The most comprehensive loading data available for 9mm Luger containing:

9mm Luger Volume One - First Printing



LoadMAP

(Maximum Average Pressure)

57 different jacketed, cast and swaged bullets from





Remington



SPEER

19 different propellants from



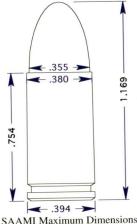


HODGDON





WINCHESTER. WINCHESTER.



SAAMI Maximum Dimensions Not actual size

Hornady 100 grain FMJ/RN

Winchester 231 Charge grains psi fps

STOP

1159

1118

Use

extreme

caution

when

loading in

the

Yellow or

Red

zones.

All pressures

are listed

in psi not C.U.P.

page 4.

Read pages 2 - 11 before loading. Always watch for excessive pressure signs.

"WARNINGS AND DISCLAIMER

THE USER OF THIS MANUAL RECOGNIZES, ACKNOWL-EDGES, APPRECIATES AND ACCEPTS THE FACT THAT RELOADING CAN BE A DANGEROUS ACTIVITY WHICH CAN RESULT IN SERIOUS INJURY.

BEFORE YOU DO ANYTHING, READ THE FOL-LOWING. FAILURE TO DO SO CAN RESULT IN SERIOUS PERSONAL INJURY AND/OR PROPERTY DAMAGE:

WARNING: This manual is not intended to be a comprehensive reloading reference book. It is intended to provide information about specific loads, for the particular caliber indicated on the cover, for use by knowledgeable and experienced reloaders.

THIS MANUAL IS FOR KNOWLEDGEABLE AND EXPERIENCED RELOADERS ONLY.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the

LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. Load recommendations should never be exceeded.

WARNING AND DISCLAIMER: MidwayUSA, specifically disclaims any warranties, expressed or implied, of any kind, nature or description (including but not limited to any warranty of merchantability or fitness for a particular purpose) with respect to this manual and/or any of the information contained in this manual (including but not limited to safety or suitability or the results obtained). Users of this manual, whether original purchasers or otherwise, assume all risk, responsibility and liability of every kind, nature or description for any and all injuries (including death), losses, or damages to persons or property (including consequential damages), arising from the use of this manual and/or any of the information contained in this manual, whether or not occasioned by MidwayUSA's® negligence or based on strict product liability or principles of indemnity or contribution. MidwayUSA $_{\scriptsize \circledR}$, neither assumes nor authorizes any person or entity to assume for it any liability in connection with the use of this manual and/or data contained herein.

Copyright © 1998 by MidwayUSA $_{\rm @}$

Safe reloading practices are the responsibility of the reloader. Unsafe reloading may result in serious injury including death and/or damage to personal property. Safety precautions contained in this manual are only basic, not complete or comprehensive: there is no substitute for a complete understanding of reloading procedures and safeguards.

UNDER ALL CIRCUMSTANCES, ALWAYS BEAR IN MIND THE FOLLOWING:

- Give your undivided attention to reloading. If you can not do so, do not reload. Never reload while distracted, rushed or under the influence of alcohol, drugs or medication.
- 2. Follow reloading data precisely.
- 3. Always begin with the lowest loads and work up. Do not exceed the maximum loads as shown in the LoadMAPs™.
- 4. Only use components which are clearly labeled.

- 5. Do not substitute components.
- Keep firearms and reloading materials out of reach of children.
- 7. No smoking, open flames, sparks or exposed heat sources while reloading.
- Use extreme care and caution when handling primers. Primers may ignite and explode if not properly handled.
- Examine every case to be reloaded and use only those cases which are in excellent condition.
- 10. Always wear safety glasses to protect your eyes.
- 11. Never mix propellants of different kinds. Store propellants and primers in their original packages. Do not repackage propellants and/or primers."

9mm Luger Table of Contents

W	Page
Warnings	2-3
About This Manual	4
Using The LoadMAP _{TM}	5
Factors That Affect Pressure	6-8
Excessive Pressure Signs	9-10
Propellant and Bullet Companies	11
Bullet Terminology	12
88 grain bullet data	13-14
90 grain bullet data	15-23
Walther P.38	24
95 grain bullet data	25-33
Browning High Power	34
100 grain bullet data	35-37
Broomhandle and Borschardt	38
115 grain bullet data	30-73
MidwayUSA's® Ballistics Lab	74
122 grain bullet data	75-76
124 grain bullet data	77-96
125 grain bullet data	97-101
MidwayUSA's® Ballistics Equipment	102
130 grain bullet data	103 111
9mm Luger in Marlin Model 9	112
147 grain bullet data	113 135
Favorite Loads	136 130
Notes	140 143
Cartridge History	Pook Cover
	Back Cover

About This Manual

This manual provides comprehensive information about the widest variety of specific bullet and propellant combinations available. Bullets available from MidwayUSA $_{\circledR}$ at the time of publication were fired for pressure and velocity. The information is incorporated into a unique chart we call a LoadMAP $_{TM}$, which displays pressure and velocity levels. The

LoadMAP_{TM} lists maximum loads that produce the ANSI/SAAMI* (American National Standards Institute/Sporting Arms and Ammunition Manufacturers Institute) MAP** (Maximum Average Pressure) in our test gun under laboratory controlled conditions. The LoadMAP_{TM} data was developed using ammunition loaded and fired in accordance with ANSI/SAAMI specifications and procedures from the *Voluntary Industry Performance Standards for Pressure and Velocity of Centerfire Pistol and Revolver Ammunition for the Use of Commercial Manufacturers*, ©1993. The ammunition was tested for pressure and velocity in a Universal Receiver Test Barrel using piezo-electric conformal transducers and the Oehler System 83 pressure recording system.

The current industry standard is to measure and list pressure in pounds per square inch (psi) using piezo-electric transducers. Before piezo-electric transducers, pressures were measured using the copper crusher method and expressed as Copper Units of Pressure, (C.U.P.). Many manuals list pressures in C.U.P. When comparing load data from other sources, it is important to note that there is no method of conversion from C.U.P. to psi.

*ANSI - ANSI is the agency responsible for the identification of a single, consistent set of voluntary standards called American National Standards. ANSI writes or approves the standards of quality and manufacture for products manufactured in the USA. Address: 11 West 42nd St, 13th Floor, New York, NY 10036.

*SAAMI - Founded in 1926 in its current form. SAAMI serves the mutual interests of the U.S. sporting firearms and ammunition industry with emphasis on activities to assure safe use of these products. SAAMI is a group of industry members that oversee and maintain the standards of quality and safety in the firearms and ammunition industry. Currently there are 21 SAAMI members. Address: 11 Mile Hill Road, Newtown, CT 06470-2359.

**MAP - The maximum average pressure considered safe in modern firearms as determined, for most popular cartridges, by SAAMI and its members.

All testing was done with new cartridge cases. Propellant charges were controlled to $\pm 1/10$ th grain. The test ammunition and components were loaded and stored in a temperature and humidity controlled room at 70° Fahrenheit $\pm 2^\circ$ and 60% relative humidity $\pm 5\%$. Our test facility is 758 feet above sea level.

Caution: this manual is not intended to be a comprehensive reloading reference book. It is intended to provide information about specific loads, for the cartridge indicated on the cover, for use by experienced reloaders. If you are not an experienced reloader, set this manual aside until you have learned to reload, either from a comprehensive reloading manual or gained experience from a qualified instructor.

The LoadMAP_{TM}

An atlas contains road maps for driving; think of this as an atlas with LoadMAP $_{\text{TM}}$ for reloading. The LoadMAP $_{\text{TM}}$ is designed with easy loading in mind. As in driving, there are signs and colors for which to watch. The LoadMAP $_{\text{TM}}$ is colored like a traffic signal. The GREEN means GO, the YELLOW means proceed with CAUTION and the RED bars at the top and bottom mean STOP. The colors change as the propellant charge increases and the pressure rises. Always watch for signs of excessive pressure on the trip up the LoadMAP $_{\text{TM}}$. The yellow yield sign indicates that extra caution should be exercised in the yellow and red zones. Watch your cartridge cases for signs of excessive pressure and be prepared to stop and go back at any time. The stop sign and the STOP bars at the top and the bottom of the chart mean exactly that,— STOP! Going through the stop can be very dangerous.

The LoadMAP $_{TM}$ has three columns. The left column shows the propellant charge in grains, the middle column shows the approximate pressure in pounds per square inch (psi) and the right column shows the approximate velocity in feet per second (fps). Your actual pressures and velocities will be different from those indicated by the LoadMAP $_{TM}$. The

Hornady FMJ/RN 9mm 100 grain

Winchester

231

Charge in grains psi fps STOF Use 1239 5.2 33800 extreme caution 1219 5.1 32600 when loading 5.0 31400 1199 in the 4.9 30200 1179 Yellow or Red 1159 4.8 29000 zones. 4.7 27800 1138 4.6 26600 1118 All 25400 1098 4.5 pressures are listed 4.4 24200 1078 in psi no C.U.P. 23000 See STOP page 4.

Read pages 2 - 11 before loading.

<u>Always</u> watch for excessive pressure signs.

dotted black line across the LoadMAP_™ indicates 95% of SAAMI MAP.

Using the LoadMAP_{TM}

Select a propellant charge from within the 'start here' area. Load and fire the cartridges as you normally would and watch for signs of excessive pressure as detailed in the next section.

When working up a load you may increase the propellant charge in the green zone faster than you can in the yellow zone or the red zone. A normal practice would be to increase the propellant charge by three tenths of a grain in the green zone but by only one tenth of a grain in the yellow zone or red zone. If, at any time, excessive pressure signs are observed, STOP. Reduce your load to a level where excessive pressure signs are not observed. Consider this the maximum safe load for your firearm under those conditions in which the ammunition was loaded, stored and fired. The most accurate loads are often found below the maximum velocity.

STOP: The top is ANSI/SAAMI MAP. Do not load above the maximum or below the minimum charges shown in the LoadMAP_{TM}.

Factors That Affect Pressure

Many factors affect the pressure and velocity a cartridge generates when fired. Any of these factors could result in excessive pressure levels being reached at lower propellant charge weights than occurred in our laboratory testing. Some of the more important factors are:

The Barrel and Chamber

The individual firearm can cause the pressure to be different. Barrels made by the same gunsmith, with the same reamer, from the same barrel stock, on the same day, in the same caliber will develop different pressures using the same loads.

Bore condition

Pressures will normally be lower in a worn barrel than in a new barrel. As the lands are worn down, especially in the throat area, less pressure is required to move the bullet through the bore. Propellant and bullet fouling will cause an increase in pressure. A clean barrel develops less pressure than a dirty barrel. See also the **Jacket Hardness** section on the next page.

Bore diameter

Some firearms with the same chambering may have different bore diameters, e.g., the 7.62×39 may have a .308 or .311 bore. Firing a .311 bullet through a .308 bore might develop a higher pressure while firing a .308 bullet through a .311 bore might develop a lower pressure.

Chamber condition and dimension

Anything that increases or decreases the total chamber capacity can affect the pressure. Some examples are: an oversize or undersize chamber, neck diameter, propellant residue, headspace, cleaning solvents, pieces of cleaning patches, rusty or pitted walls. Any increase in chamber size could decrease pressure and any decrease in chamber size could increase pressure.

Individual Cartridge Components

All the various factors involving cartridge components have an impact on the pressure developed when the primer ignites the propellant. Ignition changes the propellant from a solid into a rapidly expanding gas. The expansion of the gas creates the pressure to propel the bullet through the bore. Each factor contributes to the creation of pressure. In some instances, the pressure may exceed the safety limits of the cartridge case or the firearm.

Changing one or more of the cartridge components will create different pressures and velocities in the same firearm. Therefore, we encourage you to experiment with different bullets and propellants so that loads can be tailored for specific needs and shooting conditions. With any change in components, manufacturer or lot number, you should start loading at the 'start here' area and work the load up until the desired performance is achieved.

Bullet

· Bearing surface

The bearing surface is the part of the bullet that contacts the lands and grooves of the bore and creates friction. A longer bearing surface generally develops higher pressure than a short bearing surface.

Crimp tightness

The crimp tightness affects how much pressure is required to get the bullet started into the bore. A tighter crimp holds the bullet longer causing the pressure to increase before the bullet leaves the cartridge case mouth. Some firearms may require a tighter crimp, i.e. tubular magazines, to keep the bullet from being pushed into the cartridge case by other cartridges during recoil.

Diameter

A bullet with a diameter smaller than the bore diameter may not seal the bore. This allows gases to escape around the bullet resulting in lower pressures. A bullet with a larger diameter will cause the pressure to increase as the bullet is swaged down to fit in the bore. Some bullet diameters may be different from the cartridge name i.e. the .303 British has a nominal bullet diameter of .312".

· Jacket hardness

Jacket hardness dictates how easily the jacket will be engraved by the rifling in the barrel. A soft jacket will normally develop lower pressure than a hard jacket. Soft jackets may leave copper deposits in the bore which can cause the pressure to increase rapidly to a potentially dangerous level. The first few shots may have a lower pressure than hard jackets but the pressure can increase with additional shots. Soft jackets require more frequent cleaning.

· Seating depth

Seating the bullet deeper reduces the interior dimensions of the cartridge, normally increasing the pressure. Seating the bullet out until it contacts the rifling causes an initial increase in pressure.

· Weight

A heavier bullet develops higher pressure than a lighter bullet with the same propellant charge.

Cartridge Case

Capacity

Smaller cartridge case capacity allows less room for the gases to expand, which results in higher pressure.

Length

A cartridge case that is too long may go too far into the throat of the chamber. If this happens, the mouth of the cartridge case will hold the bullet very tightly and the pressure will increase dramatically before the bullet is released.

Number of times the cartridge case has been fired

Each time the cartridge case is fired it lengthens and expands. Cartridge case material moves forward with each firing. The cartridge case neck gets thicker with each firing. A thicker neck will hold the bullet tighter causing an increase in pressure.

· Resizing of the cartridge case

When the cartridge case is full-length resized, the shoulder is pushed back. Excessive resizing will cause the interior dimensions to become smaller. This will cause an increase in pressure and may create excessive headspace. The cartridge case may also split or separate upon firing.

· Wall thickness/Manufacturer

A thicker cartridge case wall reduces cartridge case capacity. All cartridge case manufacturers have different dimensions they work to. Thus each brand will have different capacities. Military cartridge cases have thicker walls resulting in a lower cartridge case capacity than commercial cartridge cases. If you are unsure of your cartridge case type, assume it is military, start loading at the 'start here' area and expect to reach your maximum safe pressure at a lower propellant charge weight than with commercial cartridge cases.

Propellant

• Powder Charge

Some Charts indicate a maximum pressure below the SAAMI MAP. In our testing one tenth grain more powder, than the maximum charge shown, exceeded the Maximum Average pressure allowed. Do not load above the maximum charge shown.

• Burn rate

All propellants are coated with a deterrent to control their burn rate. Different propellant types have various shapes and deterrent coatings producing different burn rates. A faster burn rate will generate pressure faster than a slower burn rate. A faster burn rate will require less propellant to attain maximum pressure.

· Load density

This refers to how full the cartridge case is by volume of propellant. The fuller the cartridge case, the higher the load density. A slower burning propellant will have a higher load density. A higher load

density will give a more consistent ignition and a more consistent pressure. Propellant granule shape will affect the load density. The smaller the granule the more dense the load will be. Always refer to the LoadMAP for the propellant charge weight of your specific bullet and propellant combination.

Primer

Cup

The cup thickness and hardness varies between type and manufacturer. A soft cup will show signs of excessive pressure easier than a hard or thick cup.

Primer flash

The quantity and type of primer mix varies from lot to lot and manufacturer to manufacturer. A stronger, hotter flash may create a higher peak pressure.

Component Lots

Variations

Bullet weight and shape, cartridge case dimensions, propellant density, propellant burn rate and primer flash all vary from lot to lot. With any change in components, manufacturer or lot number, you should start loading at the 'start here' area and work the load up until the desired performance is achieved.

Atmospheric Conditions

It is important to understand how changes in the shooting and loading environments affect pressures. A cartridge loaded at 950 feet above sea level, at 80 degrees Fahrenheit, and 85% relative humidity will normally develop lower pressures when fired at 3000 feet above sea level, at 60 degrees Fahrenheit and 40% relative humidity. An increase in temperature or a decrease in relative humidity can raise pressures.

Elevation

An increase in elevation may cause a decrease in pressure due to the thinner air. An increase in elevation may also be accompanied by a decrease in temperature.

Temperature

Temperature, the most important of the atmospheric condition variables, greatly affects cartridge pressure. As the propellant temperature increases, the propellant is able to burn faster which increases pressure within the cartridge. The propellant temperature change may be due to many factors, including the speed of shooting and exposure to any outside heat source. The chamber temperature increases during firing. If a cartridge is left in a warm chamber for very long the propellant temperature may increase enough to cause a dramatic increase in pressure. When shooting in the summer, it is important not to leave any cartridges exposed to the sun. The propellant temperature will increase rapidly to a level which may produce unsafe pressures.

Humidity

An increase in relative humidity can decrease the pressure generated by the cartridge. Conversely, a decrease in relative humidity can cause an increase in pressure. The moisture level of the propellant will greatly affect the pressure when the ammunition is shot. The propellant will take on the same relative humidity as where the ammunition is loaded.

The data in this manual shows results achieved in our test facility. Your results will be different. Loads that generate moderate pressure levels in one firearm may generate excessive pressures in another firearm. Always tailor loads for individual firearms.

*MidwayUSA*_⊕, 5875 W Van Horn Tavern Road, Columbia, MO 65203 phone 573-445-2400 FAX 573-446-1018

Excessive Pressure Signs

If, at any time, excessive pressure signs are observed, STOP, you may have exceeded a safe level already. Reduce your load to a level where excessive pressure signs are not observed. Consider this the maximum safe load for your firearm under the conditions the ammunition was loaded, stored and fired.



1. Flattened Primer - The primer is flattened against the bolt face or breech face and fills the entire primer pocket. Some primers are very hard and may not flatten as pressures become excessive. * See footnotes: a,b



2. Cratered Primer - The primer flows back into the bolt face or breech face around the firing pin. A circular ridge will appear on the primer around the firing pin indentation. Some primers are very hard and may not crater as pressures become excessive.

* See footnotes: a,c



3. Pierced Primer - The firing pin has punctured the primer. A black residue normally appears in the firing pin indentation. If the firing pin has punctured the primer, a small piece of the primer may be missing.

* See footnotes: a,c



4. Loose Primer Pocket - Repeated firings of the same cartridge case, using a high pressure load, can cause the primer pocket to enlarge and allow gases to escape around the primer. This causes a dark ring to appear around the primer and on the bolt face or breech face. * See footnotes: **a,d**



5. Blown Primer - The primer pocket may be much larger than the primer allowing the primer to fall out when the cartridge case is extracted. The face of the primer may blow off leaving the remainder in the primer pocket.

* See footnotes: a,d

- * These conditions may appear as a result of the following;
- a) excessive pressure.
- **b**) excessive headspace caused by an incorrectly adjusted sizing die.
- c) a problem with the firearm. If you have any questions about the firearm, take the firearm to a qualified gunsmith.
- d) a worn out cartridge case.
- e) a manufacturing defect.

Excessive Pressure Signs (continued)



6. Difficult Extraction - The bolt is hard to open and/or the cartridge case is difficult to remove from the chamber. You must use force other than normal finger pressure to operate the bolt or remove the cartridge case. * See footnotes: a,b,c



7. Cartridge Case Head Expansion - The cartridge case body expands just above the web area, approximately 1/4" above the extractor groove. To test, fire a factory round and measure just above the web area. If your fired handload is .0005" to .001" larger than the fired factory round, your pressure is too high. * See footnotes: a,c,e



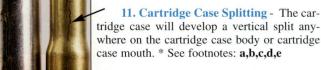
8. Incipient Cartridge Case Head Separation - A faint line will appear on the cartridge case body just above the web area, approximately 1/4" above the extractor groove. * See footnotes: a,b,c,d,e

9. Cartridge Case Head Separation - The head of the cartridge case partially or completely separates from the body of the cartridge case. The cartridge case will split approximately 1/4" above the extractor groove. * See footnotes: a,b,c,d,e



10. Cartridge Case Separation - In some instances the cartridge case may separate closer to the shoulder.

* See footnotes: a,b,c,d



- * These conditions may appear as a result of the following;
- a) excessive pressure.
- **b**) excessive headspace caused by an incorrectly adjusted sizing die.
- c) a problem with the firearm. If you have any questions about the firearm, take the firearm to a qualified gunsmith.
- **d)** a worn out cartridge case.
- e) a manufacturing defect.

10

Propellant Companies

Accurate Arms Co., Inc., 5891 Hwy 230 West, McEwen, TN 37101 phone 800-416-3006 FAX 615-729-4217

Alliant Techsystems (formerly Hercules powders), New River Energetics, Rt 114, PO Box 6, Radford, VA 24141-0096 phone 800-276-9337 FAX 540-639-8496

Hodgdon Powder Co., Inc., PO Box 2932, Shawnee Mission, KS 66201 phone 913-362-9455 FAX 913-362-1307

IMR Powder Co., 1080 Military Turnpike, Suite 2,

Plattsburgh, NY 12901

phone 518-563-2253 FAX 518-563-6916

Kaltron-Pettibone, VihtaVuori Oy, 1241 Ellis Street,

Bensenville, IL 60106 phone 630-350-1116

Winchester Div., Olin Corp., 427 N Shamrock, E Alton, IL 62024 phone 618-258-3588 FAX 618-258-3446

Bullet Companies

Barnes Bullets, Inc., 318 S 860 E, PO Box 215, American Fork, UT 84003

phone 801-756-4222 FAX 801-756-2465

Hornady Mfg. Co., PO Box 1848, Grand Island, NE 68802 phone 800-338-3220 FAX 308-382-5761

Midway USA (8) 5875 W Van Horn Tavern Road,

Columbia, MO 65202 phone 573-445-2400 FAX 573-446-1018

Nosler, Inc., PO Box 671, Bend, OR 97709 phone 800-285-3701 FAX 541-388-4667

Remington Arms Co., Inc., Product Service Dept., 2592 Arkansas Hwy 15 North, PO Box 400, Lonoke, AR 72086-0400 phone 501-676-4197 FAX 501-676-4231

Sierra Bullets, 1400 West Henry, Sedalia, MO 65301 phone 800-223-8799 FAX 816-827-4999

Speer Products, Div. of Blount, Inc., PO Box 4000, Lewiston, ID 83501 phone 208-746-2351 or 800-533-5000

Winchester Div., Olin Corp., 427 N Shamrock, E Alton, IL 62024 phone 618-258-3588 FAX 618-258-3446

Pullet Tourningle or					
Abbreviation Description Description Description Description Description Description Description					
Barnes	<u>Description</u>	Abbreviation	<u>Description</u>	Abbreviation	
	0::-1	Sierra		Common cont	'd
0	Original	Blitz	Blitz Bullet®	DEWC	Double Ended Wadcutter
S	Solid	FPJ	Full Profile Jacket®	FMJ	Full Metal Jacket
X	X-Bullet®	JHC	Jacketed Hollow Cavity®	FN	Flat Nose
Hornady		SBT	Spitzer Boat Tail®	FP	Flat Point
A-Max™	Accuracy Match Bullet	SMP	Semi-Pointed®	НВ	Hollow Base
CL	Crimp Lock™			HP	Hollow Point
I	Interlock™	Speer		J	Jacketed
$SX^{\scriptscriptstyleTM}$	Super Explosive	GD	Gold Dot®	L	Lead
V-Max™	Plastic Tipped Varmint	GS	Grand Slam®	Match	Match
XTP	Extreme Terminal	Mag-Tip™	Magnum Tip	MC	Metal Case
	Performance™	Plinker®	Plinker	PHP	Plated Hollow Point
UHC	Ultra High Coefficient [™]	Solid	Solid	PSP	Pointed Soft Point
V	Vector®	TMJ	Total Metal Jacket®	RN	Round Nose
Nosler		TNT^{TM}	Explosive	SIL	Silhouette
BT	Ballistic Tip®	Varminter®	Varminter	SJ	Short-or Semi-Jacketed
PAR	Partition®			SP	Spire Point or Soft Point
PP	Practical Pistol™	Winchester		SPT, SPTZ	Spitzer
SB	Solid Base®	PP	Power Point®	SST	Semi-Spitzer
Remington		ST	Silver Tip™	SWC	Semi-Wadcutter
BRPT	Bronze Point®		1	TC	Truncated Cone
CL	Core Lokt®	Common		WC	Wadcutter
ER	Extended Range®	BBWC	Bevel Base Wadcutter	0	radoutto
HPPL	Hollow Point-Power Lokt®	BT	Boat Tail		

9mm Luger

.355" Dia. 88 grain Sectional Den



Density .099	Remington
Ballistic Coefficient	N/A
Ctg. Overall Length	1.010



BULLET	•••••	 	PAG	E
Remington J	HP	 Plated	1	4

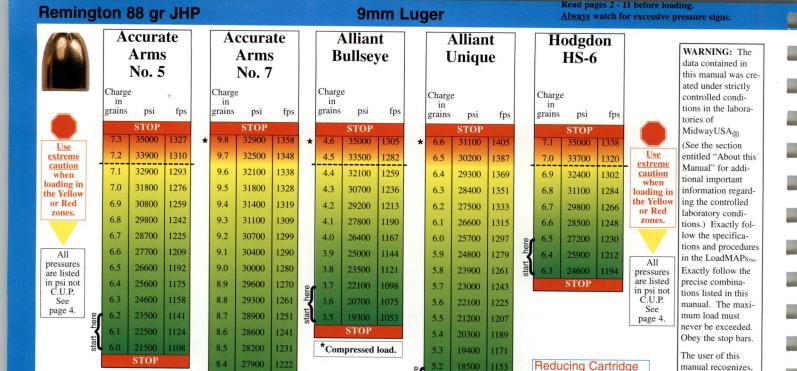
Reducing Cartridge Over All Length increases pressure greatly.

This P.08 Luger has been turned into a "rifle" by adding an extended barrel, a buttstock, and a forend. These guns were produced during WWI as an early attempt to produce a submachine gun and were reserved for use by officers and elite paramilitary units. Although these guns were not fully automatic, they did have a noticeably higher rate of fire than standard P.08 Lugers due to the greater stability of the gun.

See page 12 for bullet terminology information.

Remington Case Gun Universal Receiver .754 Max Case Length H-S Precision test barrel Barrel .744 Trim to Length Length 4" with 1:10" twist 1.169 Primer Winchester Small Pistol Max OAL

Maximum Average Pressure (MAP) 35,000 psi



14

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

1202

27100

STOP

*Compressed load.

5.1

17600

16800

STOP

*Compressed load.

1135

acknowledges,

appreciates and

accepts the fact that

reloading can be a

dangerous activity

which can result in

serious injury.

Over All Length

See page 13 for

greatly.

increases pressure

O.A.L. in our testing.

9mm Luger

.355" Dia. 90 grain Sectional Density .102

Ballistic Coefficient
Ctg. Overall Length



			The same of	
	Hornady HP/XTP	Nosler HP	Sierra JHP	Speer Gold Dot
1	.099	.086	.110	.101
1	1.080	1.050	1.010	1.050



BULLET	PAGE
Hornady HP/XTP	Jacketed16-17
	Jacketed18-19
Sierra JHP	Jacketed20-21
Speer Gold Dot	Plated22-23

Reducing Cartridge Over All Length increases pressure greatly.

See page 12 for bullet terminology information.

Gun	Universal Receiver	Case	Remington
Barrel	H-S Precision test barrel	Max Case Length	.754
Length	4" with 1:10" twist	Trim to Length	.744
Primer	Winchester Small Pistol	Max OAL	1.169
	n	(MAD) 25 000 mg	

Maximum Average Pressure (MAP) 35,000 psi

This Chinese "Bolo" Broomhandle Mauser has been fitted with a wooden holster/buttstock. China imported Broomhandles by the millions in an effort to circumvent the arms embargo imposed upon them in the first part of the century. The "Bolo" Mausers are of Russian origin ("Bolo" is short for Bolshevik). Russian forces of all stripes found themselves in the employ of Chinese warlords after The October Revolution. Since the Broomhandle was their handgun of choice they were more than happy to train Chinese troops in their use. Chinese Broomhandles began to appear in the United States in the mid-eighties. The quality of these guns varies drastically, since many of these were copied by hand from Russian and European guns—some with an amazing level of craftsmanship.

Accurate



		ccura Arms No. 2	S
	Charge in grains	psi	fps
		STOP	
	6.4	35000	1436
Use extreme	6.3	34400	1423
<u>caution</u> when	6.2	33800	1410
loading in the Yellow	6.1	33300	1397
or Red zones.	6.0	32700	1385
zones.	5.9	32200	1372
	5.8	31600	1359
All	5.7	31000	1346
pressures are listed	5.6	30500	1334
in psi not C.U.P.	5.5	29900	1321
See	5.4	29400	1308
page 4.	5.3	28800	1295
	5.2	28300	1283
	5.1	27700	1270
	5.0	27100	1257
here	4.9	26600	1244
t.	4.8	26000	1232
start	4.7	25500	1219
		STOP	Sec.

Charge in grains		
Charge in grains 7.6	psi STOP	
in grains	psi STOP	fps
	25(YY)	T
		1376
7.5	34000	1360
7.4	33100	1344
7.3	32200	1329
7.2	31300	1313
7.1	30400	1297
7.0 .	29400	1282
6.9	28500	1266
6.8	27600	1250
6.7	26700	1235
6.6	25800	1219
6.5	24800	1203
6.4	23900	1188
6.3	23000	1172
6.2	22100	1156
6.1	21200	1141
	7.3 7.2 7.1 7.0 6.9 6.8 6.7 6.6 6.5 6.4 6.3 6.2	7.4 33100 7.3 32200 7.2 31300 7.1 30400 7.0 29400 6.9 28500 6.8 27600 6.7 26700 6.6 25800 6.5 24800 6.4 23900 6.3 23000 6.2 22100

	1	Arms No. 7		
	Charge in grains		fps	
		STOP		
	9.5	35000	1366	
	9.4	34300	1353	
	9.3	33600	1341	
Ī	9.2	32900	1329	
	9.1	32200	1317	
	9.0	31600	1305	
	8.9	30900	1293	
	8.8	30200	1281	
	8.7	29500	1269	
	8.6	28800	1257	
	8.5	28200	1245	
	8.4	27500	1232	
	8.3	26800	1220	
	8.2	26100	1208	
	8.1	25400	1196	
	8.0	24800	1184	boro
lere	7.9	24100	1172	
3	7.8	23400	1160	tota
star	7.7	22700	1148	
ı		STOP		

	Charge in grains 9.2 9.1 9.0 8.9		fps 1335 1323 1311
	9.2 9.1 9.0	STOP 23100 22700	1335
*	9.1 9.0	23100 22700	1323
	9.0		
		22300	1211
	8.9	The state of the s	1311
- 1		21900	1300
	8.8	21500	1288
	8.7	21100	1276
	8.6	20800	1265
	8.5	20400	1253
	8.4	20000	1241
	8.3	19600	1230
	8.2	19200	1218
	8.1	18800	1206
	8.0	18500	1195
	7.9	18100	1183
	7.8	17700	1171
here	7.7	17300	1160
he	7.6	16900	1148
start	7.5	16600	1137
		STOP	
	*Com	pressed	load.

Alliant

		Allian ullse					
	Charge in grains	e psi	fps				
		STOP					
	5.1	35000	1363				
	5.0	33700	1344	<u>Use</u> extreme			
200	4.9	32500	1326	caution			
	4.8	31300	1307	when loading in			
	4.7	30100	1289	the Yellow or Red			
	4.6	28900	1271	zones.			
	4.5	27600	1252				
	4.4	26400	1234	All			
ere	4.3	25200	1215	pressures			
here	4.2	24000	1197	are listed in psi not			
start	4.1	22800	1179	C.U.P. See			
	page 4.						
Reducing Cartridge							
	Troducing Cartilage						

Over All Length

See page 15 for

greatly.

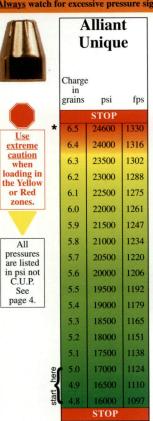
increases pressure

O.A.L. in our testing.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs $_{\text{\tiny TM}}$. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

16



*Compressed load.

	odgdo HS-6				IMR 700X	
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
7.9	35000	1410	*	5.1	35000	1371
7.8	33900	1392		5.0	33500	1350
7.7	32900	1374		4.9	32100	1329
7.6	31800	1356		4.8	30700	1309
7.5	30800	1338		4.7	29300	1288
7.4	29800	1320		4.6	27900	1268
7.3	28700	1302		4.5	26400	1247
7.2	27700	1284		4.4	25000	1226
7.1	26700	1266	here	4.3	23600	1206
7.0	25600	1248	•	4.2	22200	1185
6.9	24600	1230	start	4.1	20800	1165
6.8	23600	1213			STOP	
	STOP			*Con	npressed	load.

	Charge		
	in grains		fps
	A NA	STOP	
	5.4	35000	1346
	5.3	33700	1327
1	5.2	32400	1309
	5.1	31100	1291
e.	5.0	29800	1272
tart here	4.9	28500	1254
star	4.8	27200	1236
		STOP	

Winchester



See

page 4.

Reducing Cartridge Over All Length increases pressure greatly. See page 15 for O.A.L. in our testing. WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

5.8

5.7

5.5

5.4

5.3

5.2

5.1

4.9

4.7

33500

32800

32100

31400

30700 | 131

30000 129

29200 128

28500 127

27800 | 126

27100

26400 123

25700 122

25000

24300 119

136

134

133

132

124

caution

when loading in

the Yellow

or Red zones.

All

pressures

are listed

in psi not C.U.P.

See

page 4.

Accurate

Use

extreme

caution when

loading in

the Yellow

or Red

All

are listed

in psi not C.U.P.

See

page 4.

pressures



		1 1	Arms No. 5	
ps		Charge in grains		fps
			STOP	
7		7.5	35000	1362
4		7.4	34000	1345
1		7.3	33000	1329
9		7.2	32000	1313
6		7.1	31000	1297
4		7.0	30000	1281
1		6.9	29000	1265
9		6.8	28000	1249
6		6.7	27000	1232
4		6.6	26000	1216
1		6.5	25000	1200
9		6.4	24000	1184
6	here	6.3	23000	1168
4	<	6.2	22000	1152
1	start	6.1	21100	1136
9			STOP	
			/	

		Arms No.7	1	
	Charge in grains	psi	fps	
		STOP		
*	9.6	33100	1365	
	9.5	32500	1352	
	9.4	31900	1340	
	9.3	31400	1328	
	9.2	30800	1316	
4	9.1	30200	1304	
	9.0	29700	1292	
	8.9	29100	1280	
	8.8	28600	1267	
	8.7	28000	1255	
	8.6	27400	1243	
	8.5	26900	1231	
	8.4	26300	1219	
	8.3	25700	1207	
	8.2	25200	1195	
ere	8.1	24600	1182	horo
₹	8.0	24100	1170	
start	7.9	23500	1158	petor

STOP

*Compressed load.

		Blue	
		Dot	
	Charge	e	
	in grains	psi	fps
		STOP	
*	9.2	23800	1335
	9.1	23400	1323
	9.0	23000	1312
	8.9	22600	1300
	8.8	22200	1289
	8.7	21800	1277
	8.6	21400	1266
	8.5	21000	1254
	8.4	20600	1243
	8.3	20200	1231
	8.2	19800	1220
	8.1	19400	1208
	8.0	19000	1197
	7.9	18600	1185
	7.8	18200	1174
here	7.7	17800	1162
3	7.6	17400	1151
star	7.5	17000	1140
		STOP	
	*Con	pressed	load.

Alliant

	CI		
	Charge in grains	psi	fps
		STOP	
	5.0	32500	1333
	4.9	31400	1313
	4.8	30300	1293
1	4.7	29200	1273
1	4.6	28100	1253
	4.5	27000	1233
	4.4	25900	1213
	4.3	24800	1193
<i< td=""><td>4.2</td><td>23700</td><td>1173</td></i<>	4.2	23700	1173
	4.1	22700	1153
		STOP	

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 15 for

greatly.

