



VULCAN
DISPLAY FIREWORKS PRODUCTS
www.shogunvulcan.com

**REDEFINING THE WAY
PEOPLE SHOOT FIREWORKS**
Vol: 17

Company History

Founded in 1974, by Mr. Ewan Cheung, our company from the very beginning has always been associated with innovative ideas and quality design.

Mr. Cheung started his career in fireworks in 1962. China, at this time, mainly manufactured firecrackers for domestic use. Although some firecrackers were exported to Europe, Canada, Australia, South Africa, and Hong Kong, the quantity was not large. Since the United States did not have a trade agreement with China, firecrackers were mainly supplied to the US by Macao, where production was a top industry. Realizing the potential for a large export market, Mr. Cheung traveled to Japan in 1963 and introduced various types of Chinese firecrackers to the Japanese market. At the same time he began importing Japanese product into the Hong Kong area.

During this period of time, Japan was one of the biggest manufacturers and exporters of fireworks including both consumer and display pyrotechnics. With new types of fireworks now being introduced to the Chinese market from Japan, gradually the Chinese factories learned the technique of making different types of items such as roman candles, bottle rockets, fountains, and small aerial devices. Along with the use of various colors. China started to produce and export fireworks in addition to its traditional firecrackers.

In 1965, Singapore and Malaysia lifted its ban on firecrackers. Overseas suppliers in these countries began the import of Chinese firecrackers and the export volume of firecrackers from China jumped several times. Two years later, Indonesia also opened its market to Chinese firecrackers, further increasing demand. Sadly, due to misuse and accidents, firecrackers and fireworks were again gradually banned in these countries around 1970.

However the stage was now set for the Chinese firework industry to explode onto the foreign market place in full force. In Europe, Japan, Australia and especially the United States where trade between the US and China had reopened due to President Nixon, the demand for Chinese made fireworks was about to take off. Mr. Cheung quickly took advantage of the new trade agreement and became the first person to sell and ship Chinese fireworks to the US since 1949.

Sensing a fast growing business opportunity, in 1974 Mr. Cheung formed his own company as we know it today and shortly thereafter Mr. Joe Wan was brought on to help run the rapidly expanding operation.

At that time, all Chinese firework factories and export corporations were state owned and the supply of fireworks went through a preset channel. The head corporation in Beijing controlled the price policies of all export corporations in each province and only a few of these were allowed to handle fireworks, such as Guangdong (Horse & Tiger-head brand), Hunan and Jiangxi (Red Lantern), Guangxi (Link Triad), Beijing City and Shanxi (Temple of Heaven), Zhejiang (West Lake), Jiangxi (Flower Basket) and Shanxi (Wu Tai Mountain). Each corporation would sell the same type of items, for example Air Travel and Moon Travel bottle rockets, at the same price. Normally the price would be adjusted each year on New Year's Day and in practice, there was no negotiation of the price.

The system started to change around 1987 when the Chinese Government allowed more freedom in business activities and the head corporation started to lose control over the provincial corporations. Private companies in China were allowed to do business with individual factories and price competition emerged.

Mr. Cheung noticed that there was market for high quality fireworks and he applied to set up joint venture firework factories in Guangdong. All joint venture partners from outside of China had to get permission first, and in 1992 and 1993, we built our first two factories in Guangdong. One produced machine pressed rockets and the other Vulcan brand display shells. We were the first company in Hong Kong to set up our own firework factories in China. We also pioneered, a few years later, our own paper tube factory to produce high quality machine rolled tubes using machines from Taiwan and Germany. Due to limited production capacity, we first targeted the European market and when the high quality fireworks were well received, we set up another base in Hunan in 1993 and built more factories in Liuyang.

In 1998, mainly for the US consumer market, we created the Shogun brand, which has become one of the most highly popular brands, known for top quality performance, innovative packaging and exciting graphic design.

For display fireworks, our Vulcan brand was created and has become increasing well known for its high quality ball and cylinder shells, roman candles, rockets, and many other European style firework items. In 1999, we partnered with the Onda Company of Japan to set up our Yoshihede factory in Hunan to produce Japanese style display shells under the Shogun brand label. Finally, in 2002, we partnered with the Haga family of Japan to produce our Haga brand display shells. All of this brands are produced in different styles and price ranges to suit a variety of customers' needs.

In the past 15 years, we have expanded our business in China to include branch offices in Foshan, Jiangmen, Liuyang and Beihai along with our main office in Hong Kong. We now have a total of twelve factories in Guangdong, Hunan and Guangxi provinces. In addition, there are about forty factories working closely with us to help produce all our hundreds of firework items.

Since starting our own factories to produce fireworks of the highest standards, we have truly created a new direction in the firework industry and led the way for other factories to follow. We have some of the most modern facilities and equipment in China today along with an experienced and dedicated workforce. We continue to strive to be the market leader in fireworks, producing top quality pyrotechnics and creating original and innovative firework products year after year.

Contact Us

AUTHORIZED SALES AGENT FOR USA
China Fireworks Trading Ltd
 Email: sales@chinafireworks.co

AUTHORIZED SALES AGENT FOR EUROPE & OTHER COUNTRIES
Vulcan International Fireworks Ltd.
 12/F Yee Lim Industrial Building, Phase 2, 8-14 Ka Ting Road,
 Kwai Chung, N.T. Hong Kong.
 Tel: +852-2736 7315
 Fax: +852-3575 4162
 Email: fireworks@vulcan.com.hk

FOR MORE DETAILS, VISIT OUR WEBSITE:
www.shogunvulcan.com

List of our associated factories in China:

Dong Tai Fireworks Factory, Liuyang, Hunan, China.
 Gu Gang Fireworks Factory, Liuyang, Hunan, China.
 Golden Bell Fireworks Factory, Liuyang, Hunan, China.
 Golden Dragon Fireworks Factory No.2, Shankou, Guangxi, China.
 Tong Tai Fireworks Factory No.2, Shankou, Guangxi, China.
 He Sheng Fireworks Factory, Liuyang, Hunan, China

Branch Office:

Hunan Liuyang Office.
 Guangxi Beihai Office.

China Offices

We have a network of established offices and warehouses in Liuyang, and Beihai. Our experienced and hard working team in China has contributed to our present success with on time delivery, excellent quality and innovative new items.

Other Sources

We have good connections with other manufacturers and exporters in China, and are able to offer other brands such as Red Lantern, Horse, Wutai Mountain, Tigerhead, Flower Basket, Temple of Heaven, Jumping Jack, Lidu, Saint Aunt...etc. for combined shipment at competitive prices.



I. INTRODUCTION

II. INNOVATIONS

III. VULCAN Brand Display Products

A. Ball Shells

B. Cylinder Shells

C. Display Cakes

D. Modular Cakes and Lollipops

E. Finale Boxes

F. Roman Candles

G. Comets

H. Mines

I. Rockets

J. Gerbs and Fountains

K. Wheels

L. Close Proximity

M. Girondolas

N. Fuse, Electric Match, Wires and E-match Connectors

O. Fibreglass Mortar Tubes

P. Other Accessories





INNOVATION

Since our company was formed, innovation has always been a major consideration in the design and development of all our firework products. We are strongly committed to providing fireworks that are not only stunning to watch but are unsurpassed in terms of safety and ease of set up. Show designers, choreographers, and field crews will honestly appreciate the extra engineering effort we put into all our products.

As a leader in pyrotechnic design, we are truly redefining the way people shoot fireworks.

E-LINK® ELECTRIC MATCH CONNECTOR

Introduced several years ago as a standard feature on all our Vulcan display shells, this simple device has revolutionized the way shows are electrically fired by reducing set up time and offering unparalleled benefits in added safety.

Now in 3 different configurations.



Configuration A

Configuration A - Allows the Electric Match to be placed close to the lift bag for more accurate show timing. A long leader can be added or removed in seconds to convert the shell for manual firing.



Configuration B

Configuration B - Allows the shell to be pre-loaded in its mortar before the Electric Match is inserted in the E-Link Connector. For manual light shows the black match fuse can be added or removed in seconds with its twist lock connector.



Configuration C

Configuration C - Allows the Electric Match to be inserted close to the lift bag for accurate show timing in addition to providing a long manual light leader for back up firing purposes.

How our E-Link Electric Match Connector works for you.

Supplied as a standard feature on all our Vulcan Brand Shells and Mine Bags, Vulcan Display Cakes and Modular Cakes. Please contact your sales representative to request outfitting the E-Link Connector to non standard items.

- Reduces set up time matching shells in the field
- Allows Electric Matches to be attached to Product without the need for tools or tape.
- Increases safety by offering an extra layer of protection from impact and friction
- Allows Electric Matches to be safely removed in seconds from unfired product
- Ignition Leaders can be switched from manual to electrically fired mode in seconds without the need for cutting or altering the Leader in any way.
- New Twist Lock Design allows Product to be combined into flights and finale chains quickly and easily.
- Added protection from moisture



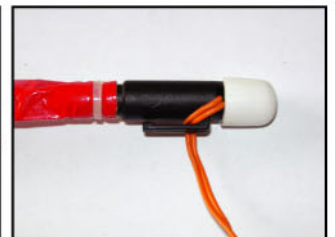
Leader with Manual Light Black Match Fuse



Manual Fuse disconnected from E-Link Connector



Electric Match about to be inserted in E-Link Connector



Electric Match inserted and covered with Cap

For ordering information in this catalog, please refer to Vulcan Brand Display Products, section N, Fuse and Electric Match Connectors

MODULAR CAKE

Imagine having the ability to shoot one row of a Display Cake at a time. Now imagine being able to choose the pattern, color, effect, and tube size of that row. And finally imagine being able to configure those rows in any order and number that you desire.

Welcome the Modular Cake; the most versatile Firework Design Tool available to Show Choreographers today. Frustrated by Display Cakes that have inconsistent burn times, longer than needed burn times, or inappropriate effects? The Vulcan Modular Cake solves these problems and more by letting You, the Designer control all the variables.



Features:

- Split second timing; rows start and stop on cue
- Provides perfect, short, show accents
- Stunning low level frontal effects possible when fired in multiples
- Equipped with our E-Link Electric Match Connector and our Fire transfer Connector for fast, easy, and safe, set up, interconnects, and tear downs
- Large selection of Patterns, Effects, and Colors. Custom Loads also available
- Standard Modular size allows complete interchangeability
- Economical per shot



Modules arranged in reusable Holding Box



Modules in a variety of Patterns, Tube Sizes, and Shots



Modules being loaded. Each row is equipped with an E-Link Electric Match Connector



Individual Modules linked together using the Fire Transfer Connectors

For ordering information in this catalog, please refer to Vulcan Brand Display Products, section D, Modular Cakes

FLIGHT CHAINS

One of our latest Innovations, Flight Chains work hand in hand with our E-Link Connectors to provide Show Designers and Field Crews a fast, reliable method of creating flights of shells.

Designed to be compatible with our Configuration A or B style E-Link equipped shells, Flight Chains offer unmatched flexibility and safety when making up flights either at your warehouse or in the field. These Chains are sold without attached shells.

Features:

- Manual Fire Black Match Fuse
- E-Link Match Connector for safe and reliable Electric Match hook up
- Fire Transfer Connector allows chains to be linked together
- Instantaneous rapid fire construction prevents timing hang-ups and shell drag out
- Twist Lock connection points require no tools, tape, or string, allows attachment of shells in seconds
- Easily disassembled
- Reduces computer cue requirements
- Reduces Electric Match needs per show
- Can be used in conjunction with our E-Link equipped Finale Chains



Flight Chain, style A

For use with E-Link. Configuration A style Shells



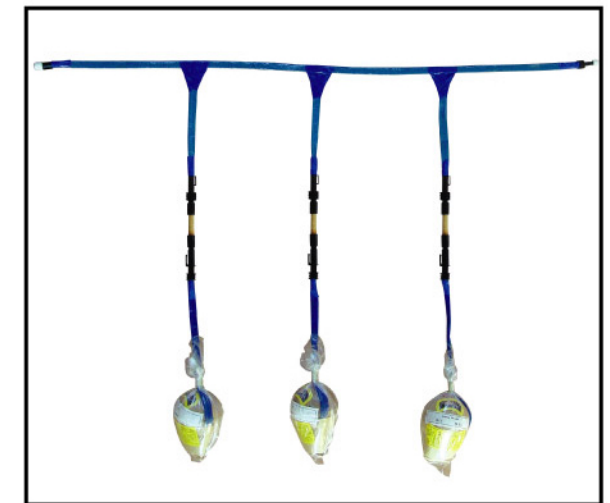
Flight Chain, style B

For use with E-Link. Configuration B style Shells



Delay Time Fuse

New! - Delay time fuses from 2 to 20 seconds in 1 second intervals.
Can be added to flight chains or between finale chains with a twist lock connection.



Flight Chain with Delay Time Fuses Installed

For ordering information in this catalog, please refer to Vulcan Brand Display Products, section N, Fuse and Electric Match Connectors

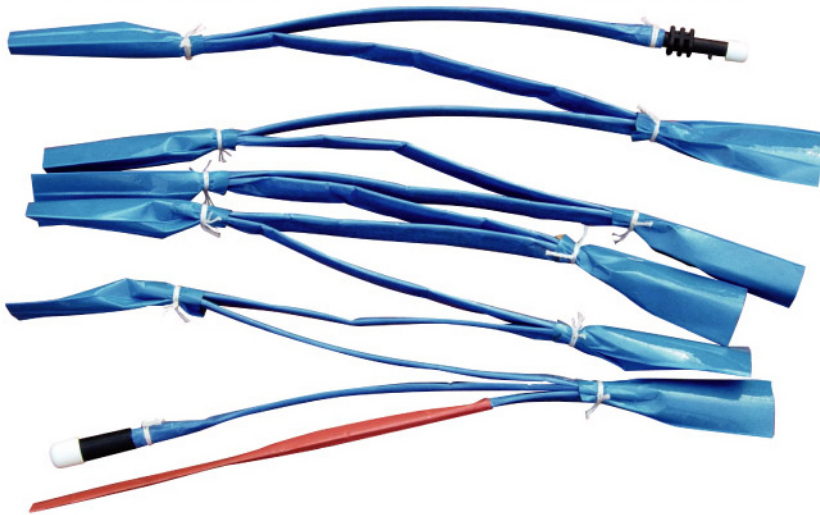
FINALE CHAINS

Available in two varieties; Traditional and Instantaneous

Setting up show finales has never been easier. Our chains are equipped with a manual fire Black Match Fuse with Safety Cap and our E-Link Electric Match Connector at the beginning of the chain. At the tail end of the chain is our new twist lock Fire Transfer Connector. Now instead of struggling with tape and paper buckets, Finale Chains can be connected and disconnected in seconds without the use of tools, tape or string.

Chains can be supplied with or without shells attached.

TRADITIONAL FINALE CHAINS



Tied the traditional way with string and buckets at all connection points, this chain provides perfect pacing and the timing needed for most show situations. Electric matches are safely inserted in seconds and our Fire Transfer Connector makes connecting multiple chains together fast, easy, and reliable.

INSTANTANEOUS FINALE CHAINS



For those special show situations that require nearly instantaneous deployment of finale shells. Equipped with Manual Light Fuse, E-Link Connector, and Fire Transfer Connector.

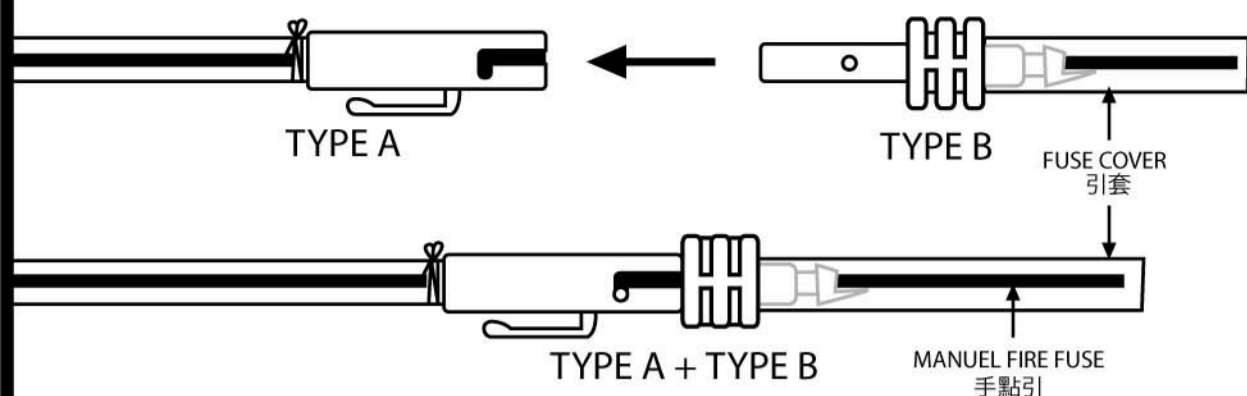
For ordering information in this catalog, please refer to Vulcan Brand Display Products, section N, Fuse and Electric Match Connectors

VARIOUS TYPES OF E-MATCH CONNECTOR OPTIONS

TYPE A + TYPE B WITH MANUAL FIRE.

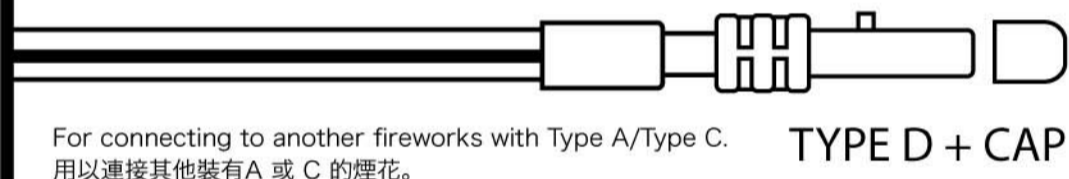
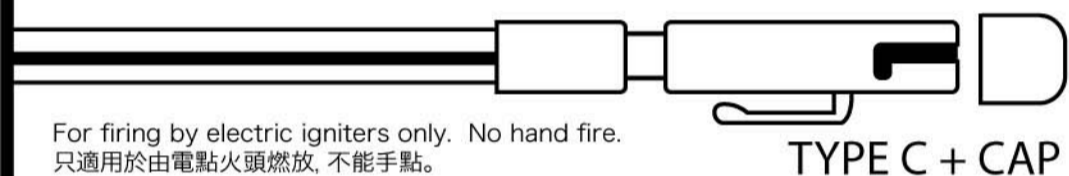
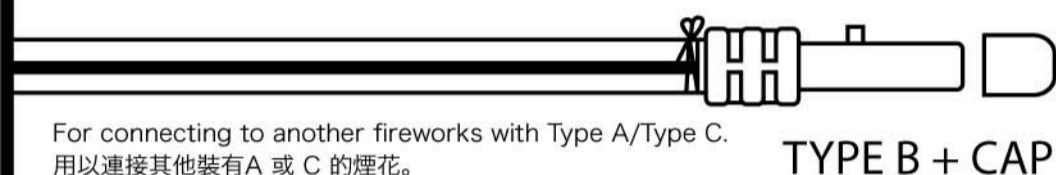
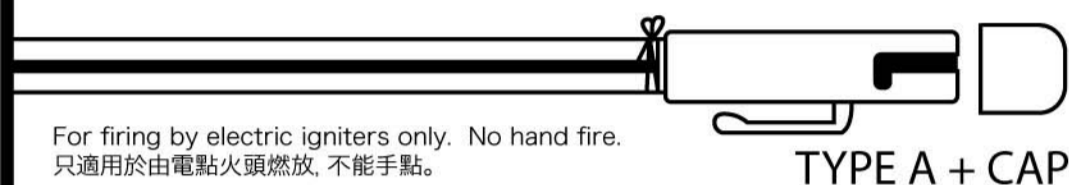
GENERAL FUSE CONSTRUCTION ON CAKES / SHELLS. (IF NOT SPECIFIED)

A 加 B 形連手點引的結構, 一般適合於盆花及禮花彈(如沒有特別要求)



TYPE OF E-MATCH CONNECTOR

各款不同的電點火接頭



ELECTRIC IGNITERS (E-MATCH)

1.) FUSQ - 0.5 ~ FUSQ-5 (TRADITIONAL IGNITER)

傳統電點火頭, 電綫由0.5-5米。



2.) FUSQ - 0.5(EVB) ~ FUSQ-5(EVB) [TWIST LOCK ELECTRIC IGNITER]

ELECTRIC IGNITERS SUPPLIED WITH A SPECIAL SHROUD FOR USE WITH OUR TYPE A AND TYPE C E-MATCH CONNECTOR.

鎖形電點火頭。(適合我們A形或C形接頭)



3.) FUSQ - 0.5(EVE) ~ FUSQ-5(EVE) [WIDE MOUTH ELECTRIC IGNITER]

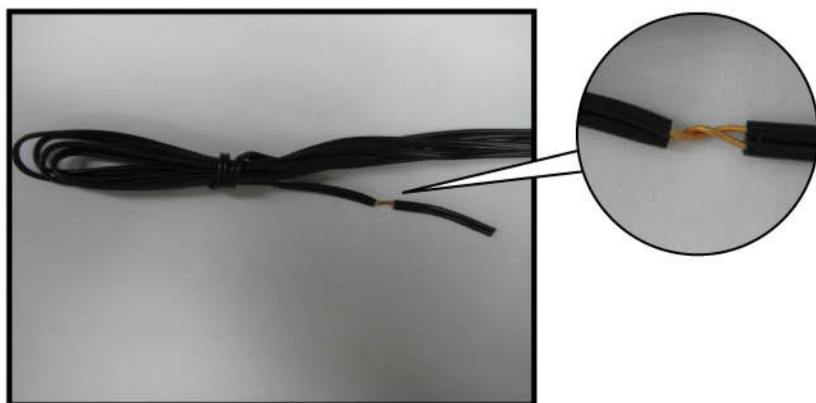
ELECTRIC IGNITERS SUPPLIED WITH A SPECIAL SHROUD FOR USE WITH REGULAR QUICKMATCH NOT EQUIPPED WITH OUR E-MATCH CONNECTORS.

大口形電點火頭。(適合一般快引用)



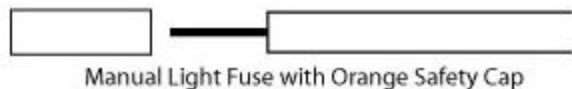
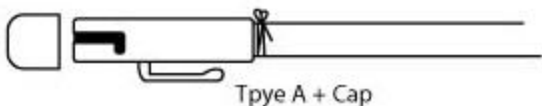
NOTE. END OF THE WIRE MUST BE STRIPED & TWISTED AS PHOTO.

電綫的尾部要將小部份外層保護膠拿掉, 將露出的兩條銅綫扭在一起, 如圖所示。



I. FIRING OPTIONS

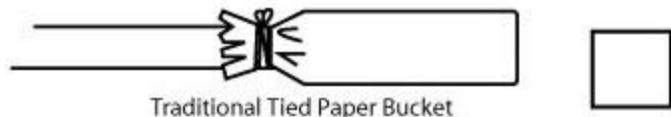
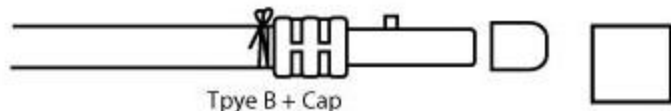
Preference :



Custom - (Fill in Requirements)

II. TAIL END OPTIONS

Preference :

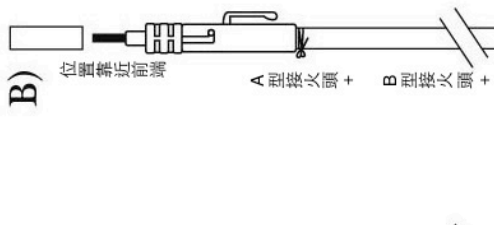
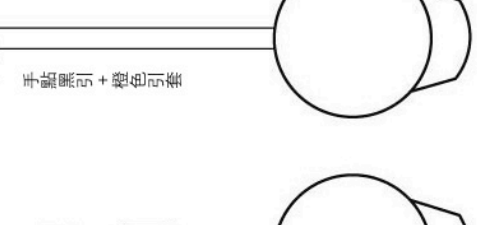
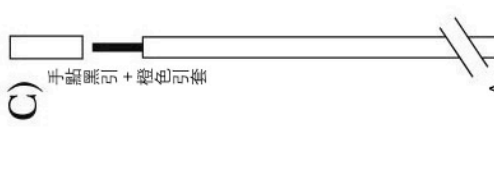


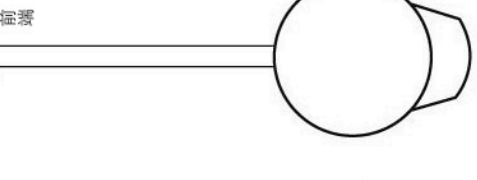


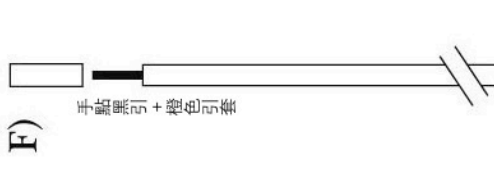
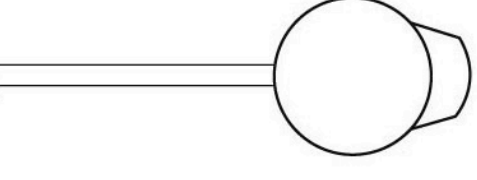
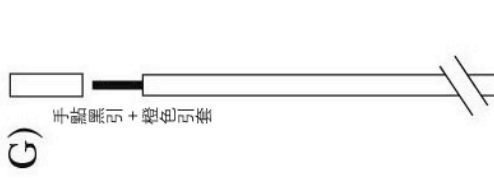
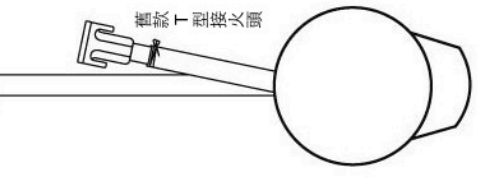

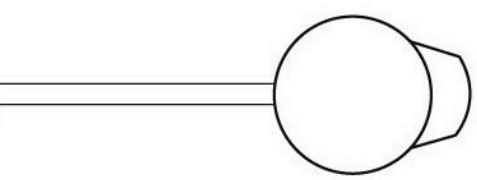
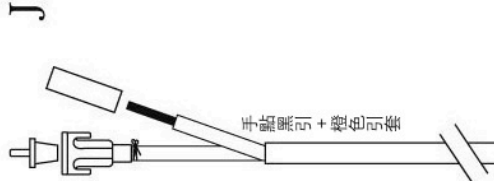







Custom - (Fill in Requirements)

MINE & SHELL FUSING PREFERENCE

ITEM NUMBER _____ ITEM NAME _____ CUSTOMER _____ DATE _____

Please fill in number or mark "✓" in the appropriate box.

