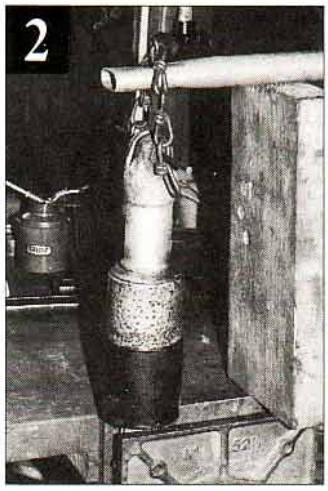
REBUILDING 'JAMPOT' DAMPERS

Matchless/AJS rear suspension specialist Don Hamilton strips and rebuilds the famous damper unit with words and pictures by Brian Crichton.



THE early MK1 Jampot has a screwed in support for the spring covers whereas later ones are held in by a chrome collar secured in with a circlip. In dismantling them, the technique only differs in as much as the early cover supports have to be screwed off. On the later ones, the circlip has to be removed and then the rest can be dismantled.

Our picture sequence features a late 'circlip type' Jampot from 1955 heavyweight single or twin Matchless/AJS. They can come a lot rougher than this — with broken lugs, crushed and badly scored bodies, full of water and sludge, perished oil seals and mounting bushes and aluminium components ravaged by corrosion.

They can still be saved but if the body of the Jampot is badly distorted there is no alternative but to find another unit. Minor damage can be rectified through the advent of 'Tig' welding, but naturally this will add to the cost.

The object of the exercise is to finish up with a Jampot that will give years of further reliable service — so a few precautions at the stripdown stage are more than advisable.

● To dismantle the Jampot the pivot bottom and top have to be removed. The lugs on these pivots can easily be fractured, so great care needs to be taken. It is essential that a spacer is placed between the pivot lugs **(pic one)** to reduce the risk of fracture.

● Before gripping pivot lugs in a vice, the jaws of the vice should be covered with a soft material such as aluminium or copper plate to avoid marking. Or use a wood vice as pictured.

● In the Jampot is a rebound spring. By extending the Jampot as shown in **pic two** and thereby compressing the rebound spring, you can usually gain sufficient clearance to remove the circlip. Alternatively a simple jig can be made to compress the main spring of the Jampot thereby exposing the circlip.

● Tap the retaining collar down carefully with a soft nylon or copper hammer **(pic three).** If the collar is badly corroded you will be replacing it anyway.

● Make up an arrangement as shown in **pic four.** If you don't have a second vice or clamp as shown in the picture get a friend to hold the leverage bar. Note that only light extension pressure is required.

● Now dig out the circlip **(pic five).** This is an awkward job requiring some patience. Don has found it best to use two small screwdrivers to do this. Remove the spring extension tackle you have made up. Remove spacer from top pivot lug and insert it in the bottom pivot lug and place in vice.

● Knock shroud down towards the bottom pivot lug **(pic six).** This will expose the rubber buffer — part no. 016251. Lever the buffer away from the top pivot.

● Remove your lug spacer from bottom and replace it in the top. Of course, if you have two spacers you can save yourself the bother of this merry-go-round! An open ended spanner of the correct thickness makes an ideal spacer.

● Re-insert the unit in the vice and then, using a pipe wrench grip the inner tube (part no. 016406) as near to the top pivot as possible **(pic seven).** It doesn't matter if the inner tube is marked because this is covered by the buffer. A great deal of leverage may be required! If necessary use a sleeve bar over the pipe wrench handle. A stout bench and sturdy vice are obviously necessary for this sort of work.

