

Mini Compendium of Big Bore Cartridges

Part One of a Three Part Series

by Daniel McCarthy

Introduction

Not for more than 100 years has there been such a surge in interest in big bore cartridges as there is today. This interest is fuelled at least in part by the relative affordability of hunting game for which big bore cartridges are suitable. Such game is generally limited to thick skinned dangerous game, namely Cape buffalo, elephant, hippo on land, and white rhino. For half the cost of a typical new car, we can hunt Cape buffalo and plains game. Trophy bull elephant can be hunted in several countries for less than the cost of a new truck, and rhinoceros can be hunted in South Africa for the same budget.

It is not necessary to be wealthy or even a high income earner in order to afford dangerous game hunting in Africa. By scrupulously setting money aside and making a few personal sacrifices to cut expenses, such as giving up eating at restaurants, not buying tickets to professional sporting events, avoiding new or expensive cars and trucks, and by turning some of part of a gun collection into cash, almost every American wage earner will be able to afford a dangerous game hunt in Africa.

With the relative financial accessibility of thick skinned dangerous game hunting comes a natural interest on the part of the sportsman in rifles and cartridges appropriate for that sport. Although none of us would offer if our thick skinned dangerous game hunting were to be done exclusively with the 416 Rigby, 458 Lott and 470 Nitro Express, there is added excitement to shooting the largest and heaviest of bullets. But there is even more good news for the big bore fan. Prices for newly-produced double rifles are at an all-time low with several fine offerings from Searcy, Heem, Merkel, Krieghoff and Sig coming in at around US\$10,000. For a similar amount, a very nice big bore bolt rifle from several master craftsmen may also be acquired. Alternatively, there are some low-budget options for the big bore fan which will result in a very functional big bore dangerous game rifle for about US\$3000. This article provides the reader with a summary of both factory and