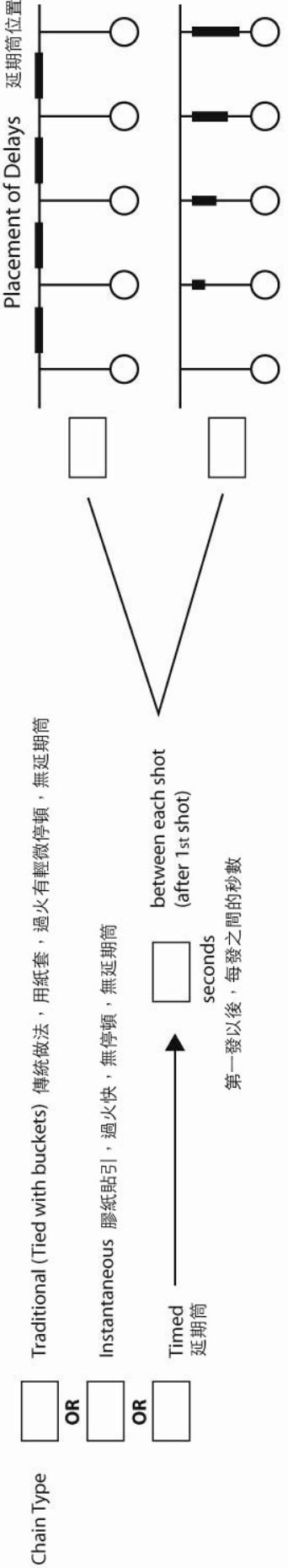
A)	 <p>A 型接火頭 + B 型接火頭 + 手點黑引 + 橙色引套 位置靠近底部</p>		<input type="checkbox"/> <p>Allows igniter to be placed close to the lift bag for more accurate show timing. A long leader can be added or removed in seconds to convert the shell for manual firing.</p>
B)	 <p>A 型接火頭 + B 型接火頭 + 手點黑引 + 橙色引套 位置靠近前端</p>		<input type="checkbox"/> <p>Allows the shell to be preloaded in its mortar before igniter is inserted into the connector. For manual lighting, the black match fuse can be added or removed in seconds with its twist lock connector.</p>
C)	 <p>手點黑引 + 橙色引套 A 型接火頭 + 膠帽, 位置靠近底部</p>		<input type="checkbox"/> <p>Allows the igniter to be inserted close to the lift bag for accurate show timing in addition to providing a long manual light leader for back up firing purposes.</p>
D)	 <p>手點黑引 + 橙色引套 另加 A 型接火頭 + 膠帽, 位置靠近前端</p>		<input type="checkbox"/> <p>Allows the shell to be preloaded in its mortar before igniter is inserted into the connector and offers the option of not having to remove the manual light fuse.</p>
E)	 <p>A 型接火頭 + 膠帽, 位置靠近底部</p>		<input type="checkbox"/> <p>Low flame and low debris option. Allows igniter to be placed close to the lift bag for more accurate show timing.</p>
F)	 <p>手點黑引 + 橙色引套</p>		<input type="checkbox"/> <p>Manual firing only</p>
G)	 <p>手點黑引 + 橙色引套 舊款 T 型接火頭</p>		<input type="checkbox"/> <p>Uses the first generation e-match T connector. Allows the igniter to be inserted close to the lift bag for accurate show timing in addition to providing a long manual light leader for back up firing purposes.</p>
H)	 <p>舊款 T 型接火頭</p>		<input type="checkbox"/> <p>Uses the first generation e-match T connector. Electrical firing only.</p>
I)	 <p>手點黑引 + 橙色引套</p>		<input type="checkbox"/> <p>Allows the shell to be preloaded in its mortar before igniter is inserted into the connector and offers the option of not having to remove the manual light fuse.</p>
J)	 <p>A 型接火頭 + 膠帽, 位置靠近前端</p>		<input type="checkbox"/> <p>Allows the shell to be preloaded in its mortar before igniter is inserted into the connector. Has no manual firing fuse.</p>

SHELL FUSE CHAIN PREFERENCE

ITEM NUMBER _____ ITEM NAME _____ CUSTOMER _____ DATE _____

Shell Size 彈規格 Shells Per Chain 每串彈的個數 Case Pack 含量

Please fill in number or mark "✓" in the appropriate box. More than one box may be filled in depending on requirements.



I. FIRING OPTIONS 開端做法

Preference:

Type A + Cap with separate manual light fuse and orange safety cover. A型接火膠頭和膠帽，和手點黑引有橙色引套

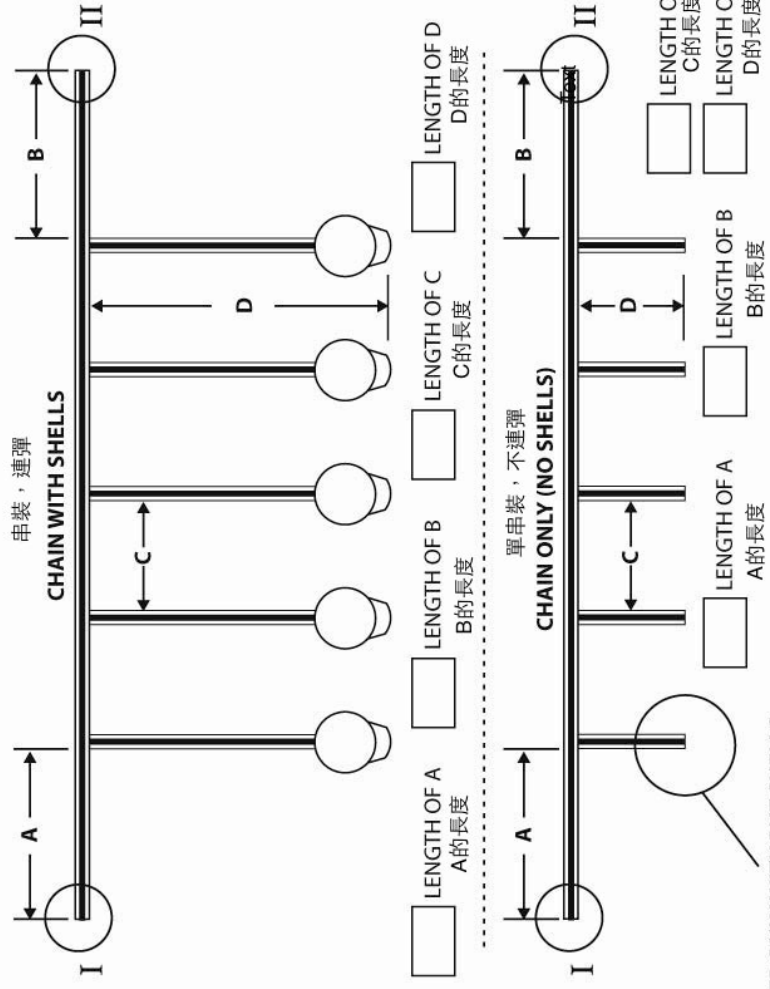
Type A + Cap A型接火膠頭和膠帽

Type A with plug in manual light fuse and orange safety cover. A型接火膠頭套B型接火膠頭，和手點黑引有橙色引套

Manual Light Fuse with Orange Safety Cap 手點黑引有橙色引套

Custom - (Fill in Requirements)

REMARKS: _____



II. TAIL END OPTIONS 尾端做法

Preference:

Type B + Cap B型接火膠頭，和膠帽

Traditional Tied Paper Bucket 傳統做法，用紙套

Type B + Cap with backup manual light fuse and orange safety cover. B型接火膠頭和膠帽，和手點黑引有橙色引套

With delay - Seconds 加延期引，後加B型接火膠頭和膠帽

No Tail required 什麼都不用加

Custom - (Fill in Requirements)

REMARKS: _____

FOR CHAIN ORDER ONLY WITHOUT SHELLS

Bucket on each end 尾端加紙套 **OR** E-match connector on each end (Type B + Cap) 尾端加B型接火膠頭和腳帽 **OR** No Bucket or Connector needed 什麼都不用加 **OTHER REMARKS** _____



**VULCAN Brand
Display Products**

III. VULCAN Brand Display Products

■ A. Ball Shells

A. Peony

1. Single Color Peony
2. Two Color Peony
3. Electric Color Peony
4. Multi-color Peony
5. Color Change Peony
6. Two Color Half Shell Peony
7. Two Color Change to Crackling Peony
8. Three Color Change to Crackling Peony
9. Single Color Peony with Pistil

B. Chrysanthemum

1. Single Color Chrysanthemum
2. Two Color Chrysanthemum
3. Multi-Color Chrysanthemum
4. Color Change Chrysanthemum
5. Color Change Glitter Chrysanthemum
6. Single Color Chrysanthemum with Pistil
7. Two Color Change Chrysanthemum with Pistil
8. Two Color Change Chrysanthemum with Pistil and 2 Layer Color Changing Ring
9. Three Color Change Chrysanthemum with Pistil

C. Willow

D. Falling Leaves

E. Clustering Bees

F. Thousand Flowers

1. Single Color Thousand Flowers
2. Single Color with Pistil Thousand Flowers
3. Multi-color Thousand Flowers
4. Color Change Thousand Flowers

G. Palm Tree with Tail

H. Go Getters

1. Single Color Go Getters
2. Color Change Go Getters
3. Go Getters with Pistil

I. Rings

1. Single Rings
2. Double Rings
3. Wagon Wheel Rings
4. Saturn Ring Shell
5. Special Ring Shells

J. Criss Cross

K. Strobe

L. Crossettes

M. Special Pattern

N. Premium Selection

1. Long Duration Kamuro and Brocade
2. Midnight Snow
3. Orchid
4. Octopus
5. Star Fish
6. Shell of Shells
7. Single Color with Double Pistil
8. Two Color Change with Double Pistil
9. Three Color Change with Double Pistil
10. Two Color Change with Color Change Pistil
11. Three Color Change with Color Changing Pistil
12. Plume
13. Silver Twister
14. Special Break Shell with Rising Effects Tail
15. Five Color Change

O. Noise

P. Peanut Shell

Q. Rising Tail

■ B. Cylinder Shells

A. Single Break

1. Single Effects, no Stars
2. Tourbillions with Reports
3. Tourbillions
4. Silver Twister
5. Diamond Screamer
6. Golden Whirl
7. Golden Whirl with Report
8. Silver Whirl
9. Silver Whirl with Report
10. Red Tail Thunder
11. Green Tail Thunder
12. Assorted Color Tail Thunder
13. Maltese Style

B. Two Break Shells

C. Three Break Shells

■ Vulcan Shell Pre-Packaged Assortment

■ Vulcan Shell Specification

■ C. Display Cakes

A. Straight Up, Single Effects

- BF06
- BF10
- BF11
- BF12
- BF14
- BF16
- BF20
- BF25
- BF30

B. Straight Up, Assorted Effects

C. Curtain Shape

D. Trident Shape

E. Fan Shape

F. Z Shape

G. Combination Shape

H. Crescendo

- Building up to a volley finale

I. Rapid Fire

1. Peacock Tail
2. Trident Rapid Style
3. Z Shape
4. V Shape - Very Dense Fan Pattern

J. Instant Fire

1. Straight Up Instant Fire
2. Fan Shape Instant Fire

■ D. Modular Cakes

A. Type of Module

B. Size and Number of Shots per Module, and Packing

C. Choice of Effects

1. Bombard with Tail
2. Comet
3. Crossette
4. Mine
5. Double Module
6. Hammer Module

■ D1. Lollipops

■ E. Finale Boxes, Grand Cake Boxes

- Finale Box
- Grand Cake Box

■ F. Roman Candles

A. Small Bore Candles, Single & Barrage

B. Display Candle

1. Star Candles
 - Single Color
 - Color Changing
2. Comet Candles
 - Single
 - Two Color
 - Crossette
 - Two Color Crossette
 - Star Mine with Large Comet
3. Bombard Candles
 - w/ Whirling Tail
 - w/ Crossette
 - w/ Pistil
 - w/ Star Mine
 - w/ Whistle Mine
 - Double Burst
4. Mine Candles
 - Color Stars
 - Noise Effects
 - Mixed Effects
 - Tourbillions
 - Crossettes

C. Candle Fan Racks

■ G. Comets

A. Drop in Mortar Style

B. Single Shot Disposable Style

C. Single Shots No Debris

■ H. Mines

A. Mine Bags

1. Single Layer
2. double Layer
3. Triple Layer
4. Four Layer

B. Pre-loaded, Disposable Mortars

C. Water Mines

■ I. Rockets

A. Flight Rocket

B. Large Display Premium Rockets

C. Rocket Volleys

■ J. Gerbes, Fountain & Pattern Jubilees

A. Gerbes

B. Large Cone Fountains

C. Cylindrical Fountains

D. Spinning Fountain

E. Fountain Set Piece

F. Lances

■ K. Wheels & Large Modular Set Pieces

A. Wheels

B. Large Modular Set Pieces

■ L. Close Proximity M. Girondolas

■ N. Fuse, Electric Match, Wires and E-match Connectors

A. Quickmatch

B. E-Link Electric Match Connectors with Leaders

C. Finale Chains and Flight Chains

■ O. Fibreglass Mortar Tubes

■ P. Other Accessories

Spanish Style Metal Fan Rack



Photo by Ewan Cheung 2005

A. Ball Shells

Vulcan Brand Ball Shells are a premium quality display shell produced with the discriminating show designer in mind. The shells, in all caliber's, are specifically manufactured to produce a full dense pattern of stars with excellent color saturation and clean, long burning star duration. Color change effects are crisp, precise, and never appear thin or weak. The construction techniques employed produce a superior shell in terms of reliability and safety that is apparent in the consistent launch to burst timings and the extremely uniform break patterns, show after show.

As a standard option, all Vulcan Ball Shells are equipped with our E-Link Electric Match Connector, now offered in a variety of leader configurations. Please refer to the section marked "INNOVATIONS" in the Table of Contents of this catalog for a full description and help in ordering the best configuration for your needs.



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A. PEONY SHELLS

1. Single Color Peony

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
1001	Ruby Red Peony							N/A	A
1002	Grasshopper Green Peony							N/A	A
1003	Cardinal Purple Peony							N/A	A
1004	Coral Yellow Peony							N/A	A
1004A	Orange Peony							N/A	A
1005	Pearly White Peony							N/A	A
1006	Sapphire Blue Peony							N/A	A
1007	Twilight Glitter Peony							N/A	A
1008	Gold Glitter Peony	N/A	N/A					N/A	A
1009	Cosmic Rain Peony							N/A	A
1010	All Crackle Peony							N/A	A
1011	Pink Peony							N/A	A
1013	Aqua Peony							N/A	A
1014	Lemon Peony							N/A	A

2. Two color Peony

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
1101	Cardinal Purple & Twilight Glitter Peony							N/A	A
1102	Sapphire Blue & Twilight Glitter Peony							N/A	A
1103	Grasshopper Green & Cosmic Rain Peony							N/A	A
1104	Grasshopper Green & Gold Glitter Peony	N/A	N/A					N/A	A
1105	Red to Crackle Peony							N/A	A
1106	Blue to Crackle Peony							N/A	A
1107	Green to Crackle Peony							N/A	A
1108	White to Crackle Peony							N/A	A
1109	Twilight Glitter & Ruby Red Peony							N/A	A
1110	Golden Rain to Crackle Peony							N/A	A
1111	Orange & Blue Peony							N/A	A
1112	White Strobe & Sapphire Blue Peony							N/A	A
1113	Lemon & Purple Peony							N/A	A
1114	Aqua & Pink Peony							N/A	A
1115	Cardinal Purple & Grasshopper Green Peony							N/A	A
1116	Grasshopper Green & Twilight Glitter Peony							N/A	A
1117	Aqua & Twilight Glitter Peony							N/A	A
1118	Purple & Twilight Glitter Peony							N/A	A
1119	Red & White Strobe Peony							N/A	A

3. Electric color Peony

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
1201	Crystal Cascade (Silver) Peony								A
1202	Crystal Cascade (Green) Peony								A
1203	Crystal Cascade (Yellow) Peony								A
1204	Magnetic White Peony								A
1205	Ruby Red & Crystal Cascade (Silver) Peony								A
1206	Sapphire Blue & Crystal Cascade (Silver) Peony								A
1207	Grasshopper Green & Crystal Cascade (Silver) Peony								A
1208	Crystal Cascade (Red) Peony								A
1209	Sapphire Blue Cascade Peony								A

*** New Effect

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4. Multi-color Peony

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
1301	Ruby Red, Sapphire Blue, Pearly White Peony								A
1302	Multicolour Peony								A

5. Color change Peony

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
1401	Twilight Glitter to Ruby Red Peony	N/A	N/A						A
1401A	Crystal Cascade (Silver) to Ruby Red Peony	N/A	N/A						A
1401B	Twilight Glitter to Multicolour	N/A	N/A						A
1402	Gold Glitter to Grasshopper Green Peony	N/A	N/A						A
1403	Ruby Red to Grasshopper Green Peony	N/A	N/A						A
1404	Grasshopper Green to Coral Yellow Peony	N/A	N/A						A
1404A	Crystal Cascade (Yellow) To Grasshopper Green Peony	N/A	N/A						A
1405	Crystal Cascade (Silver) to Saphire Blue Peony	N/A	N/A						A
1406	Crystal Cascade (Silver) to Cardinal Purple Peony	N/A	N/A						A
1407	Twilight Glitter to Sapphire Blue Peony	N/A	N/A						A
1408	Twilight Glitter to Cardinal Purple Peony	N/A	N/A						A
1409	Grasshopper Green to Magnetic White Peony	N/A	N/A						A
1410	Ruby Red to White Strobe Peony	N/A	N/A						A
1450	Twice Crackling Rain	N/A	N/A	N/A					A
1450A	Triple Crackling Rain	N/A	N/A	N/A	N/A				B
1451	Red to Crackling Rain	N/A	N/A	N/A					A
1451A	Red to Crackling Rain & Crackling Rain Pistil	N/A	N/A	N/A					A
1451B	Red to Crackling Rain & Blue Pistil	N/A	N/A	N/A					A
1452	Blue to Crackling Rain	N/A	N/A	N/A					A
1452A	Blue to Crackling Rain w/Orange Pistil	N/A	N/A	N/A					A
1453	Green to Crackling Rain	N/A	N/A	N/A					A

6. Two color half shell

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
1601	Half Ruby Red Half Grasshopper Green Peony	N/A	N/A						B
1602	Half Pearly White Half Saphire Blue Peony	N/A	N/A						B
1603	Half Grasshopper Green Half Coral Yellow Peony	N/A	N/A						B

9. Single Peony with pistil

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
1801	Aqua Peony with Orange Pistil	N/A	N/A						B
1802	Silver Cascade Peony with Purple Pistil	N/A	N/A						B
1803	Grasshopper Green Peony with Red Pistil	N/A	N/A						B
1804	Blue w/ White Strobe Pistil	N/A	N/A	N/A					B
1805	Orange with Kaleidoscope Pistil	N/A	N/A	N/A	N/A	N/A			B
1805A	Silver Kamuro with Kaleidoscope Pistil	N/A	N/A	N/A	N/A	N/A			B
1806	Twilight Glitter with Purple Pistil	N/A	N/A						B
1807	Twilight Glitter with Blue Pistil	N/A	N/A						B
1808	Twilight Glitter with Red Pistil	N/A	N/A						B
1809	Twilight Glitter with Green Pistil								B
1810	Aque Peony with Ruby Red Pistil	N/A	N/A						B
1811	Orange Peony with Grasshopper Green Pistil	N/A	N/A						B
1812	Electric White w/Green Pistil	N/A	N/A						B
1813	White Strobe with Red & Blue Pistil	N/A	N/A						B
1830	Purple Peony w/Time Rain Pistil	N/A	N/A						B
1833	Twilight Glitter with Orange Pistil	N/A	N/A						B
1834	Twilight Glitter with White strobe pistil	N/A	N/A						B

*** New Effect

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10. Two or Three Color Changing Peony with pistil

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
1840	Blue to Red Peony w White Strobe Pistil	N/A	N/A	N/A					B
1841	Twilight Glitter to Red w/Blue to Crackling Rain Pistil	N/A	N/A	N/A	N/A				B
1842	Blue to Red w/Red to White Strobe Pistil & Midnight Snow Double Ring	N/A	N/A	N/A	N/A	N/A			B
1846	Twilight Glitter to Red to Blue w/Crackling Rain Pistil	N/A	N/A	N/A	N/A				B
1850	Midnight Snow to Red w/Blue Pistil	N/A	N/A	N/A	N/A				B
1860A	Twilight Glitter to Blue w/Red to Green Pistil	N/A	N/A	N/A	N/A				B
1860B	Twilight Glitter to Red w/Green to Blue Pistil	N/A	N/A	N/A	N/A				B
1860C	Twilight Glitter to Red w/Green to Crackling Rain Pistil	N/A	N/A	N/A	N/A				B
1860D	Twilight Glitter to Red w/Green Pistil	N/A	N/A	N/A	N/A				B

B. CHRYSANTHEMUM SHELLS

1. Color change Chrysanthemum

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
2303	Sapphire Blue to Ruby Red Chrysanthemum	N/A	N/A						A
2304	Ruby Red to Sapphire Blue Chrysanthemum	N/A	N/A						A

3. Single Color Chrysanthemum with Pistil

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
2351	Ruby Red Chrysanthemum w/Twilight Glitter Pistil	N/A	N/A	N/A					B
2352	Gold Glitter Chrysanthemum w/Grasshopper Green Pistil	N/A	N/A	N/A					B
2353	Twilight Glitter Chrysanthemum w/Sapphire Blue Pistil	N/A	N/A	N/A					B
2354	Crystal Cascade (Silver) Chrysanthemum w/Ruby Red Pistil	N/A	N/A	N/A					B
2359	Gold Glitter Chrysanthemum w/Cardinal Purple Pistil	N/A	N/A	N/A					B
2360	Aqua Chrysanthemum w/Orange Pistil	N/A	N/A	N/A					B

4. Two Color Change Chrysanthemum with Pistil

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
2401	Twilight Glitter to Sapphire Blue Chrysanthemum w/Ruby Red Pistil	N/A	N/A	N/A					B
2401A	White to Sapphire Blue Chrysanthemum w/Ruby Red Pistil	N/A	N/A	N/A					B
2402	Twilight Glitter to Cardinal Purple Chrysanthemum w/Pearly White Pistil	N/A	N/A	N/A					B
2402A	Twilight Glitter to Cardinal Purple Chrysanthemum w/Ruby Red Pistil	N/A	N/A	N/A					B
2402B	Twilight Glitter to Cardinal Purple Chrysanthemum w/Green Pistil	N/A	N/A	N/A					B
2403	Twilight Glitter to Ruby Red Chrysanthemum w/Grasshopper Green Pistil	N/A	N/A	N/A					B
2403A	White to Ruby Red Chrysanthemum w/Grasshopper Green Pistil	N/A	N/A	N/A					B
2404	Gold Glitter to Grasshopper Green Chrysanthemum w/Cardinal Purple Pistil	N/A	N/A	N/A					B
2405	Grasshopper Green to Ruby Red Chrysanthemum w/Twilight Glitter Pistil	N/A	N/A	N/A					B
2406	Yellow Cascade To Green Cascade Chrysanthemum w/Green Strobe Pistil	N/A	N/A	N/A					B
2406A	Yellow Cascade to Green Cascade Chrysanthemum w/Purple Pistil	N/A	N/A	N/A					B
2407A	Cardinal Purple to Grasshopper Green Chrysanthemum w/Yellow Cascade Pistil	N/A	N/A	N/A					B
2408	Blue to Morning Dew Chrysanthemum W/Red to Crackling Rain Pistil	N/A	N/A	N/A	N/A				B
2409	Blue to Crackling Chrysanthemum W/Grasshopper Green Pistil	N/A	N/A	N/A	N/A				B
2409A	Blue to Crackling Chrysanthemum W/Grasshopper Green to Crackling Pistil	N/A	N/A	N/A	N/A				B
2410	Ruby Red to Crackling Chrysanthemum W/Sapphire Blue Pistil	N/A	N/A	N/A	N/A				B
2411	Pixie Dust Willow to Multicolour with White Strobe Pistil	N/A	N/A	N/A	N/A				B
2412	Blue to Crackling Rain Chrysanthemum w/Green to Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A			B
*** 2412A	blue to Aqua Chrysanthemum w/Red to Crackling Rain Pistil	N/A	N/A	N/A	N/A				B

*** New Effect

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5. Two Color Change Chrysanthemum with Pistil and W/ 2 Layer Color Changing Ring

5" 6" 8" Cat.

2415	Blue to Morning Dew Chrysanthemum w/ White Strobe Pistil & silver Crossed Rings									B
2415A	Chrysanthemum to Blue to Aqua w/White Strobe Pistil & Silver Crossed Rings									B
2430	Blue to Red Chrysanthemum w/ white strobe Pistil and Blue to Brocade Double Ring									B
2430A	Blue to Red Chrysanthemum and Blue to Brocade Double Ring									B
2431	Twilight Glitter to Blue Chrysanthemum w/ Red Pistil and Green to Brocade Double Ring									B
2432	Purple to Green Chrysanthemum w/ White Strobe Pistil and Blue to Brocade Double Ring									B
2432A	Green to Purple Chrysanthemum and Green to Brocade Double Ring									B
2433	Blue to Red w/Crackling Rain Pistil & Brocade Double Ring									B
2433A	Green to Purple Chrysanthemum w/Crackling Rain Pistil and Brocade Double Ring									B
2434	Silver Wave to Blue to Yellow w/Red Pistil and Double Brocade Ring									B

6. Three Color Change Chrysanthemum with Pistil

2" 2.5" 3" 4" 5" 6" 8" Cat.

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
2501	Twilight Glitter to Red to Blue Chrysanthemum with Red Pistil	N/A	N/A	N/A	N/A	N/A			B
2510	Gold Wave to Red to Green w/Green Pistil	N/A	N/A	N/A	N/A	N/A			B
2510A	Gold Wave to Blue to Silver w/Red Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A			B
2511	Yellow to Green to Crackling Rain Chrysanthemum w/Red to Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A			B

C. WILLOW

2" 2.5" 3" 4" 5" 6" 8" Cat.

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
2600	Golden Willow	N/A	N/A						A
2601	Willow to Green	N/A	N/A	N/A					A
2602	Willow to Red	N/A	N/A	N/A					A
2603	Willow to Blue	N/A	N/A	N/A					A
2605	Crackling Willow	N/A	N/A	N/A					A
2606B	Silver Strobe Willow to White Strobe	N/A	N/A	N/A					A
2607	Green Strobe Willow	N/A	N/A	N/A					A
2611	Neon Dahlia Willow	N/A	N/A	N/A	N/A				B
2612	Red White Blue Dahlia Willow	N/A	N/A	N/A	N/A				B
*** 2615	White Strobe Waterfall	N/A	N/A	N/A					A

D. STROBES

Single Colour Strobe Peony

2" 2.5" 3" 4" 5" 6" 8" Cat.

*** 7001	Red Strobe							N/A	C
*** 7003	Orange Strobe							N/A	C
*** 7004	Yellow Strobe							N/A	C
*** 7007	Special White Strobes							N/A	C
5062	White Strobe							N/A	A
5061	Green Strobe							N/A	A

Peony w/Strobe Pistil

2" 2.5" 3" 4" 5" 6" 8" Cat.

