

# Service-Information



Service — Technical  
RM-K-12 hö-cb

Equipment — Advisory

Munich, Feb. '80  
016 80 (143 R) e

Domestic and Export  
(not for USA and  
Canada)

Subject: Special tools for BMW motorcycles

We give below a summary of all the special tools needed for correct dismantling and assembly work on Types

R 50/5 — R 100 RS

R 45, R 65

Service Information No. 6/76 (419 R) and its supplements are now invalid.



## Special tool board

With mountings and  
identification sheet  
(size: 2 x 1 m)

Order No. 00 0 600



Engine  
=====

## Assembly stand

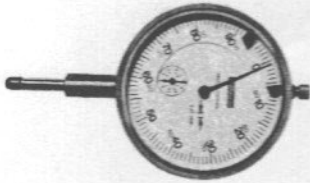
To support engine,  
gearbox and rear wheel drive  
during dismantling and  
assembly work

Order No. 00 1 490

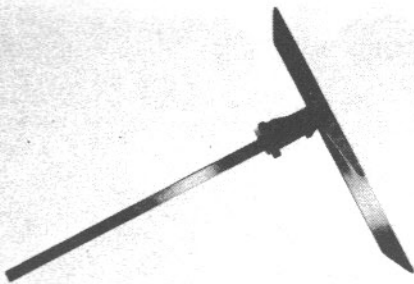
| Kenntnis genommen - Pris connaissance - Noted - Tomado nota - Preso conoscenza |                                                        |                                                                                                  |                                                                                                          |                                                                                                             | Ablage - Archives - File - Archivio                                  |                                                        |
|--------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------|
| Betriebsleitung<br>Direction<br>Management<br>Dirección<br>Direzione           | Werkstatt<br>Atelier<br>Workshop<br>Taller<br>Officina | KD-Annahme<br>Réception clientèle<br>Cust. reception<br>Recepción clientela<br>Recezione clienti | Gewährl.-Sachb.<br>Inspecteur garantie<br>Warranty inspector<br>Inspector garantía<br>Ispettore garanzia | Teiledienst<br>Service pièces détachées<br>Spare parts service<br>Servicio de recambios<br>Servizio ricambi | Betriebsleitung<br>Direction<br>Management<br>Dirección<br>Direzione | Werkstatt<br>Atelier<br>Workshop<br>Taller<br>Officina |



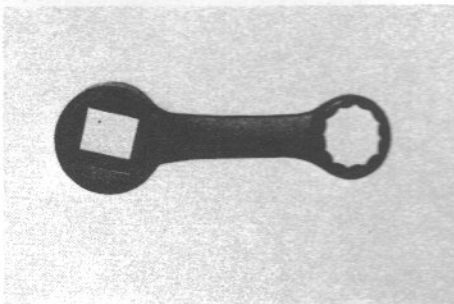
Order No. 00 2 500



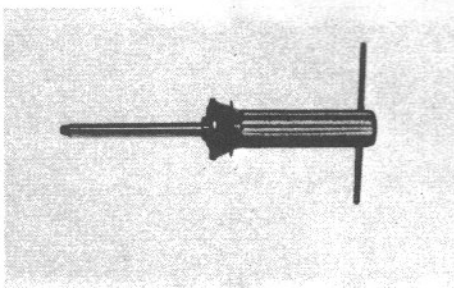
Order No. 00 2 510



Order No. 00 2 550



Order No. 00 2 560



Order No. 00 2 570

Dial gauge holder

To measure flywheel runout and tooth backlash at crown wheel and pinion (rear wheel drive)

Dial gauge

To measure play (clearance) and runout

Special depth gauge

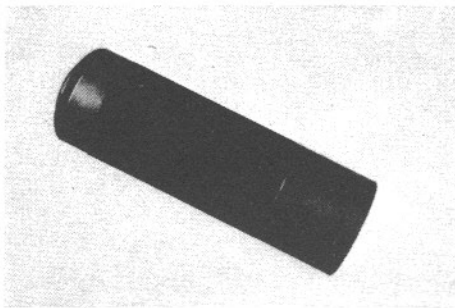
To measure endplay (axial play) at gearbox shafts

Special ring spanner

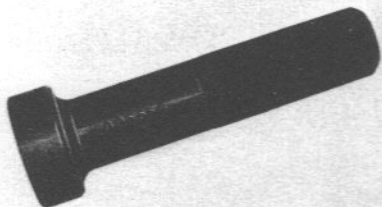
To tighten 12-sided bolts at output flange

Friction gauge

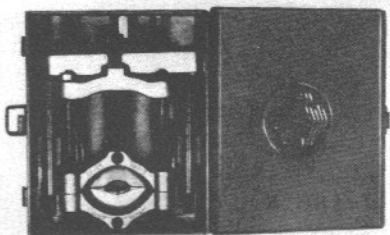
To adjust bearing friction values at steering head and wheel bearings



Order No. 00 5 500



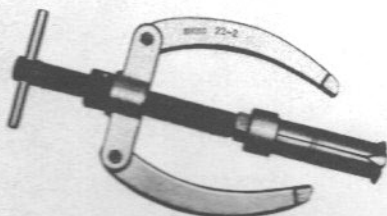
Order No. 00 5 550



Order No. 00 7 500



Order No. 00 8 551/553



Order No. 00 8 560

Handle for arbors (drifts)

|          |          |
|----------|----------|
| 11 1 850 | 33 1 850 |
| 11 1 880 | 33 1 880 |
| 11 2 700 |          |
| 23 1 740 |          |
| 23 1 750 |          |
| 31 4 650 |          |
| 33 1 750 |          |

Arbor (drift)

For driving in wheel bearings

Kukko 17/K universal puller

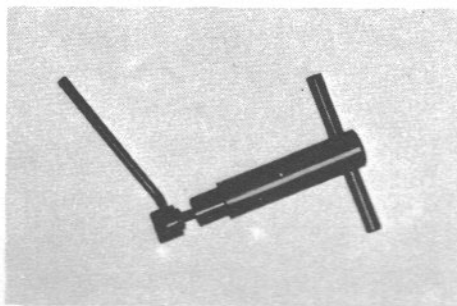
For pulling ball bearing off input shaft and installing circlip in conjunction with assembly bushings No. 320/1-4 and pressure head (included in Kukko 17/K)

Internal puller (with reducing adapter)

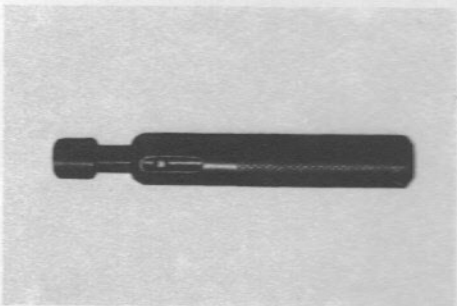
To pull out swinging arm bearings

Kukko puller

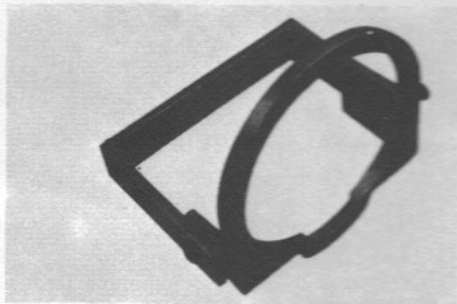
For pulling out steering head bearing shells



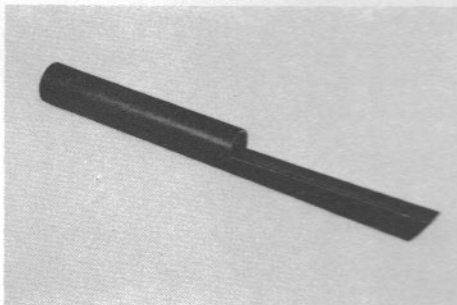
Order No. 00 9 500



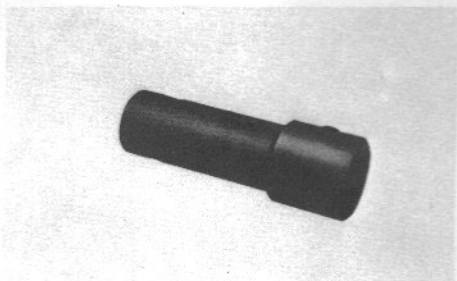
Order No. 00 9 510



Order No. 11 0 600



Order No. 11 1 600



Order No. 11 1 660

#### Riveter

For riveting the cockpit fairing and integral cockpit

#### Spreader riveting tool

For installing spreader rivets for windshield of 'S' and 'RS' cockpit fairings

#### Mounting fixture

(for assembly stand 00 1 490)