Alliant

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

18



	odgdo HS-6				IMR 700X	
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
8.0	35000	1392	*	5.0	32300	1345
7.9	34100	1377		4.9	30900	1322
7.8	33300	1363		4.8	29500	1300
7.7	32500	1349		4.7	28100	1278
7.6	31700	1334		4.6	26700	1256
7.5	30800	1320		4.5	25300	1234
7.4	30000	1306		4.4	23900	1212
7.3	29200	1291	here	4.3	22500	1190
7.2	28400	1277	•	4.2	21100	1168
7.1	27500	1263	start	4.1	19800	1146
7.0	26700	1248			STOP	
6.9	25900	1234		*Cor	npressed	load.
6.8	25100	1220				
	STOP					

- 1			
	Charge in grains	psi	fps
		STOP	
	5.4	35000	1335
	5.3	33600	1316
1	5.2	32300	1298
	5.1	30900	1280
ere	5.0	29600	1261
start here	4.9	28200	1243
star	4.8	26900	1225
		STOP	

Winchester

231



are listed in psi not C.U.P. See page 4.

Reducing Cartridge Over All Length increases pressure greatly. See page 15 for O.A.L. in our testing. WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs $_{\text{\tiny TM}}$. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

19

Reducing Cartridge Over All Length STOP increases pressure *Compressed load. greatly. STOP See page 15 for *Compressed load. O.A.L. in our testing.

1241

7.8

18700

17900

8.4

27800

STOP

mum load must never be exceeded. Obey the stop bars. The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a

dangerous activity

which can result in

serious injury.

20

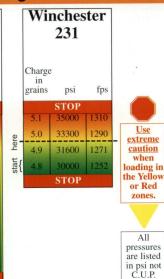
4.8

28000

27400



	odgdo HS-6				IMR 700 X	
Charge in grains	e psi	fps		Charge in grains	psi	fps
	STOP				STOP	
7.6	35000	1377	*	5.0	33200	1354
7.5	33700	1357		4.9	31800	1331
7.4	32500	1337		4.8	30500	1309
7.3	31300	1318		4.7	29200	1287
7.2	30100	1298		4.6	27900	1264
7.1	28900	1278		4.5	26600	1242
7.0	27700	1259		4.4	25300	1220
6.9	26500	1239	e e	4.3	24000	1197
6.8	25300	1220	here	4.2	22700	1175
	STOP		start	4.1	21400	1153
	and the same		0,		STOP	
				*Cor	npressed	load.



WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Reducing Cartridge
Over All Length
increases pressure
greatly.
See page 15 for
O.A.L. in our testing.

See

page 4.

Use

All

See

page 4.



			ccura Arms No. 2	5
		Charge in grains		fŗ
			STOP	
Use		5.8	35000	134
extreme		5.7	34100	133
caution when		5.6	33300	132
loading in the Yellow	-	5.5	32400	131
or Red		5.4	31600	129
zones.		5.3	30700	128
		5.2	29900	127
All		5.1	29000	126
pressures are listed		5.0	28200	124
in psi not C.U.P.		4.9	27300	1230
See		4.8	26500	122
page 4.	here	4.7	25600	121
	N	4.6	24800	1198
	start	4.5	24000	1180
			STOP	

	A	ccura	ite				
	1	Arms					
	No. 5						
	Charge in grains psi fps						
		STOP					
	7.5	35000	1364				
	7.4	34000	1348				
	7.3	33100	1332				
	7.2	32100	1317				
	7.1	31200	1301				
	7.0	30200	1286				
	6.9	29300	1270				
	6.8	28400	1255				
	6.7	27400	1239				
	6.6	26500	1223				
	6.5	25500	1208				
	6.4	24600	1192				
here	6.3	23600	1177				
3	6.2	22700	1161				
sta	6.1	21800	1146				
		STOP					

	Arms No. 7						
	Charge in grains		fps				
		STOP					
	9.5	35000	1361				
	9.4	34300	1348				
	9.3	33700	1336				
	9.2	33000	1324				
	9.1	32400	1312				
	9.0	31800	1300				
	8.9	31100	1288				
	8.8	30500	1275				
	8.7	29900	1263				
	8.6	29200	1251				
	8.5	28600	1239				
	8.4	28000	1227				
	8.3	27300	1215				
	8.2	26700	1203				
	8.1	26100	1190				
	8.0	25400	1178				
nere	7.9	24800	1166				
3	7.8	24200	1154				
start	7.7	23500	1142				

STOP

Accurate Arms No. 7			Alliant Blue Dot				
harge in rains	psi	fps		Charge in grains	psi	fps	
	STOP				STOP		
9.5	35000	1361	*	9.0	24900	1335	
9.4	34300	1348		8.9	24400	1322	
9.3	33700	1336		8.8	23900	1310	
9.2	33000	1324		8.7	23500	1297	
9.1	32400	1312		8.6	23000	1285	
9.0	31800	1300		8.5	22600	1273	
8.9	31100	1288		8.4	22100	1260	
8.8	30500	1275		8.3	21700	1248	
8.7	29900	1263		8.2	21200	1235	-
8.6	29200	1251		8.1	20800	1223	
8.5	28600	1239		8.0	20300	1211	
8.4	28000	1227		7.9	19900	1198	
8.3	27300	1215		7.8	19400	1186	
8.2	26700	1203	here	7.7	19000	1173	
8.1	26100	1190		7.6	18500	1161	
8.0	25400	1178	start	7.5	18100	1149	
7.9	24800	1166			STOP		
7.8	24200	1154		*Com	pressed	load.	
7.7	23500	1142					

	Alliant Bullseye			
	Charge in grains	e psi	fps	
		STOP		
	5.0	35000	1334	-
	4.9	33700	1312	
	4.8	32400	1290	
	4.7	31100	1269	1
	4.6	29800	1247	t
	4.5	28500	1225	L
	4.4	27200	1204	
9	4.3	25900	1182	Г
start, here	4.2	24600	1160	
start	4.1	23300	1139	
		STOP		

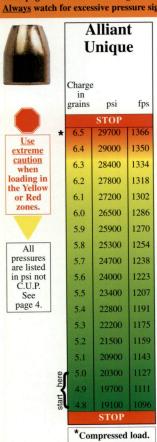
greatly.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme Manual" for addicaution tional important when loading in information regarding the controlled or Red zones. laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

Reducing Cartridge Over All Length increases pressure See page 15 for O.A.L. in our testing.

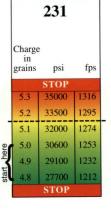
The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

22



Hodgdon HS-6					IMR 700 X	
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
8.0	33000	1383	*	4.9	35000	1337
7.9	32100	1366		4.8	33300	1313
7.8	31200	1349		4.7	31700	1289
7.7	30300	1333		4.6	30000	1265
7.6	29400	1316		4.5	28400	1241
7.5	28500	1299		4.4	26800	1217
7.4	27600	1283	here	4.3	25100	1193
7.3	26700	1266	Pe	4.2	23500	1169
7.2	25800	1249	start	4.1	21900	1146
7.1	24900	1233			STOP	
7.0	24000	1216		*Cor	npressed	load.
6.9	23100	1199				
6.8	22300	1183				
	STOP					

IMR 700 X				Wil	nches 231	ter
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
4.9	35000	1337		5.3	35000	1316
4.8	33300	1313		5.2	33500	1295
4.7	31700	1289	1	5.1	32000	1274
4.6	30000	1265	9	5.0	30600	1253
4.5	28400	1241	here	4.9	29100	1232
4.4	26800	1217	start	4.8	27700	1212
4.3	25100	1193			STOP	
4.2	23500	1169				
4.1	21900	1146				
NEW T	STOP					
			1			





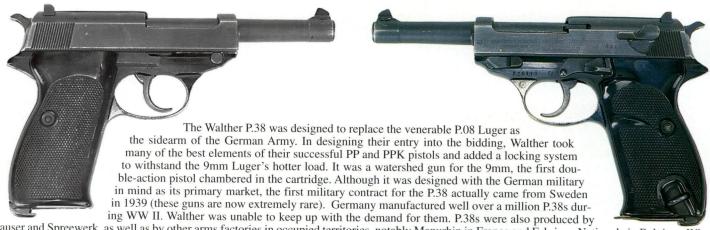
All pressures are listed in psi not C.U.P. See page 4.

> Reducing Cartridge Over All Length increases pressure greatly. See page 15 for O.A.L. in our testing.

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.



Mauser and Spreewerk, as well as by other arms factories in occupied territories, notably Manurhin in France and Fabrique Nationale in Belgium. When the Russians swept into Germany at the end of the war, they seized thousands of P.38s and immediately put them to use after the war in the hands of

East German police forces.

American forces treated the P.38s they took from captured soldiers as trophies and souvenirs and the influx of these guns in the years after the war was one of the key events in popularizing the 9mm in The United States. Thousands of P.38 were taken and many of these filtered to the civilian public through pawnshops and gun shows during the fifties. This influx repeated itself when the West German police retired the P.38 in the mid-eighties and importers brought the trade-ins to the United States. Many P.38s available to collectors in America are of the Manurhin wartime issue, since most of the Walther and Mauser models were used on the Russian front and later found their way into the hands of Communist Bloc security forces. The P.38 did not cease production after the collapse of the Third Reich. In 1951, Manurhin entered into a license agreement with Walther to produce PP and PPK pistols and tooled up to make the P.38 as well, but were unable to find an adequate steel heat treatment for the materials to make the gun and never entered commercial production. By this time, though, Walther had rebuilt its manufacturing capabilities in Germany and resumed production of the P.38. Walther continued to produce them well into the 1990s and it has been widely used by police forces across Europe. Walther has also chambered the P.38 in .30 Luger and .22 LR. A promised P.38 in .45 caliber never appeared.

Remington

.754

.744

1.169

9mm Luger

.355" Dia. 95 grain Sectional Density .108









Control of the Contro	The same of the sa	Name of the last o	
Remington FMJ	Sierra FMJ	Speer FMJ	Winchester FMJ
N/A	.114	.131	N/A
1.060	1.020	1.040	1.070

	FMJ	FMJ	FMJ	FINIS
Ballistic Coefficient	N/A	.114	.131	N/A
Ctg. Overall Length	1.060	1.020	1.040	1.070

BULLET		PAGE
Remington FMJ		
Sierra FMJ	Jacketed	28-29
Speer TMJ	Plated	30-31
Winchester FMJ	Jacketed	32-33

See page 12 for bullet termino	ology information.
--------------------------------	--------------------

Gun Barrel Length

Primer

Universal Receiver H-S Precision test barrel

4" with 1:10" twist

Winchester Small Pistol

Case **Max Case Length**

Trim to Length Max OAL

Maximum Average Pressure (MAP) 35,000 psi

Reducing Cartridge Over All Length increases pressure greatly.

extreme

caution when

loading in the Yellow

or Red

zones.

All

pressures

are listed

in psi not C.U.P.

See

page 4.



Use

extreme

caution when

loading in the Yellow

or Red

All pressures

are listed

in psi not C.U.P.

See page 4.

	Accurate Arms No. 2				
	Charge in grains		fp		
		STOP			
	5.7	35000	1341		
	5.6	34000	1326		
	5.5	33000	1311		
	5.4	32000	1297		
	5.3	31100	1282		
	5.2	30100	1268		
	5.1	29100	1253		
	5.0	28100	1238		
	4.9	27200	1224		
	4.8	26200	1209		
here	4.7	25200	1195		
•	4.6	24200	1180		
start	4.5	23300	1166		
		STOP			

	Accurate Arms No. 5			
	Charg in grains		fps	
		STOP	1 6	١
	7.4	35000	1338	١
	7.3	33900	1320	
	7.2	32800	1302	Ī
	7.1	31800	1284	
	7.0	30700	1266	l
	6.9	29600	1248	
	6.8	28600	1230	
	6.7	27500	1213	
	6.6	26400	1195	
	6.5	25400	1177	
	6.4	24300	1159	
	6.3	23200	1141	
ere	6.2	22200	1123	
3	6.1	21100	1105	
stari	6.0	20100	1088	
		STOP	10000	

	A	ccura Arm No. 7	s	
	Charg in grains		fps	
		STOP		
	9.5	35000	1348	
	9.4	34300	1336	
	9.3	33600	1324	
	9.2	33000	1312	
	9.1	32300	1300	
ı	9.0	31700	1289	
	8.9	31000	1277	
	8.8	30400	1265	
	8.7	29700	1253	
	8.6	29100	1242	
	8.5	28400	1230	
1	8.4	27800	1218	
١	8.3	27100	1206	
	8.2	26500	1195	
	8.1	25800	1183	
1	8.0	25200	1171	
	7.9	24500	1159	
	7.8	23900	1148	
		STOP		

	Blue Dot		
	Charg in grains		fps
		STOP	
*	9.7	27400	1382
	9.6	26900	1370
	9.5	26400	1358
	9.4	25900	1346
	9.3	25500	1334
	9.2	25000	1322
	9.1	24500	1310
	9.0	24000	1299
	8.9	23600	1287
	8.8	23100	1275
	8.7	22600	1263
	8.6	22100	1251
	8.5	21700	1239
	8.4	21200	1228
	8.3	20700	1216
here	8.2	20200	1204
ع لي	8.1	19800	1192
sta	8.0	19300	1180
	V 201/06	STOP	
L	*Com	pressed l	oad.

Alliant

	Alliant Bullseye							
fps		Chargo in grains	psi	fps				
882			STOP					
		5.0	35000	1325	_			
370		4.9	33700	1306				
58		4.8	32400	1287				
46		4.7	31200	1268	lo			
34	e e	4.6	29900	1249	th			
22	here	4.5	28600	1230	L			
10	start	4.4	27400	1211				
99			STOP					
87					p			
75					a			
63					111			
51								
39								
28								
16	Г	Rodu	oina C	o whaled				
)4		Over /	cing C All Ler	arındç ıgth	jе			

increases pressure

O.A.L. in our testing.

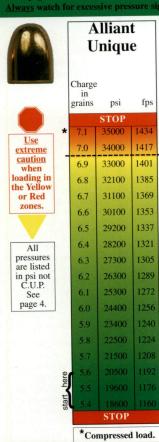
See page 25 for

greatly.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of $MidwayUSA_{\mathbb{R}}$ (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

26



Hodgdon HS-6					IMR 700X	
Charge in grains	e psi	fps		Charge in grains	psi	fps
	STOP				STOP	11242
7.7	35000	1354	*	5.2	35000	1342
7.6	33900	1338		5.1	33900	1323
7.5	32900	1322		5.0	32800	1304
7.4	31800	1306		4.9	31700	1285
7.3	30800	1291		4.8	30600	1266
7.2	29800	1275		4.7	29600	1247
7.1	28700	1259		4.6	28500	1228
7.0	27700	1244		4.5	27400	1209
6.9	26600	1228		4.4	26300	1190
6.8	25600	1212		4.3	25200	1171
6.7	24600	1197		4.2	24200	1152
	STOP			4.1	23100	1133
			ø	4.0	22000	1114
			here	3.9	20900	1095
			start	3.8	19900	1077
					STOP	
				*Co	mpressed	l load.

		231	
	Charge in grains		fps
	11.39	STOP	
1	5.4	35000	1307
	5.3	33600	1287
1	5.2	32200	1268
	5.1	30800	1248
-	5.0	29500	1229
	4.9	28100	1209
e	4.8	26700	1190
tart here	4.7	25300	1170
start	4.6	24000	1151
		STOP	

Winchester



in psi not C.U.P.

page 4.

greatly.

Reducing Cartridge

increases pressure

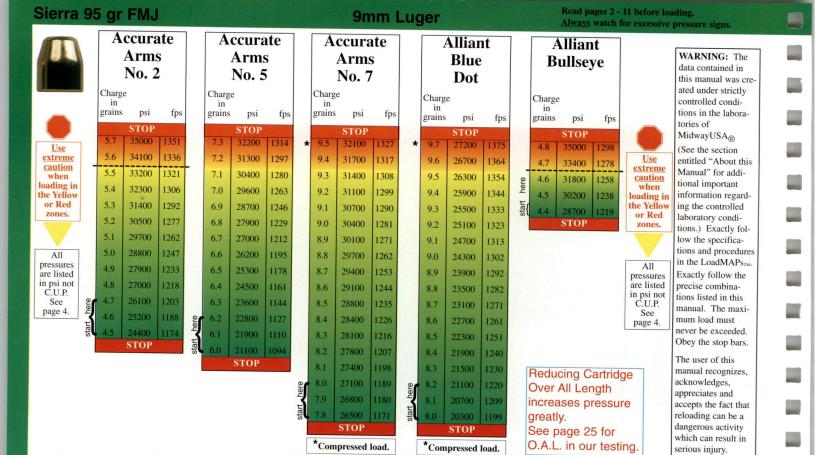
O.A.L. in our testing.

Over All Length

See page 25 for

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

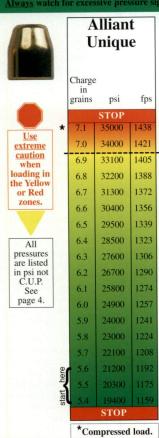
The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.



28

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

serious injury



start, here

	Hodgdon HS-6					IMR 700X	
	Charge in grains	psi	fps		Charge in grains	psi	fps
١		STOP				STOP	1001
1	7.6	35000	1353	*	5.2	29700	1321
	7.5	34000	1337		5.1	28900	1303
1	7.4	33000	1322		5.0	28200	1286
	7.3	32100	1307		4.9	27500	1269
	7.2	31100	1292		4.8	26800	1252
	7.1	30200	1276		4.7	26000	1235
	7.0	29200	1261		4.6	25300	1218
	6.9	28300	1246		4.5	24600	1201
Į	6.8	27300	1231		4.4	23900	1184
l	6.7	26400	1216		4.3	23200	1167
		STOP			4.2	22400	1150
					4.1	21700	1133
				here	4.0	21000	1116
				<	3.9	20300	1099
				start	3.8	19600	1082
						STOP	
					*Con	npressed	load.

	Winchester 231							
	Charge in grains		fps					
		STOP						
	5.2	35000	1302					
	5.1	33500	1280					
7	5.0	32100	1258					
	4.9	30700	1237					
e	4.8	29200	1215					
Jhere	4.7	27800	1193					
Start	4.6	26400	1172					
		STOP						





pressures

are listed

in psi not C.U.P.

See

page 4.

Reducing Cartridge Over All Length increases pressure greatly.

O.A.L. in our testing.

See page 25 for

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of $MidwayUSA_{\mathbb{R}}$ (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

1233

1223

1213

1204

1194

1184

1175

8.8

8.7

8.6

8.5

8.4

8.3

8.2

8.1

24300

23800

23400

22900

22500

22000

21100

20700

STOP

*Compressed load.

1286

1275

1263

1251

1240

1228

28600

28100

27600

27200

26700

26200

25800

25300

STOP

in psi not C.U.P. See page 4.

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 25 for

greatly.

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

30

in psi not C.U.P.

See

page 4.

4.9

4.8

4.7

4.6

26800

25900

25000

24100

23200

STOP

1208

1195

1181

1168

6.4

6.3

6.2

6.1

25400

24300

23300

22200

21200

STOP

1167

1150

1116

1099

8.6

8.5

8.4

8.3

8.2

8.1

8.0



He			IMR 700X			
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
7.6	33100	1350	*	4.9	35000	1326
7.5	32200	1332		4.8	33300	1300
7.4	31300	1315	1	4.7	31600	1274
7.3	30400	1298		4.6	29900	1248
7.2	29500	1281		4.5	28200	1222
7.1	28600	1263		4.4	26500	1196
7.0	27700	1246		4.3	24900	1170
6.9	26800	1229		4.2	23200	1144
6.8	25900	1212		4.1	21500	1118
6.7	25000	1195	e e	4.0	19800	1092
	STOP		here	3.9	18100	1066
			start	3.8	16500	1041
			-		STOP	
				*Cor	npressed	load.

	Charge in	•	
	grains	psi	fps
		STOP	
	5.2	35000	1286
	5.1	33500	1268
1	5.0	32000	1251
	4.9	30500	1233
9	4.8	29000	1216
tart	4.7	27500	1198
Star	4.6	26100	1181
		STOP	

Winchester



are listed

in psi not C.U.P. See page 4.

Reducing Cartridge Over All Length increases pressure greatly. See page 25 for O.A.L. in our testing. WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Accurate

WARNING: The



		Arms No. 2				
		Charge in grains	psi	fp		
			STOP			
Use		5.7	35000	1348		
<u>Use</u> extreme		5.6	34000	1333		
caution when	1	5.5	33100	1318		
loading in the Yellow		5.4	32200	1304		
or Red		5.3	31200	1289		
zones.		5.2	30300	1274		
		5.1	29400	1260		
All		5.0	28400	1245		
pressures are listed		4.9	27500	1230		
in psi not		4.8	26600	1216		
C.U.P. See	here	4.7	25600	1201		
page 4.	_5	4.6	24700	1186		
	star	4.5	23800	1172		
			STOP			

	Accurate Arms No. 5								
	Charge in grains psi f								
	7.4	STOP 35000	1334						
	7.3	33900	1317						
	7.2	32900	1300						
	7.1	31800	1283						
	7.0	30800	1266						
	6.9	29800	1250						
	6.8	28700	1233						
	6.7	27700	1216						
	6.6	26700	1199						
	6.5	25600	1182						
	6.4	24600	1166						
	6.3	23600	1149						
here	6.2	22500	1132						
ty t	6.1	21500	1115						
star	6.0	20500	1099						

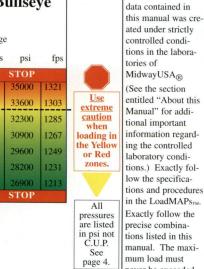
STOP

Arms No. 7 Charge in grains psi fps STOP 9.5 32400 1334		Alliant			
in grains psi fps STOP			Blue Dot		
		Charge in grains	psi	fj	
* 9.5 32400 1334			STOP		
	*	9.7	26500	137	
9.4 31900 1323		9.6	26100	136	
9.3 31400 1313		9.5	25700	135	
9.2 30900 1302		9.4	25300	134	
9.1 30400 1292		9.3	24900	133	
9.0 29900 1281		9.2	24500	132	
8.9 29400 1271		9.1	24100	131	
8.8 28900 1261		9.0	23700	130	
8.7 28400 1250		8.9	23300	129	
8.6 28000 1240		8.8	22900	128	
8.5 27500 1229		8.7	22500	127	
8.4 27000 1219		8.6	22100	126	
8.3 26500 1209		8.5	21700	125	
8.2 26000 1198		8.4	21300	124	
8.1 25500 1188		8.3	20900	123	
8.0 25000 1177	here	8.2	20500	122	
(1.9 24300 1107		8.1	20100	121	
7.8 24100 1157	start	8.0	19700	120	
STOP			STOP		
*Compressed load.		*Con	pressed	load	

P	Allian	t		_	Allian		
	Blue			В	ullse	ye	
	Dot						
Charge in grains	e psi	fps		Charge in grains	e psi	fps	
	STOP				STOP		
9.7	26500	1372		5.0	35000	1321	
9.6	26100	1362		4.9	33600	1303	e
9.5	25700	1352		4.8	32300	1285	C
9.4	25300	1342		4.7	30900	1267	loa
9.3	24900	1332	here	4.6	29600	1249	the
9.2	24500	1322		4.5	28200	1231	
9.1	24100	1312	start	4.4	26900	1213	
9.0	23700	1303			STOP		
8.9	23300	1293					pı
8.8	22900	1283					in
8.7	22500	1273					1
8.6	22100	1263					F
8.5	21700	1253					
8.4	21300	1244					
8.3	20900	1234		Redu	icing C	artrid	ge
8.2	20500	1224			All Le		
8.1	20100	1214		incre	ases p	ressu	ire
8.0	19700	1204		great	tly.		

See page 25 for

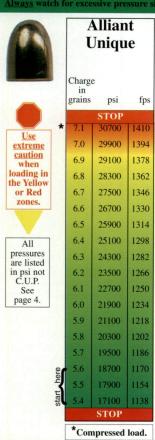
O.A.L. in our testing.



The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

never be exceeded. Obey the stop bars.

32



H	odgd HS-6			IMR 700X		
Charg in grains		fps		Charge in grains	e psi	fps
	STOP				STOP	
7.6	35000	1347	*	4.9	31900	1309
7.5	33800	1330		4.8	30700	1288
7.4	32600	1314		4.7	29500	1267
7.3	31400	1298		4.6	28300	1247
7.2	30200	1282		4.5	27100	1226
7.1	29000	1266		4.4	25900	1205
7.0	27800	1250		4.3	24700	1185
6.9	26600	1234		4.2	23500	1164
6.8	25400	1218		4.1	22300	1143
6.7	24300	1202	9	4.0	21100	1123
	STOP		here	3.9	19900	1102
			start	3.8	18800	1082
					STOP	
				*Con	pressed	load.

	Winchester 231		
	Charge in grains	psi	fps
		STOP	D. LO
	5.4	35000	1313
	5.3	33700	1295
1	5.2	32500	1278
	5.1	31300	1260
	5.0	30100	1243
	4.9	28800	1226
ere	4.8	27600	1208
here	4.7	26400	1191
star	4.6	25200	1174
		STOP	



page 4.

Reducing Cartridge Over All Length increases pressure greatly. See page 25 for O.A.L. in our testing.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.





The Browning High Power was the last pistol designed by John Browning, but a great deal of the credit for the design that eventually went into production can be assigned to Dieudonne Saive, who modified the gun over the course of a decade at the whims of the French Military. The French were pleased with the first version of the gun presented to them in 1922, but they had three objections (four, if you count the fact that they wanted a French-designed gun): it lacked an indicator that the gun was loaded or cocked, it was too heavy, and it was too difficult to strip in the field. Most of Saive's modification addressed these issues. He shortened the gun and reduced the size of the magazine from 15 rounds to 13 to make it lighter, and he redesigned the magazine and the safety to meet the other requirements the French imposed. These sorts of modifications continued for years as the French constantly made it clear that they preferred the French-designed MAS 1932. However, Saive's tireless innovation eventually produced a winner in the FN Model 1935. Saive's pistol has been adopted by the militaries of numerous countries over the years, beginning with Belgium and France (who adopted a knockoff of FN's designs). Great Britain adopted the High Power during WW II. Germany captured FN when they swept through Belgium in 1940 and immediately began producing High Powers of their own for use as a substitute standard. The Browning Arms Co introduced the High Power to the American marketplace in the mid-fifties. By the mid-sixties, High Powers were being produced world wide, although in some countries with bans on civilian ownership of military firearms, they were re-chambered in 7.65 Luger because 9mm Luger was considered a military round. In the 1970s FN began producing double-action versions of the High Power, which were among the pistols tested by the United States Department of Defense. According to Browning, the single action High Power had been adopted as the official military or police sidearm in more than 68 countries

9mm Luger

.355" Dia. 100 grain Sectional

Density .113

Ballistic Coefficient
Ctg. Overall Length



	Hornady FMJ/RN	Speer HP
	.115	.111
П	1.105	1.050



BULLET		•••••	PAGE
Hornady F	MJ/RN	Jacketed	36
		Plated	

Reducing Cartridge Over All Length increases pressure greatly. This P.08 Luger has been fitted with a holster/buttstock, an extended barrel, and a 32-round snail magazine. The same snail magazine was also used on the MP18I, Germany's first true submachine gun, which made its debut in 1918. Collectors should be aware that P.08 Lugers fitted with wooden buttstocks are considered to be submachine guns by the BATF.

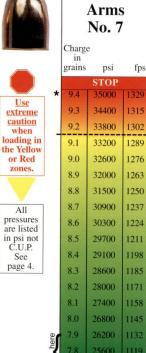
See page 12 for bullet terminology information.

Gun	Universal Receiver	Case	Remington
Barrel	H-S Precision test barrel	Max Case Length	.754
Length	4" with 1:10" twist	Trim to Length	.744
Primer	Winchester Small Pistol	Max OAL	1.169
	Maximum Average Pro	essure (MAP) 35,000 psi	

9mm Luger

Read pages 2 - 11 before loading. Always watch for excessive pressure signs.





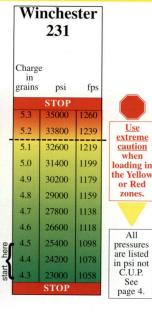
STOP

*Compressed load.

Alliant Bullseye Charge grains psi fps 1269 4.8 33600 1248 4.7 32300 1227 4.6 31000 1206 4.5 29600 1185 4.4 28300 1164 27000 1144 STOP

	Alliant Unique		
	Charge in grains		fps
		STOP	
*	5.9	23400	1185
	5.8	23000	1173
	5.7	22600	1161
	5.6	22300	1149
	5.5	21900	1137
	5.4	21500	1125
	5.3	21200	1113
	5.2	20800	1101
	5.1	20500	1089
	5.0	20100	1077
	4.9	19700	1065
nere	4.8	19400	1053
E	4.7	19000	1041
start	4.6	18700	1029
		STOP	
	*Com	pressed	load.

	Hodgdon HS-6		
	Charge in grains	psi	fps
		STOP	
	7.6	35000	1308
	7.5	34100	1293
	7.4	33200	1278
	7.3	32300	1264
	7.2	31400	1249
	7.1	30500	1235
	7.0	29600	1220
	6.9	28700	1206
	6.8	27800	1191
e	6.7	26900	1177
tart, here	6.6	26000	1162
Star	6.5	25200	1148
		STOP	



Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

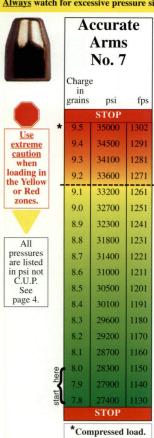
See page 35 for

greatly.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

36



	Alliant Bullseye			_	Allian Jniqu	
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
4.7	35000	1252	*	5.9	30400	1257
4.6	33500	1234		5.8	29700	1240
4.5	32000	1217		5.7	29100	1224
4.4	30500	1199		5.6	28500	1208
4.3	29100	1182		5.5	27900	1192
	STOP			5.4	27300	1176
				5.3	26700	1160
				5.2	26100	1143
				5.1	25500	1127
				5.0	24900	1111
				4.9	24300	1095
			e.	4.8	23700	1079
			start here	4.7	23100	1063
			start	4.6	22500	1047
					STOP	
				*Con	npressed	load.

	HS-6			
	Charge in grains		fps	
		STOP		
	7.3	35000	1290	
	7.2	33800	1272	
	7.1	32700	1254	
	7.0	31500	1237	
	6.9	30400	1219	
	6.8	29300	1201	
ere.	6.7	28100	1184	
t here	6.6	27000	1166	
star	6.5	25900	1149	
		STOP		

Hodgdon

		231	
	Charge in grains		fps
		STOP	
	5.1	35000	1253
	5.0	33800	1234
_ [4.9	32700	1216
	4.8	31500	1197
	4.7	30400	1179
	4.6	29200	1160
e.	4.5	28100	1142
t here	4.4	26900	1123
start	4.3	25800	1105
0,		STOP	

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 35 for

greatly.

Winchester

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regardloading in the Yellow or Red ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

Use

extreme

caution

when

zones.

All

pressures are listed

in psi not C.U.P.

See

page 4.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.





The 7.65mm C/93 Borchardt pistol on the right was the first commercially viable automatic pistol. This ungainly firearm was produced by Ludwig Lowe & Co. and first offered for sale in 1894. Hugo Borchardt's gun is the jumping-off point for the evolution of the automatic pistol. The Mauser C/96, or "Broomhandle" (pictured on the left), represents an early branching of that evolution. Mauser modified Borchardt's cartridge into a 7.63x25mm round, commonly known as .30 Mauser, and built their gun around it. The Mauser C/96 first appeared in 1895 and was a modest commercial success, but its failure in the military marketplace sent Georg Luger to the drawing board to develop his famed P.08. The Broomhandle saw its widest use in China. During the first part of the century, an arms embargo prevented the Chinese from importing rifles and machine guns, but allowed pistols. Since the Broomhandle was easily converted into a "rifle" by adding a wooden stock, the Broomhandle became the weapon of choice for Chinese militaries. These variants, known as "box cannons," saw extensive combat in the hands of Kuomintang Nationalists under Chiang Kai-Shek, Mao Tse Tung's communists, and in the numerous private armies of Chinese warlords. The Broomhandle's most famous owner was journalist/adventurer/soldier Winston Churchill, who used it during the Boer War and highly recommended the gun to the British military (they ignored him). The Broomhandle also found its way into the hands of the Russian Army. Russian Mausers are often referred to as "Bolo" Mausers, after the Bolshevik troops that carried them. The Russians tinkered with the round even further and their end product, the 7.62x25mm Tokarev, became the standard issue of the Communist Bloc.

9mm Luger

.355" *.357" Dia. 115 grain Sect













Sectional					القسطا	
Density .130	Hornady FMJ/RN	Hornady HP/XTP	MidwayUSA FMJ/RN	Nosler FMJ	Nosler HP	Nosler *P. P.
Ballistic Coefficient	.140	.129	N/A	.103	.110	.110
Ctg. Overall Length	1.140	1.100	1.165	1.115	1.055	1.055

Reducing Cartridge Over All Length increases pressure greatly.

Ballistic Coefficient Ctg. Overall Length

Ballistic Coefficient

Ctg. Overall Length



Remington

FMJ

N/A

1.160



Remington

JHP

N/A

1.115



FMJ

.132

1.130



JHP

.137

1.030





Speer JHP

.118

1.125

BULLET		PAGE
Hornady FMJ/RN	Jacketed	40-41
Hornady HP/XTP		
MidwayUSA FMJ/RN		
Nosler FMJ		
Nosler HP	Jacketed	48-49
Nosler *Practical Pistol	Jacketed	50-51
Remington FMJ		
Remington JHP	Jacketed	54-55
Sierra FMJ		
Sierra JHP		
Speer Gold Dot	Plated	60-61
Speer JHP	Plated	62-63
Speer TMJ	Plated	64-65
Winchester FMJ		
Winchester FMJ/HB	Jacketed	68-69
Winchester JHP	Jacketed	70-71
Winchester ST/HP	Jacketed	72-73



Speer

TMJ

.177

1.165



Winchester

FMJ

N/A

1.165



Winchester

FMJ/HB

N/A

1.169



JHP

N/A

1.120



ST/HP

N/A

1.130

.125

1.145

	Gun
	Barrel
_	Length
r	Prime

See page 12 for bullet terminology information. Remington Universal Receiver Case H-S Precision test barrel Max Case Length .754 Trim to Length .744

psi

fps

1187

1173

1159

1145

1131

1117

1103

1089

1075

1061

1047

1033

1019

1005

Use

extreme

caution when

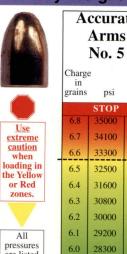
loading in

or Red

All

pressures are listed

page 4.



5.9

5.8

5.7

5.6

27500

26700

25900

25000

24200

23400

STOP



	-					
t		Alliant Unique				
ve			mqu	е		
		Charge in				
fps		grains	psi	fps		
			STOP			
1164	*	5.4	30800	1148		
1143		5.3	30000	1131		
1123		5.2	29300	1115		
1103		5.1	28500	1099		
1083		5.0	27800	1082		
1063		4.9	27000	1066		
1043		4.8	26300	1050		
1023		4.7	25500	1034		
1003		4.6	24800	1017		
983	here	4.5	24000	1001		
963	3	4.4	23300	985		
	star	4.3	22600	969		
			STOP			

*Compressed load.

	Hodgdon HS-6				
	Charge in grains		fps		
		STOP			
	6.9	33100	1195		
	6.8	32200	1178		
	6.7	31300	1162		
	6.6	30500	1145		
	6.5	29600	1129		
	6.4	28800	1113		
	6.3	27900	1096		
	6.2	27000	1080		
ere	6.1	26200	1063		
tart here	6.0	25300	1047		
star	5.9	24500	1031		
		STOP			



IMR

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

40

are listed

in psi not C.U.P.

See page 4.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 39 for

greatly.

fps

987

969

952

934

916

STOP

*Compressed load.

Use extreme

caution

when

loading in

or Red

zones.

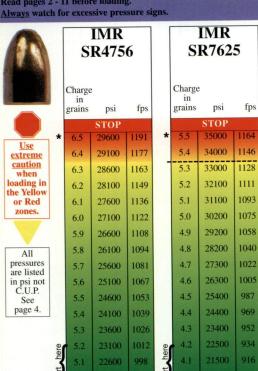
All

pressures

are listed in psi not C.U.P.

See

page 4.



STOP

*Compressed load.

