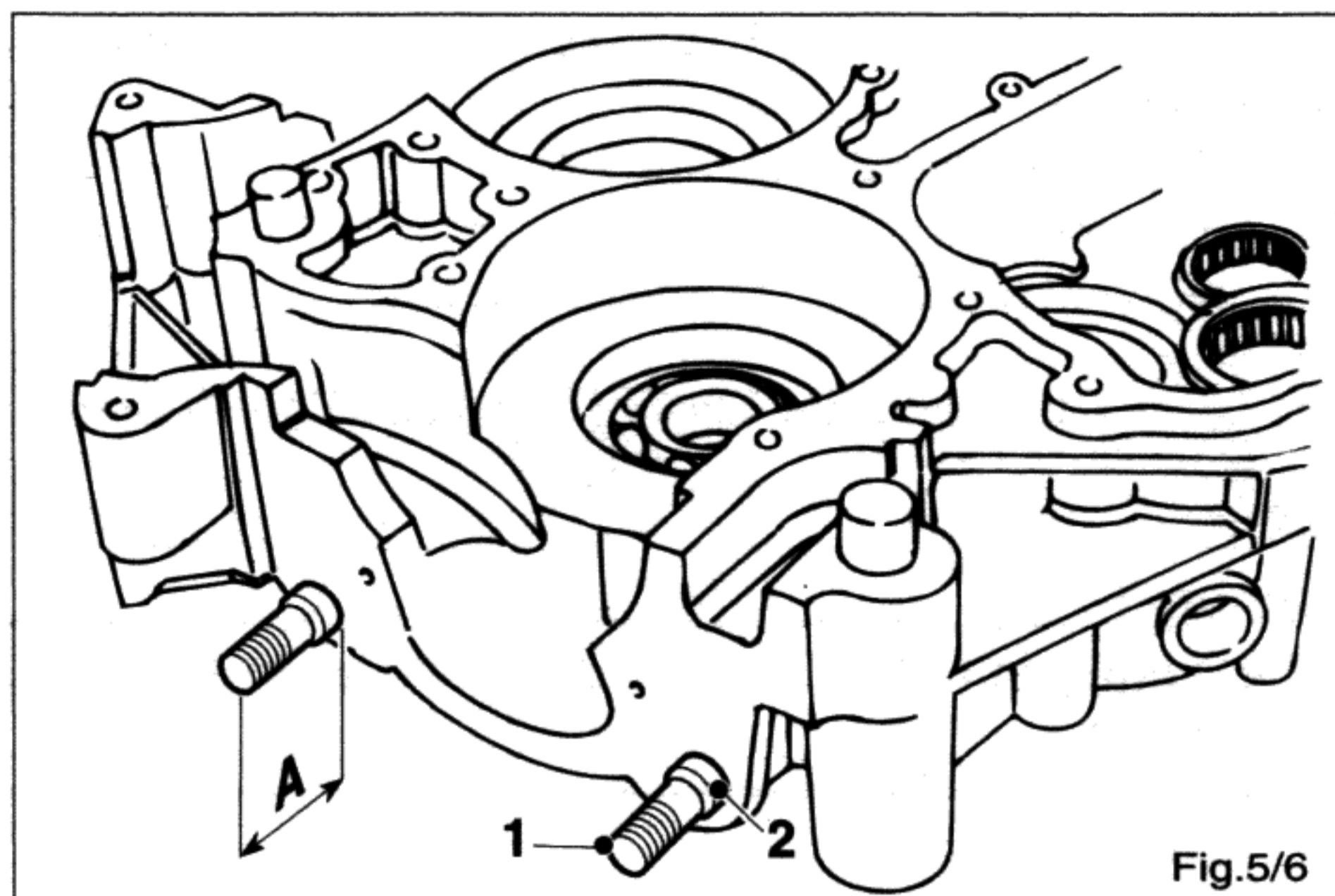


Fig.5/6

### ACX01 - MONTAGGIO PRIGIONIERI CILINDRI

1. Serrare:  
prigionieri "1" (Qt.8) nei carter centrali



**Frenafilletti Loxeal 83-21**



**Lunghezza "A" del prigioniero in esterno:  
31,95 ~ 32,05 mm. (1,258 ~ 1,379 in)**

2. Installare:  
Spina di centraggio "2" (Qt.4) cilindro

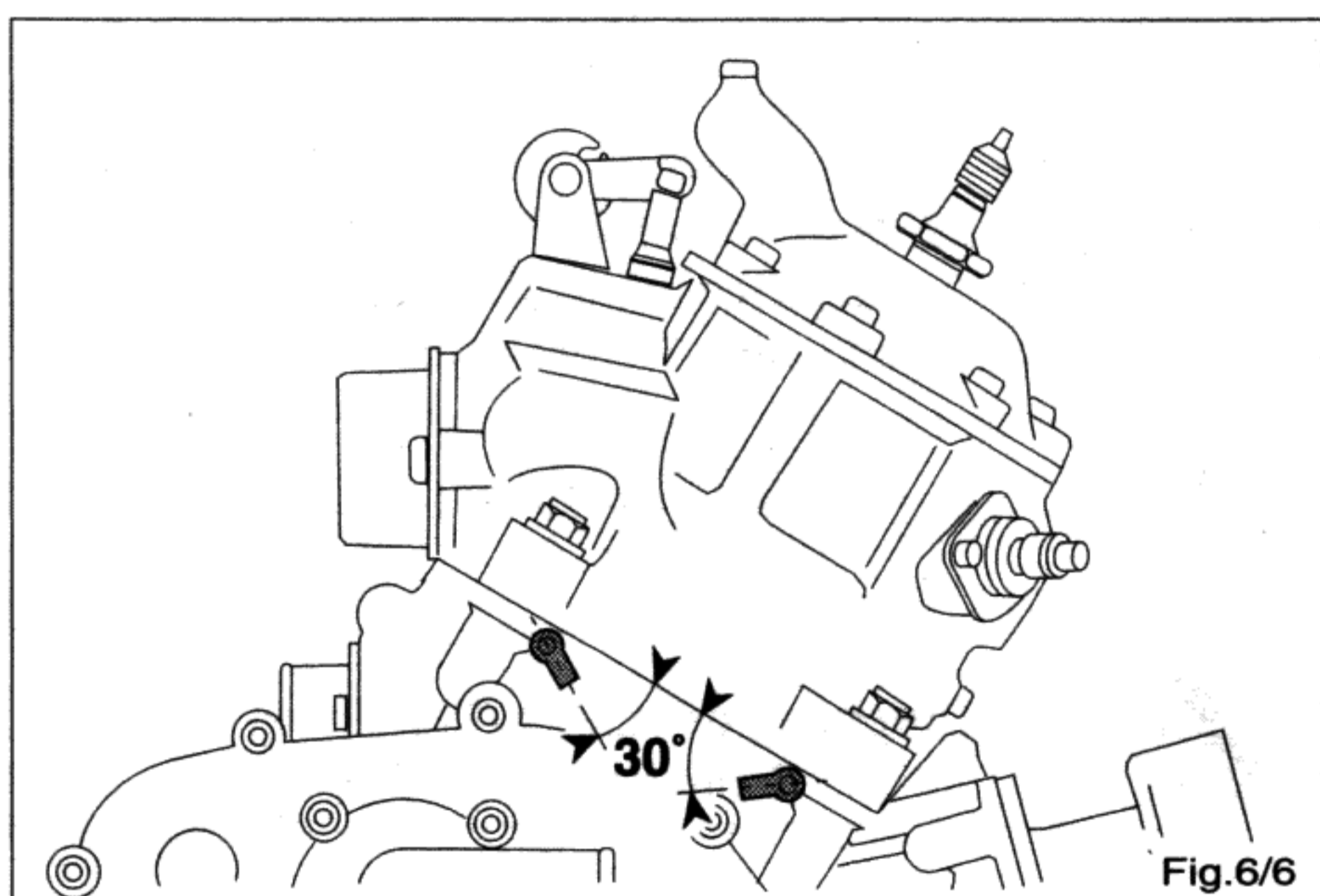


Fig.6/6

### COMPLETAMENTO CARTER CENTRALI

1. Installare a freddo:  
valvole circuito dell'olio (Qt.8) nei carter centrali



**Angolo posizione valvola circuito dell'olio:  
30°(misurati come in figura)**

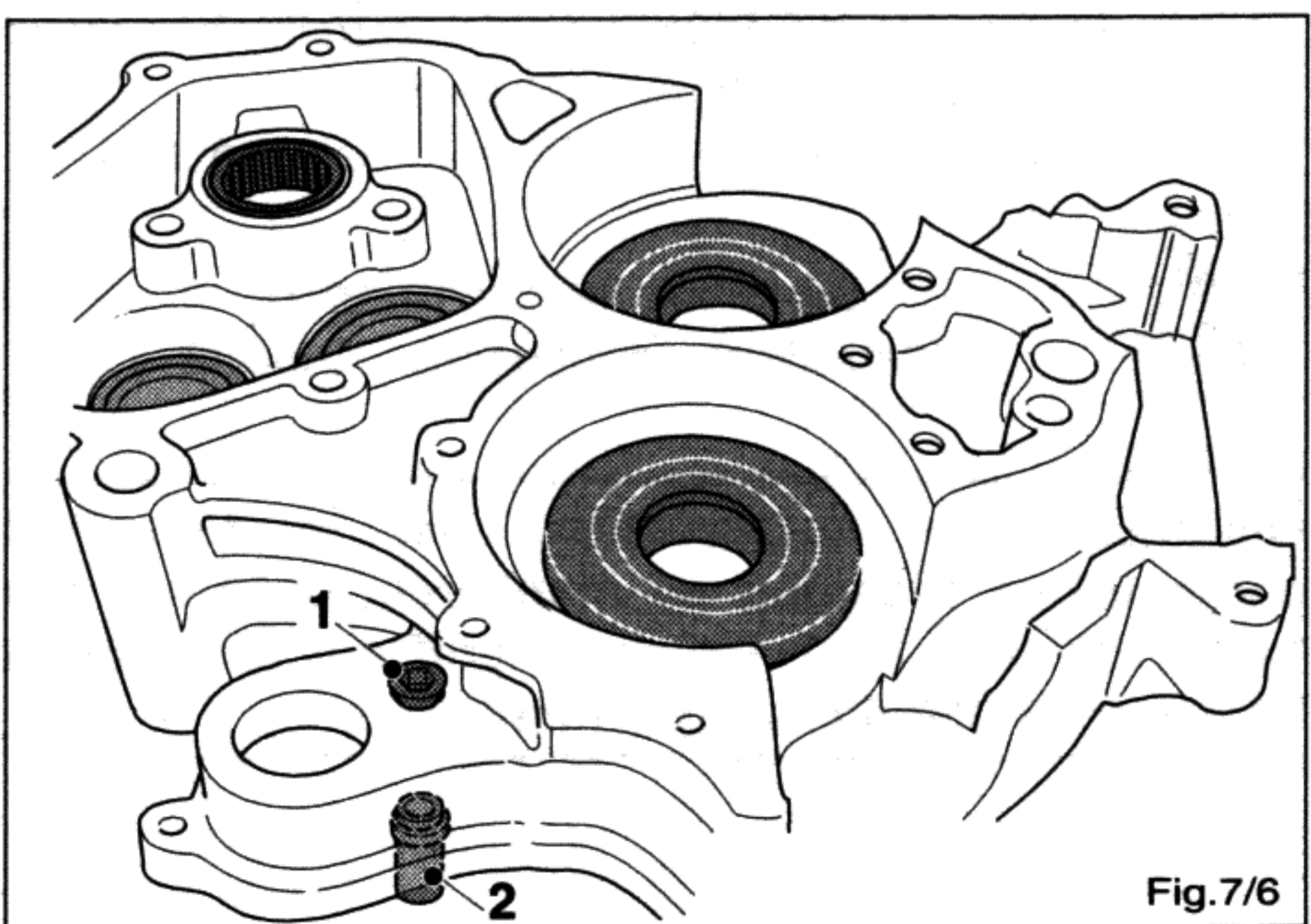
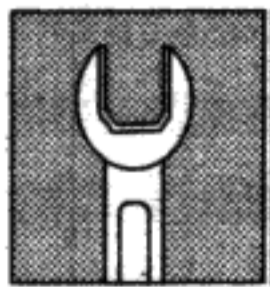


Fig.7/6

2. Installare:  
Perno "1" ingranaggio intermedio dell'avviamento
3. Serrare:  
vite "2" bloccaggio perno avviamento

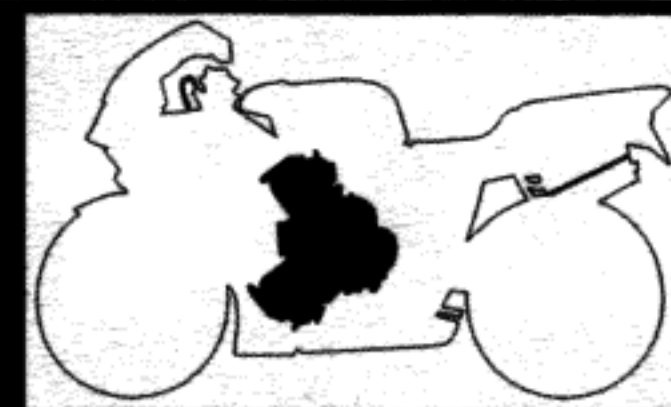


**Frenafilletti Loxeal 83-21**



**Vite bloccaggio perno avviamento:  
10 Nm ( 1 Kg · m - 7,23 ft · lb)**





### ACX01 - ASSEMBLY STUD BOLT OF CYLINDER

1. Tighten:  
stud bolt "1" (Qt.8) to the central crankcase



**Paste for threads Loxeal 83-21**



**Stud bolt length "A" on external side:  
31,95 ~ 32,05 mm. (1,258 ~ 1,379 in)**

2. Install:  
pin "2" (Qt.4) to centre cylinder

### ACX01 - EINBAU STIFTSCHRAUBE DER ZYLINDER

1. Festziehen:  
Stiftschrauben "1" (Zahl 8) an Zetralkurbelgehäuse



**Paste für Gewinden Loxeal 83-21**



**Länge "A" der Stiftschraube an der Aussenseite:  
31,95 ~ 32,05 mm. (1,258 ~ 1,379 in)**

2. Einbauen:  
Stift "2" (Zahl 4) die Zylinder treffen

### CRANKCASES FINISHING

1. Install at low temperature:  
valve (Qt.8) lubrication circuit to the central crankcase



**Angle of valve position of oil circuit:  
30°(measured as indicated in figure)**

2. Install:  
pin "1" kick idle gear
3. Tighten:  
screw "2" to fix the kick idle pin



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



**Screw to fix the kick idle pin:  
10 Nm ( 1 Kg · m - 7,23 ft · lb)**

### NACHBEARBEITUNG DER ZENTRALEN KURBELGEHÄUSEN

1. Bei kaltem Kurbelgehäuse installieren:  
Ventils des Ölkreislaufes (Zahl 8) an Zetralkurbelgehäuse

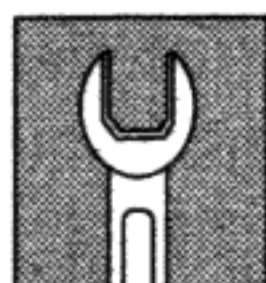


**Positionwinkel des Ventils des Ölkreislaufes:  
30°(wie in Bild gemessen)**

2. Einbauen:  
Stift "1" der Kickstarter - Zwischenzahnrad
3. Festziehen:  
schraube "2" für Stift der Kickstarter festmachen

