



# SPEED & ROAD DEMON ELECTRIC CHOKE KIT #421440

## CHOKE INSTALLATION INSTRUCTIONS LIT702

Please make sure you have read and completely understand the instructions before you begin the installation. Keep in mind that this installation should be done with the carburetor off of the engine. If you have any questions, please feel free to call the **Demon Tech Line** for assistance at **270-901-3346**. Complete the installation as follows:



Figure 1

### INCLUDED IN THIS BOX

- |                                     |  |
|-------------------------------------|--|
| 1 - Electric Choke Pod              | 1 - 1/2" Cotter Key                                    |
| 1 - Choke Flap                      | 1 - 1/2" Cotter Pin                                    |
| 1 - Choke Butterfly Shaft           | 1 - Phillips 1/4" Screw                                |
| 2 - #8 x 32 TPI Torx® Head Screws   | 1 - Fast Idle Speed Screw Bracket assembly with spring |
| 1 - Choke Rod                       | 1 - 3/32" Allen Screw                                  |
| 1 - Nylon Main Body Block off plate | 1 - Tube of Loctite® 271                               |
| 6 - #8 Lock Washers                 | 1 - Instruction Manual                                 |
| 3 - #8 1-3/4" Allen Screws          | 1 - Retaining Ring                                     |
| 1 - Choke Coil                      | 3 - #8 3/8" Allen Retaining Ring Screws                |
| 1 - Choke Cap Gasket                |  |

You will need the following tools to help with the installation:

- Small Hammer
- Small Drift (punch)
- 3/32" Allen Wrench
- 9/64" Allen Wrench
- #2 Torx Driver
- .316 Diameter Drill
- Deburring Knife
- Needle Nose Pliers
- Small Flat Blade Screw Driver
- Phillips Head Screw Driver
- Small File

### INSTALLATION

1. Remove the carburetor from the vehicle and drain any fuel into a "fuel safe" container.
2. If your carburetor is a Speed Demon Twin Squirter (mechanical secondary), it is equipped with a slotted screw to control the secondary butterfly position (Fig. 2). This must be changed to the 3/32" Allen screw (Fig. 3) included with the kit (if you do not, the linkage can bind). This will require you to reset the secondary throttle shaft. Set the secondary butterflies to the bottom of the transfer slot so you cannot see any of the slot at idle (butterflies closed), but with any movement of the secondary butterflies you will begin to see the slot. *(Refer to your Demon carburetor instruction manual for further information.)*

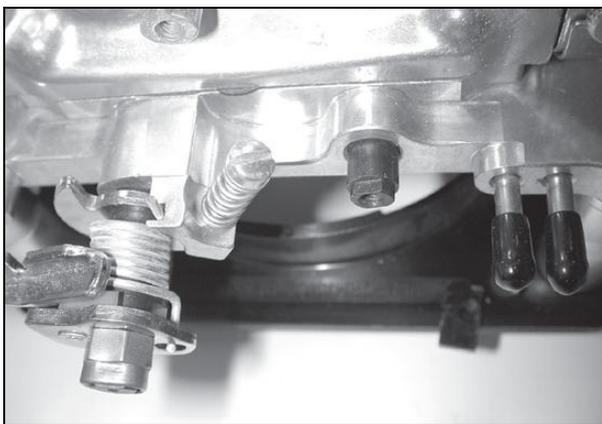


Figure 2

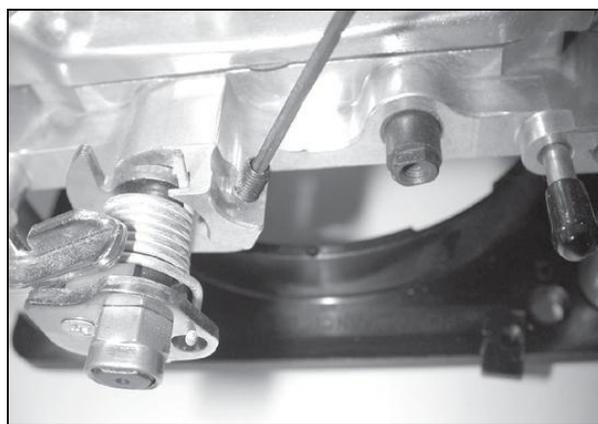


Figure 3

3. Using a small drift pin punch (Fig. 4), knock out the sealing slug on the right side of the choke horn in the main body. It is precut at the factory and should press out very easily. Once you've removed the slug, deburr the hole to make sure the choke rod doesn't bind or hang.

