

## .500 Wyoming Express Data Sheet



PO Box 150

314 Hwy 239

Freedom, WY 83120

Phone (307) 883-2468

Fax (307) 883-2005

Email: [freedom@freedomarms.com](mailto:freedom@freedomarms.com)

Web site: [www.freedomarms.com](http://www.freedomarms.com)

**Following is information, including loading data, for the .500 Wyoming Express (.500WE). This information and loading data is only applicable to firearms manufactured by Freedom Arms, Inc. for the .500WE. This information should be read and understood even if you don't plan to reload the .500WE. For your safety and the safety of those around you, also read and understand the Model 83 Instruction Manual. If you don't have a manual, you can download one at [www.freedomarms.com](http://www.freedomarms.com) or contact us so we can mail you one free of charge.**

No single part of the following information is more important than the rest of the information. Therefore, please completely read and understand all the information before attempting to load or shoot the .500WE. This reloading information is provided as a supplement to assist proficient handloaders in finding suitable loads for their needs. There are many good handbooks available for the beginning handloaders. It is suggested that someone starting out loading, obtain and study one or more of these manuals. Most firearms dealers can provide the manuals and technical support to assist the beginning handloaders.

Due to the inability of Freedom Arms, Inc. to control your reloading procedures, Freedom Arms, Inc. accepts no liability in any way for the use or misuse of this data. It is the sole responsibility of the person using this data to make sure they are using safe and proper loading procedures, that the firearm to be used is in safe mechanical condition and the components are correct for the intended load. Failure to do so may result in serious personal injury and/or death to the individual or bystanders as well as damage to the firearm.

Please proceed with caution. Make the shooting sports safe and enjoyable for all of those that choose to participate in this fascinating and exciting sport. As always, make sure the proper safety gear is being used when loading ammunition or shooting firearms.

### **About the .500 Wyoming Express (.500WE)**

The .500WE is a proprietary cartridge of Freedom Arms, Inc. utilizing a 1.370 length belted case. The belt provides reliable headspacing on a small shoulder which was required to work in the Freedom Arms Model 83 revolver. It also uses a .500 diameter bullet with a maximum nose length of .395 which gives a maximum overall cartridge length of 1.765 inches. The cartridge was designed to not only get outstanding and predictable ballistic performance but to also minimize forcing cone erosion thereby extending the useful life of your Freedom Arms revolver. This is done by matching powder column length, powder volume and bullet diameter to an expected range of bullet weights, velocity ranges and pressure levels.

**Following are a few tips and cautions for the experienced reloader on loading the .500 Wyoming Express. Beginning reloaders should study several loading manuals and get instruction from a qualified reloader before attempting to use this data.**

#### **.500WE Case**

Case length shortening is normal. Tests have shown as much as .020 loss of length over 10 maximum loads through the same case. Full length resizing of the case, which is recommended, will gain some of that length back. It is best to load your cases in batches so they are grouped for length, then adjust your dies to match the length.

Slight belt expansion is normal. Typically, maximum loads will expand the belt up to .002 on the first firing, subsequent firings will typically expand less. In tests, ten loads were fired through the same case for a total expansion of .003 with the case still usable. Typically when the belt expands .004 or more it may be unusable due to interference between the belt and chamber headspace area. In other words, the case won't drop fully into the chamber. To check if the case is usable, just resize the body of the case and try it in your chamber. If the belt interferes with the headspace area of the chamber, the case should be discarded. Do not try to resize the belt. Headspacing problems will result and extreme pressures may exist due to the belt being allowed to slip into the chamber area of the cylinder.

Case life has shown to be very good. Many tests have been run loading a batch of cases 10 times with maximum loads without a single case failure. Your results may vary but typically, case life has shown to be very good.

#### **Bullets**

The construction of the bullet is as important as the intended use of the final loaded round. Many commercially made pistol bullets available today are designed for expansion at lower velocities. Loading bullets above their velocity/pressure design limits can result in poor accuracy and decreased life of the revolver forcing cone as well as excessive top strap cutting. In general, the current commercially available jacketed bullets should be limited to 35,000 psi loads when using the slower burning powders like H110 or WW296. When using the faster powders the pressure should be kept even lower. For the high velocity/pressure loads, only good quality hard cast bullets should be used or jacketed bullets rated by the bullet manufacturer for the intended velocity/pressure. Consult the bullet manufacturer for their recommended bullet for your intended load and use.

The .500WE was designed for bullets weighing between 350 grains to 450 grains. Other bullet weights can be used within reason but the mix of pressure, weight and velocity won't be in the ideal range. Using bullets outside the ideal range may cause erratic results therefore Freedom Arms, Inc. does not recommend their use.

#### **Powder**

The provided loading data shows a variety of powders which have worked well in the 500WE. As always, start with the lower loads and work up to see how you and your revolver handle the load. The maximum loads listed should not be exceeded as small increases in the powder charge can raise the pressure level several thousand pounds per square inch. When loading slow burning ball powders with reduced loads, never load cases less than **90%** of case capacity. Powders like H110 or W296 are prime examples of this. Reduced loads using these powders will give unreliable ignition and at times won't ignite the powder or will partially ignite the powder which can cause a bullet to get stuck in the barrel. Obviously, if another bullet is fired into the obstructed barrel, severe damage will be done to the revolver and injury or death could result to the shooter and bystanders. If a misfire or weak report is ever experienced, stop shooting, unload the cylinder and check the barrel to make sure it is clear of obstructions.

