

# Instructions for Use

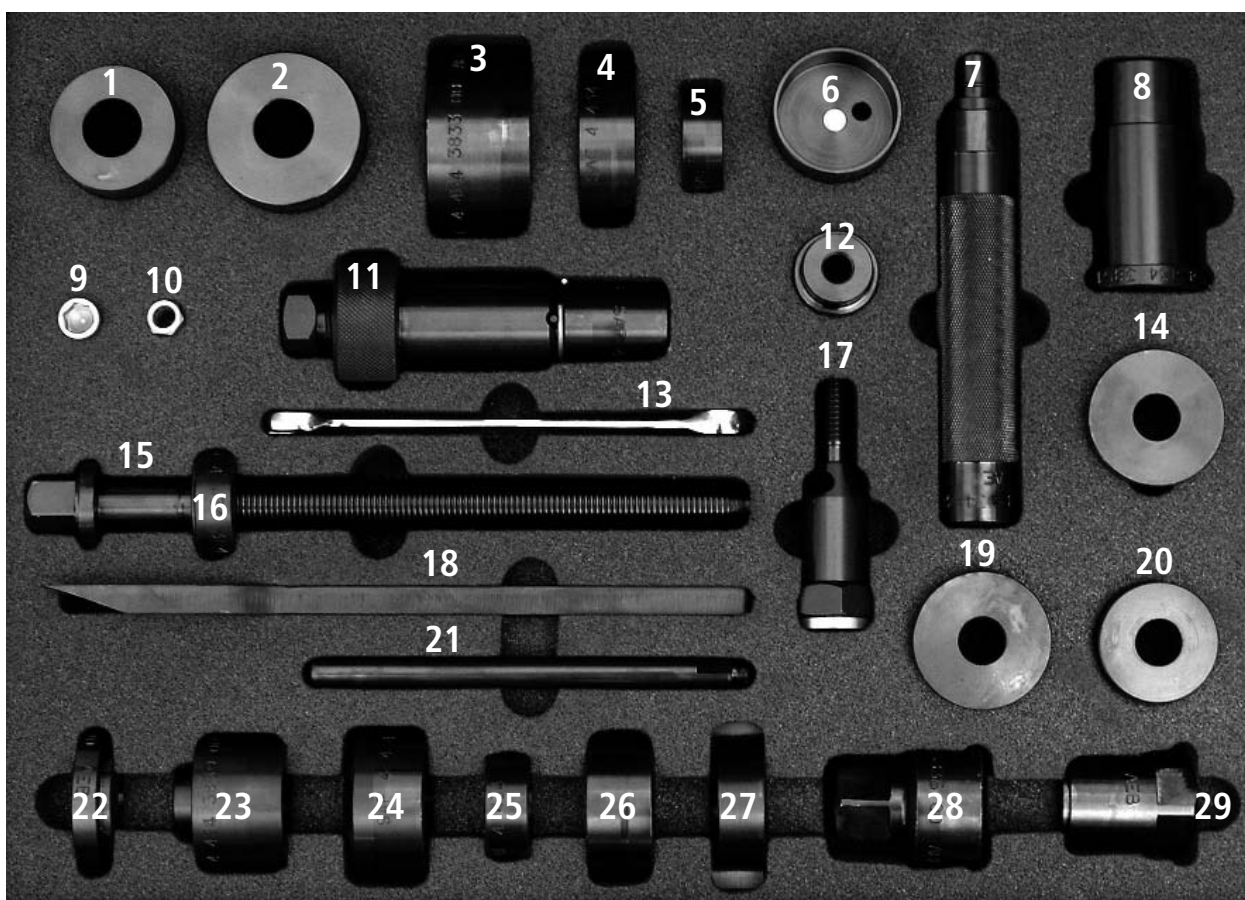
## Universal Disc Brake – Tool Case



Edition 09/2005







No.	SAF Part No.	Designation	No.	SAF Part No.	Designation
1	04.434.3846.00	Puller for floating bearing, Type SN	16	04.434.3848.00	Thrust bearing
2	04.434.3838.00	Puller sleeve	17	04.434.3858.00	Spindle – short/long
3	04.434.3833.00	Driver cup	18	04.434.3844.00	Lever fork
4	04.434.3835.00	Driver cup – adapter	19	04.434.3852.00	Driver sleeve
5	04.434.3850.00	Insert with magnet	20	04.434.3854.00	Driver sleeve
6	04.434.3849.00	Driver with magnet	21	04.434.3834.00	Retaining bar
7	04.434.3856.00	Handle	22	04.434.3840.00	Puller plate
8	04.434.3851.00	Driver sleeve	23	04.434.3839.00	Puller sleeve for bellows
9	04.434.3826.00	W.A.F. 8	24	04.434.3855.00	Driver
10	04.434.3827.00	W.A.F. 10	25	04.434.3845.00	Puller sleeve
11	04.434.3832.00	Caulking and pulling tool	26	04.434.3842.00	Adapter ring
12	04.434.3843.00	Driver for sheet metal sleeve	27	04.434.3847.00	Puller plate
13	04.434.3825.00	Ring / open-jaw spanner	28	04.434.3836.00	Thruster with hexagon head
14	04.434.3853.00	Driver sleeve	29	04.434.3841.00	Nut TR20x2
15	04.434.3837.00	Threaded spindle TR20x2			



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## KNORR Brake Calliper

### Replace the Calliper Guide

#### Brake Calliper Type SB6 and SB7

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#### Brake Calliper Type SB6...(SN) and SB7...(SN)

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#### Brake Calliper Type SB7...(SK)

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### Replace the Thrusters with Bellows

#### Brake Calliper Type SB6 and SB7

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#### Brake Calliper Type SB6...(SN), SB7...(SN) and SB7...(SK)

Replace the Thruster Bellows incl. Inner Seal .....	13
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## WABCO Brake Calliper

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These "Instructions for Use" are intended purely to assist the customer in maintenance and repair work (service) on SAF axles with disc brakes using the enclosed tools. They have been written and are suitable exclusively for employees with the necessary technical competence in the commercial vehicle industry and the commercial vehicle trade. They must not be passed on to third parties. In addition, the following conditions shall apply:

1. The enclosed tools are exclusively suitable for use in the course of repair and maintenance work (service) on the brakes from the manufacturers KNORR and WABCO listed below:

- KNORR SB6
- KNORR SB6...(SN)
- KNORR SB7
- KNORR SB7...(SN)
- KNORR SB7...(SK)
- WABCO PAN 19-1
- WABCO PAN 19-1 *plus*
- WABCO PAN 22-1
- WABCO PAN 22-1 (NG22)

SAF assumes no responsibility or liability for these "Instructions for Use" in conjunction with maintenance and repair work (service) on other brakes or on brakes from other manufacturers or it tools other than those enclosed are used.

2. The contents and information in these "Instructions for Use" do not represent guarantees in the sense of the German Civil Code (BGB), nor can they be construed as such.
3. SAF assumes unlimited liability from these "Instructions for Use" in particular for the correctness, completeness or up-to-dateness of the information contained, for claims for damages or for compensation for any unnecessary expenditures only in cases of gross negligence and intent. SAF accepts no liability, however, for minor cases of negligence, insofar as no major obligations, damage from impairment of life, physical well-being or health of any persons or guarantees or rights under the Product Liability Act are affected. The same shall apply to i minor cases of negligence on the part of persons employed by SAF. SAF shall be liable for minor cases of negligence where major obligations are infringed, but limited to the typically damage foreseeable at the time of the handover of these "Instructions for Use".
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7. Should any provision or part of a provision in this Note be or become inapplicable or incomplete, this shall not affect the validity of the other provisions. SAF and the use of these "Instructions for Use" shall then undertake to replace the inapplicable provision by an applicable provision coming closest to the intended economic purpose of this Note. The same shall apply in the event of an incomplete provision.
8. If and insofar as this Note contains no provisions, in particular with respect to the enclosed tools proper, the rights and obligations between SAF and the user of these "Instructions for Use" shall be governed by the latest version of the SAF "General Conditions of Sale and Delivery". The application of the General Terms of Business, in particular the Purchasing Conditions, of the user of these "Instructions for Use" shall be ruled out.
9. During all maintenance and repair work, be sure to observe the instructions of the respective brake manufacturer.