		231	
	Charge in grains		fps
		STOP	
	4.6	35000	1117
	4.5	33800	1095
1	4.4	32700	1074
	4.3	31600	1053
	4.2	30500	1032
	4.1	29300	1011
1	4.0	28200	990
	3.9	27100	968
	3.8	26000	947
	3.7	24800	926
	3.6	23700	905
here	3.5	22600	884
•	3.4	21500	863
start	3.3	20400	842
		STOP	

	Wi	nches 540	ter		Wii	nches 571	ter
	Charge in grains	psi	fps		Charge in grains	psi	fps
		STOP				STOP	
	7.0	35000	1196		7.8	35000	1187
	6.9	33800	1179		7.7	34000	1171
Ī	6.8	32600	1163		7.6	33100	1156
	6.7	31400	1147		7.5	32100	1141
	6.6	30300	1131		7.4	31200	1126
e.e	6.5	29100	1115		7.3	30300	1111
start here	6.4	27900	1099		7.2	29300	1095
star	6.3	26800	1083		7.1	28400	1080
		STOP		e e	7.0	27400	1065
				here	6.9	26500	1050
				start	6.8	25600	1035

	Winchester 571							
	Charge in grains psi fps							
		STOP						
	7.8	35000	1187					
	7.7	34000	1171					
1	7.6	33100	1156					
	7.5	32100	1141					
	7.4	31200	1126					
	7.3	30300	1111					
	7.2	29300	1095					
-	7.1	28400	1080					
D.	7.0	27400	1065					
liere.	6.9	26500	1050					
Start	6.8	25600	1035					
		STOP						

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 39 for

greatly.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Use

extreme

caution

when

loading in the Yellow

or Red

All

are listed

in psi not C.U.P.

page 4.

pressures



Use extreme

caution

when

the Yellow or Red

zones.

All

pressures are listed

in psi not

C.U.P.

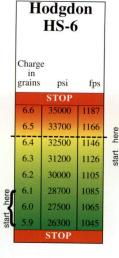
See

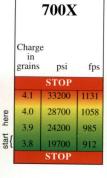
page 4.











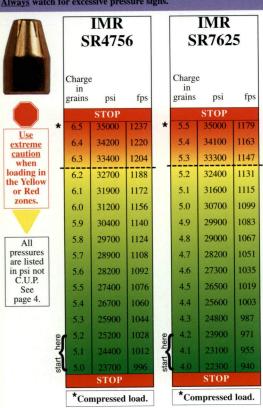
IMR

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Reducing Cartridge Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing.

42



Winchester 231				Wii	nches 540	ster
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
4.3	35000	1087		6.8	35000	1186
4.2	33600	1065		6.7	33600	1166
4.1	32200	1043	1	6.6	32200	1147
4.0	30900	1021	ē	6.5	30800	1127
3.9	29500	1000	start here	6.4	29400	1108
3.8	28200	978	start	6.3	28100	1089
3.7	26800	956			STOP	
3.6	25400	935				
3.5	24100	913				

	Winchester 571			
	Charge in grains	psi	fps	
		STOP		
	7.7	32600	1174	
	7.6	31900	1159	
	7.5	31300	1144	
	7.4	30600	1129	
	7.3	30000	1114	
	7.2	29300	1100	
	7.1	28700	1085	
2	7.0	28000	1070	
ł	6.9	27400	1055	
Stal	6.8	26800	1041	
		STOP		

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Use extreme Manual" for addicaution tional important when information regardloading in the Yellow ing the controlled or Red laboratory condizones. tions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} All Exactly follow the pressures are listed precise combinations listed in this manual. The maximum load must page 4. never be exceeded. Obey the stop bars.

Reducing Cartridge Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing. The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

21400

STOF

Hodgdon

Use

extreme

caution

when

loading in the Yellow or Red

zones.

All

pressures are listed

in psi not C.U.P.

See

page 4.

IMR

700X



zones.

All

pressures

are listed

in psi not C.U.P.

See page 4.

	A	ccura	te		
	Arms				
	No. 5 Charge in grains psi fps				
		STOP			
	6.9	35000	1191		
	6.8	34200	1178		
	6.7	33400	1165		
	6.6	32600	1153		
	6.5	31800	1140		
	6.4	31000	1127		
ı	6.3	30300	1115		
	6.2	29500	1102		
	6.1	28700	1090		
	6.0	27900	1077		
	5.9	27100	1064		
	5.8	26400	1052		
	5.7	25600	1039		
	5.6	24800	1026		
ere	5.5	24000	1014		
3	5.4	23200	1001		
star	5.3	22500	989		
		STOP	Test Tal		

	Alliant Bullseye				1	Allian Jniqu	
	Charg in grains		fps		Charge in grains	e psi	fp
		STOP				STOP	
	4.6	35000	1164	*	5.4	27900	110
	4.5	34000	1143		5.3	27100	109
	4.4	33000	1123		5.2	26300	107
	4.3	32000	1103		5.1	25500	1060
ı	4.2	31000	1083		5.0	24700	104
	4.1	30000	1063		4.9	23900	1028
	4.0	29000	1043		4.8	23200	1013
	3.9	28000	1023		4.7	22400	997
ı	3.8	27000	1003		4.6	21600	981
I	3.7	26000	983	e e	4.5	20800	965
	3.6	25000	963	here	4.4	20000	949
	3.5	24100	943	start	4.3	19300	934
		STOP				STOP	

Unique					HS-6	
Charge in grains	psi	fps		Charge in grains	psi	fps
5.4	STOP 27900	11108		6.9	32000	11176
5.3	27100	1092		6.8	31200	1176
5.2	26300	1076		6.7	30400	1143
5.1	25500	1060		6.6	29600	1127
5.0	24700	1044		6.5	28800	1110
4.9	23900	1028		6.4	28000	1094
4.8	23200	1013		6.3	27200	1078
4.7	22400	997		6.2	26400	1061
4.6	21600	981	e.	6.1	25600	1045
4.5	20800	965	here	6.0	24800	1029
4.4	20000	949	start	5.9	24100	1013
4.3	19300	934		B	STOP	
	STOP					
*Con	pressed	load.				

Charge grains fps STOI 32000 1147 4.3 31000 1126 30000 1105 4.1 29100 1084 4.0 28100 1063 3.9 27100 1042 3.8 26200 1021 3.7 25200 1000 3.6 24300 979 3.5 23300 958 22300 937 21400 20400 895 STOF Reducing Cartridge *Compressed load. Over All Length increases pressure

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

44

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

greatly.

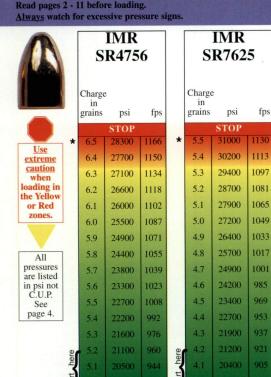
See page 39 for

O.A.L. in our testing.

when

All

See



STOF

*Compressed load.

*Compressed load.

		231	
	Charge in grains	psi	fps
		STOP	
1	4.6	35000	1111
	4.5	33800	1089
1	4.4	32600	1068
	4.3	31500	1046
	4.2	30300	1025
	4.1	29100	1003
	4.0	28000	982
	3.9	26800	960
	3.8	25700	939
	3.7	24500	917
	3.6	23300	896
e d	3.5	22200	874
here	3.4	21000	853
start	3.3	19900	832
		STOP	

		540		
	Charge in grains		fps	
		STOP		
	7.1	35000	1200	ľ
	7.0	33800	1182	
-	6.9	32700	1165	-
	6.8	31600	1148	
	6.7	30500	1131	
	6.6	29400	1114	
here	6.5	28300	1097	
	6.4	27200	1080	
start	6.3	26100	1063	
		STOP		

Winchester

- 1			
	Charge in grains	psi	fps
		STOP	
	7.9	31800	1173
	7.8	31100	1157
	7.7	30400	1142
	7.6	29700	1126
	7.5	29000	1111
	7.4	28300	1095
	7.3	27600	1080
	7.2	26900	1064
	7.1	26200	1049
ere	7.0	25500	1033
tart here	6.9	24800	1018
star	6.8	24100	1003
		STOP	

Winchester

571

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section Use extreme entitled "About this Manual" for addicaution tional important information regardloading in ing the controlled the Yellow or Red laboratory condizones. tions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinaare listed in psi not C.U.P. tions listed in this manual. The maximum load must page 4. never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing.

Reducing Cartridge



extreme caution

when

loading in the Yellow

or Red

zones.

All

pressures

are listed

in psi not C.U.P.

See

page 4.

	A	ccura	te			
		Arms				
		No. 5				
	Charge in					
	grains	psi	fp			
		STOP				
	6.9	35000	1197			
	6.8	34400	1185			
	6.7	33800	1173			
	6.6	33300	1161			
1	6.5	32700	1149			
	6.4	32100	1137			
	6.3	31600	1125			
	6.2	31000	1113			
	6.1	30500	1102			
	6.0	29900	1090			
	5.9	29300	1078			
	5.8	28800	1066			
	5.7	28200	1054			
	5.6	27600	1042			
ere	5.5	27100	1030			
Ť	5.4	26500	1018			
star	5.3	26000	1007			
		STOP				



	Alliant				
	Unique				
	Charge in grains		fps		
		STOP			
*	5.4	28900	1120		
	5.3	28200	1106		
	5.2	27500	1093		
	5.1	26800	1079		
	5.0	26200	1066		
	4.9	25500	1053		
	4.8	24800	1039		
	4.7	24100	1026		
	4.6	23500	1013		
9.	4.5	22800	999		
here	4.4	22100	986		
start	4.3	21500	973		
		STOP			
	*Con	pressed	load.		

	Hodgdon HS-6			
	Charge in grains	psi	fps	
		STOP		
	6.8	33000	1192	
	6.7	32000	1175	
4	6.6	31100	1158	
	6.5	30200	1142	
	6.4	29300	1125	
	6.3	28300	1108	
	6.2	27400	1092	
here	6.1	26500	1075	
t P	6.0	25600	1058	
star	5.9	24700	1042	
		STOP		

		700X		
	Charge in grains	psi	fps	
		STOP		
	4.2	31400	1123	
	4.1	30300	1101	Use extreme
	4.0	29200	1080	caution when
	3.9	28100	1058	loading in
	3.8	27100	1037	the Yellow or Red
	3.7	26000	1015	zones.
	3.6	24900	994	
	3.5	23800	972	All
	3.4	22800	951	pressures
here	3.3	21700	929	are listed in psi not
_	3.2	20600	908	C.U.P. See
star	3.1	19600	887	page 4.
		STOP		
	F-WALLS			

IMR

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

WARNING: The

Reducing Cartridge Over All Length increases pressure See page 39 for O.A.L. in our testing.

greatly.

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

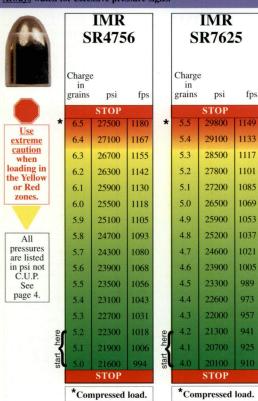
46

Use

zones.

All

See



		231	
	Charge in grains		fps
		STOP	
	4.6	35000	1119
	4.5	33700	1098
1	4.4	32500	1077
	4.3	31300	1057
	4.2	30000	1036
	4.1	28800	1015
	4.0	27600	995
	3.9	26300	974
	3.8	25100	954
	3.7	23900	933
	3.6	22600	912
nere	3.5	21400	892
E C	3.4	20200	871
Star	3.3	19000	851
		STOP	

	Wi	nches 540	ter		Wi	nches 571	ter
	Charge in grains	psi	fps		Charge in grains	psi	fps
	7.1	STOP	11107		-	STOP	
	7.1	35000	1197		7.8	31700	1170
_	7.0	34000	1182	_	7.7	31100	1157
	6.9	33000	1167		7.6	30500	1145
	6.8	32000	1153		7.5	30000	1132
	6.7	31000	1138		7.4	29400	1120
	6.6	30000	1123		7.3	28900	1107
ere	6.5	29000	1109		7.2	28300	1095
start here	6.4	28000	1094		7.1	27700	1082
star	6.3	27000	1080	9	7.0	27200	1070
		STOP		here	6.9	26600	1057
				start	6.8	26100	1045
						STOP	N. Contract
				sta	6.8		10

		571	
	Charge in grains	psi	fps
1		STOP	
1	7.8	31700	1170
1	7.7	31100	1157
	7.6	30500	1145
1	7.5	30000	1132
	7.4	29400	1120
	7.3	28900	1107
	7.2	28300	1095
	7.1	27700	1082
4	7.0	27200	1070
┨	6.9	26600	1057
	6.8	26100	1045
1		STOP	

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 39 for

greatly.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section entitled "About this extreme Manual" for addicaution when tional important information regardloading in the Yellow ing the controlled or Red laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must page 4. never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

loading in

the Yellow

or Red zones.

All

pressure

are listed

in psi not C.U.P.

See

page 4.

fps

1116

1100

1085

1070

1054

1039

1024

32500

31600

30800

30000

29100

28300

27500

STOP

5.9

5.8

5.7

5.6

5.5

5.4

fps

1159

1143

1126

1110

1093

1077

1060

1044

STOP

*Compressed load.

psi

Use

extreme caution

when

loading in the Yellow

or Red

zones.

All

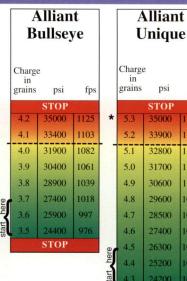
pressures

are listed

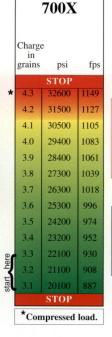
in psi not C.U.P.

See

page 4.



	Hodgdon HS-6					
	Charge in grains	psi	fps			
		STOP				
	6.5	35000	1179			
	6.4	33800	1162			
	6.3	32700	1145			
	6.2	31600	1128			
here	6.1	30400	1111			
he	6.0	29300	1094			
star	5.9	28200	1078			
	STOP					



IMR

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

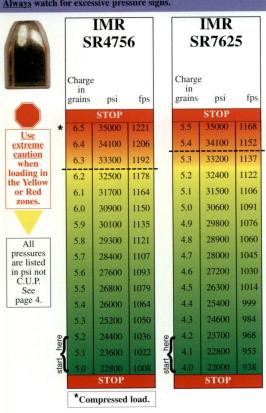
The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing.

48

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

Reducing Cartridge



		231		
	Charge in grains		fps	
		STOP	WE TO	
	4.2	35000	1076	
	4.1	33400	1053	
-	4.0	31900	1030	
	3.9	30300	1008	here
	3.8	28800	985	<u>ت</u>
	3.7	27200	963	star
	3.6	25700	940	1
0	3.5	24100	918	
Z	3.4	22600	895	
Stal	3.3	21100	873	
		STOP		

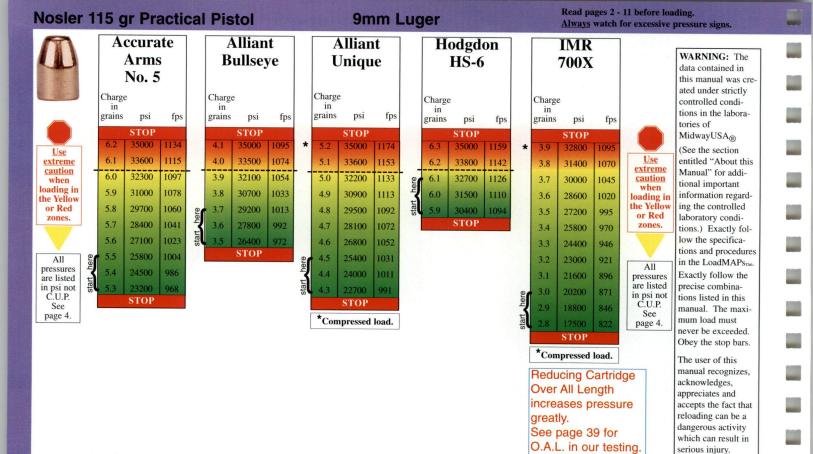
	540	
Charge in grains	psi	fps
MAN	STOP	
6.8	33000	1196
6.7	32600	1181
6.6	32200	1166
6.5	31800	1151
6.4	31400	1136
6.3	31000	1122
	STOP	

	Wiı	nches 571	ter
	Charge in grains	psi	fps
		STOP	
	7.7	33100	1174
	7.6	32500	1161
	7.5	32000	1149
	7.4	31400	1137
	7.3	30900	1125
	7.2	30300	1113
	7.1	29800	1101
here	7.0	29200	1089
Phe	6.9	28700	1077
start	6.8	28200	1065
		STOP	



All

Reducing Cartridge Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing. The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.



50

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

reloading can be a

dangerous activity

which can result in

serious injury.

greatly.

See page 39 for

O.A.L. in our testing.

6.9

6.7

6.6

6.5

6.4

6.3

6.2

6.1

6.0

5.9

5.8

5.7

5.6

34200

33400

32700

31900

31200

30400

29700

28900

28200

27400

26700

25900

25200

24400

STOP

Use

extreme

caution

when

loading in

the Yellow

or Red

zones.

All

pressures

are listed

in psi not C.U.P.

See

page 4.

1204

1191

1178

1166

1153

1141

1128

1115

1103

1090

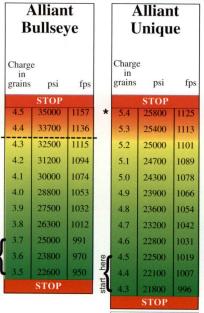
1078

1065

1052

1040

1002



	lodgd HS-6	
Charg in grain		fps
	STOP	
6.9	32700	1186
6.8	31800	1170
6.7	30900	1155
6.6	30000	1139
6.5	29100	1124
6.4	28200	1108
6.3	27300	1093
6.2	26400	1077
6.1	25500	1062
6.0	24600	1046
5.9	23700	1031
	STOP	

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 39 for

		700X	1 1	
	Charge in grains	psi	fps	
		STOP		
	4.4	35000	1161	T.
	4.3	33700	1139	_ <u>Use</u> _ extreme
	4.2	32500	1117	caution
	4.1	31300	1095	when loading in
	4.0	30100	1074	the Yellow or Red
	3.9	28900	1052	zones.
	3.8	27700	1030	
	3.7	26500	1009	All
	3.6	25300	987	pressures are listed
	3.5	24100	965	in psi not
	3.4	22900	944	C.U.P. See
ere	3.3	21700	922	page 4.
3	3.2	20500	900	
Sta	3.1	19300	879	
		STOP		

IMR

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regardloading in ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

52

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

greatly.

*Compressed load.



	GI.		
	Charge in grains	psi	fps
		STOP	-1-
1	4.7	35000	1138
	4.6	33700	1116
1	4.5	32500	1094
	4.4	31200	1073
	4.3	30000	1051
	4.2	28700	1030
	4.1	27500	1008
	4.0	26200	987
	3.9	25000	965
	3.8	23700	943
	3.7	22500	922
1	3,6	21200	900
nere	3.5	20000	879
3	3.4	18700	857
star	3.3	17500	836

	540				
	Charge in grains		fps		
		STOP			
	7.2	35000	1219		
	7.1	33700	1202		
1	7.0	32500	1185		
	6.9	31200	1168		
	6.8	30000	1151		
	6.7	28700	1134		
	6.6	27500	1117		
ere	6.5	26200	1100		
start, here	6.4	25000	1083		
star	6.3	23800	1066		
		STOP			

Winchester

	Charge in grains	psi	fps	
		STOP		
	8.0	35000	1203	
1	7.9	34100	1187	Use extreme
Ī	7.8	33200	1172	caution when
	7.7	32400	1157	loading in
	7.6	31500	1142	the Yellow or Red
	7.5	30700	1126	zones.
	7.4	29800	1111	
	7.3	28900	1096	All
	7.2	28100	1081	pressures
	7.1	27200	1065	are listed in psi not
9	7.0	26400	1050	C.U.P. See
P	6.9	25500	1035	page 4.
start	6.8	24700	1020	
		STOP		
	Red	ucina (Cartri	dae

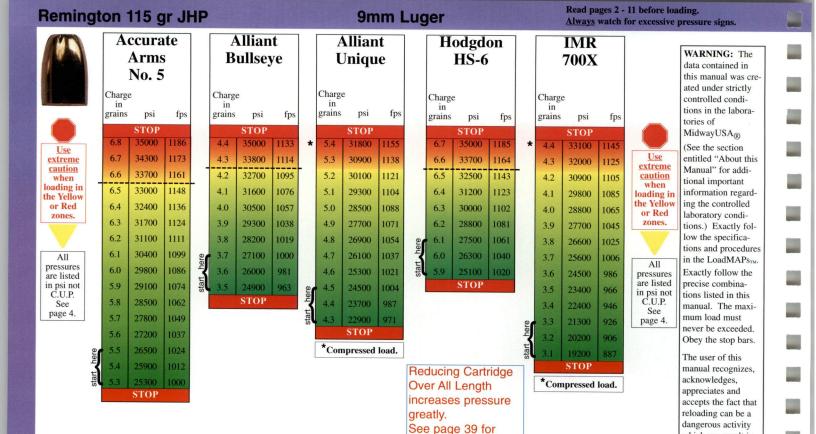
Winchester

571

Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regardloading in ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this manual recognizes,

acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.



54

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

O.A.L. in our testing.

which can result in

serious injury.

Use

extreme

caution

when

or Red

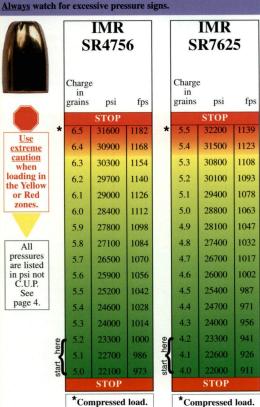
zones.

All

are listed

See

page 4.



Wi	nches 231	ter		Wi	nches 540	ter
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP		b p (STOP	
4.5	35000	1088		7.1	35000	1202
4.4	33700	1066		7.0	34000	1186
4.3	32400	1045		6.9	33100	1170
4.2	31200	1024		6.8	32100	1154
4.1	29900	1003		6.7	31200	1138
4.0	28600	982		6.6	30300	1122
3.9	27400	961	here	6.5	29300	1106
3.8	26100	940	<	6.4	28400	1090
3.7	24800	919	start	6.3	27500	1075
3.6	23600	898			STOP	
3.5	22300	877				
3.4	21000	856				

		571	
1	Charge in grains	psi	fps
		STOP	
	7.9	35000	1187
	7.8	34100	1173
	7.7	33300	1159
1	7.6	32500	1145
	7.5	31700	1131
	7.4	30900	1117
100000000000000000000000000000000000000	7.3	30100	1104
-	7.2	29300	1090
	7.1	28500	1076
d	7.0	27700	1062
	6.9	26900	1048
Ų	6.8	26100	1035
		STOP	

Winchester

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of Midway USA_® (See the section entitled "About this Manual" for additional important information regardloading in the Yellow ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

See page 39 for O.A.L. in our testing.

Reducing Cartridge

increases pressure

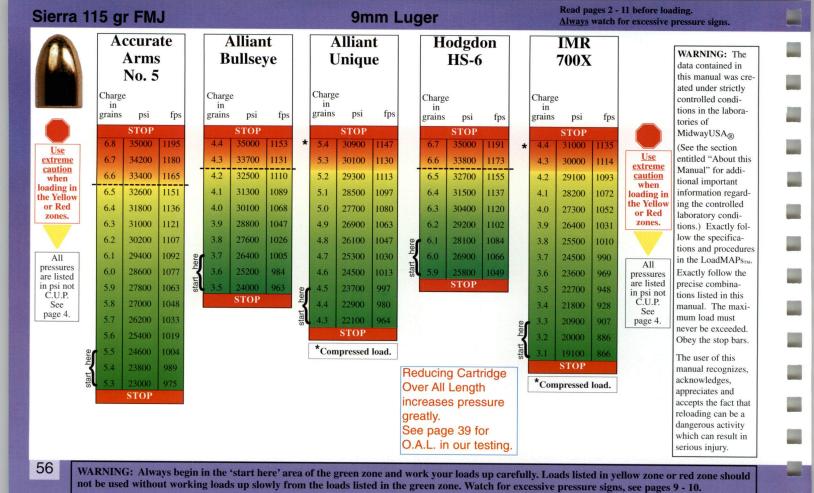
Over All Length

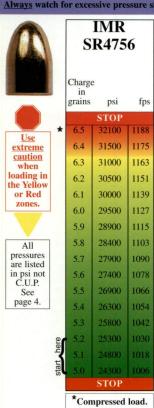
greatly.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

19800 835

STOP





IMR SR7625				Wi	nches 231	ster
Charge in grains	psi	fps		Charge in grains	psi	fps
5.5	32500	1151		4.5	33100	1102
		1111				
5.4	31600	1133		4.4	31900	1081
5.3	30800	1115		4.3	30700	1061
5.2	30000	1097		4.2	29600	1041
5.1	29100	1080		4.1	28400	1021
5.0	28300	1062		4.0	27300	1001
4.9	27500	1044		3.9	26100	981
4.8	26700	1026		3.8	24900	961
4.7	25800	1009		3.7	23800	941
4.6	25000	991		3.6	22600	921
4.5	24200	973	a.e	3.5	21500	901
4.4	23400	955	t, here	3.4	20300	881
4.3	22500	938	start	3.3	19200	861
4.2	21700	920			STOP	
4.1	20900	902				
4.0	20100	885				
	STOP	1				

	Winchester 540				Wil	nches 571	ter
	Charge in grains	psi	fps		Charge in grains	psi	fps
		STOP				STOP	
	7.1	35000	1195		7.7	35000	1181
	7.0	34100	1182		7.6	34000	1167
	6.9	33300	1170		7.5	33100	1154
	6.8	32500	1157		7.4	32200	1141
	6.7	31700	1145		7.3	31300	1127
	6.6	30900	1132		7.2	30400	1114
1	6.5	30100	1120		7.1	29500	1101
l	6.4	29300	1107	ere	7.0	28600	1087
l	6.3	28500	1095	start, here	6.9	27700	1074
	MAG	STOP		star	6.8	26800	1061
						STOP	

Reducing Cartridge

increases pressure

O.A.L. in our testing.

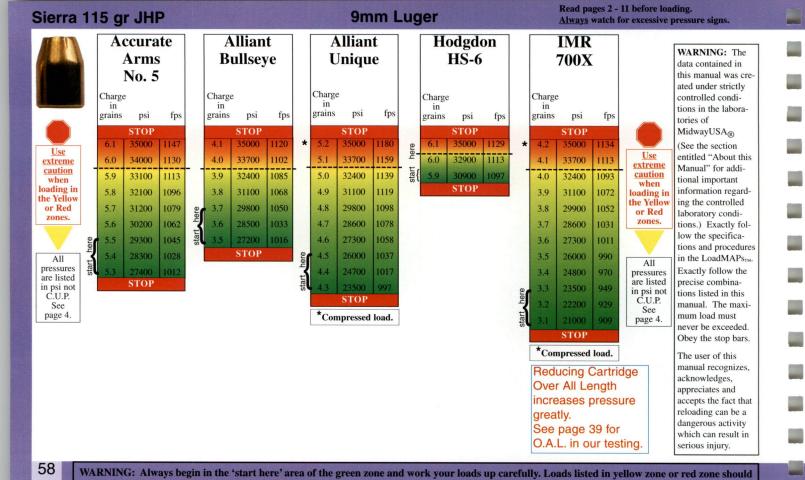
Over All Length

See page 39 for

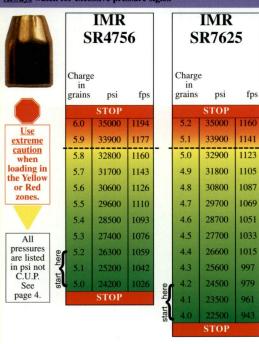
greatly.

fps		WARNING: The data contained in this manual was cre- ated under strictly controlled condi- tions in the labora- tories of
		MidwayUSA _®
1181		(See the section
1167	<u>Use</u> <u>extreme</u>	entitled "About this Manual" for addi-
1154	caution when	tional important
1141	loading in	information regard-
1127	the Yellow or Red	ing the controlled laboratory condi-
1114	zones.	tions.) Exactly fol-
1101		low the specifica- tions and procedures
1087	All	in the LoadMAPs _{TM} .
1074	pressures	Exactly follow the
1061	are listed in psi not	precise combina- tions listed in this
	C.U.P. See page 4.	manual. The maxi- mum load must
		never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.



not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.



Winchester 231				Wi	nches 540	ster
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP		0		STOP	
4.0	35000	1057		6.4	31100	1090
3.9	33100	1032		6.3	30400	1079
3.8	31300	1008		6.2	29700	1069
3.7	29500	984		6.1	29000	1059
3.6	27600	960		6.0	28300	1049
3.5	25800	936		5.9	27600	1038
3.4	24000	912	here	5.8	26900	1028
3.3	22200	888	•	5.7	26200	1018
	STOP		start	5.6	25600	1008
				Physic	STOP	

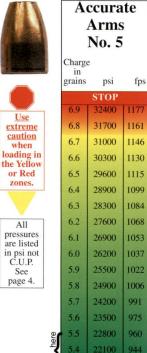
		571	
	Charge in grains		fps
	1	STOP	
	7.3	35000	1153
	7.2	34000	1139
1	7.1	33100	1125
	7.0	32200	1111
	6.9	31300	1097
	6.8	30400	1083
	6.7	29400	1069
	6.6	28500	1055
are.	6.5	27600	1041
t here	6.4	26700	1027
star	6.3	25800	1014
		STOP	

	Wi	nches	ter		WARNING: The
		571			data contained in
					this manual was cre
					ated under strictly
	Charge				controlled condi-
	in				tions in the labora-
	grains	psi	fps		
	Bruns		·P.		tories of
		STOP			MidwayUSA®
	7.3	35000	1153		(See the section
	7.2	34000	1139	Use	entitled "About this
_				extreme	Manual" for addi-
	7.1	33100	1125	caution when	tional important
	7.0	32200	1111	loading in	information regard-
				the Yellow	ing the controlled
	6.9	31300	1097	or Red	laboratory condi-
	6.8	30400	1083	zones.	tions.) Exactly fol-
	6.7	29400	1069		low the specifica-
	6.6	28500	1055		in the LoadMAPs _{TM}
		20300		All	
1	6.5	27600	1041	pressures	Exactly follow the
l	6.4	26700	1027	are listed in psi not	precise combina- tions listed in this
	6.3	25800	1014	C.U.P. See	manual. The maxi-
		STOP		page 4.	mum load must
					never be exceeded.
					Obey the stop bars.

Reducing Cartridge Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.





STOP

	Alliant Bullseye							
	Charge in grains		fps					
		STOP						
ı	4.5	33200	1128					
	4.4	32200	1108					
ı	4.3	31200	1088					
	4.2	30300	1068					
	4.1	29300	1049					
	4.0	28400	1029					
	3.9	27400	1009					
	3.8	26400	990					
•	3.7	25500	970					
Į	3.6	24500	950					
U	3.5	23600	931					
	19.70	STOP	100					

	Alliant Unique							
	Charge in grains		fps					
		STOP						
*	5.4	27900	1103					
	5.3	27500	1091					
	5.2	27100	1079					
	5.1	26800	1067					
	5.0	26400	1055					
	4.9	26100	1043					
	4.8	25700	1031					
	4.7	25400	1019					
	4.6	25000	1007					
e.	4.5	24700	995					
t here	4.4	24300	983					
start	4.3	24000	972					
		STOP						
	*Con	*Compressed load.						

	Charge in		
9	rains	psi	fps
		STOP	
	6.9	35000	1199
	6.8	34000	1182
	6.7	33100	1166
3000	6.6	32100	1149
	6.5	31200	1133
	6.4	30200	1117
	6.3	29300	1100
	6.2	28300	1084
4	6.1	27400	1067
	6.0	26400	1051
L	5.9	25500	1035
		STOP	

Hodgdon

Reducing Cartridge Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing.



STOP

*Compressed load.

IMR

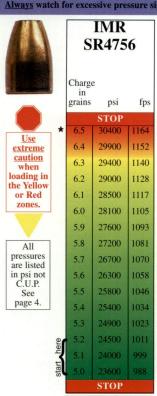
this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section Use entitled "About this extreme Manual" for addicaution tional important when information regardloading in ing the controlled or Red laboratory condizones. tions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. All Exactly follow the are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must page 4. never be exceeded. Obey the stop bars. The user of this

WARNING: The

data contained in

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

60



*Compressed load.

S	R762	5		**1	231	,,,,
Charge in grains	psi	fps		Charge in grains	e psi	fps
	STOP				STOP	
5.5	35000	1143		4.7	32600	1101
5.4	34000	1125		4.6	31500	1079
5.3	33000	1108		4.5	30400	1058
5.2	32000	1090		4.4	29300	1036
5.1	31100	1073		4.3	28200	1015
5.0	30100	1056		4.2	27200	994
4.9	29100	1038		4.1	26100	972
4.8	28100	1021	103	4.0	25000	951
4.7	27200	1003		3.9	23900	930
4.6	26200	986		3.8	22800	908
4.5	25200	969		3.7	21800	887
4.4	24200	951		3.6	20700	866
4.3	23300	934	here	3.5	19600	844
4.2	22300	916		3.4	18500	823
4.1	21300	899	start	3.3	17500	802
4.0	20400	882			STOP	
	STOP					

IMR

	Winchester 540			
	Charge in grains	psi	fps	
		STOP		
	7.0	32300	1167	
	6.9	31400	1151	
	6.8	30600	1135	
	6.7	29800	1119	
	6.6	29000	1103	
ere	6.5	28200	1087	
t here	6.4	27400	1071	
star	6.3	26600	1055	
		STOP	15 83	

	571		
Charge in grains	psi	fps	
7.9	35000	1190	
7.8	34100	1174	Use extreme
7.7	33200	1159	caution when
7.6	32300	1144	loading in
7.5	31400	1129	the Yellow or Red
7.4	30500	1114	zones.
7.3	29700	1098	
7.2	28800	1083	All
7.1	27900	1068	pressures are listed
7.0	27000	1053	in psi not
6.9	26100	1038	C.U.P. See
6.8	25300	1023	page 4.
	STOP		

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 39 for

greatly.

start, here

Winchester

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

when

loading in the Yellow

or Red

zones.

All

pressures

are listed

in psi not C.U.P.

page 4.

6.5

6.4

6.3

6.2

6.1

6.0

5.9

5.8

5.7

5.6

33200

32300

31400

30500

29600

28800

27900

27000

26100

25200

24300

23400

STOP

fps

1187

1172

1157

1142

1127

1112

1097

1082

1067

1052

1037

1022

1007

9mm Luger

Read pages 2 - 11 before loading. Always watch for excessive pressure signs.

Use

extreme caution

loading in the Yellow

or Red

zones.

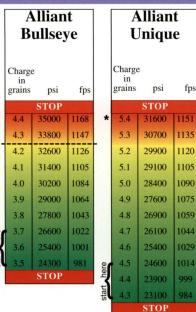
All

pressures

are listed

in psi not C.U.P.

See page 4.



	Charge in		
	grains	psi	fps
		STOP	
	6.7	32900	1190
	6.6	32000	1172
	6.5	31100	1154
	6.4	30200	1136
	6.3	29400	1119
	6.2	28500	1101
ere	6.1	27600	1083
tart here	6.0	26700	1065
star	5.9	25900	1048
		STOP	

Hodgdon

	Charge in grains	psi	fps
		STOP	
*	4.4	33200	1155
	4.3	32000	1133
	4.2	30900	1111
	4.1	29700	1089
	4.0	28600	1068
	3.9	27500	1046
	3.8	26300	1024
	3.7	25200	1003
	3.6	24000	981
	3.5	22900	959
	3.4	21800	938
D	3.3	20600	916
₹	3.2	19500	894
Star	3.1	18400	873
		STOP	
	*Con	npressed	load.

IMR

700X

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

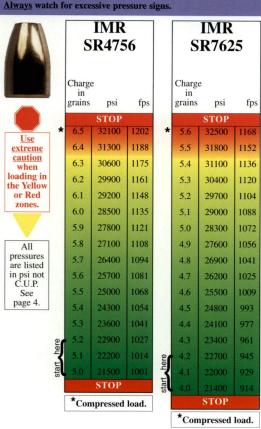
The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Reducing Cartridge Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing.

62

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

*Compressed load.