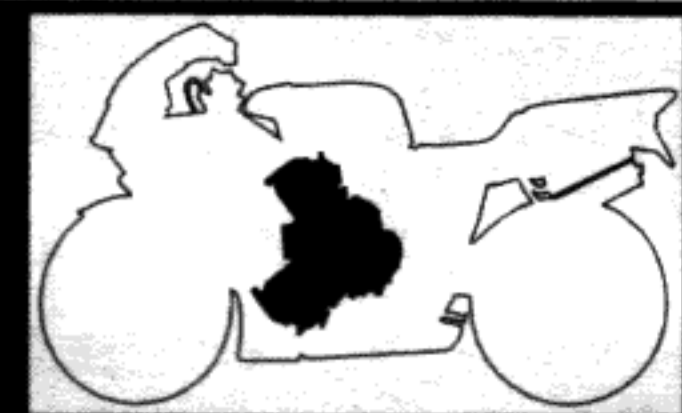


**Paste für Gewinden: Loxeal 83-21**



**Schraube der Stift der Kickstarter:  
10 Nm ( 1 Kg · m - 7,23 ft · lb)**





4. Solo per versione con perno flangiato.  
Serrare:  
viti (Qt. 2) bloccaggio perno avviamento-lato frizione



**Frenafretilti Loxeal 83-21**



**Viti bloccaggio perno avviamento:  
4 + 6 Nm ( 0,4 + 0,6 Kg · m - 2,89 + 4,34 ft · lb)**

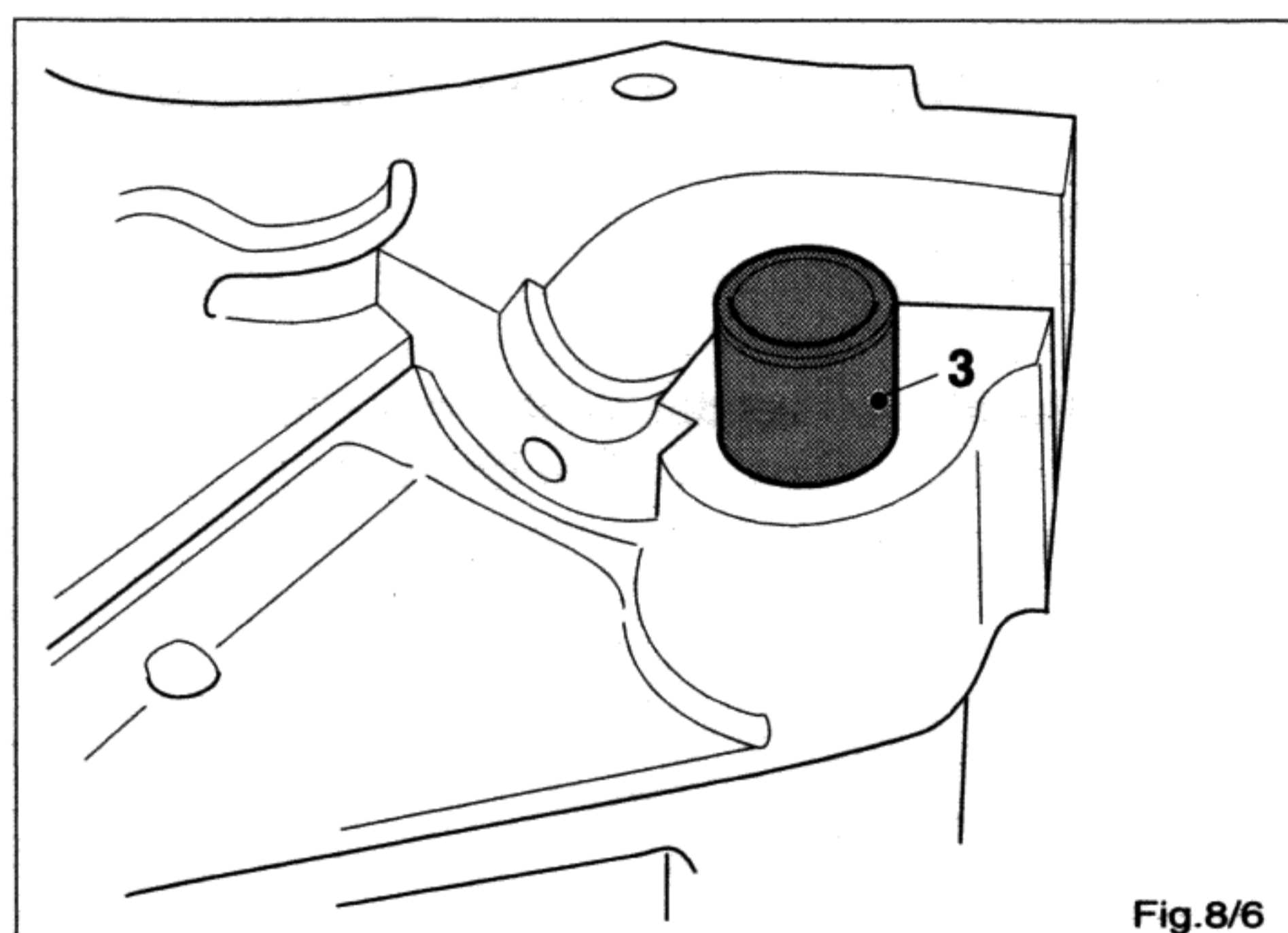
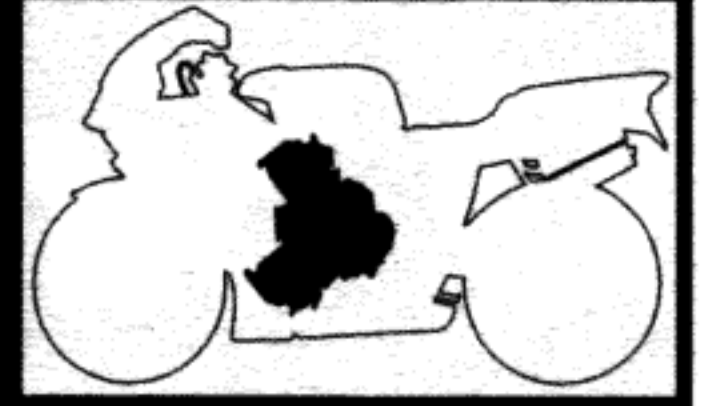


Fig.8/6

5. Installare:  
Spina "3" centraggio carter centrali (Qt.3)





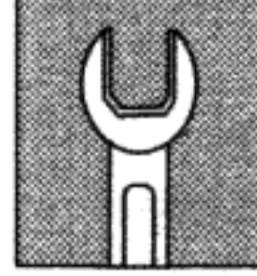
4. Only version whit pin deck fitting.

Tighten:

screws (Qt. 2) to fix the kick idle pin - clutch side



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



**Screw to fix the kick idle pin:**  
**4 ÷ 6 Nm ( 0,4 ÷ 0,6 Kg · m - 2,89 ÷ 4,34 ft · lb)**

4. Nur für Ausführung mit Flansch-Bolzen

Festziehen:

Schrauben (Zahl 2) für Stift der Kickstarter festma-  
chen - Kupplungsseite



**Paste für Gewinden: Loxeal 83-21**



**Schraube der Stift der Kickstarter:**  
**4 ÷ 6 Nm ( 0,4 ÷ 0,6 Kg · m - 2,89 ÷ 4,34 ft · lb)**

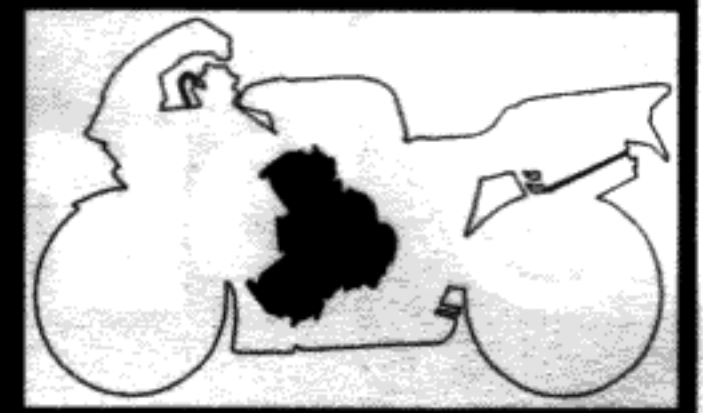
5. Install:

Pin "3" to centre crankcase (Qt.3)

5. Einbauen:

Stift "3" mit Kurbgehäuse einmitten (Zahl 3)





**ALBERI MOTORE - CRANKSHAFT - AUSGLEIKWELLE**

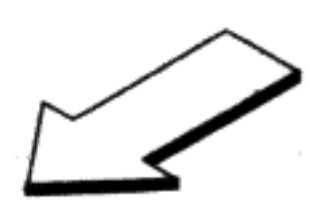
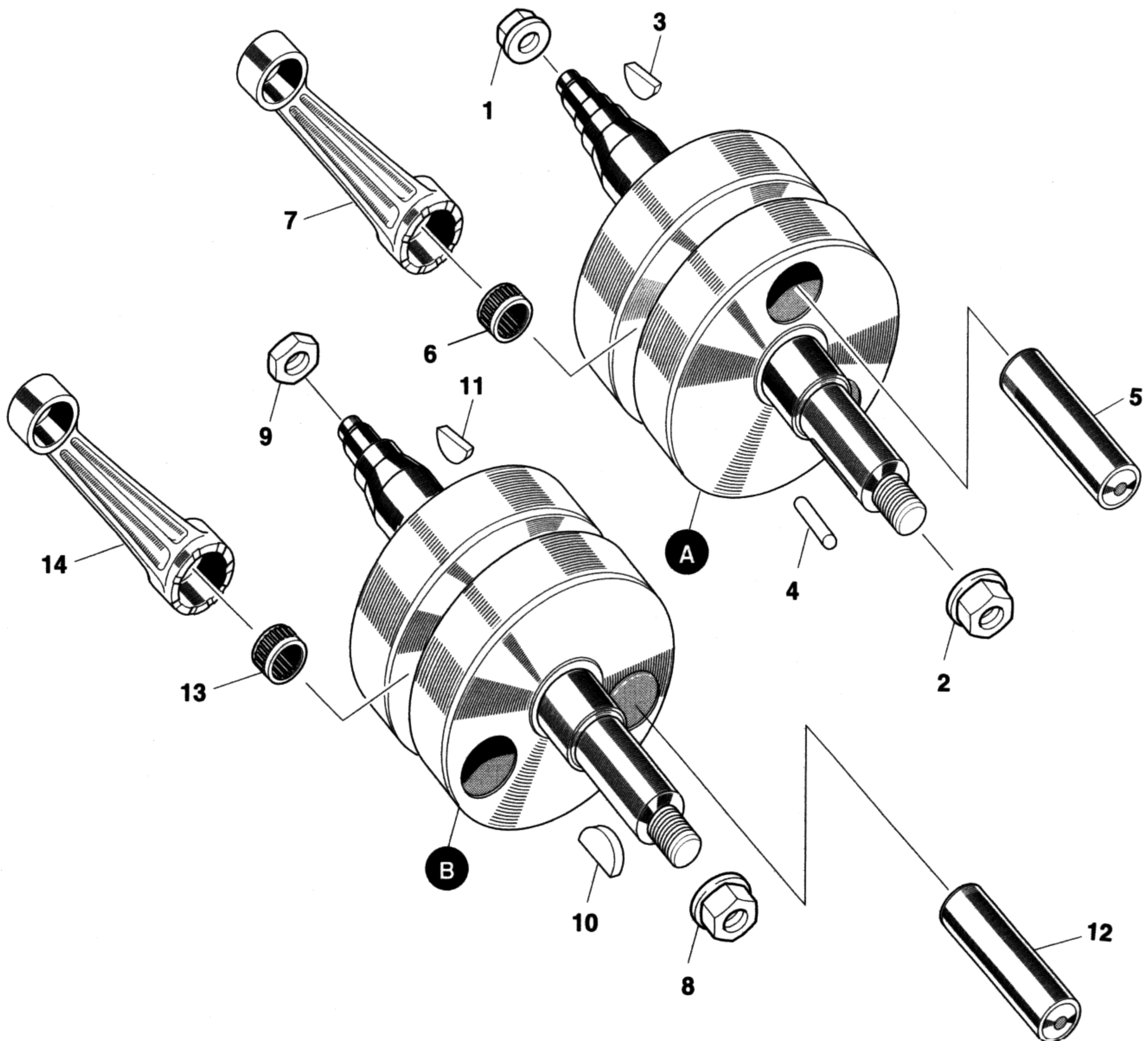
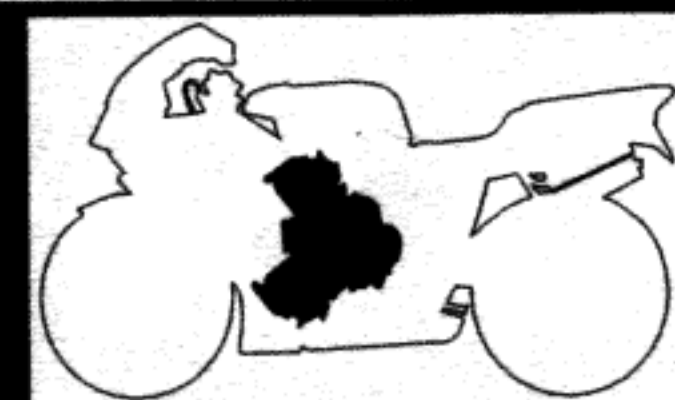


Fig.9/6



Particolare	Codice	Qt.	Tipo di montaggio
A - Albero motore superiore	10-0145	1	
1 - Dado	13-3047	1	Coppia di serraggio 12,5 ~ 13 Kg-m
2 - Dado	13-3045	1	Coppia di serraggio 10 ~ 11 Kg-m
3 - Chiavetta	19-6025	1	
4 - Chiavetta	12-7281	1	
5 - Bottone biella	23-1117	1	
6 - Cuscinetto a rulli	16-1042	1	Lubrificare con olio motore
7 - Biella	11-1030	1	
B - Albero motore inferiore	10-0146	1	
8 - Dado	13-3045	1	Coppia di serraggio 10 ~ 11 Kg-m
9 - Dado	13-3046	1	Coppia di serraggio 12,5 ~ 13 Kg-m
10 - Chiavetta	19-6027	1	
11 - Chiavetta	19-6025	1	
12 - Bottone biella	23-1118	1	
13 - Cuscinetto a rulli	16-1042	1	Lubrificare con olio motore
14 - Biella	11-1030	1	

Detail	Code	Qt.	Assembling type
A - Upper crankshaft	10-0145	1	
1 - Nut	13-3047	1	Tightening torque: 12,5 ~ 13 Kg-m
2 - Nut	13-3045	1	Tightening torque: 10 ~ 11 Kg-m
3 - Key	19-6025	1	
4 - Key	12-7281	1	
5 - Connecting rod pin	23-1117	1	
6 - Bearing	16-1042	1	Apply engine oil
7 - Connecting rod	11-1030	1	
B - Lower crankshaft	10-0146	1	
8 - Nut	13-3045	1	Tightening torque: 10 ~ 11 Kg-m
9 - Nut	13-3046	1	Tightening torque: 12,5 ~ 13 Kg-m
10 - Key	19-6027	1	
11 - Key	19-6025	1	
12 - Connecting rod pin	23-1118	1	
13 - Bearing	16-1042	1	Apply engine oil
14 - Connecting rod	11-1030	1	

