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### **PEDERSOLI GIBBS MUZZLE LOADING PERCUSSION LOCK RIFLE INSTRUCTIONS AND ADVICE FOR THE LONG RANGE SHOOTING**

#### **FORWARD**

Almost all muzzle loading firearms respond differently from one another when the same ammunition components or loading methods is used in them.

Careful firing tests on paper targets will show you just what your particular gun likes best.

When trying different bullets, powders, lubricants, percussion caps, lead alloys, powder wads and just about anything else, always change only one item or loading process at a time, then fire the gun enough times at your paper target and let the target show you if your one change was for the better or perhaps for the worse.

The Pedersoli Gibbs long range percussion rifle is a replica of the original 1865 target rifle made by the English gunsmith, George Gibbs. His rifles competed against other custom built target rifles of the era and in the right hands it proved capable of beating the costly custom built target rifles of that time.

Today, the Pedersoli Gibbs rifle has proven to be the most successful rifle of it's type and has won most of the Gold medals in international and domestic shooting matches for this type of rifle.

The Pedersoli Gibbs rifle holds several NRA and international long range records out to 1000 yards as well as records for shorter ranges.

The shooters who win with the Gibbs have offered tips and suggestions which will help you to develop accurate long range accuracy for your own Gibbs rifle and this instruction sheet is their way of welcoming new Gibbs shooters to the challenging sport of muzzle loading match competition.

Because the Gibbs uses long heavy bullets of the type used in .45 cal. cartridge rifles it is capable of being used for big game hunting at ranges beyond that at which "round ball" rifles can be used.

#### **BULLET SELECTION (.45 caliber)**

The .45 cal. Gibbs has rifling with an 18:1 twist rate. Long heavy bullets which have performed well in .45 caliber cartridge rifles will usually work equally well in the Gibbs so if you already have such bullet moulds or commercial bullets (swaged or cast) which can make bullets .448" to .451" diameter give them a try and see if your Gibbs likes them.

Suggested lead/tin alloy is 35:1 up to 60:1.

Pedersoli offers their own Gibbs bullet mould #USA 308-451 which is 520 grs and has a .451" cast diameter. Mould handles are available under part # USA316.

This grease groove type bullet (and all others of this type) should be sized down to .448" to .449" using the Pedersoli bullet sizer # USA 514-450 or by using any brand of bullet size which will produce this size bullet diameter.

Paper patched bullets need to be sized according to the paper thickness being used.

The English Higginbottom-Rigby style 540 grs paper patched bullet is specially favored in the Gibbs and has set some long range records. It is available from Joe Hepsworth gun smith (phone 740 345 6646).

Many .45 cal. "Postell" shape bullets used in ctg. rifles can be tried as many have proven to be very accurate in the Gibbs. The NEI brand #349C as well as the Lyman #457132 have been reported to be very accurate when sized down properly. However... these commercial moulds normally cast bullets which are .457-.459" and sizing down to Gibbs size will ruin their accuracy because too much metal has to be moved and this spoils bullet concentricity.

If you can order a custom made mould which casts the proper size then these types can work very well when sized slightly down to .448-.449".

The bullet diameter for your gun will be correct when the lubricated bullet can slide slowly down the "cleaned" barrel when the loading ramrod weight is all that is pushing the bullet. This rule is correct for both paper patched and grease groove bullets.

Due to slight manufacturing variations in broach rifling tolerances your rifle may require a slightly different bullet diameter.

## **BULLET GREASE**

A good "black powder" bullet grease must be used on grooved bullets. Pedersoli offers a proven bullet grease called Lubriblack, part #USA 488 which can be applied using a conventional bullet size/lubricator or by the pan lubrication method.

Other recognized good black powder bullet greases are TC-Bore Butter, SPG, Rooster Labs BP-7, Black Magic, DGL, Lyman Black Powder Gold and White Lightning greases. There are dozens more which will work well and many shooters make their own grease. Experimentation is a big part of black powder shooting so it is good to try many products.