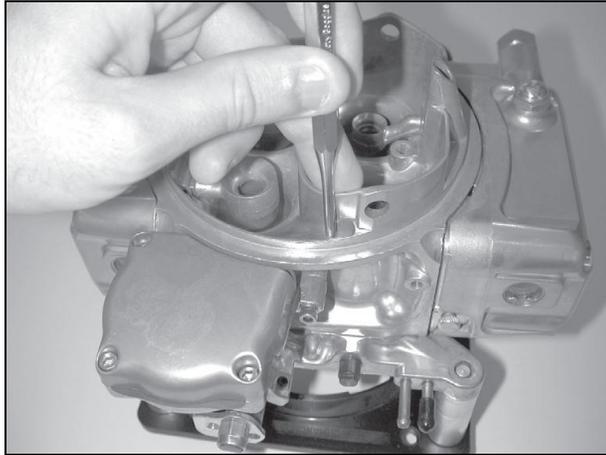


Figure 4

4. Insert the nylon main body block off plate into the cut out slot in the side of the main body.
5. Insert the small end of the choke rod (Fig. 5) through the bottom of the nylon main body block off plate towards the top.

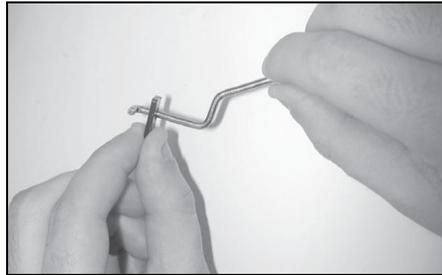


Figure 5

6. Insert the choke butterfly shaft through the choke tower (Fig. 6). Make sure the choke butterfly shaft moves freely before proceeding. If it does not you may need to deburr the hole(s) going through the choke tower or use a 0.316" drill bit to make sure the hole is the proper size.

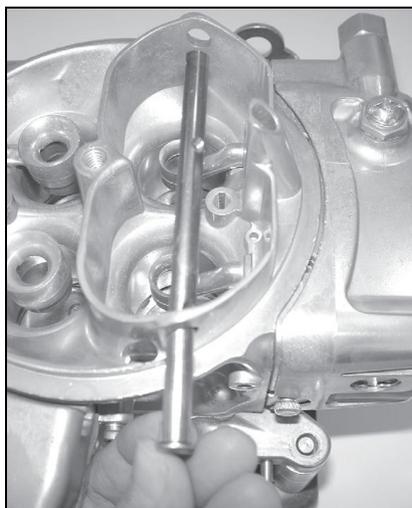


Figure 6

7. Insert the choke rod through the hole on the end of the bracket on the choke butterfly shaft (Fig. 7). Secure the rod with the 1/2" cotter pin.

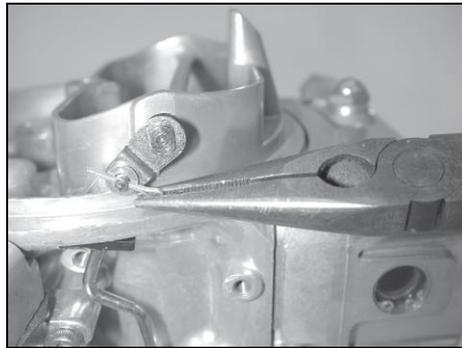


Figure 7

8. Use the two Torx® head screws to secure the choke flap to the choke butterfly shaft (Fig. 8). The flap has instructions stamped on its upper side. Make sure you can read the instructions and that the arrow points towards the choke rod. NOTE: It is extremely important that the choke flap is centered so it moves freely and does not bind. You may need to remove the flap to deburr the edges if it binds and reinstall. Once the choke flap is centered and moving freely, remove the Torx® head screws one at a time, place a drop of Loctite® 271 on them and reinstall. Wipe any excess Loctite® off the screw heads or shafts before proceeding.