Einzelheit	Kodex	Qt.	Typ der einbau
A - Kuberwelle ober	10-0145	1	
1 - Mutter	13-3047	1	Anzugsmoment: 12,5 ~ 13 Kg-m
2 - Mutter	13-3045	1	Anzugsmoment: 10 ~ 11 Kg-m
3 - Einlegekeile	19-6025	1	
4 - Einlegekeile	12-7281	1	
5 - Pleuel stange bolz	23-1117	1	
6 - Lager	16-1042	1	Motoröl auftragen
7 - Pleuelstange	11-1030	1	
B - Kuberwelle untere	10-0146	1	
8 - Mutter	13-3045	1	Anzugsmoment: 10 ~ 11 Kg-m
9 - Mutter	13-3046	1	Anzugsmoment: 12,5 ~ 13 Kg-m
10 - Einlegekeile	19-6027	1	
11 - Einlegekeile	19-6025	1	
12 - Pleuel stange bolz	23-1118	1	
13 - Lager	16-1042	1	Motoröl auftragen
14 - Pleuelstange	11-1030	1	



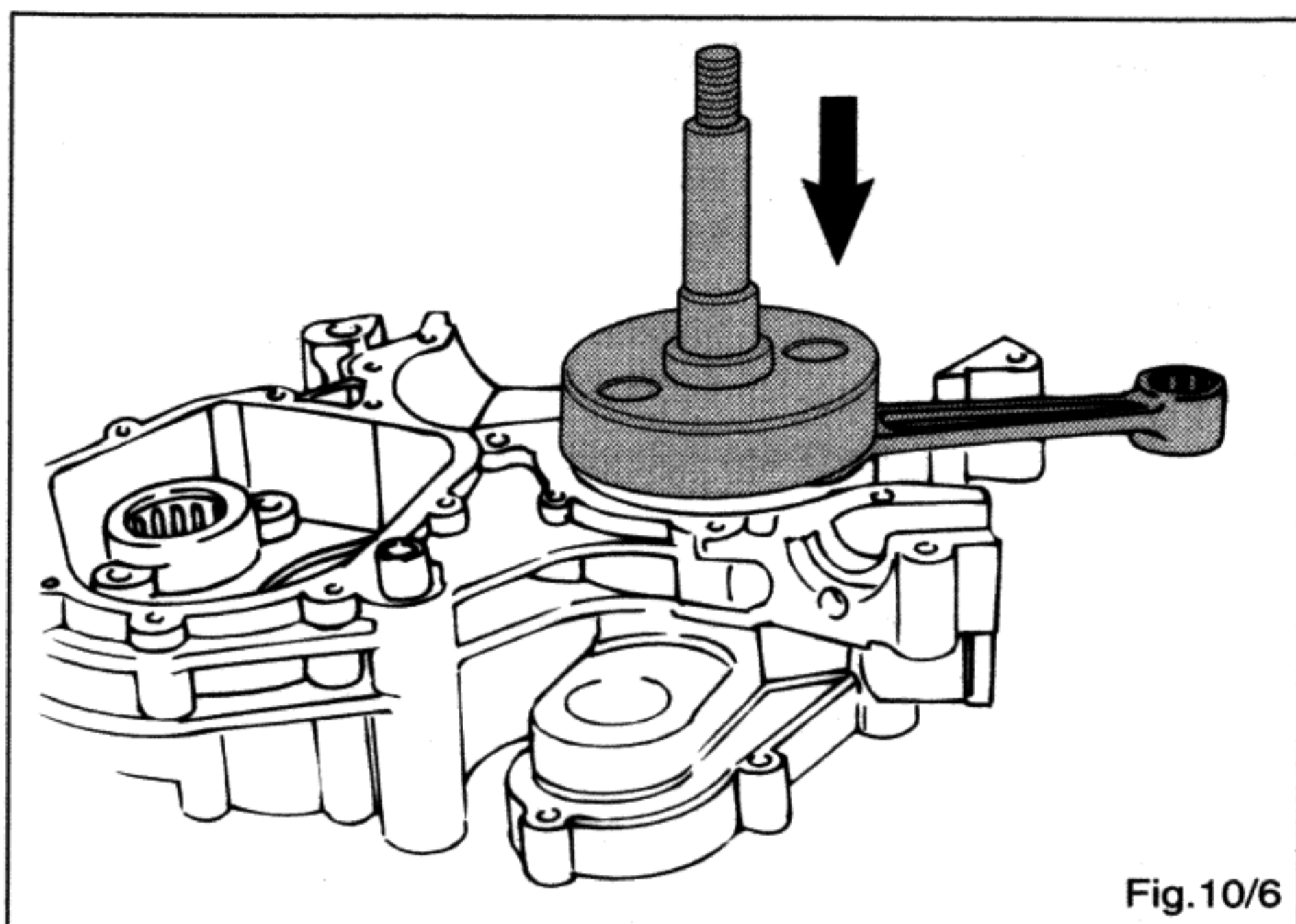
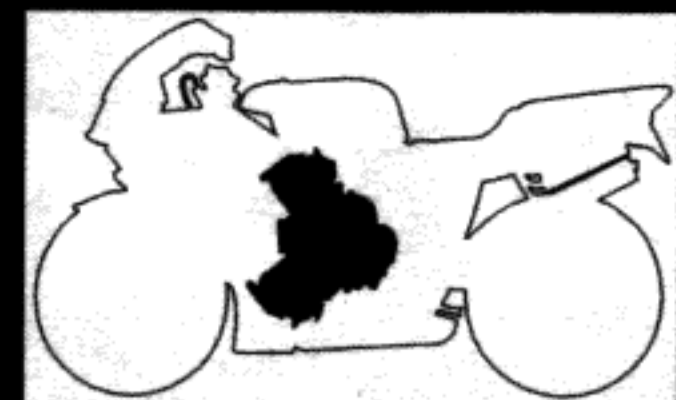


Fig.10/6

**AEX01 - MONTAGGIO ALBERI MOTORE SU CARTER**

1. Installare:  
alberi motore "1" (Qt.2) nel carter Dx (lato frizione)


**Estrattore alberi motore 140621**

**NOTA:** \_\_\_\_\_  
Per facilitare l'inserimento dell'albero riscaldare l'anello interno del relativo cuscinetto.  
Gli alberi motore vanno montati a battuta sui cuscinetti di banco.

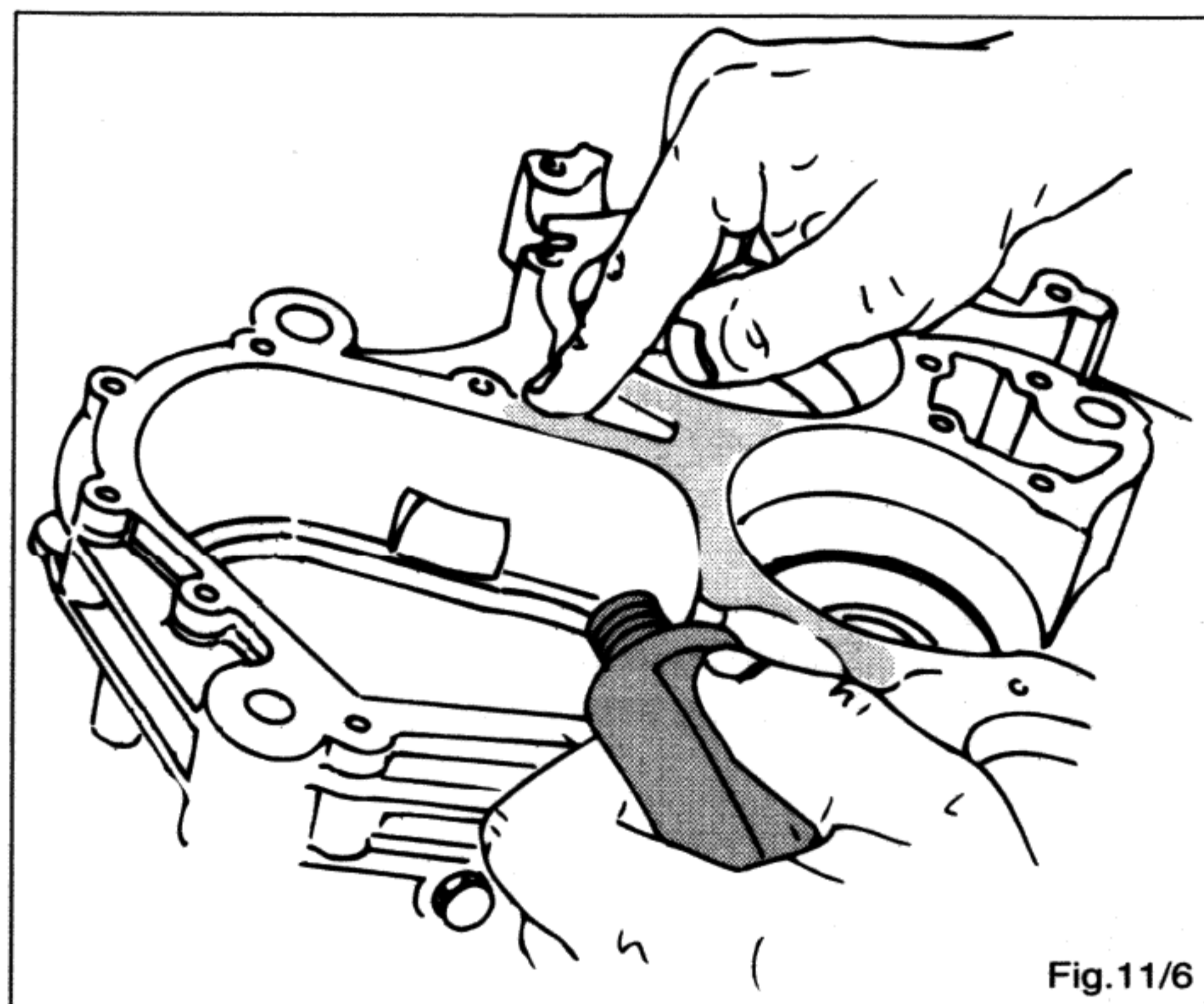


Fig.11/6

2. Applicare :  
pasta di tenuta sulla superficie interna del carter Sx

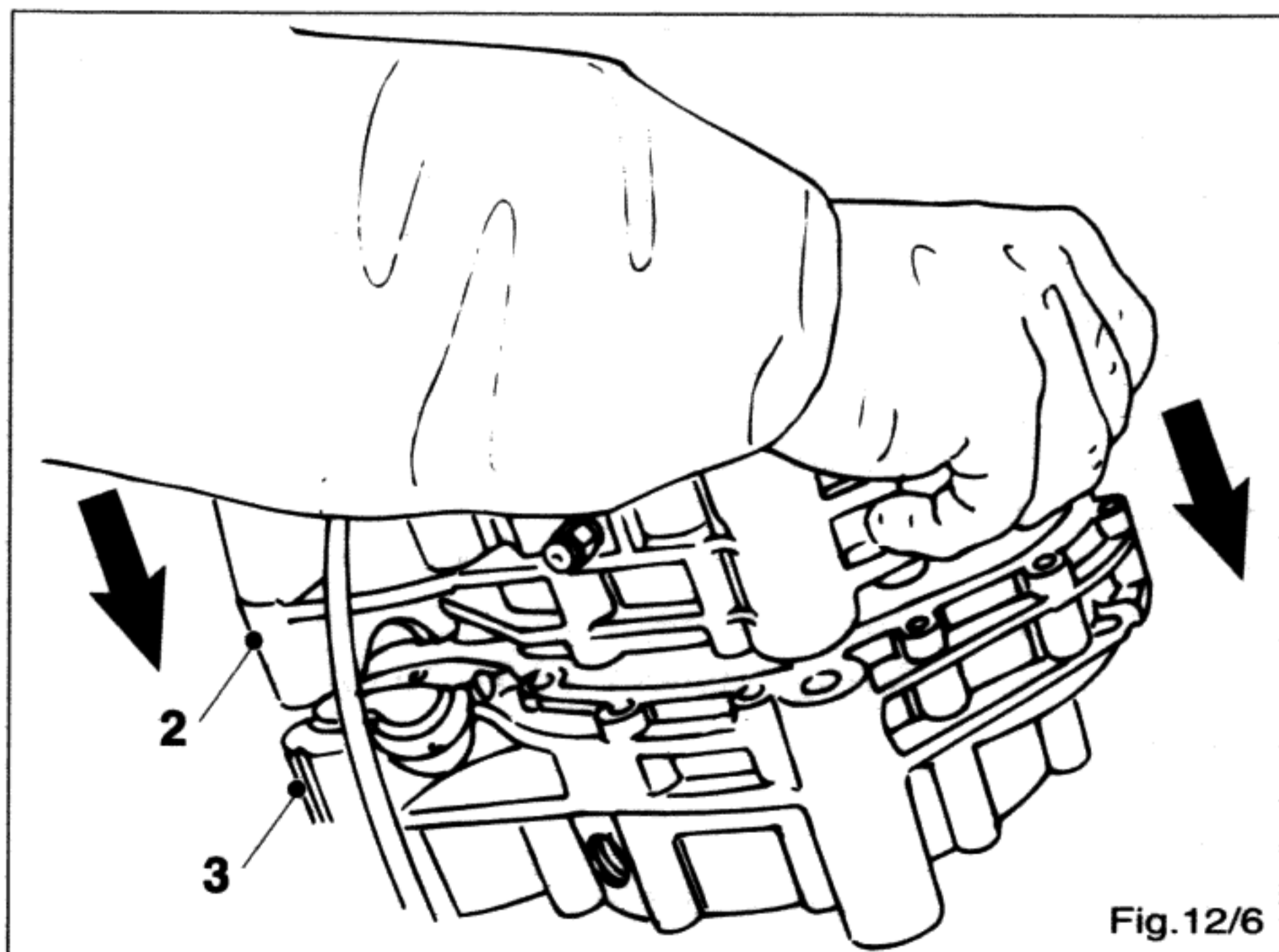
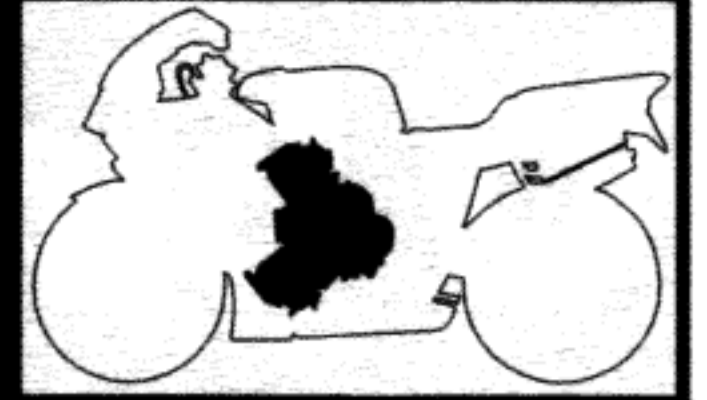

**Pasta di tenuta : Loctite 510**


Fig.12/6

3. Installare:  
carter centrale Sx "2" sopra carter centrale Dx "3"

**NOTA:** \_\_\_\_\_  
Centrare il carter centrale Sx con le spine montate sul carter centrale Dx.



**AEX01 - ASSEMBLY THE CRANKSHAFTS TO CRANKCASE**

1. Install:  
crankshaft "1" (Qt.2) to R.H.carter(clutch side)



**Crankshaft extractor 140621**

**NOTE:**

To make the shaft fitting easy heat the internal ring of the relative bearing.

The motor shafts are to be fitted so that they press against the main bearings.

