JP Enterprises, Inc.™
Tactical Performance Gear

JP Adjustable Gas System:
.750 bore minimized stainless steel

Parts Included:

- Small bore minimized gas block
- Four (4) 6-32 x 1/2" Torx head cap screws
- One (1) 8-32 x 3/8" stainless set screw
- 5/64 hex key
- T15 Torx key
- 5/64 x 5/16" roll pin

Installation Instructions

CAUTION: REMOVE MAGAZINE AND VISUALLY CHECK CHAMBER TO MAKE SURE THAT FIREARM IS UNLOADED.

In order to install the JP Gas Block, it will first be necessary to remove the existing flash suppressor or muzzle brake and the existing front sight/gas system. It will also be necessary to have a very solidly mounted vise, a wrench for the flash suppressor or muzzle brake and a drift to remove the front sight pins. If you do not have vise pads, you can use a heavy rag to prevent damage to the barrel.

To make the job easier, begin by removing the pivot and takedown pins and separating the lower and upper assemblies. Securely lock your vise around the section of barrel between the front sight and muzzle, and then remove the flash suppressor or muzzle brake. It may be necessary to apply heat with a propane torch to the flash suppressor if it is too tight to remove otherwise. Next, remove the front sight retainer pins with a hammer and drift. Note that the pins are tapered and can only be removed by pushing them left to right (right being the ejection port side of the gun). If your rifle is a factory Colt, these pins can be very difficult to remove and may require the barrel to be held in an extremely solid vise. If the vise tends to move with your bench or your vise pads are too soft, you will not be able to drift these pins out. It also helps to have a short tapered drift to get them started without damaging the sight.

Once the pins have been removed, tap the sight on the rear with a plastic mallet to get it started and remove the sight/gas tube assembly. With a 1/16" drift, remove the gas tube roll pin and gas tube. Reinstall these in the JP Gas Block using the new roll pin included with the kit. Remove the gas adjustment set screw and insert your gas tube into the JP Gas Block. Make sure that the gas port in the gas tube is aligned with the gas port in the block. Using a 5/64" drill bit or suitable pin, hold the tube in alignment while you drive in the new roll pin. One side of the gas block has the pinhole enlarged slightly to facilitate starting the pin. It may be necessary to run an 8-32 bottoming tap into the gas adjusting screw hole before installing the set screw, as the screw abuts the bottom of the gas tube.

Before trying to install the JP Gas Block, check for any burrs around the old front sight pinholes in the bottom of the barrel. If this area is flared above the surface, it will be very difficult or impossible to install the gas block. Use a

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file and remove any problem areas. The hole in the JP Gas Block is bored to fit the .750 portion of the barrel and will not tolerate any obstructions. Now, install the JP Gas Block/gas tube assembly and make sure it is square with the upper assembly. Laying the upper on a large flat surface will ensure that the top of the upper and the top of the gas block are parallel.

The JP gas block is designed to replace a standard military front sight assembly. If you have installed a free floating hand guard on a military spec barrel, there will be approximately a .025" gap between the back of the gas block and the shoulder on the barrel. This gap is where the forward hand guard retainer would fit if you were using a military hand guard. This gap is important because it assures proper gas port-to-gas block alignment. Testing with compressed air is a good indicator of alignment. With the bolt inserted and closed, push the air nozzle up to the muzzle and apply air while moving the gas block around until you hear maximum flow. Once alignment is assured and the gas block is level, tighten the middle clamp screw to retain this position. Then, sequentially tighten the four clamp screws to fully secure the gas block. As an option for added stability, you may apply Loctite 609 (green) between the barrel and gas block to more permanently secure them.

The aluminum version of the gas block will give fine service on semi-automatic rifles with standard barrel length but should not be used for full-auto applications, short-barreled rifles or AR-15/M16 pistols. Use only the steel version for those applications, as it will tolerate the high temperature without erosion.

Gas Block Setup

Most rifles cycle faster than necessary, and the resulting "bolt slamming" effect is a noticeable part of the recoil impulse. The main purpose of our adjustable gas block is to allow you to adjust the port pressure to the operating system, thereby fine-tuning the bolt velocity, which will result in a smoother shooting rifle especially if you already have a JP Recoil Eliminator or JP Compensator. Additionally, the JP Gas Block is also useful in obtaining optimum port pressure on otherwise difficult to run setups such as suppressed weapons, short-barreled weapons, or unusual chamberings for nonstandard cartridges.

To adjust for your load, turn the gas adjustment screw in all the way to close it off. Then, back it out approximately two full turns, and load one round in the magazine and fire. If the bolt holds open, the gas block is set. If the bolt does not stay open, it is short-stroking, and the valve should be opened about another half turn. Continue backing the gas adjustment screw out until the bolt holds open consistently on last round. Test this again with one round in the magazine.

Remember, if you change ammo, the rifle may not cycle reliably and should be tested again with any ammunition that you intend to use in actual competition. If you must use untried ammo, back out the valve several turns to ensure full cycling. You may want to Loctite the valve screw. It is also possible to shut the valve completely if you want to cycle the rifle manually for any reason.

If your rifle is used for law enforcement or military purposes, we recommend the full open setting so as not to compromise reliability. A new rifle or bolt assembly will have a great deal of friction between the gas rings and carrier and may require a break-in period during which the gas block must be run wide open for complete cycle. As the path through our gas block is a bit longer than a standard front sight manifold, it is a bit less efficient initially, and a new rifle with an extremely stiff bolt may not cycle completely until broken in. It helps to polish the bore of the carrier on a new bolt to reduce friction and mate the parts.

THANKS FOR YOUR BUSINESS!

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