## Caution

All screws and bolts may only be used once. The specified tightening torque applies for dry tightening. Unless otherwise specified, no additional bolt locking means are necessary. The bolt tightening torques must always be taken from the applicable maintenance and repair manuals. ([www.saf-axles.com](http://www.saf-axles.com))

## KNORR BRAKE CALLIPERS

### Replace the Calliper Guide Brake Calliper Type SB6 and SB7

#### Repair of the Floating Bearing (Rubber Bearing)

Special tools required:

No special tools required here.

#### Repair of the Fixed Bearing

Special tools required:

##### Puller for fixed bearing

Individual parts required: The following tool parts from the tool case are required: No. 2; 15; 16; 25; 26; 29.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool



##### Puller for fixed bearing

Individual parts required: The following tool parts from the tool case are required: No. 11; 15; 16; 22; 29.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool



##### Puller for bellows

Individual parts required: The following tool parts from the tool case are required: No. 15; 16; 22; 23.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool





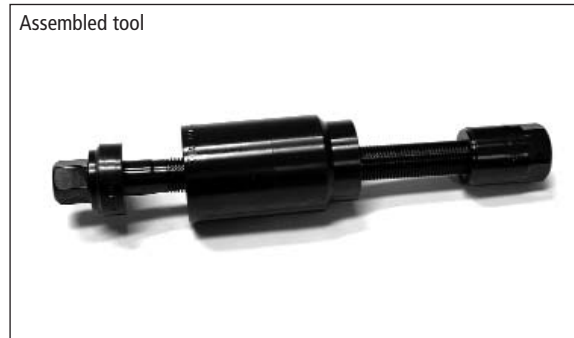
## Brake Calliper Type SB6...(SN) and SB7...(SN)

### Repair of the Floating Bearing (Rubber Bush)

Special tools required for the rubber bush:

#### Puller

Individual parts required: The following tool parts from the tool case are required: No. 2; 15; 16; 29.  
Assemble the tool as illustrated in the figure.



#### Puller

Individual parts required: The following tool parts from the tool case are required: No. 1; 15; 16; 27; 29.  
Assemble the tool as illustrated in the figure.

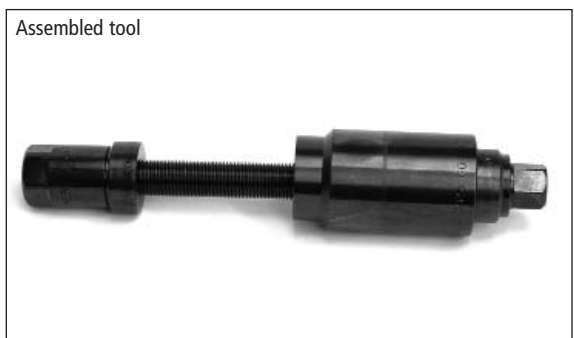
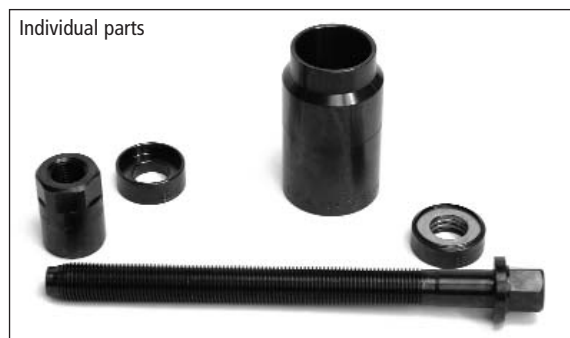


### Repair of the Fixed Bearing

Special tool required for repairing the fixed bearing:

#### Puller

Individual parts required: The following tool parts from the tool case are required: No. 2; 15; 16; 25; 29.  
Assemble the tool as illustrated in the figure.