This instruction sheet will not go into the making of paper patched bullets but those instructions can be obtained on the world-wide-web by searching that subject name. We will mention that paper patched bullets can be fired with dry paper or with oiled paper by dipping or wiping the patched bullet with sperm oil, olive oil or other suggested liquid lubricants.

## **OVER POWDER WAD**

The Gibbs does not require a card wad over the powder and the bullet rests gently on the powder itself.

However, many master class shooters using paper patched bullets have found that using a .45 cal. Ox-Yoke Wonder Wad on top of the powder has given excellent long range accuracy. This felt wad is impregnated with a BP grease and serves to protect the bullet base as well as to help leave the powder fouling softer. It is commonly used with paper patched bullets which have no grease grooves but can be tried even with grease groove bullets.

Several expert Gibbs shooters use a conventional .030" card wad placed over the powder charge when using grooved bullets so these types of wads should also be experimented with.

## **LOADING THE RIFLE**

Before each shot the barrel must be cleaned and the best method is to clean right down to the breech end of the barrel, thereby cleaning the chamber portion which holds the powder as well as the rifled portion in which the bullet will be located.

Your cleaning rod jag must be of the correct size so that your brand of patches make a snug fit in your barrel. If necessary change jags or patches until you get the snug fit.

A 2" cloth patch moistened with distilled water or with saliva is pressed down to the bottom of the chamber and pumped up and down several times. Remove the rod and reverse the patch. Run the same patch all the way down and pull it out without any pumping. Follow with a dry patch, run down and out.

Don't forget to fire a cap when you finish drying the barrel as this cleans out any dirt and moisture which may have been pushed in the flash hole of the barrel.

With a clean and dry barrel, the black powder charge must be poured "slowly" into the barrel using the correct length brass funnel.

Pedersoli makes the correct size and length loading funnel, part #USA 346.

With the powder charge down the barrel place the Wonder Wad or card wad (if used) on the muzzle and start it down the length of your barrel, using the prepared bullet of choice. Place your ram rod on the bullet nose and start the bullet down the barrel. The bullet and wad (if used) should slide down under the weight of the ram rod. A mark on the ram rod should be made to indicate when your type bullet and wad (if used) are seated gently on the powder charge. DO NOT apply additional seating pressure once the bullet and wad (if used) are gently on the powder charge.

This method of loading should produce muzzle velocity variations between 5 fps and 12 fps depending upon how consistently you do this job and also how good your powder quality is.

A variation of this loading process is to seat a card wad on top of the powder charge and then gently place a 4 pound weight on the rod. This will compress the powder and wad a certain amount and gives repeatable consistency. Then the bullet is pushed down to rest "gently" on the card wad with no further powder compression.

Expect to obtain 2-4" groups at 200 yards, with round groups produced and no fliers. As you get better you will bring your group sizes down to 1.0 to 1.5 minute of angle at ranges out to 200 yards.

## **POWDER AND CHARGE**

There are many brands of black powder available in North America. They all perform differently and some are better than others.

Hodgdon brand Pyrodex and Triple Seven powders in pellet and granular form are popular with hunters and general users due to giving good power and acceptable accuracy. These powders are not capable of match grade accuracy at long ranges and are not used in the Gibbs except for practice shooting.

Also, there are several so called black powder substitute powders, none of which has the performance your Gibbs requires and these are not recommended for any type of shooting in your Gibbs for technical reasons.

We recommend Swiss Brand black powder as being the most consistent, powerful and accurate amongst the genuine black powders.

Close behind and in some conditions the equal of Swiss Brand powder we recommend the use of Schuetzen Brand, Goex Brand, Elephant Brand, KIK Brand and finally Wano Brand (in the order shown).

The Swiss Brand is the most expensive and many shooters practice using a lower cost brand and save the Swiss for sighting in practice and for the actual shooting match.

The Swiss Brand is available in a grain size called 1½ Fg which is between Fg and FFg grain sizes.

The 1½ Fg is the most popular in the Gibbs but some shooters find excellent results from FFg grain size.

The FFFg powder is not suitable because it burns too fast, shortens nipple life and has lowered accuracy.

