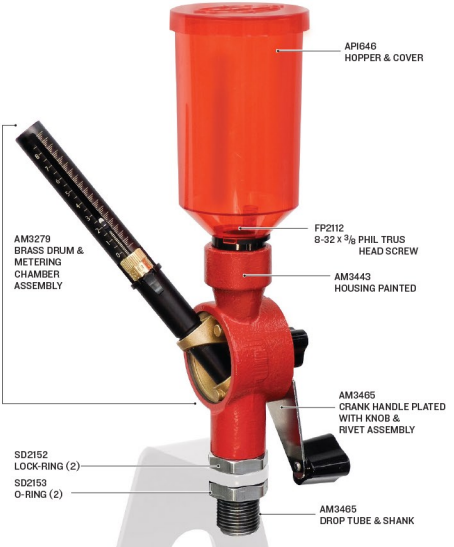
LEE CLASSIC POWDER MEASURE

COMPLETE INSTRUCTIONS



POWDER MEASURE ACCESSORIES

AVAILABLE MID 2015

90587
POWDER MEASURE STAND

QUICK CHANGE DRUM SET features four precision molded nylon drums. Two small capacity for cases as small as the 25 ACP, adjustable to 223 size rifle cases. Large capacity drums adjustable from 223 case to cases as large as the belted magnums. The large drums include an insert to allow reduced capacity charging like the smaller drum.

All drums are infinitely adjustable within range. No tools required for adjustment. A graduated adjustment key is included with each drum. Each turn of the adjusting screw is .1cc or about one grain of powder. Each key is marked with .01cc graduations allowing easy 1/10-grain powder adjustments. **QUICK CHANGE DRUM SET** 90453

LEE PRECISION, INC.
4275 Hwy U · Hartford WI 53027
www.leeprecision.com

A COUPLE WORDS ON YOUR NEW POWDER MEASURE

Selecting and charging powder is the most important thing you can do for both the safety and accuracy of your reloads. Be absolutely certain you have the correct type and amount of powder before you attempt to reload any cartridge.

Your powder measure features quick change metering drums, the standard metering chamber is adjustable in .01 cc increments from 0 to over 8.5cc's. The sharp, permanent laser engraved metering chamber allows you to rapidly preset the measure.

The precision machined cast iron housing incorporates an elastomer wiper that prevents powder shearing and jerky operation. The housing also has labyrinth groove to prevent leakage of extremely fine powder particles.

The hopper incorporates an on/off valve making powder changeover fast and convenient. The drop tube shank is universal from the .22 cal to .50 cal. Its internal tapered design prevents powder bridging. Threaded with the standard 7/8–14 thread to fit all popular reloading presses.

CAUTION

Ammunition reloading can be dangerous if done improperly and should not be attempted by persons not willing and able to read and follow instructions exactly. Children should not be permitted to reload ammunition without strict parental supervision. Always wear safety glasses when reloading and shooting. Ammunition loaded with these tools and data should only be used in modern guns in good condition. We do not accept responsibility for ammunition loaded with these tools or data as we have no control over the manufacture and storage of components or the loading procedure and techniques. Primers and gun powders, like gasoline and matches, can be dangerous if improperly handled or misused.

DO NOT USE BLACK POWDER IN THIS POWDER MEASURE, AS IT CAN EXPLODE IN BULK

1 Mounting & assembling Powder Measure

TO MOUNT TO THE STAND

Unscrew the bottom lock-ring and o-ring off the drop tube shank.

Slip drop tube shank through the stand and attach the powder measure to the stand with the lock-ring and o-ring.

TO MOUNT TO A RELOADING PRESS

Unscrew the bottom lock-ring and invert so o-ring groove and o-ring face the press die opening.

Thread the drop tube shank into the top of your press to a convenient height and finger tighten lock-ring.

2 Set the metering chamber to the correct charge

IF YOU HAVE A QUICK CHANGE DRUM, SET IT AND INSTALL AT THIS TIME.