*** 7100	Blue Peony w/Red strobe pistil	N/A	N/A						C
*** 7100A	Blue Peony with Orange Strobe Pistil	N/A	N/A						C
*** 7101	Purple Peony w/Red strobe pistil	N/A	N/A						C
*** 7102	Aqua Peony w/Orange strobe pistil	N/A	N/A						C
*** 7103	Green Peony w/Orange strobe pistil	N/A	N/A						C
*** 7104	Brocade w/Red strobe pistil	N/A	N/A						C
*** 7105	Brocade w/Orange strobe pistil	N/A	N/A						C
*** 7106	Brocade w/Green strobe pistil	N/A	N/A						C
*** 7107	Autum Gold w/Red strobe pistil	N/A	N/A						C
*** 7108	Autum Gold w/Orange strobe pistil	N/A	N/A						C

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***	7109	Autum Gold w/Green strobe pistil	N/A	N/A							C
***	7110	Weeping Gold w/Red strobe pistil	N/A	N/A							C
***	7111	Weeping Gold w/Orange strobe pistil	N/A	N/A							C
***	7112	Weeping Gold w/Green strobe pistil	N/A	N/A							C
***	7113	Pixie Dust Willow w/Red strobe pistil	N/A	N/A							C
***	7114	Pixie Dust Willow w/Orange strobe pistil	N/A	N/A							C
***	7115	Pixie Dust Willow w/Green strobe pistil	N/A	N/A							C
***	7116	Silver Kamuro with green strobe pistil	N/A	N/A							C
***	7119	Silver Kamuro with Red strobe pistil	N/A	N/A							C
***	7120	Silver Kamuro with Yellow strobe pistil	N/A	N/A							C
***	7121	Silver Kamuro with Orange strobe pistil	N/A	N/A							C
***	7123	Midnight Snow w/Green strobe Pistil	N/A	N/A							C
***	7124	Midnight Snow w/Red strobe Pistil	N/A	N/A							C
***	7125	Midnight Snow w Yellow strobe Pistil	N/A	N/A							C
***	7128	Midnight Snow w Orange strobe Pistil	N/A	N/A							C

Strobe Peony w/colour pistil

			2"	2.5"	3"	4"	5"	6"	8"	Cat.
***	7200	Orange Strobe Peony w/Blue Pistil	N/A	N/A						C
***	7202	Orange Strobe Peony w/Assorted Colours Pistil	N/A	N/A						C
***	7203	Red Strobe Peony w/Blue Pistil	N/A	N/A						C
***	7204	Gold Wave Chrysanthemum to Blue to Red Strobe + Red Pistil	N/A	N/A	N/A	N/A				C
***	7205	Gold Wave Chrysanthemum to Blue to Red Strobe + Green Pistil	N/A	N/A	N/A	N/A				C

Strobe Stained Glass

			2"	2.5"	3"	4"	5"	6"	8"	Cat.
***	7300	Red Strobe Stained Glass	N/A	N/A	N/A	N/A				C
***	7301	Orange Strobe Stained Glass	N/A	N/A	N/A	N/A				C
***	7301A	Orange Strobe Stained Glass with Grasshopper Green Pistil	N/A	N/A	N/A	N/A				C
***	7304	Green Strobe Stained Glass	N/A	N/A	N/A	N/A				C
***	7305	Assorted Colours Strobe Stained Glass	N/A	N/A	N/A	N/A				C
***	7306	Gold Wave Chrysanthemum to Blue to Red Strobe (Stained Glass) + Red Pistil	N/A	N/A	N/A	N/A				C
***	7307	Gold Wave Chrysanthemum to Blue to Red Strobe (Stained Glass) + Crackling Rain Pistil	N/A	N/A	N/A	N/A				C
***	7308	Pixie Dust (Stained Glass) to Dark to Red Strobe + Blue Pistil	N/A	N/A	N/A	N/A				C

Thousand Strobe Shells

			2"	2.5"	3"	4"	5"	6"	8"	Cat.
***	7400	Thousand White Strobe Shells	N/A	N/A	N/A	N/A	N/A			C
***	7401	Thousand Red Strobe Shells	N/A	N/A	N/A	N/A	N/A			C
***	7402	Thousand Green Strobe Shells	N/A	N/A	N/A	N/A	N/A			C
***	7403	Thousand Orange Strobe Shells	N/A	N/A	N/A	N/A	N/A			C
***	7404	Thousand Yellow Strobe Shells	N/A	N/A	N/A	N/A	N/A			C

*** New Effect

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Pattern shell with strobes

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
***	7500	Heart w/ Red Strobe	N/A	N/A	N/A	N/A			C
***	7503	Midnight Snow ring/Red strobe Pistil	N/A	N/A				N/A	C
***	7504	Brocade ring/Red strobe Pistil	N/A	N/A				N/A	C
***	7505	Gold Wave Chrysanthemum to Blue to Red Strobe Double Ring + Red Pistil	N/A	N/A	N/A	N/A			C

2 Colour Changing Strobe

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
***	7600	Purple to Green Strobe	N/A	N/A	N/A	N/A			C
***	7601	Purple to Red Strobe	N/A	N/A	N/A	N/A			C
***	7602	Purple to White Strobe	N/A	N/A	N/A	N/A			C
***	7603	Blue to Red Strobe	N/A	N/A	N/A	N/A			C
***	7605	Blue to orange Strobe	N/A	N/A	N/A	N/A			C
***	7606	red to yellow Strobe	N/A	N/A	N/A	N/A			C
***	7607	red to orange Strobe	N/A	N/A	N/A	N/A			C
***	7608	Pixie Dust Willow to Red Strobe	N/A	N/A	N/A	N/A			C

Clusters of Strobes

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
***	7700	Clusters of Red Strobes	N/A	N/A	N/A	N/A			C
***	7702	Clusters of Orange Strobes	N/A	N/A	N/A	N/A			C
***	7703	Clusters of Yellow Strobes	N/A	N/A	N/A	N/A			C
***	7706	Clusters of White Strobes	N/A	N/A	N/A	N/A			C
***	7707	Clusters of Green Strobes	N/A	N/A	N/A	N/A			C

Willow of Strobes

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
***	7800	Red Strobe Willow	N/A	N/A	N/A	N/A			C
***	7802	Orange Strobe Willow	N/A	N/A	N/A	N/A			C
***	7803	Yellow Strobe Willow	N/A	N/A	N/A	N/A			C
***	7806	White Strobe Willow	N/A	N/A	N/A	N/A			C
***	7807	Green Strobe Willow	N/A	N/A	N/A	N/A			C

E. FALLING LEAVES

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
	2700	Green, Yellow, Red, Blue Assorted Falling Leaves	N/A	N/A				N/A	H
	2701	Red Falling Leaves	N/A	N/A				N/A	H
	2702	Green Falling Leaves	N/A	N/A				N/A	H
	2703	Yellow Falling Leaves	N/A	N/A				N/A	H
	2705	Blue Falling Leaves	N/A	N/A				N/A	H
	2714	Spinning Silver Fish	N/A	N/A				N/A	H

G. THOUSAND FLOWERS

1. Single Color Thousand Flowers

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
	3001	Thousand Flowers Red Star	N/A	N/A	N/A	N/A			G
	3002	Thousand Flowers Green Star	N/A	N/A	N/A	N/A			G
	3004	Thousand Flowers Yellow Star	N/A	N/A	N/A	N/A			G
	3005	Thousand Flowers Blue Star	N/A	N/A	N/A	N/A			G
	3013	Thousand Flowers (Brocade)	N/A	N/A	N/A	N/A			G
	3014	Thousand Flowers Photoflash	N/A	N/A	N/A	N/A			G

3. Multi-Color Thousand Flowers

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
	3102A	Thousand Flowers Multi-Color Star	N/A	N/A	N/A	N/A			G
	3103	Thousand Flowers Butterfly - Twilight Glitter and Green	N/A	N/A	N/A	N/A			G

*** New Effect

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H. PALM TREE WITH BIG TAIL

Palm Tree With Big Tail

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
4001	Palm Tree, with Silver Tail	N/A	N/A						B
4002	Typhoon Palm, with Crackling Tail	N/A	N/A						B
4009	Pixie Dust Palm Tree w/Pixie dust tail	N/A	N/A						B
4010	Pixie Dust Palm Tree w/White Strobe Shell of Shell w/Pixie dust tail	N/A	N/A						B

I. GO GETTERS

1. Single Color Go Getters

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
4101	Green Go Getters	N/A	N/A	N/A					B
4102	Silver Go Getters	N/A	N/A	N/A					B
4103	Purple Go Getters	N/A	N/A	N/A					B
4104	Red Go Getters	N/A	N/A	N/A					B
4105	Yellow Go Getters	N/A	N/A	N/A					B

J. RINGS

1. Single Rings

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5000	Single Ring + Titanium Salute	N/A	N/A	N/A			N/A	N/A	A
5000A	Red Ring	N/A	N/A				N/A	N/A	A
5000B	Green Ring	N/A	N/A				N/A	N/A	A
5000C	Yellow Ring	N/A	N/A				N/A	N/A	A
5000D	Silver Ring	N/A	N/A				N/A	N/A	A
5000E	Blue Ring	N/A	N/A				N/A	N/A	A
5000BR	Brocade Ring	N/A	N/A	N/A	N/A		N/A	N/A	A
5000BRH	Brocade Ring with Red Heart	N/A	N/A	N/A	N/A		N/A	N/A	A

2. Double Rings

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5004	Red Heart	N/A	N/A	N/A				N/A	A
5006	Crosette Ring	N/A	N/A	N/A	N/A	N/A		N/A	B
5010	Tri-colour Double Layer Ring (Red, White, Green)	N/A	N/A	N/A				N/A	A
5013	Midnight Snow Double Ring w/ Yellow Pistil	N/A	N/A	N/A					B
5013-1	Midnight Snow Double Ring w/Blue Pistil	N/A	N/A	N/A					B
5013A	Brocade Double Ring w/Blue & White Strobe Pistil	N/A	N/A	N/A					B
5013B	Midnight Snow Double Ring w/Green Pistil	N/A	N/A	N/A					B
5013C	Midnight Snow Double Ring w/Red Pistil	N/A	N/A	N/A					B
5013I	Midnight Snow Double Ring w/Purple	N/A	N/A	N/A					B
5013J	Midnight Snow Double Ring w/Blue	N/A	N/A	N/A					B

3. Wagon Wheel Rings

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5015	Red Star with Silver Spokes	N/A	N/A	N/A	N/A			N/A	A
5015A	Red Star with Silver Spokes w/ Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A		N/A	B
5015B	Red Star with Silver Spokes w/ Red Stars and Blue Crossettes	N/A	N/A	N/A	N/A	N/A		N/A	B
5016	Green Star with Golden Rain Spokes	N/A	N/A	N/A	N/A	N/A		N/A	A
5016A	Green Star w/ Golden Rain Spokes w/ Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A		N/A	B

4. Saturn Ring shell

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5026	Blue & Midnight Snow Double Ring w/Red Pistil	N/A	N/A	N/A	N/A			N/A	B

*** New Effect

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5. Special Ring Shell

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5031C	Stacked Color Bands	N/A	N/A	N/A					A
5032	Timed Double Layer T-Salute Rings	N/A	N/A	N/A	N/A	N/A			B

K. CRISS CROSS

Criss Cross

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5050	Silver Cascade	N/A	N/A	N/A					A

L. THUNDER & LIGHTING

Thunder & Lighting

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5063	Dark Salute				N/A	N/A	N/A	N/A	A
5064	Titanium Salute				N/A	N/A	N/A	N/A	A
5065	Photo Flash	N/A	N/A						C
5066	Spider Shell (hard break)	N/A	N/A					N/A	B

M. CROSSETTES

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5071	Red Crossette	N/A	N/A	N/A	N/A				B
5072	Green Crossette	N/A	N/A	N/A	N/A				B
5073	Yellow Crossette	N/A	N/A	N/A	N/A				B
5075A	Silver Cascade To Red Crossette	N/A	N/A	N/A	N/A				B
5078	Crackling Crossette	N/A	N/A	N/A	N/A				B
5081	Golden Rain Crossette	N/A	N/A	N/A	N/A				B
5082	Silver Cascade Crossette	N/A	N/A	N/A	N/A				B
5087	Silver Palm Crossette	N/A	N/A	N/A	N/A				B
5098	Red to Silver Crossette	N/A	N/A	N/A	N/A				B
5118A	Crown Royal Crossettes (green)	N/A	N/A	N/A	N/A	N/A			B
5118B	Crown Royal Crossettes (red)	N/A	N/A	N/A	N/A	N/A			B
5118C	Crown Royal Crossettes (blue)	N/A	N/A	N/A	N/A	N/A			B
5118D	Crown Royal Crossettes (purple)	N/A	N/A	N/A	N/A	N/A			B

*** New Effect

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N. SPECIAL PATTERN

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5070A	Smiley Face: Green	N/A	N/A	N/A					A
5070B	Smiley Face: Red	N/A	N/A	N/A					A
5070C	Smiley Face: (mouth: red, eyes: blue, ring: white)	N/A	N/A	N/A					A
5070D	Red 5 Point Star	N/A	N/A	N/A	N/A	N/A			A
5085B	Chinese Fan	N/A	N/A	N/A	N/A	N/A		N/A	A
5086A	Straw Hat : Midnight snow ring/ red pistil	N/A	N/A	N/A					B
5086B	Straw Hat : Midnight snow ring/ green pistil	N/A	N/A	N/A	N/A				B
5093A	Sunflower : Yellow cascade ring/ green pistil	N/A	N/A						A
5093C	Sunflower : Midnight snow ring/ purple pistil	N/A	N/A						A
5094	Stained glass	N/A	N/A	N/A	N/A				B
5094A	Purple Stained Glass	N/A	N/A	N/A	N/A				B
5094B	Red Stained Glass/ Blue Pistil	N/A	N/A	N/A	N/A				B
5094C	Red Stained Glass/Crackling Rain Pistil	N/A	N/A	N/A	N/A				B
***	5094C-1	Red Stained Glass w/Silver Comet Spoke	N/A	N/A	N/A	N/A			B
***	5094C-2	Red Stained Glass w/Silver Comet Spoke & Green Pistil	N/A	N/A	N/A	N/A	N/A		B
***	5094C-3	Blue Stained Glass w/Silver Comet Spoke & White Strobe Pistil	N/A	N/A	N/A	N/A	N/A		B
5094E	Cut Glass 7 arms (Green Pistil to Red tips Gold arms)	N/A	N/A	N/A	N/A				B
5094F	Stained glass: Brocade	N/A	N/A	N/A	N/A				B
5096	Butterfly : White Glitter To Green + 2 Red Stars	N/A	N/A	N/A					A
5096A	Butterfly : Midnight snow to red + 2 green stars	N/A	N/A	N/A					A
5097	Bow Tie	N/A	N/A	N/A					A
5097A	Bow Tie with Whistle Tail	N/A	N/A	N/A					A
5097B	Bow Tie with Red Ring	N/A	N/A	N/A					A
5099	Green Mushroom	N/A	N/A	N/A					A
5099A	Rainbow	N/A	N/A						A
6000A	Sweeper Ring Red	N/A	N/A	N/A	N/A			N/A	B
6000B	Sweeper Ring Blue	N/A	N/A	N/A	N/A			N/A	B
6000C	Sweeper Ring Yellow	N/A	N/A	N/A	N/A			N/A	B
6000D	Sweeper Ring Purple	N/A	N/A	N/A	N/A			N/A	B
6000E	Sweeper Ring Green	N/A	N/A	N/A	N/A			N/A	B
6000RG	Sweeper Ring Red / Green	N/A	N/A	N/A	N/A			N/A	B
6000RB	Sweeper Ring Red / Blue	N/A	N/A	N/A	N/A			N/A	B
6002A	Red Sweeper Shell	N/A	N/A	N/A	N/A	N/A		N/A	B
6002B	Blue Sweeper Shell	N/A	N/A	N/A	N/A	N/A		N/A	B
6002C	Yellow Sweeper Shell	N/A	N/A	N/A	N/A	N/A		N/A	B
6002D	Purple Sweeper Shell	N/A	N/A	N/A	N/A	N/A		N/A	B
6002E	Green Sweeper Shell	N/A	N/A	N/A	N/A	N/A		N/A	B
***	6002H	Triple Sweeper, Red/Blue/Red	N/A	N/A	N/A	N/A			B
6003	Sweeper Inward	N/A	N/A	N/A	N/A	N/A		N/A	B
6004	Sweeper Middle Out	N/A	N/A	N/A	N/A	N/A		N/A	B
6005	Jelly Fish (Half Green & Silver Go-getter)	N/A	N/A	N/A	N/A			N/A	B
6007A	Winter Ice Blue	N/A	N/A	N/A	N/A	N/A	N/A		C
6008A	Crackling Winter Ice Blue	N/A	N/A	N/A	N/A	N/A	N/A		C

*** New Effect

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O. VULCAN PREMIUM SELECTION

1. Long Duration Brocade

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5100	Silver Kamuro	N/A							C
5100-1	Silver Kamuro with Silver to Red Pistil	N/A	N/A	N/A	N/A	N/A			D
5100-2	Silver Kamuro with Blue to Red Pistil	N/A	N/A	N/A	N/A	N/A			D
5100A	Silver Kamuro with green pistil	N/A	N/A						D
5100B	Silver Kamuro with green flower	N/A	N/A	N/A	N/A				D
5100C	Silver Kamuro with purple flower	N/A	N/A	N/A					D
5100D	Silver Kamuro with purple pistil	N/A	N/A						D
5100E	Pixie Dust Willow	N/A	N/A						C
5100F	Pixie Dust Willow w/Red Pistil	N/A	N/A						D
5100G	Pixie Dust Willow w/Green Pistil	N/A	N/A						D
5100H	Pixie Dust Willow w/Purple Pistil	N/A	N/A						D
5100H1	Pixie Dust Willow w/Purple Dahlia stars and pixie dust tail	N/A	N/A						D
5100J	Pixie Dust Willow w/Aqua Pistil	N/A	N/A						D
5100K	Pixie Dust Willow w/Orange Pistil	N/A	N/A						D
5100L	Pixie Dust Willow w/Blue Pistil	N/A	N/A						D
5100M	Pixie Dust Willow w/Crackling Rain Pistil	N/A	N/A						D
5100N	Pixie Dust Willow w/ Twice Crackling Rain Pistil	N/A	N/A	N/A	N/A				D
5100P	Pixie Dust Willow w/Green Thousand Flowers	N/A	N/A	N/A	N/A				D
5100Q	Pixie Dust Willow w/White Strobe Pistil	N/A	N/A						D
5100R	Pixie Dust Willow w/Stained Glass + Crackling pistil	N/A	N/A	N/A	N/A				D
5100S	Pixie Dust Willow with Red/Blue Pistil	N/A	N/A						D
5100T	Pixie Dust Willow with Green Strobe Pistil	N/A	N/A						D
5100T-1	Pixie Dust Willow with Red to Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A			D
5100U	Pixie Dust Willow to Crackling Rain	N/A	N/A	N/A					C
5100V	Pixie Dust Willow with Yellow Pistil	N/A	N/A						D
5101	Brocade	N/A							C
5101A	Brocade with Orange Pistil	N/A	N/A						D
5102	Autum Gold	N/A	N/A						C
5103	Weeping Gold	N/A	N/A						C
5104	Brocade w/Red Pistil	N/A	N/A						D
5104A	Brocade w/ Red to Crackling Rain Pistil	N/A	N/A						D
5104B	Brocade w/ Blue to Crackling Rain Pistil	N/A	N/A	N/A	N/A				D
5104C	Brocade w/ Green to Crackling Rain Pistil	N/A	N/A	N/A	N/A				D
5105	Brocade w/Blue Pistil	N/A	N/A						D
5106	Brocade w/Orange Pistil	N/A	N/A						D
5107	Brocade w/Green Strobe Pistil	N/A	N/A						D
5107A	Brocade w/ White Strobe Pistil	N/A	N/A						D
5109	Brocade w/Blue Flowers	N/A	N/A	N/A	N/A				D
5110	Brocade w/Purple Flowers	N/A	N/A	N/A	N/A				D
5111	Brocade w/Green Flowers	N/A	N/A	N/A	N/A				D
5112	Brocade w/Red Pistil and Green Flowers	N/A	N/A	N/A	N/A				D
5113	Brocade w/Blue Pistil and Purple Flowers	N/A	N/A	N/A	N/A	N/A	N/A		D
5115	Brocade with Red Pistil Blue Peony Shell of Shells	N/A	N/A	N/A	N/A	N/A	N/A		D
5115A	Brocade with Blue Pistil Green Peony Shell of Shells	N/A	N/A	N/A	N/A	N/A	N/A		D
5116	Brocade w/ Twice Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A			D
5116A	Brocade w/Crackling Rain Pistil	N/A	N/A						D
5117	Brocade w/Stained Glass Pistil	N/A	N/A	N/A	N/A				D
5120	Weeping Gold to Red	N/A	N/A						C

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1. Long Duration Brocade

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5121	Weeping Gold to Green	N/A	N/A						C
5122	Weeping Gold to Blue	N/A	N/A						C
5123	Weeping Gold to Silver	N/A	N/A	N/A	N/A				C
5123A	Brocade to Silver Waterfall (Poka Shell)	N/A	N/A	N/A	N/A				C
*** 5123A-1	Brocade Waterfall (Poka Shell)	N/A						N/A	C

1. Long Duration Brocade

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5123B	Pixie Dust Waterfall (Poka)	N/A	N/A	N/A	N/A				C
5123C	Pixie Dust Waterfall (Poka) with Red Falling Leaves	N/A	N/A	N/A	N/A	N/A			D
5123D	Pixie Dust Waterfall (Poka) with Green Falling Leaves	N/A	N/A	N/A	N/A	N/A			D
5123E	Pixie Dust Waterfall (Poka) with Purple Stars w/Pixie Dust Tail	N/A	N/A	N/A	N/A	N/A			D
5123F	Brocade Waterfall (Poka) with Red Falling Leaves	N/A	N/A	N/A	N/A	N/A			D
5123G	Brocade Waterfall (Poka) With Blue Falling Leaves	N/A	N/A	N/A	N/A	N/A			D
5125A	Green To Brocade	N/A	N/A	N/A	N/A				C
5126	Sapphire Blue to Brocade	N/A	N/A	N/A	N/A				C
5126A	Green To Brocade And Red Flower	N/A	N/A	N/A	N/A				C
5126C	Blue to Brocade w/Red Pistil	N/A	N/A	N/A	N/A				D
5126D	Blue to Brocade w/ Blue to Red Pistil	N/A	N/A	N/A	N/A	N/A			D
5126E	Blue to Brocade w/ Crackling Rain Pistil	N/A	N/A	N/A	N/A				D
5128	Ruby Red to Brocade	N/A	N/A	N/A	N/A				C
5128A	Ruby Red to Brocade w/ Red to Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A			D
5128B	Green to Brocade w/Red to Crackling Rain Pistil	N/A	N/A	N/A	N/A	N/A			D
5128C	Green to Brocade w/Red to White Strobe Pistil	N/A	N/A	N/A	N/A	N/A			D
5129	Multicolor To Brocade	N/A	N/A	N/A	N/A				C
5129A	Brocade to Multicolor	N/A	N/A	N/A	N/A				C

(All of the above 5100-5129 with long burning duration)

2. Midnight Snow & more Pixie Dust Willows..

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5130	Midnight Snow	N/A							C
5130G	Midnight Snow to Green	N/A	N/A						C
5131	Midnight Snow w/Green Pistil	N/A	N/A						D
5132	Midnight Snow w/Red Pistil	N/A	N/A						D
5133	Midnight Snow w/Blue Pistil	N/A	N/A						D
5133A	Midnight Snow w/Blue & Red Pistil	N/A	N/A						D
*** 5133B	Midnight Snow w/Pink & Purple Pistil	N/A	N/A						D
*** 5133C	Midnight Snow w/Red & Green Pistil	N/A	N/A						D
5134	Midnight Snow w/ White Strobe Pistil	N/A	N/A	N/A					D
5135A	Pixie Dust Willow w/Red to Crackling Rain Pistil	N/A	N/A	N/A					D
5135B	Pixie Dust Willow w/Blue to Crackling Rain Pistil	N/A	N/A	N/A					D
5135C	Pixie Dust Willow w/Green to Crackling Rain Pistil	N/A	N/A	N/A					D
5135D	Pixie Dust Willow w/Purple to Crackling Rain Pistil	N/A	N/A	N/A					D
5136	Pixie Dust Willow w/Green to Crackling Rain & Crackling Rain Double Pistil	N/A	N/A	N/A	N/A	N/A	N/A		D

3. Orchid (Palm Tree Style Pistil)

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5150	Grasshopper Green w/Gold Glitter Orchid	N/A	N/A	N/A	N/A				B
5151	Sapphire Blue w/Twilight Glitter Orchid	N/A	N/A	N/A	N/A				B
5152	Cardinal Purple w/Gold Glitter Orchid	N/A	N/A	N/A	N/A				B
5153	Grasshopper Green w/Gold Rain Orchid	N/A	N/A	N/A	N/A				B
5153A	Grasshopper Green w/Crackling Gold Rain Orchid	N/A	N/A	N/A	N/A				B

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5154	Palm Tree w/Red Stars Orchid	N/A	N/A	N/A	N/A					B
5158	Green Star with Crackling Palm Tree Orchid	N/A	N/A	N/A	N/A					B

4. Octopus

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5180	Gold Glitter Comet w/Purple Stars	N/A	N/A	N/A	N/A				B
5181	Gold Glitter Comets w/Blue Stars	N/A	N/A	N/A	N/A				B
5182	Twilight Glitter Comets w/Red Stars	N/A	N/A	N/A	N/A				B
5183	Golden Rain Comets w/Green Stars	N/A	N/A	N/A	N/A				B

5. Star Fish (Group of large glittering Tail comet stars)

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5190	Twinkling Silver	N/A	N/A	N/A					B
5191	Sunset Gold	N/A	N/A	N/A					B
5192	Fantasy Gold	N/A	N/A	N/A					B
5193	Sparkling Silver	N/A	N/A	N/A					B

6. Shells of Shells

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5196	Shells of Shells, Brocade	N/A	N/A	N/A	N/A				G
5197	Shells of Shells, White Strobe	N/A	N/A	N/A	N/A				G

7. Single Color with Double Pistils

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5201	Ruby Red w/Twilight Glitter & Green Double Pistil	N/A	N/A	N/A	N/A	N/A			B
5206	Pixie Dust Willow w/ Stained Glass & Crackling Rain Double Pistil	N/A	N/A	N/A	N/A	N/A			B

8 Two Color Change with Double Pistils

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5227	Twilight Glitter to Red w/Blue & Green Double Pistil	N/A	N/A	N/A	N/A	N/A			C
5228	Green to Crackling Rain w/Crackling Rain & Red to Crackling Rain Double Pistil	N/A	N/A	N/A	N/A	N/A			C
5229	Silver Cascade Chrysanthemum w/Blue & Red to Crackling Rain Double Pistil	N/A	N/A	N/A	N/A	N/A			C

9. Three Color Change with Double Pistils

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5257	Blue Chrysanthemum to Crackling Rain w/Green to Crackling Rain & Red to Crackling Rain Double Pistil	N/A	N/A	N/A	N/A	N/A			C

10. Two Color Change with Color Changing Pistil

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5300	Twilight Glitter to Purple w/Blue to Red Color Changing Pistil	N/A	N/A	N/A	N/A	N/A			C

11. Three Color Change with Color Changing Pistil

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5320	Twilight Glitter to Red to Blue w/Blue to Red Color Changing Pistil	N/A	N/A	N/A	N/A	N/A	N/A		C

12. Vulcan Plume Shell

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5330	Red Plume	N/A	N/A	N/A					B
5335	Green Peacock Plume	N/A	N/A	N/A					B

12A Dahlia Shell

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5340	Multi-Color Dahlia	N/A	N/A	N/A					B
5341	Green Dahlia	N/A	N/A	N/A					B
5342	Yellow Dahlia	N/A	N/A	N/A					B

*** New Effect

VULCAN BALL SHELLS

Version 2019.1

14. Special Break Shells with Rising Effect Tails

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5500A	Pagoda: Timed Brocade with Titanium Salute	N/A	N/A	N/A	N/A	N/A			D
5500B	Pagoda: Brocade with Thousand Flowers	N/A	N/A	N/A	N/A	N/A			D
5500D	Pagoda: Midnight Snow with Midnight Snow Flowers	N/A	N/A	N/A	N/A	N/A			D
5500J	Pagoda : Spiders	N/A	N/A	N/A	N/A	N/A			D
5501	Twin Blossom : Red and Green Criss Cross w/ Red and Green Criss Cross Tail	N/A	N/A	N/A	N/A	N/A	N/A		D

P. NOISE

		2"	2.5"	3"	4"	5"	6"	8"	Cat.
5700	Whistles	N/A	N/A	N/A				N/A	B

Q. PEANUT SHELL (available in 3" and 4" only)

We can produce Peanut shells as per your combination of the following:

a) Any Colour Peony	a) Any Colour Peony
b) All Whistles	b) All Whistles
c) All Salutes	c) All Salutes
d) All Hummers	d) All Hummers
e) Bees	e) Bees

R. Rising Tail :

Rising Tail :

GT	Gold Tail	Gold Tail
ST	Silver Tail	Silver Tail
CT	Crackling Tail	Crackling Tail
RT	Red Star Tail	Red Star Tail
GT	Green Star Tail	Green Star Tail
WT	Whistle Tail	Whistle Tail
TT	Twilight Glitter Tail	Twilight Glitter Tail
RS1	Rising Ring Shells (4 pcs)	Rising Ring Shells (4 pcs)
RS2	Rising Silver Fish Shell (4 pcs)	Rising Silver Fish Shell (4 pcs)
RS3	Rising Heavy 2-1/2" Comet, Gold	Rising Heavy 2-1/2" Comet, Gold
RS4	Rising Heavy 2-1/2" Comet, Silver	Rising Heavy 2-1/2" Comet, Silver
RS5	Rising Heavy 3" Comet, Gold	Rising Heavy 3" Comet, Gold
RS6	Rising Heavy 3" Comet, Silver	Rising Heavy 3" Comet, Silver
RS7	Alternation Red/Blue Tail	Alternation Red/Blue Tail
RS8	Rising Criss Cross Tail	Rising Criss Cross Tail
RS8R	Red Criss Cross Tail	Red Criss Cross Tail
RS9	Small Flowers	Small Flowers
RS10	Big tail	Big Tail

N/A = Not available in this size



B. Cylinder Shells

Becoming more and more popular each year, Vulcan Cylinder Shells set the standard in the industry and offer a great way to add a new level of variety to your shows. Quite simply, Cylinder Shells are the best method of delivering insert effects such as Tourbillions, Twisters, and Whistles into the air when compared to Ball Shells. Vulcan Cylinder Shells employ a stacked double ring of inserts in most of the shells for maximum payload and visual impact per shell caliber. Carefully constructed, using time honored traditional methods, our shells are spiked and pasted to produce a device not prone to flower potting and which always produces large fully developed break patterns from one to three breaks.

