

## *A word about clutches and the HVDA transmission conversion kit*

The HVDA five-speed conversion kit provides an improved hydraulically operated throwout bearing system. This unit consists of the hydraulic mechanism fitted with a throwout bearing. This system does away with the inefficient shaft and fork arrangement found on original Triumph transmissions.

It is important to understand that the choices of clutch components that are not provided with the kit are completely compatible with the components provided with the HVDA conversion kit.

Triumph made changes during the production run from TR2 through TR6 automobiles that was not limited to flywheel and clutch assemblies. Many of the parts are somewhat, but not completely interchangeable. Over the years many mechanics have worked on these cars and parts were often mixed but not necessarily matched with a given car or model year. In addition, suppliers of clutch components have made changes to the components themselves making some parts incompatible with others.

Before purchasing any clutch components for your automobile you should understand what configuration was standard for your particular car. Failure to make sense of this will lead to the possibility of ordering wrong parts, damaging your new clutch, or at the very least a lot of frustration.

### **Triumph clutch configurations.**

The early cars, from TR2 through early TR4's used a three-figure, spring loaded, pressure plate and a throw-out bearing with a slightly rounded contact surface. The mounting holes on the pressure plate and corresponding tapped holes on the flywheel are different from the later cars starting somewhere with early TR4A production.

The later cars, starting with TR4A's and through all TR6 incarnation's used a more modern clutch plate design. This was a lower profile unit that incorporated "fingers" instead of the three-finger arrangement found on early cars. This is a

diaphragm pressure plate that does not use traditional springs for tension. The mounting holes for the pressure plate to the flywheel were modified as well, incorporating additional mounting screws than the early type found on TR2's and early TR4's.

Triumph sourced clutch components from several manufacturers, mainly Lockheed and Borg & Beck, and designs varied between the clutch pressure plate and the throwout bearing. Some pressure plates were designed with straight "fingers" and some with fingers that were bent and each type required a specific and corresponding throwout bearing. Non original suppliers such as Sachs and clones from India are common now as well. Using a throwout bearing that is not compatible with a given pressure plate can lead to clutch problems, usually manifesting itself in poor clutch engagement or premature clutch failure.

The HVDA conversion kit supplies a hydraulic throwout bearing assembly and a clutch disc. The clutch disc is specific to the HVDA kit because its splines are configured to match up to the Toyota five-speed transmission's input shaft. A Triumph clutch plate will not work. The pressure plate can be sourced from HVDA or purchased separately. It is essentially a TR6 style pressure plate which means that very early cars must have a minor modification performed on the flywheel to accommodate the extra mounting bolts found on the later incarnations.

Consideration must also be paid to the type of pressure plate that is chosen; straight "fingers" or "bent fingers" as this is critical for matching a given pressure plate to the throwout bearing. Throwout bearings were available in two configurations, curved and flat. Using the wrong type will lead to problems. The HVDA throwout bearing unit uses a "flat" surfaced throwout bearing which must be mated to a pressure plate with "bent fingers.

*Most major British car parts suppliers offer the "bent finger" pressure plates.*

Here are two suppliers we've had good luck with:

Moss Motors	Part number: 593-010
The Roadster factory	Part number: CF3-215422

Examples of "BENT FINGERED" pressure plate required for the HVDA conversion.



Examples of a “FLAT FINGERED” pressure plate that should not be used the HVDA conversion.