### Primer

The 500WE is setup to use a large rifle primer. This primer has shown to provide reliable and consistent ignition of the powder. As always, care must be taken to seat the primer below the case head to prevent recoil from firing a cartridge that is not aligned with the barrel.

### Loading Dies

Loading dies designed specifically for the 500WE are available from Freedom Arms. Typically, sizing the length of the case body down to within .100 of the belt is sufficient. Care must be taken to not run the sizing die down onto the belt of the case. This can cause inconsistent headspacing of the cartridge and may allow the belt to start into the cylinder chamber which will cause excessive pressures and possible damage to the revolver and injury to the shooter or bystanders.

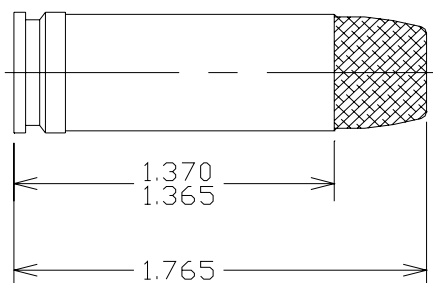
Always seat and crimp the bullet in two operations. Seat the bullet so the top of the case is even with the top of the bullet cannelure without the crimp ring in the die touching the case. Then in a second step, with the seating stem adjusted up and the crimp die adjusted down, crimp the bullet so the case crimp fills the bullet cannelure. This will give a stronger, more consistent crimp which will give a more consistent burn of the powder and reduce the chance of a bullet pulling under recoil. A proper crimp will also reduce the chance of a squib load. Care must be taken to not over crimp causing case swelling below the crimp. This swelling will restrict the cartridge from dropping fully into the chamber.

### Shooting proficiency

Power is useless if the shooter can't control the firearm. Therefore start out with lower velocity loads to learn how to handle the recoil of the revolver, which can be abusive. As a level of comfort and skill is achieved, the load can be increased accordingly. **The upper end loads should be used only by those experienced with and capable of handling big bore, high power handguns and even then should be shot sparingly.** In other words, keep it fun to shoot.

### Loading recommendations for the Freedom Arms .500 Wyoming Express.

Bullet Diameter:	.500
Primer Size:	Large Rifle
Case Trim Length:	1.365"
Maximum Case Length:	1.370"
Maximum Cartridge Length:	1.765"
Shell Holder:	#41 RCBS



**500 WYOMING EXPRESS****STARTING LOADS****MAXIMUM RECOMMENDED LOADS**

Bullet	Powder	STARTING LOADS			MAXIMUM RECOMMENDED LOADS		
		Wt. in Grains	Muzzle Velocity	P.S.I.	Wt. in Grains	Muzzle Velocity	P.S.I.
350 XTP/MAG	TRAILBOSS	7.0	624	20,700	10.0	831	26,700
	TRAILBOSS	7.0	556		10.0	795	
	TITEGROUP	12.0	1138	34,700	*15.0	1296	48,300
	H4227	31.0	1378	32,400	*35.0	1584	44,200
	H-110	32.0	1486	34,600	*35.0	1629	43,100
	H-110	32.0	1419				
370 WFNGC	TRAILBOSS	7.0	698	19,100	10.0	859	23,800
	TRAILBOSS	7.0	681		10.0	842	
	TITEGROUP	12.0	1133	34,800	14.7	1261	46,400
	LONGSHOT	17.0	1284	38,500	19.2	1391	48,200
	H4227	31.0	1382	33,600	34.0	1535	43,300
	H-110	34.0	1527	37,500	36.0	1607	41,800
	H-110	34.0	1504		36.0	1603	
400WFNGC	TRAILBOSS	8.0	738	23,200	10.0	842	28,000
	TRAILBOSS	8.0	757		10.0	858	
	TITEGROUP	11.0	1064	35,700	13.7	1192	48,100
	LONGSHOT	15.0	1187	36,600	17.6	1310	48,600
	H4227	30.0	1390	39,900	33.0	1509	46,700
	H-110	32.0	1497	39,800	34.5	1589	47,900
	H-110	32.0	1467		34.5	1589	
440 WFNGC	TRAILBOSS	6.0	600	20,100	8.0	717	24,800
	TRAILBOSS	6.0	615		8.0	738	
	TITEGROUP	10.0	977	34,300	12.5	1097	47,500
	LONGSHOT	14.0	1119	36,600	16.5	1226	48,800
	H4227	26.0	1220	34,400	30.0	1413	48,300
	H-110	27.0	1302	34,000	29.5	1415	44,200
	H-110	27.0	1300		29.5	1416	

**\*These loads are for pressure reference only and are not recommended by Freedom Arms. Consult the bullet manufacturer for their recommended pressure limits.**

Pressure data was developed by the ballistics lab of Hodgdon Powder Company.

Pressure barrel length is equivalent to a Freedom Arms revolver with a 7 1/2" barrel.

All loads used a Federal 210 Large Rifle Primer.

Where no pressure is indicated, a Freedom Arms revolver with a 7 1/2" barrel was used. This is to give a comparison of pressure barrel velocity to revolver velocity.

Cast bullets used were manufactured by Cast Performance Bullet Co.

### **Warning!**

Discharging firearms in poorly ventilated areas, cleaning firearms or handling ammunition may result in exposure to lead and other substances known to cause birth defects, reproductive harm and other serious physical injury. Have adequate ventilation at all times. Wash hands thoroughly after exposure.

**Keep all reloading components, ammunition and firearms out of reach of children at all times!**

**Be Safe, when carrying any firearm, keep an empty chamber under the firing pin.**