

# Quadratec® Delrin® Door Hinge Pin Bushings for Jeep® Wrangler JK '07-Current

**Installation and Instruction Manual:** Item #55014.6104 & #55014.6103



#### Kit Contents for 2 Door: #55014.6104

Qty 4: Delrin® Bushings for 2 Door Kit  
Qty 1: 6" Emery Cloth Strip  
Qty 1: Bushing Removal Tool



#### Kit Contents for 4 Door: #55014.6103

Qty 8: Delrin® Bushings for 4 Door Kit  
Qty 2: 6" Emery Cloth Strip  
Qty 1: Bushing Removal Tool



#### REQUIRED TOOLS & SUPPLIES: not included

Safety Glasses  
Hammer - Medium Size  
T-47 Torx Bit & Ratchet  
5/16" Deep Socket (1/4" Drive)  
Small Round File  
Scrap of Cardboard 8" x 8"  
Painter's Tape  
Grease

#### **CAUTION**

**READ ALL SAFETY MESSAGES AND UNDERSTAND ALL INSTRUCTIONS AND PROCEDURE NOTICES BEFORE ATTEMPTING TO INSTALL OR USE THIS PRODUCT.**

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**READ ALL SAFETY MESSAGES AND ALWAYS WEAR SAFETY GLASSES WHEN WORKING WITH TOOLS.**

**INSTALLATION REQUIRES REMOVAL OF VEHICLE DOORS. THE DOORS ARE HEAVY. THERE IS RISK OF INJURY FROM HEAVY LIFTING. THERE IS RISK OF INJURY IF DOORS ARE ACCIDENTALLY DROPPED. SEEK ASSISTANCE TO LIFT AND CARRY DOORS.**



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## Delrin® Door Hinge Bushing Installation:



**Step 1: Door Removal:** Put on safety glasses. Do one door at a time and don't rush! Read and follow these instructions start to finish before proceeding. Each door will need to be removed to install the Delrin® Door Hinge Bushings. Remove the two T-47 Torx door nuts that retain the door to the hinge knuckles. Carefully disconnect the door wiring harnesses and check straps and swing the door at approximately 90° to the vehicle. Be careful not to swing the door much beyond 90° to avoid denting the body and/or door. **Doors are heavy!** Carefully lift off the door straight up from hinges while the door is at 90° and place the door on a soft blanket, out of harm's way. (see FIG 1)



**Step 2: Clean Door Hinge pins with emery cloth:** Take a strip of emery cloth from the kit to clean and polish both door hinge pins. It's important to remove all of the crud on the hinge pins. This debris will prohibit the Delrin® bushings from fitting properly. Test fit each bushing as you clean each hinge pin. Wrap the emery cloth halfway around the pin like a belt on pulley and pull the emery cloth back and forth in a reciprocating motion. Keep clocking the emery cloth in order to clean the entire circumference of the pin. Be careful not to accidentally scuff the painted surfaces with the emery cloth. Each pin should require about a minute to clean. (see FIG 2)



**Step 3: Test fit new bushings to the door hinge pins:** Once you believe that all the crud has been removed from the hinge pins, take a Delrin® bushing from the kit and slip the bushing onto each cleaned hinge pin. The new bushing should slip all of the way onto the pin smoothly with just your fingers and without force. If the bushing is too snug, continue cleaning with the emery cloth until you have the desired fit. (see FIG 3)



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## Delrin® Door Hinge Bushing Installation:



Figure 4

### **Step 4: Lubricate Door Hinge Pins:**

Once the hinge pins are fully cleaned and the new Delrin® bushings slide on and off nicely, apply a very light coat of grease to prevent the hinge pins from corroding. Do not over lubricate. (see FIG 4)



Figure 5

Tape protective cardboard beneath the hinge.

**Step 5: Protect Painted Area:** Tape a scrap piece of corrugated cardboard (approximately 8" x 8") beneath the hinge. This will help protect the paint finish while hammering out the old bushing. We recommend using painter's tape or masking tape. (see FIG 5)



Figure 6

Drive old bushing up and out.

This end up

Hammer End

### **Step 6: Drive Out Old Bushings:**

Insert the stepped end of the Bushing Removal Tool into the hinge knuckle from the bottom. Begin tapping the hammer end of the tool with a medium sized hammer as shown to force the old bushing upward and out. Stubborn bushings may require extra force. Spraying old bushings with penetrating oil the day before removal may help. (see FIG 6)



Figure 7

5/16" deep socket with 1/4" drive

**Step 7: Removing a stuck Bushing Removal Tool:** Once the old bushing has been fully drifted out of the knuckle, the Bushing Removal Tool may be stuck inside the hinge knuckle. If this is the case, use a small deep ratchet socket to tap it down and out of the knuckle. Do not tap it upwards. A 5/16" deep socket with 1/4" drive works perfectly to dislodge it. (see FIG 7)



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### Delrin® Door Hinge Bushing Installation:



**Step 8: Clean the inside of the hinge knuckle:** Once the old bushing is removed, take a small, round, fine tooth file as shown and remove the crud from the inside of the knuckle. A common chain saw file works great. Work the file up and down and fully around the inside of the knuckle. It's very important that the new Delrin® bushings slip into the knuckle without excessive force. These new bushings are precision made and the debris inside the knuckle will interfere with the fit and not allow the bushing to be fully driven into knuckle without excessive force. (see FIG 8)



**Step 9: Insert a New Delrin® Bushing:** DO NOT use force to drive the new bushings into place. Use of force may damage the Delrin® bushings and prevent the hinge pins from properly fitting. Bushings should easily slip into the knuckle all or most of the way by hand. A gentle tap to drive the bushing towards the end is acceptable. If the bushing fits too tightly, remove the bushing with the removal tool if necessary and continue filing the inside of the knuckle to remove all the debris. Do not file the knuckle excessively as you do not want a sloppy fitting bushing. Once the bushing is installed, repeat procedures 2 thru 10 for the other bushing. (see FIG 9)



**Step 10: Reinstall door:** After both Delrin® door bushings have been installed, remove the protective cardboard and reinstall the door at approximately 90° to the vehicle. Be careful not to damage the door. Reconnect the door's wiring harness and check strap. Be careful not to swing the door as to dent the body and/or door. Reinstall the two T-47 Torx door nuts that retain the door to the hinges. Repeat procedures 1 thru 10 for each door. (see FIG 10)



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