As a standard option, all Vulcan Cylinder Shells are equipped with our E-Link Electric Match Connector, now offered in a variety of leader configurations. Please refer to the section marked "INNOVATIONS" in the Table of Contents of this catalog for a full description and help in ordering the best configuration for your needs.



VULCAN CYLINDRICAL SHELLS

Version 2019.1

A. Single Break

1. Single Effect

		3"	4"	5"	6"	Cat
0001	Tourbillon With Report					B
0002	Tourbillon					C
0005	Diamond Screamer					B
0005A	Diamond Screamer with Report					B
0006	Golden Whirl with Report					B
0007	Large Golden Whirl With Report					A
0008	Silver Whirl with report					B
0009	Large Silver Whirl With Report					A
0010	Red Tail Thunders					B
0011	Green Tail Thunders					B
0013	Silver Whirl + Tourbillon					B

2. Tourbillon (95mm.) With Report (single layer)

		3"	4"	5"	6"	Cat
0101	Tourbillon With Report + Red Stars					A
0102	Tourbillon With Report + Green Stars					A
0103	Tourbillon With Report + Yellow Stars					A
0104	Tourbillon With Report + Purple Stars					A
0106	Tourbillon With Report + Blue Stars					A
0110	Tourbillon With Report + Multicolor					A

3. Tourbillon (70mm) (double layers)

		3"	4"	5"	6"	Cat
0201	Tourbillon + Red Stars					C
0201A	Tourbillon to Blue Bombard + Red Star Pistil	N/A				C
0202	Tourbillon + Green Stars					C
0202A	Tourbillon to Red Bombard + Green Star Pistil	N/A		N/A		C
0203	Tourbillon + Yellow Stars					C
0204	Tourbillon + Purple Stars					C
0206	Tourbillon + Blue Stars					C
0210	Tourbillon + Multicolor					C
0210A	Tourbillon + Red and Blue Stars					C
0211	Tourbillon + Crackling					C
0240	Tourbillon + Green Go Getters	N/A	N/A			C
0242	Tourbillon + Yellow Go Getters	N/A	N/A			C
0243	Tourbillon + Red Go Getters	N/A	N/A			C
0244	Tourbillon + Purple Go Getters	N/A	N/A			C
0245	Tourbillon + Multicolour Go Getters	N/A	N/A			C
0270	Tourbillon + Multicolor Thousand Flower					C
0272	Tourbillon + Crackling Thousand Flower					C
0273	Tourbillon + Brocade Thousand Flower					C
0275	Tourbillon to Silver Fish + Red Stars Pistil	N/A				C
0276	Tourbillon + Crackling Rain Thousand Flower + Multicolour Stars					C
0277	Tourbillon + Crackling Rain Thousand Flower + Purple Stars					C

VULCAN CYLINDRICAL SHELLS

Version 2019.1

5. Diamond Screamer (double layers)

		3"	4"	5"	6"	Cat
0501	Diamond Screamer + Red Stars					B
0502	Diamond Screamer + Green Stars					B
0503	Diamond Screamer + Yellow Stars					B
0504	Diamond Screamer + Purple Stars					B
0506	Diamond Screamer + Blue Stars					B
0508	Diamond Screamer + Gold Glitter					B
0509	Diamond Screamer + Golden Rain					B
0510	Diamond Screamer + Multicolor					B
0510A	Diamond Screamer + Red Stars and Blue stars					B
0511	Diamond Screamer + Crackling					B

5A. Diamond Screamer to Report (double layers)

		3"	4"	5"	6"	Cat
0590	Diamond Screamer to report + Red Stars					B

6. Golden Whirl with Report (60 mm) (double layers)

		3"	4"	5"	6"	Cat
0602	Golden Whirl with Report + Green Stars					B
0605	Golden Whirl with Report + White Strobe					B
0606	Golden Whirl with Report + Blue Stars					B
0607	Golden Whirl with Report + Twilight Glitter					B
0610	Golden Whirl with Report + Multicolor					B
0611	Golden Whirl with Report + Crackling					B

7. Large Golden Whirl With Report (95 mm) (single layer)

		3"	4"	5"	6"	Cat
0702	Large Golden Whirl w/Report + Green Stars					A
0705	Large Golden Whirl w/Report + White Strobe					A
0706	Large Golden Whirl w/Report + Blue Stars					A
0707	Large Golden Whirl w/Report + Twilight Glitter					A
0710	Large Golden Whirl w/Report + Multicolor					A

8. Silver Whirl with Report (60 mm) (double layers)

		3"	4"	5"	6"	Cat
0801	Silver Whirl with Report + Red Stars					B
0801A	Silver Whirl with Report + Red & Blue Stars					B
0802	Silver Whirl with Report + Green Stars					B
0803	Silver Whirl with Report + Yellow Stars					B
0804	Silver Whirl with Report + Purple Stars					B
0806	Silver Whirl with Report + Blue Stars					B
0808	Silver Whirl with Report + Gold Glitter					B
0809	Silver Whirl with Report + Golden Rain					B
0810	Silver Whirl with Report + Multicolor					B
0811	Silver Whirl with Report + Crackling					B

VULCAN CYLINDRICAL SHELLS

Version 2019.1

9. Large Silver Whirl With Report (95 mm) single layers)

		3"	4"	5"	6"	Cat
0901	Large Silver Whirl w/Report + Red Stars					A
0902	Large Silver Whirl w/ Report + Green Stars					A
0903	Large Silver Whirl w/Report + Yellow Stars					A
0904	Large Silver Whirl w/Report + Purple Stars					A
0906	Large Silver Whirl w/Report + Blue Stars					A

10. Red Tail Thunder (double layers)

		3"	4"	5"	6"	Cat
1001	Red Tail Thunder + Red Stars					B
1002	Red Tail Thunder + Green Stars					B
1004	Red Tail Thunder + Purple Stars					B
1005	Red Tail Thunder + White Strobe					B
1006	Red Tail Thunder + Blue Stars					B
1007	Red Tail Thunder + Twilight Glitter					B
1010	Red Tail Thunder + Multicolor					B

An extra second break of heavy salute is available for all cylinder shells!

N/A = Not available in this size

11. Green Tail Thunder (double layers)

		3"	4"	5"	6"	Cat
1101	Green Tail Thunder + Red Stars					B
1102	Green Tail Thunder + Green Stars					B
1103	Green Tail Thunder + Yellow Stars					B
1104	Green Tail Thunder + Purple Stars					B
1105	Green Tail Thunder + White Strobe					B
1106	Green Tail Thunder + Blue Stars					B
1110	Green Tail Thunder + Multicolor					B

12A. Red and Blue Tail Thunder (double layers)

		3"	4"	5"	6"	Cat
12A34	Red and Blue Tail Thunder + Crackling Rain					B

15. Funeral Shells

		3"	4"	5"	6"	Cat
1501	Assorted Colours	N/A	N/A		N/A	B

B. Two Break Shells

		3"	4"	5"	6"	Cat
1311	2 Breaks, Multi-color to Heavy Report					B
1312	2 Breaks, Brocade to Heavy Report					B
1313	2 Breaks, White Strobe to Heavy Report					B
1314	2 Breaks, Red white blue to Heavy Report					B

C. Three Break Shells / Multi-Break Shells

		3"	4"	5"	6"	Cat
1340	Sun & Planets - Blue shell of shell to Large Brocade Star Shell	N/A				D

An extra second break of heavy salute is available for all cylinder shells!

N/A = Not available in this size

VULCAN SHELL PRE-PACKAGED ASSORTMENT

Version 2008.1

We have carefully selected the following pre-packaged assortment to include the widest selection of colors and effects.

Vulcan Cylinder shell assortment

VCS4-ASTS	4" cylinder shell assortment, standard		Cat
0110	Tourbillion with report (single layer) + multicolor stars	3 pcs.	A
0206	Tourbillion (double layers) + blue stars	3 pcs.	C
0404	Silver Wasp (multi layers) + purple stars	3 pcs.	B
0505	Diamond Screamer + red stars	3 pcs.	B
0702	Golden Whirl w/report (single layer) + green stars	3 pcs.	A
0910	Silver Whirl w/report (single layer) + multicolor stars	3 pcs.	A
1032	Red Tail Thunder (double layers) + Silver Cascade stars	3 pcs.	B
1312	2 Break, Brocade to Heavy report	3 pcs.	B
1321	3 Break, Red Color Shell to Blue shell of shell, to Heavy Salute	3 pcs.	D
1350	Nine timed reports, 8 timed salutes to a heavy salute	3 pcs.	B
case pack:		10/3	

VCS5-ASTS	5" cylinder shell assortment, standard		Cat
0112	Tourbillion with report (single layer) + green stars	1 pc.	A
0210	Tourbillion (double layers) + multicolor stars	1 pc.	C
0401	Silver Wasp (multi layers) + red stars	1 pc.	B
0511	Diamond Screamer + crackling stars	1 pc.	B
0706	Golden Whirl w/report (single layer) + blue stars	1 pc.	A
0910	Silver Whirl w/report (single layer) + multicolor stars	1 pc.	A
1104	Green Tail Thunder (double layers) +purple stars	1 pc.	B
1311	2 break, multicolor to heavy report	1 pc.	B
1340	Sun & Planets, blue shell of shell to large brocade star shell	1 pc.	D
case pack:		9/1	

Ball Shells Assortment

VS-3(AST)	3" Standard Assortment		Cat
1001	Ruby Red Peony	4 pcs.	A
1002	Grasshopper Green Peony	4 pcs.	A
1003	Cardinal Purple Peony	4 pcs.	A
1004	Coral Yellow Peony	4 pcs.	A
1007	Twilight Glitter Peony	4 pcs.	A
1009	Cosmic Rain Peony	4 pcs.	A
1010	All Crackle	4 pcs.	A
1011	Pink Peony	4 pcs.	A
1012	Gold Kamuro Peony	4 pcs.	A
1111	Orange & Blue Peony	4 pcs.	A
1112	White Strobe & Sapphire Blue	4 pcs.	A
1302	Multicolor Peony	4 pcs.	A
1801	Aqua Peony with Orange Pistil	4 pcs.	A
1803	Grasshopper Green with Red Pistil	4 pcs.	A
2006	Saphire Blue Chrysanthemum	4 pcs.	A
5062	White Strobe	4 pcs.	A
5100	Silver Kamuro	4 pcs.	B
5101	Brocade	4 pcs.	B
case pack:		18/4	

VULCAN SHELL PRE-PACKAGED ASSORTMENT

Version 2008.1

VS-4(AST)	4" Standard Assortment		Cat
1001	Ruby Red Peony	2 pcs	A
1004	Coral Yellow Peony	2 pcs	A
1009	Cosmic Rain Peony	2 pcs	A
1010	All Crackle	2 pcs	A
1101	Cardinal Purple & Twilight Glitter	2 pcs	A
1202	Crystal Cascade (Green)	2 pcs	A
1204	Magnetic White	2 pcs	A
1301	Ruby Red, Sapphire Blue, Pearly White	2 pcs	A
1401	Twilight Glitter to Ruby Red	2 pcs	A
1407	Twilight Glitter to Sapphire Blue	2 pcs	A
1801	Aqua Peony with Orange Pistil	2 pcs	A
2006	Sapphire Blue	2 pcs	A
2606	Silver Strobe Willow	2 pcs	A
2607	Green Strobe Willow	2 pcs	A
4002	Typhoon Palm, with Crackling Tail	2 pcs	B
5062	White Strobe	2 pcs	A
5100	Silver Kamuro	2 pcs	B
5101	Brocade	2 pcs	B
5102	Autumn Gold	2 pcs	B
	case pack:	18/2	

VS-5(AST)	5" Standard Assortment		Cat
1111	Orange & Blue Peony	1 pc	A
1404A	Crystal Cascade (Yellow) to Grasshopper Green Peony	1 pc	A
1407	Twilight Glitter to Sapphire Blue Peony	1 pc	A
1801	Aqua Peony with Orange Pistil	1 pc	A
1904	Silver Glitter Chrysanthemum to Green	1 pc	A
2353	Twilight Glitter w/Sapphire Blue Pistil Chrysanthemum	1 pc	A
2357	Cardinal Purple w/Grasshopper Green Pistil Chrysanthemum	1 pc	A
2607	Green Strobe Willow	1 pc	A
3013	Thousand Flowers (Brocade)	1 pc	B
4001	Palm Tree	1 pc	A
4102	Silver Go Getters	1 pc	B
5026	Red Peony with Blue & Midnight Snow Double Ring	1 pc	A
5094	Stained Glass	1 pc	B
5103	Weeping Gold	1 pc	B
5130	Midnight Snow	1 pc	B
5154	Palm Tree w/Red Stars	1 pc	B
5182	Twilight Glitter Comets w/Red Stars	1 pc	B
5191	Sunset Gold, Star Fish shells	1 pc	B
	case pack:	18/1	

VS-6(AST)	6" Standard Assortment		Cat
1205	Ruby Re & Crystal Cascade (Silver)	1 pc	A
1407	Twilight Glitter to Sapphire Blue	1 pc	A
2202	Multi-Colour Stars	1 pc	A
2356	Sapphire Blue w/Midnight Snow Pistil	1 pc	A
5101	Brocade	1 pc	B
5121	Weeping Gold to Green	1 pc	B
5151	Sapphire Blue w/Twilight Glitter Orchid	1 pc	B
5180	Gold Glitter Comet w/Purple Stars	1 pc	B
5190	Twinkling Silver	1 pc	B
	case pack:	9/1	

VULCAN SHELL PRE-PACKAGED ASSORTMENT

Version 2008.1

VS-6P(AST) 6" Premium Selection		Cat	
2407A	Cardinal Purple to Grasshopper Green w/Yellow Cascade Pistil	1 pc	B
2430	Blue to Red Peony w/White Strobe Pistil and Blue to Brocade Double Ring	1 pc	B
2432	Purple to Green Peony w/White Strobe Pistil and Blue to Brocade Double Ring	1 pc	B
5015	Red Star with Silver	1 pc	B
5034	Timed Double Layer T-Salute Ring w/Crackling Pistil	1 pc	B
5105	Brocade w/Blue Pistil	1 pc	B
5126A	Green to Brocade & Red Flower	1 pc	B
5158	Green Star with Crackling Palm Tree Orchid	1 pc	B
5205	Electric White w/Green & Red Double Pistil	1 pc	B
case pack:		9/1	

VS-8(AST) 8" Standard assortment		Cat	
1407	Twilight Glitter to Sapphire Blue Peony	1 pc	A
2405	Grasshopper Green to Ruby Red w/Twilight Glitter Pistil	1 pc	B
2356	Sapphire Blue chrysanthemum w/midnight snow pistil	1 pc	A
5128	Ruby Red to Brocade	1 pc	B
case pack:		4/1	

VS-8P(AST) 8" Premium Selection		Cat	
2431	Twilight Glitter to Blue Peony w/Red Pistil & Green to Brocade Double Ring	1 pc	B
5113	Brocade w/Blue Pistil & Purple Flower	1 pc	B
5224	White to Red w/Green Strobe & Blue Double Pistil	1 pc	C
5500D	Pagoda : Midnight Snow with Midnight Snow Flowers	1 pc	C
case pack:		4/1	

SPECIFICATION - VULCAN BALL AND CYLINDER SHELL

Our fuse length from bottom of shell to end of pipe match

	2"	2.5"	3"	4"	5"	6"	8"
inches	19-2/3	23-5/8	29-1/2	36-2/9	43-1/3	48	55-1/8
cm	50	60	75	92	110	122	140

Outer Diameter of shells

	2"	2.5"	3"	4"	5"	6"	8"
inches	2	2-1/3	2-5/6	3-3/4	4-2/3	6	7-1/2
cm	5.2	5.9	7.2	9.5	11.9	15	19

Recommended minimum mortar length

	2"	2.5"	3"	4"	5"	6"	8"
cm	39	40.5	50	58	77	93	123

Approximate rising height

	2"	2.5"	3"	4"	5"	6"	8"
meters	80	80	100	120	130	180	260

Timer from lifting to bursting

	2"	2.5"	3"	4"	5"	6"	7"	8"	10"
seconds	1.8	2-2.2	2.7	3	3.5	4	4.2	4.4	4.8

Average star burning duration

	2"	2.5"	3"	4"	5"	6"	8"
seconds	3	3.6	4	4.5	5.2	6.5	8

Bursting diameter

	2"	2.5"	3"	4"	5"	6"	8"
meters	26	30	40	60	90	120	220



C. Display Cakes

Vulcan Display Cakes are specifically designed with the show choreographer in mind and offer a large range of options from single effect cakes up to assorted multi effect pattern cakes. In shows in which the cakes are tightly integrated with other components such as mines and aerial shells, the Single Effect Cake is highly recommended as it ties in easily to form a richly layered low level frontal tableau. Offered in a variety of tube sizes, the Single Effect Cake adapts well to venues of differing sizes ranging from small to large. Vulcan Assorted Cakes hold up well, not only in combination with other devices, but are equally versatile as stand alone items for mini finales, show openers, and grouped firings. Select from a large collection of patterns and effects featuring bright, color saturated stars and distinctive consistent performance.

For those special shows, Vulcan will custom load cakes to your specifications. All Vulcan Cakes come equipped standard with our E-Link Electric Match Connector, two fuses, foil covered tubes, and plastic bagged to guard against moisture.

For more information on the E-Link Electric Match Connector, please refer to the section marked "INNOVATIONS" in the Table of Contents of this catalog for a full description and help in ordering the best configuration for your needs.



CAKES & CANDLES FUSE PREFERENCE

ITEM NUMBER _____






ITEM NAME _____

CUSTOMER _____

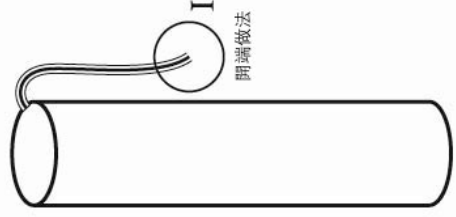
DATE _____

Please mark "✓" in box.





I. FIRING OPTIONS 開端做法

Preference:		
<input type="checkbox"/>		Type A + Cap with separate manual light fuse and orange safety cover A型接火頭和膠帽, 和手點黑引有橙色引套
<input type="checkbox"/>		Type A + Cap A型接火頭和膠帽
<input type="checkbox"/>		Type A with plug in manual light fuse and orange safety cover A型接火頭套B型接火膠頭, 和手點黑引有橙色引套
<input type="checkbox"/>		Manual Light Fuse with Orange Safety Cap 和手點黑引有橙色引套
<input type="checkbox"/>		Type O + Cap 舊款T型接火頭和膠帽
<input type="checkbox"/>	Custom - (Fill in Requirements)	

REMARKS: _____



II. TAIL END OPTIONS 尾端做法

(FOR CAKES ONLY)		Preference:
<input type="checkbox"/>		Type B + Cap B型接火頭和膠帽
<input type="checkbox"/>		Traditional Tied Paper Bucket 傳統做法, 用紙套
<input type="checkbox"/>		Type B + Cap with backup manual light fuse and orange safety cover. B型接火頭和膠帽, 和手點黑引有橙色引套
<input type="checkbox"/>		Traditional bucket with backup manual light fuse and orange safety cover 傳統紙套, 和手點黑引有橙色引套
<input type="checkbox"/>	No Tail required 不需要加備用引線	
<input type="checkbox"/>	Custom - (Fill in Requirements)	

REMARKS: _____

OTHER REMARKS _____

DISPLAY GROUND CAKES (STRAIGHT UP, ASSORTED EFFECT)

Version 2013.1

B. DISPLAY GROUND CAKE - ASSORTED EFFECT

NO.	ITEM NAME	EFFECT	SIZE & PACKING	CAT.
BF10A1	TROPICANA 10	1. Red Star Mine + White Strobe Bombard w/ Silver Tail 2. Green Star Mine + Silver Coconut Bombard w/ Silver Tail 3. Multi-Color Star Mine + Multi-Color Bombard w/ Silver Tail Final: Multi-Color Star Mine + Titanium Salute Bombard w/ Silver Tail	1" (D) X 7" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	E
BF10A2	CELEBRITY'S PARTY 10	1. Twilight Glitter Bombard 2. Ruby Red Bombard 3. Silver Crystal Cascade Bombard 4. Grasshopper Green Bombard Final: Titanium Salute	1" (D) X 7" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	D
BF10A3	GREAT WESTERN 10	1. Coral Yellow Bombard 2. Grasshopper Green Bombard 3. Ruby Red Bombard 4. Sapphire Blue Bombard 5. Cardinal Purple Bombard 6. Palm Tree Bombard 7. Brocade Bombard Final: Titanium Salute Bombard	1" (D) X 7" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	D
BF10A4	EAST MEETS WEST	1. Hummers Comet 2. Red Star Bombard 3. Green Star Bombard 4. White Strobe Bombard Final: Titanium Salute	1" (D) X 7" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	D
BF10A5	COMET WORLD	1. Gold Rain Comet 2. Silver Cascade Comet 3. Crackling Comet	1" (D) X 7" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	B
BF10A20	THE HAUNTING	1. White Strobe Bombard w/ Silver Tail 2. Flash Thunder w/ Silver Tail	1" (D) X 7" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	D
BF11A1	PYRO NIGHT	1. Purple & White Strobe Mine + Yellow Chrysanthem & Blue Bombard with Silver Tail (3 rows) 2. Red & White Strobe Mine + Gold Wave & Green Bombard with Silver Tail (3 rows) 3. Green & White Strobe Mine + Spring Flower & Blue Bombard with Gold Tail (4 rows)	1-1/8" (D) X 7" (H) 100 shots Packing: 1/1 Duration: 40 Sec. 70 shots	E
BF11A2	PASTEL COLOR NIGHT	1. White Strobe Mine + Aqua & Orange Bombard with Red Tail (3 rows) 2. White Strobe Mine + Purple & Lemon Bombard with Green Tail (3 rows) 3. Crackling Mine + Pink & Blue Bombard with Gold Tail (4 rows)	1-1/8" (D) X 7" (H) 100 shots Packing: 1/1 Duration: 40 Sec. 70 shots	E

DISPLAY GROUND CAKES (STRAIGHT UP, ASSORTED EFFECT)

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B. DISPLAY GROUND CAKE - ASSORTED EFFECT

NO.	ITEM NAME	EFFECT	SIZE & PACKING	CAT.
BF12A6	SNOW WHITE	1. Crackling Comet 2. Crackling Bombard w/ Silver Tail 3. White Strobe Bombard w/ Silver Tail 4. Flash Thunder w/ Silver Tail	1-1/4" (D) X 8" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	D
BF12A7	NATIONAL CELEBRATION	1. Ruby Red Bombard 2. White Strobe Bombard 3. Blue Diamond Bombard 4. Green Bombard	1-1/4" (D) X 8" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	D
BF12A8	CROSETTE FINALE	1. Gold Rain Crosette 2. Green Star Crosette 3. Red Star Crosette 4. Silver Cascade Crosette 5. Crackling Crosette	1-1/4" (D) X 8" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	C
BF12A21	FASCINATION	1. White Strobe Bombard 2. Red Star Bombard 3. Green Star Bombard 4. White Strobe / Red / Green Star Bombards	1-1/4" (D) X 8" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	D
BF12A22	CRYSTAL PALACE	1. Red Star Mine + Red Star Bombard 2. Green Star Mine + Green Star Bombard 3. Yellow Star Mine + Yellow Star Bombard 4. Multi-Color Star Mine + Multi-Color Star Bombard 5. White Strobe Star Mine + White Strobe Star Bombard	1-1/4" (D) X 8" (H) 100 Shots Packing: 1/1 Duration: 40 Sec.	E
BF14A9	DIAMOND SCREAMER	1. Red Star Mine + Twilight Glitter to Red Comet 2. Green Star Mine + Silver Coconut Comet 3. Multi-Color Star Mine + Crackling Comet 4. Multi-Color Star Mine + Diamond Screamer	1-1/2" (D) X 10" (H) 64 Shots Packing: 1/1 Duration: 40 Sec.	H
BF14A10	ADVENTURE WORLD	1. Golden Bombard w/ Gold Tail 2. Green Bombard w/ Gold Tail 3/ Red Bombard w/ Silver Tail 4. Titanium Salute w/ Whistle Tail	1-1/2" (D) X 10" (H) 64 Shots Packing: 1/1 Duration: 40 Sec.	D

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B. DISPLAY GROUND CAKE - ASSORTED EFFECT