The black metering chamber is calibrated in cubic centimeters (cc). The *Lee Modern Reloading* manual and Lee die instructions have converted grain powder charges into volume in cc. Look up your desired charge in *Modern Reloading* or instruction sheet and the volume in cc's will be conveniently listed. If you've ever loaded with Lee dippers, you can easily set the powder to your favorite load by setting it to the dipper number.

LEE MODERN RELOADING

· STARTING LOADS ·

POWDER TYPE	START GRAINS	VOLUME CC	AUTO DISK	LEE DIPPER	VELOCITY FPS	NEVER EXCEED	VELOCITY FPS	PRESS	UNITS	MIN OAL

LEE DIE INSTRUCTIONS

.....STARTING LOADS.....

Powder Type	Start Grains	Volume CC	Auto-Disk	Lee Dipper	NEVER EXCEED	Velocity FPS	Min OAL

3 Now set the metering chamber

The full cc amounts are numbers listed on the black metering chamber, 0 through 8. Each line on the black metering chamber represents the first numeral to the right of the decimal. Each numbered line on the micrometer thimble represents the second digit to the right of the decimal.

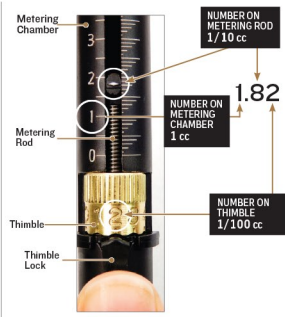
4 Example of setting the micrometer

For the example below we will be setting the micrometer to 1.82 cc's.

SEE PICTURE AT RIGHT ▶

Depress thimble lock and continue rotating the brass thimble until the metering rod pointer is to the 8th line past the number "1" on the black metering chamber. The setting is now 1.8 cc.
Continue to turn the thimble until the number "2" on the thimble is aligned with the thimble lock lever. The setting is now 1.82 cc.

HINT Each click on thimble is approximately .1 grain of powder.



5 Insert metering chamber assembly or Quick Change Drum

Insert metering chamber assembly into powder measure housing (or Quick Change Drum). The black metering chamber is installed opposite to the crank handle. Tighten tension knob, and loosen slightly to allow free operation.

6 Add powder in measure

Install hopper into the top of the powder measure assembly.

NOTE rotate counterclockwise to open valve, rotate clockwise to close valve.

7 Add powder to hopper, be certain of brand and type

CAUTION USING THE WRONG TYPE OR WRONG AMOUNT OF POWDER CAN CAUSE A SERIOUS OR FATAL INJURY.

8 Turn on the flow of powder by rotating hopper counterclockwise

9 Cycle powder measure several times to stabilize the measure

Catch the powder in a large case or catch container

10 Weigh several charges to verify

If your charge is incorrect, rotate the brass thimble +/– to adjust the charge. Don't expect the charge to be perfect and weigh enough charges so that you are sure they don't exceed your desired charge. Some types of powder meter notoriously inconsistent and it not unusual for the charge to vary plus or minus .4 of a grain.

HINT each number on the micrometer thimble is approximately .1 grain of powder.

LEE SAFETY POWDER SCALE

Safety and accuracy are the most important features. Easy to read and set. Calibrated with weights traceable to the UNITED STATES BUREAU OF STANDARDS. Even if you already own a combination bullet and powder scale, you will want a LEE SAFETY POWDER SCALE. 90681

11 Charge your brass

Once the charge is set and verified by scale, you can begin charging your cases. Hold the case mouth lightly against the drop tube shank and actuate crank handle gently stop to stop. It is very important to allow enough time for the metering chamber to fill and for metering chamber to empty into the case. Allow ½ second for each cc of powder dispensed. With large charges, this is a full 4 seconds.

NOTE Extruded powders (little logs), When using large extruded powder you will occasionally feel the drum bind against the wiper. Reverse the direction of the crank slightly, and then complete charge.

12 Finish charging cases

Rotate the hopper clockwise to turn off the flow of powder. Place a container underneath drop tube and cycle the crank handle to empty out measure. Remove powder hopper and return powder to the original labeled container. Extended storage of some powders will discolor and degrade the hopper.