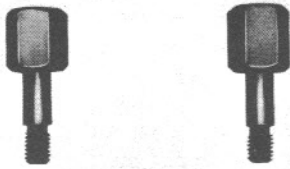
To support engine and gearbox when dismantling and assembling

#### Arbor (drift)

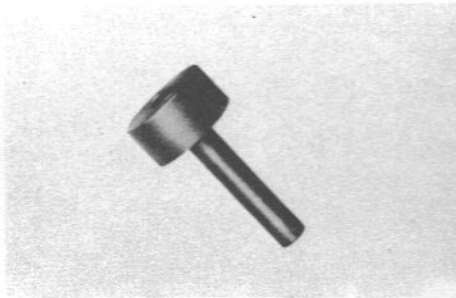
For inserting rubber grommets in pushrod tubes

#### Gripping tool

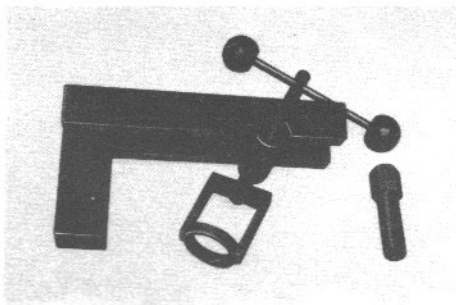
For slackening and tightening the pressure relief valve



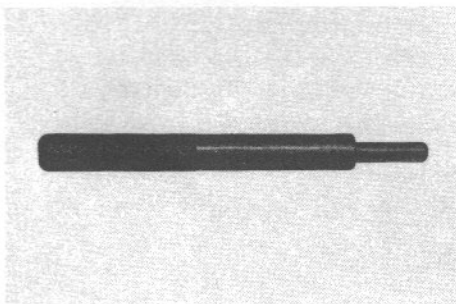
Order No. 11 1 690



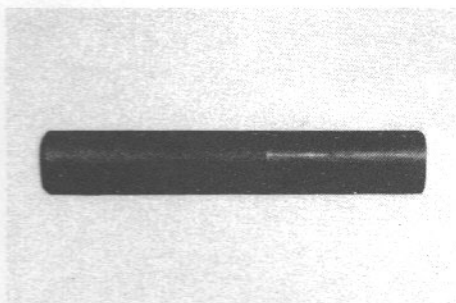
Order No. 11 1 690



Order No. 11 1 750



Order No. 11 1 760



Order No. 11 1 770

Reducing nipple for Kukko 17/K

To pull off main bearing cap at front of engine (in conjunction with bridge from Kukko 17/K)

Pressure head

To support thrust spindle of Kukko 17/K universal puller when pulling main bearing cap off crankshaft

Valve spring lifter

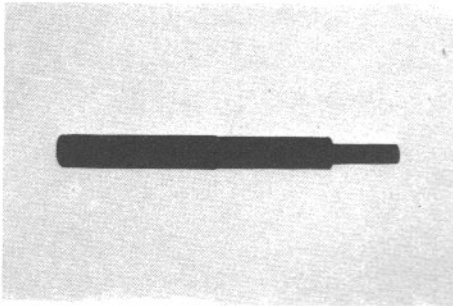
For removing and installing valves on cylinder head (detached from engine)

Arbor (drift)

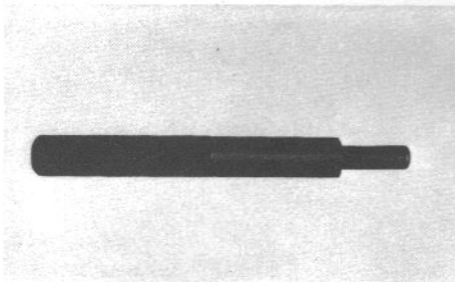
For driving out valve guide from R 45 and R 65 cylinder head

Arbor (drift)

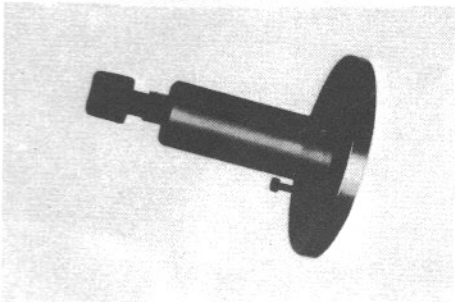
For driving in valve guide on R 45 and R 65 cylinder head



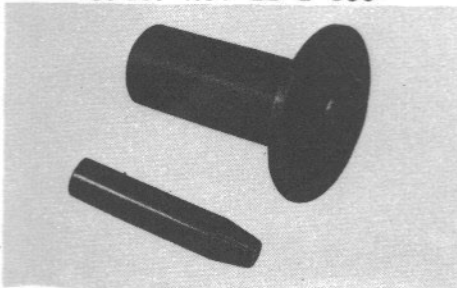
Order No. 11 1 780



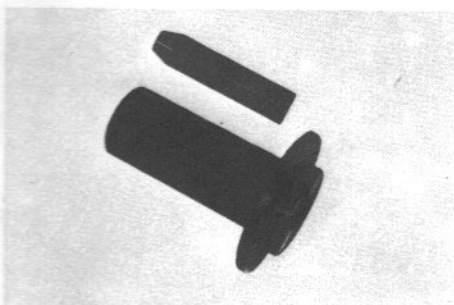
Order No. 11 1 790



Order No. 11 1 800



Order No. 11 1 820



Order No. 11 1 830

Arbor (drift)

For driving out valve guides from cylinder head (8 mm dia. valve stem)

R 50/5 - R 100 RS

Arbor (drift)

For driving in valve guides at cylinder head

R 50/5 - R 100 RS

Puller

For pulling off timing chaincase cover

Centering bushing with sleeve

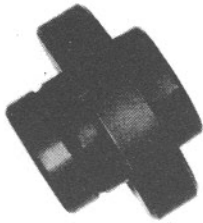
For centering timing chaincase cover and driving in radial sealing ring (contact breaker shaft)

R 50/5 - R 90 S (small sealing ring)

Centering bushing with sleeve

For centering timing chaincase cover and driving in radial sealing ring (contact breaker shaft)

R 60/6 - R 100 RS (large sealing ring)



Order No. 11 1 850

Arbor (drift)

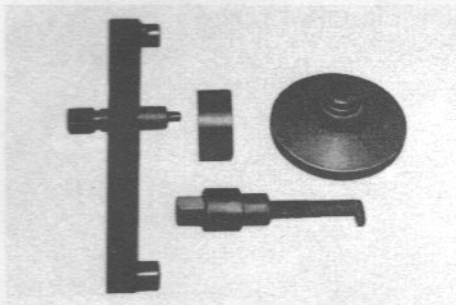
For driving in radial sealing ring for generator bearing cap



Order No. 11 1 880

Arbor (drift)

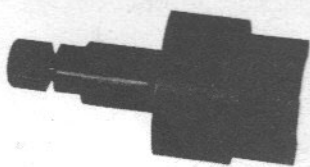
For driving in radial sealing ring on crankshaft, flywheel end



Order No. 11 1 890

Extracting and fitting tool

For removing and installing radial sealing ring on flywheel side in conjunction with 11 1 880

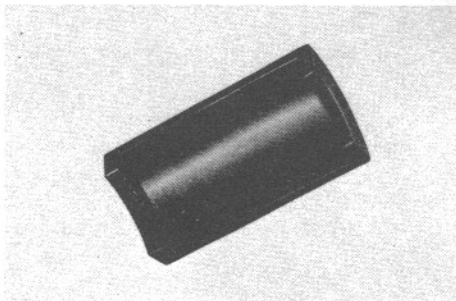


Order No. 11 2 600

Puller

For pulling chain sprocket off crankshaft.