2. Apply :  
sealing paste on the internal surface of the left crankcase



**Sealing paste : Loctite 510**

3. Install:  
L.H. central crankcase "2" on the R.H. central crankcase "3"

**NOTE:**

Center the left central crankcase with the pins fitted to the right central crankcase.

**AEX01 - EINBAUEN DER AUSGLEIKWELLEN AN KURBELGEHÄUSEN**

1. Einbauen:  
Ausgleichwellen "1" (Zahl 2) an Kurbergeäuse R. (Kupplung Seite)



**Der Kurberwelle Auszieher 140621**

**HINWEIS:**

Zum leichten Einsatz der Welle den Innenring des betreffenden Lagers erwärmen.

Motorwellen so montieren, dass sie die Hauptlager drücken.

2. Auftragen :  
Dichtungspaste auf der Innenfläche des linken Kurbelgehäuses



**Dichtungspaste : Loctite 510**

3. Einbauen:  
Zentralkurbengehäuse L. "2" auf dem Zentralkurbengehäuse R."3"

**HINWEIS:**

Das linken Zentralkurbelgehäuse mit den am rechten Zentralkurbelgehäuse montierten stiften zentrieren.





**1** Sequenza di montaggio - Installation sequence - Einbauserie

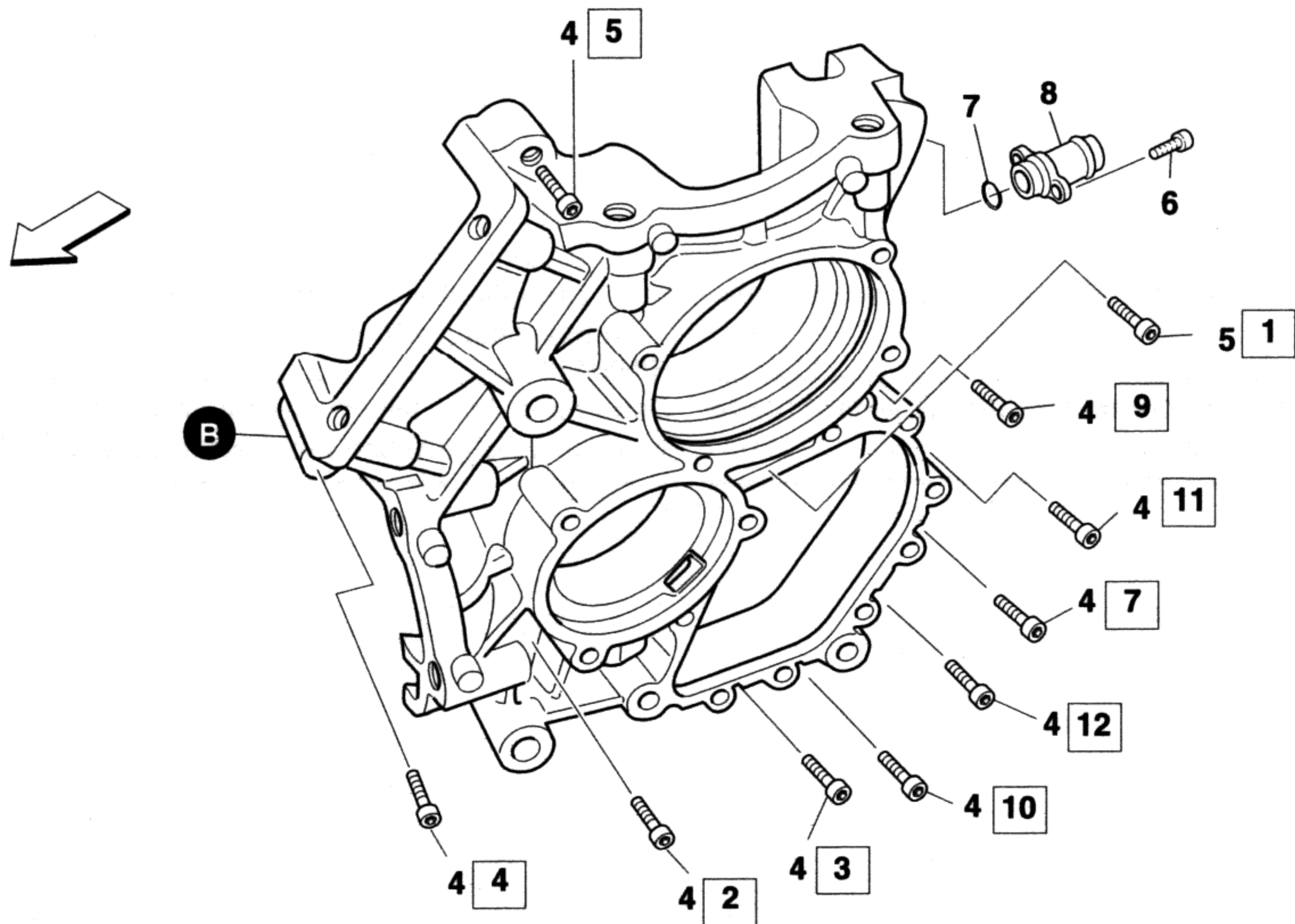
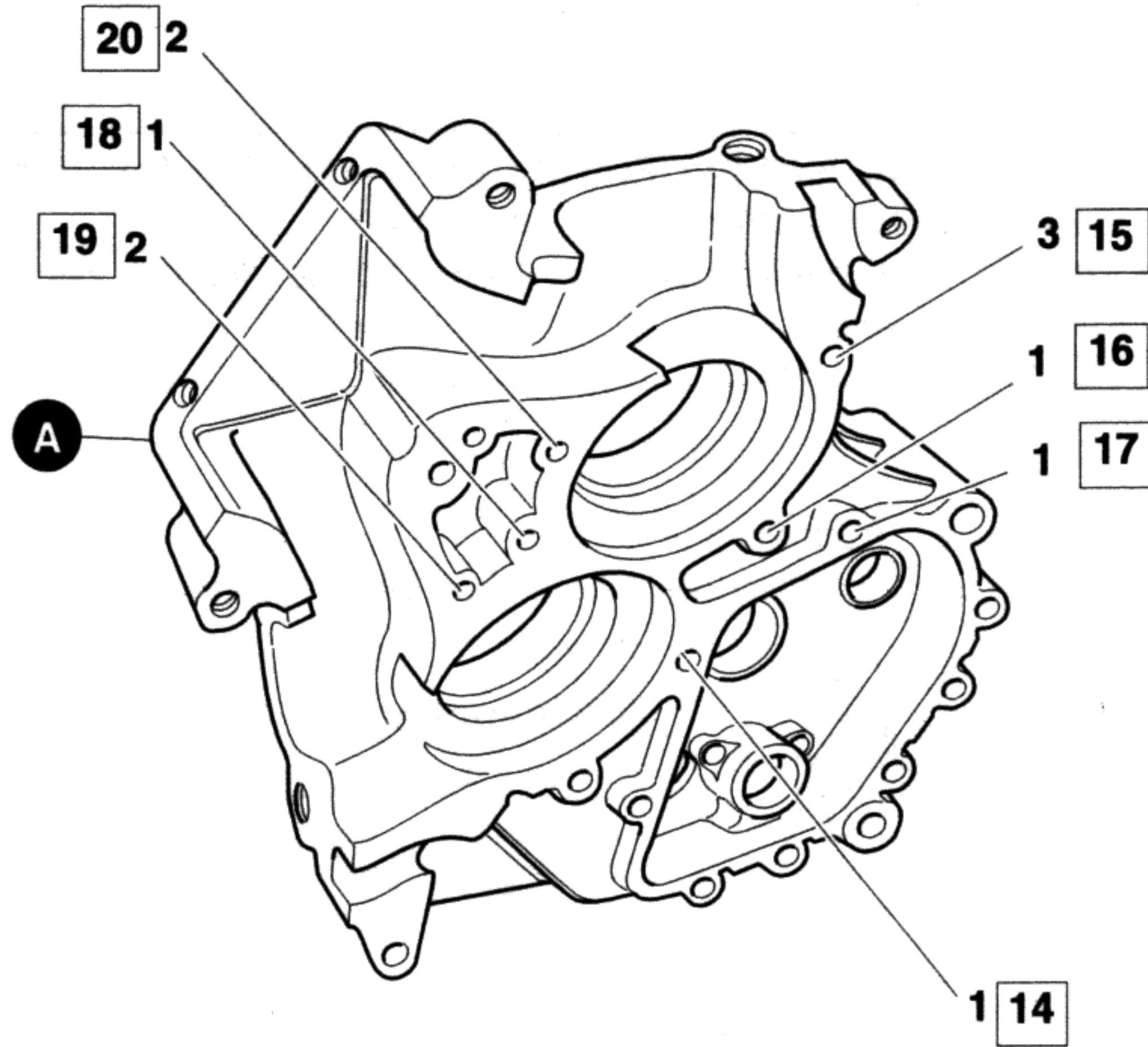


Fig.13/6



Particolare		Codice	Qt.	Tipo di montaggio
A- Carter motore Dx	1 - Vite TCEI M 6 x 40	29-1989	4	Coppia di serraggio 0,8 + 1,0 Kg x m
	2 - Vite TCEI M 6 x 50	29-1991	2	Coppia di serraggio 0,8 + 1,0 Kg x m
	3 - Vite TCEI M 6 x 70	291995	1	Coppia di serraggio 0,8 + 1,0 Kg x m
B- Carter motore Sx	4- Vite TCEI M 6 x 40	29-1989	9	Coppia di serraggio 0,8 + 1,0 Kg x m
	5 - Vite TCEI M 8 x 45	29-2015	1	Coppia di serraggio 1,2 + 1,4 Kg x m
	6 - Vite TCEI M 5 x 12	29-1555	4	
	7 - Anello O.R.	204010008	2	
	8 - Raccordo circuito raffreddamento	503745090	2	

Detail		Code	Qt.	Assembling type
A- Right crankcase	1 - Screw TCEI M 6 x 40	29-1989	4	Tightening torque: 0,8 + 1,0 Kg x m
	2 - Screw TCEI M 6 x 50	29-1991	2	Tightening torque: 0,8 + 1,0 Kg x m
	3 - Screw TCEI M 6 x 70	291995	1	Tightening torque: 0,8 + 1,0 Kg x m
B- Left crankcase	4- Screw TCEI M 6 x 40	29-1989	9	Tightening torque: 0,8 + 1,0 Kg x m
	5 - Screw TCEI M 8 x 45	29-2015	1	Tightening torque: 1,2 + 1,4 Kg x m
	6 - Screw TCEI M 5 x 12	29-1555	4	
	7 - O-Ring	204010008	2	
	8 - Water system unit	503745090	2	

Einzelheit		Kodex	Qt.	Typ der Einbau
A- Kurberlgehäuse R.	1 - Schraube TCEI M 6 x 40	29-1989	4	Anzugsmoment: 0,8 + 1,0 Kg x m
	2 - Schraube TCEI M 6 x 50	29-1991	2	Anzugsmoment: 0,8 + 1,0 Kg x m
	3 - Schraube TCEI M 6 x 70	291995	1	Anzugsmoment: 0,8 + 1,0 Kg x m
B- Kurberlgehäuse L.	4- Schraube TCEI M 6 x 40	29-1989	9	Anzugsmoment: 0,8 + 1,0 Kg x m
	5 - Schraube TCEI M 8 x 45	29-2015	1	Anzugsmoment: 1,2 + 1,4 Kg x m
	6 - Schraube TCEI M 5 x 12	29-1555	4	
	7 - O-Ring	204010008	2	
	8 - Anschluß dem K�ulerkreislaufsystem	503745090	2	



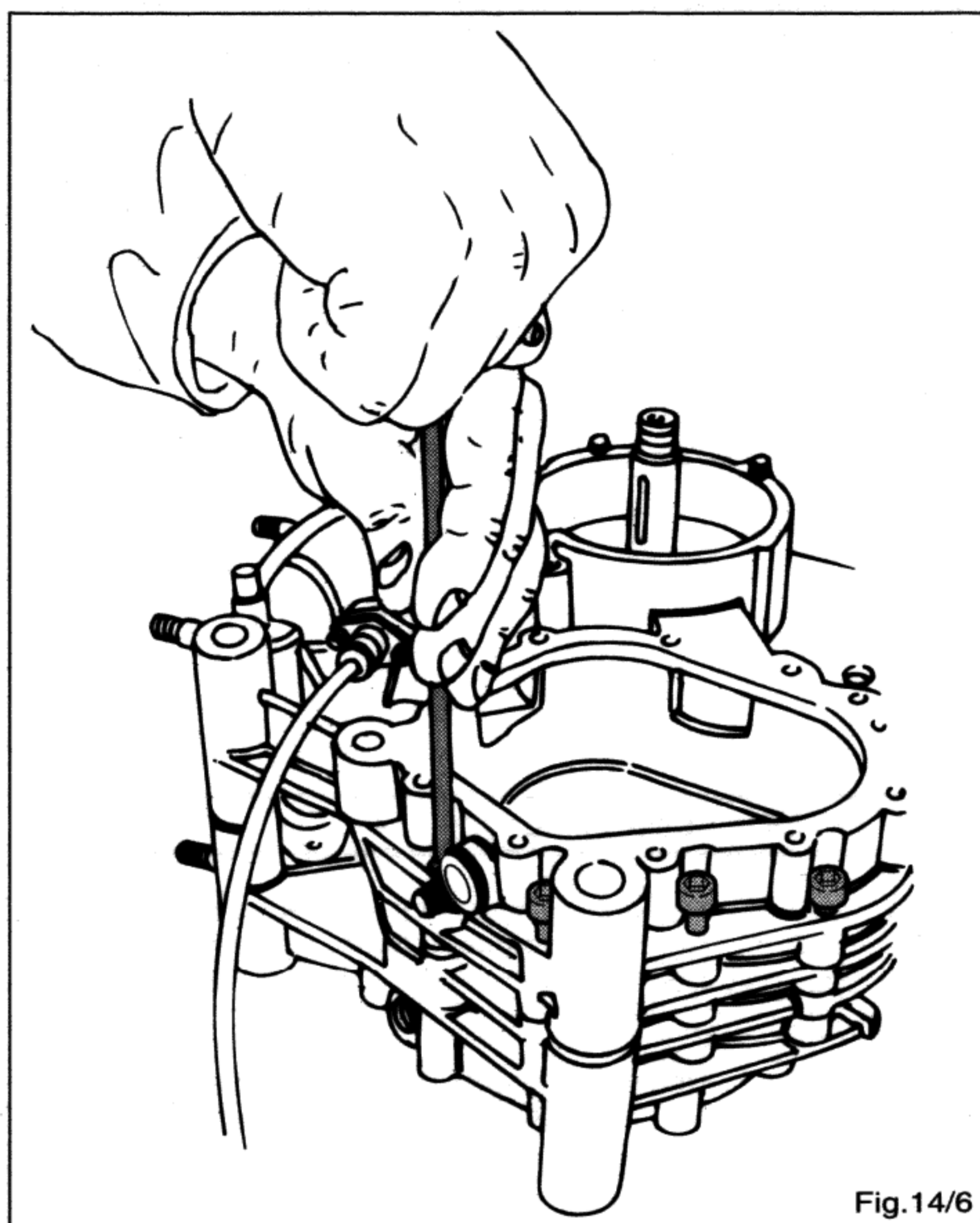
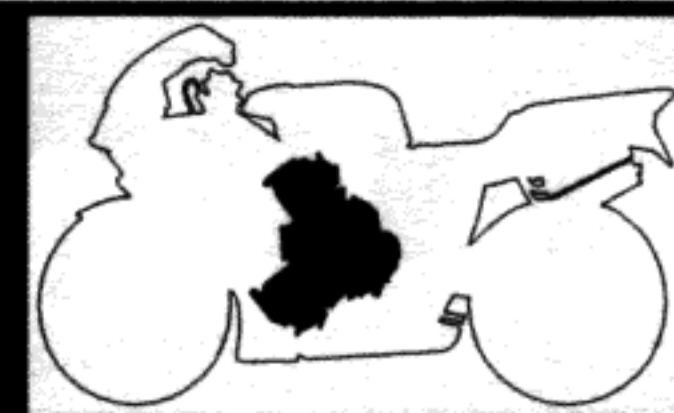