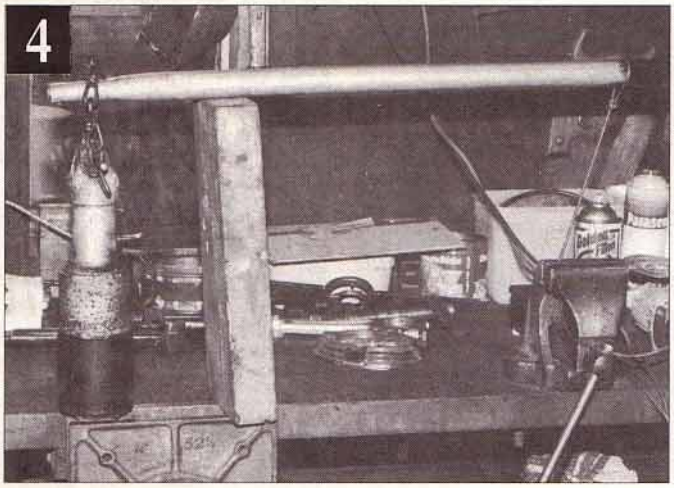
● Lift off top pivot and examine oil seal **(pic eight).** It is best to replace this anyway. Use your small screwdriver to hook this out.

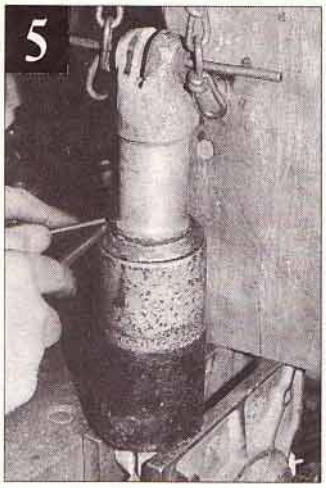
● Remove shroud, spring, rubber buffer and bottom shroud **(pic nine).** Loosely replace top pivot by screwing it in a few turns to prevent oil flowing all over your feet. This can be a messy job. Put spacer between bottom pivot lugs and grip firmly in vice.

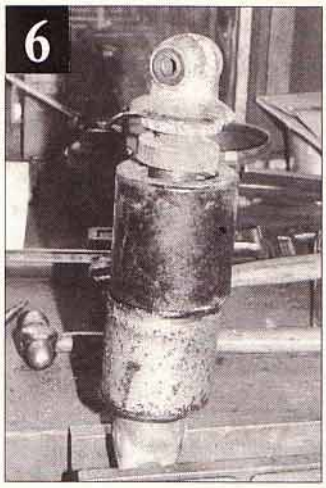
● Using a large pipe wrench, grip the main body (part number 016407) outer tube **(pic 10)** and unscrew it. A great deal of leverage is required.

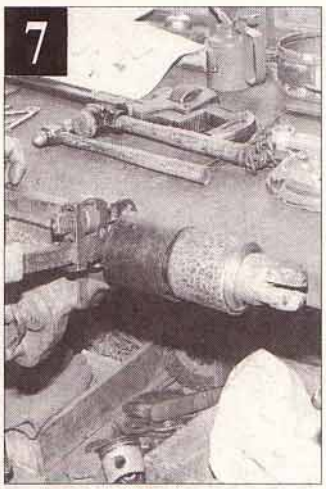
● Don't worry about marking the outer tube with the pipe wrench — it is not a working surface and cannot be seen on a reassembled unit. But grip as near to the top as possible when using the pipe wrench because the outer tube is supported at this point by the steel collar (part number 016078) retaining the oil seal.

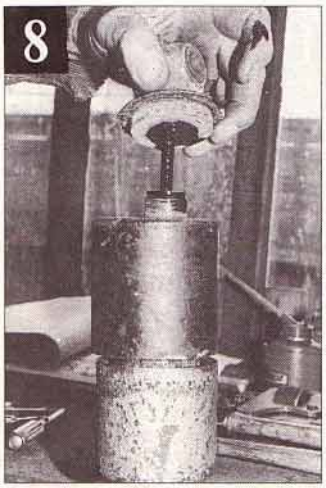
● Turning the Jampot upside down, remove the bottom pivot and circlip and cover supporting collar **(pic 11).** Place the unit upside down in a receptacle to