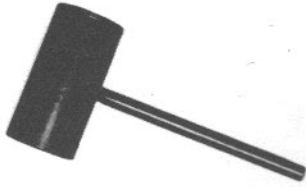
This puller avoids damage to the timing chain so that it can be re-used.



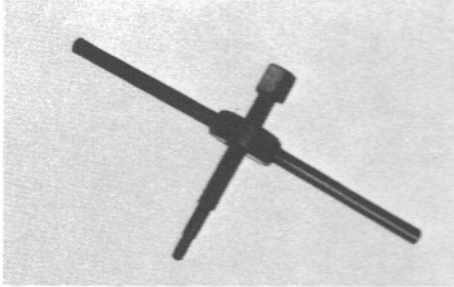
Order No. 11 2 606

Additional shell

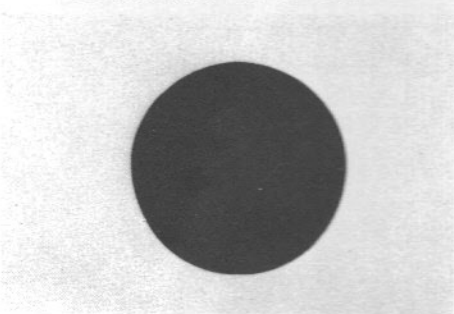
For pulling chain sprocket off crankshaft (Simplex roller chain). Exchange for shell with groove on R 80/7 - R 100 RS from 79 model on, R 45 and R 65



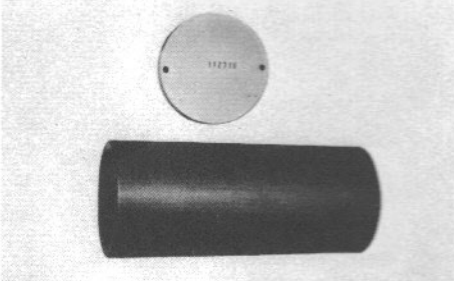
Order No. 11 2 620



Order No. 11 2 630



Order No. 11 2 700



Order No. 11 2 710



Order No. 11 2 720

Pressing-on bushing

For pressing chain sprocket on  
to crankshaft  
(in conjunction with spindle  
No. 11 2 630)

Pressing-on tool

For pressing chain sprocket  
on to crankshaft

Pressure tool

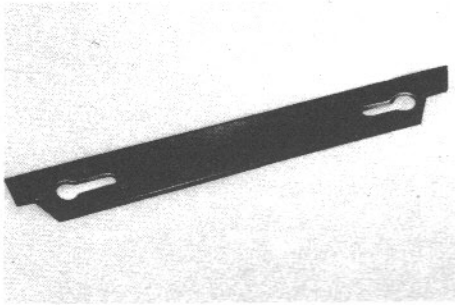
For pressing out main bearings,  
in conjunction with tool No.  
11 2 710

Assembly tool

For pressing main bearings into  
and out of engine block

Pressure tool

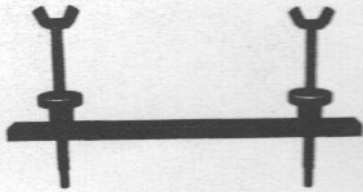
For pressing crankshaft main  
bearings into engine block



Order No. 11 2 800

Retainer

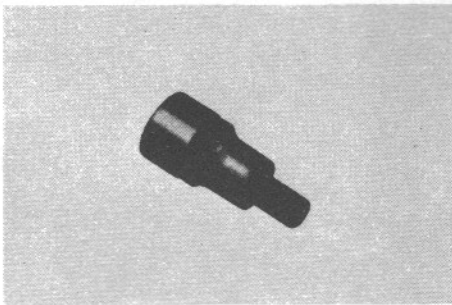
To prevent flywheel from moving when slackening and tightening the retaining bolts



Order No. 11 2 810

Puller

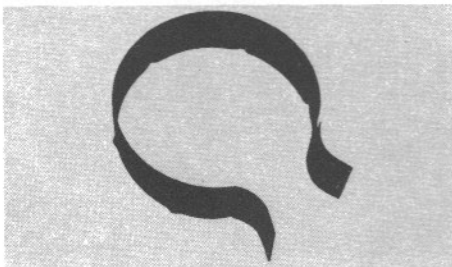
For pulling off the flywheel



Order No. 11 2 860

Multi-flat wrench

For slackening and tightening big end bolts



Order No. 11 2 905/910/915

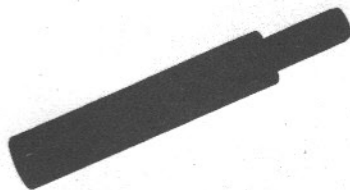
Piston ring clamp

For compressing the piston rings when inserting piston into cylinder

/905 for R 75, R 80

/910 for R 45, R 50, R 60, R 65

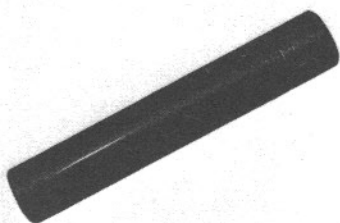
/915 for R 90.., R 100..



Order No. 11 2 920

Arbor (drift)

For driving out piston pins



Order No. 11 3 600

Sleeve

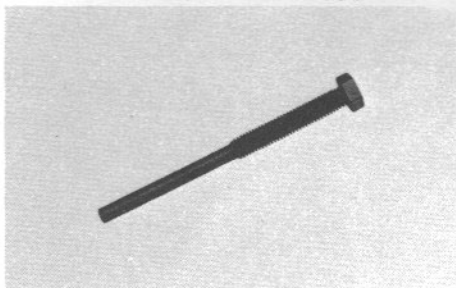
For pressing camshaft off chain sprocket



Order No. 11 4 600

Oil pressure gauge

For measuring engine oil pressure at a standstill or when machine is being ridden

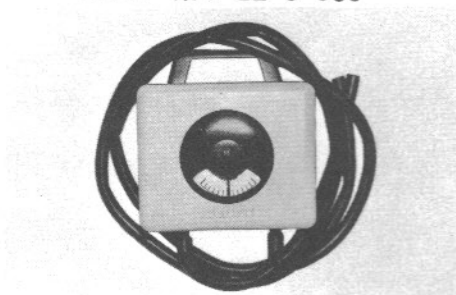


Engine - electrical

Forcing-off screw

For forcing off the generator armature

Order No. 12 3 600

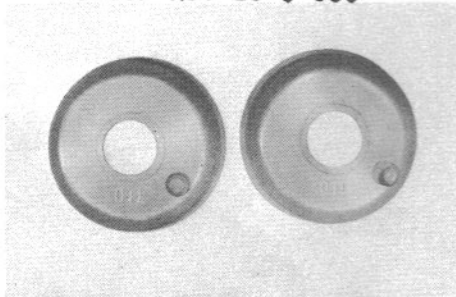


Fuel supply and control

'Unitest' synchronizer

For synchronizing carburetors on R 50/5 - R 60/7, R 75/5 without vacuum connection and R 90 S

Order No. 13 0 500

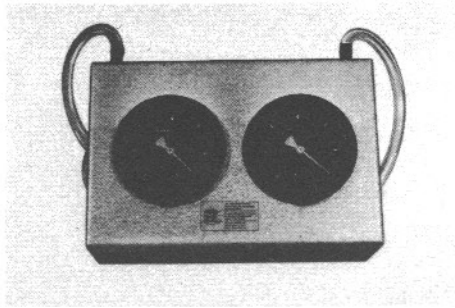


Push-on caps

For synchronizing carburetors on R 50/5 - R 60/7

Order Nos. 13 0 600  
13 0 610  
13 0 620

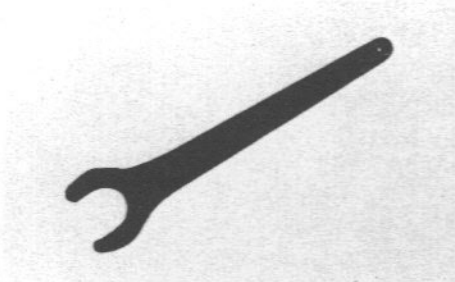
R 75/5 without vacuum connection  
R 90 S