	Charge in		
	grains	psi	fps
		STOP	
	4.4	32800	1094
	4.3	31600	1072
	4.2	30400	1051
	4.1	29300	1029
	4.0	28100	1008
	3.9	27000	986
	3.8	25800	965
	3.7	24700	943
	3.6	23500	922
lele	3.5	22400	900
	3.4	21200	879
Sign	3.3	20100	858
		STOP	

231

	Charge in	:	
	grains	psi	fps
		STOP	
	6.9	35000	1189
	6.8	33700	1170
1	6.7	32400	1151
	6.6	31200	1133
0	6.5	29900	1114
sign Hele	6.4	28600	1095
Stal	6.3	27400	1077
7	100	STOP	

Winchester

		571	
	Charge in grains		fps
		STOP	
	7.9	35000	1196
	7.8	34200	1181
	7.7	33400	1167
	7.6	32600	1153
	7.5	31800	1139
	7.4	31000	1125
	7.3	30200	1111
	7.2	29400	1097
	7.1	28600	1083
here	7.0	27800	1069
_<	6.9	27000	1055
star	6.8	26200	1041
		STOP	

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 39 for

greatly.

Winchester

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regardloading in ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs $_{\text{\tiny TM}}$. Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

Use

extreme

caution

or Red

zones.

All

See

page 4.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Accurate

Use

extreme

caution

when

or Red

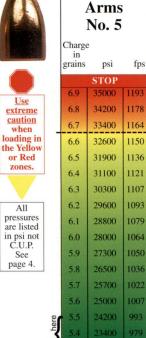
zones.

All

See

page 4.





STOP

Alliant Bullseye Charge in grains psi fps STOF 4.5 1141 35000 33900 1121 4.3 32900 1101 31800 1081 4.2 4.1 30800 1062 1042 4.0 29800 3.9 28700 1022 1003 3.8 27700

25600

24600

STOP

963

	U	niqu	e
	Charge in grains		fps
		STOP	
*	5.4	27700	1102
	5.3	27500	1091
	5.2	27300	1080
	5.1	27100	1069
	5.0	26900	1058
	4.9	26700	1047
	4.8	26500	1037
	4.7	26300	1026
	4.6	26100	1015
e.	4.5	25900	1004
here	4.4	25700	993
star	4.3	25600	983
		STOP	

*Compressed load.

Alliant

- 1	Charge in		4
	grains	psi	fps
		STOP	
	6.9	35000	1202
	6.8	34100	1185
7	6.7	33200	1168
	6.6	32300	1152
	6.5	31400	1135
	6.4	30600	1119
	6.3	29700	1102
	6.2	28800	1085
e	6.1	27900	1069
here	6.0	27000	1052
start	5.9	26200	1036
ı		STOP	

Hodgdon



		IMR 700X		
	Charge in grains		fps	
		STOP		
*	4.6	35000	1159	
	4.5	33800	1137	
-	4.4	32600	1116	-
	4.3	31400	1095	
	4.2	30300	1074	
	4.1	29100	1053	
	4.0	27900	1032	
	3.9	26700	1011	
	3.8	25600	989	
	3.7	24400	968	
	3.6	23200	947	
	3.5	22000	926	
	3.4	20900	905	
here	3.3	19700	884	
he	3.2	18500	863	
start	3.1	17400	842	
		STOP		
	*Con	npressed	load.	

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regardloading in the Yellow ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges. appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

64

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

greatly.

Over All Length

See page 39 for

231

Use

caution

when

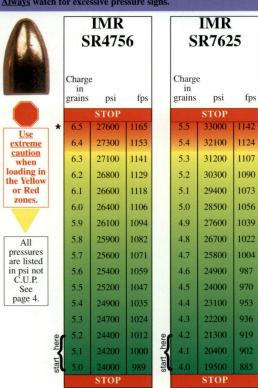
or Red

zones.

All

See

page 4.



*Compressed load.

- 1	Charge in grains		fps
		STOP	
	4.5	35000	1106
	4.4	33500	1082
	4.3	32000	1058
	4.2	30500	1034
	4.1	29000	1010
	4.0	27500	986
	3.9	26000	962
	3.8	24500	938
	3.7	23000	914
	3.6	21500	890
	3.5	20000	866
KI	3.4	18500	842
Stall	3.3	17000 STOP	819

	4411	nches 540	otel	
- 1	Charge in grains	psi	fps	
ı		STOP		
1	7.0	32300	1169	
1	6.9	31600	1156	
١	6.8	31000	1143	
١	6.7	30400	1130	
	6.6	29800	1117	
1	6.5	29200	1104	
	6.4	28600	1091	
1	6.3	28000	1079	
1		STOP		to the same

		571	
	Charge in grains		fna
	grains		fps
		STOP	
	7.7	32600	1171
	7.6	31800	1154
	7.5	31000	1138
	7.4	30200	1122
	7.3	29400	1105
	7.2	28600	1089
	7.1	27800	1073
D	7.0	27000	1056
₹	6.9	26200	1040
Stal	6.8	25400	1024
		STOP	

Winchester

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme Manual" for additional important information regardloading in ing the controlled the Yellow laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

See page 39 for O.A.L. in our testing.

Reducing Cartridge

increases pressure

Over All Length

greatly.

Accurate

Arms

No. 5

Use

extreme

caution

or Red

zones.

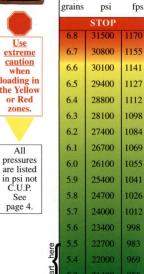
All

See

page 4.



	Charge in grains
	6.8
<u>Use</u> extreme	6.7
caution when	6.6
loading in the Yellow	6.5
or Red	6.4
zones.	6.3
	6.2
All	6.1
pressures	6.0



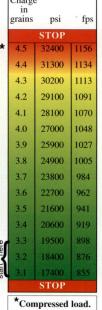
STOP

		Allian ullsey	-
	Charge in grains	psi	fps
		STOP	
	4.5	35000	1172
	4.4	33800	1152
	4.3	32700	1132
	4.2	31600	1112
	4.1	30500	1092
	4.0	29400	1072
	3.9	28300	1052
	3.8	27200	1032
here	3.7	26100	1012
3	3.6	25000	992
star	3.5	23900	972
		STOP	

		Allian Iniqu			Н
	Charge in grains	psi	fps		Charge in grains
		STOP			
*	5.4	27700	1118		6.9
	5.3	27100	1103		6.8
	5.2	26500	1089		6.7
	5.1	25900	1075		6.6
	5.0	25300	1060		6.5
	4.9	24700	1046		6.4
	4.8	24100	1032		6.3
	4.7	23500	1018		6.2
	4.6	22900	1003	here	6.1
e.	4.5	22300	989	_5	6.0
3	4.4	21700	975	star	5.9
stan	4.3	21100	961		
		STOP			
	*Con	pressed	load.		



		odgdo HS-6			l	IMR 700X	
	Charge in grains	e psi	fps	2	Charge in grains	psi	fps
		STOP				STOP	
	6.9	35000	1205	*	4.5	32400	1156
	6.8	34100	1190		4.4	31300	1134
	6.7	33200	1175		4.3	30200	1113
	6.6	32300	1160		4.2	29100	1091
	6.5	31400	1146		4.1	28100	1070
	6.4	30500	1131		4.0	27000	1048
	6.3	29600	1116		3.9	25900	1027
	6.2	28700	1102		3.8	24900	1005
1	6.1	27800	1087		3.7	23800	984
1	6.0	26900	1072		3.6	22700	962
Į	5.9	26100	1058		3.5	21600	941
	DYS.	STOP			3.4	20600	919
				9.	3.3	19500	898
				he	3.2	18400	876



data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important when loading in information regardthe Yellow ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

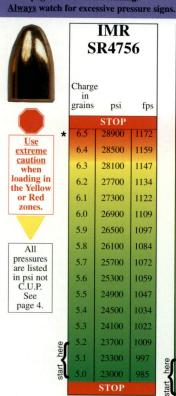
66

Use

zones.

All

See



*Compressed load.

	S	IMR R762		
	Charge in grains	e psi	fps	
		STOP		
1	5.6	32600	1161	
ì	5.5	31700	1143	
	5.4	30800	1125	
į	5.3	29900	1108	
	5.2	29000	1090	
	5.1	28100	1072	
	5.0	27300	1055	
	4.9	26400	1037	
	4.8	25500	1020	
	4.7	24600	1002	
	4.6	23700	984	
	4.5	22900	967	- Le
	4.4	22000	949	start here
	4.3	21100	931	start
d	4.2	20200	914	
l	4.1	19300	896	
Ų	4.0	18500	879	
		STOP		

		231	
	Charge in grains		fps
		STOP	
	4.6	32600	1110
	4.5	31400	1088
	4.4	30200	1066
	4.3	29000	1045
	4.2	27800	1023
١	4.1	26600	1001
	4.0	25400	980
	3.9	24200	958
	3.8	23000	937
	3.7	21800	915
-	3.6	20600	893
d	3.5	19400	872
1	3.4	18200	850
ļ	3.3	17100	829
	Y E TO	STOP	

Wi	nches 540	ster		Wi	nches 571	ster
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
7.1	35000	1200		7.9	35000	1197
7.0	34100	1185		7.8	34100	1181
6.9	33200	1171		7.7	33200	1165
6.8	32400	1156		7.6	32300	1149
6.7	31500	1142		7.5	31400	1134
6.6	30600	1127		7.4	30500	1118
6.5	29800	1113		7.3	29700	1102
6.4	28900	1098		7.2	28800	1086
6.3	28100	1084		7.1	27900	1071
	STOP		ē	7.0	27000	1055
				6.9	26100	1039
			start	6.8	25300	1024
					CTOD	

STOP Reducing Cartridge

Over All Length

See page 39 for

greatly.

increases pressure

O.A.L. in our testing.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme Manual" for addicaution tional important information regardloading in the Yellow ing the controlled or Red laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must page 4. never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Use

extreme

caution

when

or Red

zones.

All

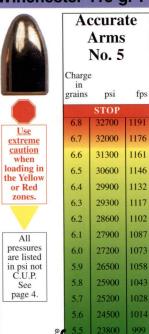
pressures

are listed

in psi not C.U.P.

See

page 4.



23100

STOP

Alliant Bullseye				Allian Iniqu		
Charge in grains	e psi	fps		Charge in grains	psi	fps
	STOP				STOP	
4.6	35000	1177	*	5.4	30900	1156
4.5	33800	1156		5.3	30100	1139
4.4	32600	1136		5.2	29300	1123
4.3	31500	1116		5.1	28500	1107
4.2	30300	1096		5.0	27700	1090
4.1	29200	1076		4.9	26900	1074
4.0	28000	1056		4.8	26100	1058
3.9	26900	1036		4.7	25300	1042
3.8	25700	1016		4.6	24500	1025
3.7	24600	996	here	4.5	23700	1009
3.6	23400	976		4.4	22900	993
3.5	22300	956	start	4.3	22100	977
	STOP				STOP	
				*Con	npressed	load.

Charge	e	
grains	psi	fps
	STOP	F-981
6.9	35000	1202
6.8	33900	1186
6.7	32800	1170
6.6	31800	1154
6.5	30700	1138
6.4	29700	1123
6.3	28600	1107
6.2	27500	1091
6.1	26500	1075
6.0	25400	1059
5.9	24400	1044
6.0	25400	1059

700X Charge grains psi fps STOI 31700 1146 4.4 30600 1125 4.3 29500 1104 28500 1084 4.2 1063 4.1 27400 26300 1043 4.0 1022 3.9 25300 3.8 24200 1002 23100 981 3.7 3.6 22100 960 940 21000 3.4 19900 919 18900 899 17800 878 STOP *Compressed load.

IMR

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled the Yellow laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

68

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

greatly.

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 39 for

fps

1144

1123

1102

1082

1061

1040

1020

999

978

958

937

916

896

875

854

Use

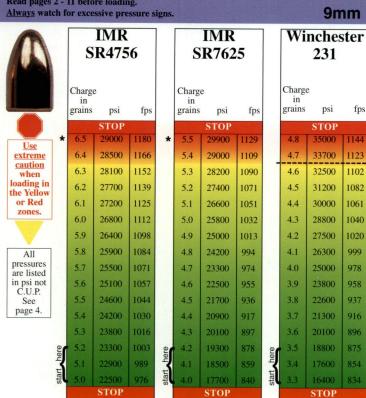
when

zones.

All

See

page 4.



*Compressed load.

*Compressed load.

		540	
	Charge in grains		fps
		STOP	
	7.0	33200	1186
	6.9	32400	1171
	6.8	31600	1157
	6.7	30800	1143
	6.6	30000	1129
e.	6.5	29200	1115
start, here	6.4	28400	1101
start	6.3	27700	1087
		STOP	

Winchester

Charge in grains		fps
grains		ips
8.0	STOP 31800	1180
7.9	31100	
		1166
7.8	30500	1152
7.7	29900	1139
7.6	29300	1125
7.5	28700	1112
7.4	28100	1098
7.3	27500	1084
7.2	26900	1071
7.1	26300	1057
7.0	25700	1044
6.9	25100	1030
6.8	24500	1017

Winchester

571

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme Manual" for addicaution tional important information regardloading in the Yellow ing the controlled or Red laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs $_{\text{\tiny TM}}$. Exactly follow the precise combinaare listed in psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing. manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Accurate

Use

extreme

caution

when

or Red

zones.

All

pressures

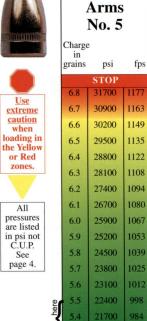
are listed

in psi not C.U.P.

See

page 4.





	Section 1	Alliant Bullseye		
	Charge in grains		fps	
		STOP		
	4.5	35000	1170	
	4.4	33800	1149	
Ī	4.3	32600	1128	
	4.2	31500	1107	
	4.1	30300	1086	

4.0

3.9

3.8

29200

28000

26800

24500

23400

STOP

1065

1044

1002

981

	U	niqu	e
	Charge in grains		fps
		STOP	
*	5.4	30100	1138
	5.3	29300	1122
•	5.2	28500	1107
	5.1	27700	1091
	5.0	26900	1076
	4.9	26100	1060
	4.8	25300	1045
	4.7	24500	1029
	4.6	23700	1014
e.	4.5	22900	998
here	4.4	22100	983
start	4.3	21300	968
		STOP	
	*Con	npressed	load.

Alliant

	Hodgdon HS-6			
	Charge in grains	psi	fps	
	SHEDI	STOP	1	
	6.7	35000	1194	
	6.6	33900	1176	
1	6.5	32800	1159	
	6.4	31700	1142	
	6.3	30600	1125	
	6.2	29500	1107	
here	6.1	28400	1090	
< I	6.0	27300	1073	
start	5.9	26300	1056	
		STOP		



data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regardloading in ing the controlled the Yellow laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Over All Length STOF increases pressure greatly. See page 39 for O.A.L. in our testing.

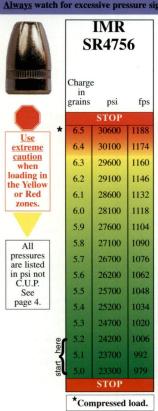
70

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

Reducing Cartridge

WARNING: The

data contained in



	IMR R762			Wi	nches 231	tei
Charge in grains	e psi	fps		Charge in grains	psi	fŗ
	STOP				STOP	
5.6	29700	1169		4.6	35000	112
5.5	29000	1153		4.5	33700	110
5.4	28400	1137		4.4	32500	108
5.3	27800	1121		4.3	31300	106
5.2	27200	1105		4.2	30100	104
5.1	26600	1089		4.1	28900	102
5.0	25900	1073		4.0	27700	100
4.9	25300	1057		3.9	26400	989
4.8	24700	1042		3.8	25200	969
4.7	24100	1026		3.7	24000	949
4.6	23500	1010		3.6	22800	929
4.5	22800	994	e e	3.5	21600	909
4.4	22200	978	here	3.4	20400	889
4.3	21600	962	start	3.3	19200	869
4.2	21000	946		Para la	STOP	
4.1	20400	930				
4.0	19800	915				
VALUE 1835	STOP					

*Compressed load.

	540			
	Charge in grains psi fps			
		STOP		
- 1	6.9	32400	1181	
	6.8	31600	1167	
	6.7	30900	1154	
	6.6	30200	1141	
ere	6.5	29400	1128	
tart here	6.4	28700	1115	
start	6.3	28000	1102	
- 10		STOP		

Winchester

	Charge in			
	grains		fps	
1	8.0	STOP 35000	1196	
	7.9	34000	1181	
1	7.8	33100	1167	
١	7.7	32200	1153	
	7.6	31200	1139	
	7.5	30300	1125	
	7.4	29400	1111	
	7.3	28400	1097	
	7.2	27500	1083	
	7.1	26600	1069	
J	7.0	25600	1055	
Į	6.9	24700	1041	
U	6.8	23800	1027	

Winchester

this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section Use entitled "About this extreme Manual" for addicaution when tional important information regardloading in the Yellow ing the controlled or Red laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} All Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maxi-See mum load must page 4. never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Over All Length increases pressure greatly. See page 39 for O.A.L. in our testing.

71

Accurate

Use

when

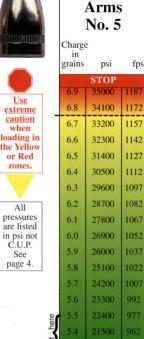
or Red

zones.

See

page 4.





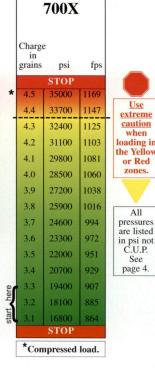


fps

	Unique		
	Charge in grains		fps
	grams		трз
	5.4	STOP 26600	1156
*			
	5.3	25900	1138
	5.2	25300	1120
	5.1	24700	1102
	5.0	24100	1084
	4.9	23500	1066
	4.8	22800	1048
	4.7	22200	1030
	4.6	21600	1012
ere	4.5	21000	994
3	4.4	20400	976
sta	4.3	19800	958
		STOP	
	*Con	pressed	load.

Alliant

gı	harge in rains 6.7 6.6	psi STOP 33100 32100	fps
	6.6	33100 32100	
	6.6	32100	
		100000000000000000000000000000000000000	1169
	6.5	21100	
	Total Control	31100	1152
100	6.4	30100	1135
1000	6.3	29100	1118
	6.2	28100	1101
here	6.1	27100	1084
3	6.0	26100	1067
star	5.9	25100	1050
		STOP	



IMR

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this manual recognizes,

acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

increases pressure STOP greatly. See page 39 for O.A.L. in our testing.

72

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

Reducing Cartridge

Over All Length

Use

extreme

caution

when

loading in

the Yellow

or Red

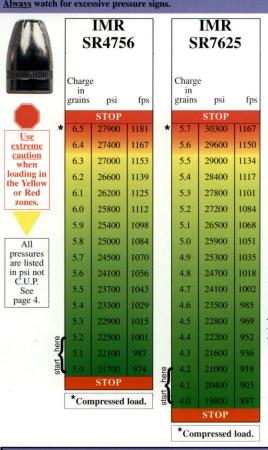
zones.

All

pressures

are listed

in psi not C.U.P.



	Wi	nches 231	ter		Wil	nches 540	ter
	Charge in grains	e psi	fps		Charge in grains	psi	fps
		STOP				STOP	
	4.6	35000	1135		7.0	35000	1191
	4.5	33600	1113		6.9	33700	1173
Ī	4.4	32300	1091		6.8	32500	1156
	4.3	31000	1069		6.7	31300	1138
	4.2	29700	1047		6.6	30000	1121
	4.1	28400	1026	9	6.5	28800	1103
	4.0	27100	1004	here	6.4	27600	1086
	3.9	25700	982	start	6.3	26400	1069
	3.8	24400	960		8 18 4	STOP	
	3.7	23100	939				
	3.6	21800	917				
9	3.5	20500	895	5			
here	3.4	19200	873				
Start	3.3	17900	852				
		STOP					

	540				571	
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	
7.0	35000	1191		8.0	35000	1203
6.9	33700	1173	(32)	7.9	34000	1188
6.8	32500	1156		7.8	33100	1173
6.7	31300	1138		7.7	32200	1158
6.6	30000	1121		7.6	31300	1143
6.5	28800	1103		7.5	30400	1128
6.4	27600	1086		7.4	29500	1113
6.3	26400	1069		7.3	28600	1098
	STOP		-12	7.2	27700	1083
				7.1	26800	1068
			are	7.0	25900	1053
			start here	6.9	25000	1038
			star	6.8	24100	1023
					STOP	

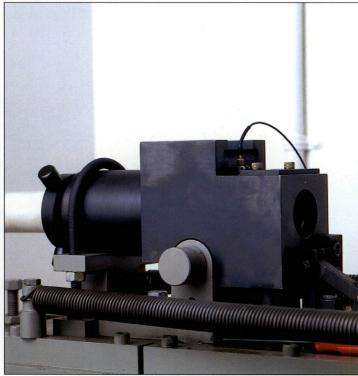
Reducing Cartridge
Over All Length
increases pressure
greatly.
See page 39 for
O.A.L. in our testing.

Winchester

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.





MidwayUSA's_® Ballistics Lab is temperature and humidity controlled to SAAMI specifications - 70 degrees Fahrenheit and 60% relative humidity. Pressure and velocity are recorded using an Oehler System 83 and piezo-electric transducers, the latest in industry standard equipment. The Universal Receiver on the right accepts specially made barrels for nearly all sporting arms cartridges. The wire at the top of the gun is connected to a piezo-electric transducer which measures the pressure in the chamber.

Ballistic Coefficient Ctg. Overall Length

.355" Dia. 122 grain Sectional Density .138



Circumonata (Service)
MidwayUSA FP Lead
N/A
1.045



BULLET		PAGE
MidwayUSA FP	Lead	76

Reducing Cartridge Over All Length increases pressure greatly.

See page 12 for bullet terminology information.

Gun	Universal Receiver	Case	Remington
Barrel	H-S Precision test barrel	Max Case Length	.754
Length	4" with 1:10" twist	Trim to Length	.744
Primer	Winchester Small Pistol	Max OAL	1.169

Maximum Average Pressure (MAP) 35,000 psi

German military during WWII. The Germans began developing submachine guns in the wake of WW I, when the lessons of that war's trench campaigns

were still fresh in the minds of Germany's tactical thinkers. The MP-40 was designed as a cheaper, more reliable version of the MP-38. More than a million of these guns were manufactured between 1940 and 1944, intended for Germany's mechanized infantry. Both the MP-38 and the MP-40 were designed with mass production in mind, utilizing stamped parts, plastic grips, and a folding skeleton buttstock that dispensed with a wooden buttstock entirely. The MP-40 used a 32-round magazine, but it was commonly short-loaded at 30 rounds to increase the reliability of the weapon. The MP-40 paved the way for even cheaper submachine guns like the British Sten and the American M-3 "Grease Gun."

Use

extreme

caution

or Red

zones.

All

pressures

are listed

in psi not C.U.P.

page 4.



loading

the Yello

All

pressures

are listed

in psi not C.U.P.

page 4.

			2.
		ccura Arms No. 5	S
	Charge in grains		fp
		STOP	
Use	5.6	33000	1091
extreme	5.5	31900	1074
caution when	5.4	30900	1057
oading in	5.3	29900	1040
he Yellow or Red	5.2	28900	1023
zones.	5.1	27900	1006
	5.0	26900	989
	10	25800	072

938

921

904

23800

22800

21800

4.7

4.6

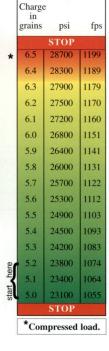
4.5

	Accurate Arms						
		No. 7					
1	Charge in grains	psi	fps				
	5116	STOP					
	7.4	35000	1113				
	7.3	34300	1101				
]	7.2	33600	1089				
	7.1	32900	1077				
١	7.0	32200	1065				
	6.9	31600	1053				
	6.8	30900	1041				
	6.7	30200	1029				
	6.6	29500	1017				
100000	6.5	28800	1005				
	6.4	28200	993				
-	6.3	27500	981				
	6.2	26800	969				
4	6.1	26100	957				
	6.0	25400	945				
l	5.9	24800	934				
	Party.	STOP					

	Alliant Bullseye						
-	Charge in grains psi fp						
		STOP					
	3.5	30300	1053				
	3.4	28900	1030				
	3.3	27600	1008				
	3.2	26200	986				
	3.1	24900	964				
	3.0	23600	942				
	2.9	22200	920				
	2.8	20900	898				
4	2.7	19500	876				
4	2.6	18200	854				
Ų	2.5	16900	832				
I	9416	STOP					

	CI.	Dot	
	Charge in grains	psi	fps
		STOP	
	3.2	31800	1017
	3.1	30200	994
	3.0	28600	972
	2.9	27100	950
	2.8	25500	927
	2.7	23900	905
	2.6	22400	883
	2.5	20800	860
S١	2.4	19200	838
Jian	2.3	17700	816
1		STOP	

Alliant



IMR

800X

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regardloading in the Yellow ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

WARNING: The

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

increases pressure greatly. See page 75 for O.A.L. in our testing.

76

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

Reducing Cartridge

Over All Length

.355" Dia. 124 grain Sectional Density .140

Ballistic Coefficient

Ctg. Overall Length











Hornady FMJ/FP Hornady Hornady MidwayUSA MidwayUSA Remington FMJ/RN HP/XTP FMJ/FP FMJ/RN .174 .145 N/A N/A N/A N/A 1.118 1.169 1.135 1.090 1.158 1.165

Reducing Cartridge Over All Length increases pressure greatly.









	Speer Gold Dot	Speer JSP	Winchester FMJ	Hornady Lead RN
Ballistic Coefficient	.134	.115	N/A	.131
Ctg. Overall Length	1.138	1.166	1.165	1.040

See page 12 for bullet terminology information.

GunUniversal ReceiverBarrelH-S Precision test barrelLength4" with 1:10" twistPrimerWinchester Small Pistol

Case Remington
Max Case Length .754
Trim to Length .744
Max OAL 1.169

Maximum Average Pressure (MAP) 35,000 psi

BULLET	•••••	PAGE
Hornady FMJ/FP	Jacketed	78-79
Hornady FMJ/RN	Jacketed	80-81
Hornady HP/XTP	Jacketed	82-83
MidwayUSA FMJ/FP	Plated	84-85
MidwayUSA FMJ/RN	Plated	86-87
Remington FMJ	Plated	88-89
Speer Gold Dot	Plated	90-91
Speer JSP	Plated	92-93
Winchester FMJ	Jacketed	94-95
Hornady RN	Lead	96

4.3

4.2

4.1

4.0

3.9

3.8

3.7

3.6

31700

30700

29600

28500

27500

26400

25300

24200

23200

22100

21000

STOP

increases pressure greatly.

1040

1023

1006

989

972

955

938

921

904

887

870

Reducing Cartridge Over All Length

See page 39 for O.A.L. in our testing.

Accurate

Alliant



psi

35000

33800

32700

31500

30400

29200

28100

26900

25800

22400

STOP

5.9

5.8

5.7

5.5

5.3

		Arms No. 7	
	Charge in grains	psi	fps
		STOP	
*	8.3	35000	1180
	8.2	34400	1167
	8.1	33800	1155
1	8.0	33200	1142
	7.9	32600	1130
	7.8	32100	1117
	7.7	31500	1105
	7.6	30900	1092
	7.5	30300	1080
	7.4	29800	1068
	7.3	29200	1055
	7.2	28600	1043
	7.1	28000	1030
	7.0	27400	1018
	6.9	26900	1005
ere	6.8	26300	993
3	6.7	25700	980
stai	6.6	25100	968
		STOP	
	*Cor	npressed	load.

	В	ullsey	y e		U	Iniqu
	Charge in grains	psi	fps		Charge in grains	psi
		STOP				STOP
	4.2	35000	1091	*	5.6	35000
	4.1	33500	1069		5.5	34200
1	4.0	32000	1047		5.4	33400
	3.9	30500	1025		5.3	32600
	3.8	29100	1003		5.2	31800
	3.7	27600	981		5.1	31000
ere.	3.6	26100	959		5.0	30200
start here	3.5	24600	937		4.9	29400
star	3.4	23200	915		4.8	28600
		STOP			4.7	27800
					4.6	27000
					4.5	26200
				here	4.4	25400
				<	4.3	24600
				start	4.2	23800
						STOP
					*Con	npressed

Alliant

Illian	t I		
			WARNING: The
niqu	e		data contained in
			this manual was cre-
	- 1		ated under strictly
			controlled condi-
	£		tions in the labora-
psi	fps		tories of
STOP			MidwayUSA _®
35000	1169		(See the section
34200	1153	<u>Use</u>	entitled "About this
		extreme	Manual" for addi-
33400	1137	<u>caution</u> when	tional important
32600	1122	loading in	information regard-
31800	1106	the Yellow	ing the controlled
		or Red zones.	laboratory condi-
31000	1090	zones.	tions.) Exactly fol-
30200	1075		low the specifica-
	1050		tions and procedures
29400	1059	All	in the LoadMAPs _{TM} .
28600	1043	pressures	Exactly follow the
27800	1028	are listed	precise combina-
	1020	in psi not C.U.P.	tions listed in this
27000	1012	See	manual. The maxi-
26200	996	page 4.	mum load must never be exceeded.
25400	981		Obey the stop bars.
24600	965	×	The user of this
23800	950		manual recognizes,
STOP			acknowledges,
			appreciates and
pressed	load.		accepts the fact that

reloading can be a

dangerous activity which can result in

serious injury.

78

the Yellow

or Red zones.

All pressures are listed

in psi not C.U.P. See

page 4.

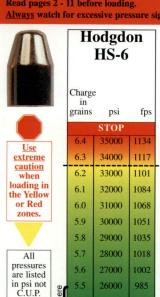
IMR

Use

when

zones.

See



969

25000

STOP

page 4.

	700X			S	R475	6
Charge in grains	e psi	fps		Charge in grains	e psi	fps
	STOP				STOP	
4.2	35000	1104	*	6.3	32400	1183
4.1	33600	1082		6.2	31600	1166
4.0	32300	1060		6.1	30800	1150
3.9	31000	1038		6.0	30100	1134
3.8	29700	1016		5.9	29300	1117
3.7	28400	994		5.8	28500	1101
3.6	27100	972		5.7	27800	1085
3.5	25700	950		5.6	27000	1068
3.4	24400	928		5.5	26300	1052
3.3	23100	906	1	5.4	25500	1036
3.2	21800	884		5.3	24700	1019
3.1	20500	862	here	5.2	24000	1003
3.0	19200	840		5.1	23200	987
	STOP		start	5.0	22500	971
*Con	pressed	load.	-		STOP	
				*Con	npressed	load.

IMR

	Charge in grains	psi	fps
		STOP	
	5.3	33100	1130
	5.2	32100	1112
	5.1	31200	1095
	5.0	30300	1078
	4.9	29400	1061
	4.8	28500	1044
	4.7	27600	1027
	4.6	26700	1010
	4.5	25800	993
	4.4	24900	976
	4.3	24000	959
here	4.2	23100	942
	4.1	22200	925
start	4.0	21300	908
		STOP	

IMR

SR7625

		1.020	
	Charge in grains		fps
		STOP	
	4.1	35000	1042
	4.0	33500	1018
-	3.9	32000	995
	3.8	30500	972
	3.7	29000	949
	3.6	27500	926
	3.5	26100	903
	3.4	24600	880
	3.3	23100	857
e e	3.2	21600	834
tart here	3.1	20100	811
start	3.0	18700	788
		STOP	

Vihtavuori

N320

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme Manual" for additional important information regarding the controlled the Yellow or Red laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must page 4. never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

increases pressure greatly. See page 77 for O.A.L. in our testing.

Reducing Cartridge

Over All Length

79

Reducing Cartridge Over All Length increases pressure greatly. See page 77 for O.A.L. in our testing.

20500

19400

STOP

873

857

*Compressed load.

20600

STOP

904

7.0

6.9

6.8

25300

24200

23700

23100

STOI

Obey the stop bars. The user of this manual recognizes.

acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

80

6.6

6.5

6.4

6.3

6.2

6.1

6.0

5.9

5.8

5.7

5.6

Hodgdon

IMR

Use

or Red

zones.

All

page 4.



	HS-6				700X			SR4756		
g	e psi	fps		Chargin in grains	e psi	fps		Charge in grains	psi	fps
	STOP				STOP				STOP	
	35000	1153	*	4.3	35000	1112	*	6.3	31600	1180
	34100	1138		4.2	33700	1090		6.2	30800	1164
	33200	1123		4.1	32400	1069		6.1	30000	1149
	32300	1108		4.0	31100	1048		6.0	29300	1133
	31400	1093		3.9	29800	1027		5.9	28500	1118
	30500	1078		3.8	28600	1006		5.8	27800	1102
	29600	1063		3.7	27300	985		5.7	27000	1087
	28800	1049		3.6	26000	963		5.6	26300	1071
	27900	1034		3.5	24700	942		5.5	25500	1056
	27000	1019		3.4	23500	921		5.4	24800	1040
	26100	1004		3.3	22200	900		5.3	24000	1025
	25200	989	ere	3.2	20900	879	ere	5.2	23300	1009
	24300	974	here	3.1	19600	858	start here	5.1	22500	994
	23500	960	start	3.0	18400	837	star	5.0	21800	979
	STOP				STOP				STOP	
				*Con	pressed	load.		*Con	pressed	load.

IMR

,	6		SR7625				
	fps		Charge in grains	psi	fps		
		1		STOP			
	1180		5.5	35000	1143		
	1164		5.4	34000	1127		
	1149	Ī	5.3	33100	1112		
	1133		5.2	32200	1097		
	1118		5.1	31300	1082		
	1102		5.0	30400	1067		
	1087		4.9	29400	1051		
	1071		4.8	28500	1036		
000	1056		4.7	27600	1021		
	1040		4.6	26700	1006		
Ī	1025		4.5	25800	991		
STATE OF	1009		4.4	24800	975		
	994		4.3	23900	960		
	979	here	4.2	23000	945		
		t he	4.1	22100	930		
	load.	star	4.0	21200	915		
				STOP			

IMR

	Charge in grains	psi	fps
	4.1	STOP 35000	1048
	4.1	33500	1048
-	3.9	32100	1003
	3.8	30700	981
	3.7	29200	958
	3.6	27800	936
	3.5	26400	914
	3.4	25000	892
	3.3	23500	869
here	3.2	22100	847
t Ph	3.1	20700	825
star	3.0	19300	803
		STOP	

Vihtavuori

N320

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme Manual" for addicaution when tional important information regardloading in the Yellow ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

WARNING: The

Reducing Cartridge Over All Length increases pressure greatly. See page 77 for O.A.L. in our testing. manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

<u>Use</u>

extreme

caution

or Red

zones.

All

are listed

page 4.



Use extreme caution when loading in the Yellow or Red zones.

All pressures are listed in psi not C.U.P. See page 4.

Accurate Accurate Arms Arms No. 2 No. 5 Charge Charge grains psi fps grains psi fps STOI 1110 35000 1086 32900 6.2 31900 1093 4.5 33900 1068 30900 1076 4.4 32800 1051 6.1 1059 6.0 30000 4.3 31700 1033 29000 1042 1016 5.9 4.2 30600 1025 5.8 28100 4.1 29500 999 27100 1008 4.0 28400 981 5.7 5.6 26200 991 3.9 27300 964 946 5.5 25200 974 3.8 26200 3.7 25100 929 5.4 24300 957 24000 912 23300 3.6 22900 894

877

21800

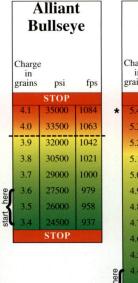
STOP

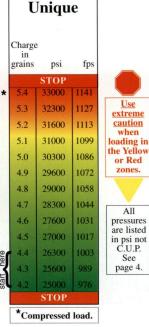
STOP

]	A	ccura	te
		Arms No. 7	3
	Charge in grains	psi	
		STOP	
,	k 8.3	32300	11
	8.2	31700	11
	8.1	31200	11
	8.0	30700	11
	7.9	30200	11
	7.8	29700	11
	7.7	29200	10
	7.6	28600	10
	7.5	28100	10
	7.4	27600	10
	7.3	27100	10
	7.2	26600	10
	7.1	26100	10
	7.0	25500	10
	6.9	25000	10
9	6.8	24500	9
9	6.7	24000	9
t			

	A	ccura	te	
		Arms No. 7		
	Charge in grains	psi	fps	
	grano	STOP	·P.	
*	8.3	32300	1171	
	8.2	31700	1159	
	8.1	31200	1147	
	8.0	30700	1135	
	7.9	30200	1123	
	7.8	29700	1111	
	7.7	29200	1099	
	7.6	28600	1087	
	7.5	28100	1075	
	7.4	27600	1063	
	7.3	27100	1051	
	7.2	26600	1039	
	7.1	26100	1027	
	7.0	25500	1015	
	6.9	25000	1003	
here	6.8	24500	991	
	6.7	24000	979	
start	6.6	23500 CTOB	967	
	2000	STOP		

*Compressed load.