NO.	ITEM NAME	EFFECT	SIZE & PACKING	CAT.
BF14A23	GOLDEN YEAR	1. Red Star Mine + Twilight Glitter to Red Comet 2. Cosmic Rain Mine + Golden Rain Comet 3. Green Star Mine + Silver Coconut Comet 4. Multi-Color Star Mine + Crackling Gold Comet	1-1/2" (D) X 10" (H) 64 Shots Packing: 1/1 Duration: 40 Sec.	H
BF16A11	THOUSAND THUNDER	1. Red Star Mine + Red Star Bombard 2. Blue Star Mine + Blue Star Bombard 3. Silver Cascade Bombard + Silver Cascade Bombard 4. Red / White / Blue Mine + Thousand Thunders	1-3/4" (D) X 12" (H) 64 Shots Packing: 1/1 Duration: 40 Sec.	D
BF16A24	BEYOND 2000	1. Blue Star Bombard 2. Yellow Star Bombard 3. Red Star Bombard 4. Green Star Bombard 5. White Strobe Star Bombard 6. Flash Thunder Star Bombard	1-3/4" (D) X 12" (H) 64 Shots Packing: 1/1 Duration: 40 Sec.	D
BF16A28	PALM BEACH	1. Multi-Color Bombard w/ Silver Tail 2. Silver Coconut Bombard w/ Silver Tail	1-3/4" (D) X 12" (H) 64 Shots Packing: 1/1 Duration: 40 Sec.	D
BF20A1	TROPICANA 20	1. Red Star Mine + Strobe Bombard w/ Silver Tail 2. Green Star Mine + Silver Coconut Bombard w/ Silver Tail 3. Multi-Color Star Mine + Multi-Color Bombard w/ Silver Tail 4. Multi-Color Star Mine + Thousand Flowers Bombard	2" (D) X 12" (H) 36 Shots Packing: 1/1 Duration: 15 Sec.	D
BF20A2	CELEBRITY'S PARTY 20	1st Set: Twilight Glitter Bombard (6 pcs.) 2nd Set: Ruby Red Bombard (6 pcs.) 3rd Set: Silver Crystal Cascade Bombard (6 pcs.) 4th Set: Grasshopper Green Bombard (6 pcs.) 5th Set: Titanium Salute (6 pcs.) 6th Set: Titanium Salute (6 pcs.) (Each Set Shooting up Simultaneously with 3 sec. Interval)	2" (D) X 12" (H) 36 Shots Packing: 1/1 Duration: 15 Sec.	D
BF20A12	HUNDRED GUN SALUTE	1. Silver Cascade Mine + Silver Strobe Bombard 2. Red Star Mine + Red Bombard 3. Green Star Mine + Green Bombard 4. Blue Star Mine + Blue Bombard 5. Titanium Salute	2" (D) X 12" (H) 36 Shots Packing: 1/1 Duration: 40 Sec.	D
BF20A13	MINE FIELD	1. Autumn Gold Mine 2. Silver Cascade Mine 3. Multi-Color Mine 4. Whistle Mine 5. Thunder Mine	2" (D) X 12" (H) 36 Shots Packing: 1/1 Duration: 40 Sec.	A

DISPLAY GROUND CAKES (STRAIGHT UP, ASSORTED EFFECT)

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B. DISPLAY GROUND CAKE - ASSORTED EFFECT

NO.	ITEM NAME	EFFECT	SIZE & PACKING	CAT.
** BF20A14	White Strobing World of Color Palm	1. Red Palm & White Strobe Bombard with Red Tail (6 pcs.) 2. Green Palm & White Strobe Bombard with Green Tail (6 pcs.) 3. Yellow Palm & Blue Stars Bombard with Purple Tail (6 pcs.) 4. Red Palm & White Strobe Bombard with Red Tail (6 pcs.) 5. Silver Palm & Time Rain Bombard with Silver Tail (6 pcs.) 6. Pixie Dust Willow Bombard with Silver Tail (6 pcs.)	2" (D) X 12" (H) 25 Shots Duration: Made to Order, but 40 sec. is recommended	D
BF25A9	DIAMOND SCREAMER	Diamond Screamer Mines	2-1/2" (D) X 12" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 12 sec. is recommended	K
BF25A14	CUP FINAL	1st Set: Ruby Red Peony Shell 2nd Set: White Strobe Peony Shell 3rd Set: Sapphire Blue Peony Shell 4th Set: Grasshopper Grass Peony Shell 5th Set: Aluminum Gold Shell (Each Set Shooting up Simultaneously with 3 sec. Interval)	2-1/2" (D) X 12" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 12 sec. is recommended	D
BF25A15	FANTASTIC WORLD	1. Gold Rain Peony Shell 2. Grasshopper Green Peony Shell 3. Blue Sapphire Peony Shell 4. Silver Coconut Peony Shell 5. Ruby Red Peony Shell 6. Titanium Salute	2-1/2" (D) X 12" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	D
*** BF25A16	PATRIOTIC BANNER	1 shot blue mine + twilight glitter Bombard 1 shot red peony bombard w/silver tail 1 shot blue mine + twilight glitter Bombard 1 shot red peony bombard w/silver tail 1 shot blue mine + twilight glitter Bombard	2-1/2" (D) X 12" (H) 25 Shots Duration: Made to Order, but 40 sec. is recommended	D
BF25A25	TOURBILLION NIGHT	Row 1: Red Diamond Screamer Mine Row 2: Golden Whirl with Report Mine Row 3: White Strobe Bombard Mine Row 4: Silver Tail Thunder Mine Row 5: Tourbillion Mine	2-1/2" (D) X 12" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	H
BF25A29	POLAR LIGHT	1. Twilight Glitter 2. Crystal Cascade 3. Comic Rain + Multi-Color 4. Multi-Color	2-1/2" (D) X 12" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	D

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B. DISPLAY GROUND CAKE - ASSORTED EFFECT

NO.	ITEM NAME	EFFECT	SIZE & PACKING	CAT.
BF25A30	COLOR TOURBILLION	<ol style="list-style-type: none"> 1. Tourbillion to Red Falling Leaves 2. Tourbillion to White Strobe Stars 3. Tourbillion to Green Fallig Leaves 4. Tourbillion to Time Rain Stars (2 rows) 	2-1/2" (D) X 12" (H) 25 shots Packing: 1/1 Duration: 25 sec.	K
BF25A31	COLOR RINGS	<ol style="list-style-type: none"> 1. Red ring with white strobe pistil no tail 2. Green ring with white strobe pistil no tail 3. Purple ring with white strobe pistil no tail 4. Yellow ring with white strobe pistil no tail 	2-1/2" (D) X 12" (H) 25 shots Packing: 1/1 Duration: 25 sec.	D
** BF25A32	Ring Master	<ol style="list-style-type: none"> 1. Silver Tail Red Ring with White Strobe pistil (5 pcs.) 2. Silver Tail Green Ring with White Strobe pistil (5 pcs.) 3. Sivelr Tail Purple Ring with White Strobe Pistil (5 pcs.) 4. Silver Tail Yellow Ring with White Strobe pistil (5 pcs.) 5. Silver Tail Crackling Ring with Twice Crackling Rain pistil (5 pcs.) 	2-1/2" (D) X 12" (H) 25 shots Duration: 25 sec.	D
BF30A1	TROPICANA 30	<ol style="list-style-type: none"> 1. Red Star Mine + Strobe Bombard w/ Silver Tail 2. Green Star Mine + Silver Coconut Bombard w/ Silver Tail 3. Multi-Color Star Mine + Multi-Color Bombard w/ Silver Tail 4. Multi-Color Star Mine + Thousand Flowers Bombard 	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 Sec. is recommended	D

DISPLAY GROUND CAKES (STRAIGHT UP, ASSORTED EFFECT)

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B. DISPLAY GROUND CAKE - ASSORTED EFFECT

NO.	ITEM NAME	EFFECT	SIZE & PACKING	CAT.
BF30A2	CELEBRITY'S PARTY 30	1. Twilight Glitter Bombard 2. Ruby Red Bombard 3. Silver Crystal Cascade Bombard 4. Grasshopper Green Bombard 5. Titanium Salute	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 Sec. is recommended	D
BF30A3	GREAT WESTERN 30	1st Set: Coral Yellow Bombard (3 pcs.) 2nd Set: Grasshopper Green Bombard (3 pcs.) 3rd Set: Ruby Red Bombard (3 pcs.) 4th Set: Sapphire Purple Bombard (3 pcs.) 5th Set: Cardinal Purple Bombard (3 pcs.) 6th Set: Palm Tree Bombard (3 pcs.) 7th Set: Brocade Bombard (3 pcs.) Final: Titanium Salute Bombard (4 pcs.)	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 21 sec. is recommended	D
BF30A16	VULCAN CELEBRATION	1. Multi-Color Star Mine 2. Hummers Multi-Color Star Mine 3. Tourbillion & Blue Star Mine 4. Diamond Screamer Mine 5. Thunder Mine	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	H
BF30A17	BROCADE GARDEN	1. Twilight Glitter to Sapphire Peony 2. Gold Glitter to Grasshopper Peony 3. Twilight Glitter to Cardinal Purple Peony 4. Brocade 5. Titanium Salute	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	D
BF30A18	SKY CROSSING	1. Golden Rain Crosette Mine 2. Green Star Crosette Mine 3. Red Star Crossette Mine 4. Silver Cascade Crossette Mine 5. Crackling Star Crosette Mine	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	H
BF30A26	TONIGHT SHOW	1. Multi-Color Star Mine 2. Diamond Screamer Mine 3. Gold Whirl w. Report Mine 4. Tourbillion w/ Report Mine	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	H

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B. DISPLAY GROUND CAKE - ASSORTED EFFECT

NO.	ITEM NAME	EFFECT	SIZE & PACKING	CAT.
BF30A27	MY WAY	1. White Strobe Thunder Mine 2. Red Star Mine 3. Green Star Mine 4. Blue Star Mine 5. Multi-Color Star Mine 6. Dark Salute	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	A
BF30A30	NEW YORK AT NIGHT	1. Titanium Salute 2. Multi-Color Shell 3. Red / Green Color Shell (Repeat) 4. Blue 5. Purple 6. Silver Shell (Repeat) 7. Titanium Salute	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order Order, but 25 sec. is recommended	D
BF30A31	PARIS AT NIGHT	1. Multi-Color Shell 2. Purple Shell 3. Titanium Salute 4. Green 5. Red 6. White 7. Multi-Color 8. White 9. Titanium Salute	3" (D) X 13" (H) 25 Shots Packing: 1/1 Duration: Made to Order, but 25 sec. is recommended	D
** BF30A32	Bow Tie	Gold Wave Bow Tie with Red, Blue, Purple, Green & Aqua Ring	3" (D) X 13" (H) 25 Shots Duration 25 Sec.	D

VULCAN FAN SHAPED DISPLAY CAKES

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C. C SHAPE - "Curtain" effect

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
CBF10A1-100	GOLD CURTAIN RAISER	All Shots: Golden Rain Bombard with Gold Tail Row 1-6: Opens up from center to left and right Row 7-8: From left and right to center, then crossing over Row 9-10: From left and right to center, then crossing over	9" X 1"(ID) 1-1/4" (OD) 100 SHOTS (10 X 10) 35 sec.	D
CBF10A2-100	CURTAIN RAISER 2	Row 1: Center to both side : Crackling Bombard w/ Silver Tail Row 2: Both side to center: Crackling Bombard w/ Silver Tail Row 3: Center to both side: Red + Blue Bombard w/ Silver Tail Row 4: Both side to center: Red + Blue Bombard w/ Silver Tail Row 5: Center to both side: Purple + Blue Bombard w/ Silver Tail Row 6: Both side to center: Purple + Blue Bombard w/ Silver Tail Row 7: Center to both side: Golden Rain Bombard w/ Gold Tail Row 8: Both side to center: Golden Rain Bombard w/ Gold Tail Row 9: Center to both side: Multi-Color Star Mine w/ Silver Tail Thunders Row 10: Fan shape: Multi-Color Star Mine w/ Silver Thunders	9" X 1"(ID) 1-1/4" (OD) 100 SHOTS (10 X 10) 35 sec.	D
CBF10A3-96	SPLIT COLOR CURTAIN RAISER	Row 1: Center to left: Red Bombard with Red Tail Row 1: Center to right: Golden Rain Bombard with Tail Row 2: Left to center: Red Bombard with Red Tail Row 2: Right to center: Golden Rain Bombard with Tail Row 3: Center to left: Golden Rain Bombard with Tail Row 3: Center to right: Blue Bombard with Blue Tail Row 4: Left to center: Golden Rain Bombard with Gold Tail Row 4: Right to center: Blue Bombard with Blue Tail Row 5: Center to left: Golden Rain Bombard with Gold Tail Row 5: Center to right: Blue Bombard with Blue Tail Row 6: Left to center: Purple Bombard with Purple Tail Row 6: Right to center: Golden Rain Bombard with Gold Tail	9" X 1"(ID) 1-1/4" (OD) 96SHOTS (16 X 6) 30 sec.	D
CBF10A4-130		Open: Red Star Mine + Blue Comet Close: Blue Star Mine + Red Comet	9" X 1"(ID) 1-1/4" (OD) 130SHOTS 28-30 sec.	H
CB10A5-100		Row 1 & 3: Silver tail to Spring Flower + Purple stars bombard Row 2 & 4: Gold tail to Spring Flower + Green Stars Bombard Row 5 & 7: Silver tail to crackling + red stars bombard Row 6 & 8: Gold tail to crackling + blue stars bombard Row 9: Gold tail to gold wave and time rain bombard (VBF) Row 10: Gold tail to gold wave and time rain bombard (VBF)	9" X 1"(ID) 1-1/4" (OD) 100 SHOTS (10 X 10) 40 sec.	D
CBF10A6-117	CRACKLING PALM CURTAIN	Big Long Crackling Palm Comet	9" X 1"(ID) 1-1/4" (OD) 117SHOTS 35 sec.	B
CBF11A1-100	CURTAIN RAISER 3	Row Number: Odd (Opens up), Even (Close up) Row 1 & 2: Red Palm + White Strobe Bombard with Red tail Row 3 & 4: Twilight Glitter + Red Star Bombard with Twilight Glitter Tail Row 5 & 6: Aqua + Orange Star Bombard with Aqua Tail Row 7 & 8: Golden Rain to Green Star Bombard with Silver Tail Row 9 & 10: Golden Wave + Crackling Stars Bombard with Silver Tail	9" X 1-1/8"(ID) 1-3/8" (OD) 100 SHOTS (10 x 10) 40 Sec.	D
CBF11A4-104	CURTAIN RAISER 4	Row 1 - 6 : Curtain Centre to Left and Right * Left Side: Blue star bombard w/gold tail * Centre: Gold rain bombard w/gold tail * Right side: Blue star bombard w/gold tail Row 7-8: Fan Altogether Fire - Same Effects as Above	9" X 1-1/8"(ID) 1-3/8" (OD) 104 SHOTS (13 x 8) 36 Sec. +/- 3 seconds	D

D. T SHAPE "Trident effect" 3 POINT SIMULTANEOUS FIRING:LEFT RIGHT CENTER

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
TBF10A1-108	TRIDENT I	Row 1-3: Left: Golden Rain Comet Row 1-3: Center: Green & Golden Rain Bombard with Green Tail Row 1-3: Right: Golden Rain Comet Row 4-6: Left: Golden Rain Comet Row 4-6: Center: Purple & Golden Rain Bombard with Purple Tail Row 4-6: Right: Golden Rain Comet Row 7-9: Left: Silver Palm Comet Row 7-9: Center: Red & Blue Stars Bombard with Red Tail Row 7-9: Right: Silver Palm Comet Row 10-12: Left: Silver Palm Comet Row 10-12: Center: Crackling Bombard with Silver Tail Row 10-12: Right: Silver Palm Comet	7" X 1"(ID) 1-1/4" (OD) 108 SHOTS (9 X 12) 30 sec.	D
TBF10A2-108	TRIDENT 2	Both Side Rows: Midnight Snow Star Mines Center Rows: Big Crackling Dahlia Bombard with Crackling Tail	7" X 1"(ID) 1-1/4" (OD) 108 SHOTS (9 X 12) 30 sec.	D
TBF10A3-108	TRIDENT 3	Both Side Rows: Silver to Red Crossettes Middle Rows: Silver Time Rain Bombard w/Silver Tail	7"x 1" (ID) 1-1/4" (OD) 108 shots (9x12), 30 sec	D

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NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
TBF10A4-108	TRIDENT 4	Row 1 to 6: Both side Rows: Green Glitter Comet w/Red Tip Center: Twilight Glitter to Red Comet Row 7 to 12: Both side Rows: Red Spring Flower Comet Center: White Glitter Comet w/Red Tip	7"x 1" (ID) 1-1/4" (OD) 108 shots (9x12) 30 sec	B
TBF14A1-90	TRIDENT 5	Both sides & center: Purple Mine + White Strobe Comet	10"x 1-1/2" (ID) 1-3/4" (OD) 90 shots 12 sec	H

E. V SHAPE - Tradition "FAN" effect

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
VBF10A1-100	TROPICANA 10	Row 1-2: Red Star Mine + White Strobe Bombard with Silver Tail Row 3-5: Green Star Mine + Silver Coconut Bombard with Silver Tail Row 6-7: Multi-Color Star Mine + Multi-Color Bombard with Silver Tail Row 8-10: Multi-Color Star Mine + Titanium Salute Bombard with Silver Tail	9" X 1"(ID) 1-1/4" (OD) 100 SHOTS (10 X 10) 36 sec.	E
VBF10A3-100	GREAT WESTERN 10	Row 1: Yellow Star Bombard with Silver Tail Row 2: Green Star Bombard with Silver Tail Row 3: Red Star Bombard with Silver Tail Row 4: Blue Star Bombard with Silver Tail Row 5: Purple Star Bombard with Silver Tail Row 6: Silver Coconut Bombard with Silver Tail Row 7-8: Midnight Snow Bombard with Gold Tail Row 9-10: Titanium Salute with Silver Tail	9" X 1"(ID) 1-1/4" (OD) 100 SHOTS (10 X 10) 36 sec.	D
VBF10A5-110	DOUBLE ACTION	Double Silver Glitter Comet & Double Purple Crossette Comet Double Silver Glitter Comet & Double Green Crossette Comet	9" X 1"(ID) 1-1/4" (OD) 110 SHOTS 20 sec.	H
VBF10A6-100	TWICE CRACKLE MINE AND COLOUR BOMBARD	Twice Crackling Rain Mine with Red, Blue, Silver & Gold Time Rain Bombard	9"x1"(ID), 100 shots, 40 seconds	E
VBF10A7-100	TWICE CRACKLING MINE & GOLD BOMBARD	Twice Crackling Rain Mine and Gold Wave Bombard w/Tail	9"x1"(ID), 100 shots, 20 seconds	C
VBF10A8-100	PALM TREE COMET	Row 1-3: Twilight Glitter Comets Row 4-6: Green Comets Row 7-10: Silver Palm Tree Comets	9"x1"(ID), 100 shots, 40 seconds	A
VBF10A9-100	ASSORTED COLOUR MINES WITH SALUTES	Row 1-2: Blue Mine to Salute Row 3-4: Red Mine to Salute Row 5-6: Green Mine to Salute Row 7-8: Purple Mine to Salute Row 9-10: Multicolor Mine to Salute	9"x1"(ID), 100 shots, 36 seconds	E
VBF10A10-100	RED WHITE AND BLUE CROSSETTES	Row 1-3: Blue crossette Row 4-6: Red crossette Row 7-10: Silver crossette	9"x1"(ID), 100 shots, 40 seconds	C
VBF10A11-100	GREEN CROSSETTE AND PURPLE BOMBARD	Row 1-5: Silver tail to Green Crossette and Purple Bombard (10 shots)	9"x1"(ID), 100 shots, 40 seconds	D
VBF11A1-100	GOLD RUSH	Row 1 & 2 : Gold Wave & Purple Star Bombard w/Golden Rain Tail Row 3 & 4 : Gold Wave & Blue Star Bombard w/Golden Rain Tail Row 5 & 6 : Gold Wave & Pink Star Bombard w/Golden Rain Tail Row 7 & 8 : Gold Wave & Green Star Bombard w/Golden Rain Tail Row 9 & 10: Gold Wave & Silver Time Rain Star Bombard w/Golden Rain Tail	9"x1-1/8"(ID) 1-3/8" (OD) 100 SHOTS (10 X 10) 40 sec.	D
VBF11A3-100	COLOR & CRACKLE	Row 1-2: Red & Silver Time Pine Bombard w/Twilight Glitter Tail Row 3-4: Blue & Silver Time Pine Bombard w/Twilight Glitter Tail Row 5-6: Purple & Silver Time Pine Bombard w/Twilight Glitter Tail Row 7-8: Yellow & Silver Time Pine Bombard w/Twilight Glitter Tail Row 9-10: Lemon+Blue+Silver Crackling Rain Bombard w/Twilight Glitter Tail	9"x1-1/8"(ID) 1-3/8" (OD) 100 shots 10x10 40 sec	D
VBF11A4-100	GOLD RAIN BOW TIE CROSSETTE FAN	Multiple Stars Per Crossette	9" X 1-1/8"(ID) 1-3/8" (OD) 100 SHOTS 40 sec.	C
VBF11A5-100	MULTICOLOUR BOW TIE CRISS CROSS FAN	10 Shots per row, Each row: 2 x Red Criss Cross 2 x Yellow Criss Cross 2 x Green Criss Cross 2 x Purple Criss Cross 2 x Blue Criss Cross	9" X 1-1/8"(ID) 1-3/8" (OD) 100 SHOTS 40 sec.	C
VBF12A6-100	SNOW WHITE	Row 1-2: Crackling Comet Row 3-5: Crackling Bombard with Silver Tail Row 6-7: White Strobe Bombard with Silver Tail Row 8-10: Flash Thunder Bombard with Silver Tail	10" X 1-1/4"(ID) 1-1/2" (OD) 100 SHOTS (10 X 10) 36 sec.	D
VBF12A8-100	CROSSETTE FINALE	Row 1-2: Golden Rain Crossette Row 3-4: Green Star Crossette Row 5-6: Red Star Corsette Row 7-8: Silver Cascade Crossette Row 9-10: Crackling Crossette	10" X 1-1/4"(ID) 1-1/2" (OD) 100 SHOTS (10 X 10) 36 sec.	C

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NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
VBF12A22	CRYSTAL PALACE	Row 1-2: Red Star Mine + Red Star Bombard with Silver Tail Row 3-4: Green Star Mine + Green Star Bombard with Silver Tail Row 5-6: Yellow Star Mine + Yellow Star Bombard with Silver Tail Row 7-8: Multi-Color Star Mine + Multi-Color Star Bombard with Silver Tail Row 9-10: White Strobe Mine + White Strobe Bombard with Silver Tail	10" X 1-1/4"(ID) 1-1/2" (OD) 100 SHOTS (10 X 10) 36 sec.	E
VBF12A23-130	GOLD WAVE TO BLUE MINE	Also available in Gold Wave to Red, to Purple, to Green and to Yellow	10" X 1-1/4"(ID) 1-1/2" (OD) 130 SHOTS 35 sec.	A
VBF14A9-66	DIAMOND SCREAMER	Row 1-3: Red Star Mine + Twilight Glitter to Red Comet Row 4-6: Green Star Mine + Silver Coconut Comet Row 7-9: Multi-Color Star Mine + Crackling Comet Row 10-11: Multi-Color Star Mine + Diamond Screamer	10" X 1-9/16"(ID) 2" (OD) 66 SHOTS (11 X 6) 40 sec.	H
VBF14A10-66	ADVENTURE WORLD	Row 1-3: Golden Rain Bombard with Gold Tail Row 4-6: Green Star Bombard with Gold Tail Row 7-9: Red Star Bombard with Silver Tail Row 10-11: Titanium Salute with Whistle Tail	10" X 1-9/16"(ID) 2" (OD) 66 SHOTS (11 X 6) 40 sec.	D
VBF14A11-66	2 LAYER PYRO MINE	Row 1-2: Red Star Mine + White Strobe Comet Row 3-4: Golden Rain Mine + Green Glitter Comet Row 5-6: Green Star Mine + Yellow Chrysanthemum Comet Row 7-8: Blue Star Mine + Gold Glitter Comet Row 9-10: Multi-Color Star Mine + Twilight Glitter Comet Row 11: Multi-Color Star Mine + Silver Tail Thunders	10" X 1-9/16"(ID) 2" (OD) 66 SHOTS (11 X 6) 40 sec.	H
VBF14A12-100	GREEN STARS & CRACKLING RAIN MINE TO SILVER BEES		10" X 1-9/16"(ID) 2" (OD) 100 SHOTS 25 sec.	H
VBF14A13-100	WHITE STROBE STAR MINE TO SILVER BEES	White Strobe Star Mine to Silver Bees	10" X 1-9/16"(ID) 2" (OD) 100 SHOTS 25 sec.	H
VBF14A14-110	Mine & Comet Pattern I	3 Silver Cascade Comet in a fan array with Green Star Mines & Purple Star Mines	10" X 1-9/16"(ID) 2" (OD) 110 SHOTS 40 sec.	B
VBF14A15-110	Mine & Comet Pattern II	4 parts of Rainbow color Star Mines with 3 Twilight Glitter Comet in between	10" X 1-9/16"(ID) 2" (OD) 110 SHOTS 40 sec.	B
VBF14A16-90	Mine & Bombard GP style	9 shots per row 1. Middle 3 shots Golden Rain Bombard w/gold tail, each side 3 shots Purple Star Mine (3 rows) 2. Middle 3 shots Gold Wave Bombard w/gold tail, each side 3 shots Green Star Mine (3 rows) 3. Middle 3 shots Twice Crackling Rain Bombard w/gold tail, each side 3 shots Crackling Star Mine (4 rows)	10" X 1-9/16"(ID) 2" (OD) 90 SHOTS 40 sec.	H
VBF14A18-70	National Celebration 70 shots	Red White Blue 3 Layer Mine with Gold Wave Dahlia Bombard		
VBF14A19-90	Mine & Bombard GP style II	9 shots per row 1. Middle 3 shots Golden Rain Bombard, each side 3 shots Purple Bombard Mine (3 rows) 2. Middle 3 shots Gold Wave Bombard, each side 3 shots Green Bombard Mine (3 rows) 3. Middle 3 shots Twice Crackling Rain Bombard, each side 3 shots White Strobe Bombard Mine (4 rows) All Bombards with gold tail	10" X 1-9/16"(ID) 2" (OD) 90 SHOTS 40 sec.	H
VBF14A20-90	Simple & Nice	Crackling with White Strobe willow mine + crackling bombard	10" X 1-9/16"(ID) 2" (OD) 90 SHOTS 40 sec.	H
VBF14A21-49	Thrice Crackling Rain Mine	Row 1 to 7: Thrice Crackling Rain Mine	10" x 1-9/16" (ID), 2" (OD) 49 SHOTS (7 X 7) 24 sec.	D
VBF16A11-66	BEYOND 2000	Row 1 -2: Blue Star Bombard with Silver Tail Row 3-4: Yellow Star Bombard with Silver Tail Row 5-6: Red Star Bombard with Silver Tail Row 7-8: Green Star Bombard with Silver Tail Row 11: Flash Thunder with Silver Tail	12" X 1-3/4"(ID) 2" (OD) 66 SHOTS (11 X 6) 40 sec.	D
VBF20A1	TROPICANA 20	Row 1-2: Red Star Mine + White Strobe with Silver Tail Row 3-4: Green Star Mine + Coconut Tree with Silver Tail Row 5: Multi-Color Star Mine + Multi-Color with Silver Tail Row 6: Multi-Color Star Mine + White Strobe Bombard with Silver Tail	12" X 2"(ID) 2-1/4" (OD) 36 SHOTS (6 X 6) 25 sec.	H

