

WP0166

Dodge® Raptor couplings: installation

Dodge Customer/Order Engineering

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The Dodge Raptor elastomeric split tire coupling uses a new patented, innovative design that meets or exceeds the torque, speed and misalignment capabilities of competitive split tire couplings. Additionally, when it is time to install the Raptor element, it is as easy as 1-2-3.

To install the element, the first step is to install one of the three styles of hubs. These include finished bore (clearance and interference fit), Taper-Lock bushed, and QD Bushed hubs. Step 2 is to set the hub spacing. This can be done by simply using one half of the element assembly as a guide or by utilizing the hub spacing values given in the instruction manual. The third and final step is to install the element. Place the element on the hubs, add the fasteners, and torque the fasteners to the requirements in the instruction manual. **Figure 1** provides a graphical representation of these three steps.



Figure 1. Installation is as easy as 1-2-3.

The ease of installation is the result of the built-in standard features of the Dodge Raptor. These standard features include slotted clamp ring holes and a natural rubber flexible element.

The slotted clamp ring holes in the Dodge Raptor offer 187% extra mounting hardware clearance versus competitive circular through-holes. The Raptor's slotted clamp ring holes provides the user with additional clearance for significantly easier installation. Slotted clamp ring holes also minimize the potential for cross-threading and reduce the need for re-alignment during installation. **Figure 2** provides a side by side comparison of the two types of through holes.

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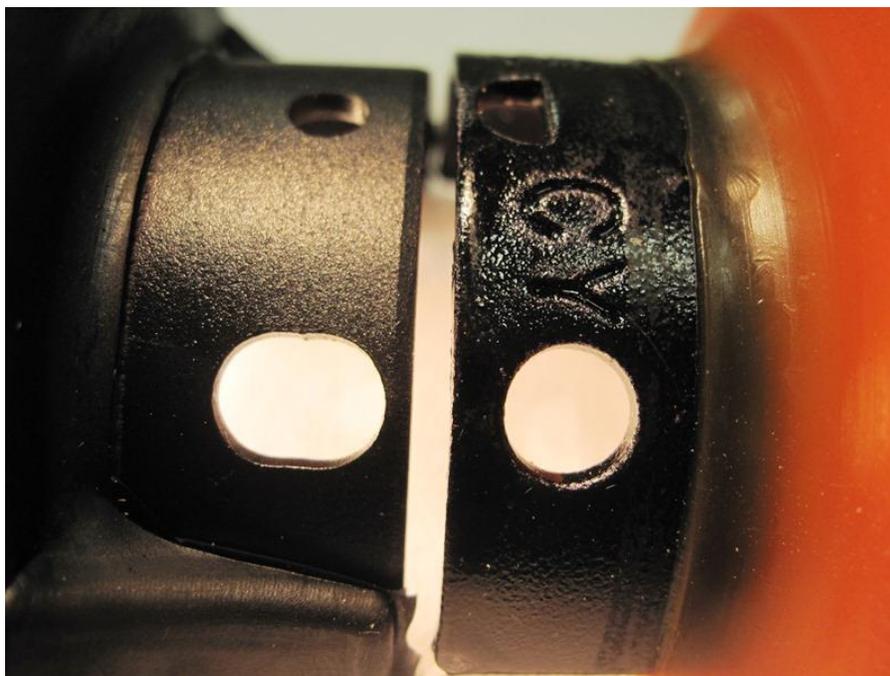


Figure 2. Dodge Raptor slotted through holes (left) versus competitor circular through holes (right)

The Dodge Raptor element uses a natural rubber compound, which is significantly more flexible than competitive urethane designs. The Raptor’s natural rubber element yields up to 50% lower torsional and bending stiffness. Lower stiffness makes the element easier to manipulate by hand during installation. Since the element is easier to manipulate, it is noticeably easier to install on shafts that have any misalignment in the system.

With the Raptor’s horizontally split element, fasteners are designed to install radially instead of axially, meaning that this design does not require the locking of shafts during installation. The two part element assembly separates horizontally along the shaft axis. This means the Raptor does not require movement or re-aligning of connected equipment when the element needs to be replaced. **Figure 3** below provides a visual of the horizontally split element assembly and the radially mounted fasteners.



Figure 3. Split Natural Rubber Element Design



The built in standard features on the Dodge Raptor coupling makes installation quick and easy. The slotted clamp ring holes yield a noticeably easier installation than competitive designs. Raptor's split element design requires fewer tools and reduces the chances of shaft damage. The reduction in torsional stiffness makes the element easier to work by hand to align all of the slotted clamp ring holes with the shaft hubs. The results of these standard features, is an installation process as easy as 1-2-3.

For additional information or questions related to the Dodge Raptor's Installation procedure, Dodge Bearings and PT Component Customer Order (C.O.) Engineering should be contacted.