PROGRAMMABLE RIPPLE BOMB RELEASE SWITCH
****" Enables multiple bombs to be dropped at a SINGLE click ".****

This version is for Helicopters only, DO NOT use on Fixed wing aircraft.

1. GENERAL DESCRIPTION
   This switch enables the user to set both the number of bombs , and the
time interval between each of those bombs.
That set number of bombs is then released at a single click of either the
button on the switch , or an assigned button on a controller.

Prior to this switch , it was necessary to click repeatedly to release multiple bombs ,
as the default FSX release function was limited to a single release per click .
For a B-52 bomber where large numbers in the region of about 48 bombs are
dropped in a ripple cascade that meant 48 rapid clicks had to be conducted ,
with this switch a single click will now release those 48 bombs in a precise
time interval ripple pattern.
This switch replicates instruments commonly found in military aircraft.

Ideal for any military Helicopter Gunship , the Weapons used is totally up to
individual preferences , generally it would be missiles like the Maverick or Hellfire ,
if you chose to drop multiple bombs , then make sure that you have a good forward
speed to create separation between the ground impacts , in a hover they all impact in
one spot.
Be aware that at low altitudes fragmentation damage from explosions is a concern in
helicopter operations.
Works for both Bombs and Missiles.

2. ** IMPORTANT PRE CONDITION **
This switch requires that the Freeware " Weapons Package "
By author Chris Sykes (conduct search by author name at Simviation)
Available from   Simviation website.
be downloaded and installed in FSX.
A saved flight must be created with the applicable weapon/bomb entry
made as per instructions contained in the Weapons Package.

It is recommended that the following entry be made initially :

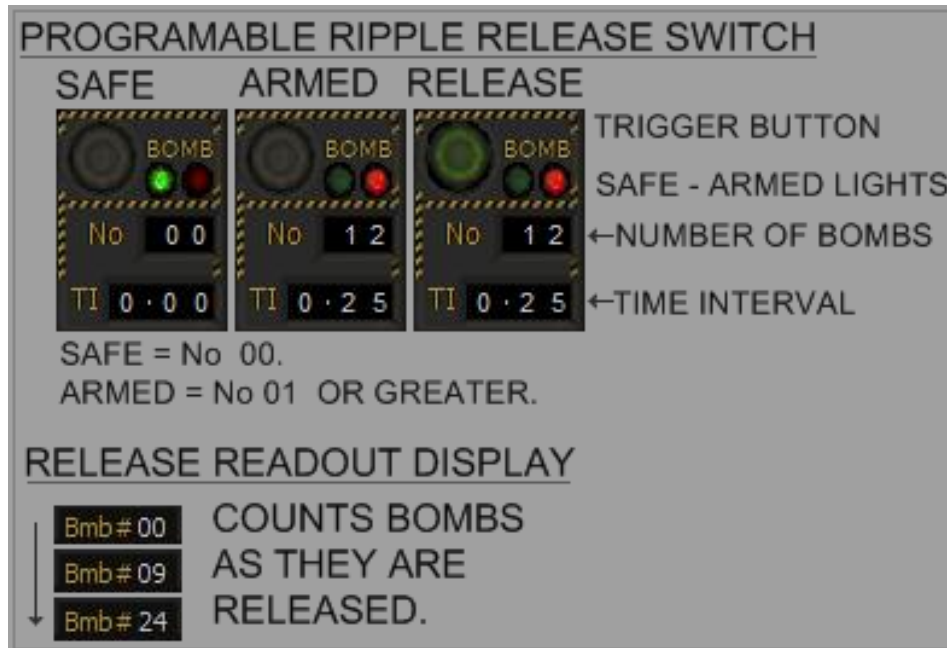[DroppableObjects.0]
ObjectSet.0=GBU-24B,250

        (GBU-24B = chosen Weapon ID   and   250 = chosen quantity)

REASON : particular bomb is 14 ft long , it's large size makes it readily
observable in flight , and the large quantity facilitates your testing.
For the heavy bombers it is suggested that the quantity in the saved flight be
set at about 400 to 800 .

This entry can be subsequently changed to suit your preferences.

3. INSTRUMENT OPERATION

PROGRAMABLE RIPPLE RELEASE SWITCH

SAFE   ARMED RELEASE

TRIGGER BUTTON
SAFE - ARMED LIGHTS
←NUMBER OF BOMBS
←TIME INTERVAL

SAFE = No 00.
ARMED = No 01 OR GREATER.

RELEASE READOUT DISPLAY

Bmb # 00   COUNTS BOMBS
Bmb # 09   AS THEY ARE
Bmb # 24   RELEASED.