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VBF20A12	HUNDRED GUN SALUTE	Row 1: Silver Cascade Mine + White Strobe with Silver Tail Row 2: Red Star Mine + Red Peony Row 3: Green Star Mine + Green Peony Row 4: Blue Star Mine + Blue Peony Row 5: Titanium Salute with Silver Tail Row 6: Titanium Salute with Silver Tail	12" X 2"(ID) 2-1/4" (OD) 36 SHOTS (6 X 6) 25 sec.	H
VBF25A9	DIAMOND SCREAMER	Row 1 - 5: Diamond Screamer Mine	12" X 2-1/2"(ID) 2-3/4" (OD) 25 SHOTS (5 X 5) 28 sec.	K
VBF25A15	FANTASTIC WORLD	Row 1: Golden Rain Peony with Gold Tail Row 2: Grasshopper Green Peony with Gold Tail Row 3: Blue Sapphire Peony with Gold Tail Row 4: Silver Cascade Peony with Silver Tail , Ruby Red Peony with Silver Tail Row 5: Titanium Salute with Silver Tail	12" X 2-1/2"(ID) 2-3/4" (OD) 25 SHOTS (5 X 5) 28 sec.	D
VBF25A25	TOURBILLION NIGHT	Row 1: Red Diamond Screamer Mine Row 2: Golden Whirl with Report Mine Row 3: White Strobe Bombard Mine Row 4: Silver Tail Thunder Mine Row 5: Multi-Color Peony with Silver Tail	12" X 2-1/2"(ID) 2-3/4" (OD) 25 SHOTS (5 X 5) 28 sec.	H
VBF25A29	POLAR LIGHT	Row 1: Twilight Glitter Peony with Silver Tail Row 2: Silver Cascade with Silver Tail Row 3: Golden Rain Peony with Silver Tail Row 4: Multi-Color Peony with Silver Tail Row 5: Multi-Color Peony with Silver Tail	12" X 2-1/2"(ID) 2-3/4" (OD) 25 SHOTS (5 X 5) 28 sec.	D
VBF30A3	GREAT WESTERN 30	Row 1: Green Peony with Silver Tail Row 2: Red and White Strobe Peony with Silver Tail Row 3: Coconut Tree with Silver Tail Row 4: Brocade with Gold Tail Row 5: Titanium Salute with Silver Tail	13" X 3"(ID) 3-3/8" (OD) 25 SHOTS (5 X 5) 28 sec.	D
VBF30A16	VULCAN CELEBRATION	Row 1: Multi-Color Star Mine Row 2: Hummers Multi-Color Star Mine Row 3: Tourbillion & Blue Star Mine Row 4: Diamond Screamer Mine Row 5: Thunder Mine	13" X 3"(ID) 3-3/8" (OD) 25 SHOTS (5 X 5) 28 sec.	H
VBF30A18	SKY CROSSING	Row 1: Golden Rain Crossette Mine Row 2: Green Star Crossette Mine Row 3: Red Star Crossette Mine Row 4: Silver Cascade Crossette Mine Row 5: Crackling Star Crossette Mine	13" X 3"(ID) 3-3/8" (OD) 25 SHOTS (5 X 5) 28 sec.	H
VBF30A26	TONIGHT SHOW	Row 1: Multi-Color Star Mine Row 2: Diamond Screamer Mine Row 3: Gold Whirl with Report Mine Row 4: Tourbillion with Report Mine Row 5: Tourbillion with Report Mine	13" X 3"(ID) 3-3/8" (OD) 25 SHOTS (5 X 5) 28 sec.	H
VBF30A30	NEW YORK AT NIGHT	Row 1: Titanium Salute with Silver Tail Row 2: Multi-Color Peony with Silver Tail Row 3: Silver Cascade Peony with Silver Tail Row 4: Twilight Glitter Peony with Silver Tail Row 5: Titanium Salute with Silver Tail	13" X 3"(ID) 3-3/8" (OD) 25 SHOTS (5 X 5) 28 sec.	D
VBF30A31	PARIS AT NIGHT	Row 1: Multi-Color Peony with Silver Tail Row 2: Purple Peony with Silver Tail Row 3: Titanium Salute with Silver Tail Row 4: Red - White Strobe - Blue with Silver Tail Row 5: Titanium Salute with Silver Tail	13" X 3"(ID) 3-3/8" (OD) 25 SHOTS (5 X 5) 28 sec.	D
VBF30A32	ASSORTED BOWTIE CAKE	Assorted color of Red, Green Purple, Yellow, Blue Ring + Gold Wave Bowtie Last Row: Twice Crackling Rain	13" X 3"(ID) 3-3/8" (OD) 25 SHOTS (5 X 5) 28 sec.	D

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F. Z SHAPE - Firing from left to right to left like a "Z"

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
ZBF10A1-100	NATIONAL SALUTE	Row 1: Wiper Left to Right : Red Star Bombard with Red Tail Row 2: Wiper Right to Left: Red Star Bombard with Red Tail Row 3: Wiper Left to Right: White Star Bombard with White Tail Row 4: Wiper Right to Left: White Star Bombard with White Tail Row 5: Wiper Left to Right : Blue Star Bombard with Blue Tail Row 6: Wiper Right to Left: Blue Star Bombard with Blue Tail Row 7: Wiper Left to Right : Crackling Palm Bombard with Crackling Tail Row 8: Wiper Right to Left: Crackling Palm Bombard with Crackling Tail Row 9: Fan Shape: Titanium Salute with Silver Tail Row 10: Fan Shape: Titanium Salute with Silver Tail	9" X 1"(ID) 1-1/4" (OD) 100 SHOTS (10 X 10) 50 sec.	D
ZBF10A2-100	PYRO FANTASY	Row 1: Wiper Left to Right : Red + Blue Star Bombard with Silver Tail Row 2: Wiper Right to Left: Red + Blue Star Bombard with Silver Tail Row 3: Wiper Left to Right: Green + Yellow Star Bombard with Gold Tail Row 4: Wiper Right to Left: Green + Yellow Star Bombard with Gold Tail Row 5: Wiper Left to Right : Purple + White Strobe Star Bombard with Silver Tail Row 6: Wiper Right to Left: Purple + White Strobe Star Bombard with Silver Tail Row 7: Wiper Left to Right : Midnight Snow Bombard with Gold Tail Row 8: Wiper Right to Left: Midnight Snow Bombard with Gold Tail Row 9: Fan Shape: Titanium Salute with Silver Tail Row 10: Fan Shape: Titanium Salute with Silver Tail	9" X 1"(ID) 1-1/4" (OD) 100 SHOTS (10 X 10) 35-40 sec.	D
ZBF10A3-96	RAINBOW MINE	Row 1: Left to Right : Red / Orange / Yellow / Green / Blue / Purple Row 2: Right Left: Red / Orange / Yellow / Green / Blue / Purple Row 3: Left to Right : Red / Orange / Yellow / Green / Blue / Purple Row 4: Right Left: Red / Orange / Yellow / Green / Blue / Purple Row 5: Left to Right : Red / Orange / Yellow / Green / Blue / Purple Row 6: Right Left: Red / Orange / Yellow / Green / Blue / Purple Row 7: Simultaneous Fan: Red / Orange / Yellow / Green / Blue / Purple Row 8: Simultaneous Fan: Red / Orange / Yellow / Green / Blue / Purple	9" X 1"(ID) 1-1/4" (OD) 96 SHOTS (12 X 8) 30 sec.	A
ZBF10A4-96	RAINBOW MINE II	Row 1: Left to Right : Red Mine Row 2: Right to Left: Orange Mine Row 3: Left to Right : Yellow Mine Row 4: Right to Left: Green Mine Row 5: Left to Right : Blue Mine Row 6: Right to Left: Purple Mine Row 7: Simultaneous Fan: Red / Orange / Yellow / Green / Blue / Purple Row 8: Simultaneous Fan: Red / Orange / Yellow / Green / Blue / Purple	9" X 1"(ID) 1-1/4" (OD) 96 SHOTS (12 X 8) 30 sec.	A
ZBF10A5-100	COMET WORLD	Row 1-3: Golden Rain Comet Row 4-6: Silver Cascade Comet Row 7-10: Crackling Comet	9" X 1"(ID) 1-1/4" (OD) 100 SHOTS 10x10 50 sec.	B
ZBF10A6-100	MOSAIC 1	Row 1-3: Red Crossette w/Silver Tail Row 4-6: Red Palm & White Strobe Bombard w/Red Tail Row 7-9: Yellow Palm & Blue Star Bombard w/Purple Tail Row 10: Simultaneous Fan: Green Palm & Crackling w/green Tail	9" x 1" (ID) 1-1/4" (OD) 100 shots 10x10 30 sec	D
ZBF10A7-100	CROSSETTE BATTLE	Row 1-3: Red Star Crossette Row 4-6: Silver Glittering Crossette Row 7-9: Green Glittering Crossette Row 10: Simultaneous Fan: Crackling Crossette	9" x 1" (ID) 1-1/4" (OD) 100 shots 10x10 30 sec	C
ZBF10A8-100	MOSAIC 2	Row 1-2: Fan, Purple, Aqua & Orange Bombard w/Red Tail Row 3-4: Z Fan, Pink, Aqua & Lemon Bombard w/Green Tail Row 5-6: Curtain, Pink & Blue Bombard w/Twilight Glitter Tail Row 7-8: Z Fan, Blue Bombard w/Twilight Glitter Tail Row 9-10: Fan, Yellow, Blue & Lemon mine + Crackling Rain Bombard with Gold Tail	9" x 1" (ID) 1-1/4" (OD) 100 shots 10x10 30 sec	D
ZBF10A9-100	MULTICOLOR FALLING LEAVES	10 rows of blue tail to elegant multi-color falling leaves	9"x1" (ID) 1-1/4" (OD) 100 shots 10x10 30 seconds	D
ZBF10A10-195	COLOR CHANGING COMETS WITH CRACKLING MINE	Red, Blue, Green, Yellow, Purple comets with crackling mine	9" x 1" (ID) x 1-1/4" (OD) 30-3/4" x 20-1/4" x 9-1/4" 195 shots 30 seconds	D
ZBF10A11-130	CRACKLING AND COLOUR WIPE	Rows of Red Yellow Green Blue Purple color comet with Gold Time Rain comet in between	9"x1"(ID), 130 shots, 30 seconds	D
ZBF10A12-100	JULY 4TH	Crackling Mine & Blue Star Bombard with Red Tail	9"x1"(ID) 1-1/4" (OD) 100 SHOTS (10x10) 25 sec.	D

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NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
ZBF10A13-100	RED WHITE BLUE FALLING LEAVES	10 rows of red white and blue falling leaves	9"x1" (ID) 1-1/4" (OD) 100 shots 10x10 30 seconds	D
ZBF11A2-120	RAINBOW WIPE	Row 1: Wiper Left to Right: Red Comet Row 2: Wiper Right to Left: Yellow Comet Row 3: Wiper Left to Right: Green Comet Row 4: Wiper Right to Left: Blue Comet Row 5: Wiper Left to Right: Orange Comet Row 6: Wiper Right to Left: Purple Comet Row 7: Wiper Left to Right: Yellow Comet Row 8: Wiper Right to Left: Red Comet Row 9: Fan Shape Together: Red/Red/Orange/Orange/Yellow/Yellow/Green/Green/Blue/Blue/Purple/Purple Comets Row 10: Fan Shape Together: Purple/Purple/Blue/Blue/Green/Green/Yellow/Yellow/Orange/Orange/Red/Red Comets	9"x1-1/8"(ID) 1-3/8" (OD) 120 SHOTS (10 X 12) 38 sec.	B
ZBF11A3-100	GOLDEN RAIN BOW TIE CROSSETTE FAN WIPE	Golden Rain Bow Tie Crossette	9"x1-3/8"(ID) 1-1/4" (OD) 100 SHOTS 40 sec.	C
ZBF12A30-100	UP-RAGEOUS	Brocade & blue Mine + Blue and Brocade Bombard w/blue tail	10"x1-1/4"(ID) 1-1/2" (OD) 100 SHOTS 20 sec.	D
ZBF14A1-90		Gold Wave Mine + Gold Wave Bombard w/o tail	10"x1-1/4"(ID) 1-1/2" (OD) 90 SHOTS 20 sec.	E
ZBF16A1-64	TWILIGHT ZONE	Row 1: Wiper Left to Right: Twilight Glitter Bombard w/ Silver Tail Row 2: Wiper Right to Left: Twilight Glitter Bombard w/ Silver Tail Row 3: Wiper Left to Right: Twilight Glitter + Red Bombard w/ Silver Tail Row 4: Wiper Right to Left: Twilight Glitter + Red Bombard w/ Silver Tail Row 5: Wiper Left to Right: Twilight Glitter + Blue Bombard w/ Silver Tail Row 6: Wiper Right to Left: Twilight Glitter + Blue Bombard w/ Silver Tail Row 7: Fan Shape: Red + Blue Star Mine w/ Twilight Glitter Bombard w/ Silver Tail Row 8: Fan Shape: Red + Blue Star Mine w/ Crackling Bombard w/ Silver Tail	12"x1-3/4"(ID) 2" (OD) 64 SHOTS (8 X 8) 45 sec.	D

G. COMBINATION SHAPE - A Combination of different shape, effect or tube sizes

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS
BF-COMBO-1	NATIONAL DAY	Fan shape 2 layer crackling & blue mine, 1-1/4" (ID) 54 shots Straight up Red star bombard, 1-1/2" (ID) 24 shots Fan & Straight to be fired simultaneously	12" x 1-1/4" & 1-1/2" (ID) 78 shots 15 sec.

H. CRESCENDO - Building up to a volley finale

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS
BF-CR-1	Crescendo Buildup #1	Seven position left to right wide angle sweep of multiple white strobe comets - finishes with a row of crescendo of comets and red tail thunders	5"x3/4" (ID) 180 shots 13 seconds
BF-CR-2	Crescendo Buildup #2	Seven position wide angle opening curtain of multiple coconut comets - finishes with 3 rows crescendo of blue star mines and whistles	5"x3/4" (ID) 191 shots 13 seconds
BF-CR-3	Building a Rainbow	Six position wide angle sweep of rainbow hue comets - finishes with a row crescendo of rainbow mines	5"x3/4" (ID) 156 shots, 1" (ID) 6 shots, total 162 shots, 15 seconds

I. RAPID FIRE

1. Peacock Tail - Very dense fan shape pattern of color or effect at a rapid pace

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
PRF0501-540	Peacock Tail No. 1	Twilight Glitte to Multi-color comet	5"x5/8" (ID) 540 shots 8 sec.	B
PRF0502-540	Peacock Tail No. 2	Twilight Glitte to Red comet	5"x5/8" (ID) 540 shots 8 sec.	B
PRF0503-540	Peacock Tail No. 3	Twilight Glitter to blue comet	5"x5/8" (ID) 540 shots 8 sec.	B
PRF0504-540	Peacock Tail No. 4	Twilight Glitter to green comet	5"x5/8" (ID) 540 shots 8 sec.	B

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NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
PRF0505-540	Peacock Tail No. 5	Golden Rain to multi-color comet	5"x5/8" (ID) 540 shots 8 sec.	B
PRF0506-540	Peacock Tail No. 6	Golden Rain to green comet	5"x5/8" (ID) 540 shots 8 sec.	B
PRF0607-540	Peacock Tail No. 7	Silver Strobe Willow to Red comet	5"x3/4" (ID) 540 shots 8 sec.	B
PRF0608-540	Peacock Tail No. 8	Green Strobe Willow to Blue comet	5"x3/4" (ID) 540 shots 8 sec.	B
PRF0609-540	Peacock Whistle Tail	Very Loud Diamond Screamers	5"x3/4" (ID) 540 shots 8 sec.	D
PRF0609R-540	Peacock Whistle Tail	Very Loud Diamond Screamers to Report	5"x3/4" (ID) 540 shots 8 sec.	D
PRF0610R-540	Peacock Red Go Getter	Go Getters: Red	5"x3/4" (ID) 540 shots 8 sec.	D
PRF0610S-540	Peacock Silver Go Getter	Go Getters: Silver (also available in Green, Purple, Yellow, Orange & Aqua)	5"x3/4" (ID) 540 shots 8 sec.	D
PRF0611-540	Peacock Tail	Tourbillion	5"x3/4" (ID) 540 shots 8 sec.	D
PRF0611R-540	Peacock Tail	Tourbillion to Report	5"x3/4" (ID) 540 shots 8 sec.	L
PRF0613-540	Flash Thunder (No Tail)		5"x3/4" (ID) 540 shots 8 sec.	D
PRF0613A-540	Flash Thunder	With Multi-Color Tail	5"x3/4" (ID) 540 shots 8 sec.	D
PRF0614-540	Peacock Tail	Crackling Bombard with Crackling Tail	5"x3/4" (ID) 540 shots 8 sec.	D
PRF0616-540	Crackling Storm	Crackling Mine & Crackling Bombard w/o tail	5"x3/4" (ID) 540 shots 8 sec.	D
PRF0617-540	Silver Bees		5"x3/4" (ID) 540 shots 8 sec.	D
PRF0618-540	Flash Thunder with crackling tail		5"x3/4" (ID) 540 shots 8 sec.	D
PRF0619-540	World of Falling Leaves	Red, Yellow, Green & Blue Falling Leaves	5"x3/4" (ID), 540 shots, 13-15 seconds	D
PRF0620-540	World of Falling Snows	White Strobe, soft burst	5"x3/4" (ID), 540 shots, 10 seconds	D
PRF0621-540	Rain of Pixie Dust	Pixie Dust Willow, soft burst	5"x3/4" (ID), 540 shots, 13 seconds	D
PRF0622-540	White Strobe Bombard	White Strobe Bombards without tail	5"x3/4" (ID), 540 shots, 13 seconds	D

2. Trident Rapid Style - Very dense three prong pattern of color at a rapid pace

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
TRF0601-300	Super Trident No. 1	Both sides: Midnight Snow Comet, Center: Sapphire Blue comet	5"x3/4" (ID) 300 shots 8 sec.	B
TRF0602-300	Super Trident No. 2	Both sides: Midnight Snow Comet, Center: Grasshopper Green comet	5"x3/4" (ID) 300 shots 8 sec.	B
TRF0603-300	National Colors	Both Sides: Blue Star Comets change to Red Star Comets Center: White Glitter Comets	5"x3/4" (ID) 300 shots 8 sec.	B
TRF0604-300	Gold Wave with blue	Both Sides: Crackling & Blue Star Mines Center: Golden Wave Bombards w/o tail	5"x3/4" (ID) 300 shots 8 sec.	D
TRF0607-300	Whistling Red White and Blue	Both sides: Loud silver whistles with red falling stars Centre: Red Rising Comets bursting into blue stars and thunders	5"x3/4" (ID) 300 shots 8 sec.	D

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3. Z Shape - Very dense back & forth wiper effect at a rapid pace

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
ZRF0601-300	National Pride	Row 1-10: White Strobe Bombard w/red tail Row 11-20: Blue Stars + Silver Fish Bombard w/red tail Row 21-30: Golden Time Rain + Silver Fish Bombard w/red tail	7"x3/4" (ID) 300 shots 15 sec.	D
ZRF0602-260	Ice & Fire	White Strobe to Red Comet	7" x 3/4" (ID) 260 shots 16 sec.	B
ZRF0603-260	Little Green Monster	Green Comet (other color comet available upon request)	7" x 3/4" (ID) 260 shots 16 sec.	B
ZRF0604-260	Green Thunder	Flashing Thunder with Green tail	7" x 3/4" (ID) 260 shots 16 sec.	D
ZRF0605-260	Tourbillion	Tourbillions	7" x 3/4" (ID) 260 shots 16 sec.	D
ZRF0605R-260	Tourbillions & Red Bombards	Silver Tourbillions & Red Star Bombard without tail	7"x3/4"(ID), 260 shots, 10-13 seconds	D
ZRF0605G-260	Tourbillions & Green Bombards	Silver Tourbillions & Green Star Bombard without tail	7"x3/4"(ID), 260 shots, 10-13 seconds	D
ZRF0606-260	Tourbillions & Blue Bombards	Silver Tourbillions & Blue Star Bombard without tail	7"x3/4"(ID), 260 shots, 10-13 seconds	D
ZRF0607-260		Crackling Mine + Titanium Salute without tail	7"x3/4"(ID), 260 shots, 10-13 seconds	D
ZRF1001-100	Crossette Fighting	Row 1-2: Silver To Silver Crossette Row 3-6: Silver Tail to Green Crossette Row 7-10: Silver Tail to Red Crossette	9"x1" (ID) 100 shots 15 sec.	C
ZRF1002-195	Colors & the Wind	Twilight Glitter Comet & multiple color Comets, alternatively	9"x1" (ID) 195 shots 16 sec.	B
ZRF1003-195	Beauty & the Noisy	Purple/Green Star mines & Silver time Crackling Pine Comets, alternatively	9"x1" (ID) 195 shots 16 sec.	B
ZRF1004-130	Home Coming	Crackling Star Mine, and Blue+White Strobe Bombard with Red tail	9"x1" (ID) 130 shots 8 sec.	E
ZRF1005-130	Mexico Wave	Crackling Star Mine, and Blue+Gold Wave Bombard with Red tail	9"x1" (ID) 130 shots 8-10 sec.	E
ZRF1006-70	Photo Flash Wipe	Photo Flash bombard	9"x1" (ID) 70 shots 20 sec.	D

4. V Shape - Very dense fan pattern

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
VRF0501-510	Silvery Rain	Golden Rain to White Strobe Comet	5"x5/8" (ID) 510 shots 10 sec.	B
VRF0602-250	Brocade Volley	Brocade Bombard with gold tail	5"x3/4" (ID) 250 shots 10 sec.	D
VRF0603-250	Brocade Volley	Brocade Bombard without tail	5"x3/4" (ID) 250 shots 10 sec.	D
VRF0604-250	Crackling Volley	Crackling Rain Bombard without Tail	5"x3/4" (ID) 250 shots 10 sec.	D
VRF0605-250	Red Leaves & Snows	White Strobe Bombards & Red Falling Leaves	5"x3/4"(ID), 250 shots, 25-28 seconds	D
VRF0606-250	Gold Wave Butterflies	Gold Wave Criss Cross, no tail	5"x3/4"(ID), 250 shots, 18 seconds	D
VRF0607-250	Purple Flyer	Brocade Bombard, no tail, & Purple Go-Getter Mine	5"x3/4"(ID), 250 shots, 30 seconds	D
VRF0608-250	White Strobe Bombard 250 shots	White Strobe Bombard w/o tail	5"x3/4"(ID), 250 shots, 30 seconds	D
VRF0609-250	Multicolor Hummers	Multicolor Hummers	5"x3/4"(ID), 250 shots, 30 seconds	D
VRF0610-250	Jet Propulsions	Loud Whistles	5"x3/4"(ID), 250 shots, 30 seconds	D

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NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
VRF1001-130	Double Crackling Volley	Crackling Star Mine & Crackling Bombard w/o tail	9"x1"(ID) 1-1/4"(OD) 130 shots; 8 sec.	E
VRF1002-130	Blue Rain Volley	Blue Star Mine & Golden Rain Bombard w/o tail	9"x1"(ID) 1-1/4"(OD) 130 shots; 8 sec.	E
VRF1101-90	Gold Criss Cross	10 rows of rapid fire Gold Rain Criss Cross insert in a dense configuration	9"x1-1/8"(ID) 1-3/8" (OD) 90 shots (9x10) 35 sec.	E
VRF1102-90	Brocade Mine	10 rows of rapid fire Brocade Mine in a dense configuration	9"x1-1/8"(ID) 1-3/8" (OD) 90 shots (9x10) 15 sec.	A

J. INSTANT FIRE

1. Straight Up Instant Fire - all shots fire instantaneous and go off together as a tight aerial group

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
BIF1001-100	Hammer Box No. 1	Flash Thunder Salute, no tails, straight up, VERY LOUD	7"x1" (ID), 100 shots, Instantaneous	D
BIF1012-100	Hammer Box No. 12	Crackling mine + Titanium salute w/o tail	7"x1" (ID), 100 shots, Instantaneous	D

2. Fan Shape Instant Fire - all shots fire instantaneous and go off together as a fanned out aerial pattern

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
VIF0601-100	Hammer Box No. 2	Flash Thunder Salute, Silve Tail, Fan Pattern, VERY LOUD	5"x3/4" (ID), 100 shots, instant duration	D
VIF0602-100	Hammer Box No.3	Flash Thunder Salute, Whistle Tail, Fan Pattern, VERY LOUD WHISTLE AND REPORTS	5"x3/4" (ID), 100 shots, instant duration	D
VIF0603-100	Hammer Box No.4	Flash Thunder Salute, Whistle Tail with blue star mine, Fan Pattern, VERY LOUD WHISTLE AND REPORTS	5"x3/4" (ID), 100 shots, instant duration	D
VIF1001-100	Hammer Box No.5	Crackling Mine & Flash Thunder w/o tail	9"x1"(ID), 100 shots, Instant duration	E
VIF1002-100	Hammer Box No.6	Twice Crackling Mine & Flash Thunder w/o tail	9"x1"(ID), 100 shots, Instant duration	E
VIF1003-100	Hammer Box No.7	Twice Crackling Mine & Crackling Bombard w/crackling Tail	9"x1"(ID), 100 shots, Instant duration	E
VIF1004-100	Hammer Box No.8	Red White Blue 3 layers Star Mine & Flash Thunders w/o Tail	9"x1"(ID), 100 shots, Instant duration	E
VIF1005-100	Hammer Box No. 9	Red White Blue 3 layers Star Mine & Golden Wave Bombard w/o tail	9"x1"(ID), 100 shots, Instant duration	E
VIF1006-100	Hammer Box No. 10	Flashing Thunders with Crackling Tail	9"x1"(ID), 100 shots, Instant duration	D

3. Double Stages Instant Fire - 2 instantaneous effects with 5 seconds delay effects with 5

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
VIF1050-100	2 stages National Hammer Box	1. 20 shots of crackling mine & 40 shots of Red+Blue Bombard (instant) 2. 40 shots of flash thunder no tail (instant) .Five seconds delay between effect 1. & effect 2.	9"x1"(ID) 1-1/4" (OD); 100 shots, 6 seconds	D
VIF1051-100	2 stages Crackling Hammer Box	1. 20 shots of crackling mine & 40 shots of Crackling Bombard (instant) 2. 40 shots of flash thunder no tail (instant) Five seconds delay between effect 1. & effect 2.	9"x1"(ID) 1-1/4" (OD); 100 shots, 6 seconds	D
VIF1052-100	2 stages Whistle Hammer Box	1. 20 shots of crackling mine & 40 shots of Whistles (instant) 2. 40 shots of flash thunder no tail (instant) Five seconds delay between effect 1. & effect 2.	9"x1"(ID) 1-1/4" (OD); 100 shots, 6 seconds	D

