Installation Instructions for Turbine Slip In model TSI-1-3.1 Spark Arrestor for 2020-2024 Beta 2-stroke 200-300cc RX, RR & RR Race Edition Enduro Bikes

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- Tools Required: Torx T25 wrench, drill motor, 3/16" & 6.5mm drill bits (inc.), small punch, hammer, rubber mallet, hack saw (fine tooth blades of about 32TPI work best), vice, 8mm wrench, clear silicone sealant, contact cleaner, file, sharpie marker, box knife, straight edge.

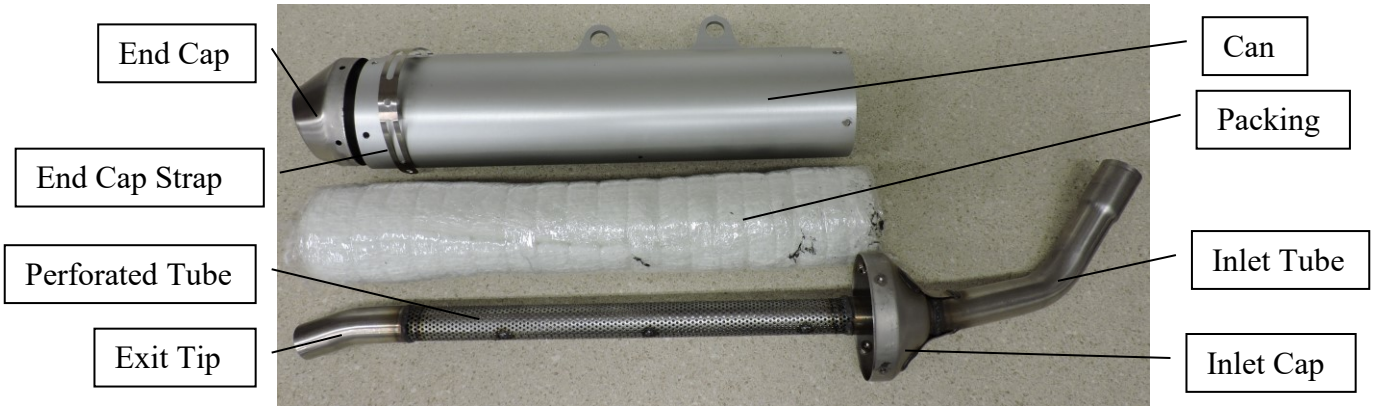

Figure 1- Pop rivet drilling.

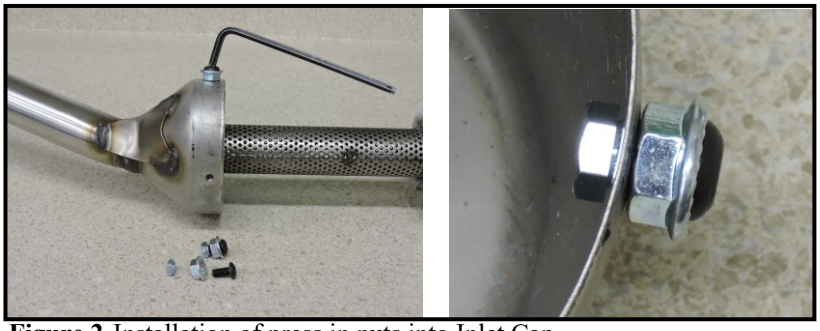

Figure 2-Installation of press in nuts into Inlet Cap.

1) Remove the silencer from the bike, use the provided 3/16" drill bit to drill out the 8 pop rivets that hold the End Cap & Inlet Cap in place (Figure 1). Use a small punch to knock out any pop rivet material still remaining in holes.

2) Remove the inlet assembly (Inlet Tube, Inlet Cap, Perforated Tube) from the Can by pulling on the Inlet Tube while holding the Can. If inlet assembly is difficult to remove, use a rubber mallet to strike the Inlet Tube to loosen the Inlet Cap from the Can. Remove silencer Packing from the Can if it did not come out with the Perforated Tube. After removing the inlet assembly the End Cap may be accessed from the inside of the Can and knocked out using a 2X4 or other wooden tool.

3) Using the 6.5mm drill bit provided, drill out the 4 Inlet Cap holes to accommodate the new press in nuts. Install the 4 press in nuts into the Inlet Cap using the black T25 screw & 6mm nut provided. Verify orientation of 6mm nut and press in nut are as shown in Figure 2. An 8mm wrench may be required to keep 8mm nut from turning during installation.

4) Clean any silicone from the inside of the Can on the Spark Arrestor side and slide the Spark Arrestor into the Can. Check the screw hole locations (Figure 3). Variability in Can hole location (they are all slightly different) may leave Spark Arrestor threads partially obscured & make it difficult to start the screws. If this is the case use a drill, file, or Dremel tool to adjust the Can hole location so that the screws can be easily started into the spark arrestor threads. Verify all 4 screws can easily be threaded into the spark arrestor at the same time, if not re-adjust Can hole locations. Remove the Spark Arrestor.

5) Being careful not to crush the Perforated Tube; mount it in a vice and cut off the curved end within 1-1/2" to 2" of where it meets the Exit Tip (Figure 4). This rough cut will allow the spark arrestor to be installed to locate the final cut position. Grind or file down any weld protrusions within 3" of the end of the cut Perforated Tube as they may interfere with the Spark Arrestor (Figure 6).

