Supplemental Information for

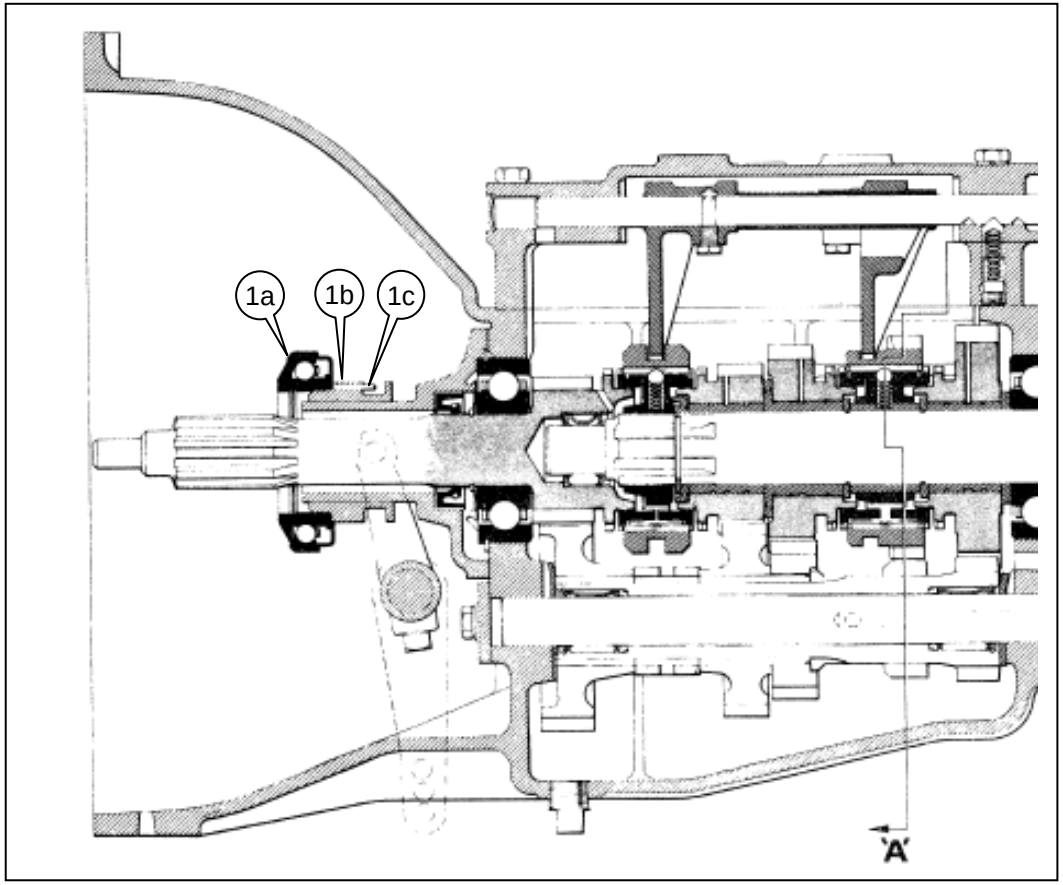
596-025 or 147858 Sleeve, Clutch Release Bearing, Steel
596-026 or 147858X Sleeve, Clutch Release Bearing, Phosphor-Bronze

TR4A, TR250, TR6

We get asked from time to time why our sleeve does not look exactly like the sleeve removed from the car.

First, we should establish what the factory intended. To do that, we need go no further than the nearest factory workshop manual.

In the illustration at the right, the relationship of the release bearing (1a) to the sleeve (1b) is quite clear. It is only the very back of the release bearing that is engaged with the sleeve. Remember that the steel sleeves and the rear (inner) portion of the release bearing ***do not*** rotate. Only the front (outer) portion of the release bearing rotates. Rotation of the steel sleeves was prevented by a hardened steel pin (1c). Unlike the steel sleeves, the original TR4A sleeves (Triumph 141967) were bronze and did not have a steel pin (1c) - they were free to rotate. When the bronze sleeves were discontinued, the TR250/6 steel sleeves were fitted when a replacement became necessary.