Order No. 13 0 700

'Duotest' synchronizer

For synchronizing carburetors on  
R 75/5 - R 100 RS (with vacuum  
connection), R 45, R 65

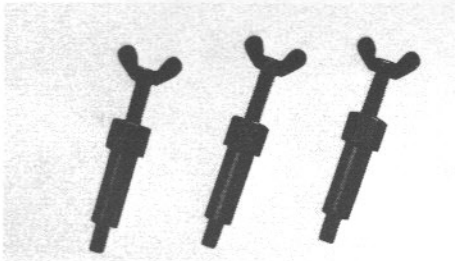


Order No. 18 0 600

Exhaust system  
=====

Exhaust pipe nut wrench

For slackening and tightening  
exhaust pipe nuts with cooling  
fins



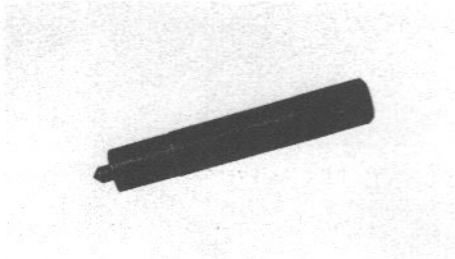
Order No. 21 2 600

Clutch  
=====

1 set of clamp bolts

For dismantling and assembling  
the clutch pressure plate

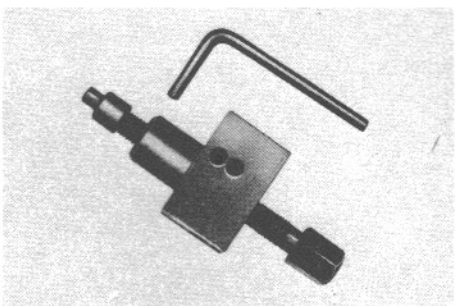
R 50/5 - R 100 RS



Order No. 21 2 650

Centering arbor

For centering the clutch driving  
plate when installing the clutch

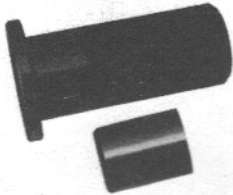


Order No. 23 1 620

Forcing-off tool

For forcing off the gearbox  
cover

Gearbox

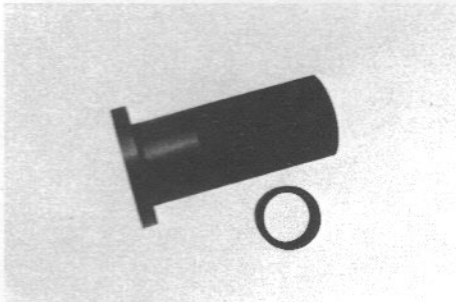


Order No. 23 1 640

Arbor (drift) with sleeve

For driving in radial sealing ring on input shaft (4-speed gearbox)

R 50/5 - R 75/5



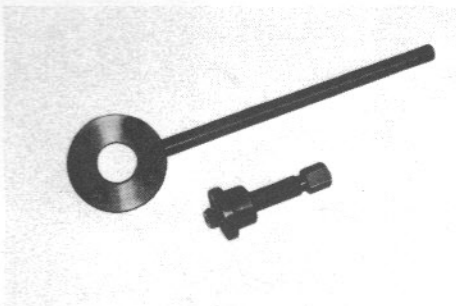
Order No. 23 1 650

Arbor (drift) with sleeve

For driving in radial sealing ring on input shaft (5-speed gearbox)

R 60/6 - R 100 RS

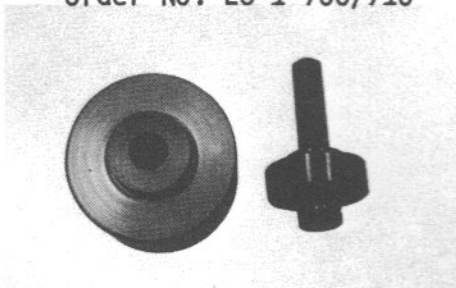
R 45, R 65



Retainer and puller

For dismantling gearbox output flange

Order No. 23 1 700/710

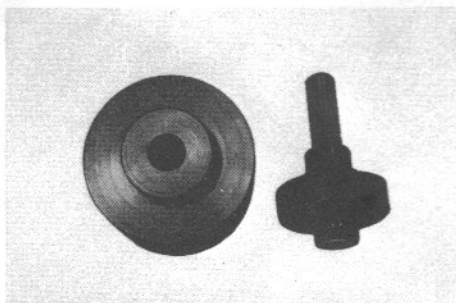


Insertion tool

For driving in radial sealing ring at gearbox cover (4-speed gearbox)

R 50/5 - R 75/5

Order No. 23 1 740



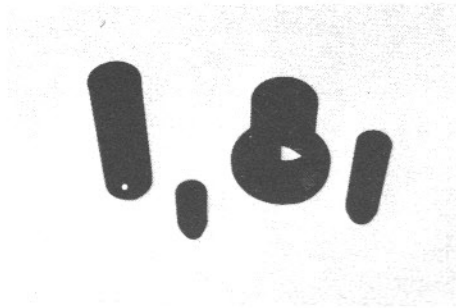
Insertion tool

For driving in radial sealing ring at gearbox cover (5-speed gearbox)

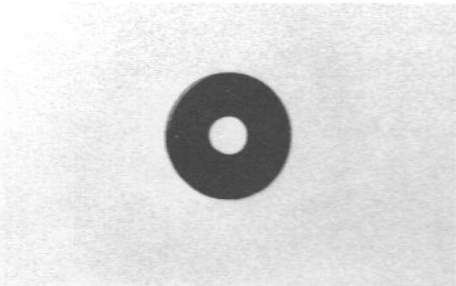
R 60/6 - R 100 RS

R 45, R 65

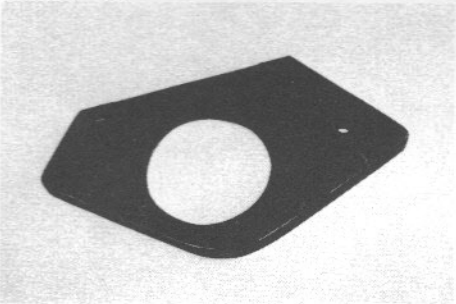
Order No. 23 1 750



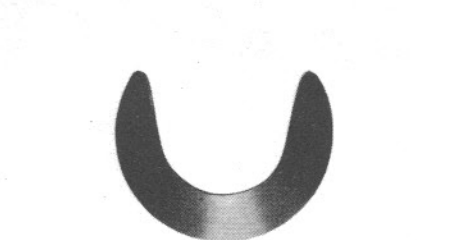
Order No. 23 2 650



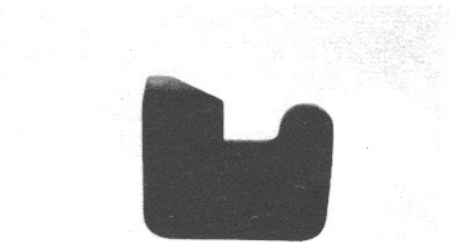
Order No. 23 2 700



Order No. 23 2 750



Order No. 23 2 760



Order No. 23 3 600

#### Assembly bushings

For dismantling and assembling the circlip on the input shaft (4- and 5-speed gearboxes)

#### Measuring bushing

To measure endplay (axial play) at input shaft (4-speed gearbox)

R 50/5 - R 75/5

#### Adjusting tool

To locate the output shaft when adjusting the selector fork (4-speed gearbox)

R 50/5 - R 75/5

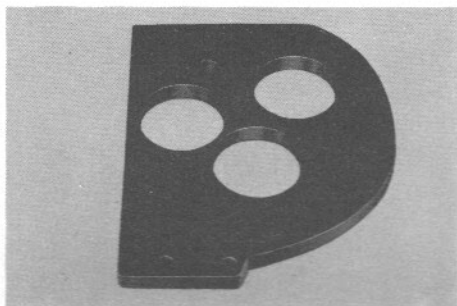
#### Disc

For dismantling and assembling the circlip on the 5-speed gearbox input shaft (without kick starter)

