

# Quadratec® Delrin® Door Hinge Pin Bushings for Jeep® Wrangler YJ & TJ '94-'06

**Installation and Instruction Manual:** Item #55014.6101 & #55014.6102



Kit #55014.6101 for '94-'99 Vehicles

#### Kit Contents for 2 Door: #55014.6101

Qty 4: Delrin® Bushings  
Qty 1: 6" Emery Cloth Strip  
Qty 1: Wire Cleaning Brush



Kit #55014.6102 for '00-'06 Vehicles

#### Kit Contents for 4 Door: #55014.6102

Qty 4: Delrin® Bushings  
Qty 1: 6" Emery Cloth Strip  
Qty 1: Bushing Removal Tool



#### REQUIRED TOOLS & SUPPLIES: not included

Safety Glasses  
Hammer - Medium Size  
13mm Wrench  
Small Round Metal File (for '00-'06 use)  
1/4" Size Punch (for '94-'99 use)  
Grease  
Painter's Tape  
Scrap of Cardboard 6" x 6"

#### **CAUTION**

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

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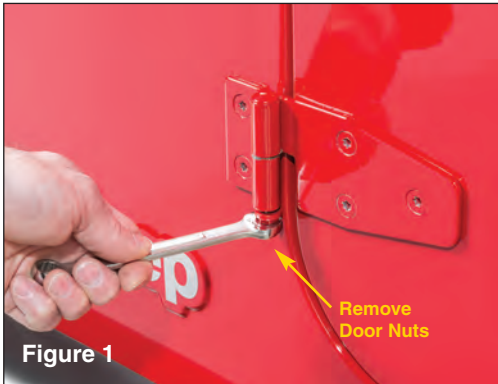
**READ ALL SAFETY MESSAGES AND ALWAYS WEAR SAFETY GLASSES WHEN WORKING WITH TOOLS.**

**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! Follow these instructions in the given order and read all steps from start to finish before proceeding. Each door will need to be removed to install the Delrin® Door Hinge Bushings. Using a 13mm wrench, remove the two door nuts that retain the door to the hinge knuckles. Disconnect the door's check strap and swing the door at approximately 90° to the vehicle. Be careful not to swing the door much beyond 90° as to dent the body and/or door. Lift the door straight up from the hinges while the door is at 90° and place the door on a soft blanket and out of harm's way. (See FIG 1)



**Step 2: Clean Door Hinge pins with emery cloth:** Take the strip of emery cloth from the kit to clean and polish both door hinge pins. It's necessary to remove all of the crud on the hinge pins. If not removed, this debris will prohibit the Delrin® bushings from fitting properly. 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 a bushing onto each cleaned hinge pin. The new bushing should glide 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:



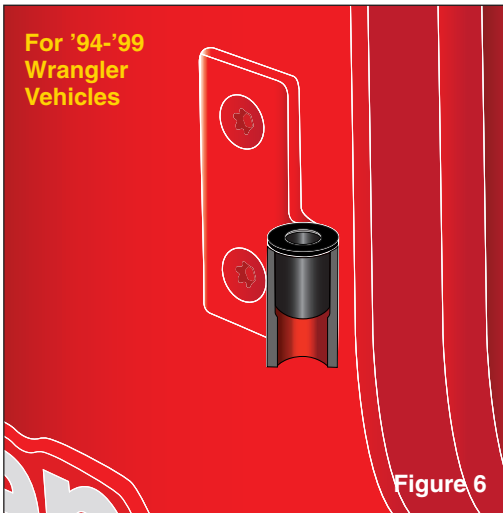
### Step 4: Lubricate Door Hinge Pins:

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)



### Step 5: Protect Painted Area:

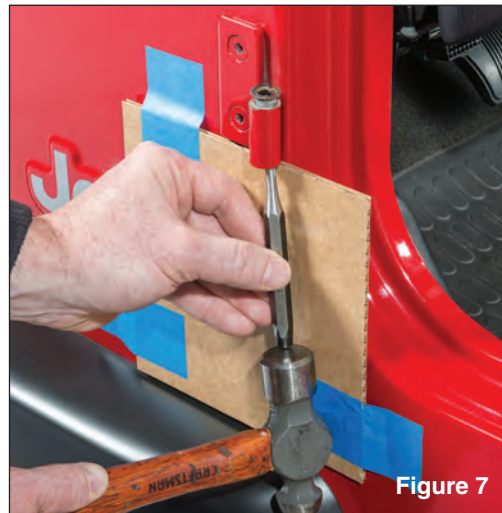
Tap a scrap piece of corrugated cardboard (approximately 6" x 6") beneath the hinge to help protect the paint finish while working below the area of the old bushing. (See FIG 5)



### Step 6A: (for '94-'99 Vehicles)

#### Drive Out Old Bushings:

Insert a 1/4" sized pin punch into the hinge knuckle from the bottom. The '94-'99 bushings extend only halfway into the knuckle but you can feel the bottom edge with the end of a sharp pin punch.

