



**Est. 1973  
COLUMBIA, SC**



# **NEWSFLASH**

## **December 2017**



## International Plastic Modelers' Society/USA Membership Application / Renewal Form

New  Renewal  IPMS #: \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip Code: \_\_\_\_\_

Phone: \_\_\_\_\_ E-Mail: \_\_\_\_\_

Chapter Affiliation, if any: \_\_\_\_\_

<b>Junior</b> (17 years or younger)	\$17.00	_____	Date of Birth: _____
<b>Adult</b>	One year	\$30.00	_____
	Two years	\$58.00	_____
	Three years	\$86.00	_____
<b>Canada &amp; Mexico</b>		\$35.00	_____
<b>Foreign</b>	Surface	\$38.00	_____

**Family** (1 set of Journals) \_\_\_\_\_ ← Adult fee + \$5.00 # of cards? \_\_\_\_\_

Your Signature: \_\_\_\_\_

If recommended by an IPMS member, please provide his/her:

Name: \_\_\_\_\_ IPMS #: \_\_\_\_\_

### PAYMENT OPTIONS:

Cash  Amount: \_\_\_\_\_  
Check  Check #: \_\_\_\_\_ Amount: \_\_\_\_\_  
Credit Card  Master Card  Visa   
Card Number: \_\_\_\_\_  
Exp. Date: \_\_\_\_\_ / \_\_\_\_\_

Billing Address, if different than above -

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_

Zip Code: \_\_\_\_\_

Hello Swamp Foxes,

Welcome to the December 2017 Newsletter.

I hope everyone has had plenty of time at the workbench over the last month and that we get to see your hard work at the next meeting, Wed 20th December in Lexington Main Library, 18.00 - 20.00, This will be an Informal meeting, Just bring your Builds and Works in Progress

The November meeting was opened by Hub, 16 members in attendance, First thing on the agenda was 2018 show calendar, Ralph Nardone will give Modeling 101 seminar/lectures during Jan/Feb/Mar meetings, looking forward to them, also there will be build days at Hobby Town USA, dates and details will be pushed out when finalized.

Then it was around the table covering Members models and latest purchases. Lots of models on the table as seems usual these days.

A word from Ralph

I updated the website last night-- , there is a new banner button that takes you to the Contest page. I'm still working on content for that page, but at least we have a marker with some basic info online now.

I've also updated the Events section. That, too, will have more information added as soon as I am able to meet with the HobbyTown staff and figure out when our next build days will be held. So far, I listed the IPMS shows in the area (from Tennessee to Florida) between now and March.

For those who don't know, or forgot, the URL is <https://ipmsmidcarolina.com>. Check it out and let me know if you see anything out of place. And, finally, since I seem to have "volunteered" myself to be the club's "Demo King", I'm also looking for anyone who has ideas for demos and seminars to be presented at the meetings--we have the nice big room with a projection screen, we should use it to the full. As discussed last month, and to kick it all off, I will be presenting the "Model Building 101" seminar I prepared for the 2016 National Convention starting in January. It is a long program, I will be breaking it up into three 30-minute segments to be given in January, February, and March, my schedule allowing.

Cheers, everyone!