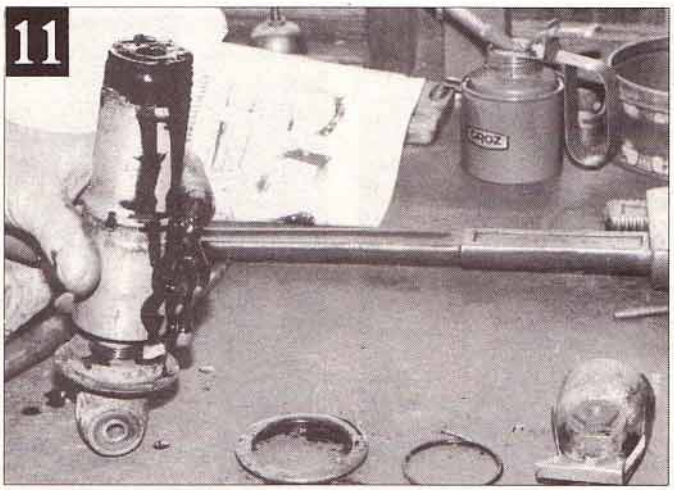


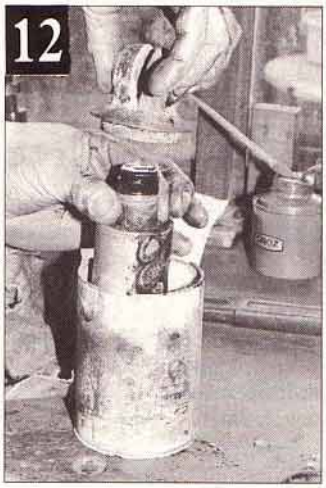






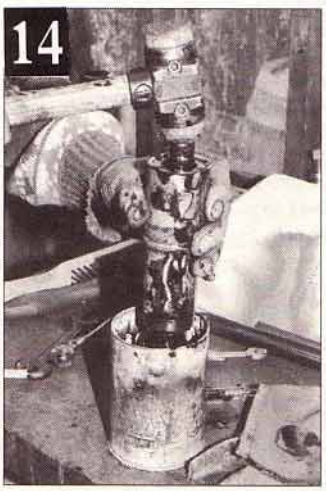






drain off the old oil which will be absolutely filthy. To assist drainage remove top pivot **(pic 12).**

- It is possible to knock out the inner tube at this stage with a soft faced hammer **(pic 13).** Don't be afraid to give it a series of good smacks to knock out the inner tube.
- You may then need a drift such as a piece of wood to knock the inner tube completely free. **Pic 14** shows use of a drift. Usually the inner tube drops free because the oil seal is badly worn. In this case the seal was gripping quite tightly on the rust on the inner tube. Hence a small drift was needed to knock the inner tube through the oil seal.
- Remove rebound spring **(pic 15).** Wipe down and examine surface of inner tube for pitting. The quality of the surface is the key to oil tightness. Don recommends a new inner tube if the inner tube surface is marked at all by rust pitting. If only lightly surface pitted, this can be removed by careful smoothing with an emery cloth.
- The effectiveness of your shock absorber is dependent on

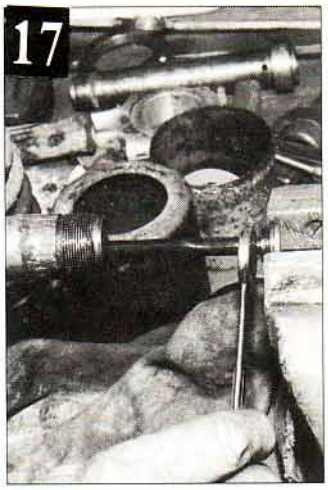


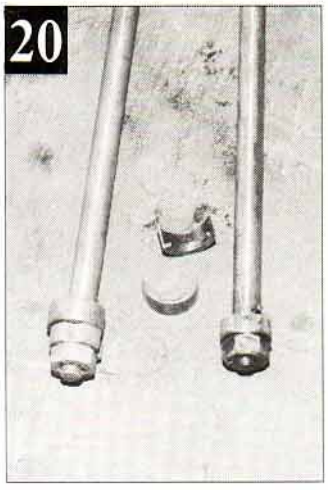
its ability to retain oil and the MoT test is getting more stringent in this regard. If there are signs of leakage around the unit the bike will be failed. At £20.54 (inc VAT) for a pair of new inner tubes, not to replace them is false economy. Then there's 10 percent off for members of the owners club.