**Puller**

Individual parts required: The following tool parts from the tool case are required: No. 11; 15; 16; 22; 29.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool

**Puller for bellows**

Individual parts required: The following tool parts from the tool case are required: No. 15; 16; 22; 23.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool

**Floating bearing**

Individual parts required: The following tool parts from the tool case are required: No. 7; 12.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool

**Fixed bearing**

Individual parts required: The following tool parts from the tool case are required: No. 5; 6; 21.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool





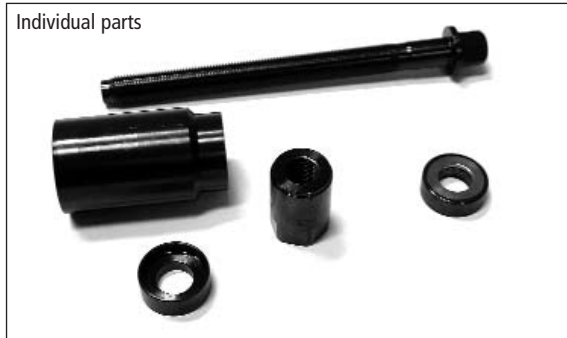
## Brake Calliper Type SB7...(SK)

### Repair of the Floating Bearing

Special tools required:

#### Puller for floating bearing

Individual parts required: The following tool parts from the tool case are required: No. 2; 15; 16; 25; 29.  
Assemble the tool as illustrated in the figure.



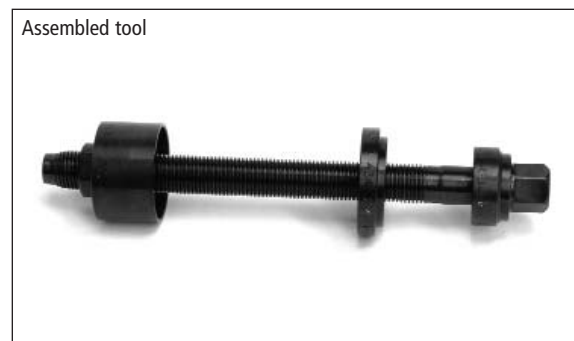
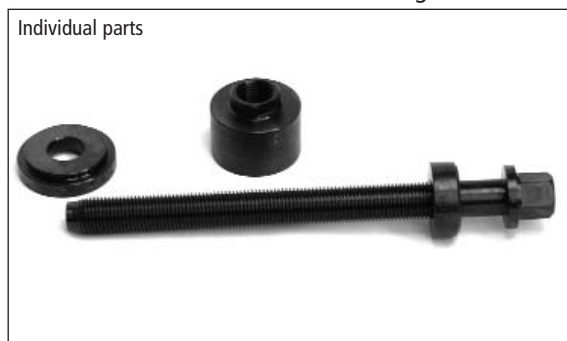
#### Puller for floating bearing

Individual parts required: The following tool parts from the tool case are required: No. 15; 16; 23; 25; 29.  
Assemble the tool as illustrated in the figure.



#### Puller for bellows

Individual parts required: The following tool parts from the tool case are required: No. 15; 16; 22; 23.  
Assemble the tool as illustrated in the figure.



## Repair of the Fixed Bearing

Special tools required:

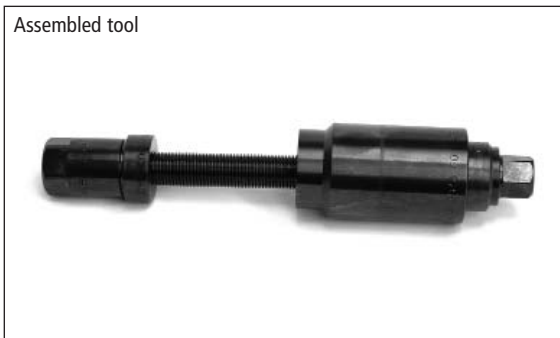
### Puller for fixed bearing

Individual parts required: The following tool parts from the tool case are required: No. 2; 15; 16; 25; 29.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool



### Puller for fixed bearing

Individual parts required: The following tool parts from the tool case are required: No. 11; 15; 16; 22; 29.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool



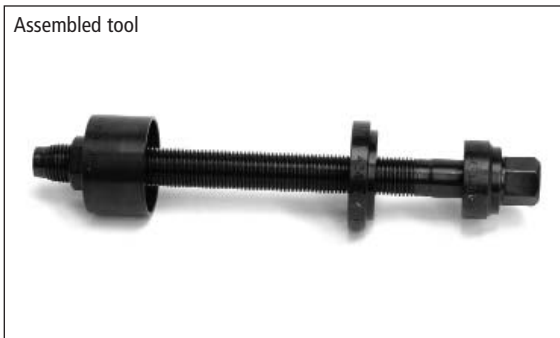
### Puller for bellows

Individual parts required: The following tool parts from the tool case are required: No. 15; 16; 22; 23.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool



## Tools for driving on cap

Individual parts required: The following tool parts from the tool case are required: No. 5; 6; 7.  
Assemble the tool as illustrated in the figure.



## Fixed bearing cap

Assemble all three tools as illustrated.



## Floating bearing cap

Assemble the tool without No. 5.



## Replace the Thrusters with Bellows Brake Calliper Type SB6 and SB7

### Replace the Thruster Bellows incl. Inner Seal

Special tools required:

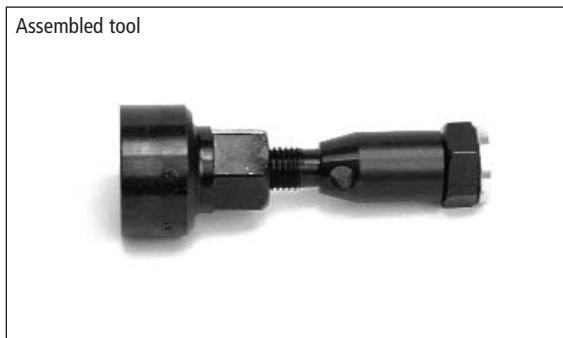
#### Tool for inner seal

Individual parts required: The following tool parts from the tool case are required: No. 17; 28.  
Assemble the tool as illustrated in the figure.

Individual parts



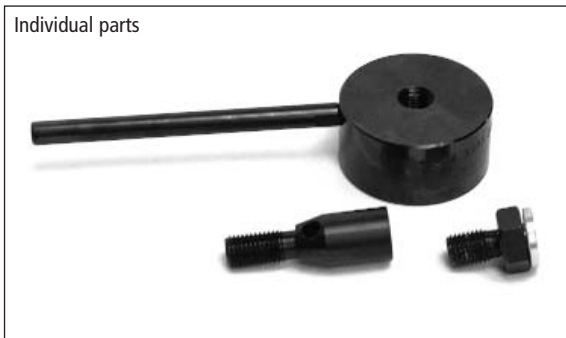
Assembled tool



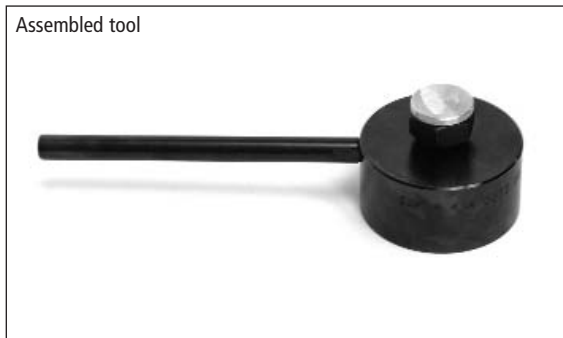
#### Tool for thruster with bellows

Individual parts required: The following tool parts from the tool case are required: No. 3; 17; 21.  
Assemble the tool as illustrated in the figure.

Individual parts



Assembled tool



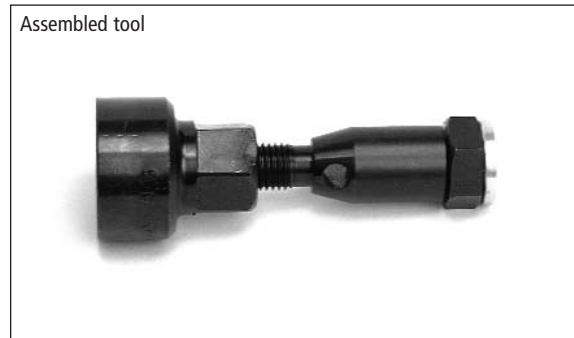
## Brake Calliper Type SB6...(SN), SB7...(SN), SB7...(SK)