Fig.14/6

### CHIUSURA CARTER CENTRALI

1. Serrare:
  - viti (Qt.10) nel carter Sx (lato generatore)
  - viti (Qt.7) nel carter Dx (lato frizione)

#### NOTA:

**Serrare tutte le viti secondo la sequenza e alla coppia di serraggio indicata alla pag. 16/6.**

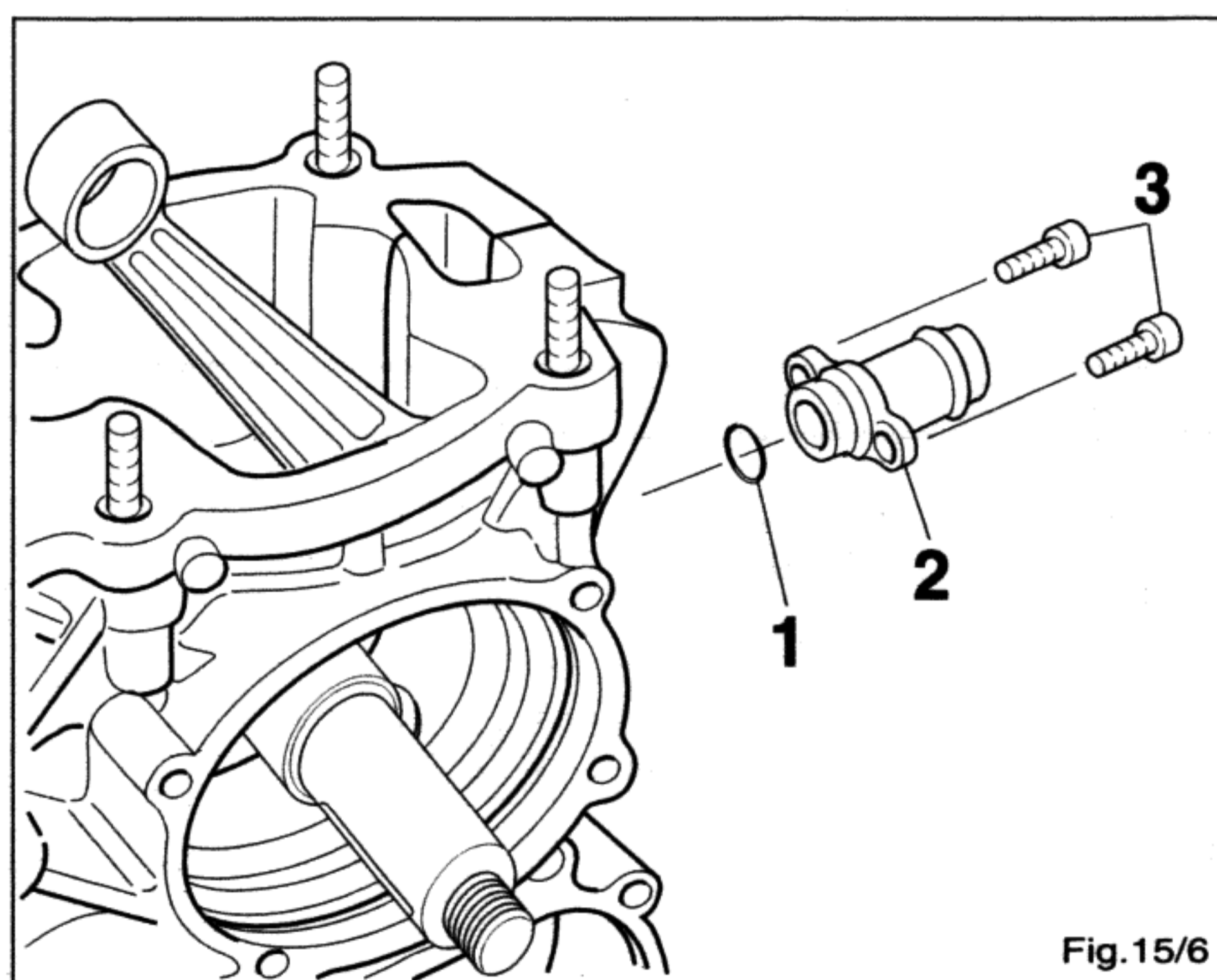
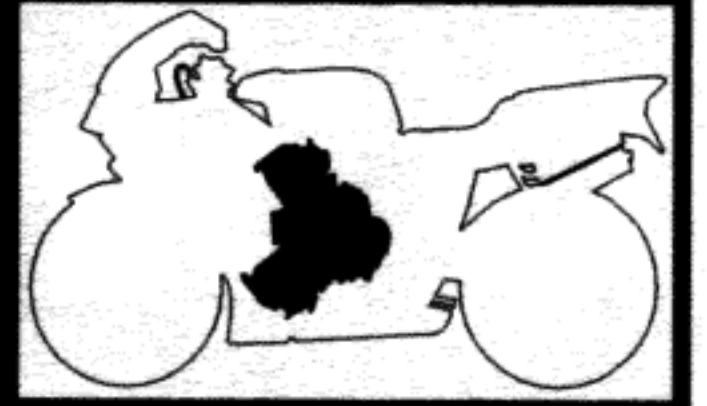


Fig.15/6

2. Installare:
  - anello O.R. "1" (Qt.2)
  - raccordo "2" (Qt.2) del circuito di raffreddamento
3. Serrare:
  - viti "3" (Qt.4) fissaggio raccordo



### CENTRAL CRANKCASE CLOSING

1. Tighten:
  - screws (Qt.10) to L.H. crankcase (generator side)
  - screws (Qt.7) to R.H. crankcase (clutch side)

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

**Tighten all screws according to the sequence and to the driving torque indicated to page 16/6.**

### SCHLIESSEN DER ZENTRALEN KURBELGEHÄUSE

1. Festziehen:
  - schrauben (Zahl 10) as Kurbelgehäuse L. (Generator Seite)
  - schrauben (Zahl 7) as Kurbelgehäuse R. (Kupplung Seite)

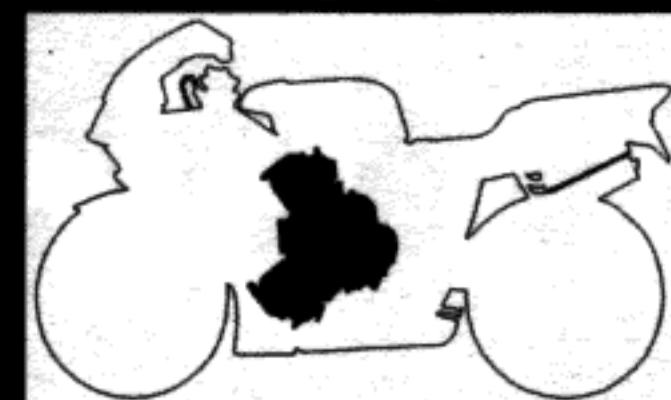
**HINWEIS:** \_\_\_\_\_

**Alle Schrauben nach der Folge und durch das auf Seite 16/6 gezeigte Anzugsmoment, festziehen.**

2. Install:
  - O-Ring "1" (Qt.2)
  - unit "2" (Qt.2) of the water system
3. Tighten:
  - screws "3" (Qt.4) to fix unit

2. Einbauen:
  - O-Ringe "1" (Zahl 2)
  - Anschluß "2" (Zahl 2) dem Külerkreislaufsystem
3. Festziehen:
  - Schrauben "3" (Zahl 4) für Anschluß festmachen





## INGRANAGGI PRIMARI - PRIMARY GEARS - PRIMÄRGETRIEBEN

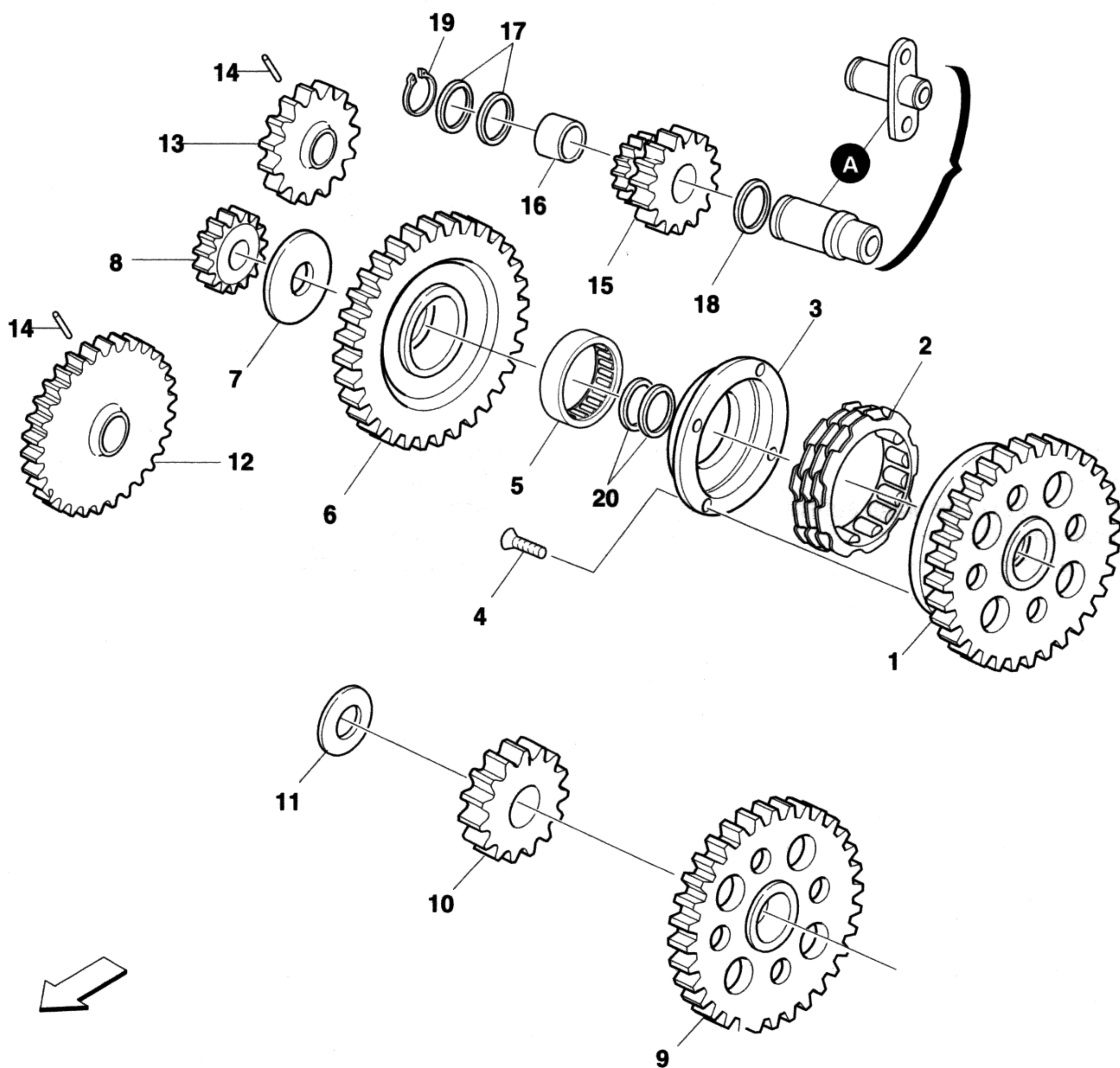
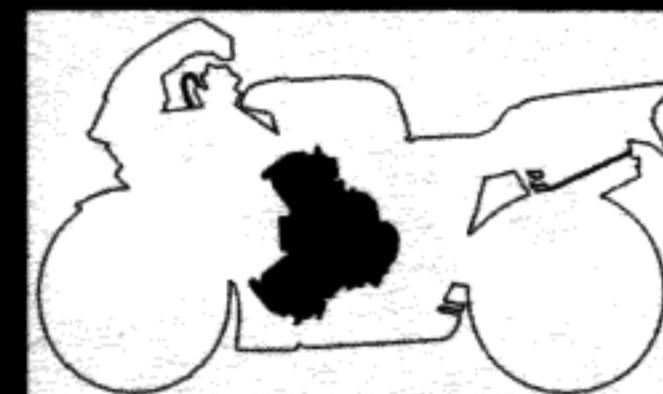


Fig.16/6



Montaggio su	Particolare	Codice	Qt.
Albero motore superiore	1 - Ingranaggio con albero inferiore	18-1267	1
	2 - Ruota libera	26-8189	1
	3 - Piastrino	23-7108	1
	4 - Vite TSPEI M4 x 10	29-6047	4
	Vite TSPEI M 5 x 10	29-6077	4
	5 - Cuscinetto a rulli	16-1048	1
	6- Ingranaggio condotto	18-1253	1
	7 - Molla a tazza	13-6105	1
Albero motore inferiore	8 - Ingranaggio comando pompa olio e acqua	18-1264	1
	9 - Ingranaggio con albero superiore	18-1268	1
	10 - Ingranaggio comando frizione	23-2602	1
Perno pompa olio	11 - Molla a tazza	20-1142	1
	12 - Ingranaggio pompa olio	18-1265	1
Perno pompa acqua	13 - Ingranaggio pompa acqua	18-1266	1
	14 - Perno	25-7082	2
A - Perno su carter Dx	15 - Ingranaggio intermedio	18-0022	1
	16 - Boccola	11-5074	1
	17 - Rasamento sp. 0,8	25-4163-08	2
	18 - Rasamento sp. 0,3	25-4163-03	1
	19 - Anello seeger	10-5053	1
	20 - Rasamento sp. 0,6	25-4182-06	2

Assembling on	Detail	Code	Qt.
Upper crankshaft	1 - Gear whit lower crankshaft	18-1267	1
	2 - Free wheel	26-8189	1
	3 - Plate	23-7108	1
	4 - Screw TSPEI M4 x 10	29-6047	4
	Screw TSPEI M 5 x 10	29-6077	4
	5 - Bearing	16-1048	1
	6- Duct gear	18-1253	1
	7 - Ring-spring	13-6105	1
Lower crankshaft	8 - Water and oil pump gear	18-1264	1
	9 - Gear whit upper crankshaft	18-1268	1
	10 - Clutch driven gear	23-2602	1
Oil pump pin	11 - Ring-spring	20-1142	1
	12 - Oil pump gear	18-1265	1
Water pump pin	13 - Water pump gear	18-1266	1
	14 - Pin	25-7082	2
A - Pin on the R.H. crankshaft	15 - Kick idlee gear	18-0022	1
	16 - Bush	11-5074	1
	17 - Shim (0,8)	25-4163-08	2
	18 - Shim (0,3)	25-4163-03	1
	19 - Seeger ring	10-5053	1
	20 - Shim (0,6)	25-4182-06	2