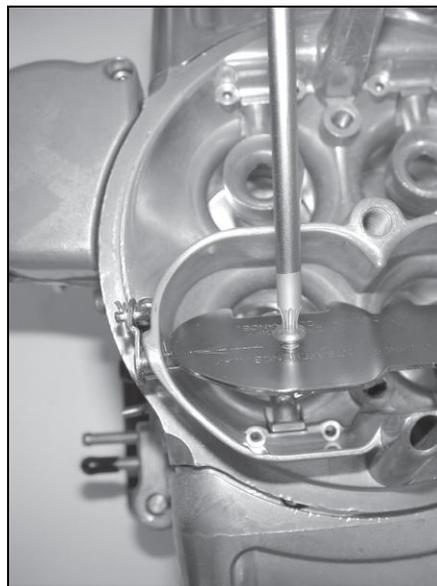


Figure 8

9. Install the endplate/spring combination. The spring slides into the u-shaped endplate with the fast idle speed screw as shown in Figure 9 and then slide this onto the left (passenger) side of the primary throttle shaft. When installed, the head of the fast idle speed screw should be facing towards the base of the carburetor and the threads should be pointing upward. Now install the outer bracket with the double D-shaped hole onto the end of the shaft (Fig. 10). It is advisable to keep the long straight portion of the spring unhooked and after the outer bracket is secured with the Phillips head screw to the shaft, use your little finger to lift the straight portion of the spring up and drop it into the slot on the right side of the outer bracket. If installed properly you should be able to push the fast idle speed screw forward (up) and have it return smoothly.

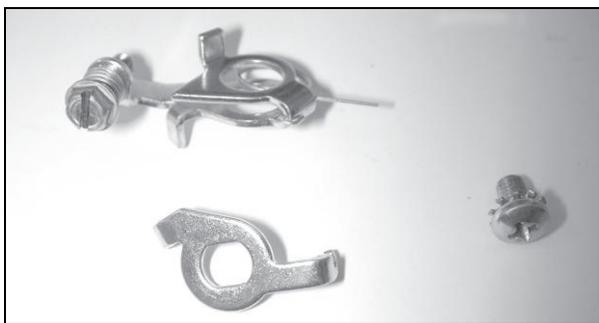


Figure 9

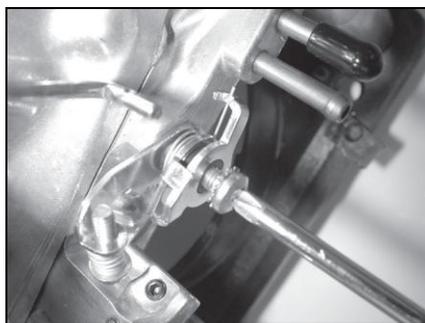


Figure 10

10. Install the electric choke pod. Use one of the 1-3/4" Allen screws with a #8 lock washer in the upper left mounting hole to hold the pod in place while you make the other connections. Insert the end of the choke rod through the hole in the end plate of the pod, with the end of the plastic cam above the rod where it comes through the hole in the bracket. Use the 1/2" cotter key to secure the choke rod in place (Fig. 11). Install the remaining two 1-3/4" Allen screws with #8 lock washers on the choke pod. Before tightening the mounting screws open the throttle linkage with the primary throttle linkage and push the adjuster on the side of the choke pod forward. The choke flap should be open to the vertical position and the fast idle speed screw should be in line with, but not touch the plastic fast idle cam. If it does not align with the cam it may be necessary to slightly bend the bracket to line it up properly.