Firstly set both the "No" (number of bombs) and the "TI" (time interval-seconds).
Setting is by Left or Right mouse click   OR mouse Wheel Up or Wheel Down.
(1) . " No " has 2 setting hotspots enabling 00 to 99 to be set.
(2) . " TI " has 3 setting hotspots enabling 0.00 to 9.99 (seconds) to be set.

If the " No " setting is 00 then the " SAFE " green light is on and no bombs can be dropped.
If the "No " is set from 01 to 99 then the " ARMED " red light is on.

With both "No" and "TI" set , the bomb ripple is initiated by a single click
of either :
1. The round button on the switch instrument , which will light up momentarily.
OR
2. Assign TAILHOOK to a Controller button , this is the better option for
two reasons , (A) the assigned button can be used in all views , including external
views , (B) it enables a HOTAS (Hands On Throttle And Stick) concept which
is now being incorporated in most modern military aircraft , as it allows the pilot
to keep both hands on the controls during this busy phase of the flight.

Examples.
 "No 12 - TI 0.01" = concentrated drop zone.
While
 "No 24 - TI 0.50" = strung out drop pattern, it will take 12 seconds for all 24 bombs
to drop from your aircraft . All from a Single click.

4. TIME INTERVAL vs GROUND IMPACT SEPARATION

For information , a table of horizontal bomb spacing in feet for several Time Intervals (seconds) versus 3 different Groundspeeds.

Distance interval chart .

Ripple Bomb Release
Ground impact separation in feet
for Time Interval vs Groundspeed
Level flight only

Interval (sec)	Speed (GS) kts		
	300kt	400kt	500kt
0.1	51	68	84
0.2	101	135	169
0.3	152	203	253
0.4	203	270	338
0.5	253	338	422
0.6	304	405	506
0.7	354	473	591
0.8	405	540	675
0.9	456	608	760
1.0	506	675	844

For a compact cluster delivery set the TI (Time Interval) at a small value such as 0.01 .

5. WEAPONS PACKAGE INDEX - PDF

Copy Allowed PDF with ID, image and dimensions for all weapons, provided to facilitate rapid copy/paste for weapon changes is included.
 This PDF is specifically in a " Copy Allowed " format .
The user can Highlight any weapon ID code , and Copy ,
then go to a "Saved Flight" open the " FLT file " document and,
Paste in a new weapon preference.
This PDF makes this process a rather simple process that can be repeated as often as the user desires.

The images within the PDF aid in identifying the various weapons , and it is recommended that the PDF be retained for future reference purposes.

6. PAVE TACK VIEWER *OPTIONAL*

Pave Tack all aspect/directions " in cockpit viewer " instrument that enables observation of bombs dropping and exploding from within the cockpit included. This instrument is an optional inclusion , please view the screenshots , then decide if you wish to install it.

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*****************************************************************
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INSTALLATION

1. Open the "COPY CONTENTS Folder" Copy the contents , then Paste into the
Panel Folder of the aircraft that you choose .
2. Copy the Folder titled " Flight simulator X Weapons Index" , then
Paste into your "My Documents" area , this will place that folder containing the PDF
next to your Saved Flights folder , an ideal location to facilitate any future Weapons
changes that you might desire from time to time.

Then make the following Panel cfg entries.
```
*****************************************
```
//Your   Panel.cfg

[Window Titles]

WindowXX=Bomb Ripple SW
WindowXX=PaveTack   //-- (Optional) --

//-------------Ripple Switch-------------------
[WindowXX]
Background_color=0,0,0
size_mm=120
window_size_ratio=1.800
position=5
visible=0
zorder=88
sizeable=1
window_size= 0.128, 0.155
window_pos= 0.000, 0.739

gauge00=MOP!SHACK, 1,1,55,68 //--Ripple SW--
gauge01=MOP!PYLON, 1,70,42,14 //--Readout--

//---------------Pave Tack (Optional)----------
[WindowXX]
Background_color=0,0,0
size_mm=225,304
window_size_ratio=1
position=3
visible=0
ident=1515
zorder=66
sizeable=1

gauge01=Recon!F-111_PaveTack, 1,1,225,300

//---

//---
[Vcockpit01]

gaugeXX=MOP!DropControl, 0,0,1,1
gaugeXX=Eventhandler!EventHandler, 0,0,1,1

//---
****

<u>NOTE :</u>
1. Add the above entries to the " Panel cfg " of your aircraft.
2. Where "XX"   appears above insert the next sequential number that applies
   for your particular Panel cfg .
3. Where " (Optional) " appears above , it is a matter of your choice if you
   wish to add the " Pave Tack " viewer .
4. Both the "Ripple Switch" and "Pave Tack" are Pop Up windows that are
   called up in the usual manner by SHIFT and NUMBER with your
   keyboard.
****

This package is "Public Domain" can be used or modified, or included in
both free and payware projects without any limitations.

