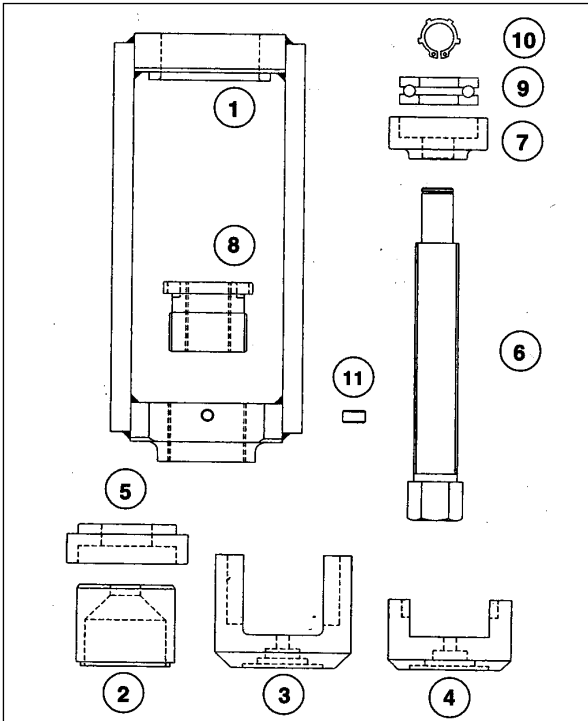


BALL JOINT REMOVER & INSTALLER KIT - 'ON-CAR' APPLICATION . For: BMW 3 Series (E36).



STANDARD PARTS LIST

1	VS127/01	FRAME
2	VS127/02	LOCATION SLEEVE
3	VS127/03	REMOVAL SLEEVE
4	VS127/04	INSTALLER SLEEVE
5	VS127/05	THRUST SLEEVE
6	VS127/06	FORCE SCREW
7	VS127/07	BEARING HOUSING
8	VS127/08	FORCE SCREW BUSH
9	VS127/09	BEARING
10	VS127/10	CIRCLIP
11	VS127/11	HOLDING SCREW

1. INTRODUCTION & APPLICATION

1.1. INTRODUCTION

VS127 is designed to provide a press and sleeve arrangement for 'on-car' removal and installation of press-fit control arm ball joints on BMW 3 series cars. All required Removal and Installer Sleeves are included in the kit and the powerful Force Screw Assembly incorporates an end thrust bearing and bronze brush for smooth operation. The Press Frame is compact in design allowing in-situ use.

1.2. APPLICATION

BMW 3 Series (E36).

2. SAFETY INSTRUCTIONS

- WARNING!** Ensure all health and safety, local authority, and general workshop practice regulations are strictly adhered to when using tools.
- ✓ Maintain the tool in good and clean condition for best and safest performance.
- ✓ If required ensure the vehicle to be worked on is adequately supported with axle stands, ramps and chocks.
- ✓ Wear approved eye protection. A full range of personal safety equipment is available from your Sealey dealer.
- ✓ Wear suitable clothing to avoid snagging. Do not wear jewellery and tie back long hair.
- ✓ Account for all tools, locking bolts, pins and parts being used and do not leave them in or near the engine.
- ▲ **IMPORTANT:** The force screw must be kept well lubricated
- ▲ **IMPORTANT:** Ensure the ball joint is correctly and accurately aligned with installation position marked on control arm prior to removal of old ball joint.
- ✗ DO NOT use tools if damaged.
- ✗ DO NOT use air tools to operate the force screw.
- ▲ **IMPORTANT:** Always refer to the vehicle manufacturer's service instructions, or proprietary manual to establish the current procedure and data. These instructions for use are provided as a guide only.

3. INSTRUCTIONS FOR USE.

- WARNING!** Ensure you have read and understood chapter 2 safety instructions before commencing.

With VS127 ball joints can be quickly removed and installed in-situ, by selecting and arranging the sleeves within the frame in the specific order required for removal or installation, as detailed below. Force is applied with the force screw using only a spanner or socket/ratchet

- ▲ **IMPORTANT:** The force screw must be kept well lubricated
DO NOT use air tools to operate the force screw.

The sleeves are marked/identified 2,3,4, and 5 as shown in fig 1. It will save time and make the assembling of the correct configuration for removal or installation easier, if the operator reads and becomes familiar with the assembly sequence beforehand.

NOTE: Location Sleeve 2 is used to guide and protect the ball joint during the removal and installation procedures. It is placed over the ball joint and during installation it is also held in place using an old ball joint nut fig 2.