#### Gauge

For adjusting neutral contact spring (4-speed gearbox)

R 50/5 - R 75/5



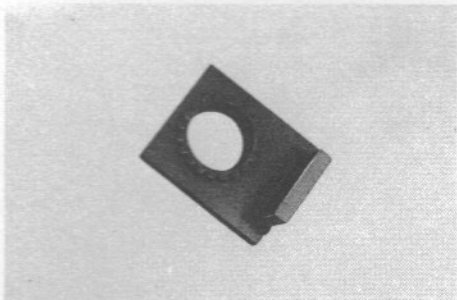
Order No. 23 3 650

Measuring gauge

For shimming gearbox shafts  
on assembly

R 60/6 - R 100 RS

R 45, R 65



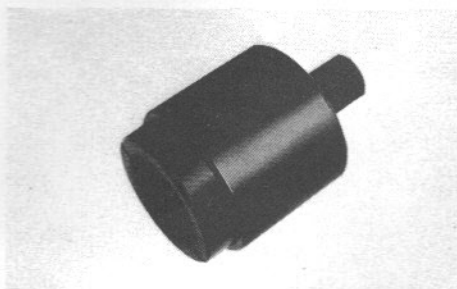
Order No. 26 1 600

Drive shaft  
=====

Special wrench with  
counterholder

For slackening and tightening  
the drive shaft coupling dome

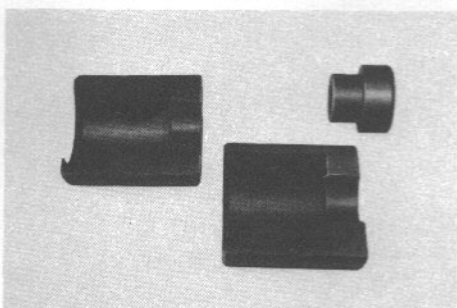
R 50/5 - R 100 RS (78 model)



Order No. 26 1 650

Special puller

For pulling the drive shaft  
coupling dome off the drive  
shaft

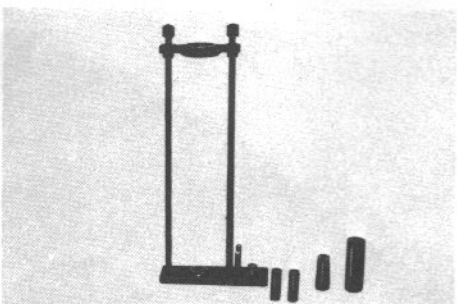


Order No. 26 1 654/55

Additional shells for special  
puller and nut

For pulling the drive shaft  
coupling dome off the drive  
shaft

R 60/7 - R 100 RS (78 model)



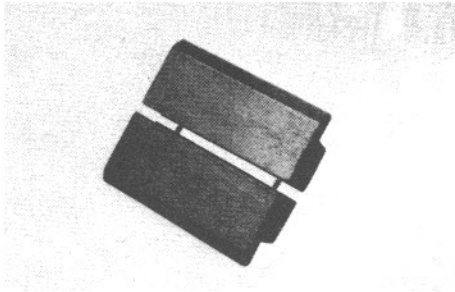
Order No. 26 1 700

Assembly fixture

For dismantling and assembling  
torsional vibration damper on  
drive shaft

R 80/7 - R 100 RS (79 model on),

R 45, R 65



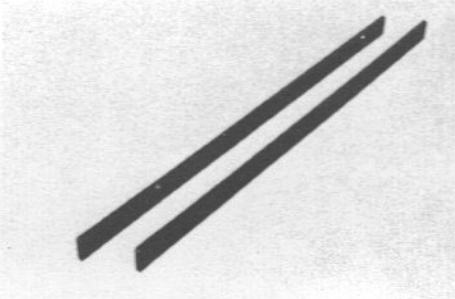
Order No. 31 4 600

### Front forks

=====

#### Clamping jaws for fork tubes

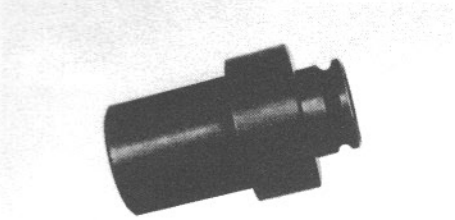
To hold the front forks  
during dismantling and assembly



Order No. 31 4 620

#### Straightedges

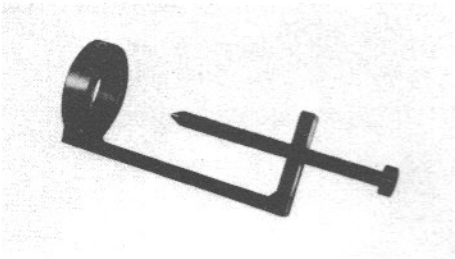
For checking that fork  
tubes are parallel



Order No. 31 4 650

#### Arbor (drift)

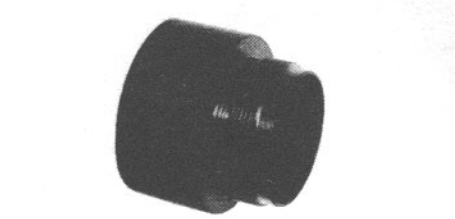
For driving sealing rings into  
fork slider tubes at top



Order No. 31 4 690

#### Clamp

To secure the fork spring  
when installing the spring  
contact plate on R 45, R 65

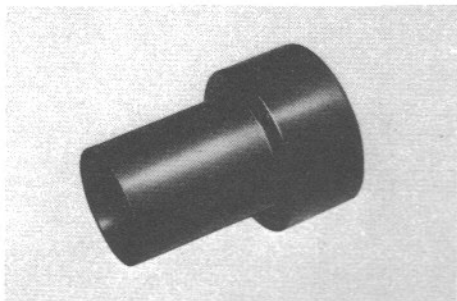


Order No. 31 4 700

#### Assembly bushing

To protect piston rings when  
installing complete front fork  
damper

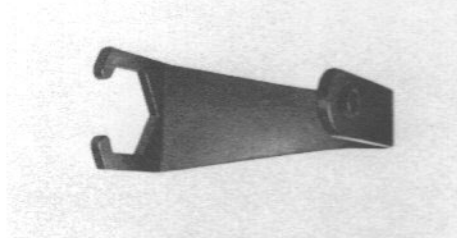
R 50/5 - R 100 RS



Order No. 31 4 720

Assembly bushing

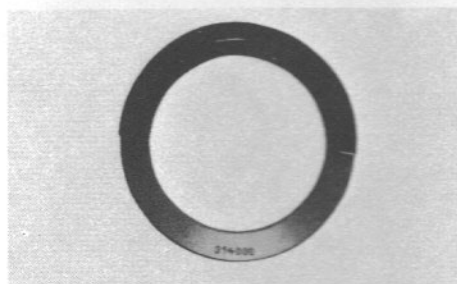
For compressing piston rings  
when installing complete damper  
in fixed fork tube  
R 45, R 65



Order No. 31 4 750

Measuring wrench

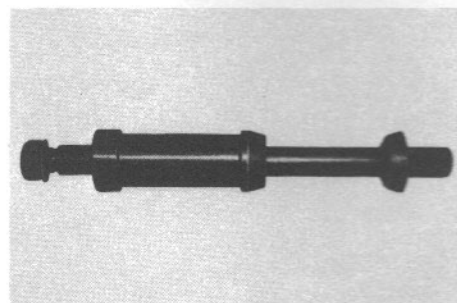
For adjusting bearing friction  
at steering head  
R 50/5 - R 100 RS



Order No. 31 4 800

Collar ring

To increase support face area  
when extracting steering head  
bearings



Order No. 31 4 820

Spacer

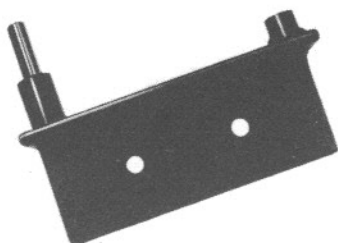
For pulling in steering head  
bearings, in conjunction with  
spindle of frame alignment  
test gauge