Reducing Cartridge Over All Length

See page 77 for O.A.L. in our testing.

increases pressure greatly.

Alliant

Obey the stop bars. The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in

serious injury.

never be exceeded.

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must

WARNING: The

82

IMR

700X

psi

STOI

35000

33600

32200

30900

29500

28200

26800

25500

24100

22800

21400

20100

STOP

*Compressed load.

fps

1092

1069

1047

1025

1003

981

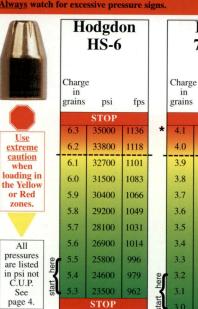
958

936

914

892

870



STOP

	S	IMR R475			S	IMR R762	
	Charge in grains	e psi	fps		Charge in grains	e psi	fps
		STOP		0.53		STOP	
*	6.3	35000	1202		5.4	35000	1142
	6.2	34100	1186		5.3	34200	1126
	6.1	33300	1170		5.2	33400	1110
1	6.0	32500	1155		5.1	32600	1095
	5.9	31700	1139		5.0	31800	1079
	5.8	30900	1124		4.9	31100	1064
	5.7	30100	1108		4.8	30300	1048
	5.6	29300	1093		4.7	29500	1033
	5.5	28500	1077		4.6	28700	1017
	5.4	27700	1062		4.5	27900	1001
	5.3	26900	1046		4.4	27200	986
here	5.2	26100	1031		4.3	26400	970
•	5.1	25300	1015	ere.	4.2	25600	955
start	5.0	24500	1000	t here	4.1	24800	939
		STOP		start	4.0	24100	924
	*Con	pressed	load.			STOP	

S	R762	25		N320		
arg in ins	e psi	fps		Charge in grains	e psi	fps
	STOP				STOP	
.4	35000	1142		4.0	35000	1037
.3	34200	1126		3.9	33500	1014
2	33400	1110		3.8	32000	991
1	32600	1095		3.7	30500	968
.0	31800	1079		3.6	29000	945
9	31100	1064		3.5	27600	923
.8	30300	1048		3.4	26100	900
.7	29500	1033		3.3	24600	877
6	28700	1017	here	3.2	23100	854
.5	27900	1001	t Pe	3.1	21600	831
4	27200	986	start	3.0	20200	809
3	26400	970			STOP	
2	25600	955				
1	24800	939				
0	24100	924		Red	ucina (Cartri

Vihtavuori

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section Use entitled "About this extreme Manual" for addicaution tional important when information regarding the controlled the Yellow or Red laboratory condizones. tions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. All Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maxi-See mum load must page 4. never be exceeded. Obey the stop bars.

WARNING: The

Reducing Cartridge Over All Length increases pressure See page 77 for O.A.L. in our testing.

greatly.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Accurate



		No. 2			
		Charge in grains	psi	fŗ	
			STOP		
Usa		4.4	35000	106	
<u>Use</u> extreme		4.3	33700	104	
caution when	1	4.2	32400	102	
loading in the Yellow		4.1	31100	100	
or Red		4.0	29800	991	
zones.		3.9	28500	973	
		3.8	27200	955	
All		3.7	25900	93	
pressures are listed		3.6	24600	920	
in psi not	here	3.5	23300	903	
C.U.P. See	he	3.4	22000	884	
page 4.	start	3.3	20700	86	

STOP

	Accurate Arms No. 5				
	Charge in grains		fps		
		STOP			
	6.2	35000	1098		
	6.1	33700	1079		
-	6.0	32400	1061		
	5.9	31200	1043		
	5.8	29900	1025		
	5.7	28700	1007		
	5.6	27400	988		
	5.5	26100	970		
here	5.4	24900	952		
he	5.3	23600	934		
start	5.2	22400	916		
		STOP			

	Accurate Arms No. 7				
	Charge in grains	psi	fps		
		STOP			
*	8.3	35000	1182		
	8.2	34400	1169		
1	8.1	33800	1157		
	8.0	33200	1145		
	7.9	32600	1133		
	7.8	32000	1120		
	7.7	31400	1108		
	7.6	30800	1096		
	7.5	30200	1084		
	7.4	29600	1072		
	7.3	29000	1059		
	7.2	28400	1047		
	7.1	27800	1035		
	7.0	27200	1023		
	6.9	26600	1010		
9	6.8	26000	998		
hei	6.7	25400	986		
start	6.6	24800	974		
0,		STOP			
	*Compressed load.				

	Charge	:	
	grains	psi	fps
		STOP	
	4.0	32800	1063
	3.9	31400	1040
	3.8	30100	1018
	3.7	28800	996
0	3.6	27400	973
alele Viele	3.5	26100	951
Start	3.4	24800	929
		STOP	

Alliant

	τ	Iniqu	e	
	Charge in grains	psi	fps	
		STOP		
*	5.3	32800	1125	Una
	5.2	31800	1109	<u>Use</u> extreme
	5.1	30900	1093	caution
	5.0	30000	1077	loading in
	4.9	29100	1062	the Yellow or Red
	4.8	28200	1046	zones.
	4.7	27300	1030	
	4.6	26400	1014	All
	4.5	25500	999	pressures are listed
e e	4.4	24600	983	in psi not
3	4.3	23700	967	C.U.P. See
Star	4.2	22800	952	page 4.
		STOP		
	*Cor	npressed	load.	
	-			-

Alliant

All pressures are listed in psi not C.U.P. See page 4.

Reducing Cartridge Over All Length increases pressure greatly. See page 77 for O.A.L. in our testing. data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

84

IMR

IMR

Use

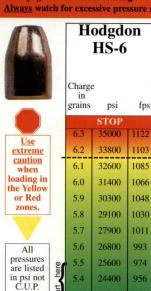
or Red

zones.

All

See

page 4.



See

page 4.

		700X		S	R4	
	Charge in grains		fps		Charge in grains	e p
		STOP			THE REAL PROPERTY.	STO
	4.0	32200	1068	*	6.2	350
	3.9	31000	1044		6.1	338
	3.8	29800	1021	1	6.0	326
	3.7	28700	998		5.9	315
	3.6	27500	975		5.8	303
i	3.5	26400	952		5.7	292
	3.4	25200	928		5.6	280
	3.3	24000	905		5.5	268
	3.2	22900	882		5.4	257
1	3.1	21700	859		5.3	245
Į	3.0	20600	836	here	5.2	234
		STOP		<	5.1	222
				start	5.0	211
						STO
					-	_

start, here

938

23300

STOP

IMR

	S	R475	6		S	R762	25
	Charge in grains	e psi	fps		Charge in grains	psi	fps
		STOP			BONS	STOP	3/3/3
*	6.2	35000	1182		5.4	35000	1129
	6.1	33800	1163		5.3	34100	1114
-	6.0	32600	1144	-	5.2	33300	1099
	5.9	31500	1126	Ī	5.1	32500	1084
	5.8	30300	1107		5.0	31700	1069
	5.7	29200	1089		4.9	30900	1054
	5.6	28000	1070		4.8	30100	1039
	5.5	26800	1051		4.7	29300	1025
	5.4	25700	1033		4.6	28500	1010
	5.3	24500	1014		4.5	27700	995
•	5.2	23400	996		4.4	26900	980
ł	5.1	22200	977		4.3	26100	965
U	5.0	21100	959	here	4.2	25300	950
		STOP		<	4.1	24500	935
	*Con	npressed	load.	start	4.0	23700	921
						STOP	

			N320			
fps		Charge in grains	psi	fps		
			STOP			
129		4.1	35000	1056		
114		4.0	33500	1032	ez	
099		3.9	32100	1009	C	
084	-	3.8	30700	986	loa	
069		3.7	29200	963	the	
054		3.6	27800	940	2	
039		3.5	26400	916		
025		3.4	25000	893		
010		3.3	23500	870	pr	
95	9.	3.2	22100	847	ar in	
80	here	3.1	20700	824	(
65	start	3.0	19300	801	p	
50			STOP			
35						
21		Dod	ucing C	ortric	dao	
			All Le		ige	
		000	, til Le	ngui		

Vihtavuori

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme Manual" for additional important when loading in information regardthe Yellow ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs $_{\text{\tiny TM}}$. Exactly follow the pressures precise combinaare listed in psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in

See page 77 for O.A.L. in our testing. serious injury.

increases pressure

greatly.

85



		1	ccura Arms No. 2			Accurate Arms No. 5			
		Charge in grains	psi	fps		Charge in grains	psi	fp	
			STOP			1000	STOP		
Use		4.6	33200	1077		6.5	33200	1117	
extreme		4.5	32000	1057		6.4	32300	1100	
caution when		4.4	30900	1038		6.3	31400	1083	
oading in he Yellow		4.3	29800	1019		6.2	30500	1067	
or Red		4.2	28700	1000		6.1	29600	1050	
zones.		4.1	27500	980		6.0	28700	1034	
		4.0	26400	961		5.9	27800	1017	
All		3.9	25300	942		5.8	26900	1001	
pressures are listed		3.8	24200	923		5.7	26000	984	
in psi not		3.7	23000	903		5.6	25100	968	
C.U.P. See		3.6	21900	884		5.5	24200	951	
page 4.	ere	3.5	20800	865	ere	5.4	23300	935	

Reducing Cartridge Over All Length increases pressure greatly. See page 77 for O.A.L. in our testing.

21600

Accurate Arms No 7

	No. 7						
	Charge in grains		fps				
		STOP					
*	8.2	35000	1173				
	8.1	34200	1159				
	8.0	33400	1146				
-	7.9	32700	1133				
	7.8	31900	1119				
	7.7	31200	1106				
	7.6	30400	1093				
	7.5	29700	1079				
	7.4	28900	1066				
	7.3	28200	1053				
	7.2	27400	1040				
	7.1	26700	1026				
	7.0	25900	1013				
	6.9	25200	1000				
	1		000				

23700

STOP

*Compressed load.

973

Alliant Bullseye

	Charge in grains		fps
	D. Bak	STOP	
	4.3	35000	1092
	4.2	33700	1071
	4.1	32400	1050
	4.0	31200	1029
	3.9	29900	1008
	3.8	28600	988
	3.7	27400	967
0	3.6	26100	946
here	3.5	24800	925
start	3.4	23600	905
0,		STOP	

Alliant Unique

	Charge in grains		fps	
	1000	STOP	100	
*	5.6	35000	1150	
	5.5	34200	1135	
	5.4	33400	1121	
	5.3	32700	1107	
	5.2	31900	1093	
	5.1	31100	1078	
	5.0	30400	1064	
	4.9	29600	1050	
	4.8	28800	1036	
	4.7	28100	1022	
	4.6	27300	1007	
	4.5	26500	993	
here	4.4	25800	979	
	4.3	25000	965	
start	4.2	24300	951	
		STOP		

*Compressed load.

Use

extreme caution when loading in the Yellow or Red zones.

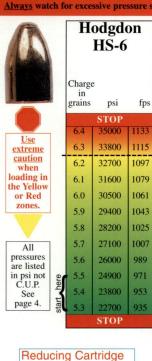
All pressures are listed in psi not C.U.P. See page 4.

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

86



Over All Length

See page 77 for

greatly.

increases pressure

O.A.L. in our testing.

	IMR 700X				S	IMR R475	6
	Charge in grains	e psi	fps		Charge in grains	psi	fps
		STOP				STOP	
t	4.2	35000	1089	*	6.3	35000	1180
	4.1	33600	1065		6.2	34000	1163
	4.0	32300	1042		6.1	33000	1147
	3.9	31000	1019		6.0	32000	1130
	3.8	29600	995		5.9	31000	1114
	3.7	28300	972		5.8	30000	1097
	3.6	27000	949		5.7	29000	1081
	3.5	25600	925		5.6	28000	1064
	3.4	24300	902		5.5	27000	1048
	3.3	23000	879		5.4	26000	1031
•	3.2	21600	855		5.3	25000	1015
l	3.1	20300	832	here	5.2	24000	998
l	3.0	19000	809		5.1	23000	982
		STOP		start	5.0	22000	966
	*Con	npressed	load.			STOP	
					*Con	npressed	load.

	Charge in grains	psi	fps
		STOP	
	5.5	35000	1127
	5.4	34100	1110
	5.3	33300	1094
٦	5.2	32500	1077
	5.1	31700	1061
	5.0	30900	1044
1	4.9	30000	1028
	4.8	29200	1011
	4.7	28400	995
	4.6	27600	978
	4.5	26800	962
	4.4	25900	945
	4.3	25100	929
919	4.2	24300	912
⋜	4.1	23500	896
Sign	4.0	22700	880
		STOP	

IMR

SR7625

	Charge in grains		fps
		STOP	
	4.1	35000	1020
	4.0	33400	995
	3.9	31800	971
	3.8	30200	946
	3.7	28700	922
	3.6	27100	898
	3.5	25500	873
	3.4	23900	849
	3.3	22400	825
here	3.2	20800	800
The Person	3.1	19200	776
start	3.0	17700	752
		STOP	

Vihtavuori

N320

	data contained in
	this manual was cre-
	ated under strictly
	controlled condi-
	tions in the labora-
	tories of
	MidwayUSA®
	(See the section
Use	entitled "About this
extreme	Manual" for addi-
when	tional important
loading in	information regard-
the Yellow	ing the controlled
or Red	laboratory condi-
zones.	tions.) Exactly fol-
	low the specifica-
	tions and procedures
4.11	in the LoadMAPs _{TM} .
All	Exactly follow the
pressures are listed	precise combina-
in psi not	tions listed in this
C.U.P.	manual. The maxi-
See	Commence of the Commence of th
page 4.	mum load must
	never be exceeded.
	Obey the stop bars.
	TTI C.1.

WARNING: The

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.



extreme caution when loading in the Yellow or Red zones.

All are listed in psi not C.U.P. See page 4.

				E SHI ONE		
	ccura Arms No. 2				ccura Arms No. 5	
Charge in grains psi fps				Charge in grains	e psi	fps
STOP					STOP	
4.7	35000	1099		6.5	32600	1118
4.6	33900	1082		6.4	31600	1101
4.5	32800	1065		6.3	30600	1084
4.4	31700	1048		6.2	29700	1068
4.3	30600	1031		6.1	28700	1051
4.2	29500	1015		6.0	27800	1034
4.1	28400	998		5.9	26800	1018
4.0	27400	981		5.8	25900	1001
3.9	26300	964		5.7	24900	985
3.8	25200	947		5.6	24000	968
3.7	24100	931		5.5	23000	951
3.6	23000	914	here	5.4	22100	935
3.5	21900	897	he	5.3	21100	918

20200 902

STOP

Reducing Cartridge Over All Length increases pressure greatly. See page 77 for O.A.L. in our testing.

880

20800

STOP

Accurate Arms

No. 7				
Charge in grains	psi	fps		
	STOP			
8.3	32000	1171		
8.2	31400	1158		
8.1	30800	1145		
8.0	30200	1132		
7.9	29600	1119		
7.8	29000	1107		
7.7	28500	1094		
7.6	27900	1081		
7.5	27300	1068		
7.4	26700	1056		
7.3	26100	1043		
7.2	25500	1030		
7.1	25000	1017		
7.0	24400	1004		
6.9	23800	992		
6.8	23200	979		
6.7	22600	966		
6.6	22000	953		

Alliant Bullseye Charge

	in grains	psi	fps
		STOP	
	4.3	35000	1104
	4.2	33500	1084
	4.1	32100	1064
	4.0	30600	1045
	3.9	29200	1025
	3.8	27700	1005
	3.7	26300	986
here	3.6	24800	966
	3.5	23400	946
start	3.4	22000	927
		STOP	

Alliant Unique

	Charge in grains	psi	fps
		STOP	
*	5.6	32200	1152
	5.5	31600	1139
	5.4	31000	1126
	5.3	30500	1113
	5.2	29900	1100
	5.1	29300	1088
	5.0	28800	1075
	4.9	28200	1062
	4.8	27600	1049
	4.7	27100	1036
	4.6	26500	1024
	4.5	25900	1011
	4.4	25400	998
	4.3	24800	985
Stall	4.2	24300	973
		STOP	

*Compressed load.

Use extreme caution loading in the Yellow or Red

All pressures are listed in psi not C.U.P. page 4.

zones.

this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

data contained in

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

88

Use

extreme

caution

when

loading in

the Yellow

or Red

zones.

All

pressures are listed

in psi not C.U.P.

See

page 4.



22700

21700

956

939

	S	IMR R475			S	IMR R762
	Charge in grains	psi	fps		Charge in grains	psi
	STOP			No.		STOP
*	6.3	31600	1178		5.5	33100
	6.2	30800	1161		5.4	32300
	6.1	30100	1145		5.3	31600
	6.0	29300	1129		5.2	30900
	5.9	28600	1113		5.1	30200
	5.8	27800	1097		5.0	29500
	5.7	27100	1081		4.9	28800
	5.6	26300	1064		4.8	28100
	5.5	25600	1048		4.7	27400
	5.4	24800	1032		4.6	26700
	5.3	24100	1016		4.5	26000
here	5.2	23300	1000		4.4	25300
he	5.1	22600	984		4.3	24600
start	5.0	21900	968	here	4.2	23900
		STOP		he	4.1	23200
	*Con	npressed	load.	start	4.0	22500
						STOP

fps

1073

1053

1033

1012

992

972

951

931

911

890

870

STOP

*Compressed load.

	SR7625						
	Charge in grains	e psi	fps				
		STOP					
	5.5	33100	1135				
1	5.4	32300	1120				
	5.3	31600	1105				
	5.2	30900	1090				
	5.1	30200	1075				
	5.0	29500	1060				
	4.9	28800	1045				
	4.8	28100	1030				
	4.7	27400	1016				
	4.6	26700	1001	ere.			
	4.5	26000	986	start _ here			
	4.4	25300	971	star			
	4.3	24600	956				
1	4.2	23900	941				
ł	4.1	23200	926				
	4.0	22500	912				
		STOP					

	Charge in	e	
	grains	psi	fps
	16.58	STOP	
	4.1	35000	1043
	4.0	33300	1020
	3.9	31600	998
	3.8	30000	976
	3.7	28300	953
	3.6	26700	931
	3.5	25000	909
	3.4	23400	887
	3.3	21700	864
0	3.2	20100	842
₹	3.1	18400	820
Star	3.0	16800	798
		STOP	

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 77 for

greatly.

Vihtavuori

N320

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

WARNING: The

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

fps

1189

1173

1158

1143

1128

1113

1098

1083

1068

1053

1038

1023

1008

993

978

963

933

STOF

Use

extreme

caution

when

loading in

or Red

zones.

All

are listed

in psi not C.U.P.

See

page 4.



Use

extreme

caution

when

loading in

the Yellow

or Red

zones.

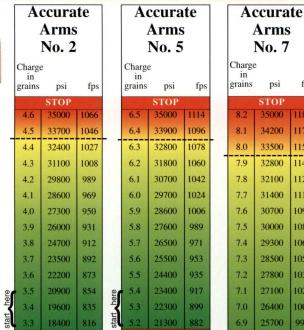
All

are listed

in psi not C.U.P.

See

page 4.



STOP

increases pressure greatly.

Reducing Cartridge Over All Length

See page 77 for O.A.L. in our testing.

•	ccura		A	cuia		
	Arms			I	Arms	
	No. 5				No. 7	
g	e psi	fps		Charge in grains	psi	
	STOP	-T-			STOP	
	35000	1114		8.2	35000	r
	33900	1096		8.1	34200	ı
	32800	1078	-	8.0	33500	
	31800	1060		7.9	32800	İ
	30700	1042		7.8	32100	
	29700	1024		7.7	31400	١
	28600	1006		7.6	30700	١
	27600	989		7.5	30000	١
	26500	971		7.4	29300	
	25500	953		7.3	28500	
	24400	935		7.2	27800	
	23400	917		7.1	27100	
	22300	899		7.0	26400	
	21300	882		6.9	25700	
	STOP			6.8	25000	
			ere	6.7	24300	
			7	66	22600	

4.3 4.2 4.1 4.0 3.9 3.8	psi STOP 35000 33700 32500 31300 30000	fps 1074 1053 1033 1013
4.3 4.2 4.1 4.0 3.9 3.8	35000 33700 32500 31300	1053 1033 1013
4.2 4.1 4.0 3.9 3.8	33700 32500 31300	1053 1033 1013
4.0 3.9 3.8	31300	1013
3.9		
3.8	30000	
		993
Same and the	28800	973
3.7	27600	953
<u>e</u> 3.6	26300	933
	25100	913
3.4	23900	893
	STOP	

	Unique					
	Charge in grains psi fps					
		STOP	(C) (A)			
*	5.6	35000	1127			
	5.5	34200	1113			
	5.4	33500	1100			
-	5.3	32800	1086			
	5.2	32100	1073			
	5.1	31300	1059			
	5.0	30600	1046			
	4.9	29900	1033			
	4.8	29200	1019			
	4.7	28500	1006			
	4.6	27700	992			
	4.5	27000	979			
0	4.4	26300	965			
here	4.3	25600	952			
start	4.2	24900	939			
0)		STOP				
	*Compressed load.					

Alliant

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

90

Use extreme

caution

when

loading in

the Yellow

or Red

zones.

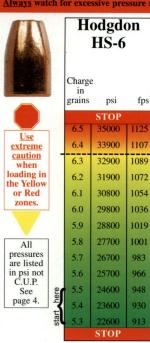
All

are listed

in psi not C.U.P.

See

page 4.



Charge in psi fps STOP 4.2 32700 1064 4.1 31600 1042 4.0 30600 1021 3.9 29600 1000 3.8 28600 979 3.7 27600 958 3.6 26600 937 3.5 25600 916 3.4 24600 895 3.3 23600 874 3.2 22600 853 3.1 21600 832 3.0 20600 811 Charge in psi psi STOP * 6.3 30400 6.0 28800 5.9 28300 5.7 27300 5.6 26800 5.5 26300 5.3 25300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 2	IMR	IN			IMR			
in grains psi fps in grains psi STOP 4.2 32700 1064 4.1 31600 1042 4.0 30600 1021 3.9 29600 1000 3.8 28600 979 3.7 27600 958 3.6 26600 937 3.5 25600 916 3.4 24600 895 3.3 23600 874 3.2 22600 853 3.1 21600 832 3.0 20600 811 STOP ★ 6.3 30400 6.2 29800 6.0 28800 5.9 28300 5.7 27300 5.6 26800 5.5 26300 5.3 25300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5	SR4756	SR4				700X		
in grains psi fps in grains psi STOP 4.2 32700 1064 4.1 31600 1042 4.0 30600 1021 3.9 29600 1000 3.8 28600 979 3.7 27600 958 3.6 26600 937 3.5 25600 916 3.4 24600 895 3.3 23600 874 3.2 22600 853 3.1 21600 832 3.0 20600 811 STOP ★ 6.3 30400 6.2 29800 6.0 28800 5.9 28300 5.7 27300 5.6 26800 5.5 26300 5.3 25300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5.1 24300 5	harge	haroe	C				Charge	
STOP 4.2 32700 1064 * 6.3 30400 4.1 31600 1042 6.2 29800 4.0 30600 1021 6.1 29300 3.9 29600 1000 6.0 28800 3.8 28600 979 5.9 28300 3.7 27600 958 5.8 27800 3.6 26600 937 5.7 27300 3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.1 21600 832 5.2 24800 3.0 20600 811 5.1 24300	in	in					in	
4.2 32700 1064 * 6.3 30400 4.1 31600 1042 6.2 29800 4.0 30600 1021 6.1 29300 3.9 29600 1000 6.0 28800 3.8 28600 979 5.9 28300 3.7 27600 958 5.8 27800 3.6 26600 937 5.7 27300 3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.2 22600 853 5.3 25300 3.1 21600 832 5.2 24800 3.0 20600 811 5.1 24300			g		fps		grains	
4.1 31600 1042 6.2 29800 4.0 30600 1021 6.1 29300 3.9 29600 1000 6.0 28800 3.8 28600 979 5.9 28300 3.7 27600 958 5.8 27800 3.6 26600 937 5.7 27300 3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.1 21600 832 5.2 24800 3.0 20600 811 5.1 24300								
4.0 30600 1021 6.1 29300 3.9 29600 1000 6.0 28800 3.8 28600 979 5.9 28300 3.7 27600 958 5.8 27800 3.6 26600 937 5.7 27300 3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.2 22600 853 5.3 25300 3.1 21600 832 5.2 24800 3.0 20600 811 5.1 24300	6.3 30400 1160	5.3 304	*	,	1064	32700	4.2	
3.9 29600 1000 6.0 28800 3.8 28600 979 5.9 28300 3.7 27600 958 5.8 27800 3.6 26600 937 5.7 27300 3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.2 22600 853 5.3 25300 3.1 21600 832 5.2 24800 3.0 20600 811 5.1 24300	6.2 29800 1145	5.2 298			1042	31600	4.1	
3.8 28600 979 5.9 28300 3.7 27600 958 5.8 27800 3.6 26600 937 5.7 27300 3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.2 22600 853 5.3 25300 3.1 21600 832 5.2 24800 3.0 20600 811 5.1 24300	6.1 29300 1131	5.1 293			1021	30600	4.0	
3.7 27600 958 5.8 27800 3.6 26600 937 5.7 27300 3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.2 22600 853 5.3 25300 3.1 21600 832 9 5.2 24800 3.0 20600 811	6.0 28800 1117	5.0 288			1000	29600	3.9	
3.6 26600 937 5.7 27300 3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.2 22600 853 5.3 25300 3.1 21600 832 9 5.2 24800 3.0 20600 811 5.1 24300	5.9 28300 1102	5.9 283			979	28600	3.8	
3.5 25600 916 5.6 26800 3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.2 22600 853 5.3 25300 3.1 21600 832 9 5.2 24800 3.0 20600 811 5.1 24300	5.8 27800 1088	5.8 278			958	27600	3.7	
3.4 24600 895 5.5 26300 3.3 23600 874 5.4 25800 3.2 22600 853 5.3 25300 3.1 21600 832 5.2 24800 3.0 20600 811 5.1 24300	5.7 27300 1074	5.7 273			937	26600	3.6	
3.3 23600 874 5.4 25800 3.2 22600 853 5.3 25300 3.1 21600 832 9 5.2 24800 3.0 20600 811 5.1 24300	5.6 26800 1059	5.6 268			916	25600	3.5	
3.2 22600 853 5.3 25300 3.1 21600 832 9 5.2 24800 3.0 20600 811 5.1 24300	5.5 26300 1045	5.5 263			895	24600	3.4	
3.1 21600 832 g 5.2 24800 3.0 20600 811 5.1 24300	5.4 25800 1031	5.4 258			874	23600	3.3	
3.0 20600 811 2 5.1 24300	5.3 25300 1016	5.3 253			853	22600	3.2	
5.0 20000 011	5.2 24800 1002	5.2 248		are.	832	21600	3.1	
CTOD	5.1 24300 988	5.1 243			811	20600	3.0	
	5.0 23800 974	5.0 238	L	start	STOP			
*Compressed load.	STOP	ST			load.	pressed	*Com	
*Compressed le	*Compressed load.	Compres	7					

4756			S	R762	5
psi	fps		Charge in grains	e psi	fps
TOP		أوسا	BRAG	STOP	
0400	1160	191	5.2	35000	1076
9800	1145		5.1	33800	1058
9300	1131		5.0	32700	1040
8800	1117		4.9	31600	1022
8300	1102		4.8	30500	1004
7800	1088		4.7	29400	986
7300	1074		4.6	28300	968
6800	1059		4.5	27200	950
6300	1045		4.4	26100	932
5800	1031	7	4.3	25000	914
5300	1016	here	4.2	23900	896
4800	1002	<	4.1	22800	878
4300	988	start	4.0	21700	861
3800	974			STOP	
TOP					

IMR

			Charge		
			Charge		
i	fps		grains	psi	fps
P				STOP	
0	1076		4.1	35000	1007
0	1058	_	4.0	33500	985
0	1040	-	3.9	32000	963
0	1022		3.8	30600	941
0	1004		3.7	29100	920
0	986		3.6	27600	898
0	968		3.5	26200	876
0	950		3.4	24700	854
0	932		3.3	23200	833
0	914	here	3.2	21800	811
0	896	•	3.1	20300	789
0	878	start	3.0	18900	768
0	861			STOP	
P					

Vihtavuori

N320

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of $MidwayUSA_{\circledR}$ (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Over All Length increases pressure greatly.
See page 77 for O.A.L. in our testing.

Reducing Cartridge



Use extreme caution when loading in the Yellow or Red zones.

All pressures are listed in psi not C.U.P. See page 4.

Accurate Accurate Arms Arms No. 2 No. 5 Charge Charge in grains in grains psi fps psi fps 6.6 32500 1081 35000 1114 33800 1063 31600 1097 4.5 32600 1045 6.4 30800 31400 1027 6.3 29900 1079 4.4 4.3 30200 1009 6.2 29100 1062 28300 1045 4.2 992 6.1 29000 4.1 27800 974 6.0 27400 1027 4.0 956 5.9 26600 1010 26700 938 5.8 25800 993 920 975 3.8 5.7 24900 24300 3.7 23100 903 5.6 24100 958 5.5 941 885 23300 3.6 21900 923 20700 867 849 21600 906 19500 20800 STOP STOP

Reducing Cartridge Over All Length increases pressure greatly.
See page 77 for O.A.L. in our testing.

Accurate Arms No. 7

21800

STOF

927

Alliant Bullseye

	Charge in	:	
	grains	psi	fps
		STOP	TEMP.
	4.4	35000	1093
	4.3	33800	1073
Ī	4.2	32600	1053
	4.1	31400	1033
	4.0	30200	1013
	3.9	29100	993
	3.8	27900	973
	3.7	26700	953
here	3.6	25500	933
~	3.5	24300	913
start	3.4	23200	894
		STOP	

Alliant Unique

	Charge in grains	psi	fps
		STOP	
*	5.6	31700	1128
	5.5	30900	1113
	5.4	30100	1099
	5.3	29300	1084
	5.2	28500	1070
	5.1	27700	1056
	5.0	26900	1041
	4.9	26200	1027
	4.8	25400	1013
	4.7	24600	998
	4.6	23800	984
	4.5	23000	970
here	4.4	22200	955
•	4.3	21400	941
start	4.2	20700	927
		STOP	3777

*Compressed load.

<u>Use</u>

Use extreme caution when loading in the Yellow or Red zones.

All pressures are listed in psi not C.U.P. See page 4.

ated under strictly controlled conditions in the laboratories of $MidwayUSA_{\mathbb{R}}$ (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

WARNING: The

data contained in

this manual was cre-

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

92

Use

extreme

caution when

loading in the Yellow

or Red

zones.

All

pressures

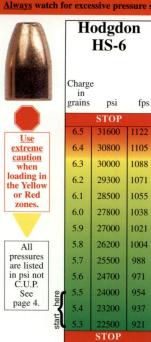
are listed

in psi not C.U.P.

See

page 4.

WARNING: The



IMR 700X					IMR R475	
Charge in grains	e psi	fps		Charge in grains	psi	fps
	STOP				STOP	
4.3	32900	1093	*	6.3	28700	1136
4.2	31700	1070		6.2	28200	1123
4.1	30600	1048		6.1	27800	1111
4.0	29400	1026		6.0	27400	1099
3.9	28300	1004		5.9	27000	1087
3.8	27200	982		5.8	26500	1075
3.7	26000	960		5.7	26100	1063
3.6	24900	937		5.6	25700	1050
3.5	23700	915		5.5	25300	1038
3.4	22600	893		5.4	24800	1026
3.3	21500	871		5.3	24400	1014
3.2	20300	849	here	5.2	24000	1002
3.1	19200	827		5.1	23600	990
3.0	18100	805	start	5.0	23200	978
	STOP				STOP	
*Con	pressed	load.		*Con	pressed	load.

	SR7625					
	Charge in grains psi fps					
	B BAR	STOP				
	5.3	35000	1099			
	5.2	34000	1082			
	5.1	33100	1065			
	5.0	32200	1048			
	4.9	31300	1031			
	4.8	30300	1014			
	4.7	29400	997			
	4.6	28500	980			
	4.5	27600	963			
	4.4	26600	946			
	4.3	25700	929			
here	4.2	24800	912			
he	4.1	23900	895			
start	4.0	23000	879			
		STOP	EXE			

IMR

	Charge in grains		fps
		STOP	
	4.1	35000	1009
	4.0	33300	985
	3.9	31700	962
	3.8	30100	938
	3.7	28500	915
	3.6	26900	891
	3.5	25200	868
	3.4	23600	844
	3.3	22000	821
9	3.2	20400	797
here	3.1	18800	774
start	3.0	17200	751
		STOP	

Reducing Cartridge

increases pressure

O.A.L. in our testing.

Over All Length

See page 77 for

greatly.

Vihtavuori

N320

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges. appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

psi

29600

28600

27500

26400

25400

24300

23200

22200

21100

20100

STOP

Use

extreme caution

when

loading in the Yellow

or Red

zones.

All

pressures are listed

in psi not C.U.P.

page 4.



Ac Charge

4.2

4.1

4.0

3.9

3.8

3.7

3.6

in grains 35000 Use 4.6 33900 extreme caution 32800 4.5 when loading in 31800 the Yellow or Red 4.3 30700 zones.

All pressures are listed in psi not C.U.P. See page 4.

ccurate	Accurate
Arms	Arms
No. 2	No. 5

fps

1097

1079

1062

1045

1028

1010

993

976

959

942

924

907

890

873

856

	No. 5						
	Charge in grains psi fps						
		STOP					
	6.6	35000	1150				
	6.5	34000	1133				
1	6.4	33000	1117				
	6.3	32100	1101				
	6.2	31100	1085				
	6.1	30200	1069				
	6.0	29200	1053				
	5.9	28300	1037				
	5.8	27300	1021				
	5.7	26300	1005				
	5.6	25400	989				
	5.5	24400	973				
here	5.4	23500	957				
	5.3	22500	941				
start	5.2	21600	925				
		STOP					

Accurate Arms

	No. 7					
	Charge in grains	psi	fps			
		STOP				
*	8.3	31800	1167			
	8.2	31200	1154			
	8.1	30600	1141			
	8.0	30100	1128			
	7.9	29500	1115			
	7.8	28900	1102			
	7.7	28400	1089			
	7.6	27800	1076			
	7.5	27200	1063			
	7.4	26700	1051			
	7.3	26100	1038			
	7.2	25500	1025			
	7.1	25000	1012			
	7.0	24400	999			
	6.9	23800	986			
	6.8	23300	973			
Z	6.7	22700	960			
200	6.6	22100	947			

STOP

*Compressed load.

Alliant Bullseye

	Charge in grains	psi	fp
		STOP	MALES
	4.2	35000	109
	4.1	33600	107
	4.0	32300	105
	3.9	30900	103
	3.8	29600	102
	3.7	28300	100
here	3.6	26900	982
•	3.5	25600	963
start	3.4	24300	944
		STOP	

Alliant Unique

	Charge in grains	psi	fps
		STOP	
*	5.6	35000	1173
	5.5	34100	1158
	5.4	33300	1143
	5.3	32500	1128
	5.2	31700	1114
	5.1	30800	1099
	5.0	30000	1084
	4.9	29200	1070
	4.8	28400	1055
	4.7	27600	1040
	4.6	26700	1025
	4.5	25900	1011
9	4.4	25100	996
here	4.3	24300	981
start	4.2	23500	967
		STOP	
	*Con	npressed	load.

this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maxi-

WARNING: The

data contained in

Obey the stop bars. The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

mum load must

never be exceeded.

Reducing Cartridge Over All Length increases pressure greatly. See page 77 for O.A.L. in our testing.

94

Use

caution

when

zones.

All

See

page 4.



extreme caution

loading in the Yellow

or Red

zones.