3.1. PREPARATION REQUIRED TO REMOVE BALL JOINT.

1. Unscrew nut on stabiliser connection on the control arm.
 2. Unscrew nut on the ball joint until it touches the spring strut and separate the ball joint from axle using a suitable tapered separator fork.
- ▲ **IMPORTANT:** Mark a line giving installation position of ball joint on control arm in order to show correct position when installing new ball joint (fig 3).
3. Unscrew and remove the ball joint nut.
 4. Push the axle journal outward to give access to the ball joint/control arm, and support steering knuckle in position.

3.2. REMOVING THE BALL JOINT. See fig 4 for Sleeve assembly sequence.

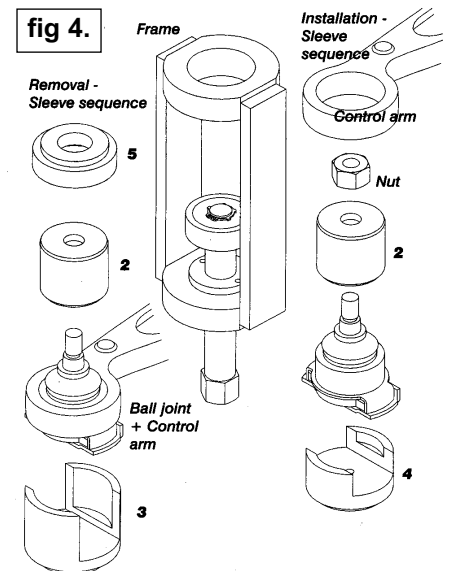
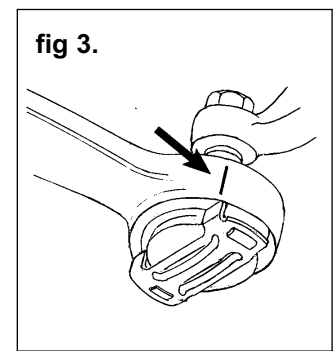
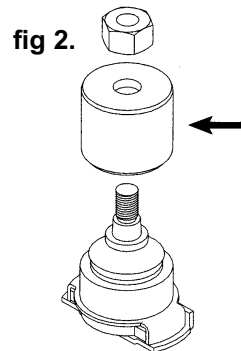
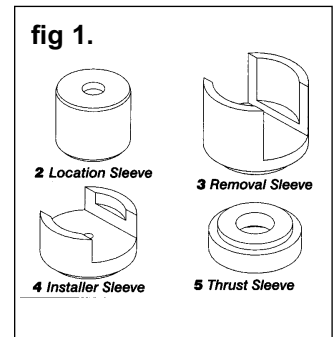
1. Fit Location Sleeve 2 over the ball joint gaiter and locate it in the rubber bonded joint recess (fig 2).
2. Place Thrust Sleeve 5 on top of Location Sleeve (fig 4).
3. Ensure the Force Screw is well lubricated and unscrew to give maximum opening within the frame.
4. Position the open end of Removal Sleeve 3 over the lower part of the ball joint to rest on underside of the control arm face.
5. Holding Removal Sleeve in place, position the frame over the ball joint and Location Sleeve/Thrust Sleeve assembly, locating the recess in the Thrust Sleeve in the top of the frame (fig 4).
6. Screw in force screw so that the bearing assembly aligns with the recess in the Removal Sleeve.
7. Continue to screw in the Force Screw assembly to extract the ball joint out of the control arm.
8. Remove any rust from the lower face of the control arm using a wire brush and clean the bore.
DO NOT APPLY GREASE. Control arm bore and ball joint taper must be clean and free from grease.

3.3. INSTALLING A NEW BALL JOINT.

1. Fit Location Sleeve 2 over new ball joint gaiter to rest in rubber bonded recess, and fix in place with a nut to lightly clamp sleeve in position (fig 2).
 2. Insert Location Sleeve and ball joint assembly into underside of control arm bore
- ▲ **IMPORTANT:** It is essential to ensure the ball joint is correctly and accurately aligned with the installation position marked on control arm prior to removal of old ball joint (fig 3).
- Place open end of the installer Sleeve 4 on the bottom of the ball joint and position the frame in alignment with the joint. The Location Sleeve passes through the top of the frame.
3. Lubricate the force screw well and screw it in until the bearing locates in the recess in the bottom of the Installer Sleeve.
 4. Continue to turn the force screw to press the ball joint *FULLY HOME* into the control arm.

3.4. RE-ASSEMBLY.

1. Screw a new self locking nut on ball joint.
2. To assist when tightening the nut, hold up the ball joint/control arm with a jack.
3. Replace self locking nut and fit washer on stabiliser connection on the control arm.
4. Tighten nuts to specified torque.



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