6) Check the silencer part number on the can to verify Perforated Tube diameter (Figure 5). The part number ending in 18 uses a 30mm O.D. Perforated Tube, and those ending in 08 & 48 use a 28mm O.D. tube. A different final cut location tool and method is used for each size.

Figure 3-Checking screw hole locations in Can.

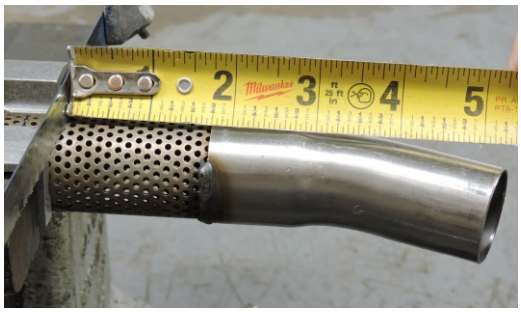

Figure 4-Perforated Tube rough cut location.

Figure 5-Silencer part #.

7) **Perforated Tube final cut-**For the 28mm Perforated Tube (08 & 48 part#) use the supplied "O" ring installed on the supplied split spacer, for the 30mm Perforated Tube (18 part**#)** use only the supplied "O" ring. Installation should appear as in Figure 6 within 1" of the end of the Perforated Tube. Next install the inlet assembly into the end of the Can & hold in place with 1 Torx screw.

8) Slide the Spark Arrestor all the way into the can (the Perforated Tube must be aligned with the Spark Arrestor inlet hole and may require some manipulation to line up). The Spark Arrestor will push the cut location tool into the correct location on the Perforated Tube. Remove the Spark Arrestor and inlet assembly being careful not to displace the cut location tool. Next **for the 30mm Perforated Tube slide the additional 5mm spacer into place**, then using a Sharpie mark the cut location around the entire circumference of the Perforated Tube as shown in Figure 7.

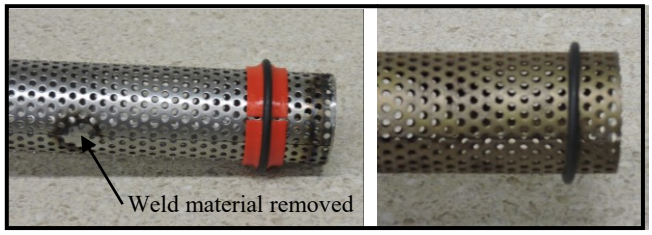

Figure 6-Cut location tool installation, 28mm Left, 30mm Right.

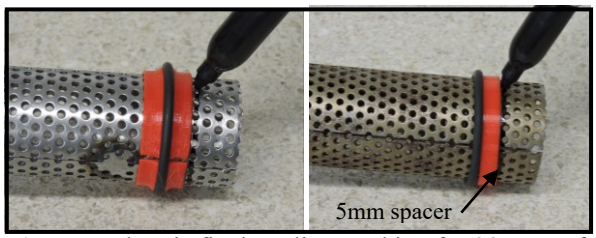

Figure 7-Sharpie final cut line marking for 28mm Left, 30mm Right.

9) Again being careful not to crush the Perforated Tube, mount it in a vice & cut **ON** the sharpie mark. Round the sharp edges of the cut, both on the inside & outside of the tube using a file, this will ease installation later.

10) Next cut down the Packing to a 13.5" length for RR & RR Race Edition models & 11" for RX model. Most silencer Packing is easiest to cut if you flatten it between a cutting surface and straight edge & use a box knife to cut.

11) Place the supplied introducer bullet tool in the end of the Perforated Tube & slide it into the Packing, then remove the introducer bullet from the Perforated Tube (put it in your tool box, it will be handy for future silencer re-packs). Verify that the silencer Packing does not extend beyond the Perforated Tube; if it does, either compress it slightly (slide it down further on the Perforated Tube) or re-cut it.

12) Clean the ends of the silencer Can & Inlet Cap where they will interface & come in contact with fresh silicone sealant. Apply a medium thickness layer of silicone sealant to the Inlet Cap & Spark Arrestor where they will interface with the Can ends to provide a good seal.

13) Apply blue Loctite to all 8 Torx screws, slide in the Spark Arrestor and tighten the 4 Torx screws that hold it in place.

14) Insert the inlet assembly with Packing, note that the Perforated Tube must be aligned with the Spark Arrestor inlet hole so some manipulation of the inlet assembly may be required to get it to slide in all the way. Some Inlet Cap fits with the Can are very tight & may require a rubber mallet to insert it all the way. Once fully inserted install and tighten the remaining 4 Torx screws.

15) Reinstall the silencer and go roost.

CLEAN OUT & MAINTENANCE: To clean out the trapped material remove & clean the spark arrestor when re-packing the silencer. To remove & clean the spark arrestor: (1) remove the 4 Torx T25 screws that hold on the end cap / spark arrestor assembly & slide the assembly out of the Can. (2) Clean the spark arrestor & the inside of the Can with an appropriate solvent (WD40 & a tooth brush work great), then reinstall per steps 11-14.

PATENT PENDING & USFS APPROVED (REF. FILE#0880-02)
MATERIALS: CNC machined 6061 Aluminum, steel, stainless steel
WEIGHT: 551grams (19.4oz) **INSTALLED WEIGHT (weight less stock parts removed/shortened):** 260grams (9.2oz)
APPLICATIONS: 2020-2024 Beta 200-300CC RX, RR & RR Race Edition 2-strokes EXCLUDING CROSS-TRAINER.