All

pressures

are listed

in psi not C.U.P.

page 4.

		odgd HS-6		
	Charge in grains		fps	
		STOP		
	6.5	35000	1149	,
	6.4	33900	1131	
1	6.3	32900	1113	
	6.2	31900	1096	
	6.1	30800	1078	
	6.0	29800	1061	
	5.9	28800	1043	
	5.8	27700	1025	
	5.7	26700	1008	
	5.6	05700	000	

24600

STOP

	IMR 700X				
	Charg in grains		fps		
		STOP			
*	4.2	35000	1104		
1	4.1	33700	1083		
1	4.0	32500	1062		
	3.9	31300	1042		
1	3.8	30100	1021		
	3.7	28900	1001		
	3.6	27700	980		
	3.5	26500	959		
	3.4	25300	939		
	3.3	24100	918		
-	3.2	22900	898		
		01500	000		

STOP

*Compressed load.

	SR4756				
	Charge in grains	psi	fps		
		STOP			
*	6.3	32200	1181		
	6.2	31400	1164		
	6.1	30600	1148		
	6.0	29800	1132		
	5.9	29000	1116		
e J	5.8	28200	1099		
	5.7	27400	1083		
	5.6	26600	1067		
	5.5	25800	1051		
	5.4	25000	1034		
	5.3	24200	1018		
here	5.2	23400	1002		
he	5.1	22600	986		
드			92 (6)		

STOP

*Compressed load.

IMR

	SR7625				
	Charge in grains	psi	fps		
		STOP			
	5.4	31400	1103		
	5.3	30700	1089		
	5.2	30100	1075		
	5.1	29500	1061		
	5.0	28900	1047		
	4.9	28300	1033		
	4.8	27700	1019		
	4.7	27100	1006		
	4.6	26400	992		
	4.5	25800	978		
	4.4	25200	964		
	4.3	24600	950		
here	4.2	24000	936		
_5	4.1	23400	922		
star	4.0	22800	909		
	100	STOP			

IMR

		Vihtavuori N320			
ps		Charge in grains		fps	
	1 - 1		STOP		
)3		4.1	35000	1041	
39		4.0	33500	1019	
75		3.9	32000	998	
51		3.8	30600	977	
17		3.7	29100	955	
33		3.6	27600	934	
9		3.5	26200	913	
)6		3.4	24700	892	
2		3.3	23200	870	
8	here	3.2	21800	849	
4	<	3.1	20300	828	
0	start	3.0	18900	807	
6			STOP		

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of $MidwayUSA_{@}$ (See the section entitled "About this extreme Manual" for additional important loading in information regardthe Yellow or Red ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the pressures precise combinaare listed in psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Reducing Cartridge Over All Length increases pressure greatly. See page 77 for O.A.L. in our testing.

95

			9				-	
		1	ccura Arms No. 2			,	ccura Arms No. 5	
		Charge in grains	psi	fps		Charge in grains	e psi	fps
			STOP				STOP	
Use		4.1	35000	1077		5.3	35000	1051
extreme		4.0	33600	1059		5.2	33700	1033
caution when		3.9	32300	1042		5.1	32500	1015
loading in the Yellow		3.8	31000	1024		5.0	31300	997
or Red		3.7	29700	1007		4.9	30100	980
zones.		3.6	28400	990		4.8	28900	962
		3.5	27000	972		4.7	27700	944
All		3.4	25700	955		4.6	26400	927
pressures are listed		3.3	24400	938		4.5	25200	909
in psi not	9	3.2	23100	920		4.4	24000	891
C.U.P. See	here	3.1	21800	903		4.3	22800	874
page 4.	start	3.0	20500	886	Φ.	4.2	21600	856
	0,		STOP		here	4.1	20400	838
					start	4.0	19200	821
					0)		STOP	do a

F	Accu	rate		
Arms No. 7				
Charge in grains psi fp				
	STO		M	
7.0	3500	00 107	73	
6.9	3420	00 105	59	
6.8	3350	00 104	16	
6.7	7 3280	00 103	32	
6.6	3210	00 10	19	
6.5	3140	00 100	05	
6.4	4 3060	00 99	2	
6.3	3 2990	00 97	8	
6.2	2 2920	00 96	5	
6.1	1 2850	00 95	1	
6.0	2780	00 93	8	
5.9	9 270	00 92	4	
5.8	8 2630	00 91	1	
5.	7 256	00 89	7	
5.0	6 249	00 88	4	
5.	5 242	00 87	1	
	STC)P		

	Alliant Bullseye					Allian ed Do	
ı	Charge in grains	psi	fps		Charge in grains	psi	
	3.5	STOP	1008		2.5	STOP	10
	3.4	32900 31400	988		3.5	35000 33600	9
			0000000	-			9
	3.3	29900	968		3.3	32200	
	3.2	28400	948		3.2	30800	9
	3.1	26900	928		3.1	29400	9
	3.0	25400	909		3.0	28100	9
	2.9	23900	889		2.9	26700	8
١	2.8	22400	869		2.8	25300	8
l	2.7	20900	849		2.7	23900	8
ı	2.6	19400	829		2.6	22600	8
Ų	2.5	17900	810		2.5	21200	8
		STOP		۰	2.4	19800	7
				here	2.3	18400	7
				start	2.2	17100	7
				-,	707707	STOP	

	data contained in
	this manual was cre-
	ated under strictly
	controlled condi-
	tions in the labora-
	tories of
	MidwayUSA _®
	(See the section
<u>Use</u>	entitled "About this
extreme caution when	Manual" for addi-
	tional important
loading in	information regard-
the Yellow	ing the controlled
or Red	laboratory condi-
zones.	tions.) Exactly fol-
	low the specifica-
	tions and procedures
All	in the LoadMAPs _{TM} .
pressures	Exactly follow the
are listed	precise combina-
in psi not	tions listed in this
C.U.P.	manual. The maxi-
See	mum load must
page 4.	never be exceeded.
	Obey the stop bars.
	The user of this
	manual recognizes,
	acknowledges,
	interest in the second

appreciates and accepts the fact that

reloading can be a

dangerous activity which can result in

serious injury.

WARNING: The

Reducing Cartridge Over All Length increases pressure greatly. See page 77 for O.A.L. in our testing.

96

.355" Dia. 125 grain Sectional Density .141

Ballistic Coefficient

Ctg. Overall Length





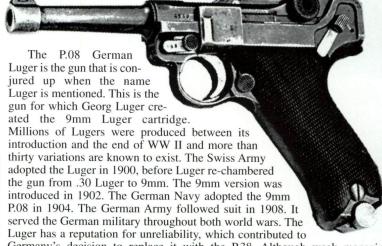




Control of the Contro		CONTRACTOR OF THE PARTY OF THE	
Sierra FMJ	Sierra JHP	MidwayUSA Lead RN	Speer Lead RN
.180	N/A	N/A	.155
1.169	1.070	1.090	1.150

BULLET	•••••	PAGE
Sierra FMJ	Plated	98
Sierra JHP	Plated	99
MidwayUSA RN	Lead	100
Speer RN		

Reducing Cartridge Over All Length increases pressure greatly.



Germany's decision to replace it with the P.38. Although weak magazine springs can cause the Luger to jam because of the speed of the action, the com-

monest Luger failure can be credited to its ammunition. If the powder charge of the round is too light, the breechblock will not travel far enough backwards to pick up the next round. The Luger is also particularly vulnerable to dirt and grit. The Luger was produced for the German war machine until 1943 and over 400,000 Lugers were sold to the military after its official replacement by the P.38 in 1938. In an early attempt to produce a sub-machine gun, some early P.08 Lugers were fitted with a wooden shoulder stock and a 32-round snail magazine. Collectors should be aware that Lugers fitted with a shoulder stock

are viewed as submachine guns by the BATF.

97

See page 12 for bullet terminology information.

Gun	Universal Receiver	Case	Remington
Barrel	H-S Precision test barrel	Max Case Length	.754
Length	4" with 1:10" twist	Trim to Length	.744
Primer	Winchester Small Pistol	Max OAL	1.169
	Maximum Average Pre	ssure (MAP) 35.000 psi	

Charge

8.1

8.0

7.9

7.8

7.7

7.6

7.5

7.4

7.3

7.2

7.1

7.0

6.9

6.8

6.7

6.6

6.5

Accurate

Arms

No. 7

psi

32600

32000

31400

30800

30200

29600

29100

28500

27900

27300

26700

26200

25600

25000

24400

23800

23300

22700

22100

STOP

fps

1136

1122

1108

1094

1080

1066

1052

1039

1025

1011

997

983

969

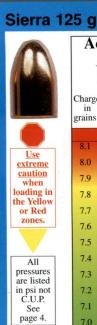
955

928

914

900

886



		llian Blue	t
		Dot	
	Charge in grains	psi	fps
		STOP	
*	8.0	33200	1187
	7.9	32600	1172
	7.8	32000	1158
	7.7	31500	1143
	7.6	30900	1129
	7.5	30400	1115
	7.4	29800	1100
	7.3	29200	1086
	7.2	28700	1071
	7.1	28100	1057
	7.0	27600	1043
	6.9	27000	1028
	6.8	26400	1014
	6.7	25900	999
	6.6	25300	985
ere	6.5	24800	971
7	6.4	24200	956
star	6.3	23600	942
		STOP	
	*Con	npressed	load.

		llian ullsey	-			odgdo HS-6	n
	Charge in grains	psi	fps		Charge in grains	psi	fps
		STOP				STOP	
	4.3	35000	1088		6.5	32100	1116
	4.2	33800	1066		6.4	31300	1098
	4.1	32700	1045		6.3	30500	1080
	4.0	31500	1024		6.2	29700	1062
	3.9	30400	1003		6.1	28900	1044
	3.8	29200	982		6.0	28200	1027
	3.7	28100	961		5.9	27400	1009
	3.6	26900	939		5.8	26600	991
	3.5	25800	918		5.7	25800	973
	3.4	24600	897		5.6	25000	955
	3.3	23500	876		5.5	24300	938
D	3.2	22300	855		5.4	23500	920
Jiel e	3.1	21200	834		5.3	22700	902
Start	3.0	20100	813	here	5.2	21900	884
		STOP			5.1	21100	866
				start	5.0	20400	849
						STOP	

Reducing	Cartridge Over All Length
	pressure greatly.
See page	97 for O.A.L. in our testing.

	200	itavu 3N37	ori	
	Charge in grains	psi	fps	
		STOP		
	6.0	35000	1135	
	5.9	34100	1115	Use extreme
-	5.8	33200	1095	caution when
	5.7	32400	1075	loading in
	5.6	31500	1055	the Yellow or Red
	5.5	30600	1036	zones.
	5.4	29800	1016	
	5.3	28900	996	All
	5.2	28000	976	pressures are listed
	5.1	27200	956	in psi not
	5.0	26300	937	C.U.P. See
	4.9	25400	917	page 4.
	4.8	24600	897	
	4.7	23700	877	
	4.6	22800	857	
	4.5	22000	838	
nere	4.4	21100	818	
t P	4.3	20200	798	
star	4.2	19400	778	
		STOP		2. X. 112.1

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

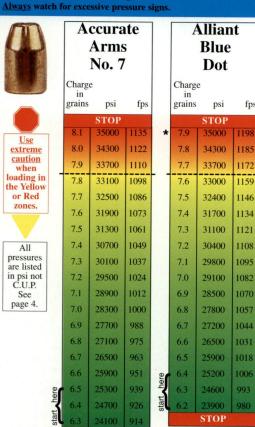
The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

98

fps

*Compressed load.

Sierra 125 gr JHP



STOF

		Allian ullsey			H	odgd HS-6				itavu 3N37	
	Charge in grains		fps		Charge in grains		fps		Charge in grains	psi	fps
		STOP				STOP				STOP	
	4.0	35000	1069		6.0	35000	1084		5.8	35000	1119
-	3.9	33600	1047		5.9	33800	1067		5.7	34100	1101
	3.8	32300	1025		5.8	32700	1050		5.6	33200	1083
	3.7	30900	1003		5.7	31500	1033		5.5	32400	1066
	3.6	29600	981		5.6	30400	1016		5.4	31500	1048
	3.5	28300	960		5.5	29300	999		5.3	30700	1030
	3.4	26900	938		5.4	28100	982		5.2	29800	1013
	3.3	25600	916		5.3	27000	965		5.1	29000	995
here	3.2	24200	894	ere	5.2	25800	948		5.0	28100	978
	3.1	22900	872	start here	5.1	24700	931		4.9	27300	960
start	3.0	21600	851	star	5.0	23600	914		4.8	26400	942
		STOP				STOP			4.7	25500	925
									4.6	24700	907
									4.5	23800	890
		Redu							4.4	23000	872
		Over		-					4.3	22100	854
		increa		ores	sure			ø,	4.2	21300	837
		greatl		77 f				here	4.1	20400	819
		See p						start	4.0	19600	802
		O.A.L	. 111 0	ui le	Sung			"		STOP	77.63

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section Use entitled "About this extreme Manual" for addicaution tional important when information regardloading in ing the controlled the Yellow or Red laboratory condizones. tions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. All Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maxi-See mum load must page 4. never be exceeded. Obey the stop bars. The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

A	4	Ø.
B		3
4	-	
	1	
	SCHOOL PRO	-

extreme

caution

when

loading in

or Red

zones.

All

are listed

in psi not C.U.P.

See

page 4.

	A	ccura	te		A	ccura	te
	-	Arms No. 2				Arms No. 5	
	Charge in grains	psi	fps		Charge in grains	psi	fps
		STOP	23.			STOP	
	4.4	35000	1114		6.0	35000	1110
	4.3	33700	1096		5.9	33900	1094
	4.2	32500	1079	_	5.8	32900	1078
	4.1	31300	1062		5.7	31900	1062
	4.0	30100	1045		5.6	30800	1046
	3.9	28800	1028		5.5	29800	1030
	3.8	27600	1011		5.4	28800	1014
	3.7	26400	994		5.3	27700	998
	3.6	25200	976		5.2	26700	982
	3.5	24000	959		5.1	25700	966
	3.4	22700	942		5.0	24600	950
	3.3	21500	925		4.9	23600	934
•	3.2	20300	908		4.8	22600	918
۱	0.1	10100	001		4.7	21500	002

Reducing Cartridge Over All Length increases pressure greatly. See page 97 for O.A.L. in our testing.

æ		Ac A
fps		Charge in grains
1110		7.6
1094		7.5
1078		7.4
1062		7.3
1046		7.2
1030		7.1
1014		7.0
998		6.9
982		6.8
966		6.7
950		6.6
934		6.5
918		6.4
902		6.3
886		6.2
870		6.1
	e e	6.0

19500

STOP

Accurate Arms No. 7					Ilian Blue Dot	t
harge in rains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	1005
7.6	35000	1104	*	7.7	35000	1225
7.5	34300	1092		7.6	34300	1211
7.4	33600	1080		7.5	33700	1198
7.3	32900	1069		7.4	33100	1185
7.2	32300	1057		7.3	32500	1171
7.1	31600	1046		7.2	31900	1158
7.0	30900	1034		7.1	31300	1145
6.9	30300	1023		7.0	30600	1132
6.8	29600	1011		6.9	30000	1118
6.7	28900	1000		6.8	29400	1105
6.6	28200	988		6.7	28800	1092
6.5	27600	977		6.6	28200	1079
6.4	26900	965		6.5	27600	1065
6.3	26200	954		6.4	27000	1052
6.2	25600	942		6.3	26300	1039
6.1	24900	931	e e	6.2	25700	1026
6.0	24200	919	here	6.1	25100	1012
5.9	23500	908	start	6.0	24500	999
5.8	22900	896	"		STOP	
	STOP			*Cor	npressed	load.

- 1		Dot		
	harge in rains	200	fps	
		STOP		
	3.9	35000	1088	
	3.8	33800	1069	Use extreme
T	3.7	32700	1051	caution when
	3.6	31600	1033	loading in
	3.5	30500	1015	the Yellow or Red
	3.4	29400	996	zones.
	3.3	28300	978	
	3.2	27200	960	All
	3.1	26000	942	pressures
	3.0	24900	924	are listed in psi not
	2.9	23800	905	C.U.P. See
	2.8	22700	887	page 4.
ere	2.7	21600	869	
Pue	2.6	20500	851	
start	2.5	19400	833	
		STOP		

Alliant

Red

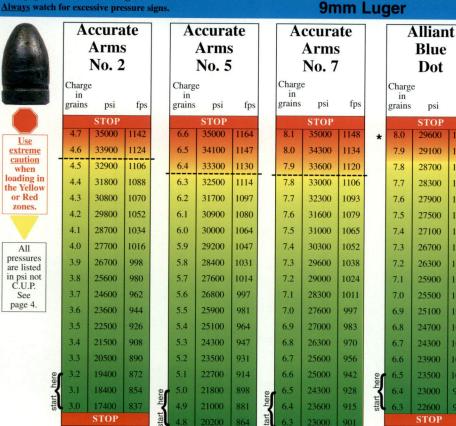
WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs $_{\text{\tiny TM}}$. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

100

WARNING: The

data contained in



STOP

	Blue Dot				
	Charge in grains		fps		
		STOP			
*	8.0	29600	1191		
	7.9	29100	1178		
	7.8	28700	1165		
	7.7	28300	1153		
	7.6	27900	1140		
	7.5	27500	1127		
	7.4	27100	1115		
	7.3	26700	1102		
	7.2	26300	1089		
	7.1	25900	1077		
	7.0	25500	1064		
	6.9	25100	1052		
	6.8	24700	1039		
	6.7	24300	1026		
	6.6	23900	1014		
nere	6.5	23500	1001		
T PE	6.4	23000	988		
star	6.3	22600	976		
		STOP			
*Compressed load.					

	_			1	
	-				
	Charge in grains		fps		
		STOP			
*	4.3	35000	1108		
	4.2	34000	1091	Use extreme	
1	4.1	33100	1075	caution	
	4.0	32200	1059	loading i	
	3.9	31300	1043	the Yello	
	3.8	30300	1027	zones.	
	3.7	29400	1011		
	3.6	28500	994	All	
	3.5	27600	978	pressures	
	3.4	26600	962	are listed in psi no	
	3.3	25700	946	C.U.P. See	
re	3.2	24800	930	page 4.	
he	3.1	23900	914		
start	3.0	23000	898		
		STOP			
	*Con	pressed	load.		
	Reducing Cartridge Over All Length increases				
	100	sure gre		000	

See page 97 for O.A.L.

in our testing.

Alliant

this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a

dangerous activity which can result in serious injury.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

STOF

101





Our ballistics lab has the finest loading and computer equipment available. Our ballistics personnel are highly trained in its use and purpose.

.355" Dia. 130 grain Sectional

Density .147

Ballistic Coefficient Ctg. Overall Length









		Balleton and the	The state of the s
MidwayUSA FMJ/RN	Remington FMJ	Sierra FMJ	Winchester FMJ
N/A	N/A	.182	N/A
1.130	1.135	1.169	1.155

Reducing Cartridge Over All Length increases pressure greatly.

BULLET	•••••	PAGE
MidwayUSA FMJ/RN	Plated	104-105
Remington FMJ		
Sierra FMJ	Plated	108-109
Winchester FMJ	Jacketed	110-111

See page 12 for bullet terminology information.

Gun	Universal Receiver	Case	Remington		
Barrel	H-S Precision test barrel	Max Case Length	.754		
Length	4" with 1:10" twist	Trim to Length	.744		
Primer	Winchester Small Pistol	Max OAL	1.169		
Maximum Avarage Pressure (MAP) 35 000 psi					

Maximum Average Pressure (MAP) 35,000 psi

104

See

page 4.

7.0

6.9

6.8

6.7

6.6

6.5

28700

28000

27400

26800

26100

25500

24900

24200

23600

STOP

985

973

961

949

937

925

913

901

889

6.5

6.4

6.3

6.2

6.1

6.0

1004

989

973

958

942

927

912

896

28700

28000

27400

26800

26200

25500

24900

24300

STOP

*Compressed load.

2.9

2.8

27

23200

22100

20900

19700

18600

STOI

774

750

680

3.9

3.8

3.7

3.6

3.5

3.4

24600

23800

22900

22100

21300

20500

19600

18800

18000

STOF

847

827

807

787

767

746

726

706

686

3.2

3.1

3.0

greatly.

22900

21700

20500

STOP

Over All Length

Reducing Cartridge

increases pressure

See page 103 for

O.A.L. in our testing.

790

769

See

page 4.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

tions listed in this

mum load must

The user of this manual recognizes,

acknowledges.

appreciates and

accepts the fact that reloading can be a

dangerous activity

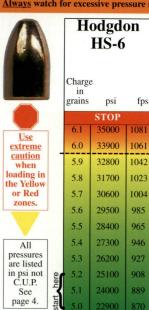
which can result in

serious injury.

manual. The maxi-

never be exceeded.

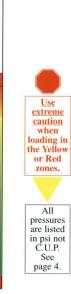
Obey the stop bars.



STOF

start_here

- 1	IMR 700X					nches 231	ier
	Charge in grains	psi	fps		Charge in grains	psi	fps
	2.0	STOP				STOP	
	3.9	35000	1026		4.1	33100	1006
	3.8	33600	1004		4.0	31900	983
200	3.7	32200	982		3.9	30800	961
	3.6	30800	960		3.8	29600	938
	3.5	29400	938		3.7	28500	916
	3.4	28100	917		3.6	27300	894
	3.3	26700	895		3.5	26200	871
-	3.2	25300	873		3.4	25000	849
	3.1	23900	851		3.3	23900	827
l	3.0	22600	830	9	3.2	22700	804
		STOP		here	3.1	21600	782
				start	3.0	20500	760
						STOP	



WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of $MidwayUSA_{\circledR}$ (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM} Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

See page 103 for O.A.L. in our testing.

Reducing Cartridge

increases pressure

Over All Length

greatly.

20700

19600

18500

17500

STOP

726

703

681

Reducing Cartridge Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing.

STOP

796

775

754

22800

22000

21100

20200

STOF

WARNING: The data contained in this manual was created under strictly controlled conditions in the labora-MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this manual recognizes,

acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

106

7.0

6.9

6.8

26900

26300

25700

25100

24500

23800

STOF

966

953

941

928

915

26700

26000

24800

STOP

*Compressed load.

936

920

904

6.1

6.0

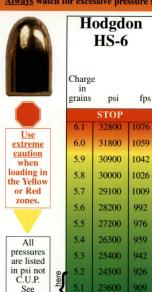
59

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

3.7

3.6

3.5



STOP

page 4.

IMR 700X				Wi	nches 231	ster
Charge in grains	e psi	fps		Charge in grains	psi	fps
	STOP				STOP	
4.0	33100	1036		4.2	35000	1013
3.9	31900	1013		4.1	33600	990
3.8	30700	991		4.0	32300	968
3.7	29500	969		3.9	31000	946
3.6	28300	947		3.8	29700	924
3.5	27200	925		3.7	28400	901
3.4	26000	903		3.6	27100	879
3.3	24800	881		3.5	25700	857
3.2	23600	859		3.4	24400	835
3.1	22400	837		3.3	23100	812
3.0	21300	815	here	3.2	21800	790
	STOP			3.1	20500	768
			start	3.0	19200	746
					STOP	



WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Reducing Cartridge

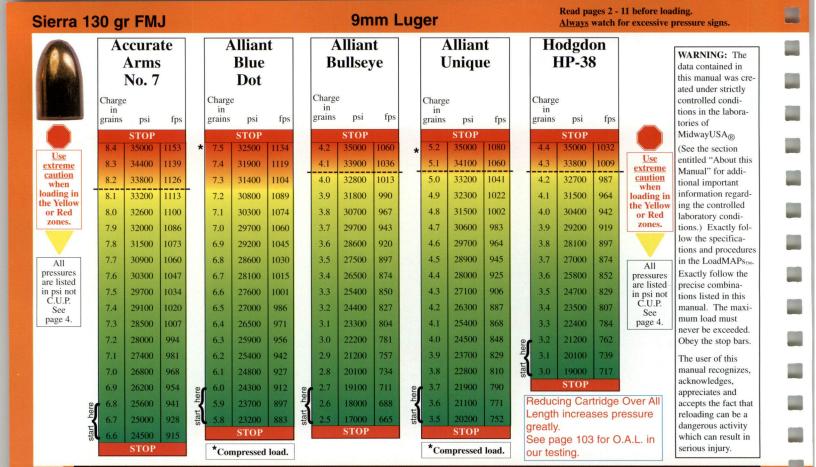
increases pressure

See page 103 for

O.A.L. in our testing.

Over All Length

greatly.

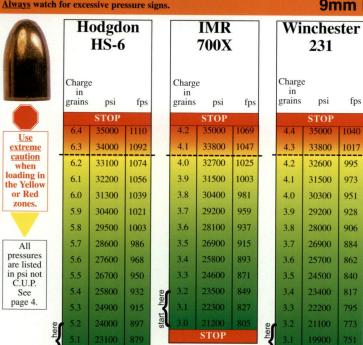


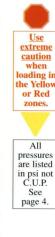
WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should

not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

108

STOP





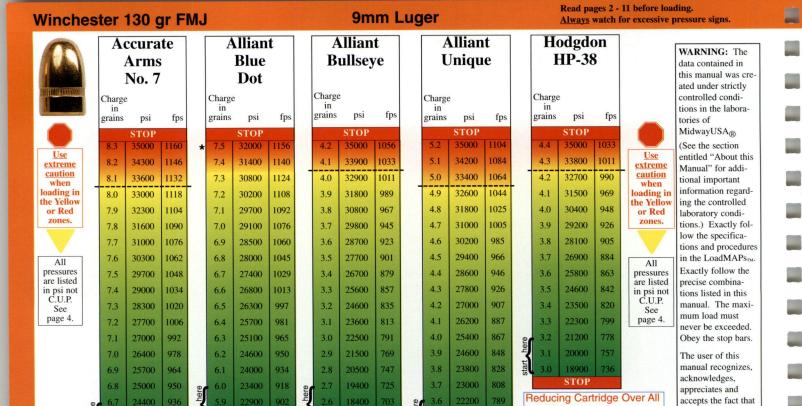
Reducing Cartridge Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

STOF



110

23700

23100

STOP

22300

STOF

*Compressed load.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

21400

20600

STOF

749

Length increases pressure

See page 103 for O.A.L. in

our testing.

reloading can be a

dangerous activity

which can result in

serious injury.

Charge

in grains

6.1

6.0 3180

5.8

5.7

5.6 2760

5.5

5.4 2550

5.3 245



Hodgdon HS-6				IMR 700X			Winchester 231			
harg in rains	e psi	fps		Charg in grains		fps		Charge in grains	e psi	fps
	STOP				STOP				STOP	E AND THE
6.3	35000	1106		4.2	35000	1062		4.3	35000	1029
6.2	33900	1087		4.1	33700	1040		4.2	33700	1006
6.1	32900	1069		4.0	32500	1018	Ī	4.1	32500	984
6.0	31800	1051		3.9	31300	996		4.0	31200	961
5.9	30800	1033	8	3.8	30100	974		3.9	30000	939
5.8	29700	1014		3.7	28800	952		3.8	28700	916
5.7	28700	996		3.6	27600	931		3.7	27500	894
5.6	27600	978		3.5	26400	909		3.6	26200	871
5.5	26600	960		3.4	25200	887		3.5	25000	849
5.4	25500	941		3.3	23900	865		3.4	23700	826
5.3	24500	923	ere	3.2	22700	843		3.3	22500	804
5.2	23400	905	t here	3.1	21500	821	e.e	3.2	21200	781
5.1	22400	887	start	3.0	20300	800	t here	3.1	20000	759
5.0	21400	869			STOP		start	3.0	18800	737
	STOP								STOP	



WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

increases pressure greatly. See page 103 for O.A.L. in our testing.

Reducing Cartridge

Over All Length



The Marlin Model 9 Semi-Automatic Camp Carbine is one of the long guns available in 9mm Luger. It was introduced in 1985. Between 1985 and 1989, it was sold with a 12-round or a 20-round magazine. It has been sold with a 4-round magazine since 1990. It is a lightweight firearm that can be used for plinking, shooting varmints and small game.

9mm Luger

.355" - .356" Dia. 147 grain Sectional

Density .167

Ballistic Coefficient

Ctg. Overall Length











Remington

.754

.744

1.169

Hornady Hornady MidwayUSA MidwayUSA Remington Remington FMJ/RN/BT HP/XTP FMJ/RN FMJ-Match .212 .212 N/A N/A N/A N/A 1.169 1.135 1.169 1.169 1.160 1.160











	Speer Gold Dot	Speer TMJ	Winchester JHP	Winchester ST/HP	Winchester TC
Ballistic Coefficient	.164	.208	N/A	N/A	N/A
Ctg. Overall Length	1.130	1.169	1.169	1.169	1.169

See page 12 for bullet terminology information.

Gun Universal Receiver **Barrel** H-S Precision test barrel Length 4" with 1:10" twist **Primer**

Winchester Small Pistol

Max OAL

Case

Trim to Length

Max Case Length

Maximum Average Pressure (MAP) 35,000 psi

Reducing Cartridge Over All Length increases pressure greatly.

BULLET	PAGE
Hornady FMJ/RN/BTJack	teted114-115
Hornady HP/XTPJack	eted116-117
MidwayUSA FMJ/RNPla	ted118-119
MidwayUSA JHPPla	ted120-121
Remington FMJ-MatchPla	ted122-123
Remington JHPPla	ted124-125
Speer Gold DotPla	ted126-127
Speer TMJPla	
Winchester JHPJack	
Winchester ST/HPJack	
Winchester TCJack	eted134-135

psi

STOP

35000

33800

32700

31500

30400

29300

28100

27000

25800

24700

22400

21300 20100

19000

17900

STOP

fps

973

953

933

914

894

874

855

835

815

796

756

697

678

Charge

grains

3.9

3.8

3.7

3.5

3.4

3.3

3.2

3.1

3.0

2.9

2.8

Use

extreme

caution

when

or Red

zones.

All

are listed

in psi not C.U.P.

See

page 4.



Use
extreme
caution
when
loading in
the Yellow
or Red

zones.

All pressures are listed in psi not C.U.P. See page 4.

Accurate Accurate Arms Arms No. 2

	No. 5					
	Charge in grains		fps			
		STOP				
1	5.5	35000	998			
	5.4	34000	981			
1	5.3	33000	964			
	5.2	32100	948			
	5.1	31100	931			
	5.0	30100	914			
	4.9	29200	898			
	4.8	28200	881			
	4.7	27200	864			
	4.6	26300	848			
	4.5	25300	831			
	4.4	24300	814			
	4.3	23400	798			
9	4.2	22400	781			
here	4.1	21400	764			
start	4.0	20500	748			
		STOP	1889			

Accurate Arms No. 7

1		NO. /	
	Charge in	•	
	grains	psi	fps
		STOP	8
	7.2	33000	1014
	7.1	32400	1000
	7.0	31800	987
	6.9	31200	973
	6.8	30600	960
	6.7	30000	946
	6.6	29400	933
	6.5	28800	919
	6.4	28200	906
	6.3	27600	892
	6.2	27000	879
	6.1	26500	865
	6.0	25900	852
	5.9	25300	838
	5.8	24700	825
	5.7	24100	811
0	5.6	23500	798
₹	5.5	22900	784
Sidil	5.4	22300	771

Alliant Blue Dot

	Charge in						
	grains	psi	fps				
	STOP						
*	6.2	31400	1019				
	6.1	30700	1003				
	6.0	30000	987				
	5.9	29300	971				
	5.8	28600	955				
	5.7	27900	939				
	5.6	27200	923				
	5.5	26500	907				
	5.4	25800	891				
	5.3	25100	875				
here	5.2	24400	859				
≺	5.1	23700	843				
start	5.0	23100	827				
		STOP					
	*Con	npressed	load.				

Alliant Unique



WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

never be exceeded. Obey the stop bars.

greatly. See page 113 for O.A.L. in our testing.

Reducing Cartridge

increases pressure

Over All Length

114

IMR

Use

zones.

See

Always wat	ch f	or exce	ssive pre	ssure s
			odgde HS-6	
			STOP	
	*	5.5	35000	997
<u>Use</u> extreme		5.4	33900	978
caution	-	5.3	32800	960
when loading in		5.2	31800	942
the Yellow or Red		5.1	30700	924
zones.		5.0	29600	905
		4.9	28600	887
All		4.8	27500	869
pressures		4.7	26500	851
are listed in psi not		4,6	25400	832
in psi not C.U.P. See		4.5	24300	814
page 4.	e.	4.4	23300	796
	he		22200	778
start		4.2	21200	760
			STOP	
		*Con	pressed	load.

	STOP
	*Compressed lo
Reducing Ca	rtridge Over All
Length increa	ases pressure
greatly.	
See page 11:	3 for O.A.L. in
our testing.	was a second
greatly. See page 11	

	Hodgdon HS-7						
	Charge in grains	psi	fps				
		STOP					
	6.2	35000	1004				
	6.1	34200	988				
	6.0	33400	972				
	5.9	32700	957				
	5.8	31900	941				
	5.7	31100	926				
	5.6	30400	910				
	5.5	29600	894				
	5.4	28800	879				
	5.3	28100	863				
	5.2	27300	848				
	5.1	26500	832				
	5.0	25800	816				
	4.9	25000	801				
	4.8	24200	785				
	4.7	23500	770				
re	4.6	22700	754				
he	4.5	21900	738				
start	4.4	21200	723				
		STOP					

	Charge in		
2	grains	psi	fps
		STOP	
	4.4	32300	965
	4.3	31300	945
1000	4.2	30400	925
	4.1	29400	905
	4.0	28500	885
	3.9	27500	865
	3.8	26600	845
1000	3.7	25700	826
	3.6	24700	806
	3.5	23800	786
	3.4	22800	766
	3.3	21900	746
	3.2	20900	726
	3.1	20000	706
l	3.0	19100	687
		STOP	

		3N37			23	
	Charge in grains	e psi	fps		Charge in grains	e p:
	e fre	STOP				STO
	5.2	35000	1011		3.7	3270
	5.1	34000	991		3.6	3160
	5.0	33100	972	_	3.5	3050
	4.9	32200	953		3.4	2940
	4.8	31300	934		3.3	2830
	4.7	30400	914		3.2	2730
	4.6	29400	895		3.1	2620
	4.5	28500	876		3.0	2510
	4.4	27600	857		2.9	2400
	4.3	26700	837		2.8	2290
	4.2	25800	818		2.7	2190
	4.1	24900	799		2.6	2080
	4.0	23900	780		2.5	1970
	3.9	23000	760	e.	2.4	1860
	3.8	22100	741	here	2.3	1750
•	3.7	21200	722	start	2.2	1650
Į	3.6	20300	703			STC
	3.5	19400	684			
		STOP				

Vihtavuori

	Charge in grains	psi	fps
	2 5 7 6	STOP	5 16
	3.7	32700	924
	3.6	31600	900
	3.5	30500	877
	3.4	29400	854
	3.3	28300	831
	3.2	27300	808
	3.1	26200	785
	3.0	25100	762
	2.9	24000	739
	2.8	22900	716
	2.7	21900	693
	2.6	20800	670
	2.5	19700	647
	2.4	18600	624
Į	2.3	17500	601
U	2.2	16500	578
		STOP	

Winchester

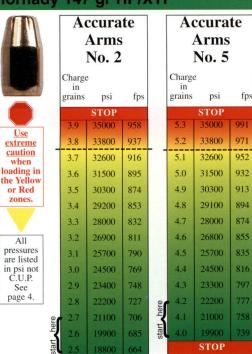
WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for addiextreme caution when tional important information regardloading in the Yellow ing the controlled or Red laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. All pressures Exactly follow the are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must page 4. never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Accurate

Arms

Alliant



STOP

	No. 7				Dot	
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP			TK SA	STOP	
7.0	35000	1010	*	6.2	35000	1032
6.9	34200	995		6.1	33900	1015
6.8	33400	981		6.0	32900	998
6.7	32700	967		5.9	31900	981
6.6	31900	953		5.8	30800	964
6.5	31200	939		5.7	29800	947
6.4	30400	925		5.6	28800	930
6.3	29700	911		5.5	27700	913
6.2	28900	897		5.4	26700	896
6.1	28200	883		5.3	25700	879
6.0	27400	869	9	5.2	24600	862
5.9	26600	854	here	5.1	23600	845
5.8	25900	840	start	5.0	22600	828
5.7	25100	826			STOP	
5.6	24400	812		*Con	npressed	load.
5.5	23600	798			7	
5.4	22000	701				

	Blue			lι	nıqu	e
	Dot					
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP		1460		STOP	
6.2	35000	1032		4.2	35000	986
6.1	33900	1015	3	4.1	33700	966
6.0	32900	998		4.0	32400	946
5.9	31900	981		3.9	31100	926
5.8	30800	964		3.8	29800	907
5.7	29800	947	9	3.7	28500	887
5.6	28800	930	here	3.6	27200	867
5.5	27700	913	start	3.5	26000	848
5.4	26700	896			STOP	
5.3	25700	879				
5.2	24600	862				
5.1	23600	845				
5.0	22600	828				
	STOP					
*Con	npressed	load.		Redi	ucing C	Cartri
					All Le	

Alliant

Dlara

WARNING: The Unique data contained in this manual was created under strictly controlled conditions in the laborafps tories of MidwayUSA_® 986 (See the section Use entitled "About this 966 extreme Manual" for addicaution 946 tional important when 926 information regardloading in the Yellow ing the controlled or Red laboratory condi-887 zones. tions.) Exactly follow the specifica-867 tions and procedures in the LoadMAPs_{TM}. All Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maxi-See mum load must page 4. never be exceeded. Obey the stop bars.