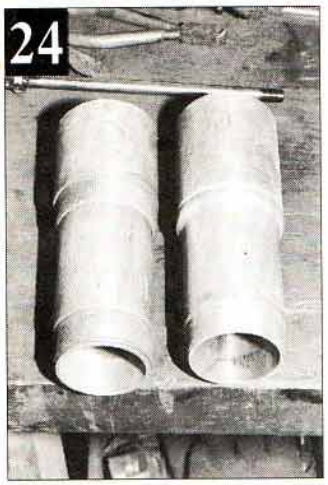
- Remove collar (part number 016343) from the top end of the damper rod, a simple procedure provided the thread on the rod has not been damaged. Should any part of the rod protrude through the collar and appear to have been damaged by injudicious hammering clean off with a file prior to attempting to remove.
- Grip collar in vice and pull inner tube away from collar **(pic 16).**
- Slacken locking nut (¼ Whit spanner — **pic 17**). Once slackened the collar can usually be unscrewed off by hand **(pic 18).** Separate damper tube (part number 016349) from inner tube **(pic 19).**
- Clean all components with paraffin. It will save oil all over your workshop floor and clothes and make it easier to inspect for wear and damage.
- Remove locking put from damper rod. Grip damper rod in vice in order to do this. Avoid damaging damper rod. Though it doesn't run through a seal it does pass through a bush.
- We discovered that the damper valve (part number 016304)was broken in two **(pic 20).** A new rod with valve is shown on the left. This serves to emphasise the need to completely dismantle your Jampots prior to ordering any new parts.
- Remove circlip which retains bush on damper tube using pliers **(pic 21).** Reversing the damper rod, a slight tap on the end will remove the bush from the inner tube **(pic 22).** The bush does not usually require renewal. This was certainly a good one.
- The damper tube is often fractured at the slot where the circlip fits. This one was OK **(pic 23).** Inspect carefully that there are no cracks at the top of the damper tube adjacent to the slots for retaining the circlip.
- The damper unit is now completely dismantled. **Pic 24** shows the early type of outer tube with screw collar (left) and the outer tube with circlip groove as used on later models from 1955. All that remains to be done is to remove the oil seal (part number 017569) and plastic bush (016077).
- To do this another special tool is required — a peg spanner **(pic 25)** which you insert in the collar retaining the oil seal. If you do not have this tool a punch can be used in any one of the four peg holes — a method Don would not recommend.
- Use the inner tube placed through the bottom of the outer tube as a drift to drive out the bush and oil seal. **Pic 26** shows, from left: outer tube, oil seal, bush and collar. Thoroughly clean all parts in paraffin.