Ralph

# SUPPORT THE LOCAL HOBBY STORES



## Hobby Town USA

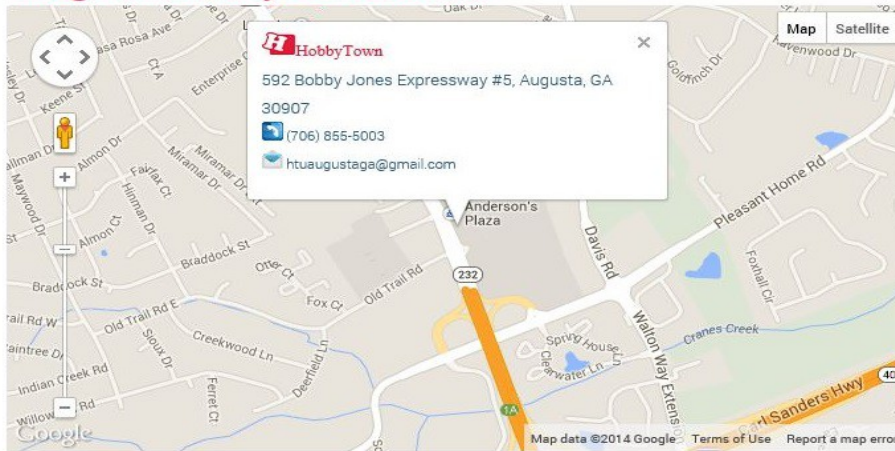
Hobby Shops

10120 Two Notch Rd, #5, Columbia, SC 29223


Cross Streets: Between Rivkin Blvd and Sparkleberry Ln Ext/Sparkleberry Ln

(803) 736-0959

## Augusta HobbyTown USA:



**NEW BROOKLAND RR**



405 State Street,  
West Columbia, SC 29169  
Tel: (803) 791-3958

All Scales, All Major Brands  
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Joe L. Rucker  
Owner

# SUPPORT THE LOCAL HOBBY STORES

## 20mm Oerlikon

Tuesday 20th 1975 i joined the Royal Navy and seven months later i passed out as a Seaman Gunner..... 32 years and 10 ships later i retired as a Chief Petty Officer Above Water Warfare(AWW)(Digital Gunner). My first ship was laid down during WW2 and completed in the 60's armed with 6" and 3" guns, my last ship was armed with Seadart Missiles and 4.5 Mk.8 gun. one thing in common that all ten ships had was that they carried the 20mm Oerlikon Mk.7a. I used and Instructed most weapons in the Royal Navy with exception of the Seawolf, Exocet/Harpoon and Goalkeeper, so from .22 - 6" and Seacat - Seadart. Out of all these my favorite was the 20mm Oerlikon, yes we had better guns, such as the easy belt fed 20 mm/85 GAM-BO1, but being strapped into the Oerlikon and letting the mind take you back to the brave crews fighting life or death battles against aircraft trying to ruin your day. Oerlikon drawbacks ?, Mainly the magazines, Charging and Uncharging was a real pain, even more so if a round toppled in the magazine, But give me the Mk.7a any day..... Oerlikons finally bowed out of British service around 2006 when they finally left the Royal Fleet Auxilliary ships.

So the 20mm Oerlikon was Widely used by many nations, this 20 mm automatic weapon originally designed by the Swiss firm of Oerlikon was probably produced in higher numbers than any other AA weapon of World War II.

In 1937 the British Admiralty initiated tests to find a weapon suitable for arming merchant ships and minor warships against close range air attacks. They rejected the Oerlikon Model 1934, but in 1938 the Admiralty informed Oerlikon that if they could raise the muzzle velocity and demonstrate that the weapon could be used and maintained by non-specialist personnel, such as fishermen and merchant seamen, then it would be acceptable. Oerlikon made the necessary changes and the first prototypes of the new design were delivered late in 1939. These were immediately accepted into service as the 20 mm Mark I and Britain placed large orders with Oerlikon and obtained a manufacturing license. However, only a few additional guns were delivered prior to the German occupation of France, which cut off the supply route. This is basically why so few British ships had Oerlikon guns during the early part of the war, with the official USN BuOrd history stating that the Royal Navy had only 100 Oerlikons at sea in November 1940.

Shortly before France fell, the British took advantage of their manufacturing license with Oerlikon to obtain a set of production drawings. These were brought back from Switzerland by Stewart Mitchell, who had previously been Inspector of Naval Ordnance Contracts at the Oerlikon factory in Zurich. Mitchell, together with the famous ordnance expert Charles Goodeve and with Cmdr. S.W. Roskill (then working in the

Admiralty Staff Division and later the famous Capt. Roskill, author of "The War at Sea") set up a factory at Ruislip to produce Oerlikon guns. "Considerable difficulties" with equipment and labor had to be overcome before deliveries of the British version of this gun, designated as the 20 mm Mark II, began in the fall of 1941. In November 1941, the battleship Duke of York was commissioned with six of these weapons, which I believe to have been the first warship to carry British-produced Oerlikon guns "as completed."

It is not specifically known how many guns were built by Britain and the Dominion nations, but the Mounting Appropriation Lists of September 1945 show about 55,000 guns in service in the British and Commonwealth navies. This total probably includes weapons built in the USA that were provided as a part of Lend-Lease or installed on those ships refitted in US shipyards. Some British Auxiliary ships still carried these weapons as late as 2006.

