

REMINGTON ARMS COMPANY, INC.
SUCCESSOR TO THE REMINGTON ARMS UNION METALLIC CARTRIDGE CO., INCORPORATED.
MANUFACTURERS OF
FIREARMS, AMMUNITION, CUTLERY, CASH REGISTERS, ETC.

LONOKE, ARKANSAS

SEPTEMBER 24, 1992



TO: T. C. DOUGLAS

FROM: E. I. HERRING *E. I. Herring*

SUBJECT: MONTHLY REPORT - SEPTEMBER, 1992

- o New lots of SAAMI Reference Ammunition have been produced for 44 Rem Mag 240 LDGC, 7mm Rem Mag, and 222 Remington cartridges.
- o Catalog exterior ballistics data for 1993 new products calculated and sent to Marketing. Dummy ammo for catalog photos completed and forwarded to Lyon's Agency.
- o 223 Rem 40 HP - Bullets received from Sierra and satisfactory load developed at 3650 fps using IMR-4198 powder. Accuracy was 1.7" extreme spread for 3/5 shot groups at 200 yards. Federal equivalent on order for evaluation. Quotes on hand from Sierra.
- o 6.5 x 55 Swedish Mauser - UR barrels, F&C gun, transducer and calibration adapter on order.
- o At the request of Marketing, Maximum Range Data for 38 Special and 357 Magnum cartridges at 6000 feet above sea level was calculated for a potential Dept. of Energy contract.
- o UR barrels for 458 Win Mag and 12 gauge rifle slug have been ordered from H-S Precision.
- o Instruction letters have been issued for STL10Mag, STL16, and NSTL 1235Mag shotshells.
- o The review of the ANSI/SAAMI Centerfire Pistol and Revolver Voluntary Industry Performance Standard has been completed and the errors reported to the SAAMI office.
- o CBC in Brazil has shipped three powder samples for evaluation. Darcy Ferreira, the manager of the CBC propellant powder plant, plans to visit the Lonoke plant in the near future.
- o NORINCO (China) has submitted two samples of shotshell powders for use in the GL12 Promo loads. One sample NM-04 Lot 92-20 gave very good ballistic performance in the GL12 load. NORINCO will send a drum of this powder for additional testing.

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o Representatives from Kaltron-Pettibone, the importers of Vihtavuori (Kemira) powders visited the plant on September 10 to discuss the powder consignment contract. They indicated the sample of N170 Magnum Rifle Powder would be included in our next shipment of powder. They mentioned that Vihtavuori is actively working on a lead-free primer.

o Representatives from Hodgdon Powder Company and Australian Defense Industries visited the plant to review the performance of the Australian powders. ADI is working on a double-base shotshell powder for target loads, and will submit samples in the near future. Thus far, the ADI powders have performed well.

o Olin Powder submitted two samples of improved WMG-585 powder for evaluation in our steel shot loads. WMG-585 Lot #X4815 was too slow in all loads. Lot #X4814 gave very good ballistics at ambient temperature. This powder, unlike previous Olin powders, gave lower pressures at +150 F than at ambient. Although the unburned powder test at -20 F was very satisfactory, with only 10-12 grains of unburned powder remaining, the ballistics technician observed that the powder was "very smokey", even at room temperature. The powder also had a tendency to clump up, which is undesirable from a charging standpoint.

o Olin also submitted a sample of WC-295S powder which contains K_2SO_4 flash suppressant, but has the burning rate of the original unsuppressed WC-295. This powder is recommended for use in the 357 Magnum 158 Lead SWC cartridge.

o Biodegradable Wad Status -
Bio Wads - Still no degradation after 13 months' exposure.
Mortile TVL-50 continues to show significant degradation after 11 months' exposure.

o New Concept Shotgun -
Calculated the steel shot velocity required to deliver the same downrange energy as the equivalent size lead shot. It was found that a steel shot velocity of 2000-2100 ft/s will be needed to meet this requirement.

The Free Recoil Energy (F.R.E.) of a 7-pound gun firing the Remington SP12HNMag lead load with 1 7/8 ounces of shot is 52.4 ft.-lbs. The F.R.E. of the 7-pound New Concept Shotgun firing 1.29 ounces of steel shot at 2100 ft/sec. is 85.7 ft.-lbs. For comparison, a 9-pound 458 Win Mag rifle has 58 ft.-lbs. of recoil energy and a 10-pound 460 Weatherby Magnum rifle generates 111 ft.-lbs. of recoil energy.

Preliminary ballistic tests indicate it is possible to obtain a steel shot velocity of 1915 ft/sec with a pressure level of 28400 psi in the 3 inch 12 gauge shotshell. SAAMI Max pressure for 12 ga. is 11500 psi.

Load development for this high performance shotshell is continuing; however some method to reduce the "brutal" recoil level of this gun must also be addressed.

**Quality doesn't cost...
It pays...**