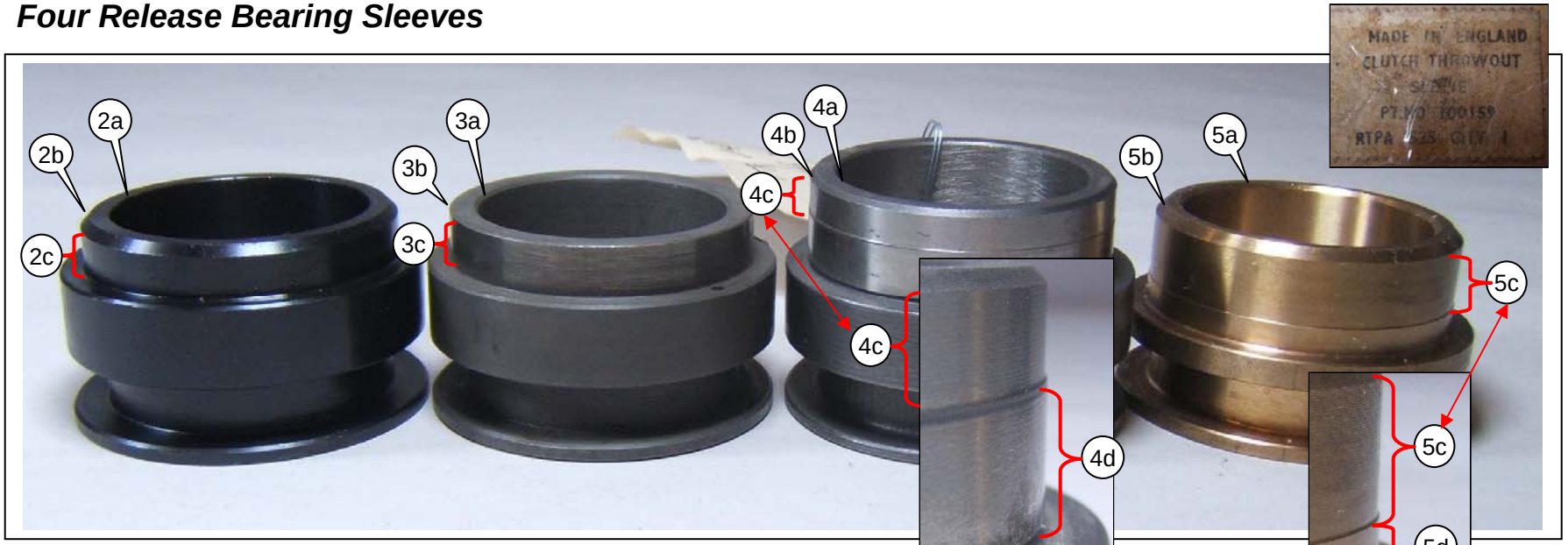


If it is that simple, why is there any confusion at all?

Original bronze and steel release bearing sleeves have not been available for years, and a variety of replacements have made their way into cars. Unless the previous owner left copious notes, the current owner of the car will have no way of knowing if the sleeve in the car is “original” or not.

Although we cannot cover all the variants here, we can cover the high points

Four Release Bearing Sleeves



The 596-025 or 147858 steel sleeve we currently carry (2a) is characterized by a decent chamfer (2b) to facilitate pressing it into the release bearing. The area (2c) where the sleeve actually contacts the release bearing is typical at about ¼". Our sleeves follow the design of the original TR4A and TR250/6 sleeves which were identical except for the material and the hole for the pin. Our sleeves do have the hole for the anti-rotation pin used in the TR250/6.

We did carry these (3a), but found them unsatisfactory and we decided not to carry them. This design does not have a chamfer (3b), and the raw steel finish tends to rust in the bin. Not exactly a plus.

The area (3c) where the sleeve actually contacts the release bearing is about 3/8" due to the elimination of the chamfer.