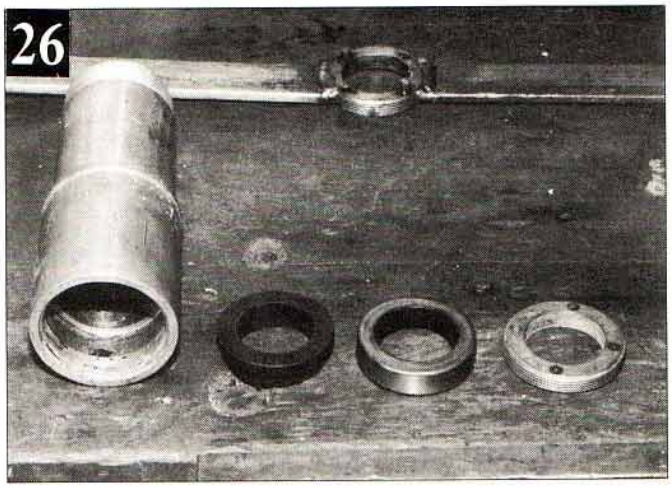
Earlier Jampot

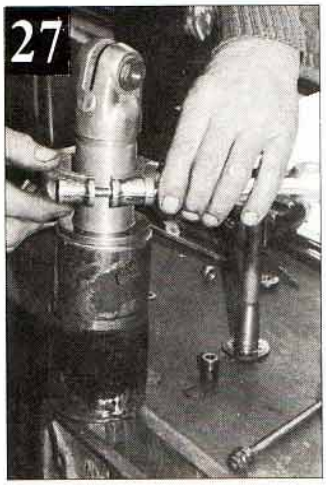
- We now look at the technique for removing covers from the earlier Jampot. Place a spacer between the lugs on the upper pivot and grip in the vice.
- To prevent the outer tube from turning while unscrewing the collar retaining the covers, the method employed is to obtain a conrod with a diameter suitable for going round the lower section of the outer tube **(pic 27).**
- An aluminium conrod is best because it is less likely to mark the surface of the part of the tube which can be seen when the unit is completely rebuilt. Affix conrod or other suitable clamp. Be warned that this is a very difficult job because of the amount of leverage required to remove the lower pivot from the outer tube.

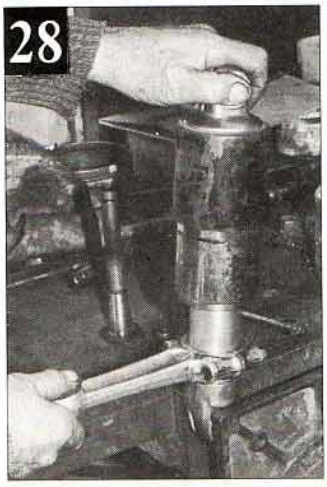


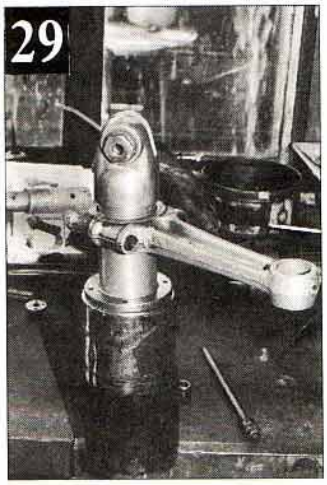


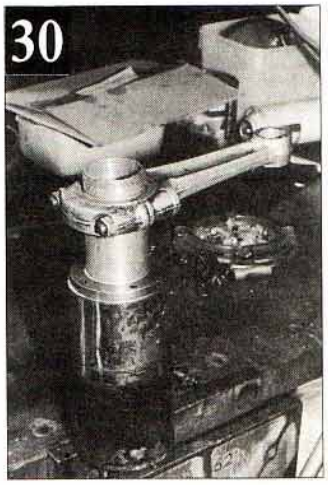


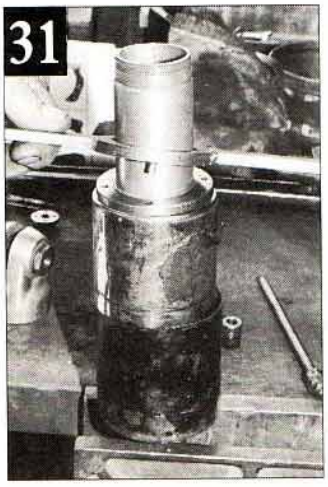












1 7/8" DIA BODY

● An alternative method to the conrod is to grip the outer tube with a U-bolt and bar being careful to place leather padding between bolt, bar and the outer tube body. This second method isn't as satisfactory because the full circumference of the tube is not gripped, making it likely that the outer tube distorts and makes unscrewing the bottom pivot even harder.

● A third method ignores cosmetic considerations. That is to use a pipe wrench — as many people have done in the past. This will look awful when the unit is back on the bike.

● Place lower pivot (with packing piece) in vice and then unscrew (hopefully) turning anti clockwise **(pic 28).**

● Before removing bottom pivot turn unit upside down and put top pivot in the vice, **(pic 29)** the reason being to prevent oil from gushing over the old carpet slippers.

● Remove bottom pivot **(pic 30),** slacken off conrod clamp and remove. If the outer is reluctant to move try applying heat (as seen in pic 29) to the body of the lower pivot to expand it. But remove rubber bushes from lower before applying heat.