Order No. 31 4 850

Hexagon ring spanner

For tightening upper spring  
bearings and centering nut  
on upper fork bridge  
R 50/5 - R 100 RS



Order No. 33 1 600

# Rear axle

=====

Rear wheel drive retainer for  
assembly mounting 00 1 490

To carry the drive shaft housing  
when dismantling and assembling



Order No. 33 1 630

# Clamp

For measuring tooth backlash at  
crown wheel and pinion (in con-  
junction with measuring fixture  
00 2 500)

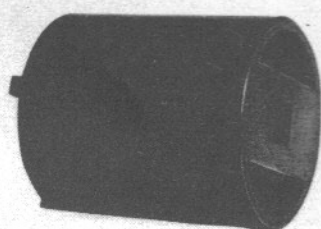


Order No. 33 1 650

# Counter-holder

For use when slackening and  
tightening the drive shaft  
pinion nut

R 50/5 - R 100 RS, 78 model



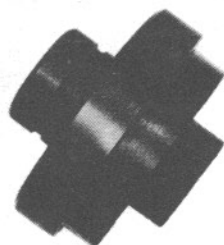
Order No. 33 1 700

# Rear wheel drive

=====

# Pin wrench

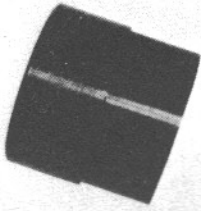
For slackening and tightening  
threaded ring (at drive shaft  
pinion)



Order No. 33 1 750

# Arbor (drift)

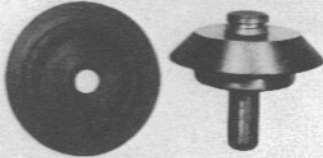
For driving in radial sealing  
ring (drive shaft threaded ring)



Assembly sleeve

To protect radial sealing ring during assembly (drive shaft cover)

Order No. 33 1 800



Installation fixture

For driving in radial sealing ring at drive shaft cover

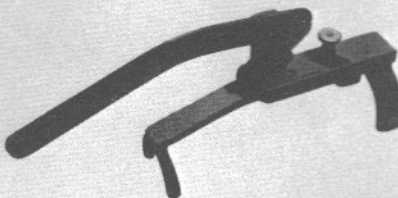
Order No. 33 1 850



Arbor (drift)

For driving in radial sealing ring (crown wheel)

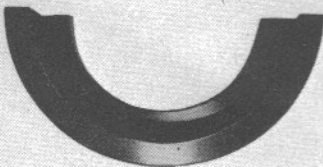
Order No. 33 1 880



Clamping fixture

To clamp rear spring struts during dismantling and assembly

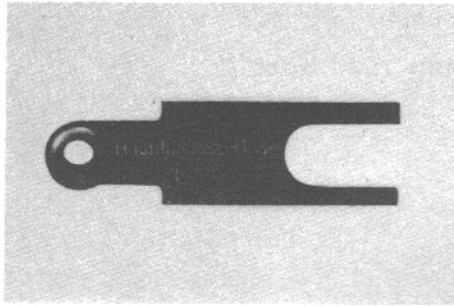
Order No. 33 5 600



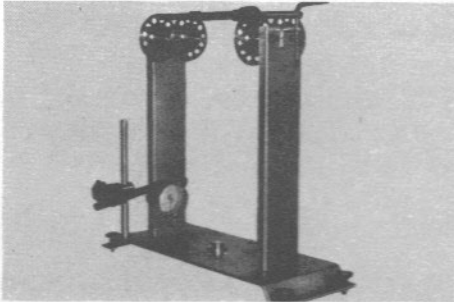
Clamp block

For clamping rear springs during dismantling and assembly (/7 models only)

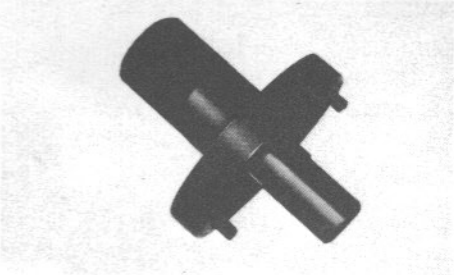
Order No. 33 5 605



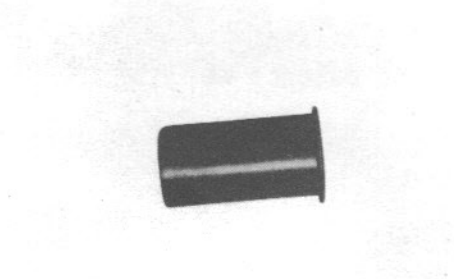
Order No. 34 0 600



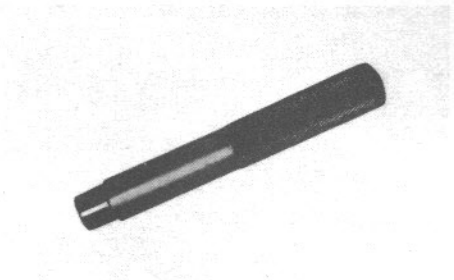
Order No. 36 3 600



Order No. 36 3 650



Order No. 36 3 651



Order No. 36 3 700

## Brakes

=====

### Adjusting gauge

For adjusting play at front master cylinder

R 75/6 - R 100 RS

## Wheels and tires

=====

### Wheel balancer

For balancing road wheels and measuring vertical and lateral runout

### Pin wrench

For slackening and tightening the front wheel hub caps

R 50/5 - R 100 S, 77 model

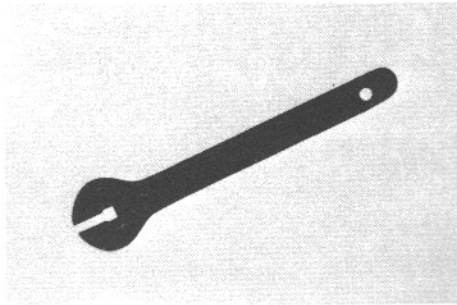
### Slip-on bushing

For pin wrench 36 3 650, when used with 17 mm axle shaft

### Arbor (drift)

For dismantling wheel bearings

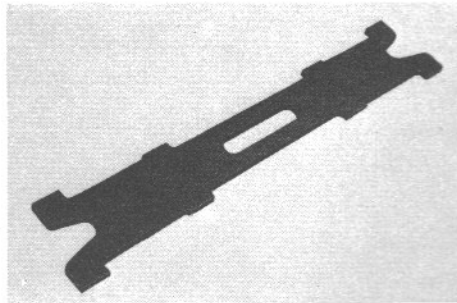
R 50/5 - R 100 S, 77 model



Order No. 36 3 800

Nipple wrench

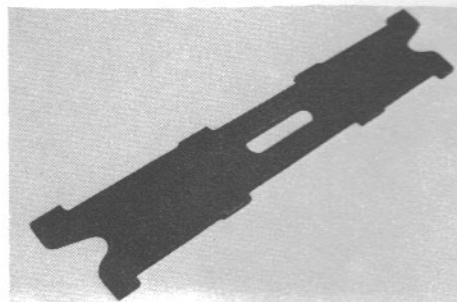
For spoking road wheels



Order No. 36 3 820

Spoking gauge, double-sided

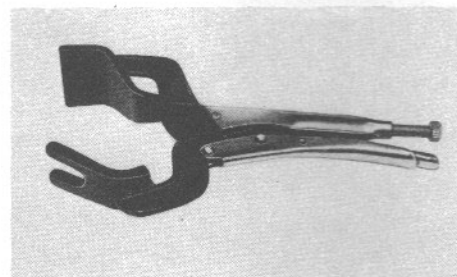
For spoking 18" and 19" road wheels with drum brakes, front and rear (R 50/5 - R 75/5, R 60/6 front)