Cartridge

increases pressure

See page 103 for

O.A.L. in our testing.

greatly.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

116

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

STOP

IMR

			odgdo HS-6	
		Charge in grains	psi	fps
			STOP	
Use		5.4	35000	998
extreme		5.3	33800	979
caution when		5.2	32700	960
loading in		5.1	31600	941
the Yellow or Red		5.0	30400	922
zones.		4.9	29300	903
		4.8	28200	884
All		4.7	27000	865
pressures are listed		4.6	25900	846
in psi not C.U.P.		4.5	24800	827
See	are.	4.4	23600	808
page 4.	he	4.3	22500	789
	start	4.2	21400	771
			STOP	

Reducing Cartridge Over All

Length increases pressure

See page 113 for O.A.L. in

greatly.

our testing.

		HŠ-7	
	Charge in grains	psi	fps
		STOP	
	5.8	32300	963
	5.7	31400	946
	5.6	30500	929
	5.5	29600	912
	5.4	28800	895
	5.3	27900	878
	5.2	27000	861
	5.1	26200	844
	5.0	25300	828
	4.9	24400	811
	4.8	23600	794
	4.7	22700	777
	4.6	21800	760
	4.5	21000	743
D	4.4	20100	726
₹	4.3	19200	709
Stall	4.2	18400	693
		STOP	

Hodgdon

4.2 4.1 4.0 3.9	psi STOP 35000 33600 32300 31000	960 939 919 899
3.8 3.7 3.6 3.5 3.4 3.3 3.2 3.1 3.0	29700 28400 27100 25800 24500 23200 21900 20600	879 858 838 818 798 777 757 737 717

		itavu 3N37			Wi	nches 231	ster
	Charge in grains	psi	fps		Charge in grains	psi	fps
		STOP			Water of the last	STOP	
	5.0	35000	993		3.6	35000	920
_	4.9	33900	972		3.5	33600	896
	4.8	32800	951		3.4	32300	872
	4.7	31700	930		3.3	31000	849
	4.6	30600	909		3.2	29600	825
	4.5	29500	888		3.1	28300	801
	4.4	28400	867		3.0	27000	778
	4.3	27300	846		2.9	25700	754
	4.2	26300	825		2.8	24300	730
	4.1	25200	804		2.7	23000	707
	4.0	24100	783		2.6	21700	683
	3.9	23000	762		2.5	20300	659
	3.8	21900	741	9.	2.4	19000	636
D	3.7	20800	720	here	2.3	17700	612
	3.6	19700	699	start	2.2	16400	589
Stall	3.5	18700	678			STOP	
		STOP					

ster	
fps	
920	
896	Use extreme
872	caution
849	loading i
825	the Yello or Red
801	zones.
778	
754	All
730	pressure
707	in psi no
683	C.U.P. See
659	page 4.
636	
612	
589	

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

psi

35000

33800

32600

31500

30300

29200

28000

26900

25700

24600

23400

22300

21100

STOP

fps

922

900

878

856

834

811

789

767

745

700

4.3

22400

STOP

Charge

grains

3.9

3.8

3.7

3.6

3.5

3.4

3.3

3.2

3.1

2.9



extreme caution when loading in the Yellow or Red zones.

All pressures are listed in psi not C.U.P. page 4.

Accurate Accurate Arms Arms No. 2 Charge

Accurate Arms No. 7

STOP

Alliant Blue Dot

	in	;	
	grains	psi	fps
		STOP	1128
*	6.2	27400	948
	6.1	26800	932
	6.0	26300	916
	5.9	25800	900
	5.8	25300	884
	5.7	24800	868
	5.6	24300	852
	5.5	23800	836
	5.4	23300	820
	5.3	22800	804
here	5.2	22300	788
•	5.1	21800	772
start	5.0	21300	757
		STOP	

*Compressed load.

Alliant Unique

Charge in grains psi fps 35000 33900 980 4.4 32800 960 4.3 31700 940 4.2 30600 921 29500 901 4.1 4.0 28400 881 3.9 27300 861 26200

are listed in psi not C.U.P. See page 4.

Use

extreme

caution

when

loading in the Yellow

or Red

zones.

All

STOP *Compressed load.

25100

24000

822

Reducing Cartridge Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing. WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Obey the stop bars.

118

		odgdo HS-6	
	Charge in grains	psi	fps
		STOP	
Use	5.7	32900	997
extreme	5.6	32000	978
caution when	5.5	31200	960
oading in	5.4	30300	942
he Yellow or Red	5.3	29500	923
zones.	5.2	28700	905
	5.1	27800	887
All	5.0	27000	869
oressures are listed	4.9	26100	850
n psi not	4.8	25300	832
C.U.P. See	4.7	24500	814
page 4.	4.6	23600	796
	4.5	22800	777
	o 4.4	21900	759
	4.3	21100	741
	4.2	20300	723
		STOP	

testing.

-1	, ,			PC7 2811			COMO
	Length increa See page 113				start	4.3	18400
	Reducing Car				here	4.4	19300
			STOP		e.	4.5	20200
	rets	4.2	20300	723		4.6	21100
		4.5	21100	741		4.7	22100
	ere	4.4	21900	759		4.8	23000
		4.5	22800	777		4.9	23900
	page 4.	4.6	23600	796		5.0	24800
	See	4.7	24500	814		5.1	25700
	in psi not C.U.P.	4.8	25300	832		5.2	26700
	pressures are listed	4.9	26100	850		5.3	27600
	All	5.0	27000	869		3.4	20000

Hodgdon

HS-7

psi

35000

34000

33100

32200

31300

30300

29400

fps

980

962

945

927

910

893

875

858

841

823

806

788

754

Charge

grains

6.1

6.0

5.9

5.7

5.6

5.5

Charge in	:	
grains	psi	fps
	STOP	
4.5	33100	967
4.4	32100	947
4.3	31100	928
4.2	30200	908
4.1	29200	889
4.0	28200	870
3.9	27300	850
3.8	26300	831
3.7	25300	811
3.6	24400	792
3.5	23400	773
3.4	22400	753
3.3	21500	734
3.2	20500	714
3.1	19500	695
3.0	18600	676
3.1		

	3N37				
Charge in grains	psi	fps		Charge in grains	e
	STOP				
5.3	35000	1007		3.8	l
5.2	33900	985		3.7	
5.1	32900	964		3.6	
5.0	31900	943		3.5	
4.9	30900	922		3.4	
4.8	29900	901		3.3	
4.7	28900	880		3.2	
4.6	27900	858		3.1	
4.5	26900	837		3.0	
4.4	25900	816		2.9	
4.3	24900	795		2.8	
4.2	23900	774		2.7	
4.1	22900	753		2.6	
4.0	21900	731		2.5	
3.9	20900	710	nere	2.4	
3.8	19900	689	he	2.3	
3.7	18900	668	start	2.2	
3.6	17900	647			_
3.5	16900	626			
	STOP				

Vihtavuori

	231		
Charge in		6	
grains	psi	fps	
	STOP	1017	
3.8	35000	916	Use
3.7	33700	892	extreme
3.6	32500	869	caution when
3.5	31300	845	loading in
3.4	30100	822	the Yellow or Red
3.3	28900	798	zones.
3.2	27600	775	
3.1	26400	751	All
3.0	25200	728	pressures
2.9	24000	705	are listed in psi not
2.8	22800	681	C.U.P. See
2.7	21500	658	page 4.
2.6	20300	634	
2.5	19100	611	
2.4	17900	587	
2.3	16700	564	
2.2	15500	541	
	STOP		

Winchester

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of $\mathsf{MidwayUSA}_{\circledR}$ (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.



	110		-
	A	rms	
	N	lo. 2	
W	Charge		
	grains	psi	fj
	8	ТОР	
			0.1

	Charge in grains	psi	fŗ
		STOP	
U	4.0	35000	944
<u>Use</u> extreme	3.9	33800	923
caution when	3.8	32700	902
loading in the Yellow	3.7	31600	881
the renow	- CONTRACTOR - CON		0.00

3.5

3.4

3.3

3.2

3.1

3.0

2.9

30500

29400

28200

27100

26000

24900

23800

22600

21500

20400

19300

STOP

881

860

839

818

797

755

734

713

671

All
pressures are listed
in psi not C.U.P.
See
page 4.

or Red

zones.

curate	Accurate
Arms	Arms
No. 2	No. 5
	Charge

		No. 5									
	Charge in grains psi fps										
	STOP										
	5.6 35000 987										
	5.5	34000	968								
	5.4	33000	950	r							
	5.3	32000	932								
	5.2	31100	914								
	5.1	30100	895								
	5.0	29100	877								
	4.9	28100	859								
	4.8	27200	841								
	4.7	26200	822								
	4.6	25200	804								
	4.5	24200	786								
	4.4	23300	768								
	4.3	22300	749								
here	4.2	21300	731								
he	4.1	20300	713								
star	4.0	19400	695								

Accurate Arms No 7

	No.7										
	Charge in		C								
	grains	grains psi fp									
		STOP									
	7.1	35000	1015								
	7.0	34200	999								
	6.9	33400	984								
	6.8	32600	969								
1	6.7	31800	954								
	6.6	31000	939								
	6.5	30200	923								
	6.4	29400	908								
	6.3	28600	893								
	6.2	27800	878								
	6.1	27000	863								
	6.0	26200	847								
	5.9	25400	832								
	5.8	24600	817								
	5.7	23800	802								
	5.6	23000	787								
ere	5.5	22200	771								
3	5.4	21400	756								
Sta	5.3	20600	741								
		STOP									

Alliant Blue Dot

		Doc	
	Charge in grains	e psi	fps
		STOP	
*	6.2	28700	981
	6.1	28000	960
	6.0	27300	940
	5.9	26700	920
	5.8	26000	900
	5.7	25300	880
	5.6	24700	860
	5.5	24000	840
	5.4	23300	820
	5.3	22700	800
0	5.2	22000	780
<	5.1	21300	760
stall	5.0	20700	740
		STOP	

*Compressed load.

Alliant Unique

	Charge in grains		fps
	(C)	STOP	688
t	4.5	33100	977
	4.4	32200	961
	4.3	31300	945
	4.2	30400	929
	4.1	29500	913
	4.0	28700	897
	3.9	27800	881
	3.8	26900	865
1	3.7	26000	849
l	3.6	25100	833
l	3.5	24300	817
		STOP	
	+-		a 12

*Compressed load.

Reducing Cartridge Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing.

extreme caution when loading in the Yellow or Red zones.

All pressures are listed in psi not C.U.P. page 4.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

120

testing.

Use

extreme

caution

loading in the Yellow

or Red

zones.

All

pressures are listed

in psi not C.U.P.

See

page 4.

Always watch for excessive pressure signs.								Sillin Luger Wildwig												
		in			Hodgdon HS-7			s	IMR R762				ntavu 3N37			Wi	nches 231	ter		
					Chargin in grains	e psi	fps		Charge in grains	e psi	fps		Charge in grains	psi	fps		Charge in grains	psi	fps	
	grams	1	ips		Siums	STOP	трэ	1000		STOP			Bruno	STOP	-F		Branio	STOP		
	5.7	STOP 35000	998		6.2	35000	979		4.6	35000	979		5.2	35000	988		3.8	35000	916	١
Use	5.6	33900	979		6.1	34100	963		4.5	33900	959		5.1	33900	966		3.7	33700	890	ı
extreme caution	5.5	32900	961	-	6.0	33300	947	-	4.4	32800	939		5.0	32900	944		3.6	32500	865	ŀ
when loading in				-				-			919		4.9	31900	922					
the Yellow	5.4	31900	943		5.9	32400	931		4.3	31700					900		3.5	31300	840	ı
or Red zones.	5.3	30900	924		5.8	31600	915		4.2	30700	899		4.8	30900			3.4	30100	815	ı
VIII .	5.2	29900	906		5.7	30700	899		4.1	29600	879		4.7	29800	878		3.3	28900	790	ı
	5.1	28800	888		5.6	29900	883		4.0	28500	859		4.6	28800	856		3.2	27700	765	ı
All	5.0	27800	869		5.5	29000	868		3.9	27500	839		4.5	27800	834		3.1	26500	740	ı
pressures are listed	4.9	26800	851		5.4	28200	852		3.8	26400	819		4.4	26800	812		3.0	25300	715	
in psi not	4.8	25800	833		5.3	27300	836		3.7	25300	799		4.3	25700	790		2.9	24000	690	
C.U.P. See	4.7	24800	814		5.2	26500	820		3.6	24300	779		4.2	24700	768		2.8	22800	665	ı
page 4.	4.6	23700	796		5.1	25600	804		3.5	23200	759		4.1	23700	746		2.7	21600	640	ı
	4.5	22700	778		5.0	24800	788		3.4	22100	739		4.0	22700	724		2.6	20400	615	ı
Φ	4.4	21700	759		4.9	23900	772		3.3	21100	719		3.9	21600	702		2.5	19200	590	
start, here	4.3	20700	741		4.8	23100	757	0.	3.2	20000	699		3.8	20600	680	Φ.	2.4	18000	565	ı
tart	4.2	19700	723		4.7	22200	741	her	3.1	18900	679	o.	3.7	19600	658	her	2.3	16800	540	ı
σ,		STOP			4.6	21400	725	start, here	3.0	17900	660	hei	3.6	18600	636	start here	2.2	15600	515	
Reducing Cart	ridge C	ver All I	enath	here	4.5	20500	709	S		STOP		start here	3.5	17600	615	S	RUE	STOP		
Reducing Cartridge Over All Length increases pressure greatly. See page 113 for O.A.L. in our			start	4.4	19700	693					, or		STOP	X / C						

STOP

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

ne user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

psi

STOP 35000

33900

32800

31700

30600

29500 84

28400

27300

26200

25100

24000

22900

21800

20700

19600

STOP

91

86

82

80

78

Charge in

grains

4.0

3.9

3.7

3.6

3.5

3.4

3.3

3.2

3.1

3.0

2.9

extreme caution

loading in the Yellow

or Red

zones.



Use
extreme
caution
when
loading in
the Yellow
or Red
zones.

All pressures are listed in psi not C.U.P. page 4.

Accurate Accurate Arms Arms No. 2

		No. 5			
fps		Charge in grains		fps	
			STOP		
955		5.6	32200	990	
933		5.5	31300	971	
911		5.4	30500	953	
890		5.3	29600	934	
868		5.2	28800	916	
846		5.1	27900	897	
825		5.0	27100	879	
803		4.9	26200	860	
782		4.8	25400	842	
760		4.7	24600	824	
738		4.6	23700	805	
717		4.5	22900	787	
595		4.4	22000	768	
573		4.3	21200	750	
552	here	4.2	20300	731	
530	he	4.1	19500	713	
	T				

STOP

Accurate Arms

	No. 7				
	Charge in grains		fps		
		STOP			
	7.4	35000	1038		
	7.3	34300	1023		
	7.2	33600	1008		
	7.1	32900	994		
	7.0	32200	979		
	6.9	31500	965		
	6.8	30800	950		
	6.7	30100	936		
	6.6	29500	921		
	6.5	28800	907		
1	6.4	28100	892		
	6.3	27400	878		
	6.2	26700	863		
	6.1	26000	848		
	6.0	25300	834		
	5.9	24600	819		
1	5.8	24000	805		
K	5.7	23300	790		
l	5.6	22600	776		

Alliant Blue Dot

	Charge in grains	psi	fps
		STOP	
*	6.2	28000	973
	6.1	27400	957
	6.0	26900	942
	5.9	26300	927
	5.8	25800	912
	5.7	25200	897
	5.6	24700	882
	5.5	24100	867
line and	5.4	23600	852
	5,3	23000	837
re	5.2	22500	822
here	5.1	21900	807
start	5.0	21400	792
		STOP	
	*Con	anreceed	load

*Compressed load.

Alliant Unique

Charge

	*0	STOP	
l	3.5	23500	810
ł	3.6	24300	826
2	3.7	25100	842
	3.8	26000	858
	3.9	26800	875
	4.0	27700	891
	4.1	28500	907
	4.2	29400	923
	4.3	30200	940
	4.4	31100	956
	4.5	31900	972
*	4.6	32800	989
		STOP	
	in grains	psi	fps

*Compressed load.

Reducing Cartridge Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing.

WARNING: The data contained in this manual was created under strictly controlled condi-

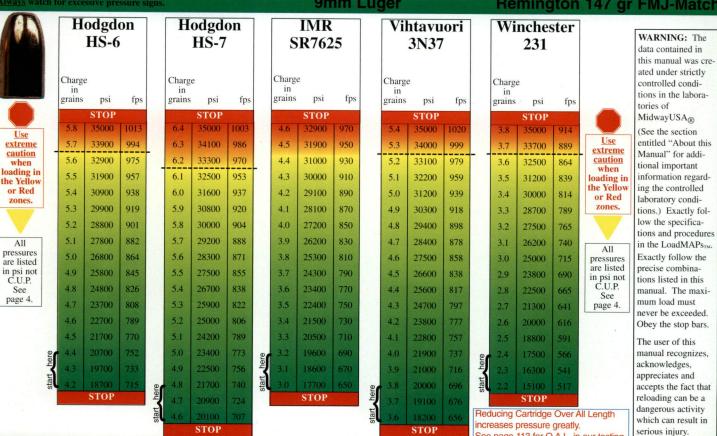
tions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifica-

tions and procedures in the LoadMAPs_{TM}. All Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maxi-See mum load must page 4. never be exceeded. Obey the stop bars.

> The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

122

See page 113 for O.A.L. in our testing



Charge

grains

3.9

3.8

3.7

3.6

3.5

3.4

3.3

3.2

3.1

3.0

2.9

2.8

Use

extreme caution

loading in the Yellow

or Red

zones.

A11

pressure

are listed

in psi not C.U.P.

See

page 4.



Use extreme caution when loading in the Yellow or Red zones.

All pressures are listed in psi not C.U.P. See page 4.

Accurate Arms No. 2

psi

33900

32800

31700

30600

29500

28400

27300

26200

25100

24000

22900

21800

STOP

fps

946

924

903

882

861

840

819

798

776

755

734

713

671

29500

28400

27400

26300

25200

24100

23000

21900

STOP

885

867

849

831

813

795

4.9

4.8

4.7

46

4.5

4.4

4.3

Accurate

Arms

Accurate Arms No. 7

Alliant Blue Dot

Charge grains psi fps 6.2 29600 989 6.1 29000 975 6.0 28400 961 948 5.9 27800 5.8 27200 934 920 5.7 26600 5.6 26000 907 5.5 25400 893 5.4 879 5.3 866 24200 838 STOP

*Compressed load.

Alliant Unique

Charge grains psi fps STOE 4.5 33900 974 4.3 32800 956 31700 939 4.2 4.1 30700 921 904 4.0 29600 868 3.8 27500 3.7 851 26400 833 25300 STOP

*Compressed load.

Reducing Cartridge Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Obey the stop bars.

124

IMR

Vihtavuori

WARNING: The

	1	odgd HS-6		
		Charge in grains	e psi	fps
			STOP	
Use	1	5.4	33100	970
extreme		5.3	32000	951
caution when		5.2	30900	933
loading in the Yellow		5.1	29900	915
or Red zones.		5.0	28800	897
zones.		4.9	27800	879
		4.8	26700	861
All		4.7	25600	842
pressures are listed		4.6	24600	824
in psi not C.U.P.		4.5	23500	806
See	ere	4.4	22500	788
page 4.	T T	4.3	21400	770
	star	4.2	20400	752
			STOP	

Reducing Cartridge Over All

Length increases pressure

See page 113 for O.A.L. in

greatly.

our testing.

	Hodgdon HS-7					
	Charg in grains		fps			
	THE SAME	STOP	000			
	5.9	35000	957			
	5.8	33900	939			
	5.7	32900	922			
	5.6	31900	904			
	5.5	30900	887			
	5.4	29900	870			
	5.3	28900	852			
	5.2	27900	835			
	5.1	26900	818			
	5.0	25800	800			
	4.9	24800	783			
	4.8	23800	766			
	4.7	22800	748			
	4.6	21800	731			
	4.5	20800	714			
-	4.4	19800	696			
l	4.3	18800	679			
l	4.2	17800	662			
		STOP				

	SR7625					3N37	•
	Charg in grains	e psi	fps		Charge in grains	psi STOP	f
	4.4	35000	954		5.0	33100	96
	4.3	33800	934		4.9	32000	94
	4.2	32600	915		4.8	31000	92
	4.1	31400	895		4.7	30000	90
	4.0	30200	876		4.6	29000	88
	3.9	29000	856		4.5	28000	86
	3.8	27800	837		4.4	27000	84
	3.7	26700	817		4.3	26000	82
ı	3.6	25500	798		4.2	24900	79
I	3.5	24300	778		4.1	23900	77
I	3.4	23100	759		4.0	22900	75
ı	3.3	21900	739		3.9	21900	73
I	3.2	20700	720		3.8	20900	71
ı	3.1	19500	700	here	3.7	19900	69
١	3.0	18400	681	•	3.6	18900	67.
L		STOP		start	3.5	17900	65.
						STOP	

	Charge in grains	psi	fps
24.1	Brains	STOP	трз
	3.6	35000	891
	3.5	33600	865
-	3.4	32200	840
	3.3	30800	815
	3.2	29400	790
	3.1	28000	765
	3.0	26600	740
	2.9	25300	715
	2.8	23900	689
	2.7	22500	664
	2.6	21100	639
	2.5	19700	614
9	2.4	18300	589
here	2.3	16900	564
start	2.2	15600	539

Winchester

	data contained in this manual was cre- ated under strictly controlled condi- tions in the labora-
Use extreme caution when loading in the Yellow or Red zones.	tories of MidwayUSA® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory condi-
All pressures are listed in psi not C.U.P. See page 4.	tions.) Exactly follow the specifications and procedures in the LoadMAPs _{TM} . Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.
	The user of this manual recognizes, acknowledges

ne user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Use

extreme caution

loading in the Yellow

or Red

zones.

All

are listed

in psi not C.U.P.

See

page 4.



A	ccurat
	Arms
	No. 2
Char	ge

-		Charge in grains	psi	fps
		100	STOP	
Г		3.8	35000	899
١	<u>Use</u> extreme	3.7	33700	876
١	caution when	3.6	32400	853
١	loading in	3.5	31100	830
	or Red	3.4	29800	807
	zones.	3.3	28600	785
		3.2	27300	762
	All	3.1	26000	739
	pressures are listed	3.0	24700	716
	in psi not	2.9	23500	694
ı	C.U.P.	28	22200	671

22200

20900

STOP

671

648

Accurate Arms No. 5

	Charge in grains		fps
		STOP	2310
	5.1	32800	916
	5.0	31600	896
	4.9	30500	877
	4.8	29400	857
	4.7	28200	838
	4.6	27100	818
	4.5	26000	799
	4.4	24900	779
	4.3	23700	760
•	4.2	22600	740
Į	4.1	21500	721
I	4.0	20400	702
		STOP	

Accurate **Arms** No. 7

1		NO. /	
	Charge in		
	grains	psi	fps
		STOP	
	7.1	35000	999
	7.0	34300	985
	6.9	33600	971
1	6.8	32900	957
	6.7	32200	943
	6.6	31500	929
	6.5	30800	915
	6.4	30200	902
	6.3	29500	888
	6.2	28800	874
	6.1	28100	860
	6.0	27400	846
	5.9	26700	832
	5.8	26000	818
	5.7	25400	805
	5.6	24700	791
2	5.5	24000	777
Z	5.4	23300	763
	5.3	22600	749

STOP

Alliant Blue Dot

	Charge in grains	psi	fps
		STOP	
*	6.2	33000	980
	6.1	32200	963
	6.0	31400	947
	5.9	30600	931
	5.8	29800	915
	5.7	29000	899
	5.6	28300	883
	5.5	27500	867
	5.4	26700	851
	5.3	25900	835
here	5.2	25100	819
3	5.1	24300	803
star	5.0	23600	787
		STOP	
	*Cor	npressed	load.

Alliant Unique

Charge

	in grains	psi	fps
		STOP	
	4.2	35000	930
	4.1	33700	911
	4.0	32400	893
	3.9	31100	875
	3.8	29800	857
9	3.7	28500	839
tart here	3.6	27200	821
start	3.5	25900	803
		STOP	
	THE WAY		

Reducing Cartridge

increases pressure

See page 103 for

O.A.L. in our testing.

Over All Length

greatly.

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs $_{\text{\tiny TM}}$. Exactly follow the precise combinations listed in this manual. The maximum load must

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

never be exceeded. Obey the stop bars.

126

See

page 4.

Vihtavuori

IMR

Use

when

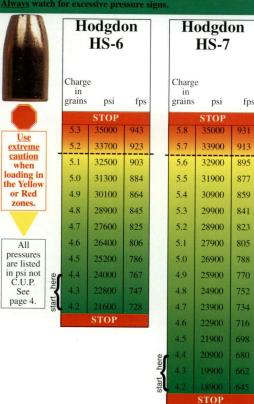
or Red

zones.

All

See

page 4.



	SR7625					3N37	
	Charge in grains	e psi	fps		Charge in grains	e psi	fp
		STOP			The same	STOP	
	4.2	35000	912		4.9	35000	942
	4.1	33700	891		4.8	33800	921
	4.0	32500	870		4.7	32700	900
	3.9	31300	849		4.6	31500	879
	3.8	30100	828		4.5	30400	859
	3.7	28900	807		4.4	29300	838
	3.6	27700	786		4.3	28100	817
	3.5	26500	765		4.2	27000	797
	3.4	25300	744		4.1	25900	776
	3.3	24100	723		4.0	24700	755
4	3.2	22900	702		3.9	23600	734
1	3.1	21700	681		3.8	22500	714
Ų	3.0	20500	660	e	3.7	21300	693
		STOP		start here	3.6	20200	672
				start	3.5	19100	652
						STOP	

		231	
	Charge in grains		fps
		STOP	
	3.4	32900	824
	3.3	31500	796
	3.2	30200	769
1	3.1	28800	742
	3.0	27500	715
1	2.9	26100	687
1	2.8	24800	660
	2.7	23500	633
	2.6	22100	606
	2.5	20800	578
d	2.4	19400	551
1	2.3	18100	524
Ų	2.2	16800	497
		STOP	

Winchester

data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme caution Manual" for additional important information regardloading in the Yellow ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the pressures are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

WARNING: The

je Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing. manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Accurate

Arms

fps

993

974

956

938

920

901

883

865

847

828

810

792

755

Use

extreme

caution

when

loading in

the Yellow

or Red

zones.

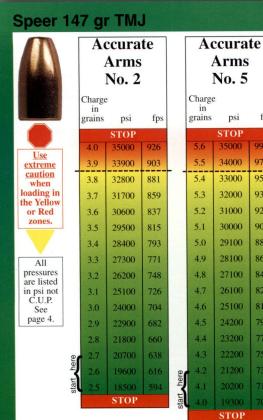
All

pressures

are listed

in psi not C.U.P.

page 4.



128

	No. 7						
	Charge in						
	grains	psi	fps				
	STOP						
	7.4	35000	1035				
	7.3	34300	1020				
	7.2	33600	1005				
	7.1	32900	991				
	7.0	32200	976				
	6.9	31600	961				
	6.8	30900	947				
	6.7	30200	932				
	6.6	29500	917				
	6.5	28800	903				
	6.4	28200	888				
	6.3	27500	873				
	6.2	26800	859				
	6.1	26100	844				
	6.0	25400	829				
	5.9	24800	815				
9	5.8	24100	800				
here	5.7	23400	785				
start	5.6	22700	771				
	1000	STOP					

		llian Blue Dot	t
	Charge in grains		fps
		STOP	
*	6.2	30300	988
	6.1	29500	968
	6.0	28700	949
	5.9	27900	929
	5.8	27100	910
	5.7	26300	890
	5.6	25500	871
	5.5	24700	852
	5.4	23900	832
	5.3	23100	813
here	5.2	22300	793
3	5.1	21500	774
star	5.0	20800	755
		STOP	
	*Con	npressed	load.



Reducing Cartridge

increases pressure

See page 103 for

Over All Length

greatly.

Alliant

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Vihtavuori

IMR

		Hodgdon HS-6			
		Charge in grains	e psi	fps	
			STOP		
Use	1	5.5	32200	966	
extreme		5.4	31200	947	
<u>caution</u> when		5.3	30300	928	
loading in		5.2	29400	909	
the Yellow or Red		5.1	28400	891	
zones.		5.0	27500	872	
		4.9	26600	853	
All		4.8	25600	835	
pressures are listed		4.7	24700	816	
in psi not C.U.P.		4.6	23800	797	
See		4.5	22800	779	
page 4.	nere	4.4	21900	760	
	he	4.3	21000	741	
	stan	4.2	20100	723	
			STOP		

Reducing Cartridge Over All
Length increases pressure
greatly.
See page 113 for O.A.L. in
our testing.

		odgd HS-7	
	Chargin in grains	e psi	fps
		STOP	
	6.0	32500	952
	5.9	31600	934
	5.8	30800	916
	5.7	30000	898
	5.6	29200	881
	5.5	28400	863
	5.4	27600	845
	5.3	26700	827
	5.2	25900	810
	5.1	25100	792
	5.0	24300	774
	4.9	23500	757
	4.8	22700	739
	4.7	21800	721
	4.6	21000	703
	4.5	20200	686
e.	4.4	19400	668
el S	4.3	18600	650
start	4.2	17800	633
		STOP	

	Charge in grains		fps
		STOP	
	4.5	35000	957
	4.4	33900	936
1	4.3	32800	916
	4.2	31700	895
	4.1	30600	875
	4.0	29500	854
1	3.9	28400	834
1	3.8	27300	813
1	3.7	26200	793
	3.6	25100	772
	3.5	24000	752
	3.4	22900	731
	3.3	21800	711
	3.2	20700	690
{	3.1	19600	670
	3.0	18600	650

		3N37				231	
	Charge in grains	e psi	fps		Charge in grains	e psi	fp
		STOP		Prof.		STOP	
į	5.1	33100	958		3.7	35000	892
	5.0	32100	936		3.6	33700	867
li i	4.9	31200	914		3.5	32400	843
	4.8	30200	893		3.4	31100	818
	4.7	29300	871		3.3	29800	794
100	4.6	28300	850		3.2	28500	769
	4.5	27400	828		3.1	27200	745
1000	4.4	26400	807		3.0	25900	720
	4.3	25500	785		2.9	24600	696
00	4.2	24600	763		2.8	23300	671
	4.1	23600	742		2.7	22000	647
	4.0	22700	720		2.6	20700	622
	3.9	21700	699		2.5	19400	598
	3.8	20800	677	Φ.	2.4	18100	573
	3.7	19800	656	here	2.3	16800	549
	3.6	18900	634	start	2.2	15500	525
	3.5	18000	613	"		STOP	
		STOP					

Wi	nches 231	ster	
Charge in grains	e psi	fps	
	STOP		
3.7	35000	892	Use
3.6	33700	867	extreme
3.5	32400	843	caution when
3.4	31100	818	loading in
3.3	29800	794	the Yellow or Red
3.2	28500	769	zones.
3.1	27200	745	
3.0	25900	720	All
2.9	24600	696	pressures
2.8	23300	671	are listed in psi not
2.7	22000	647	C.U.P. See
2.6	20700	622	page 4.
2.5	19400	598	
2.4	18100	573	
2.3	16800	549	
2.2	15500	525	
	STOP		

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of $MidwayUSA_{\textcircled{R}}$ (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs $_{\text{\tiny TM}}$. Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

grains

4.0

3.9

3.8

3.7

3.6

3.5

3.4

3.3

3.2

3.1

3.0

2.8

33800

32700

31600

30500

29400

28200

27100

26000

24900

23800

22600

21500 20400

19300

STOP

941

920

899

878

857

836

815

793

772

751

Use extreme

caution

when loading in

the Yellow

or Red zones.

All

pressures

are listed

in psi not C.U.P.

See

page 4.



Use
extreme
caution
when
loading in
the Yellow
or Red
zones.

All pressures are listed in psi not C.U.P. See page 4.

Accurate Arms No. 2

psi	fps	Charge in grains	psi	
STOP			STOP	
35000	963	5.4	35000	Γ

		grains	psi	fps
			STOP	
		5.4	35000	989
		5.3	33800	971
		5.2	32700	953
		5.1	31600	935
		5.0	30500	917
		4.9	29400	899
000000000000000000000000000000000000000		4.8	28300	881
1000000		4.7	27200	864
		4.6	26000	846
		4.5	24900	828
		4.4	23800	810
		4.3	22700	792
	here	4.2	21600	774
		4.1	20500	756
	start	4.0	19400	739
	1967.19		STOP	

Accurate

Arms

No. 5

Accurate Arms No. 7

	110. /				
	Charge in				
	grains	psi	fps		
		STOP			
	7.3	35000	1038		
	7.2	34200	1024		
	7.1	33500	1010		
	7.0	32800	996		
	6.9	32100	982		
	6.8	31400	968		
	6.7	30700	954		
	6.6	30000	940		
	6.5	29300	926		
	6.4	28600	912		
	6.3	27900	898		
	6.2	27200	884		
	6.1	26400	870		
	6.0	25700	856		
	5.9	25000	842		
	5.8	24300	828		
eie	5.7	23600	814		
3	5.6	22900	800		
=	- TO 1946	00000			

Alliant Blue Dot

		Dut	
	Charge in grains	psi	fps
		STOP	
*	6.2	29200	1000
	6.1	28500	984
	6.0	27800	968
	5.9	27200	952
	5.8	26500	937
	5.7	25800	921
	5.6	25200	905
	5.5	24500	889
	5.4	23800	874
	5.3	23200	858
ere	5.2	22500	842
start here	5.1	21800	826
star	5.0	21200	811
		STOP	

*Compressed load.

Alliant Unique

	Charge in grains	psi	fps
		STOP	
*	4.5	35000	1005
	4.4	33900	988
	4.3	32900	971
	4.2	31800	954
	4.1	30800	938
	4.0	29700	921
	3.9	28700	904
	3.8	27600	888
e.	3.7	26600	871
t here	3.6	25500	854
start	3.5	24500	838
		STOP	

*Compressed load.

Reducing Cartridge Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing. WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_(R) (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

manual. The maxi-

never be exceeded.

Obey the stop bars.

mum load must

130

<u>Use</u>

or Red

zones.

All

page 4.

		Hodgdon HS-6				
	Charge	:				
	grains	psi	fps			
		STOP				
Use	5.6	35000	1008			
extreme	5.5	33800	989			
caution when	5.4	32700	970	,		
oading in he Yellow	5.3	31500	951			
or Red	5.2	30400	932			
zones.	5.1	29200	913			
	5.0	28100	894			
All	4.9	26900	875			
pressures are listed	4.8	25800	856			
in psi not	4.7	24600	837			
C.U.P. See	4.6	23500	818			
page 4.	4.5	22300	799			
9.0	4.4	21200	780			
2	4.3	20000	761			
100	4.2	18900	742			
		STOP				

Length increases pressure

See page 113 for O.A.L. in

our testing.