● Obtain already mentioned special peg tool (available from club spares scheme at about £12) and locate pegs in holes in the collar **(pic 31).**

● Replace conrod clamp and bottom pivot to avoid distorting aluminium outer cable, then unscrew turning special tool anti-clockwise while holding conrod clamp still **(pic 32).** Once again, heat may be applied to the screwed collar to expand it if necessary.

● One problem is that the pressure of unscrewing it can break the pins off the special tool if corrosion has fused the collar to the unit body. If that happens clamp the conrod on the outer tube as close to the lower pivot as possible. Put the conrod in the vice and use a pipe wrench on the collar to undo it **(pic 33).** This will cause marks but they could be turned out on a lathe afterwards but a new collar costs only £6.

● This is why you need a substantial bench and vice — a pipe extension on the wrench may even be needed for extra leverage.

● If you have failed to remove lower pivot leave this until you have unscrewed the collar, then remove conrod clamp. Put spacer in top pivot and put top pivot in vice. Using pipe wrench unscrew inner tube from top pivot **(pic 34).** Remove top pivot.

● Put lower pivot in the vice, remove covers and spring and place pipe wrench round the body of the outer tube as near to the top as possible **(pic 35).**

● Unscrew outer tube from bottom pivot. Considerable leverage may be necessary. Any marks made on the body can be tidied up with a file and will not be seen when the unit is reassembled.

● The bottom pivot, having been loosened from the whole assembly, can be dismantled as described earlier for the Mk2 Jampot.

Reassembly

● The reassembly is a reversal of strip-down with the following special precautions. Place rebound spring over inner tube and place inner tube in outer tube

(pic 36). Put on plastic collar and oil seal. Press home firmly into housing and manipulate oil seal over threaded section of inner tube being careful not to damage the oil seal.

- Screw in oil-retaining collar. It is essential that the oil seal and bush are put in with the inner tube in place. Do not put oil seal, plastic bush and oil-retaining sleeve before attempting to fit the inner tube in. This will surely damage your oil seal. So many people make that mistake.

- Take damper rod and renew, if necessary, the damper valve. To do this remove nut at the bottom of damper rod (part number 010719 — brass seat for damper valve). **Pic 37** shows assembled damper rod and all the components. Note retaining pin for collar (part number 010721).

- Replace bush and retaining circlip into damper tube and fit retaining circlip. Re-insert damper rod into damper tube and place locking nut on top of damper rod.

- Now find a real glass jampot! Part fill with paraffin and draw damper rod up and down within the damper tube **(pic 38)** to check that the damper is functioning correctly. This action should be carried out gently. It will draw paraffin up through the top of the damper tube and squirt paraffin all over the place if you're not careful.

- Place fibre washer on damper tube **(pic 39)** and insert into inner tube. Place circlip and collar over outer body.

- Place fibre washer in lower pivot and loosely screw lower pivot on to outer body **(pic 40).** Replace collar (part number 016343) on top of damper rod and secure with locknut.

- Put on stainless steel lower cover and spring. Note that the wider coils of the spring are at the bottom. Place leather washer in lower cover before fitting spring **(pic 41).**

- Place second leather washer on top of spring followed by top cover **(pic 42).**

- Place buffer over inner tube and push down below level of top tube. Renew oil seal in upper pivot. Screw top cover on to inner tube and fully tighten.

- Place unit upside down in vice, then extend the inner tube by compressing the rebound spring (ie. reversal of dismantling method) in order to refit large circlip into groove. Remove bottom pivot and fill with three ounces of SAE 20 oil.

- Screw on lower pivot. You will require your conrod clamp to hold the outer tube while you tighten the lower pivot on securely. Naturally you will have burnished all parts to showroom condition before reassembly. A conkers job!

- **Should you not wish to tackle the job yourself, you can reckon on spending about £130 including new parts for a total rebuild of both rear suspension units as detailed in this feature. Work is taken in via AJS/Matchless spare parts officer Ernie Merryweather at the Northants Classic Bike Centre, 25 Victoria Street, Irthlingborough, Northants. Tel: 0933 652155.**