Volume Measure Density (VMD) Volume of 1 Grain of Powder

If you are obtaining load data from other sources, the volume is not going to be listed, as charge weights are traditionally listed in grains. You are still in luck, we've listed the VOLUME MEASURE DENSITY (VMD) for most popular powders. VMD is used to describe the average volume of one grain of a specific powder when metered by the average reloader.

To find the volume needed for any charge, simply multiply the charge in grains by the VMD of the powder you are using. It is easy to set your measure to that number.

ACCURATE	VMD
A NITRO100	0.1349
ACC MAG PRO	0.0663
ACCUR #2	0.0838
ACCUR #5	0.0623
ACCUR #7	0.0653
ACCUR #9	0.0657
ACCUR 1680	0.0655
ACCUR 2015	0.0730
ACCUR 2200	0.0694
ACCUR 2230	0.0657
ACCUR 2460	0.0656
ACCUR 2495	0.0748
ACCUR 2520	0.0683
ACCUR 2700	0.0685
ACCUR 3100	0.0748
ACCUR 4064	0.0755
ACCUR 4350	0.0740
ACCUR 5744	0.0752
ACCUR 8700	0.0688
LT-32	0.0771
SOLO 1000	0.1331
ALLIANT	**VMD**
ALNT 300 MP	0.0667
ALNT 4000 MR	0.0722
ALNT AR-COMP	0.0753
ALNT VARMINT	0.0651
RELODER 17	0.0697
ALLIANT STEEL	0.1063
ALNT 410	0.0804
ALNT E3	0.1489
AMER-SELECT	0.1341
BLUE DOT	0.0865
BULLSEYE	0.1064
GREEN DOT	0.1262
HERC 2400	0.0742
HERCO	0.1122
POWER PISTOL	0.0889
RED DOT	0.1413
RELODER 10	0.0746
RELODER 25	0.0707
RELODER 7	0.0728
RELODER12	0.0691
RELODER15	0.0706
RELODER19	0.0706
RELODER22	0.0697
UNIQUE	0.1092

HODGDON	VMD
BENCHMARK	0.0715
BL-C(2)	0.0645
CFE 223	0.0646
CFE PISTOL	0.0754
CLAYS	0.1462
H 50 BMG	0.0694
H LIL GUN	0.0678
H RETUMBO	0.0721
H TRAP100	0.1171
H-LVR	0.0653
H-PYRDX RS	0.0811
H-PYRODX P	0.0823
H-SUPRFORM	0.0658
H-VARGET	0.0731
H1000	0.0713
H110	0.0656
H322	0.0725
H335	0.0645
H380	0.0691
H414	0.0661
H4198	0.0750
H4227	0.0769
H4350	0.0725
H450	0.0653
H4831	0.0725
H4895	0.0728
H870	0.0686
HO US869	0.0651
HP38	0.0926
HS6	0.0712
HS7	0.0680
HYBRID100	0.0726
INTERNATIONAL	0.1266
LONGSHOT	0.0824
PYRODEX CTG	0.1015
TITEGROUP	0.0848
TITEWAD	0.1300
UNIVERSAL	0.1099
IMR 4007 SSC	0.0725
IMR 700X	0.1343
IMR 800X	0.1071
IMR 8208	0.0710
IMR PB	0.1205
IMR TRAIL BOSS	0.2172
IMR3031	0.0762
IMR4064	0.0745

HODGDON	VMD
IMR4166	0.0741
IMR4198	0.0792
IMR4227	0.0769
IMR4320	0.0716
IMR4350	0.0735
IMR4451	0.0713
IMR4831	0.0735
IMR4895	0.0728
IMR7828	0.0725
IMR7977	0.0707
SR4756	0.1100
SR4759	0.0993
SR7625	0.1046
AUTOCOMP	0.0787
SUPRM780	0.0684
WIN 231	0.0931
WIN 296	0.0656
WIN 748	0.0655
WIN 760	0.0666
WIN AA LITE	0.1266
WIN AA PLUS	0.1296
WIN ACTION PI	0.0810
WIN MAG RIFLE	0.0718
WIN SUPER HANDI	0.0859
wSUPER-FLD	0.0840
wSUPER-LIT	0.0847
wSUPER-TAR	0.1205
RAMSHOT	**VMD**
R COMPETITION	0.1278
R ENFORCER	0.0693
R HUNTER	0.0667
R SILHOUETTE	0.0796
R TRUE BLUE	0.0684
RAM BIG GAME	0.0708
RAM MAGNUM	0.0661
RAM TAC	0.0671
RAM ZIP	0.0816
X-TERMINATOR	0.0681
NORMA	**VMD**
NORMA 200	0.0738
NORMA 201	0.0728
NORMA 202	0.0747
NORMA 203B	0.0722
NORMA MRP	0.0707
NORMA URP	0.0718