In 1935 the USN purchased two Oerlikon 20 mm Model 1934 guns for evaluation purposes. The USN rejected this model on the basis of it having a low muzzle velocity and an unsatisfactory rate of fire (265 rounds per minute cyclic). With war approaching, BuOrd began an investigation in 1940 for replacing the 0.50" BMG with a more powerful automatic weapon. After evaluating the alternatives, BuOrd Anti-Aircraft Type Assistant Capt. W.H.P. Blandy recommended adoption of the Swiss-built Oerlikon Mark I with official approval following on 9 November 1940. Manufacturing was quickly begun with the first gun made in the USA being test fired on 8 June 1941. By 7 December 1941, 379 weapons had been produced. Production ramped up quickly with the start of the Pacific War and a total of 124,735 Oerlikon guns were manufactured in the USA before production ended in 1945. This weapon proved very popular in the USN with its ease of maintenance and good rate of fire. This weapon replaced the ineffective 0.50" (1.27 cm) BMG on US ships on a better than one-for-one basis and was the primary anti-aircraft gun of the USN until the 40mm Bofors became available in large numbers during 1943.

Between December 1941 and September 1944, 32% of all Japanese aircraft downed by the USN were credited to this weapon, with the high point being 48.3% for the second half of 1942. In 1943 the revolutionary Mark 14 Gunsight was introduced which made these guns even more effective. This gunsight was developed by Dr. Charles Draper of MIT, who calculated that since the guns fired at relatively short ranges, a crude but simple and effective relative-bearing system could be used to control these weapons. The Mark 14 gunsight used two gyros to measure vertical and lateral rate of change and with these calculated the lead angle to the target aircraft and then projected an off-set aiming point for the gunner. Use of the Mark 14 did require that an electric power connection be provided to the formerly free-standing mountings. This gunsight was later adopted as part of the Mark 51 director which was used to control the 40 mm

Bofors, greatly increasing their effectiveness. Postwar, the Mark 14 was replaced by the Mark 20 Gun Sight, which was a lighter, simpler design. The Mark 20 was ready to use in ten seconds after being switched on while the Mark 14 took three minutes.

By late 1944, the USN had found that 20 mm shells were too light to kill-stop Japanese Kamikaze planes and the higher approach speeds of these planes made manually controlled guns obsolete. As a result, Oerlikons were replaced by 40 mm Bofors wherever possible during 1944-45 and removed entirely from most US ships by the mid-1950s.

Use by other nations during World War II: 1) The Italians purchased small numbers of this weapon directly from Oerlikon. 2) The German Army purchased an unknown quantity of guns directly from Oerlikon and designated them as Flak 28 and Flak 29. These were passed on to the Kriegsmarine in 1939. 3) A total of 2,002 guns were sent to the Soviet Union as part of Lend-Lease.

Some historical irony: Oerlikon almost went bankrupt when the USN rejected their 20 mm Model 1934. Only the Imperial Japanese Navy's purchase of license rights saved the company and permitted further development work, which resulted in the much more successful version used by the Allies during World War II.

The Mark 1 was the original design by Oerlikon. A small number of this version were built in the USA as prototypes. The USA Mark 2 and the British Mark II were the first production versions manufactured in those countries. The differences from the Mark 1 were mainly in the arrangements of the buffer springs, although the USA Mark 2 also had cooling ribs and two locking slots. The USA Mark 3 was similar to the Mark 2 but had fewer cooling ribs and only one locking slot. The later USA Mark 4 was the most common version built in the USA and had a single, heavier buffer spring. This version was built to slightly different tolerances as it was redesigned using English measurement units rather than the metric units used on previous Marks. The Mark 4 Mod 4 had a fluted chamber which allowed easier ejection of the spent cartridge cases. The Mark 1 could be fired in single-shot mode, while all of the others could only be fired in automatic mode. All guns used a monobloc barrel and a horizontal sliding breech block mechanism.

One of the largest advantages of this weapon from a maintenance point of view was that, unlike the contemporary Hispano-Suiza 20 mm gun, the forces used to operate the automatic mechanisms were quite high, which meant that such factors as friction, insufficient lubrication, cold weather, different elevations, rain and the like were small in proportion to the operating forces involved and therefore unlikely to cause stoppages. In addition, the barrel on the Oerlikon gun could be changed in 30 seconds or less while it took about an hour to change barrels on the Hispano-Suiza.