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wildcat cartridges) will calibrate and larger that are suitable for use on thick skinned dangerous game. As a beginning proposition, cartridges that use bullets with a sectional density of less than .300 or which cannot achieve a velocity of close to 2000 f.p.s. have been omitted due to the inadequate penetration that results from those ballistics. These criteria would seem to rule out any discussion of buckshot loads, as well as most of the 8 mm, 9 mm, 10 mm, 12 mm, 16 mm, 20 mm, 22 mm, 24 mm, 27 mm, 30 mm, 32 mm, 36 mm, 40 mm, 44 mm, 46 mm, 48 mm, 50 mm, 52 mm, 54 mm, 56 mm, 58 mm, 60 mm, 62 mm, 64 mm, 66 mm, 68 mm, 70 mm, 72 mm, 74 mm, 76 mm, 78 mm, 80 mm, 82 mm, 84 mm, 86 mm, 88 mm, 90 mm, 92 mm, 94 mm, 96 mm, 98 mm, 100 mm, 102 mm, 104 mm, 106 mm, 108 mm, 110 mm, 112 mm, 114 mm, 116 mm, 118 mm, 120 mm, 122 mm, 124 mm, 126 mm, 128 mm, 130 mm, 132 mm, 134 mm, 136 mm, 138 mm, 140 mm, 142 mm, 144 mm, 146 mm, 148 mm, 150 mm, 152 mm, 154 mm, 156 mm, 158 mm, 160 mm, 162 mm, 164 mm, 166 mm, 168 mm, 170 mm, 172 mm, 174 mm, 176 mm, 178 mm, 180 mm, 182 mm, 184 mm, 186 mm, 188 mm, 190 mm, 192 mm, 194 mm, 196 mm, 198 mm, 200 mm, 202 mm, 204 mm, 206 mm, 208 mm, 210 mm, 212 mm, 214 mm, 216 mm, 218 mm, 220 mm, 222 mm, 224 mm, 226 mm, 228 mm, 230 mm, 232 mm, 234 mm, 236 mm, 238 mm, 240 mm, 242 mm, 244 mm, 246 mm, 248 mm, 250 mm, 252 mm, 254 mm, 256 mm, 258 mm, 260 mm, 262 mm, 264 mm, 266 mm, 268 mm, 270 mm, 272 mm, 274 mm, 276 mm, 278 mm, 280 mm, 282 mm, 284 mm, 286 mm, 288 mm, 290 mm, 292 mm, 294 mm, 296 mm, 298 mm, 300 mm, 302 mm, 304 mm, 306 mm, 308 mm, 310 mm, 312 mm, 314 mm, 316 mm, 318 mm, 320 mm, 322 mm, 324 mm, 326 mm, 328 mm, 330 mm, 332 mm, 334 mm, 336 mm, 338 mm, 340 mm, 342 mm, 344 mm, 346 mm, 348 mm, 350 mm, 352 mm, 354 mm, 356 mm, 358 mm, 360 mm, 362 mm, 364 mm, 366 mm, 368 mm, 370 mm, 372 mm, 374 mm, 376 mm, 378 mm, 380 mm, 382 mm, 384 mm, 386 mm, 388 mm, 390 mm, 392 mm, 394 mm, 396 mm, 398 mm, 400 mm, 402 mm, 404 mm, 406 mm, 408 mm, 410 mm, 412 mm, 414 mm, 416 mm, 418 mm, 420 mm, 422 mm, 424 mm, 426 mm, 428 mm, 430 mm, 432 mm, 434 mm, 436 mm, 438 mm, 440 mm, 442 mm, 444 mm, 446 mm, 448 mm, 450 mm, 452 mm, 454 mm, 456 mm, 458 mm, 460 mm, 462 mm, 464 mm, 466 mm, 468 mm, 470 mm, 472 mm, 474 mm, 476 mm, 478 mm, 480 mm, 482 mm, 484 mm, 486 mm, 488 mm, 490 mm, 492 mm, 494 mm, 496 mm, 498 mm, 500 mm, 502 mm, 504 mm, 506 mm, 508 mm, 510 mm, 512 mm, 514 mm, 516 mm, 518 mm, 520 mm, 522 mm, 524 mm, 526 mm, 528 mm, 530 mm, 532 mm, 534 mm, 536 mm, 538 mm, 540 mm, 542 mm, 544 mm, 546 mm, 548 mm, 550 mm, 552 mm, 554 mm, 556 mm, 558 mm, 560 mm, 562 mm, 564 mm, 566 mm, 568 mm, 570 mm, 572 mm, 574 mm, 576 mm, 578 mm, 580 mm, 582 mm, 584 mm, 586 mm, 588 mm, 590 mm, 592 mm, 594 mm, 596 mm, 598 mm, 600 mm, 602 mm, 604 mm, 606 mm, 608 mm, 610 mm, 612 mm, 614 mm, 616 mm, 618 mm, 620 mm, 622 mm, 624 mm, 626 mm, 