Franklin Armory™ BFS™ and RFS™ Installation Manual

Manufacturers Warning: The Binary Firing System™ and Release Firing System™ should only be installed by a Franklin Armory™ Certified Armorer. If a Franklin Armory™ Certified Armorer is not available, it is highly recommended that the BFS™ or RFS™ be installed in the customer's lower by the factory. Franklin Armory™ will not be responsible for an improper installation.

Parts Included: (1) Safety Selector Indicator Sticker, (1) Trigger pack, (1) Safety Selector Shaft with Left Paddle attached, (1) Right Paddle, (1) 4-40x5/16" Flat Head Socket Cap Screws, (3) Peel Shims 0.375" x 0.048". (See Figure 1)

Tools and Supplies Required: A non-marring hammer, a sharp "box cutter" type knife, a non-marring punch, a 0.050" allen wrench, calipers, moderate thread locker, a customer supplied lower receiver, and customer supplied hammer and trigger pins. (See Figure 1)

Figure 1

Step 1: Read the entire instructions before attempting the installation of the Trigger Pack.

Step 2: Ensure that the left side of the customer supplied lower receiver does not have oil residue that would prevent the application of the Safety Selector Indicator Sticker. (If necessary, use alcohol or a similar oil removing substance to clean the receiver.)

Figure 2a

Figure 2b

Figure 2c

Step 3: Remove the Safety Selector Indicator Sticker from the backing with the box cutter and squarely apply to the left side of the customer supplied lower receiver. (See figures 2a through 2c.)

Note: Franklin Armory™ requires all Certified Armorers to install this red sticker on every BFS (or a yellow sticker on every RFS.) If the sticker is not applied, an unsuspecting user of the firearm could accidentally discharge the weapon causing injury or even death.

Figure 3a

Figure 3b

Step 3: Test the fitment of the Trigger Pack Housing by inserting the Trigger Pack into the customer supplied lower receiver. (See figure 3a.) If you can clearly look through the hammer and trigger pin holes while the Trigger Pack Housing is fully seated, then you may not need to shim the housing or mill the receiver. However, two cylindrical extrusions have been designed into the bottom of the housing so that material may be removed slowly with a file for a solid, custom fit. If the housing is sitting too high in the fire control pocket of your receiver, you will need to remove enough material off of the bottom of the Trigger Pack Housing to allow the hammer and trigger pins to fit through the receiver and trigger group. The pins should slide through with modest resistance. Please note that the hammer and trigger pins are secured by spring wire in the Trigger Pack Housing and these wires will be observable when looking through the receiver. (See figure 3b.) Some customer supplied lower receivers will require milling to remove obstructions so that the Trigger Pack Housing may be fully seated. If minor obstructions are observed, it might be easiest to file a small amount of the Trigger Pack Housing.

If you have removed too much material from the bottom of the Trigger Pack Housing, then you will need to use the peel shims included in the package to complete the installation. The system was designed to use a maximum of two shims, but three shims have been included in your packaging in case one shim is cut too short. Many customer supplied lower receivers will require some amount of filing or shimming between the floor of the fire control pocket and the Trigger Pack Housing. Each shim is designed with approximately 24 layers that are each 0.002" deep. These layers are adhered by a specialized high strength adhesive. Never apply direct heat to the shims as it may burn off the adhesive.

Figure 4a

Figure 4b

Figure 4c

When installing the Trigger Pack, you will need to remove one layer at a time to achieve the ideal height in the fire control pocket. To remove one 0.002" layer, start by identifying which edge of the Peel Shim is radiused, and which end is sharp from being punched in manufacturing. (See figure 4a.) It is easiest to remove layers from the radiused side of the shim. It may also be easier to place the Peel Shim gently in a vice and score the side of the Peel Shim with your box cutter. (See Figure 4b)

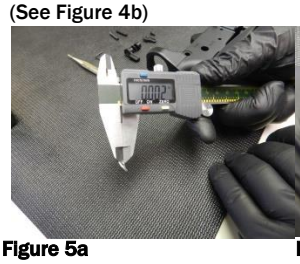
Figure 5a


Figure 5b


Figure 5c


Figure 5d

It is very important that only one layer be removed at a time since the layers cannot be reused whence removed. (See figure 5a) After each layer is removed, there will be a raised edge of adhesive on the Peel Shim that will need to be removed. (See figure 5b.) You can cut the remaining adhesive off, or you may simply use a file. Always cut away from your body when using the box cutter. Adding a little white lithium grease to the housing pockets is an optional method to temorarily keep the Peel Shim in place while testing fitment. (See figure 5c.) Be sure to recheck fitment of the Trigger Pack Housing after removing each layer. (See figure 5d) When you are close to correct fitment, you should be able to visually see that the holes of the Trigger Pack Housing will start to line up with the hammer and trigger pin holes on the customer supplied lower receiver. (See figure 3b.)


Figure 6a


Figure 6b

Figure 6c


Figure 6d

Step 4: You will know when the Trigger Pack Housing is seated to the correct height when the customer supplied hammer and trigger pins are pushed into the lower receiver with a slight bit of resitence. Please note that the hammer and trigger pins must be inserted from the right side of the receiver with the offset circumscribed slot going in first. (See figure 6a.) This off set slot in the pin will line up with the spring wire in the Trigger Pack Housing to secure the hammer and trigger pins. Both pins should be pushed through to the point that they are resting against the spring wire in the Trigger Pack Housing. Slight resistence should be felt with both pins along the way. Do not fully install the pins because repeated seating of the pins will cause the spring wire to work harden. (If the spring wire should ever wear out, KNS pins may be used instead.)

Step 5: Cock the hammer and, while using a non-marring punch to push the Backup Disconnector rearward, insert the Safety Selector Shaft from the left side of the customer supplied lower receiver. (See figure 6b.) Note that the Safety Selector Shaft will not fit through the customer supplied lower receiver until the Backup Disconnector is pushed all the way back. (See figure 6c)

If the Safety Selector Shaft does not fit, try rotating the Selector while pushing back on the Backup Disconnector. However, if it still does not fit, it is likely that the Trigger Pack Housing is sitting too high in the fire control pocket. Adjust the Peel Shims or mill out more material from the fire control pocket as necessary.

Step 6: Whence the Trigger Pack is set correctly in the fire control pocket and the Safety Selector Shaft is installed, tap the hammer trigger pins in fully with a non-marring hammer. (See figure 6d.)


Figure 7a


Figure 7b

Step 7: Install the right side Safety Selector Lever. Use a moderate thread locking compound to retain the screw. (See figures 7a and 7b.)

Step 8: Install the customer supplied grip, safety detent, and safety detent spring.

Step 9: Double check your work! If the Trigger Pack does not release in semiautomatic mode, then the housing is sitting too high in the fire control pocket. However, if the Trigger Pack is sitting too low, it will be unsafe and may discharge by simply rotating the Safety Selector Shaft. (If the RFS is sitting too low, it may also fire on the first pull function while in release mode.) The difference between success and failure is 0.003" and it is your responsibility to check it!

Step 10: Perform the "Dry Fire Checklist." If the Trigger Pack malfunctions during the Dry Fire Checklist, the Trigger Pack will likely need to be shimmed slightly higher.

Step 11: After the BFS™ or RFS™ is precisely installed, it is recommended that the firearm be live fire tested in each mode.

Remember, that the final installation is YOUR responsibility. If it is installed wrong, an accidental discharge may occur. We strongly encourage all customers to consider having a Franklin Armory™ Certified Armorer perform this installation. If, after reading the instructions, there is interest in having the trigger group installed by Franklin Armory™, please contact the factory.