Figure 11

11. It is now necessary to re-install the vacuum pod if it was removed in step one (Fig. 12). Simply reverse the removal process. Don't forget the sealing o-ring.

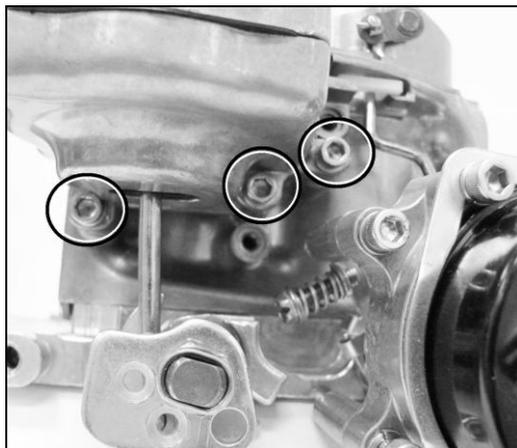


Figure 12

12. With the choke installed onto the carburetor, re-install the carburetor to the engine. Now, run a wire from a switched +12V source to the connection on the pod cover marked with a (+). Run a second wire from the terminal marked (-) to a good ground. See Fig. 13.

13. Now that the choke has been installed, it is important to make sure that it is adjusted properly.



Figure 13

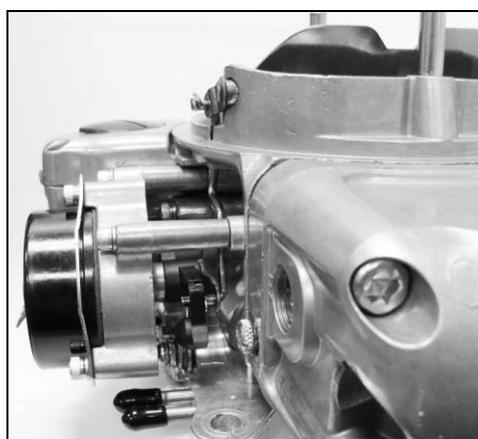


Figure 14

There are two primary adjustments: the choke idle speed screw and the choke timing. The choke idle speed screw controls how open the primary butterflies are open when the choke butterfly is closed or partially closed. It sets your fast idle (Fig. 14).

This idle can be increased by turning the choke idle screw clockwise, or decreased by turning it counterclockwise. It is important to note that when the choke butterfly is open completely (vertical up and down), the choke idle speed screw must not be holding the primary butterflies open at all. In other words, when the choke idle speed screw is in the deepest cut on the fast idle cam, it must not be hitting the fast idle cam.

**Note: If the fast idle cam is not resting on the choke idle speed screw in the deepest slot, a slight bend to lengthen the choke linkage will correct that problem. It is best to do this with pod removed. Bend the link on the long leg near the 90° as to not break the link.**

Rotating the black pod cover controls the choke timing. To rotate the cover, loosen the three Allen screws that secure the cover to the pod. Rotating the cover clockwise will decrease the amount of time it takes the choke to pull off, while counterclockwise will increase the time it takes. This adjustment will depend on your climate and the vehicle it is installed on.

One final note, dependent on which air cleaner air cleaner gasket is used, it may be necessary to put a slight dimple into the air cleaner to allow the full range of motion of the choke shaft and butterfly. Failure to do so could result in an engine that is stuck with a high idle, which could make the vehicle hard to control and stop.

**CAUTION: Due to the choke horn's increased airflow design, and dependent on what air cleaner/air cleaner gasket combination is used, a slight dimple may be necessary to allow for the butterfly to have a complete range of motion. Failure to do so could result in a vehicle with an increased idle that could make the vehicle hard to stop or control.**

CAUTION: As with any modification, inspection of the part after completion is a must. Before use, check the linkage for freeness of operation. Your safety depends on it.

## **Demon Carburetion™ Limited Warranty**

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### **Return Address & Contact information:**

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