Einbau in	Einzelheit	Kodex	Qt.
Kuberwelle ober	1 - Zahnrad mit unter Kuberwelle	18-1267	1
	2 - Freilauf	26-8189	1
	3 - Plächen	23-7108	1
	4 - Schraube TSPEI M4 x 10	29-6047	4
	Schraube TSPEI M 5 x 10	29-6077	4
	5 - Lager	16-1048	1
	6- Antriebenzahnrad	18-1253	1
	7 - Ringfeder	13-6105	1
Kuberwelle untere	8 - Ölpumpen-zahnrad und Wasser-pumpe-zahnrad	18-1264	1
	9 - Zahnrad mit ober Kuberwelle	18-1268	1
	10 - Kupplungantrieberad	23-2602	1
Ölpumpebolz	11 - Ringfeder	20-1142	1
	12 - Ölpumpen-zahnrad	18-1265	1
Wasserpumpebolz	13 - Wasser-pumpe-zahnrad	18-1266	1
	14 - Bolzen	25-7082	2
A - Bolz in der Kerbekgeause R.	15 - Kickstarter - Zwischenzahnrad	18-0022	1
	16 - Buchse	11-5074	1
	17 - Stärke (0,8)	25-4163-08	2
	18 - Stärke (0,3)	25-4163-03	1
	19 - Seegerring	10-5053	1
	20 - Stärke (0,6)	25-4182-06	2



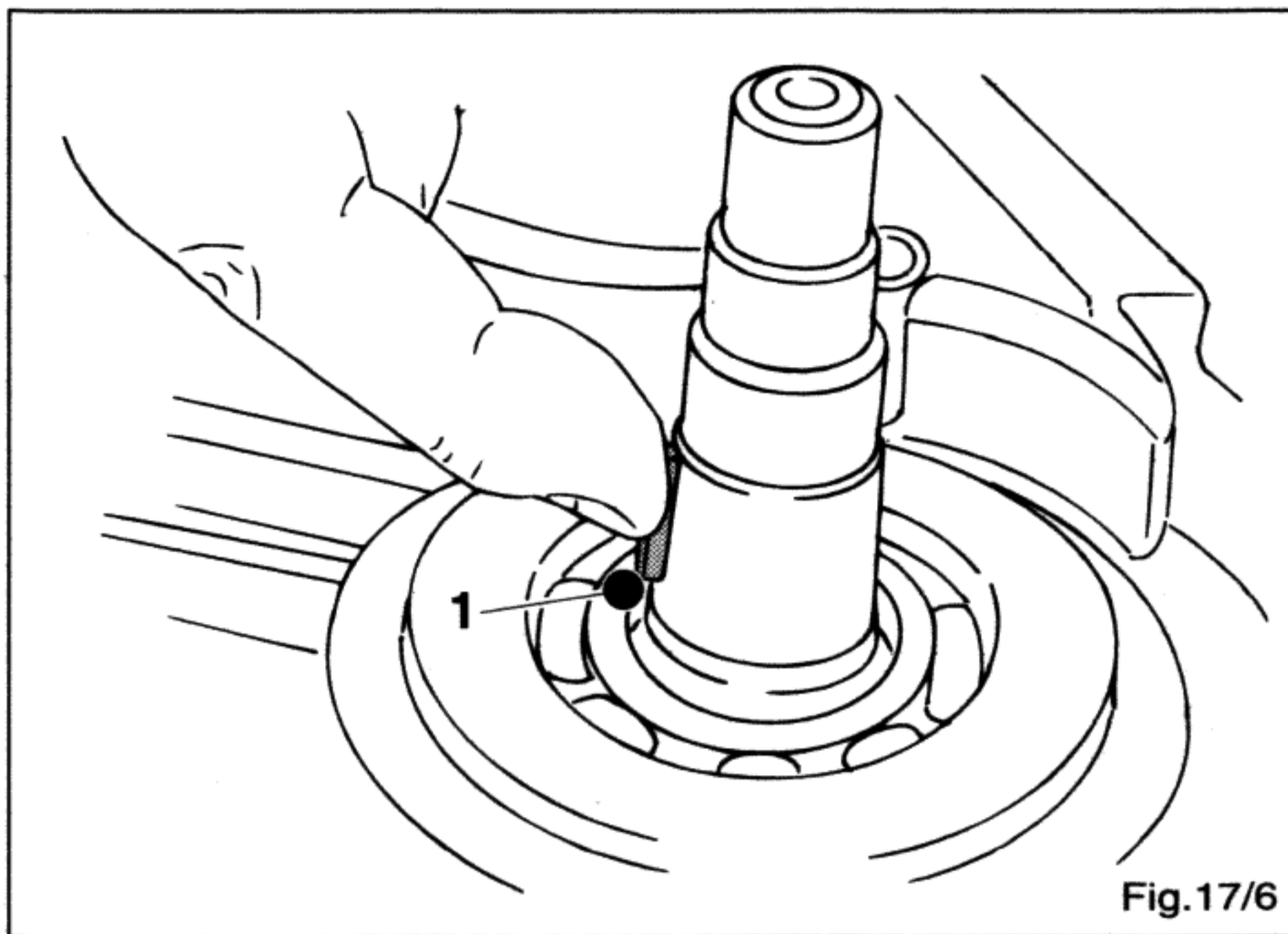
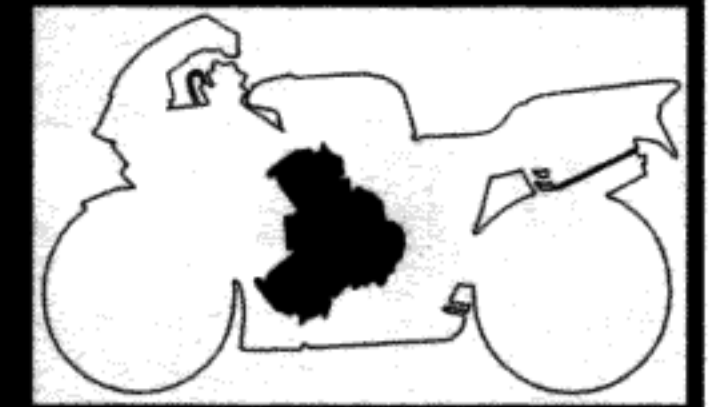


Fig.17/6

**AEX01 - MONTAGGIO INGRANAGGI PRIMARI**

1. Posizionare:  
chiavetta "1" su albero motore superiore (lato frizione)

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

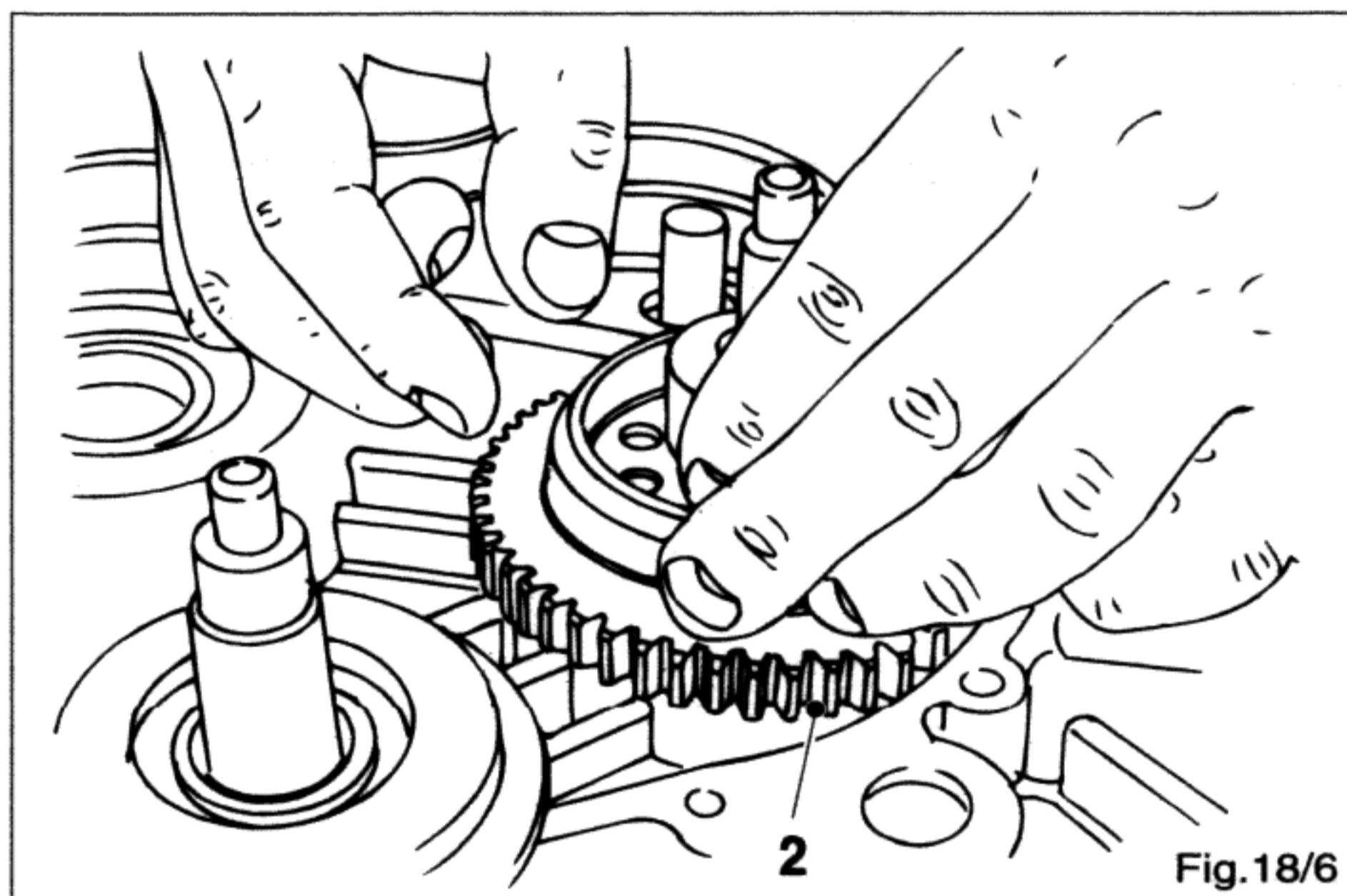


Fig.18/6

2. Installare:  
ingranaggio "2" su albero motore superiore

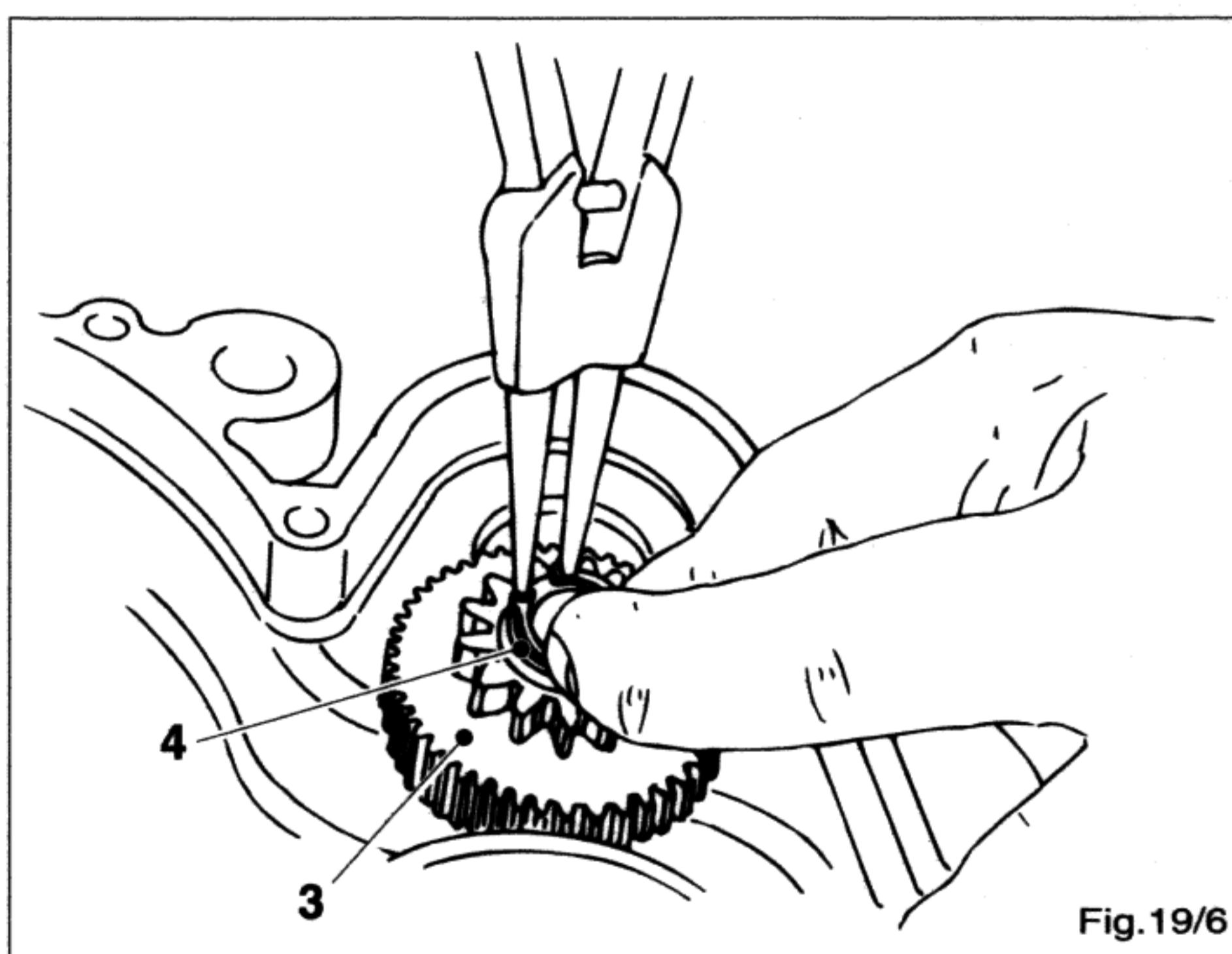
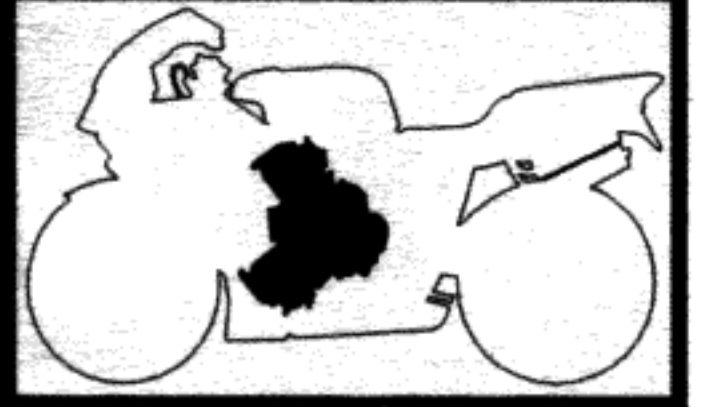


Fig.19/6

3. Installare su perno del carter:  
ranella di rasamento (spessore 0.3 mm.)  
ingranaggio intermedio "3"  
ranelle di rasamento (Qt.2 - spessore 0.8 mm.)  
anello seeger "4"