	Charge in grains		fps
		STOP	
	6.0	35000	976
	5.9	34000	959
	5.8	33100	943
	5.7	32100	927
	5.6	31200	911
	5.5	30200	894
	5.4	29300	878
	5.3	28300	862
	5.2	27400	846
	5.1	26400	830
	5.0	25500	813
	4.9	24500	797
	4.8	23600	781
	4.7	22600	765
	4.6	21700	748
	4.5	20700	732
here	4.4	19800	716
~	4.3	18800	700
start	4.2	17900	684
	1000	STOP	
	THE SER	1000	

Hodgdon

HS-7

S	IMR R762			Vihtavuori 3N37		
Charge in grains	psi	fps		Charge in grains	psi	fps
	STOP				STOP	1
4.5	35000	986		5.1	32600	991
4.4	33800	965		5.0	31600	969
4.3	32700	945		4.9	30700	948
4.2	31500	925		4.8	29700	927
4.1	30400	905		4.7	28800	906
4.0	29300	885		4.6	27800	885
3.9	28100	865		4.5	26900	864
3.8	27000	845		4.4	25900	843
3.7	25800	824		4.3	25000	822
3.6	24700	804		4.2	24100	800
3.5	23600	784		4.1	23100	779
3.4	22400	764		4.0	22200	758
3.3	21300	744		3.9	21200	737
3.2	20100	724		3.8	20300	716
3.1	19000	704	here	3.7	19300	695
3.0	17900	684	<	3.6	18400	674
	STOP		start	3.5	17500	653
					STOP	

	Charge in	2	
	grains	psi	fps
		STOP	
	3.6	32400	899
	3.5	31100	874
	3.4	29800	849
	3.3	28600	824
	3.2	27300	800
	3.1	26000	775
	3.0	24800	750
	2.9	23500	726
	2.8	22200	701
	2.7	21000	676
	2.6	19700	651
	2.5	18400	627
	2.4	17200	602
ł	2.3	15900	577
ola	2.2	14700	553
		STOP	

Winchester

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this extreme Manual" for addicaution tional important when loading in information regardthe Yellow ing the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. pressures Exactly follow the are listed precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this

manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Use

extreme

caution

when

loading in

the Yellow

or Red

zones.

All

pressures are listed

in psi not C.U.P.

See

page 4.



Use extreme caution when loading in the Yellow or Red zones.

All pressures are listed in psi not C.U.P. See page 4.

2.9

2.8

22600

21400

20300

19200

18100

STOP

695

674

Accurate Arms No. 2 Accurate Arms No. 5

Charge Charge in grains grains psi fps psi fps STOF 35000 978 35000 3.9 33800 933 5.3 33800 959 32700 940 3.8 32700 911 5.2 31600 921 3.7 31600 890 5.1 30400 868 5.0 30500 903 3.6 847 29300 884 3.5 29300 4.9 3.4 825 4.8 28200 865 28200 803 4.7 27100 847 3.3 27100 782 4.6 26000 828 3.2 25900 24900 809 3.1 24800 4.5 760 4.4 3.0 23700 739

4.3

4.2

4.1

22600

20400

STOP

Accurate Arms No. 7

Alliant Blue Dot

*Compressed load.

Alliant Unique

Charge grains psi fps STOP 4.4 33200 4.3 32100 960 31100 942 42 4.1 30100 925 29100 907 4.0 3.9 28100 890 3.8 27100 872 26100 3.6 25100 837 24100 STOI

*Compressed load.

Reducing Cartridge Over All Length increases pressure greatly. See page 103 for O.A.L. in our testing. WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of

controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinations listed in this manual. The maxi-

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

mum load must

never be exceeded.

Obey the stop bars.

132

Vihtavuori

IMR

			odgd HS-6	
		Charge in grains	psi	fps
			STOP	
Use		5.5	32400	980
extreme		5.4	31400	961
<u>caution</u> when		5.3	30500	942
loading in		5.2	29600	924
he Yellow or Red		5.1	28600	905
zones.		5.0	27700	
W		research and		886
		4.9	26800	868
All		4.8	25800	849
pressures are listed		4.7	24900	831
in psi not		4.6	24000	812
C.U.P. See		4.5	23000	793
page 4.	m.	44	22100	775
	here	4.3	21200	756
	t			
	sts	4.2	20300	738
			STOP	

Length increases pressure

See page 113 for O.A.L. in

greatly.

our testing.

	Charge in grains	e psi	fps
		STOP	William !
	6.0	35000	970
	5.9	34000	952
1	5.8	33000	935
	5.7	32100	917
	5.6	31100	900
	5.5	30100	882
	5.4	29200	865
	5.3	28200	847
	5.2	27200	830
	5.1	26300	813
	5.0	25300	795
	4.9	24300	778
	4.8	23400	760
	4.7	22400	743
	4.6	21400	725
	4.5	20500	708
lere	4.4	19500	690
7	4.3	18500	673
start	4.2	17600	656
		STOP	
			LIVE S

Hodgdon

HS-7

S	R762	25			3N37	
Charge in grains	e psi	fps		Charge in grains	e psi	fps
	STOP				STOP	
4.6	35000	991		5.1	32900	982
4.5	33900	970		5.0	31900	961
4.4	32900	950		4.9	31000	940
4.3	31800	930		4.8	30100	919
4.2	30800	910		4.7	29200	898
4.1	29800	889		4.6	28300	877
4.0	28700	869		4.5	27300	856
3.9	27700	849		4.4	26400	835
3.8	26700	829		4.3	25500	814
3.7	25600	808		4.2	24600	793
3.6	24600	788		4.1	23700	772
3.5	23500	768		4.0	22700	751
3.4	22500	748		3.9	21800	730
3.3	21500	727		3.8	20900	709
3.2	20400	707	here	3.7	20000	688
3.1	19400	687	•	3.6	19100	667
3.0	18400	667	start	3.5	18200	646
V 510	STOP	To the			STOP	

3N37	,		***	231	, cci
psi	fps		Charge in grains	e psi	fps
STOP				STOP	
32900	982		3.7	35000	919
31900	961		3.6	33600	894
31000	940	1	3.5	32300	870
30100	919		3.4	31000	845
29200	898		3.3	29700	821
28300	877		3.2	28400	797
27300	856		3.1	27100	772
26400	835		3.0	25800	748
25500	814		2.9	24400	723
24600	793		2.8	23100	699
23700	772		2.7	21800	675
22700	751		2.6	20500	650
21800	730		2.5	19200	626
20900	709	here	2.4	17900	601
20000	688	<	2.3	16600	577
19100	667	start	2.2	15300	553
18200	646			STOP	
STOP					

Winchester

Use extreme caution when loading in the Yellow or Red zones. All pressures are listed in psi not C.U.P. See page 4.	WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA® (See the section entitled "About this Manual" for additional important information regarding the controlled laboratory conditions.) Exactly follow the specifications and procedure in the LoadMAPs™ Exactly follow the precise combinations listed in this manual. The maximum load must never be exceeded. Obey the stop bars. The user of this manual recognizes,

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

Accurate

2.9

2.8

extreme

caution

when

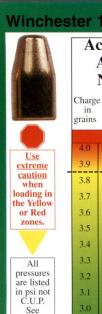
zones.

All

pressures are listed

See

page 4.



	Arms No. 2]		
ge		6		Charge in		6
S	psi	fps		grains	psi	fps
	STOP				STOP	
	35000	956		5.6	35000	1010
	33800	935		5.5	34000	992
	32700	914		5.4	33000	974
	31500	893		5.3	32000	957
	30400	872		5.2	31000	939
	29200	851		5.1	30000	922
	28100	830		5.0	29000	904
	26900	809		4.9	28000	887
	25800	788		4.8	27100	869
	24600	767		4.7	26100	851
	23500	746		4.6	25100	834
	22300	725		4.5	24100	816
	21200	704		4.4	23100	799
	20000	683		4.3	22100	781
	18900	662	here	4.2	21100	764
	17800	642	1	4.1	20100	746
	STOP		start	4.0	19200	729
					STOP	

Accurate

]	No. 7	
	Charge in grains		fps
		STOP	
	7.4	35000	1039
	7.3	34300	1025
	7.2	33600	1012
	7.1	32900	998
	7.0	32300	985
	6.9	31600	971
	6.8	30900	958
	6.7	30300	944
	6.6	29600	931
	6.5	28900	917
	6.4	28200	904
	6.3	27600	890
	6.2	26900	877
	6.1	26200	863
	6.0	25600	850
	5.9	24900	836
here	5.8	24200	823
<	5.7	23500	809
tart	56	22900	796

Accurate

Arms

		Blue	
		Dot	
	Charge in grains		fps
		STOP	
*	6.2	29700	995
	6.1	28900	977
	6.0	28200	960
	5.9	27500	943
	5.8	26800	925
	5.7	26000	908
	5.6	25300	891
	5.5	24600	873
	5.4	23900	856
	5.3	23100	839
here	5.2	22400	821
t he	5.1	21700	804
start	5.0	21000	787
		STOP	
	*Con	npressed	load.

Alliant

Divo

2	Charge in grains		fps
		STOP	
*	4.4	32000	970
	4.3	31000	954
	4.2	30100	938
10000	4.1	29200	922
	4.0	28200	906
1000	3.9	27300	890
10000000	3.8	26400	874
	3.7	25400	858
	3.6	24500	842
Sia	3.5	23600	827
		STOP	
Sign			

Reducing Cartridge

increases pressure

See page 103 for

O.A.L. in our testing.

Over All Length

greatly.

Alliant

Unique

WARNING: The data contained in this manual was created under strictly controlled conditions in the laboratories of MidwayUSA_® (See the section entitled "About this Manual" for additional important information regardloading in ing the controlled the Yellow laboratory conditions.) Exactly follow the specifications and procedures in the LoadMAPs_{TM}. Exactly follow the precise combinain psi not C.U.P. tions listed in this manual. The maximum load must never be exceeded. Obey the stop bars.

The user of this manual recognizes, acknowledges, appreciates and accepts the fact that reloading can be a dangerous activity which can result in serious injury.

134

page 4.

Always watch	for exce	ssive pre	ssure si	igns.						9m	ım l	_U	ger						Wir	ncheste	er 147 gr TC
		odgdo HS-6			Н	odgdo HS-7	n			IMR R762				htavu 3N37	ori		Wil	nches 231	ter		WARNING: The data contained in this manual was cre-
	Charge in grains	psi	fps		Charge in grains	psi	fps		Charge in grains	psi	fps		Charge in grains	psi	fps		Charge in grains	psi	fps		ated under strictly controlled condi- tions in the labora- tories of
Use	5.6	STOP 35000	1003		6.1	STOP 35000	983		4.6	STOP 35000	990		5.3	35000	1014		3.7	STOP 35000	914	Use	MidwayUSA® (See the section entitled "About this
extreme caution	5.5	33800	984		6.0	34000	965		4.5	33900	970		5.2	33900	993 973		3.6	33600	889	extreme caution	Manual" for addi-
when loading in	5.4	32700 31600	966		5.9 5.8	33100 32100	948		4.4	32900 31900	951 932		5.1	32900 31900	973		3.5	32300 31000	864 840	when loading in	tional important information regard-
the Yellow or Red	5.2	30500	929		5.7	31200	914		4.2	30800	913		4.9	30900	932		3.3	29700	815	the Yellow or Red	ing the controlled laboratory condi-
zones.	5.1	29300	910		5.6	30200	897		4.1	29800	894		4.8	29900	912		3.2	28400	791	zones.	tions.) Exactly fol-
	5.0	28200	892	-	5.5	29300	880		4.0	28800	875		4.7	28900	891		3.1	27000	766		low the specifica- tions and procedures
All	4.9	27100	874		5.4	28300	863		3.9	27700	856		4.6	27900	871		3.0	25700	741	All	in the LoadMAPs _{TM} .
pressures are listed	4.8	26000	855		5.3	27400	846		3.8	26700	837		4.5	26900	850 830		2.9	24400	717	pressures are listed	Exactly follow the precise combina-
in psi not C.U.P.	4.7	24900 23700	837		5.2 5.1	26400 25500	829		3.7	25700 24600	818		4.4	25900 24900	810		2.8	23100	692	in psi not C.U.P.	tions listed in this manual. The maxi-
See page 4.	4.6	23/00	800		5.0	24500	794		3.5	23600	780		4.2	23900	789		2.6	20400	643	See page 4.	mum load must
		21500	781		4.9	23600	777		3.4	22600	761		4.1	22900	769		2.5	19100	618		never be exceeded. Obey the stop bars.
ğ	4.4	20400	763		4.8	22600	760		3.3	21500	742		4.0	21900	748	Te.	2.4	17800	594		The user of this
to to	4.2	19300	745		4.7	21700	743	ere	3.2	20500	723		3.9	20900	728	start here	2.3	16500	569		manual recognizes, acknowledges,
		STOP			4.6	20700	726	rt here	3.1	19500	704		3.8	19900	708	star	2.2	15200	545		appreciates and
Reducing C	0		777	ere	4.5	19800	709	start	3.0	18500 STOP	685	here	3.7	18900	687			STOP			accepts the fact that reloading can be a
Length incre greatly.	eases p	ressure	2	start, here	4.4	18800	692			STOP		start, here	3.6	17900	667						dangerous activity
See page 1 our testing.	13 for (D.A.L. ir	1	ste	4.3	17900 STOP	675					st	3.3	STOP	04/						which can result in serious injury.

WARNING: Always begin in the 'start here' area of the green zone and work your loads up carefully. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

Read pages 2 - 11 before loading.

<u>Always</u> watch for excessive pressure signs

	_		_						r excessive pressu	re signs.
	Favo	orite Load	ls				Favo	orite Load	ls	
	Bullet		Prop	ellant			Bullet		Prop	ellant
Weight	Brand	Style	Weight	Brand		Weight	Brand	Style	Weight	Brand
147	Hornady	HP/XTP	- AT 5	R 45		147	Kend	FP	0.4.0cE	Unique
Primer SP Win	Case 69	A Pigth	L liber	Posture		Primer	ON CE - Five	Overall	Lot number	Temperature
Range: 20) st @	Average Group:	2,0 Velocity (f	ps): XXXX		Range:	Best Group:	Average Group:	Velocity (t	ps):
Gun: Springfield 191	1 A1				ı	Gun:				
Notes: This bullet sh	oots best with a				l	Notes:				
					ı					
					ı					
			E TELEVISION							
	Bullet		Prop	ellant			Bullet		Prop	ellant
Weight	Brand	Style	Weight	Brand		Weight	Brand	Style	Weight	Brand
						125	Kend	RN	0.464	Uniano
Primer	Case	Overall Length	Lot number	Temperature		Primer QNY	On ce-fired	Overall Length	Lot number	Temperature
Range:	Best Group:	Average Group:	Velocity (f	ps):		Range:	Best Group:	Average Group:	Velocity (f	ps):
Gun:						Gun:			9	
Notes:					Ī	Notes:				
	_	_			Ī		77.72			
					ı					

136

Read pages 2 - 11 before loading.

<u>Always</u> watch for excessive pressure signs.

Almais materialor	caccosite pressure si	gus.								
	Favo	orite Load	ds				Favo	rite Load	ls	
	Bullet		Prop	ellant	1		Bullet		Prop	ellant
Weight	Brand	Style	Weight	Brand	1	Weight	Brand	Style	Weight	Brand
Primer	Case	Overall Length	Lot number	Temperature		Primer	Case	Overall Length	Lot number	Temperature
Best Group:	Average Gro	up:	Velocity (fps):			Best Group:	Average Gro	up:	Velocity (fps):	
àun:						Gun:				
lotes:						Notes:				
]					
					1					
					1	ASSESSMENT AND SECURITY	en de la companya de			
	Bullet		Prop	ellant			Bullet		Prop	ellant
Weight	Brand	Style	Weight	Brand		Weight	Brand	Style	Weight	Brand
Primer	Case	Overall Length	Lot number	Temperature		Primer	Case	Overall Length	Lot number	Temperature
est Group:	Average Grou	up:	Velocity (fps):			Best Group:	Average Grou	up:	Velocity (fps):	
àun:					1	Gun:				
lotes:]	Notes:				
					1					
					1					

WARNING: Always begin in the 'start here' area of the green zone and work your loads up slowly. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

Read pages 2 - 11 before loading.

<u>Always</u> watch for excessive pressure signs.

Favorite Loads Favorite Loads Bullet Bullet Weight Brand Weight Brand Style Style Brand Weight Weight Brand Overall Length Overall Length Temperature Lot number Case Lot number Temperature Best Group: Range: Average Group: Velocity (fps): Range: Best Group: Velocity (fps): Average Group: Notes: Notes: Propellant Bullet Propellant Brand Weight Style Weight Brand Weight Brand Weight Overall Length Lot number Temperature Overall Length Lot number Temperature Best Group: Average Group: Velocity (fps): Range: Best Group: Average Group: Velocity (fps): Gun: Notes: Notes:

138

	Favo	orite Load	ds	1		Fav	orite Load	ds			
	Bullet		Pro	pellant		Bullet		Propellant			
Weight	Brand	Style	Weight Brand		Weight	Brand	Style	Weight	Brand		
Primer	Case	Overall Length	Lot number	Temperature	Primer	Case	Overall Length	Lot number	Temperature		
Best Group:	Average Gro	oup:	Velocity (fps):		Best Group:	Average G	roup:	Velocity (fps):			
Gun:					Gun:						
Notes:					Notes:						
	Bullet		Prop	pellant		Bullet		Prop	pellant		
Weight	Brand	Style	Weight	Brand	Weight	Brand	Style	Weight	Brand		
		Overall									
Primer	Case	Length	Lot number	Temperature	Primer	Case	Overall Length	Lot number	Temperature		
Best Group:	Average Gro	up:	Velocity (fps):		Best Group:	Average Gr	oup:	Velocity (fps):			
Gun:					Gun:						
Notes:					Notes:						
		Q.:									

WARNING: Always begin in the 'start here' area of the green zone and work your loads up slowly. Loads listed in yellow zone or red zone should not be used without working loads up slowly from the loads listed in the green zone. Watch for excessive pressure signs, see pages 9 - 10.

Notes

Read pages 2 - 11 betore loading.
Always watch for excessive pressure signs.

Always watch for excessive pressure signs.					
	Notes				
				•	
		· _			
		1			
1					
4 <u>. 3. 14 </u>					
n n					
ież w ruj				¥	
	_				

	Notos			
	Notes		n	4
2-1-4-1-12				
19		_		
<u> </u>				
M. P. C. Salar Co. S. C. C.				
		_		
- 2 - 1 - 1 - 1 - 1 - 1 - 1 - 1				
74 14 PM 15 15 15 15 15 15 15 15 15 15 15 15 15				

(continued from page 148)

to Europe in 1882, where he went to work for the Hungarian Arms Factory in Budapest. Borchardt was impressed by a demonstration of Hiram Maxim's machine gun in 1888. Versions of the Maxim (including the British Vickers, the German MG08, the Russian Model 1905 (SPM), etc.) eventually became the standard machine guns for many countries through both World Wars. Many of these guns saw action in the Korean War and beyond. The Austrian government, for whom Borchardt worked at the time, was not as impressed, but Borchardt knew a good idea when he saw one. Maxim's gun worked on a toggle-link design that Borchardt adapted for use in his pistol. The result of this inspiration, the Borchardt C/93, was eventually produced by Ludwig Lowe & Co., and put on sale in 1894.

The modest success of Borchardt's gun provided the motivation for Gebruder Mauser & Co. to jump into the pistol marketplace, an area in which they had previously experienced little success (their zigzag revolver of the 1870s was a conspicuous failure). The Mauser Company was given permission to use the 7.65 Borchardt, which they modified slightly into the 7.63x25mm or .30 Mauser, a cartridge that was dimensionally almost identical to Borchardt's round, but was loaded for higher velocities. Their first prototype, the Mauser C/96 or "Broomhandle," was introduced in March of 1895. A commercial success, the C/96 proved a hard sell to the military. Only a few powers, notably Turkey and Russia, were impressed enough to adopt it as a standard sidearm (the Russians, after the revolution, continued to use it as the 7.62x25 Tokarev, a round that is virtually identical to the 7.63x25 Mauser, and it became the standard of the Communist Bloc). Although the C/96 was used as a substitute standard by the armies of many countries, no major power adopted it as first line issue for its armed forces. They wanted a heavier, larger-diameter bullet moving at comparable velocities. In this regard, the development of the 9mm as a military pistol round parallels similar concerns in the United States over the suitability of the .38 Long Colt, which was discarded in favor of the .45 ACP in 1911.

GEORG LUGER AND THE GERMAN MILITARY

The challenge of designing an automatic pistol for the military fell to Georg Luger, who had previously assisted Borchardt in designing the C/93. Although Luger benefited from Borchardt's input for his design, his experience from seven years in the Austro-Hungarian Army gave him a better insight into what made a practical military firearm. Luger redesigned the C/93's toggle return springs and swept back the grip to give the shooter a more comfortable hold on the gun than what Borchardt's straight up-and-down grip allowed. Luger and Borchardt presented a version of their redesigned pistol to the Swiss army in 1898 chambered in Luger's first redesigned cartridge, the .30 Luger or 7.65x21. The Swiss felt that the load for the .30 Luger was too powerful and that the bullet was too small. Luger responded by removing the neck from the .30 Luger case, making it a slightly shorter "straight-walled" cartridge. Luger shortened the case to accommodate the inclined magazine imposed by the angle of the butt of his pistol. He left the rear of the case alone, though, and the round retains the taper of its parent cartridge. This became the 9mm Luger cartridge we know today. These modifications allowed Luger to re-fit existing pistols by simply replacing the barrels, as the face of the breechblock and the extractor were common to both cartridges. The result of Luger's modification was the Pistole .08, or German Luger. Luger's new round, called 9mm Parabellum by its inventor, but also known as 9x19mm and more commonly as 9mm Luger, was less powerful than its predecessor, but it resulted in more control and accuracy for his gun. The larger bullet and higher pressure from the smaller case more than compensated in military applications.

The 9mm Luger debuted in 1902. The German Navy adopted the 9mm Luger in 1904 and the German Army followed suit in 1908. The bullet itself has undergone a number of changes since its introduction, although the case itself has remained unchanged. The original German service cartridge, officially used until 1916 and as late as 1917, featured a 115 grain truncated cone bullet that was replaced with a 115 grain round-nosed bullet after 1916. The utility of the round for the military became immediately apparent during World War I. Many of its early critics were still

fighting the last war, so to speak, and viewed the rifle as the ideal weapon for infantry — this view envisioned combat at distances of 200-300 yards. The realities of trench warfare were at odds with this view—most combat took place closer than 200-300 feet, not yards—and the 9mm Luger was well suited to the task.

The 9mm's success as a military cartridge was enhanced by its use in submachine guns. Large quantities of ammunition loaded specifically for use in submachine guns were manufactured. These used a slower burning powder with a heavier bullet, typically 124 to 130 grains—loads that produced much higher pressures only for use in submachine guns. The first submachine gun was chambered in 9mm Glisenti, a less powerful round similar to the 9mm Luger that was mainly used in Italy. This was the Italian Villar Perosa, also known as the Fiat Model 15 after the Fiat Factory where it was originally produced. Introduced in 1915, this ungainly weapon proved too under-powered for its original use in aircraft and too cumbersome for use by infantry, for whom the 1200 round per minute cycle rate of the weapon was simply too high. The Germans were among the first to experiment with submachine guns and early attempts at producing them included the mounting of shoulder stocks and extended barrels to semi-automatic P.08 Lugers that sported extended 32-round snail magazines. The Germans and Austrians captured a number of the Villar Perosa submachine guns in Northern Italy at the battle of Caporetto in 1917 and immediately recognized the possibilities of the submachine gun. Study and redesign of the Italian weapon resulted in the first significant submachine gun chambered in 9mm Luger: the German MP18I, designed by Hugo Schmeisser and introduced in 1918. The MP38, produced from 1938 to 1940, and the MP40, produced from 1940 to 1944, followed it into service and their design is also credited to Schmeisser, although they were actually designed by Heinrich Vollmer and Berthold Geipel of Erma (Erfurter Maschinenfabrik), the company that manufactured them. Although less expensive than the MP18I, the MP38 was still costly and it was unsafe if mishandled. The MP40 addressed both of these deficiencies. Its stamped parts were cheaper to produce than the parts for the MP38. It was also modified with a slot to lock the bolt in place to prevent the

weapon from firing accidentally. The MP38 and MP40 were the standard submachine guns of the German Army during WWII.

DEVELOPMENT THROUGH WORLD WAR II

Between the World Wars, a wide variety of guns chambered in the 9mm Luger and 9mm variants were designed and produced. The most significant of these were the Browning Model 1935, commonly known as the Browning High Power, and the Walther P.38.

Shortly after the end of WW I, Fabrique Nationale of Herstal, Belgium approached John Moses Browning with the idea of designing a new pistol for the French Ministry of War to be chambered in 9mm. Browning created two guns: one was a blowback pistol that was never produced, the other would be recognizable today as a High Power. Browning received his first patents for this new-gun in February of 1927, three months after his death. After testing the prototypes, Browning's son, Val, attempted to interest Colt in the gun, but there was little interest in a 9mm pistol in the United States and the gun ultimately found its way back to Fabrique Nationale. FN then embarked on a decade of revisions in response to the needs of the French Military. These revisions were mostly the work of FN's chief designer, Dieudonne Saive, whose alterations of Browning's original designs resulted a gun that was greatly changed from the gun that left the Browning shop in Ogden, Utah. The end product of this evolution was the FN Browning Model 1935 or Grand Puissance ("High Power" in French). The High Power was introduced in two forms: one with fixed sights and one with an adjustable rear sight and slotted grip for the attachment of a wooden buttstock. The High Power was the last pistol John Browning designed.

Walther's P.38 was introduced in 1938. A descendent of the popular Walther PP and PPK, it was designed to replace the P.08 and represents the first military double-action 9mm pistol. The initial military demand for the P.38 was so great that Walther alone was not able to keep up and it was soon manufactured by Mauser, as well. The P.38 was adopted as the official sidearm of the German Army in 1940, but the P.08 Luger hardly withered away: it was produced in quantity for the military until 1943 and

it saw much action during the war. The P.08 Luger is still popular in reproductions, Walther only recently replaced the P.38 with the P-5, and the

High Power is still in production today.

The battle of Dunkirk in Northern France early in World War II proved to be a decisive event in the history of the 9mm Luger when Great Britain lost a huge amount of equipment and ammunition to the advancing German Blitzkrieg. The need to manufacture armaments to stave off an imminent German invasion, combined with the massive amount of 9mm ammo they had captured from the Italians in Eritrea, led the British to adopt the Lanchester and Sten submachine guns in 1941, both chambered in 9mm Luger. The Lanchester was made the old-fashioned way, with machined parts, while the Sten was made of mostly stamped parts at a minimal cost (estimated as low as \$4.00 a unit). The Sten was particularly successful. Economically designed with a bare minimum of moving parts and intended for use by paratroopers and commandos, the Sten was an ugly, but effective, weapon. In fact, the Sten was resoundingly mocked by opposing troops until it was demonstrated to be as effective as more complicated German submachine guns. The Birmingham Small Arms Company (BSA) alone made nearly half a million Stens for use not only by the British military, but for resistance groups on the continent as well. Stens were also made by the Royal Ordinance Factory in Great Britain, and were made by the millions in Canada. Australia produced a more complex version known as the "Austen." The Sten was paid a compliment by the same German Arms makers who mocked its ugliness when Germany began producing Sten knock-offs like the MP3008 late in the war. As the war progressed, Great Britain eventually adopted the Browning High Power, as well, since many of the arms designers from Fabrique Nationale, including Dieudonne Saive, escaped to England before the Germans overran the continent.

After the war, NATO adopted the 9mm Luger as its cartridge of choice as a matter of expedience—most of its member nations were already using it anyway.

THE 9MM IN AMERICA

The 9mm Luger was first loaded commercially in the United States in 1908, when Winchester submitted the round to the Sporting Arms and Ammunition Institute (SAAMI). Remington began loading it under the UMC headstamp four years later (they changed the headstamp to Remington in 1960). Federal did not offer a 9mm round until 1972, but they didn't offer handgun ammunition in general until the sixties. Despite its availability, it didn't catch on until after World War II with an influx of guns collected as souvenirs by GIs returning home from the European Theater. Even with the ready availability of military surplus ammunition, the demand for commercial ammunition in the United States grew dramatically. The popularity of the cartridge also gave rise to demand for an American-made 9mm. Colt responded to this new demand in 1951 by introducing the Colt Commander, a shorter and lighter version of their M1911. Other manufacturers soon followed suit. Smith & Wesson introduced their Model 39 three years later. Beginning with the Smith & Wesson M59 in 1973, 9mm pistols that combined the double action of the P.38 with the high capacity magazines of the High Power became a major force in the marketplace. The recent advent of the so-called "Wonder Nines" has only fueled the growing popularity of the cartridge. These guns have continued to evolve with the development of all varieties of bells and whistles, from the now standard double-stack magazine/double action combination to ambidextrous safeties, synthetic frames, shaped trigger guards, stainless steel construction, etc. In addition to these technical advancements, the 9mm has been popularized in movies; the Lethal Weapon and Die Hard movies have done for 9mm what Dirty Harry did for the .44 Magnum twenty-five years ago. These developments have made the 9mm Luger the most widely loaded military pistol round in the free world.

THE US MILITARY AND THE 9MM

Although 9mm Luger has been the official NATO cartridge for decades now, one member country was a longtime holdout: The United States. The traditional sidearm for American forces throughout most of

this century has been the .45 caliber 1911A1, but during this long holdout, it became apparent to the Department of Defense that it needed to bring its sidearm into line with the ammunition requirements of its NATO allies. They toyed with replacing the venerable 1911 with a 9mm sidearm as early as the 1950s (early American 9mm pistols were designed for this purpose). After many false starts over three decades, they eventually adopted the Beretta 92F. This gun was the descendant of a line of pistols originated by Pietro Beretta and his designer, Tullio Marengoni, and produced for the Italian military. The first of these guns produced in 9mm was the Beretta Model 951. This sidearm was adopted by the militaries of Italy, Egypt, and Israel almost immediately upon its introduction in 1956 (indeed, Egyptian and Israeli forces traded a great deal of fire with the same guns during their hostilities in this period). Pietro Beretta's son, Carlo, returned to this pistol with an eye toward modernization in 1975, when the Model 92 was introduced. It replaced the steel frame of the 951 with aluminum alloy and it featured the Beretta open-top slide and double action trigger.

At the direction of the Department of Defense, the United States Air Force began testing 9mm sidearms in 1979 with an eye toward adopting the 9mm Luger for all United States Armed Forces. Candidates included the Beretta 92S; Colt SSP; Smith & Wesson 459; Fabrique Nationale DA, FA, and High Power; Star M28; and the H & K P95 and VP70. During the course of the testing, Beretta modified the 92S into the 92SB, revising the safety, and this gun was declared the winner by the Air Force. The US Army, however, took issue with the test conditions and convinced the Department of Defense to void the Air Force's results. They ordered the Army to start again from scratch. The Army rigorously tested their candidates for reliability, accuracy, interchangeability, and durability. They disassembled weapons and reassembled them from the pieces, submerged them in mud and salt water to test for corrosion, dropped them onto hard surfaces, and put them through a variety of other grueling tests. In 1982, the Army declared that all of their candidates had failed. When tests resumed in 1984, Beretta submitted their model 92F, which was eventually declared the winner, and while it doesn't have the punch of the M1911, it carries twice the ammunition. The 92F was designated the M9 by the military and became the first official sidearm common to all branches of the United States Armed Forces on January 15, 1985. It has since seen action in Panama, the Gulf War, and Bosnia. There are approximately 400,000 M9s in current American military service.

Acceptance by the United States military has all but assured the continued success of the 9mm Luger in the marketplace. As the sidearm of choice for the world's only remaining superpower, the 9mm is guaranteed to be manufactured and used well into the next century. As we approach the 9mm's 100th birthday, this modest little cartridge is well positioned to maintain its position as the world's dominant pistol cartridge.

References

"Cartridge of the Month: 9mm Parabellum;" Handloader Magazine; May-June 1969; p. 29 Arnold, Jeff; "The 9mm Revolution," The Shooters Bible; 1983 Edition

Barnes, Frank C.; Cartridges of the World, 7th Edition; DBI Books: Northbrook, IL; 1993; p. 231.

Dickey, Pete; "The US M1911A1 and the M9;" American Rifleman; August 1985; p. 48. Hogg, Ian V.; The Complete Handgun; Exeter Books: New York; 1979; pp. 79-100, 109, 110-118

Edwards, James; Remington Arms, Lonoke, AR

Keefe, Mark A.; "Pistol 9mm M9;" American Rifleman; September 1996; p. 43.

Musgrave, D.D. and Nelson, T. B.; "The Chinese Experience;" American Rifleman; January 1980; p. 44

Olson, Ludwig; "The Browning Hi Power;" American Rifleman; October 1989; p. 51.

Simmons, Donald M.; "The Pistol Germany Took To War;" American Rifleman; December 1980; p. 30

Smith, Joseph E. And Smith, W.H.B.; Small Arms of the World, 10th Edition; Galahad Books; 1973, pp. 109-11, 149, 179-188, 261-264, 391-405, 429.

Truby, David J.; "Lanchester's Rapid Fire Elegance;" American Rifleman; February 1987; p. 22

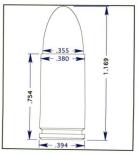
Viatekunas, Tim; Winchester Div., Olin Corp., E Alton, IL

Wilson, George A.; "Making the Luger Shoot;" American Rifleman; January 1981; p. 28.

Yust, Charles H.jr.; "Notes on the 9mm Parabellum Cartridge;" American Rifleman; November 1958; p. 30.

9mm Luger

The 9mm Luger is arguably the most popular pistol cartridge in the world. It is the chosen pistol cartridge for the North Atlantic Treaty Organization (NATO). It is used by law enforcement the world over and is an enormously popular commercial round. At first glance, the 9mm Luger seems an unlikely success. Critics of the cartridge have long contended that it is under-powered. It is unpopular among many IPSC competition shooters because the 9mm Luger's velocity and bullet weight restrict it to minor caliber. Until relatively recently, the slight taper of its case made finding good carbide dies for reloading the 9mm hard to come by (in fact, at the outset of the round's commercial career, it was not reloadable at all since virtually all 9mm brass was Berdan-primed military surplus, some made of steel). Many of the law enforcement agencies who replaced their .38 Specials and .357 Magnums with the 9mm over the last 20 years have begun to abandon it in favor of more powerful cartridges like the .40 S&W or the .357 Sig, etc. The 9mm's checkered career as a commercial cartridge may have taken its biggest hit in 1994 when the manufacture and import of magazines with a capacity greater than 10 rounds was banned in the United States. Many 9mm Luger mag-



SAAMI Maximum Dimensions Actual size

azines hold 15 rounds or more without extending beyond the butt of the grip, so the ban on high capacity magazines knocks the legs out from one of the cartridge's key selling points. In spite of all this, the complaints of its critics are swimming upstream against a huge swell of support. There are valid reasons why the 9mm Luger is so popular.

While the 9mm Luger does not excel in any one particular area, it is very good in many areas—it is the jack of all trades of pistol rounds. It is physically lighter than more powerful cartridges,

which makes it easier to carry. Its small size means an officer or a soldier can carry more ammunition in the same amount of space. Even the ban on high capacity magazines may prove to be a blessing: it has enabled many fans of the 9mm to rediscover the suitability of scaled-down 9mm pistols as concealment weapons.

9mm Luger is actually much more powerful than close relatives like the .380 Auto. Just how does it compare with other cartridges? The following chart gives some idea:

Cartridge	Muzzle Velocity(fps)	Muzzle Energy (ft.lbs)
.380 ACP 90 Gr. JHP	1000	200
9mm Luger 115 Gr. JHI	P 1155	341
9mm Luger 124 Gr. JHI	P 1110	339
9mm Luger 147 Gr. JHI	975	310
.38 Special 158 Gr. JHP	800	225
.357 Magnum 158 Gr. JH	P 1250	548
40 S&W 180 Gr. JHP	950	361
.44 Special 180 Gr. JHP	1000	400
.44 Magnum 240 Gr. JHP	1350	971
.45 ACP 200 Gr. JHP	900	444

The development of the 9mm Luger cartridge can be traced to its predecessor, the 7.65mm Borchardt, and Hugo Borchardt's development of the C/93 Borchardt, a self-loading pistol chambered for that cartridge. Borchardt was born in Germany, but emigrated to the United States when

he was sixteen. He became an American citizen in 1875. Borchardt designed a number of revolvers for Winchester that were never produced. This so frustrated him that he returned



(continued on page 144)