It should be mentioned here how unsuitable the original Oerlikon design of the Mark 1 was for mass production. Each weapon needed to be tailor made with a great deal of hand fitting during each stage of assembly. Likewise, the manufacture of individual parts was a long and labor-intensive process. BuOrd and private USA manufacturers completely redesigned almost every part of this weapon in order to speed up production. To give just one example, the barrel spring casing as designed by Oerlikon started as a 56 lbs solid alloy steel forging. This casting required a great deal of machining in order to produce the finished part which weighed only 6 lbs. BuOrd experts redesigned this piece to consist of a hollow forged base to which a tubular steel extension was welded, thus reducing the starting weight to only 14 lbs with a correspondingly large savings in man-hours, machine tools and costs in making the finished piece. As a result of such redesigns, production time in the USA dropped from 428.4 man-hours per gun in 1941 to only 76.2 man-hours in September 1944.

These guns are open-breech, air-cooled and use a gas blow-back recoil system. This weapon has some unusual features not found in other automatic guns. When fired, the case pushes the breech back against the force of the barrel springs. The barrel does not recoil, the breech block is never locked against the breech and is actually moving forward when the gun fires. This weapon lacks a counter-recoil brake, as the force of the counter-recoil is checked by the explosion of the next round of ammunition.

## Ranges

Ranges in the table below are simply the ballistic characteristics. Effective range during World War II against aircraft for manually aimed weapons rarely exceeded 1,000 yards (910 m), although USN Oerlikon gunners were expected to open fire at 1,200 or 1,300 yards (1,100 or 1,200 m) which allowed aiming corrections by the point the target entered effective range.

Elevation	Range
10 degrees	3,450 yards (3,154 m)
15 degrees	3,950 yards (3,612 m)
20 degrees	4,275 yards (3,909 m)
25 degrees	4,525 yards (4,138 m)
30 degrees	4,650 yards (4,252 m)
35 degrees	4,725 yards (4,320 m)
40 degrees	4,775 yards (4,366 m)
45 degrees	4,800 yards (4,389 m)
AA Ceiling	10,000 feet (3,048 m)

I have used information from an article from Navweaps.com to help with this article.



## 20mm Oerlikons in various forms
















## For the Modeler

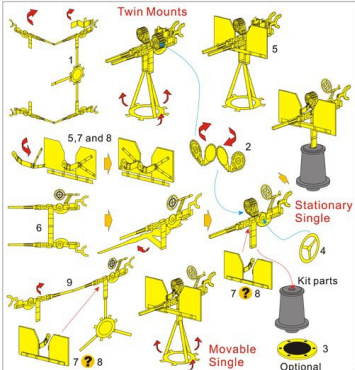


Deans Marine Fittings 1/32


1:350 WWII USN Oerlikon 20mm Anti-Air Guns  
NW35052 

Thank you for purchasing the Alliance Model Works 1:350 WWII U.S. NAVY Oerlikon 20mm Anti-Air Guns. This set contains photo etched materials to construct the weapons in twin mounts (10), movable individual mounts (15) and stationary individual mounts (18). AM-Works also offers related products in 1:350. Including quad and twin 40mm Bofors (NW35030, NW35031).

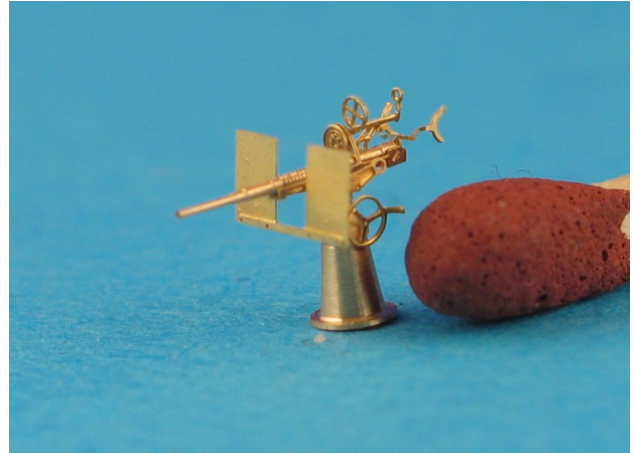
-  Direction
-  Curt
-  Choices
-  Press
-  Bend
-  Make Multiples
-  Cut Off
-  Drill Hole
-  Caution
-  Repeat on other side