With the 540 grs Higginbottom-Rigby bullet (and most bullets in that weight range) 100 grs of Swiss 1½ Fg is used.

This charge produces 1300 fps muzzle velocity and is excellent out to 1000 yards range.

With lighter bullets it is suggested to start with around 72 grs powder charge and let your paper target tell you what charge the rifle likes with that bullet.

There is nothing gained by going over 100 grs as excess powder is not burned efficiently and just adds to the recoil of the rifle and may spoil accuracy slightly.

## **PERCUSSION CAPS**

There are several brands of percussion caps available and they too differ in performance.

The Gibbs delivers good accuracy with RWS brand #11 caps. Remington, Dynamit Nobel and CCI also make #11 percussion caps which can be tried out.

## **TYPES OF NIPPLES**

The standard nipple on the Gibbs #USA 484-3 (3 pack) is made from Beryllium and is available from Pedersoli dealers. A lower priced steel nipple is available as part # USA 470-3 (3 pack). The Beryllium nipple lasts much longer and resists fouling and corrosion better. Standard steel nipples should be replaced after every 40 shots have been fired in order to maintain accuracy.

A special platinum lined nipple is available from Joe Hepsworth who manufactures them for Gibbs shooters.

This nipple is recommended for serious match shooting because it resists fouling better and has a very long life.

Due to the heat and corrosive gasses, nipple threads can become stuck and resist removal. It is always recommended to use Teflon plumbers tape or some anti-seize liquid on the nipple threads when installing any type of nipple.

## **SHOOTING THE GIBBS**

Each shooter will develop their own holding and sighting technique according to type of rules and course of fire involved. Most (but not all) of the top shooters suggest holding the stock very firmly in the wrist and forearm. We suggest you try this type of firm holding before settling on some other type of hold.

To get you started on sight elevation settings we offer the following settings which work for the 540 grs Higginbottom-Rigby bullet as well as for the 535 grs Pedersoli bullets. Muzzle velocity is 1300-1325 fps using 100 grs of Swiss 1½ powder. If your load chronographs at similar speeds these elevation figures should be very close to right for you.

100 yards minus 13 minutes on elevation scale.

200 yards zero “

300 yards up 12 “

500 yards up 44 “

600 yards up 59 “

800 yards up 95 “

900 yards up 112 “

1000 yards up 130 “

Your sight may be marked differently so just use the minutes variations from your 200 yard setting and make your own sight setting chart after you see what your rifle and load does at each distance.

## **THANKS TO THE EXPERTS**

Many shooters gave generously of their hard learned tips and recommendations so as to make your Gibbs shoot better and sooner. Do your part by helping others and sharing your own knowledge. Special thanks to Gibbs shooter Joe Hepsworth, holder of NRA records for 800, 900, 1000 yards and the Creedmoor record plus Steve Garbe, Dan Theodore, Blake Eckard, Heinz Staak, Alfred Schings and many others.

Written and prepared by Dick Trenk, Competition Events Coordinator, Davide Pedersoli & Co.

## **SUMMARY OF PEDERSOLI GIBBS ACCESSORIES PART NUMBERS**

**USA 308-451/535 grs** - special Gibbs bullet mould. Single cavity .451” diameter bullet (with grease grooves).

**USA 316** - mould handles.

**USA 349-09** - Cleaning/loading rod 39.25” long, with muzzle protector.

**USA 346** - Long brass 37.7” funnel for pouring powder right down into the chamber without any powder contacting the rifling.

**USA 484-3** - Beryllium nipples for the Gibbs (longer lasting and less fouling than steel nipples) 3 in a pack.

**USA 470-3** - Steel nipples, 3 in a pack.

**USA 488** - Bullet grease, Pedersoli Lubriblack.

**USA 514-450** - Bullet sizer for .451” bullet.

**USA 492-450** - Bullet greaser for .451” bullet.

To see the full catalogue of Pedersoli special products for Gibbs and other guns go to [www.davidepedersoli.com](http://www.davidepedersoli.com).

All catalogue items can be ordered by all Pedersoli dealers through their main Pedersoli distributor.