628 mm, 630 mm, 632 mm, 634 mm, 636 mm, 638 mm, 640 mm, 642 mm, 644 mm, 646 mm, 648 mm, 650 mm, 652 mm, 654 mm, 656 mm, 658 mm, 660 mm, 662 mm, 664 mm, 666 mm, 668 mm, 670 mm, 672 mm, 674 mm, 676 mm, 678 mm, 680 mm, 682 mm, 684 mm, 686 mm, 688 mm, 690 mm, 692 mm, 694 mm, 696 mm, 698 mm, 700 mm, 702 mm, 704 mm, 706 mm, 708 mm, 710 mm, 712 mm, 714 mm, 716 mm, 718 mm, 720 mm, 722 mm, 724 mm, 726 mm, 728 mm, 730 mm, 732 mm, 734 mm, 736 mm, 738 mm, 740 mm, 742 mm, 744 mm, 746 mm, 748 mm, 750 mm, 752 mm, 754 mm, 756 mm, 758 mm, 760 mm, 762 mm, 764 mm, 766 mm, 768 mm, 770 mm, 772 mm, 774 mm, 776 mm, 778 mm, 780 mm, 782 mm, 784 mm, 786 mm, 788 mm, 790 mm, 792 mm, 794 mm, 796 mm, 798 mm, 800 mm, 802 mm, 804 mm, 806 mm, 808 mm, 810 mm, 812 mm, 814 mm, 816 mm, 818 mm, 820 mm, 822 mm, 824 mm, 826 mm, 828 mm, 830 mm, 832 mm, 834 mm, 836 mm, 838 mm, 840 mm, 842 mm, 844 mm, 846 mm, 848 mm, 850 mm, 852 mm, 854 mm, 856 mm, 858 mm, 860 mm, 862 mm, 864 mm, 866 mm, 868 mm, 870 mm, 872 mm, 874 mm, 876 mm, 878 mm, 880 mm, 882 mm, 884 mm, 886 mm, 888 mm, 890 mm, 892 mm, 894 mm, 896 mm, 898 mm, 900 mm, 902 mm, 904 mm, 906 mm, 908 mm, 910 mm, 912 mm, 914 mm, 916 mm, 918 mm, 920 mm, 922 mm, 924 mm, 926 mm, 928 mm, 930 mm, 932 mm, 934 mm, 936 mm, 938 mm, 940 mm, 942 mm, 944 mm, 946 mm, 948 mm, 950 mm, 952 mm, 954 mm, 956 mm, 958 mm, 960 mm, 962 mm, 964 mm, 966 mm, 968 mm, 970 mm, 972 mm, 974 mm, 976 mm, 978 mm, 980 mm, 982 mm, 984 mm, 986 mm, 988 mm, 990 mm, 992 mm, 994 mm, 996 mm, 998 mm, 1000 mm, 1002 mm, 1004 mm, 1006 mm, 1008 mm, 1010 mm, 1012 mm, 1014 mm, 1016 mm, 1018 mm, 1020 mm, 1022 mm, 1024 mm, 1026 mm, 1028 mm, 1030 mm, 1032 mm, 1034 mm, 1036 mm, 1038 mm, 1040 mm, 1042 mm, 1044 mm, 1046 mm, 1048 mm, 1050 mm, 1052 mm, 1054 mm, 1056 mm, 1058 mm, 1060 mm, 1062 mm, 1064 mm, 1066 mm, 1068 mm, 1070 mm, 1072 mm, 1074 mm, 1076 mm, 1078 mm, 1080 mm, 1082 mm, 1084 mm, 1086 mm, 1088 mm, 1090 mm, 1092 mm, 1094 mm, 1096 mm, 1098 mm, 1100 mm, 1102 mm, 1104 mm, 1106 mm, 1108 mm, 1110 mm, 1112 mm, 1114 mm, 1116 mm, 1118 mm, 1120 mm, 1122 mm, 1124 mm, 1126 mm, 1128 mm, 1130 mm, 1132 mm, 1134 mm, 1136 mm, 1138 mm, 1140 mm, 1142 mm, 1144 mm, 1146 mm, 1148 mm, 1150 mm, 1152 mm, 1154 mm, 1156 mm, 1158 mm, 1160 mm, 1162 mm, 1164 mm, 1166 mm, 1168 mm, 1170 mm, 1172 mm, 1174 mm, 1176 mm, 1178 mm, 1180 mm, 1182 mm, 1184 mm, 1186 mm, 1188 mm, 1190 mm, 1192 mm, 1194 mm, 1196 mm, 1198 mm, 1200 mm, 1202 mm, 1204 mm, 1206 mm, 1208 mm, 1210 mm, 1212 mm, 1214 mm, 1216 mm, 1218 mm, 1220 mm, 1222 mm, 1224 mm, 1226 mm, 1228 mm, 1230 mm, 1232 mm, 1234 mm, 1236 mm, 1238 mm, 1240 mm, 1242 mm, 1244 mm, 1246 mm, 1248 mm, 1250 mm, 1252 mm, 1254 mm, 1256 mm, 1258 mm, 1260 mm, 1262 mm, 1264 mm, 1266 mm, 1268 mm, 1270 mm, 1272 mm, 1274 mm, 1276 mm, 1278 mm, 1280 mm, 1282 mm, 1284 mm, 1286 mm, 1288 mm, 1290 mm, 1292 mm, 1294 mm, 1296 mm, 1298 mm, 1300 mm, 1302 mm, 1304 mm, 1306 mm, 1308 mm, 1310 mm, 1312