### AEX01 - ASSEMBLY PRIMARY GEAR

1. Positioner:  
key "1" on the upper crankshaft (clutch side)

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

2. Install:  
gear "2" on the upper crankshaft

3. Install on the carter pin:  
shim ( 0.3 mm.)  
kick idle gear "3"  
shim(Qt.2 - 0.8 mm.)  
seeger-ring "4"

### AEX01 - EINBAU DER PRIMÄZÄHRÄDER

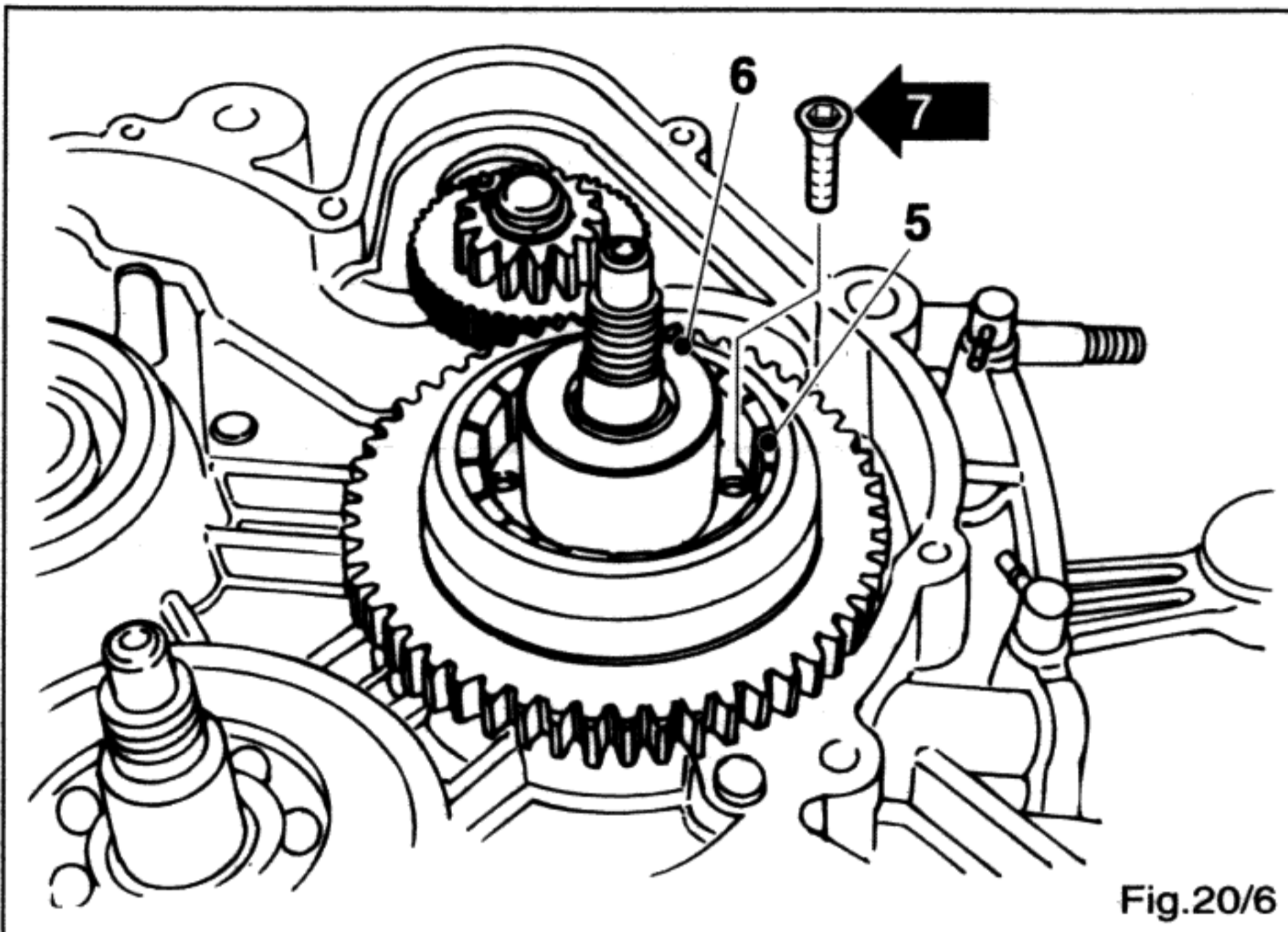
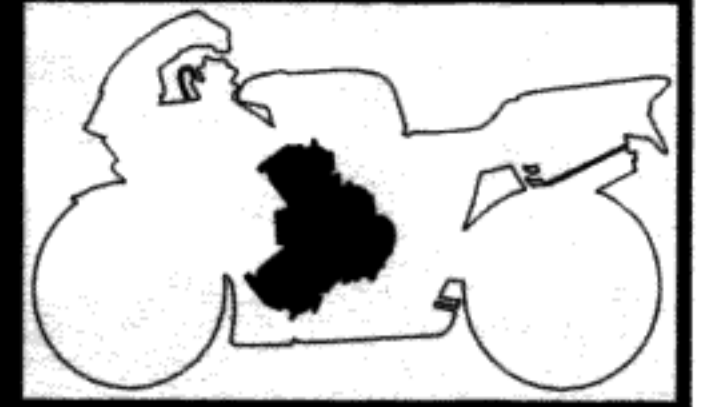
1. Positionieren:  
Einlegekeile "1" dem Kuberwelle ober (Kupplung Seite)

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

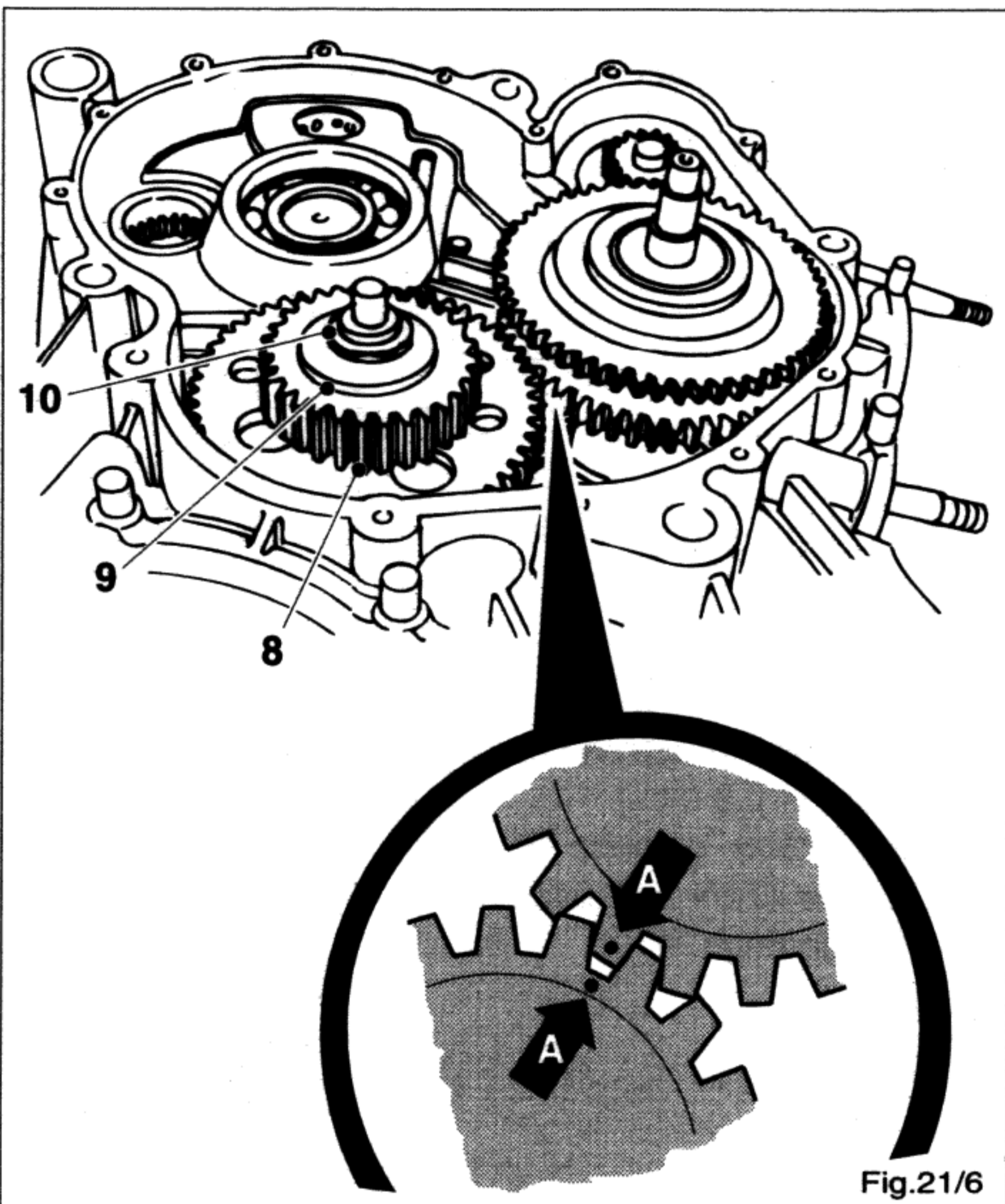
2. Einbauen:  
Getriebe "2" dem Kuberwelle ober

3. Einbauen in Bolzen der Kubelgehäuse:  
Stärke ( 0.3 mm.)  
Kickstarter- getriebe "3"  
Stärke (Zahl 2 - 0.8 mm.)  
Seegerringe "4"





4. Installare su albero motore superiore:  
ruota libera "5" dell'avviamento  
piastrino "6" fissaggio ruota libera  
rasamenti (Qt. 2 - spessore 0,6)
5. Serrare:  
viti "7" (Qt.4) fissaggio piastrino ruota libera



6. Posizionare :  
chiavetta su albero motore inferiore (lato frizione)
7. Installare su albero motore inferiore:  
ingranaggio "8"

**NOTA:** Mettere in fase gli alberi motore allineando i riferimenti "A" situati sui relativi ingranaggi.

molla a tazza "9"

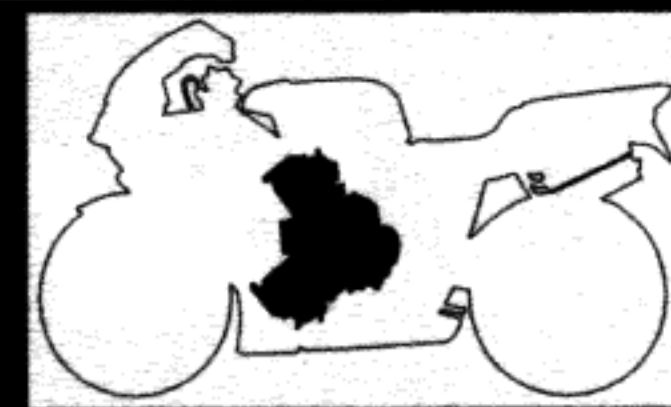
8. Serrare:  
dado "10"



**Dado albero motore inferiore (lato frizione):**  
125~130 Nm ( 12,5~13 kg·m - 90,4~94 ft · lb)

**NOTA:** E' consigliato bloccare gli ingranaggi degli alberi motore fra loro per serrare il dado alla giusta coppia.





4. Install on the upper crankshaft:  
free wheel "5"  
plate "6" to fix free wheel  
shim (Qt. 2 -0,6 mm.)
5. Tighten:  
screws "7" (Qt.4) to fix plate of the free wheel

4. Einbauen in ober Kuberwelle:  
Freilauf "5"  
Plächen "6" für Freilauf festmachen  
stärke (Qt. 2 - 0,6 mm.)
5. Festziehen:  
schrauben"7" (Zahl 4) für Plächen festmachen

6. Positioner :  
key on the lower crankshaft (clutch side)
7. Install on the lower crankshaft:  
gear "8"

6. Positioneren :  
Einlegekeile an unter Kuberwelle (Kupplung Seite)
7. Einbauen in unter Kuberwelle:  
getriebe "8"

**NOTE:** \_\_\_\_\_  
**Set the motor shafts to phase by aligning the reference signs on the relative gears.**

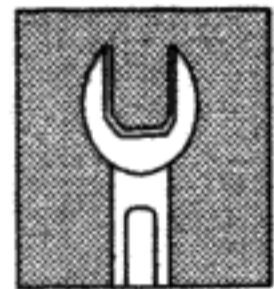
**HINWEIS:** \_\_\_\_\_  
**Die Motorwellen in phase einstellen durch Ausrichtung der Bezugzeichen auf den betreffenden Zahnrädern.**

- ring-spring "9"
8. Tighten:  
nut "10"

- ringfeder "9"
8. Festziehen:  
mutter "10"



**Nut of the lower crankshaft(clutch side):**  
**125~130 Nm ( 12,5~13 kg·m - 90,4~94 ft · lb)**

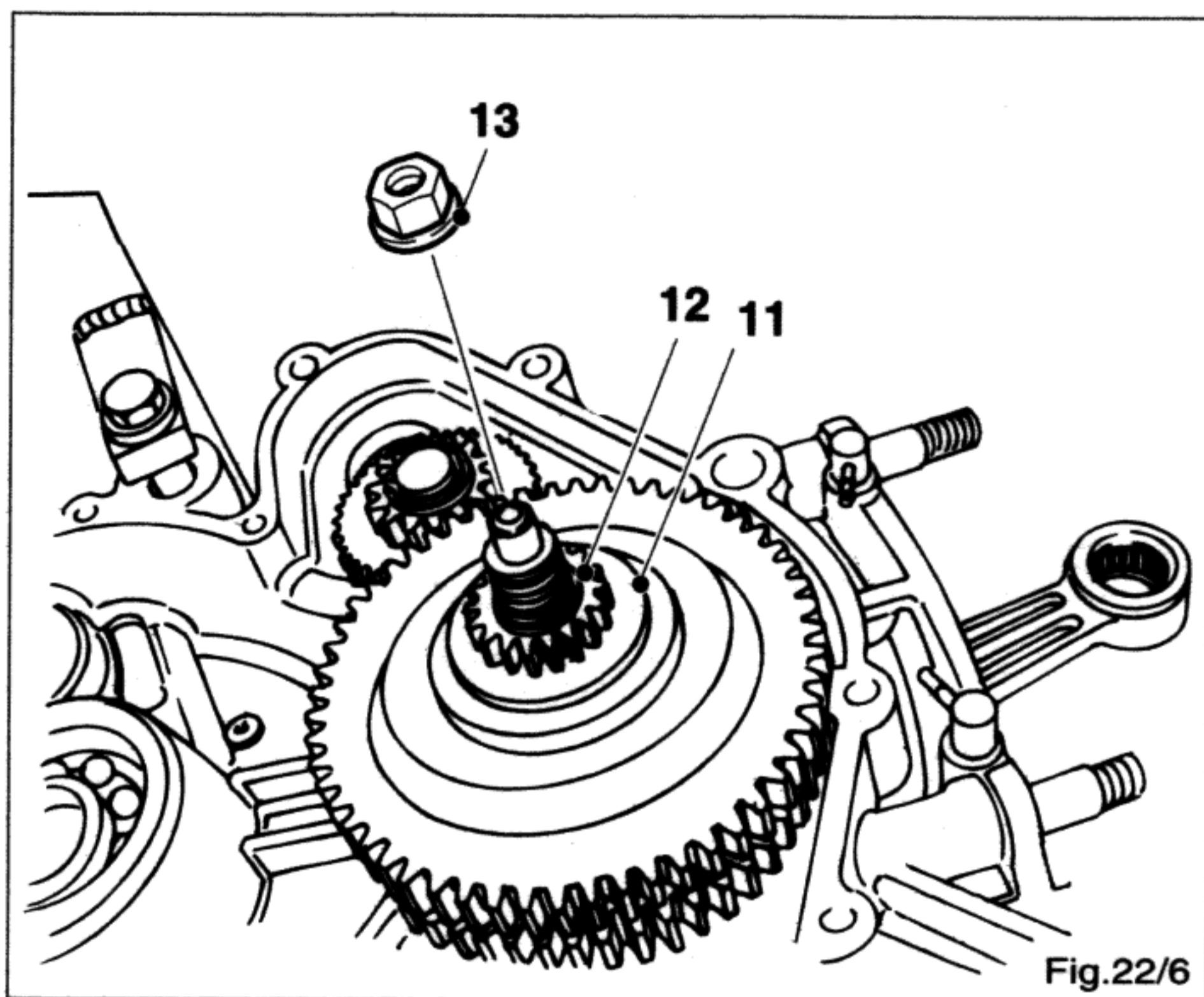
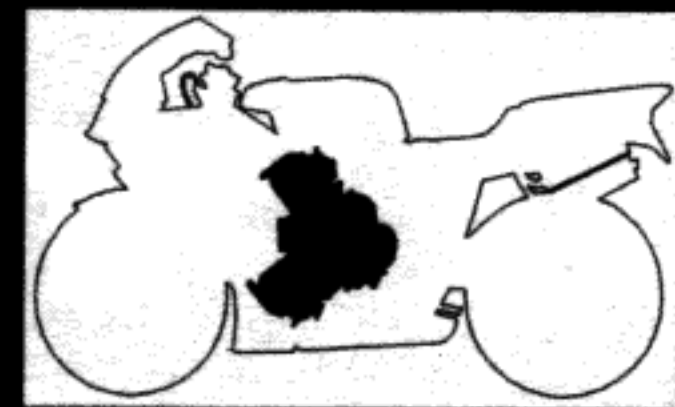