Order No. 36 3 850

Spoking gauge, double-sided

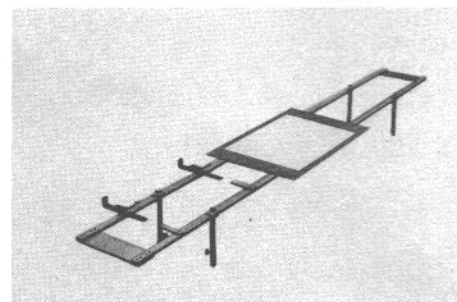
For spoking road wheels with eccentric spoke pattern and disc-brake road wheels (R 60/6 rear, R 75/6 - R 90 S and R 60/7 - R 100 RS with spoked wheels)



Order No. 36 3 880

Assembly pliers

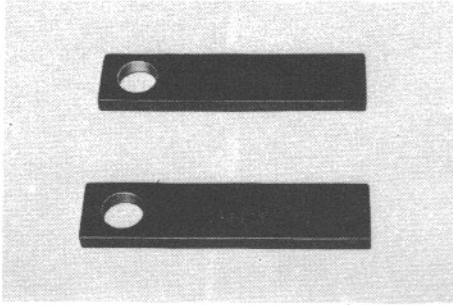
For attaching balance weights to cast wheels



Order No. 36 3 900

Road wheel (track) alignment gauge

To measure track deviation between front wheel and rear wheel



Order No. 36 3 905/906

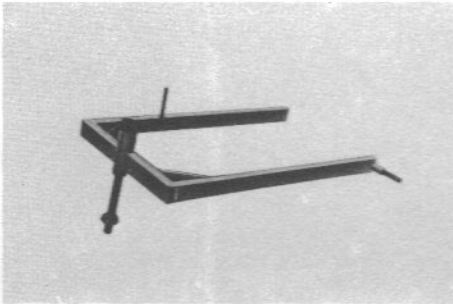
Stop plates for wheel track  
alignment gauge

For determining track mis-  
alignment on motorcycles with  
cast alloy wheels

- a) Cast wheels with drum brake  
36 3 905
- b) Cast wheels with disc brake  
36 3 906

Frame

=====



Order No. 46 5 600

Frame alignment test gauge

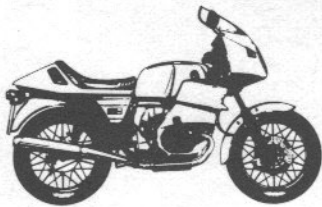
For checking frame distortion,  
with mandrels for front fork  
and rear swinging arm bearings

Yours very sincerely,  
BMW MOTORRAD GMBH  
Service Department  
Munich  
i.V.

i.V.

Gonzalez

Blank



08-01/3  
36-01/3



# Service-Information

Service - Technical  
RM-K-12 hö-cb

Equipment - advisory

Munich, Feb. '80  
017 80 (144 R) e

## Valve assembly fixture and press arbor for main bearings

In addition to the continuing development of new special tools, we aim to maintain repair quality and improve workshop efficiency by improving existing special tools wherever possible.

### Valve assembly fixture

This fixture has now been revised, and the complicated wooden underlay with clamp for the cylinder head deleted. The new method of supporting the thrust spindle is also capable of compressing the valve spring very easily without heavy physical effort (see Fig. 1).

This tool replaces the previous version; the same BMW number as before has been retained.

### Press arbor for main bearings

Use of this tool has been greatly simplified by providing an additional ball catch to retain the bearing on the arbor (see Fig. 2). The modified tool also retains its previous BMW number.

These special tools are not despatched automatically under the workshop tool agreement, but must be ordered through the usual channels if required.

Yours very sincerely,  
for and on behalf of  
BMW (GB) LIMITED

Illustrations and  
price details overleaf.

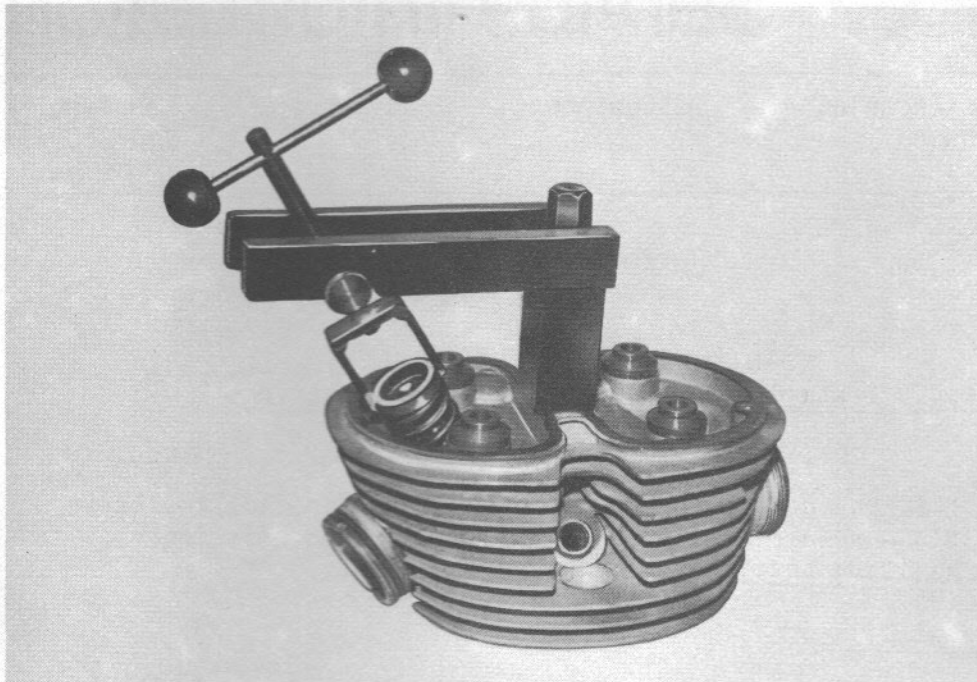
A. Criscuolo  
Service Manager, Motorcycles

P. Myers  
Motorcycle Manager

| Kenntnis genommen - Pris connaissance - Noted - Tomado nota - Preso conoscenza |                                                        |                                                                                                  |                                                                                                          |                                                                                                             | Ablage - Archives - File - Archivo                                   |                                                        |
|--------------------------------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------|
| Betriebsleitung<br>Direction<br>Management<br>Direzione                        | Werkstatt<br>Atelier<br>Workshop<br>Taller<br>Officina | KD-Annahme<br>Réception clientèle<br>Cust. reception<br>Recepción clientela<br>Recezione clienti | Gewährl.-Sachb.<br>Inspecteur garantie<br>Warranty inspector<br>Inspector garantía<br>Ispettore garanzia | Teiledienst<br>Service pièces détachées<br>Spare parts service<br>Servicio de recambios<br>Servizio ricambi | Betriebsleitung<br>Direction<br>Management<br>Dirección<br>Direzione | Werkstatt<br>Atelier<br>Workshop<br>Taller<br>Officina |