VULCAN FAN SHAPED DISPLAY CAKES

Version 2015.1

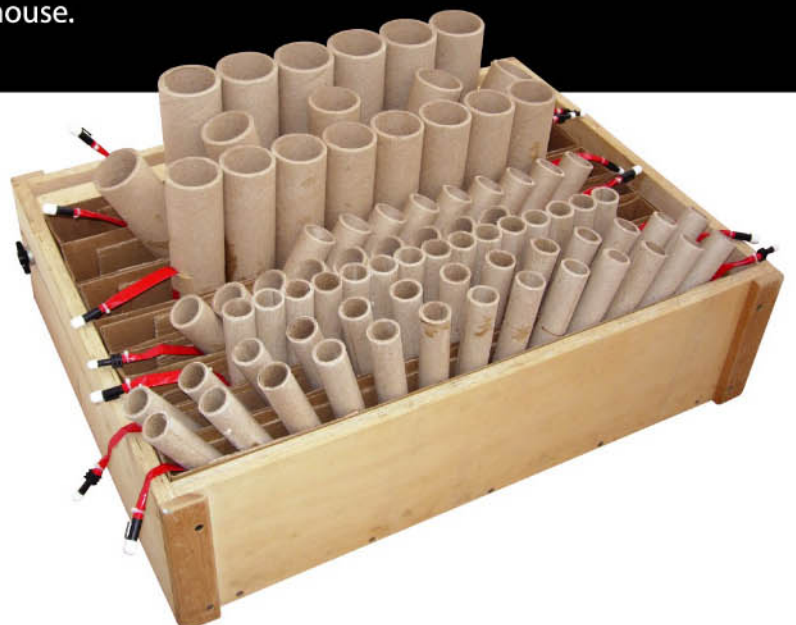
K. "8" Pattern - Fast Whipper

NO.	ITEM NAME	EFFECT DETAILS	NO. OF SHOTS	CAT.
QBF0601-260B	Green & Yellow Comet	2 Colour Changing Comets sweeping in an "8" pattern	7"x3/4" (ID) 260 shots 10-13 seconds	B
QBF0601-260BC	Green Purple & Yellow Comet	3 Colour Changing Comets sweeping in an "8" pattern	7"x3/4" (ID) 260 shots 10-13 seconds	B
QBF0601-260C	Green & Purple Comet	2 Colour Changing Comets sweeping in an "8" pattern	7"x3/4" (ID) 260 shots 10-13 seconds	B
QBF0601-260D	Gold Wave Bombard with Green & Purple Tail	Left: Gold Wave Bombard with Green Tail Right: Gold Wave Bombard with Purple Tail	7"x3/4" (ID) 260 shots 10-13 seconds	D
QBF0602-260	Golden Butterfly & Blue Stars	Blue Mines, with blue tail Golden Rain Butterflies	7"x3/4"(ID), 260 shots, 10-13 seconds	D
QBF0603-260	Gold Rain with Blue Tail	Gold Rain w/Blue Tail (No Mines)	7"x3/4"(ID), 260 shots, 20 seconds	D
QBF0604-260	Silver Bombard with red and blue tails	Silver Bombard with red and blue tails	7"x3/4"(ID), 260 shots, 20 seconds	D

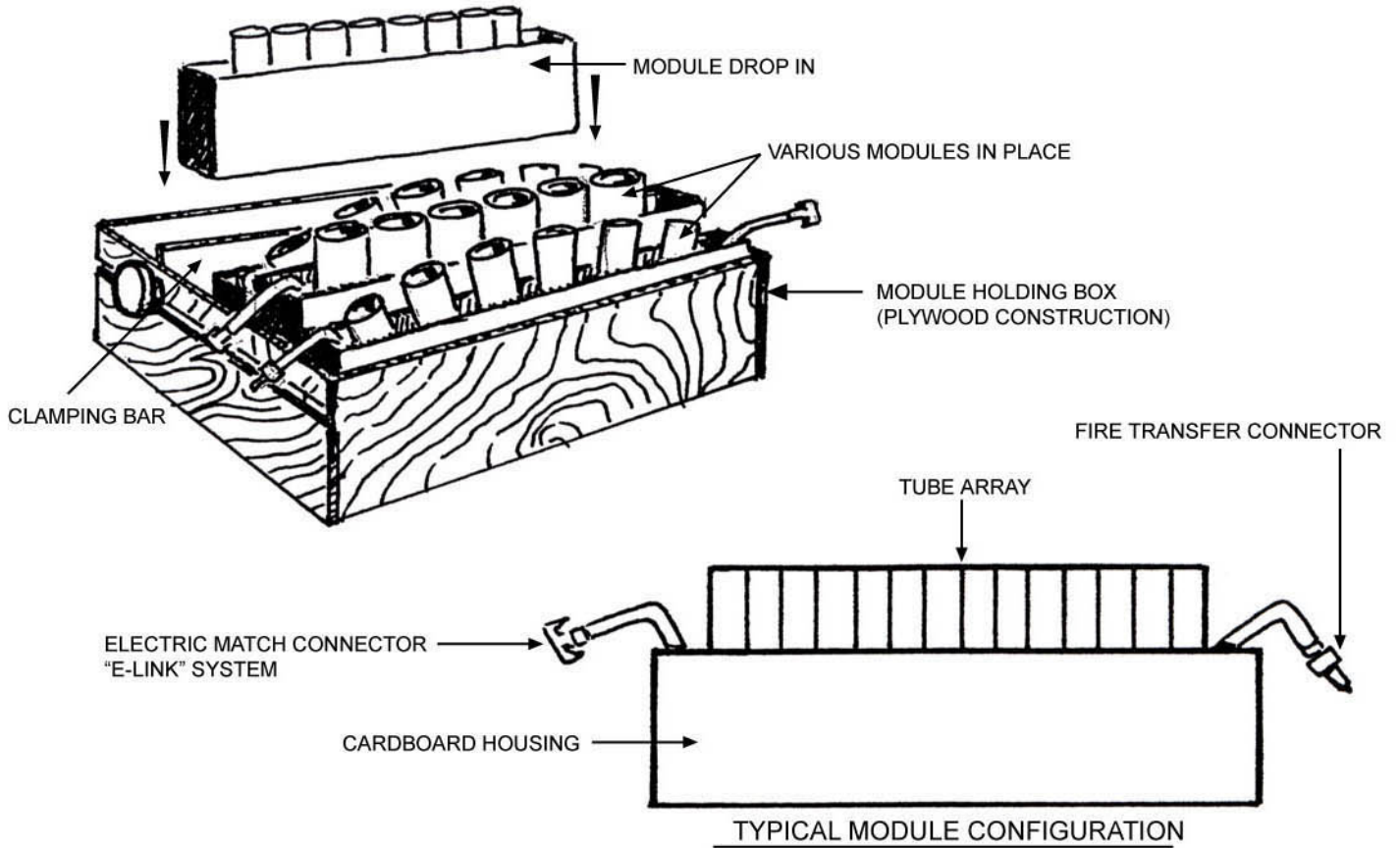


D. Modular Cakes

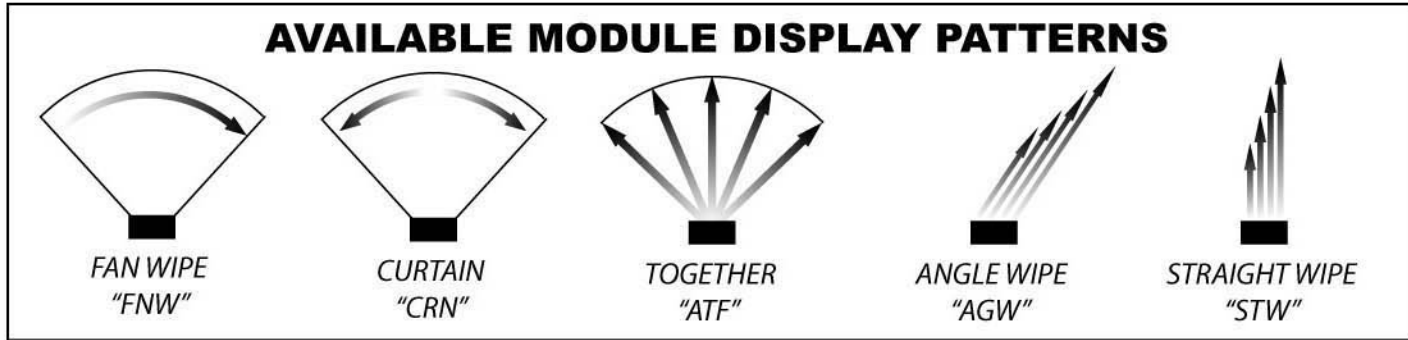
Without a doubt the most innovative concept to come along in years to the pyrotechnic industry, the Vulcan Modular Cake offers the ultimate in show flexibility for low level aerial frontal effects and precise timing in tightly choreographed musical shows. Now at last, show designers can realize the full potential of their computer driven firing systems with a product that eliminates the timing inconsistency found in normal display cakes. Best of all, you as the designer have the ability for the first time to exactly structure the cake to each and every show situation without having to stock hundreds of different cakes in your warehouse.



★ SHOGUN MODULAR CAKE ★

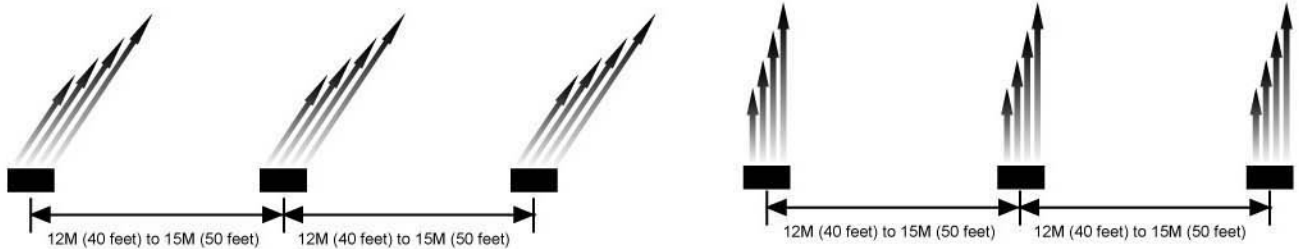


MULTIPLE MODULAR CAKES DEPLOYED IN A FRONTAL ARRAY ARE PERFECT FOR SHOWS REQUIRING PRECISE TIMING, SYNCHRONIZED EFFECTS AND SYMETRICAL PATTERNS.

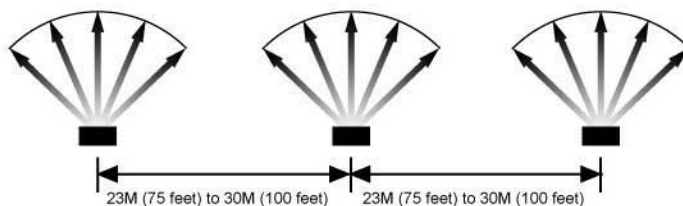


SUGGESTED DISTANCE BETWEEN MODULES:

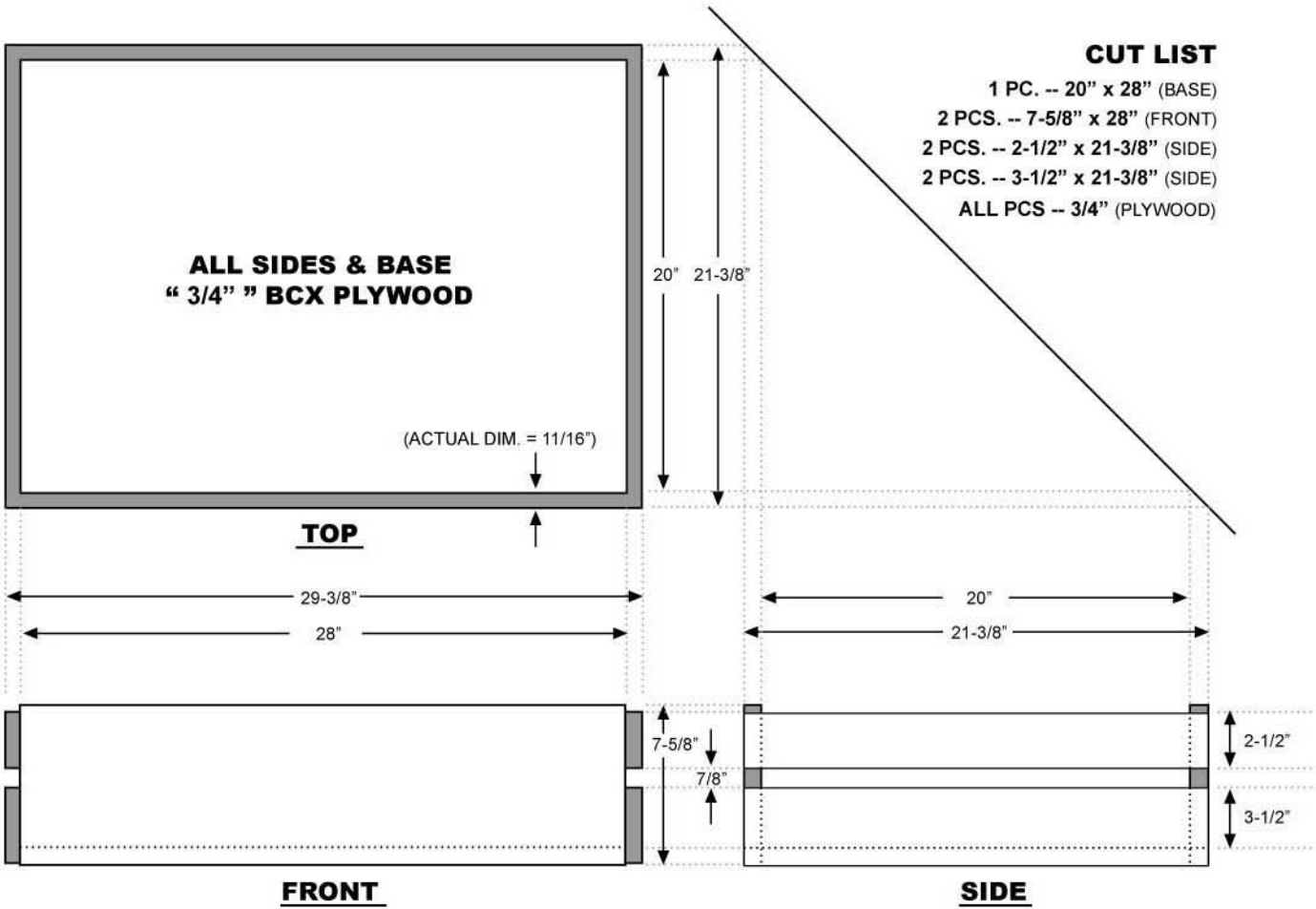
ANGLE WIPE / STRAIGHT WIPE - 12M (40 feet) to 15M (50 feet) APART.



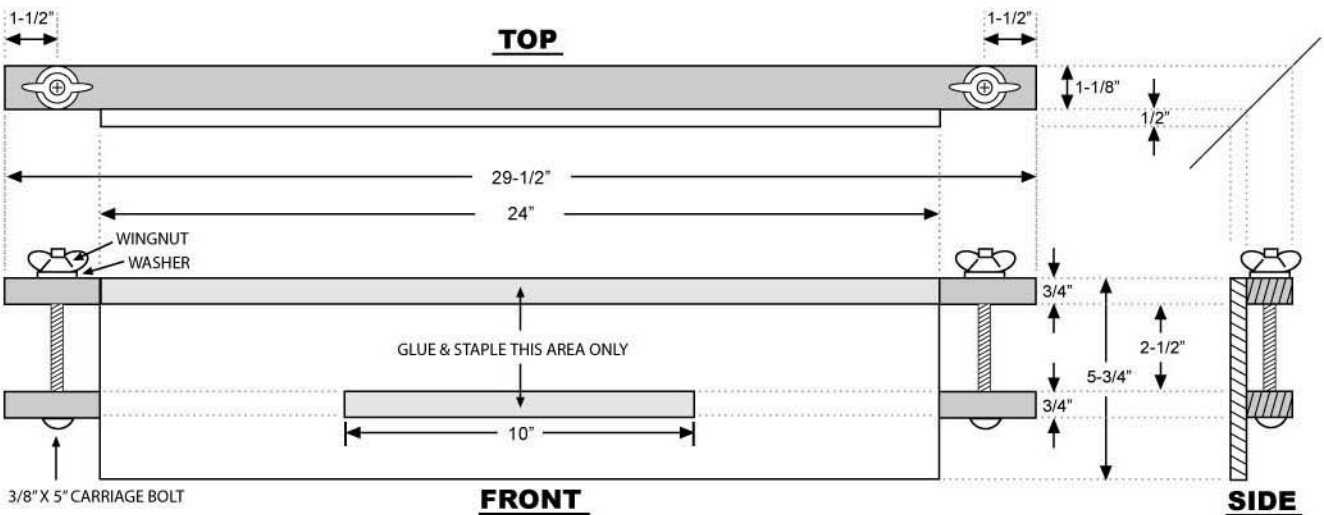
FAN WIPE / CURTAIN / ALL TOGETHER - 23M (75 feet) to 30M (100 feet) APART.



SHOGUN MODULAR CAKE HOLDING BOX



SHOGUN HOLDING BOX SLIDING PANEL



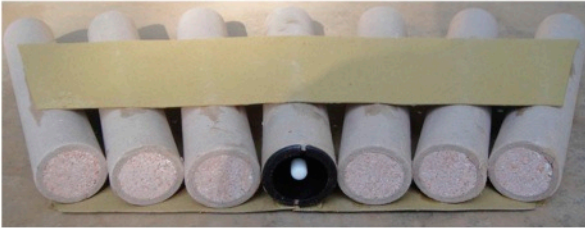
MATERIALS

- 1 PC. -- 5-3/4" x 24" x 1/2" (PLYWOOD)
- 2 PCS. -- 29-1/2" x 1-1/8" x 3/4" (CLEAR PINE)
- 2 PCS. -- 3/8" x 5" (CARRIAGE BOLT)
- 2 PCS. -- 3/8" (WINGNUT)
- 2 PCS. -- 3/8" (FLAT WASHER)

New Modular Cake Packaging Design

Having been the first Chinese fireworks company to offer the Modular Cake design back in 2004, we have now improved our design with the following features.

* **STEP 1. NO MORE QUICK-MATCH ...** allows the simple insertion of an igniter directly into the base of the lead tube. The modular will have the accuracy you demand for perfect precision timings and with no exposed quick-match "pig tails", there is very little chance of misfires, crossfires, or premature ignition.



* **STEP 2. Foil is taped over the fusing to minimize internal crossfires with the next row of modular.** No unexpected firings at the wrong time!



* **STEP 3. NEW PAPER WRAPPING!** Apart from a more aesthetic look, the extra layer paper also acts as moisture protection.



* **STEP 4. WATERPROOF PE BAG!** Protects the modular from rain and snow!



MODULAR CAKES

v.2015.1

A) Type of Module

Code	Style	Description
FNW	Fan Wipe	Fan shape style, fire from one end to the other end at a quick pace
FCO	Fan Curtain Option	Fan shape style, can fire from one end or from centre to both ends
CRN	Curtain	Fan shape style, fire from center to both ends at a quick pace
ATF	All together fan	Fan shape style, all tubes fire simultaneously
AGW	Angle Wipe	All tubes pointing to the same side at the same angle, fire in sequence at a quick pace
STW	Straight up Wipe	All tubes vertical, fire in sequence at a quick pace
AGT	Angle Together	All tubes pointing to the same side at the same angle, fire together
STT	Straight up Together	All tubes vertical, fire together

B) Size and number of shots per Module & Packing per carton

Code	Inner tube size and number of shots per module		module/ctr	CBM
25x13	1"/25mm (ID) x 13 shots	For all except Straight Up Wipe and Straight Up Together	6	0.0518
30x9	1-1/4"/30mm (ID) x 9 shots	For all except Straight Up Wipe and Straight Up Together	8	0.0921
40x7	1-1/2"/40mm (ID) x 7 shots	For all except Straight Up Wipe and Straight Up Together	8	0.1179
50x5	2"/50mm (ID) x 5 shots	For all except Straight Up Wipe and Straight Up Together	6	0.0932
60x3	2-1/2"/60mm (ID) x 3 shots	For all except Straight Up Wipe and Straight Up Together	6	0.1299

25x15	1"/25mm (ID) x 15 shots	For Straight Up Wipe and Straight Up Together	6	0.0401
30x13	1-1/4"/30mm (ID) x 13 shots	For Straight Up Wipe and Straight Up Together	6	0.0768
40x11	1-1/2"/40mm (ID) x 11 shots	For Straight Up Wipe and Straight Up Together	5	0.1013
50x8	2"/50mm (ID) x 8 shots	For Straight Up Wipe and Straight Up Together	4	0.0934
60x6	2-1/2"/60mm (id) x 6 shots	For Straight Up Wipe and Straight Up Together	4	0.1307

Double & Hammer Module: Please see full details at the end of the Module Cake item list

Price Categories:

I	B/C/D/BA/BC/BE/EA
II	BH/BJ/EB
III	BG/E/EC/ED

Remarks:

- 1) Custom module loads available on request
- 2) Each module is equipped with the SHOGUN E-Link connector for electrical firing.
- 3) All modules built to a standard length for complete compatibility
- 4) Here are the information

Step 1:

example- FNW for the pattern "Fan Wipe".

Step 2: Pick the tube size and number of shots from category B on the sheets.

example- 40 X 7 stands for 40mm or 1 1/2" I. D. tubes with 7 shots per Module.

Step 3: Pick the Effect from category C on the sheets. There are many Effects to choose from.

For example - B6 stands for "Blue Star Bombard with Gold Tail".

Put all the codes together to form the Ordering Code.

For example- FNW40X7-B6 stands for a Module that has a fan wipe pattern of 40mm or 1-1/2" tubes, with 7 shots of blue star bombards with a gold tails.

MODULAR CAKES

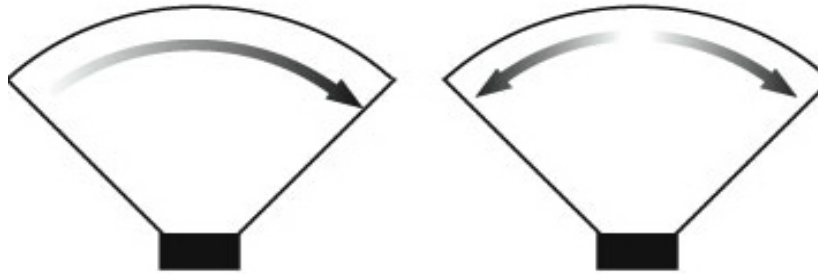
v.2015.1

			Duration #	Height	Height (Comet)
FNW	Fan Wipe	25x13	4 sec	35m	68m
FNW	Fan Wipe	30x9	4 sec	40m	68m
FNW	Fan Wipe	40x7	3 sec	45m	85m
FNW	Fan Wipe	50x5	3 sec	50m	116m
FNW	Fan Wipe	60x3	3 sec	60m	
CRN	Curtain	25x13	2 sec	35m	68m
CRN	Curtain	30x9	2 sec	40m	68m
CRN	Curtain	40x7	1.5 sec	45m	85m
CRN	Curtain	50x5	1.5 sec	50m	116m
CRN	Curtain	60x3	1.5 sec	60m	68m
FCO	Fan Wipe / Curtain	25x13	See above	35m	68m
FCO	Fan Wipe / Curtain	30x9	See above	40m	85m
FCO	Fan Wipe / Curtain	40x7	See above	45m	116m
FCO	Fan Wipe / Curtain	50x5	See above	50m	
FCO	Fan Wipe / Curtain	60x3	See above	60m	
ATF	All together Fan	25x13	0 sec	35m	68m
ATF	All together Fan	30x9	0 sec	40m	68m
ATF	All together Fan	40x7	0 sec	45m	85m
ATF	All together Fan	50x5	0 sec	50m	116m
ATF	All together Fan	60x3	0 sec	60m	
AGW	Angle Wipe	25x13	4 sec	35m	68m
AGW	Angle Wipe	30x9	4 sec	40m	68m
AGW	Angle Wipe	40x7	3 sec	45m	85m
AGW	Angle Wipe	50x5	3 sec	50m	116m
AGW	Angle Wipe	60x3	3 sec	60m	
STW	Straight up Wipe	25x15	5 sec	35m	68m
STW	Straight up Wipe	30x13	5 sec	40m	68m
STW	Straight up Wipe	40x11	4 sec	45m	85m
STW	Straight up Wipe	50x8	4 sec	50m	116m
STW	Straight up Wipe	60x6	4 sec	60m	
AGT	Angle Together	25x13	0 sec	35m	68m
AGT	Angle Together	30x9	0 sec	40m	68m
AGT	Angle Together	40x7	0 sec	45m	85m
AGT	Angle Together	50x5	0 sec	50m	116m
AGT	Angle Together	60x3	0 sec	60m	
STT	Straight up Together	25x15	0 sec	35m	68m
STT	Straight up Together	30x13	0 sec	40m	68m
STT	Straight up Together	40x11	0 sec	45m	85m
STT	Straight up Together	50x8	0 sec	50m	116m
STT	Straight up Together	60x6	0 sec	60m	

Duration between lifting of the first shot and the lifting of the last shot

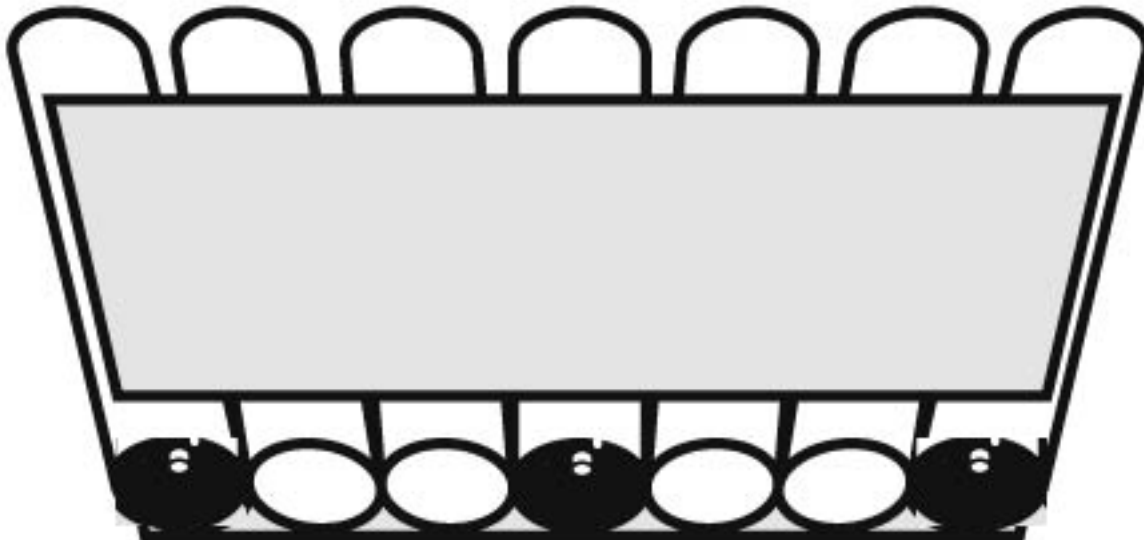
FAN WIPE / CURTAIN OPTION (FCO) MODULAR

This modular allows the user the option of either a fan wipe or curtain style. An ignition port is located in the centre tube (for curtain effect) and on both the outer tubes on the left and right (for fan wipe effect)



FAN WIPE
"FNW"

CURTAIN
"CRN"



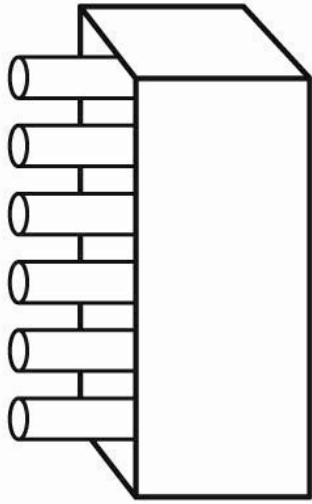
MODULAR CAKE PREFERENCE

CUSTOMER _____

DATE _____

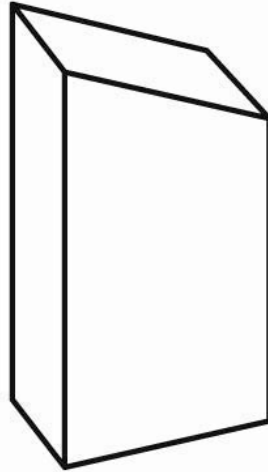
FOLLOW STEP 1 to STEP 5. MARK "✓" IN THE APPROPRIATE BOX.