SOUTH AFRICA	VMD
MP200	0.0892
MS200	0.1061
VECTAN	**VMD**
VEC A0	0.1196
VEC BA10	0.1350
VEC BA9	0.0919
VEC SP10	0.0668
VEC SP3	0.0682
VEC SP7	0.0658
VEC SP8	0.0682
VEC SP9	0.0682
VEC TU2000	0.0762
VEC TU5000	0.0720
VEC TU7000	0.0704
VEC TU8000	0.0704
VIHTAVUORI	**VMD**
v-3N37	0.0913
v-N105	0.0900
v-N110	0.0833
v-N120	0.0776
v-N130	0.0754
v-N133	0.0770
v-N135	0.0777
v-N140	0.0733
v-N150	0.0746
v-N160	0.0734
v-N165	0.0712
v-N170	0.0713
v-N310	0.1214
v-N320	0.1210
v-N330	0.1079
v-N340	0.1066
v-N350	0.0977
v-N540	0.0701
v-N550	0.0692
v-N560	0.0690

Numbers are approximate. To find out the exact volume of any powder see CALIBRATING YOUR POWDER on the next page. It is so very easy to do and saves a great deal of time when setting your measure.

Calibrate your powder or VMD not listed

To find the VMD of your powder, set your powder measure to 4.0cc. Drop the charge, weigh the charge in grains, and divide 4.0cc by the weight of the dropped charge. Mark this number on the powder container and you'll have it for reference in the future. Average of several samples increases accuracy and confidence.

$$\frac{\textbf{4.0 cc setting}}{\textbf{Grains weight of sample}} = \textbf{VMD}$$

Grain and cubic centimeters

The grain, as used to measure gunpowder, should not be confused with a granule or kernel of powder.

A grain was so named because it was the weight measure equal to one plump grain of wheat. A grain is a grain is a grain whether using avoirdupois, troy or apothecaries weight. The reloader uses the avoirdupois system where there are 7,000 grains or 16 ounces to one pound. The same system we use daily in the USA to buy and sell gunpowder, steak, potatoes, etc.

Don't confuse grains and grams, a gram equals 15.432 grains.

1.0 cc of water weighs 1 gram. So if you are ever curious about your case capacity, weigh your empty case in grams, fill the case with water and the difference between full and empty case tells you the useful case capacity in cc's.

grams x 15.432 = grains

grains / 15.432 = grams

TROUBLESHOOTING	
Inconsistent charge	Not operating handle gently from stop to stop. Don't bang handle against the stops
	Unrealistic expectation of consistency. With larger charges of some types of powder, it's not unusual to find .4 grains of variance.
	Standard deviation in density from lot to lot of powder.
	Not allowing enough time for the metering chamber to fill or discharge
Binding of drum	Powder lodged between drum and body. Turn off hopper valve and remove drum. Clean mating surfaces off and replace and start with a higher initial drum tension.

HELPFUL HINTS

CHANGING POWDER MEASURE — FAST & EASY

- Rotate the hopper clockwise to turn off the flow of powder, put container underneath measure to catch powder. Cycle the lever a few times to empty the powder through the drop tube. Pull off hopper from measure and dump back into powder container.
- Don't forget to turn the valve back on before starting to load next time.
- When changing powder types, it's good practice to remove the metering chamber and clean mating surfaces of the any powder residue.

HIGH HUMIDITY AREAS

- Spray the machined area of the red cast iron body with silicone or teflon lubricant to prevent rusting, or apply paste wax or rub with a crayon or candle.

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