08-01/3  
36-01/3

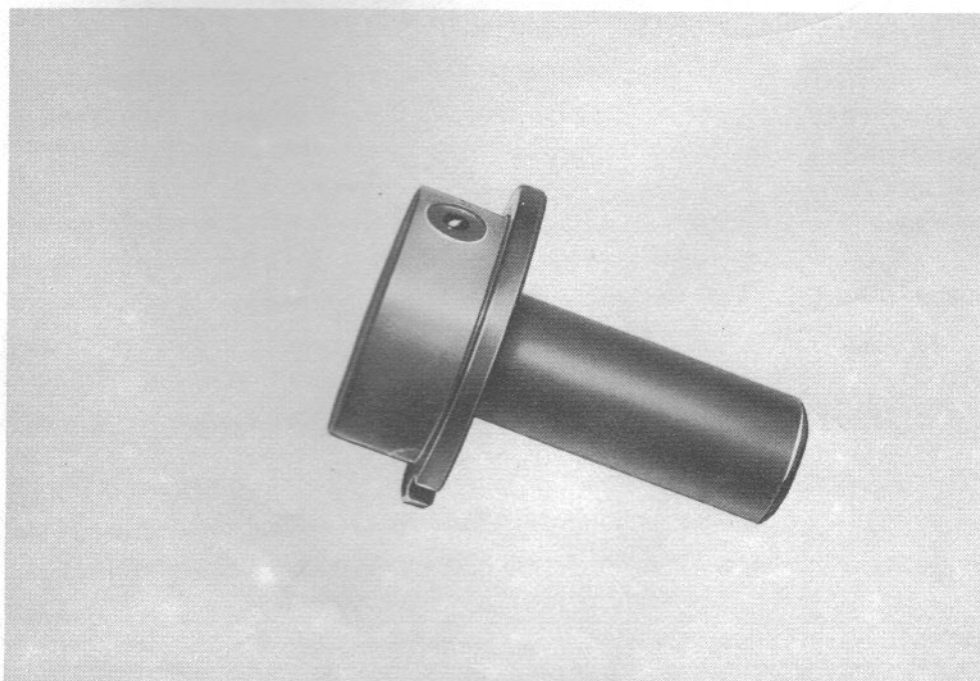
Valve assembly tool



Order number: 11 1 750  
Price: DM 59.65

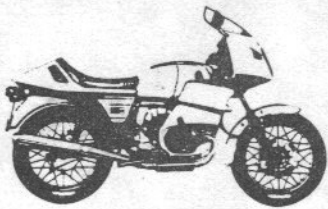
Fig. 1

Main bearing press arbor



Order number: 11 2 720  
Price: DM 39.95

Fig. 2



# Service-Information



BMW MOTORRAD GMBH  
Service - Technical  
R-VK-12 hö-cb

Workshop equipment  
- advisory

Munich, Sept. '78

No. 6/76 (419R) e

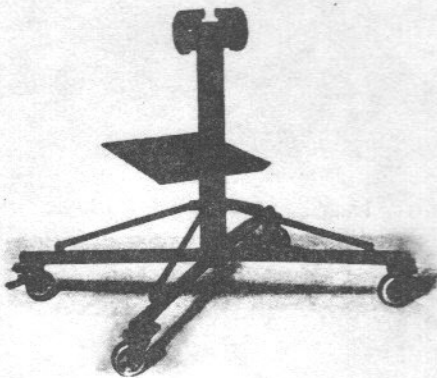
Domestic and Export  
(not for USA and Canada)

## Supplement II

### Special tools for BMW motorcycles

We give below a summary of the special tools so far issued, including those applicable to the R 45 and R 65; these special tools are essential for correct dismantling and assembly work.

#### Engine

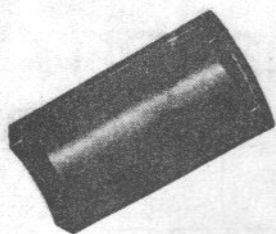


#### Assembly stand

To support engine, gearbox and rear wheel drive during dismantling and assembly

Order number 00 1 490

.../2

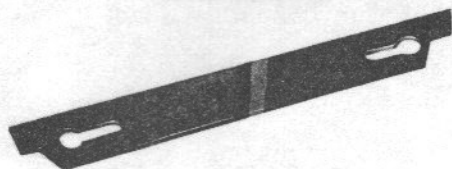


Order number 11 2 606

X

#### Additional puller shell

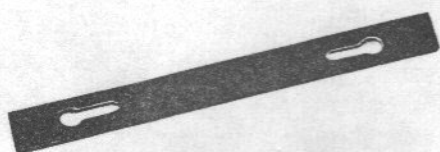
For pulling chain sprocket off crankshaft (single roller chain). Exchange with grooved shell on R 80/7 - R 100 RS from model 79 on R 45 and R 65



Order number 11 2 800

#### Locking device

To prevent the flywheel from turning with slackening and tightening the retaining bolts R 50/5 - R 100 RS R 45, R 65



Order number 11 2 810

#### Extractor

For pulling off the flywheel R 50/5 - R 100 RS R 45, R 65

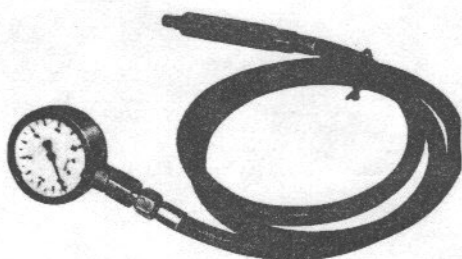


Order number 11 2 905

X

#### Piston ring clamp

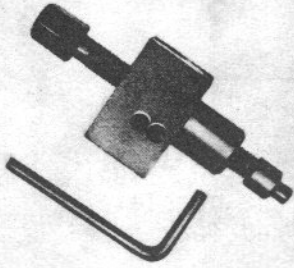
For compressing the piston rings when inserting piston into cylinder R 75/5 - R 75/7, R 80/7



Order number 11 4 600

#### Oil pressure gauge

For measuring oil pressure on engine run at a standstill or on the move

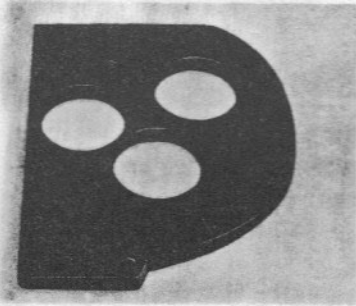


Order number 23 1 620

Forcing-off tool

For removing the gearbox housing cover

R 50/5 - R 100 RS  
R 45, R 65

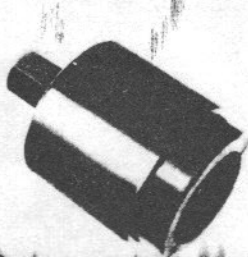


Order number 23 1 650

Measuring gauge

For determining thickness of shims on gearbox shafts during gearbox assembly

R 60/6 - R 100 RS  
R 45, R 65

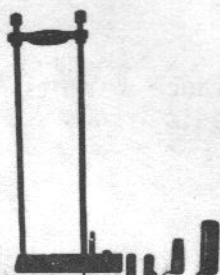


Order number 26 1 660

Additional shells for special puller

For removing coupling bell from propeller shaft

R 60/7 - R 100 RS up to 79 models

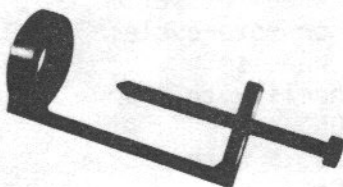


Order number 26 1 700

Assembly fixture

For dismantling and assembling torsional vibration damper on propeller shaft

R 80/7 - R 100 RS from 79 model on  
R 45, R 65

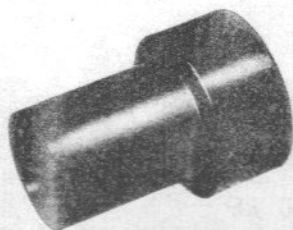


Order number 31 4 690

Clamp

For clamping fork spring when installing spring underlay

R 45, R 65



X

#### Assembly bushing

To compress the piston rings when installing the complete damper in the fixed fork tube  
R 45, R 65

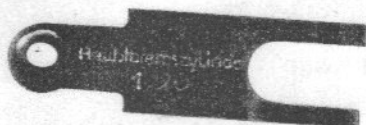
Order number 31 4 720



#### Hexagon ring spanner

For tightening the upper spring mounting and centering nut on the upper fork bridge  
R 50/5 - R 100 RS

Order number 31 4 850

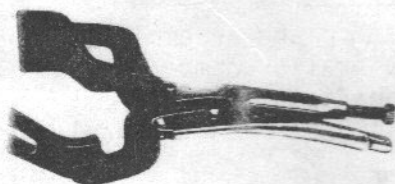


X

#### Setting gauge

For adjusting play at front brake master cylinder  
R 75/6 - R 90 S  
R 60/7 - R 100 RS

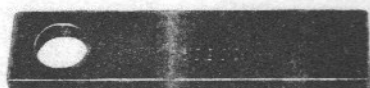
Order number 34 0 600



#### Assembly pliers

For attaching balance weights to cast alloy wheels

Order number 36 3 880



#### Stops for wheel offset gauge

For determining wheel offset from centerline on motorcycles with cast alloy wheels

- a) cast alloy wheels with drum brake 36 3 905
- b) cast alloy wheels with disc brake 36 3 905

Order number 36 3 905/906

.../5