FOR DEVELOPERS.
Modifications can be made if desired to :-
- SHACK xml .
- PYLON xml .
- The artwork on the Bitmaps.

DO NOT ATTEMPT TO MODIFY :-
- EventHandler.gau
- DropControl xml.

Unfortunately no assistance can be provided with modification projects.
However the xml code is commented , and the Mouse areas have tooltips ,
both of which should assist with any modifications attempted.

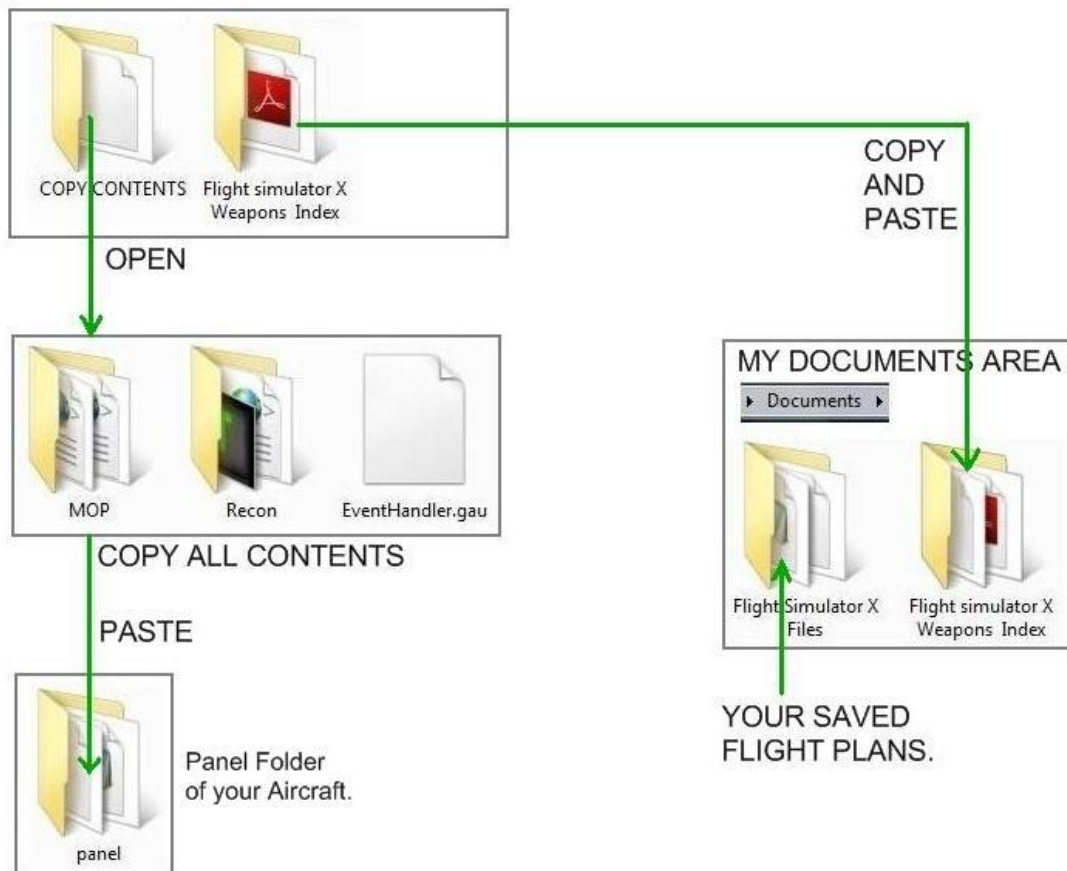Most importantly , I hope the above provides depth and enjoyment.

Credit and thanks for collaboration by Tom Aguilo .

June 2013.
Karol Chlebowski
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INSTALLATION PROCESS

1. In this package you will find the following.

COPY CONTENTS   Flight simulator X
                 Weapons Index

OPEN

COPY
AND
PASTE

MY DOCUMENTS AREA

▸ Documents ▸

Flight Simulator X
Files

Flight simulator X
Weapons Index

YOUR SAVED
FLIGHT PLANS.

MOP   Recon   EventHandler.gau

COPY ALL CONTENTS

PASTE

panel

Panel Folder
of your Aircraft.

NEXT , MAKE APPROPRIATE PANEL cfg
ENTRIES ACCORDING TO INSTALLATION
INSTRUCTIONS.

NEXT , ASSIGN " TAILHOOK "
TO A CONTROLLER BUTTON.