### Replace the Thruster Bellows incl. Inner Seal

Special tools required:

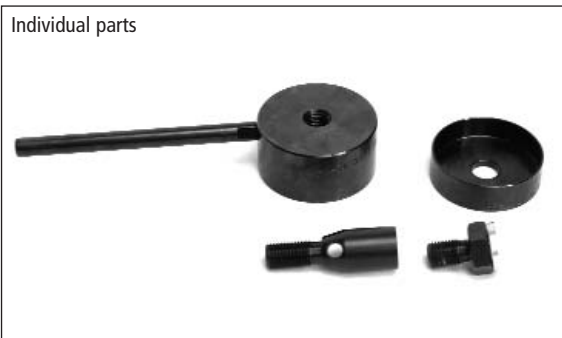
#### Tool for inner seal

Individual parts required: The following tool parts from the tool case are required: No. 17; 28.  
Assemble the tool as illustrated in the figure.



#### Tool for thruster with bellows

Individual parts required: The following tool parts from the tool case are required: No. 3; 4; 17; 21.  
Assemble the tool as illustrated in the figure.



## WABCO BRAKE CALLIPER

### Brake Calliper Type PAN 19-1, PAN 19-1 *plus*, PAN 22-1 and PAN 22-1 (NG22)

Special tools required:

Individual parts required: The following tool parts from the tool case are required: No. 7; 8; 14; 19; 20.  
Assemble the tool as illustrated in the figure.



#### Driver for the guide bushes

Individual parts required: The following tool parts from the tool case are required: No. 7; 20.  
Assemble the tool as illustrated in the figure.



#### Driver tool for the guide bushes

Individual parts required: The following tool parts from the tool case are required: No. 7; 8; 14; 19.  
Assemble the tool as illustrated in the figure.



#### Tool for driving out the steel caps

Individual parts required: The following tool parts from the tool case are required: No. 21; 24.  
Assemble the tool as illustrated in the figure.






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# Soforthilfe im Pannenfall

# NonStopService 24

## Support in the case of service

- Im Servicefall wählen Sie bitte **immer** die Rufnummer Ihres **Heimatlandes**.
- In the case of service please **always** dial the number of your **own country**.

Inland home country		Vom Ausland from abroad
03 62 27 23 21	(A)	+43 3 62 27 23 21
0 59 33 07 07	(B)	+32 59 33 07 07
+30 21 09 40 19 80	(BG)	+30 21 09 40 19 80
+386 26 16 58 35	(BIH)	+386 26 16 58 35
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2 61 10 45 06	(CZ)	+42 02 61 10 45 06
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9 02 18 19 92	(E)	+34 9 13 82 68 41
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21 09 40 19 80	(GR)	+30 21 09 40 19 80
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+386 26 16 58 35	(HR)	+386 26 16 58 35
02 66 16 55 74	(I)	+39 02 66 16 55 74
+44 87 02 42 02 37	(IRL)	+44 87 02 42 02 37
+32 59 33 07 07	(L)	+32 59 33 07 07
+372 697 91 96	(LT)	+372 697 91 96
+372 697 91 96	(LV)	+372 697 91 96
+33 3 88 72 06 43	(MC)	+33 3 88 72 06 43
+386 26 16 58 35	(MK)	+386 26 16 58 35
+45 75 72 74 74	(N)	+45 75 72 74 74
+32 59 33 07 07	(NL)	+32 59 33 07 07
+34 9 13 82 68 41	(P)	+34 9 13 82 68 41
06 18 31 98 70	(PL)	+48 6 18 31 98 70
02 12 50 02 60	(RO)	+40 2 12 50 02 60
+39 02 66 16 55 74	(RSM)	+39 02 66 16 55 74
+45 75 72 74 74	(S)	+45 75 72 74 74
+42 02 61 10 45 06	(SK)	+42 02 61 10 45 06
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0 21 22 75 13 21	(TR)	+90 21 22 75 13 21
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