Some aftermarket steel release bearing sleeves for the TR250-6 shares features of the original brass sleeve (5a) fitted to the TR2-4. This release bearing carrier does have a chamfer (4b). In addition, it has a long undersized "nose" (4c) that makes lining it up in the release bearing easier. The area where the sleeve actually contacts the release bearing is about 3/8".

This (5a) is a genuine, NOS "Stanpart" 100159 brass sleeve as fitted to the TR2-4. This was the inspiration for the sleeve (4a). This release bearing carrier does have a chamfer (5b). In addition, it has a very long undersized "nose" (5c) that makes lining it up in the release bearing easier. The area where the sleeve actually contacts the release bearing is about 3/16".

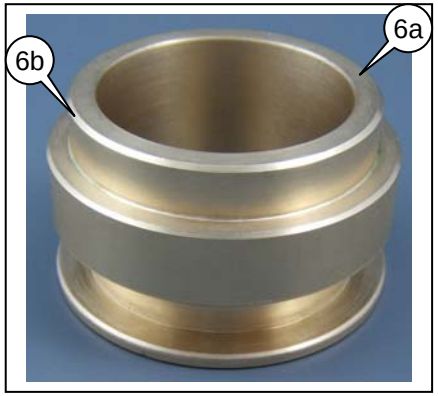
So how much of the release bearing needs to make contact with the sleeve?

In reality, not much- based on the original samples we have, 3/16" (0.1875", 4/763 MM) to ¼" (0.25", 6.35 MM) is fine. Remember that the load is against the shoulder on the sleeve.

What about the Pin?

Unlike the TR2-4A, the original sleeves for the TR250-6 came with the pin (1c) fitted. The pin (which was actually a needle bearing roller – very hard!) is an anti-rotation device. The sleeve will rotate until the pin makes contact and then the sleeve will stop rotating. After that, the only thing that will rotate is the front half of the release bearing. The replacement sleeves we can get today do not come with the pin installed. We carry 325-335 (DS811), a stainless steel roll pin, expressly for this purpose. The pin was necessary – the brass or bronze sleeve will rotate quite happily on the steel nose piece on the front transmission cover. A steel sleeve, on the other hand, would quickly gall if it were allowed to rotate .

Is there an upgrade to the stock steel release bearing carrier?



Yes, there is. Our English Division introduced a clone of the original bronze TR4a release bearing (2a, above) in phosphor bronze (6a). Phosphor bronze alloys are well known for their strength, low coefficient of friction, and fine grain structure. We carry it under 596-026 or 147858X. For a car that has a jerky clutch release, this can make all the difference. There are a couple of tricks involved. First, leave out the pin. Yes, there is a hole for it, but leave it out. Second, liberally coat the inside surface of the carrier with copper grease. You may be unfamiliar with this type of grease, but go get some. The carrier without the roll pin will rotate some in use, but this is fine. This has proved so effective that several TR specialists in England will not use the steel OE type carrier anymore- they only use this carrier. Some shops will only use the Toyota Landcruiser release bearing 9036352001. Moss does not carry this bearing yet, but we are considering it.

There are many other factors affecting the operation of the TR4A-TR6 clutch mechanism, and it is beyond the scope of this document to cover them all. There is quite a bit of material on the TR clutch, its problems, and possible solutions. Everything we have seen tends to confirm that there is no universal solution – what works for one car will not work on another.

*Although every effort has been made to ensure the accuracy and clarity of this information, errors and/or omissions on our part are almost inevitable. Any suggestions that you may have that will improve the information (especially detailed installation notes) are welcome. Please use the simple email form on the **"Contact Us"** page on the Moss website: http://www.mossmotors.com/AboutMoss/ContactUs.aspx*
If you prefer, you may call our Technical Services Department at 805-681-3411. So many people call us for help that we are often not able to answer the calls as fast as we'd like, and you may be asked to leave a message. We apologize in advance for the inconvenience. We will get back to you within 2 business days.

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