[Http://alliancemodelworks.com/](http://alliancemodelworks.com/)

Alliance Model Works  P. 1

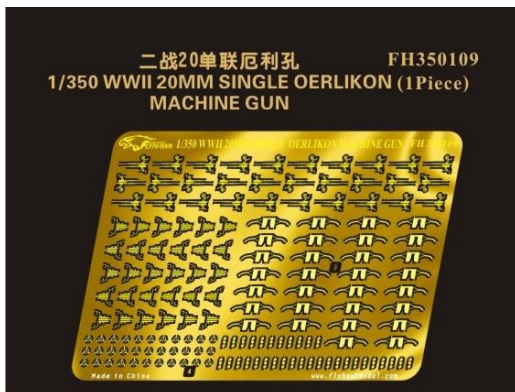
Alliance Model Works 1/350



Master-Model 1/350



ShelfOddity 1/700



Flyhawk 1/700

This is just a small selection of what is out there, Many more available in 3D form

Pics from last Meeting



Mathew Goodman - Monogram/Revell 1/48 F-105D.



Darby Erd - KP - 1/72 scale Mig-21MF.



Darby Erd - Airfix - 1/72 scale Spitfire Mk.I.



David Koopman - Aoshima - 1/700 IJN Kashima (New Mold)



Rick Broome - AMT - 1/25 scale "Gasly Ghost Ride" Ghostbusters Ecto 1 conversion.



Donnie Greenway - Revell 1/32 scale P-51D Mustang.



Mike Roof - Tamiya - 1/35 M-10 Tank Destroyer with kit figures.



John Helms - Hasegawa - 1/32 scale FW-190 D9



Allen Hutto - AM - 1/48 scale TBF-1.





Jim Hamilton - Lindberg - 1/48 scale Lockheed Vega "Winnie Mae".



John Currie - Italeri - 1/72 HH-53C.



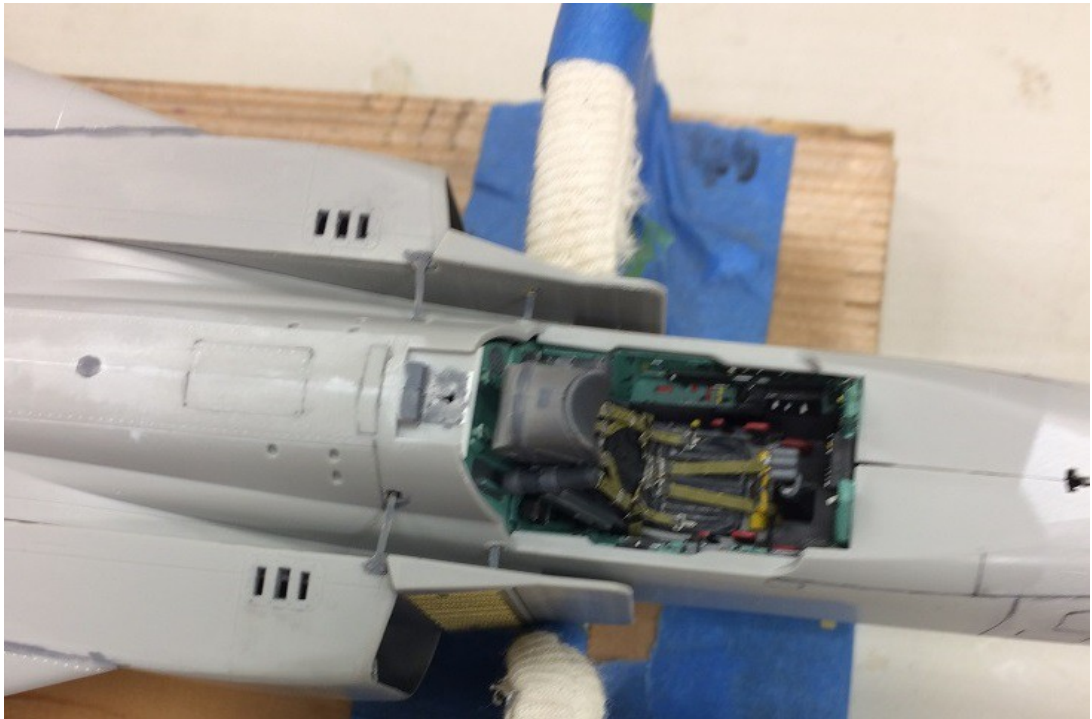
John Currie - Italeri - 1/72 H-21.