Just about any cartridge can be used to kill a Cape buffalo with a properly placed braincase lung shot, as the tens of thousands of buffalo fallen to AK-47 rifles have proven. But stopping an enraged bull or penetrating to his vitals from a poor angle can test the limits of any cartridge. Elephant provide an even more difficult penetration challenge since a frontal brain shot on an elephant will require puncturing several feet of trunk and skull bone before the brain is reached. Likewise, buffalo shoulders and jawbones, and buffalo and elephant skulls are notorious for ruining bullets, so only quality monolithic solids or other premium non-expanding bullets should be considered by those with an inclination toward self-preservation.

Each cartridge summarized is discussed primarily from the point of view of building an affordable bolt action rifle to use for thick skinned dangerous game hunting. Example loads and ballistics are shown. The nitro express cartridges are discussed for comparison purposes, even though they are typically available only in more expensive double rifles.



500 Jeffery rifle built by Ryan Breeding



505 Gibbs by rifle maker Ryan Breeding using Granite Mountain Arms action. This rifle combines tasteful beauty with deadly efficient performance at a reasonable price. The magazine box, follower, front and rear sights, stock and other parts are all made by Ryan in his workshop to achieve flawless function and impeccable quality.

(the Heyn and Hambrusch bolt rifles being notable exceptions). I hope that all readers will have the chance to build or purchase a big bore rifle and hunt dangerous game with it, or at least be deterred by the mistakes of those of us who have.

The .505 Gibbs

The .50S Gibbs was designed by George Gibbs of London to provide big bore stopping power in a Mauser style bolt action rifle. It is considered the king of the classic big bore cartridges and is gigantic in its dimensions. The actions that will properly handle the cartridge are gigantic as well, and the price tag for a rifle in this calibre has a Texas-sized price tag.

The 550 Gibbs has an overall length of 3.85 inches, making it unsuitable for all but a few magnum actions. Those considering a .505 Gibbs would do well to use an action that has a bolt body diameter no more than 0.700" (which is standard in the magnum 70/40 model 98/CZ550) because after the silver face is opened up for the Gibbs 0.640" rim, there is just a very thin sliver of metal left on the bolt opposite the extractor. Starting with a larger diameter bolt at the outset, such as the .750" bolt found in Granite Mountain Arms magnum Mauser actions, adds to the durability of the rifle. Another alternative is a P14 Enfield action since the P14 bolt has a leaf lug that extends beyond the bolt face, providing extra metal opposite the extractor which can accommodate the Gibbs very large rim.

At first glance, the .505 Gibbs original factory ballistics of a 525 grain bullet at 2300 fps do not appear to offer much more power than a .458 Winchester Magnum. After all, it is just 25 more grains of bullet weight and 150 feet per second more velocity. However, the ballistics can be improved by stepping up to a 600 grain bullet at 2400 feet per second. Of course the Gibbs also has the advantage of greater bullet diameter than the .458.

At present, factory .505 Gibbs rifles are available from Reimer Johannsen

(www.johannsen-jagd.de), Hartmann & Weiss Heyn (www.heyne-waffenfabrik.de). CZ announced its introduction of a .505 Gibbs rifle at the shoot Show in 1975. Alternatively, master gunsmith Ryan Bredle of Palmdale, California (www.rbgibbs.com) offers a beautiful five shot .505 Gibbs bolt rifle, and custom gunmaker Joe Smithson of Provo, Utah turns out perfection in a .505 Gibbs on a Granite Mountain Arms action. Karl-Heinz Ritterbusch (www.jagdgewehre.com/eng/) offers top quality .505 rifles as well.

Most .50S Gibbs rifles made today are custom built by individual gunsmiths with about a 1-2 year lead time. It is a magnificent classic cartridge with wonderful stopping power. For those who wish to maximize the punch of a hunting rifle, even more potent combinations are discussed further below. Recoil from the .50S Gibbs is significant due to the heavy powder charges it uses. To control recoil, .50S Gibbs rifles should weigh 11 pounds or more.

On Cape buffalo, the .50S Gibbs has been observed to have significantly more shock effect than anything in the .458 class, due to its great bullet diameter. Performance on game of the .500 Jeffery, .500 AIIR, and .500 A-Square will be essentially the same as the .50S Gibbs. The advantage of the .50S Gibbs is its classic design and standard dimensions without a rebated rim. The disadvantages include need for a very expensive magnum Mauser action, periodic shortages of brass, sometimes inconsistent brass quality, and a relatively narrow selection of bullets for the .50S" diameter bore. If you want a .50S Gibbs, there is no inexpensive rifle, other than CZ's new offering. But a well-made .50S Gibbs rifle is a genuine treasure.

Example loads:

Cartridge	Powder	Primer	Bullet	Velocity
.505 Gibbs	120.0 grains Reloader 15*	F215	600 grain FMJ	2325 fps
.505 Gibbs	136.0 grains Reloader 22	"	525 grain A-Square	2328 fps

Notes

*4 grains Dacron filler between bullet and powder
Use of a slower burning powder such as 1MR7628 or RL22 permits fillers to be avoided