**Mutter der unter Kuberwelle (Kupplung Seite):**  
**125~130 Nm ( 12,5~13 kg·m - 90,4~94 ft · lb)**

**NOTE:** \_\_\_\_\_  
**We recommend to lock the gears of the motor shafts to tighten the nut to the right torque.**

**HINWEIS:** \_\_\_\_\_  
**Die Zahnräder der Motorwellen blockieren um die Mutter durch das richtige Anzugmoment festzuziehen.**



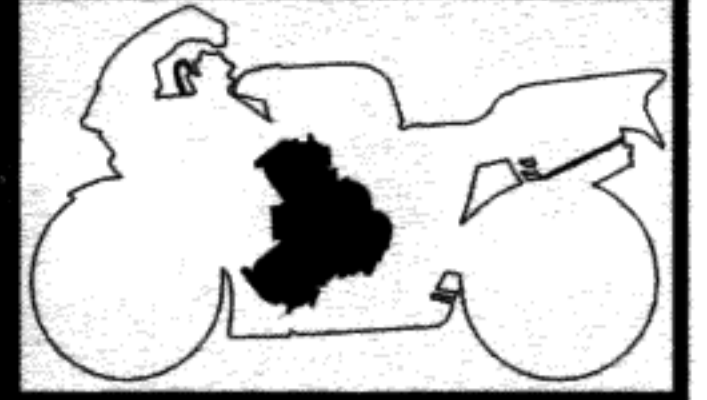


9. Installare su albero motore superiore:  
ranella "11"  
ingranaggio "12" condotto
10. Serrare:  
dado "13"

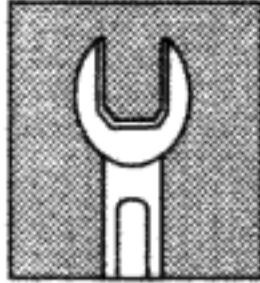


**Dado albero motore superiore (lato frizione):**  
**125~130 Nm ( 12,5~13 kg·m - 90,4~94 ft · lb)**

**NOTA:**  
**E' consigliato bloccare gli ingranaggi degli alberi motore fra loro per serrare il dado alla giusta coppia.**



9. Install on the upper crankshaft:  
washer "11"  
duct gear "12"
10. Tighten:  
nut "13"



**Nut of the upper crankshaft (clutch side):  
125~130 Nm ( 12,5~13 kg·m - 90,4~94 ft · lb)**

9. Einbauen in ober Kuberwelle:  
scheibe "11"  
Zwischenzahrad "12" (Kickstarter)
10. Festziehen:  
mutter "13"

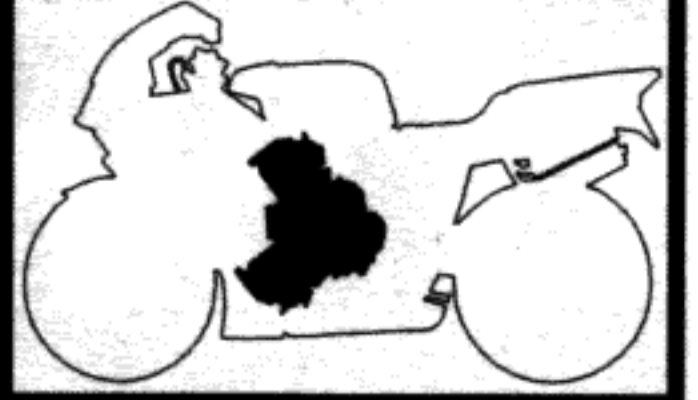


**Mutter der ober Kuberwelle (Kupplung Seite):  
125~130 Nm ( 12,5~13 kg·m - 90,4~94 ft · lb)**

**NOTE:** \_\_\_\_\_  
**We recommend to lock the gears of the motor shafts  
to tighten the nut to the right torque.**

**HINWEIS:** \_\_\_\_\_  
**Die Zahnräder der Motorwellen blockieren um die  
Mutter durch das richtige Anzugmoment festzuziehen.**





ALBERI CAMBIO COMPLETI - TRANSMISSION SHAFT ASSY - GETRIEBEWELLE GEMEINSAM

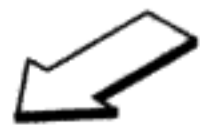
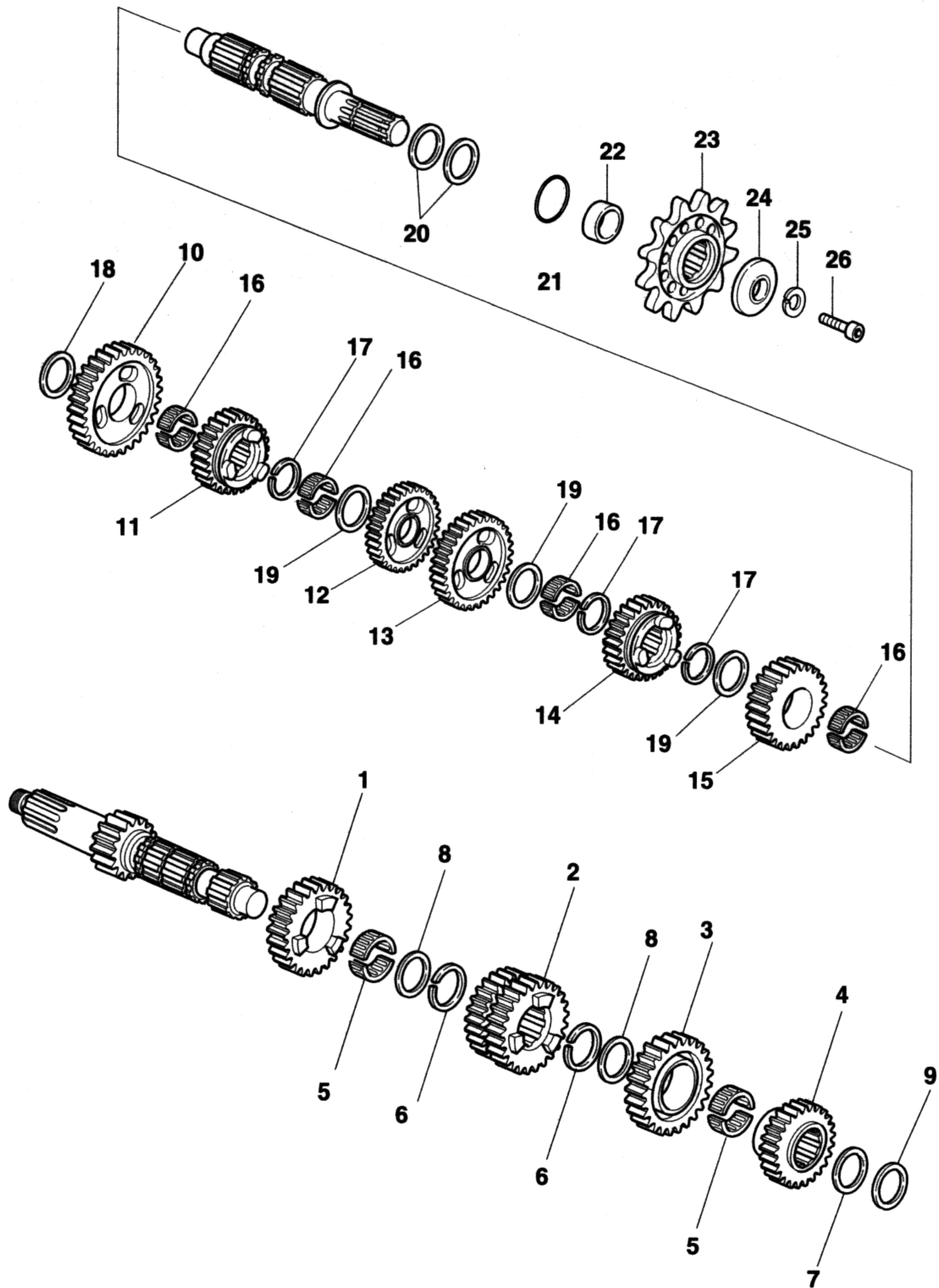


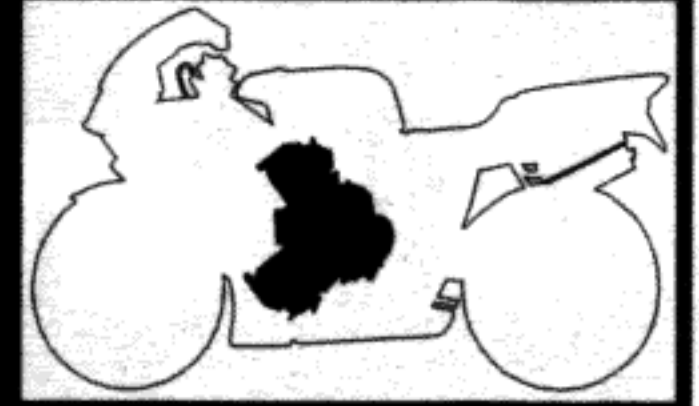
Fig.23/6



Montaggio su	Particolare	Codice	Qt.	Tipo di montaggio
Albero cambio primario	1 - Ingranaggio 6° velocità	18-1257	1	
	2 - Ingranaggio 3° - 4° velocità	18-1255	1	
	3 - Ingranaggio 5° velocità	18-1256	1	
	4 - Ingranaggio 2° velocità	18-1254	1	
	5 - Cuscinetto a rulli	16-1049	2	
	6- Anello seeger	10-5055	2	
	7 - Rasamento sp. 0,8	25-4041-08	1	
	8 - Rasamento sp. 0,5	25-4176-05	2	
	9 - Rasamento sp. 0,3	25-4041-03	1	
Albero cambio secondario	10 - Ingranaggio 1° velocità	18-1258	1	
	11 - Ingranaggio 6° velocità	18-1263	1	
	12 - Ingranaggio 5° velocità	18-1261	1	
	13 - Ingranaggio 4° velocità	18-1260	1	
	14 - Ingranaggio 3° velocità	18-1262	1	
	15 - Ingranaggio 2° velocità	18-1259	1	
	16 - Cuscinetto a rulli	16-1049	4	
	17- Anello seeger	10-5055	3	
	18 - Rasamento sp. 0,8	25-4041-08	1	
	19 - Rasamento sp. 0,5	25-4176-05	3	
	20 - Rasamento sp. 0,4	25-4175-04	2	
	21 - Anello O.R.	10-7040	1	
	22 - Distanziale	13-6109	1	
	23 - Pignone Z 16	23-2603	1	
	24 - Boccola	11-5078	1	
	25 - Ranella grower M 10	25-4155	1	
	26 - Vite TCEI M 10 x 25	29-6076	1	Coppia di serraggio 3,5 ~ 4,0 Kg · m

Assembling on	Detail	Code	Qt.	Assembling type
Primary gear shift	1 - Driven gear 6 th speed	18-1257	1	
	2 - Driven gear 3-4 th speed	18-1255	1	
	3 - Driven gear 5 th speed	18-1256	1	
	4 - Driven gear 2 th speed	18-1254	1	
	5 - Bearing	16-1049	2	
	6- Seeger ring	10-5055	2	
	7 - Shim (0,8 )	25-4041-08	1	
	8 - Shim (0,5)	25-4176-05	2	
	9 - Shim (0,3)	25-4041-03	1	
Secondary gear shift	10 - Driven gear 1 th speed	18-1258	1	
	11 - Driven gear 6 th speed	18-1263	1	
	12 - Driven gear 5 th speed	18-1261	1	
	13 - Driven gear 4 th speed	18-1260	1	
	14 - Driven gear 3 th speed	18-1262	1	
	15 - Driven gear 2 th speed	18-1259	1	
	16 - Bearing	16-1049	4	
	17- Seeger ring	10-5055	3	
	18 - Shim (0,8)	25-4041-08	1	
	19 - Shim (0,5)	25-4176-05	3	
	20 - Shim (0,4)	25-4175-04	2	
	21 - O-Ring	10-7040	1	
	22 - Spacer	13-6109	1	
	23 - Pinion Z 16	23-2603	1	
	24 - Bush	11-5078	1	
	25 - Washer grower M 10	25-4155	1	
	26 - Screw TCEI M 10 x 25	29-6076	1	Tightening torque: 3,5 ~ 4,0 Kg · m





Einbau in	Einzelheit	Kodex	Qt.	Typ der einbau
Hauptwelle	1 - Angetriebenes Rad- Sechste	18-1257	1	
	2 - Angetriebenes Rad- Dritter und Vierten	18-1255	1	
	3 - Angetriebenes Rad- Fünfte	18-1256	1	
	4 - Angetriebenes Rad- Sweiten	18-1254	1	
	5 - Lager	16-1049	2	
	6- Seegerring	10-5055	2	
	7 - Stärke (0,8)	25-4041-08	1	
	8 - Stärke (0,5)	25-4176-05	2	
	9 - Stärke (0,3)	25-4041-03	1	
Getriebehaupt	10 - Angetriebenes Rad- Ersten	18-1258	1	
	11 - Angetriebenes Rad- Sechste	18-1263	1	
	12 - Angetriebenes Rad- Fünfte	18-1261	1	
	13 - Angetriebenes Rad- Vierten	18-1260	1	
	14 - Angetriebenes Rad- Dritter	18-1262	1	
	15 - Angetriebenes Rad- Sweiten	18-1259	1	
	16 - Lager	16-1049	4	
	17- Seegerring	10-5055	3	
	18 - Stärke (0,8)	25-4041-08	1	
	19 - Stärke (0,5)	25-4176-05	3	
	20 - Stärke (0,4)	25-4175-04	2	
	21 - O-Ring	10-7040	1	
	22 - Distanzstück	13-6109	1	
	23 - Ritzel Z 16	23-2603	1	
	24 - Buchse	11-5078	1	
	25 - Scheibe grower M 10	25-4155	1	
	26 - Schraube TCEI M 10 x 25	29-6076	1	

Anzugsmoment: 3,5 ~ 4,0 Kg · m