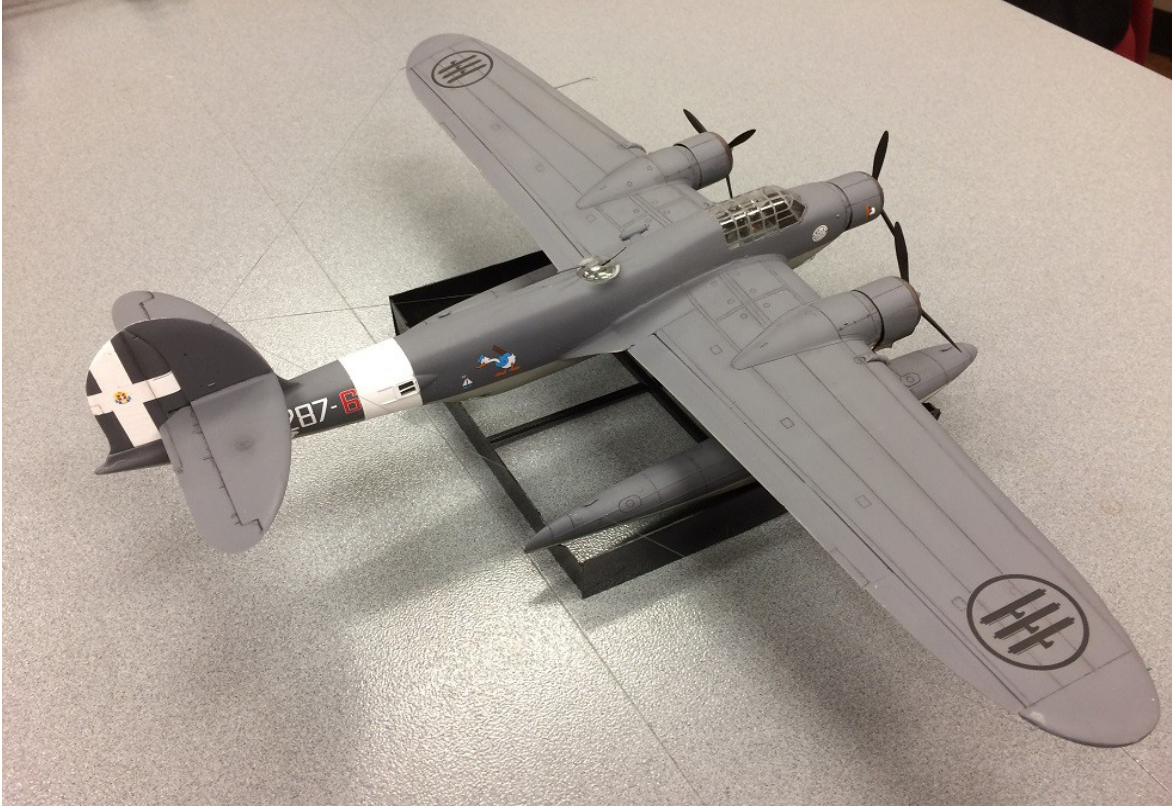
John Currie - Italeri - 1/72 H-34.



Tom Wingate - AMT - 1/24 Mazda RX 7.



Tom Wingate - Trumpeter - 1/32 MIG-23.





Hub Plott - Alpha Flight - 1/48 Cant 506B.







Andy Townsend - Airfix - 1/48 scale De Havilland Sea Vixen FAW.2 (Royal Navy).



## **IPMS Christmas Party**

**Saturday, December 9, 2017 - 14.00 - 17.00**

**168 Coventry Lake Drive - Lexington, SC 29072**

**Catering by Hudson's**

BBQ

Fried Chick

Green Beans

Fried Okra

Macaroni and Cheese

Garden Salad

Peach Cobbler

Rolls

Pickles

Tea – Sweet and Unsweet

Condiments – dressing, all three varieties of BBQ sauce.

***Followed by Secret Santa***

Hopefully see many of you on the 20th Dec at the Lexington Main Library.

**Have a Great Christmas everyone, Stay Safe**