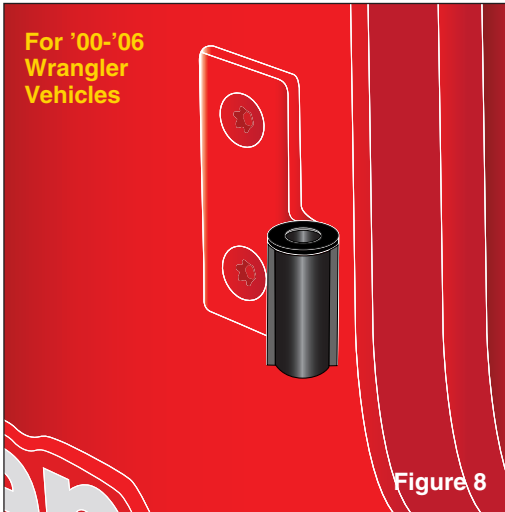


Tap the end of the punch with a medium sized hammer as shown to force the old bushing upward and out. (See FIG 7) Stubborn, stuck bushings may require extra force. Spraying old bushings with penetrating oil hours before removal will help.



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**Delrin® Door Hinge Bushing Installation:**



**Step 6B: (for '00-'06 Vehicles)**  
**Drive Out Old Bushings:** Insert the stepped end of the Bushing Removal Tool into the hinge knuckle from the bottom. Tap the end of the removal tool



with a hammer 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 9)



**Step 7A: (for '94-'99 Vehicles)**  
**Clean the inside of the hinge knuckles:** For '94-'99 Wrangler Kits, once the old bushings are removed, insert the kit's wire cleaning brush inside each knuckle to remove the crud. Work the brush up and down the knuckle's bore. It's very important that the new Delrin® bushings slip into the knuckle without excessive force.

These new bushings are precision made and excessive debris will not allow the bushing to be fully driven into knuckle without excessive force. (See FIG 10)



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**Delrin® Door Hinge Bushing Installation:**



**Step 7B: (for '00-'06 Vehicles)**

**Clean the inside of the hinge knuckles:**

For '00-'06 Wrangler Kits, once the old bushings are removed, take a small, round, fine tooth file as shown and remove the crud from the inside of the knuckle. Any common chain saw file works great. Work the file up and down and fully around the inside of the knuckle's bore.

It's very important that the new Delrin® bushings slip into the knuckle without excessive force. These new bushings are precision made and excessive debris will not allow the bushing to be fully driven into knuckle without excessive force. (See FIG 11)



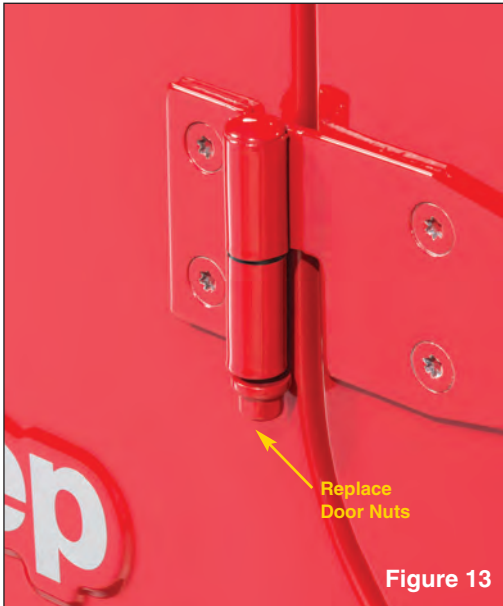
**Step 8: Insert a new Delrin® Bushing:**

Bushings should become snug about ¼" from being fully inserted into the cleaned knuckle. 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 fitting properly. Bushings should easily slip into the knuckle about ¾ of the way by hand and with a gentle tap or force with bare hands the rest of the way. If the bushing is fitting too tightly, remove the bushing and continue cleaning the inside of the knuckle to remove more 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 9 for the remaining bushings. (See FIG 7)



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**Delrin® Door Hinge Bushing Installation:**



**Step 9: Reinstall Door:**

After both Delrin® door bushings have been installed, remove the protective cardboard and re-install the door at approximately 90° to the vehicle. Be careful not to damage the door. Reconnect the door's check strap. Be careful not to swing the door as to dent the body and/or door. Reinstall the door nuts that retain the door to the hinges. Repeat procedures 1 thru 8 for each door. Note: If a bushing is loose fitting or becomes loose, clean the bushing and knuckle and apply silicone adhesive to adhere the bushing inside the knuckle. (See FIG 13)



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**Delrin® Door Hinge Bushing Installation:**



**Results and Care:**

*Congratulations! You've successfully replaced your corroded and worn out door hinge pin bushings with our genuine DuPont Delrin® versions.*

*These synthetic bushings will never rust and will outlast the faulty factory metal bushings. Our improved bushing design provides a snug fit while allowing your doors to open and shut smoothly.*

*Steel Door removal will never be any easier and doors should glide right off and on! If a Delrin® bushing should work loose over time, simply remove the bushing, thoroughly clean it and reinstall with some silicone adhesive applied. Remember to keep the hinge pins lightly greased to prevent corrosion and to provide lubrication.*



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Instructions Part # 12999.3076



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