STEP 1



Traditional Style with PE bag
傳統做法, 加上PE塑膠袋

OR



New Style with black paper and PE bag
新款做法, 封黑色防水紙和PE塑膠袋

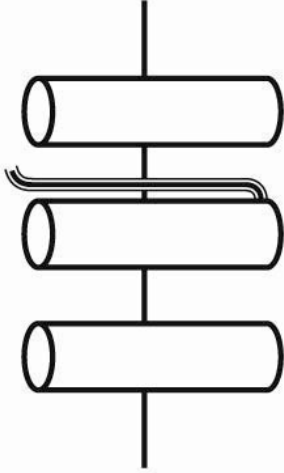
STEP 2

OPTIONAL: NO BAG REQUIRED
另加要求: 不需要塑膠袋

STEP 3

點火做法

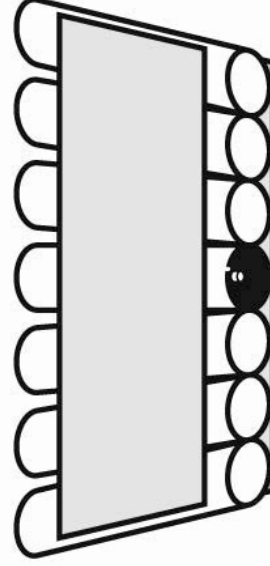
IGNITION OPTION:



Quick Match
用快引點 + 塑膠點火接頭

IF YOU TICKED HERE,
GO TO STEP 4

OR



Plastic plug for direct insertion of igniter
(Advantage: instantaneous ignition)
用點火底塞

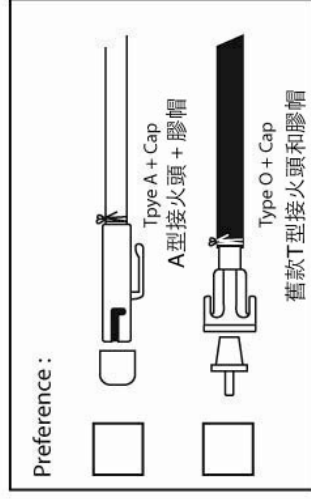
IF YOU TICKED HERE,
SKIP STEP 4 AND
GO TO STEP 5

STEP 4

開端做法

EMATCH OPTIONS

TICK ONE:

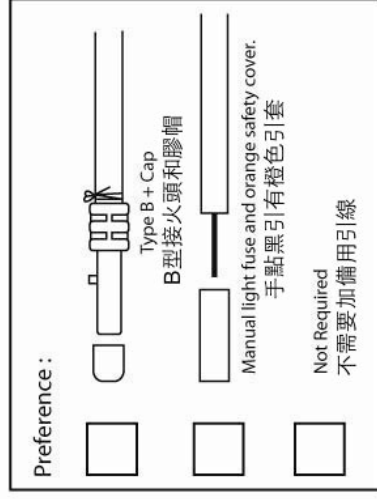


STEP 5

尾端做法

OPTIONAL TAIL END FUSE

TICK ONE:



OTHER REMARKS _____

MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

v2018.10

25 30 40 50 60

B Bombard with Color Tail

#	B01	Titanium Salute w/Silver Tail	#	NA	NA	NA	NA
#	B01RM	Titanium Salute w/Red Mine	#	NA	NA	NA	NA
	B02	Crackling Bombard w/Gold Tail	/	/	NA	NA	NA
	B02A	Crackling Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
**	B02B	Crackling Bombard w/Red Tail	/	/	NA	NA	NA
**	B02C	Crackling Bombard w/Blue tail	/	/	NA	NA	NA
**	B02D	Crackling Bombard w/green tail	/	/	NA	NA	NA
**	B02E	Crackling Bombard w/purple tail	/	/	NA	NA	NA
	B03	Multi-color Bombard w/Silver Tail	/	/	NA	NA	NA
	B03A	Multi-color Bombard	/	/	NA	NA	NA
**	B03B	Multi-color Bombard w/Red Tail	/	/	NA	NA	NA
**	B03C	Multi-color Bombard w/Green Tail	/	/	NA	NA	NA
	B04	Red Star Bombard w/Silver Tail	/	/	NA	NA	NA
**	B04A	Red Star Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
**	B04B	Red Star Bombard w/Gold Rain Tail	/	/	NA	NA	NA
	B05	Green Star Bombard w/Gold Tail	/	/	NA	NA	NA
	B06	Blue Star Bombard w/Gold Tail	/	/	NA	NA	NA
	B06A	Blue Star Bombard w/Silver Tail	/	/	NA	NA	NA
	B06B	Blue Star Bombard	/	/	NA	NA	NA
**	B06C	Blue Star Bombard w/Blue Tail	/	/	NA	NA	NA
**	B06D	Blue Star Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
**	B06E	Blue Star Bombard w/Gold Rain Tail	/	/	NA	NA	NA
	B07	White Strobe Bombard	/	/	NA	NA	NA
	B07A	White Strobe Bombard w/Silver Tail	/	/	NA	NA	NA
	B07B	White Strobe Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
**	B07C	White Strobe Bombard w/White Strobe Tail	/	/	NA	NA	NA
**	B07D	White Strobe Bombard w/Red Tail	/	/	NA	NA	NA
**	B07E	White Strobe Bombard w/Blue Tail	/	/	NA	NA	NA
	B08	Yellow Bombard	/	/	NA	NA	NA
	B08A	Yellow Star Bombard w/Gold Tail	/	/	NA	NA	NA
**	B08B	Yellow Star Bombard w/yellow Tail	/	/	NA	NA	NA
	B09	Silver Cascade Bombard w/Silver Tail	/	/	NA	NA	NA
	B10	Golden Rain Bombard w/gold Tail	/	/	NA	NA	NA
**	B10A	Golden Rain Bombard w/golden rain Tail	/	/	NA	NA	NA
**	B10B	Golden Rain Bombard w/red Tail	/	/	NA	NA	NA
**	B10C	Golden Rain Bombard w/blue Tail	/	/	NA	NA	NA
**	B10D	Golden Rain Bombard w/green Tail	/	/	NA	NA	NA
**	B10E	Golden Rain Bombard w/purple tail	/	/	NA	NA	NA
	B11	Purple star Bombard w/Gold Tail	/	/	NA	NA	NA
	B12	Midnight Snow Bombard w/Gold Tail	/	/	NA	NA	NA
	B13	Aqua Bombard w/Green Tail	/	/	NA	NA	NA
	B15	Pink+Yellow+Green Star Bombard w/Purple Tail	/	/	NA	NA	NA
	B16	Silver Time Rain bombard w/Silver Tail	/	/	NA	NA	NA
	B17	Gold Crackling Rain + Green Falling Leaves Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
	B18	Crackling Rain + Silver Palm Bombard w/Silver Tail	/	/	NA	NA	NA
	B19	Thousand Bees Bombard w/Silver Tail	/	/	NA	NA	NA
	B20	Brocade Crown	/	/	NA	NA	NA
	B21	Green Bees + Red Star Bombard w/Silver Tail	/	/	NA	NA	NA
	B22	Green Fish Bombard w/Green Tail	/	/	NA	NA	NA
	B23	Silver Coconut Bombard w/Silver Tail	/	/	NA	NA	NA
#	B24	Flash Thunder Bombard w/Silver Tail	/	/	NA	NA	NA
#	B25	Titanium Salute w/Whistle Tail	/	NA	NA	NA	NA
	B26	Midnight Snow Bombard no Tail	/	/	NA	NA	NA

= 1.3G UN0335 (USA)

M = Only available in Modular Cakes

24/10/2018

MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

v2018.10

25 30 40 50 60

B27	Lemon + Purple + Crackling Bombard w/Silver Tail	/	/	NA	NA	NA
B28	Bees & Brocade Star Bombard w/ Silver Tail	/	/	NA	NA	NA
B29	Hummer & Brocade Bombard w/Gold Tail	/	/	NA	NA	NA
B30	Bees & Green Star Bombard w/ Silver Tail	/	/	NA	NA	NA
B31	Orange Star Bombard no Tail	/	/	NA	NA	NA
B31A	Orange Star Bombard with Silver Tail	/	/	NA	NA	NA
B31B	Orange Star Bombard with Orange tail	/	/	NA	NA	NA
B31C	Orange Star Bombard with Green tail	/	/	NA	NA	NA
B31D	Orange Star Bombard with Purple tail	/	/	NA	NA	NA
B32	White Strobe + Purple Bombard w/Silver Tail	/	/	NA	NA	NA
B33	Yellow + Green + Purple Bombard w/Gold Tail	/	/	NA	NA	NA
B34	Midnight Snow + Spring Flower Bombard w/Gold Tail	/	/	NA	NA	NA
B35	Golden Rain + Blue + Green Star Bombard w/Gold Tail	/	/	NA	NA	NA
B35A	Golden Rain + Green Star Bombard w/Gold Tail	/	/	NA	NA	NA
B35B	Golden Rain + Red Star Bombard w/Gold Tail	/	/	NA	NA	NA
B36	Blue Palm + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
B36A	Blue Palm + Gold Wave Bombard w/Silver Tail	/	/	NA	NA	NA
B37	Gold Time Rain + Silver Fish Bombard w/Red Tail	/	/	NA	NA	NA
B38	Spring Flower + Red Falling Leaves Bombard w/Red Tail	/	/	NA	NA	NA
B39	Spring Flower + Green Falling Leaves Bombard w/Red Tail	/	/	NA	NA	NA
B40	Spring Flower + Yellow Falling Leaves Bombard w/Red Tail	/	/	NA	NA	NA
B41	Spring Flower + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
B42	Silver Palm + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
B43	Red Palm + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA

Bombard with Color Tail

25 30 40 50 60

B44	Green Palm + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
B45	Blue Star + Silver Fish Bombard w/Red Tail	/	/	NA	NA	NA
B46	Aqua & Orange Bombard w/Silver Tail	/	/	NA	NA	NA
B47	Yellow Palm + Blue Star Bombard w/Purple Tail	/	/	NA	NA	NA
B48	Red Palm + White Strobe Bombard w/Red Tail	/	/	NA	NA	NA
B48A	Blue Palm + White Strobe Bombard w/Blue Tail	/	/	NA	NA	NA
B49	Green Palm + White Strobe Bombard w/Green Tail	/	/	NA	NA	NA
B50	Purple Star + Gold Wave Bombard w/Gold Tail	/	/	NA	NA	NA
B51	Blue Star + Gold Wave Bombard w/Gold Tail	/	/	NA	NA	NA
B52	Lemon Star + Gold Wave Bombard w/Gold Tail	/	/	NA	NA	NA
B53	Crackling Time Rain + Gold Wave Bombard w/Gold Tail	/	/	NA	NA	NA
B54	Red, Aqua, Purple and Lemon Dahlia Bombard	/	/	NA	NA	NA
B55	Lemon Star Bombard	/	/	NA	NA	NA
B55A	Lemon Star Bombard w/Lemon Tail	/	/	NA	NA	NA
B55B	Lemon Star Bombard w/Red Tail	/	/	NA	NA	NA
B55C	Lemon Star Bombard w/Green Tail	/	/	NA	NA	NA
B55D	Lemon Star Bombard w/Purple Tail	/	/	NA	NA	NA
B56	Twilight Glitter Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
B56A	Twilight Glitter Bombard w/Red Tail	/	/	NA	NA	NA
B56B	Twilight Glitter Bombard w/Blue Tail	/	/	NA	NA	NA
B56C	Twilight Glitter Bombard w/Green Tail	/	/	NA	NA	NA
B56D	Twilight Glitter Bombard w/Purple Tail	/	/	NA	NA	NA
B57	White Star Bombard w/White Tail	/	/	NA	NA	NA
B58	Green Strobe Bombard w/Green Tail	/	/	NA	NA	NA
B59	Silver Fish Bombard w/Silver Tail	/	/	NA	NA	NA
B60	Red Fish Bombard w/Red Tail	/	/	NA	NA	NA
B61	Crackling Palm Bombard	/	/	NA	NA	NA
B62	Double Time Rain Bombard	/	/	NA	NA	NA
B63	White Strobe + Blue Star Bombard	/	/	NA	NA	NA

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		25	30	40	50	60
B64	Golden Palm Bombard w/Gold Tail	/	/	NA	NA	NA
B65	Silver Palm Bombard w/Silver Tail	/	/	NA	NA	NA
B66	Waterfall	/	/	NA	NA	NA
B66A	Pixie Dust Willow Waterfall with Twilight Glitter Tail	/	/	NA	NA	NA
B66B	Pixie Dust Willow Waterfall with Red Tail	/	/	NA	NA	NA
B66C	Pixie Dust Willow Waterfall with Green Tail	/	/	NA	NA	NA
B66D	Pixie Dust Willow Waterfall with Purple Tail	/	/	NA	NA	NA
B66E	Pixie Dust Willow Waterfall with Green Strobe Tail	/	/	NA	NA	NA
B66F	Pixie Dust Willow Waterfall with White Strobe Tail	/	/	NA	NA	NA
B66G	Brocade Waterfall with Brocade tail	/	/	NA	NA	NA
B66H	Brocade Waterfall with Red Tail	/	/	NA	NA	NA
B66J	Brocade Waterfall with Green Tail	/	/	NA	NA	NA
B66K	Brocade Waterfall with Green Strobe Tail	/	/	NA	NA	NA
B66L	White Strobe Waterfall with White strobe tail	/	/	NA	NA	NA
**	B66M	Brocade Waterfall with Purple Tail	/	/	NA	NA
B66N	White Strobe Waterfall with red tail	/	/	NA	NA	NA
B67	Multicolor Falling Leaves Bombard w/purple tail	/	/	NA	NA	NA
**	B67A	Multicolor Waterfall with Twilight Glitter tail	/	/	NA	NA
B68	Crackling Time Rain Bombard with Gold Tail	/	/	NA	NA	NA
B70	Twilight Glitter and Blue bombard with Red Tail	/	/	NA	NA	NA
B70A	Red and Blue Bombard with Twilight Glitter tail	/	/	NA	NA	NA
M	B90	Red, Yellow, Orange, Green, Aqua, Blue & Purple Bombard w/same color tail	NA	NA	NA	NA
B90B	Purple Star Bombard w/Purple Tail	/	/	NA	NA	NA
B90C	Red Star Bombard w/Red Tail	/	/	NA	NA	NA
**	B90D	Purple Star Bombard w/Twilight Glitter Tail	/	/	NA	NA
**	B90E	Purple Star Bombard w/Golden Rain Tail	/	/	NA	NA
B91	Pink Bombard with Pink Tail	/	/	NA	NA	NA
B92	Pixie Dust Willow Bombard without tail	/	/	NA	NA	NA
B93	Photo Flash Bombard	NA	NA	NA	NA	NA
B94	Red Bombard no tail	/	/	NA	NA	NA
B95	Green Bombard no tail	/	/	NA	NA	NA
**	B95A	Green Bombard with green tail	/	/	NA	NA
**	B95B	Green Bombard with twilight glitter tail	/	/	NA	NA
**	B95C	Green Bombard with golden rain tail	/	/	NA	NA
B96	Blue Bombard no tail	/	/	NA	NA	NA
**	B97	White Bombard	/	/	NA	NA
**	B97A	White Bombard with White Tail	/	/	NA	NA
**	B97B	White Bombard with Red Tail	/	/	NA	NA
**	B97C	White Bombard with Blue tail	/	/	NA	NA
**	B97D	White Bombard with Green tail	/	/	NA	NA
**	B97E	White Bombard with Purple tail	/	/	NA	NA
**	B98	Gold Glitter Bombard	/	/	NA	NA
**	B98A	Gold Glitter Bombard with gold glitter tail	/	/	NA	NA
**	B98B	Gold Glitter Bombard with red tail	/	/	NA	NA
**	B98C	Gold Glitter Bombard with green tail	/	/	NA	NA
**	B99	Red strobe bombard	/	/	NA	NA
**	B99A	Red strobe bombard with red strobe tail	/	/	NA	NA
BH	Bombard with Star Mine	25	30	40	50	60
BH01	Red Star Bombard w/ Silver Tail + Green Star Mine	//	//	NA	NA	NA
BH02	Golden Rain Bombard w/ Gold Tail + Gold Star Mine	//	//	NA	NA	NA
BH03	Crackling Bombard + Crackling Star Mine	//	//	NA	NA	NA
BH04	Multicolor Bombard w/Silver Tail + Multicolor Star Mine	//	//	NA	NA	NA
**	BH04A	Multicolor Bombard w/Silver Tail + Multicolor Star Mine (each shot one colour)	//	//	NA	NA

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		25	30	40	50	60
BH05	Midnight Snow Bombard w/ Gold Tail + Blue Star Mine	//	//	NA	NA	NA
BH06	Orange and Green Bombard with Green Fish Mine	//	//	NA	NA	NA
BH07	Yellow Chrysanthemum Bombard w/ Gold Tail + Red Star Mine	//	//	NA	NA	NA
BH08	Midnight Snow Bombard w/ Gold Tail + Crackling Star Mine	//	//	NA	NA	NA
BH09	White Strobe Bombard w/ White Strobe Star Mine	//	//	NA	NA	NA
BH10	Midnight Snow Bombard w/ Midnight Snow Star Mine	//	//	NA	NA	NA
BH11	Crackling Bombard w/ Lemon and Purple Star Mine	//	//	NA	NA	NA
BH12	Gold Glitter to Purple Bombard w/ Purple Star Mine	//	//	NA	NA	NA
BH13	Cardinal Purple Bombard w/Gold Glitter Tail w/ Purple Mine	//	//	NA	NA	NA
BH14	Midnight Snow Bombard + Red Star Mine	//	//	NA	NA	NA
BH15	Red Star Bombard w/ Silver Tail + Red Star Mine	//	//	NA	NA	NA
BH16	Purple Star Bombard + Lemon Star Mine	//	//	NA	NA	NA
BH17	Crackling Bombard w/o tail + Twice Crackling Mine	//	//	NA	NA	NA
BH18	Aqua Bombard with Silver Tail + Blue Star Mine	//	//	NA	NA	NA
BH19	Golden Rain Bombard w/ Gold Tail + Blue Star Mine	//	//	NA	NA	NA
BH20	Green to Crackle Bombard w/ Silver Tail + Green to Crackle Star Mine	//	//	NA	NA	NA
BH21	Red to Crackle Bombard w/ Gold Tail + Red to Crackle Star Mine	//	//	NA	NA	NA
BH22	Red Star Bombard w/ Silver Tail + Blue to Crackle Star Mine	//	//	NA	NA	NA
BH23	Golden Rain Bombard w/ Gold Tail + Green Star Mine	//	//	NA	NA	NA
BH24	Green Fish Bombard w/ Gold Tail + Green Star Mine	//	//	NA	NA	NA
BH25	Green Strobe Willow Bombard + Green Star Mine	//	//	NA	NA	NA
BH26	Green Star Bombard w/ Silver Tail + Lemon Star Mine	//	//	NA	NA	NA
BH27	Red Star Bombard w/ Silver Tail + Lemon Star Mine	//	//	NA	NA	NA
BH28	Blue Star Bombard w/ Silver Tail + Orange Star Mine	//	//	NA	NA	NA
BH29	Green Star Bombard w/ Silver Tail + Orange Star Mine	//	//	NA	NA	NA
BH30	Green Fish Bombard w/ Gold Tail + Orange Star Mine	//	//	NA	NA	NA
BH31	Golden Rain Bombard w/ Gold Tail + Purple Star Mine	//	//	NA	NA	NA
BH32	Green Fish Bombard w/ Gold Tail + Purple Star Mine	//	//	NA	NA	NA
BH33	Lemon Star Bombard w/ Silver Tail + Purple Star Mine	//	//	NA	NA	NA
BH34	Crackling Bombard w/ Silver Tail + Red & Blue Star Mine	//	//	NA	NA	NA
BH35	White Strobe Bombard w/ Silver Tail + Red & Blue Star Mine	//	//	NA	NA	NA
BH36	Lemon and Red Star Bombard w/ Silver Tail + Red Fish Mine	//	//	NA	NA	NA
BH37	Red Fish Bombard w/ Silver Tail + Red Fish Mine	//	//	NA	NA	NA
BH38	Golden Rain Bombard w/ Gold Tail + Red Star Mine	//	//	NA	NA	NA
BH39	Lemon Star Bombard w/ Silver Tail + Red Star Mine	//	//	NA	NA	NA
BH40	White Strobe Willow Bombard w/ Silver Tail + Red Star Mine	//	//	NA	NA	NA
BH41	Red & Green Fish Bombard w/ Silver Tail + Silver Fish Mine	//	//	NA	NA	NA
BH42	Silver Fish Bombard w/ Silver Tail + Silver Fish Mine	//	//	NA	NA	NA
BH43	Green Fish Bombard w/ Gold Tail + Twilight Glitter Mine	//	//	NA	NA	NA
BH44	Red Fish Bombard w/ Silver Tail + Twilight Glitter Mine	//	//	NA	NA	NA
BH45	Silver Fish Bombard w/ Silver Tail + Twilight Glitter Mine	//	//	NA	NA	NA
BH46	Twilight Glitter Bombard w/ Silver Tail + Twilight Glitter Mine	//	//	NA	NA	NA
BH47	Blue & Red Bombard w/ Silver Tail + Crackling Mine	//	//	NA	NA	NA
BH48	Twilight Glitter Bombard + Red & Blue Mine	//	//	NA	NA	NA
BH50	Twice Crackling Rain w/Crackling Bombard	//	//	NA	NA	NA
BH51	Red Star Mine & Blue Bombards without Tail	NA	NA	NA	NA	NA
BH52	Blue Bombard with White strobe mine	//	//	NA	NA	NA
BH52A	Blue Bombard with crackling mine	//	//	NA	NA	NA
BH53	Green Bombard with White strobe mine	//	//	NA	NA	NA
BH53A	Green Bombard with Crackling mine	//	//	NA	NA	NA
BH54	Red Bombard with White strobe mine	//	//	NA	NA	NA
BH54A	Red Bombard with Crackling mine	//	//	NA	NA	NA
M BH55	3xGold Time Rain Bombard Mine w/Silver tail (L/R) and 3xGold Rain Bombard (C)	NA	NA	NA	NA	NA
BH56	Gold Glitter Bombard with Gold Glitter Mine	//	//	NA	NA	NA

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		25	30	40	50	60	
**	BH56B	Orange Bombard w/Orange Mine	/	/	NA	NA	NA
**	BH56C	Yellow Bombard w/Yellow Mine	/	/	NA	NA	NA
**	BH56D	Green Bombard w/Green mine	//	//	NA	NA	NA
**	BH56E	Red Bombard with red mine	//	//	NA	NA	NA
**	BH56F	Aqua Bombard with aqua mine	//	//	NA	NA	NA
**	BH56G	Blue Bombard with blue mine	//	//	NA	NA	NA
**	BH56H	Purple Bombard with purple mine	//	//	NA	NA	NA
**	BH56J	Pink Bombard with pink mine	//	//	NA	NA	NA
**	BH57A	Purple Bombard with Crackling mine	//	//	NA	NA	NA
**	BH58A	Red Bombard w/Red tail w/Red Mine	//	//	NA	NA	NA
**	BH58B	Blue Bombard w/Blue tail w/Blue Mine	//	//	NA	NA	NA
**	BH58C	Silver Bombard w/Silver tail w/silver Mine	//	//	NA	NA	NA
**	BH58D	Green Bombard w/Green tail w/Green Mine	//	//	NA	NA	NA
**	BH58E	Yellow Bombard w/Yellow tail w/Yellow Mine	//	//	NA	NA	NA
**	BH58F	Purple Bombard w/Purple tail w/Purple Mine	//	//	NA	NA	NA
**	BH58G	Pink Bombard w/Pink tail w/Pink Mine	//	//	NA	NA	NA
**	BH58H	Orange Bombard w/Orange tail w/Orange Mine	//	//	NA	NA	NA
**	BH58J	Aqua Bombard w/Aqua tail w/Aqua Mine	//	//	NA	NA	NA
**	BH58K	White strobe Dahlia Bombard w/Twilight Glitter tail & white strobe mine	/	/	NA	NA	NA
**	BH58L	Gold Glitter Bombard w/Gold Glitter Tail & Gold Glitter Mine	/	/	NA	NA	NA
**	BH59A	Red Dahlia Bombard with crackling tail & crackling mine	/	/	NA	NA	NA
**	BH59B	Yellow Dahlia Bombard with crackling tail & crackling mine	/	/	NA	NA	NA
**	BH59C	Green Dahlia Bombard with crackling tail & crackling mine	/	/	NA	NA	NA
**	BH60	Silver Cascade Waterfall w/Silver Cascade Tail & Blue Mine	/	/	NA	NA	NA
**	BH60A	Silver Cascade Waterfall w/Silver Cascade Tail & Silver Cascade Mine	/	/	NA	NA	NA
**	BH61	Gold Glitter & Blue Bombard w/Gold Glitter & Blue Mine	/	/	NA	NA	NA
**	BH62	Gold Palm to Red Plum	/	/	NA	NA	NA

BL Falling Leaves

25 30 40 50 60

BL01	Multicolour Falling Leaves Bombard	/	/	NA	NA	NA
BL02	Red Falling Leaves Bombard	/	/	NA	NA	NA
BL03	Green Falling Leaves Bombard	/	/	NA	NA	NA
BL04	Yellow Falling Leaves Bombard	/	/	NA	NA	NA
BL05	Silver Falling Leaves Bombard	/	/	NA	NA	NA
BL06	Purple Falling Leaves Bombard	/	/	NA	NA	NA

BD Dahlia Waterfall

25 30 40 50 60

**	BD01	Red Dahlia Waterfall	/	/	NA	NA	NA
**	BD01A	Red Dahlia Waterfall with red tail	/	/	NA	NA	NA
**	BD01B	Red Dahlia Waterfall with twilight glitter tail	/	/	NA	NA	NA
**	BD02	Blue Dahlia Waterfall	/	/	NA	NA	NA
**	BD03	Green Dahlia Waterfall	/	/	NA	NA	NA
**	BD03A	Green Dahlia Waterfall with green tail	/	/	NA	NA	NA
**	BD03B	Green Dahlia Waterfall with twilight glitter tail	/	/	NA	NA	NA
**	BD04	Purple Dahlia Waterfall	/	/	NA	NA	NA
**	BD04A	Purple Dahlia Waterfall with purple tail	/	/	NA	NA	NA
**	BD04B	Purple Dahlia Waterfall with twilight glitter tail	/	/	NA	NA	NA
**	BD05	White strobe Dahlia Waterfall	/	/	NA	NA	NA
**	BD05A	White strobe Dahlia Waterfall with white strobe tail	/	/	NA	NA	NA
**	BD06	Pink Dahlia Waterfall	/	/	NA	NA	NA
**	BD06A	Pink Dahlia Waterfall with pink tail	/	/	NA	NA	NA
**	BD07	Rainbow Dahlia Waterfall (Red,Orange,Yellow,Green,Blue,Purple) with twilight glitter tail	/	/	NA	NA	NA
**	BD07A	Rainbow Dahlia Waterfall (Red,Orange,Yellow,Green,Blue,Purple) with brocade tail	/	/	NA	NA	NA

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BD08	Red Strobe Dahlia Waterfall	/	/	NA	NA	NA
BD08A	Red Strobe Dahlia Waterfall with red strobe tail	/	/	NA	NA	NA
BD08B	Red Strobe Dahlia Waterfall with brocade tail	/	/	NA	NA	NA

C Comets Color Stars

25 30 40 50 60

C01	Color Star - Red	/	/	/	#	#
C02	Color Star - Blue	/	/	/	#	#
C03	Color Star - Green	/	/	/	#	#
C04	Color Star - Orange	/	/	/	#	#
C05	Color Star - Yellow	/	/	/	#	#
C06	Color Star - Aqua	/	/	/	#	#
C07	Color Star - Lemon	/	/	/	#	#
C08	Color Star - Purple	/	/	/	#	#
C09	Color Star - White	/	/	/	#	#
C10	Color Star - Pink	/	/	/	#	#

Comets

25 30 40 50 60

C11	Comet - Silvery Cascade	/	/	/	#	#
C12	Comet - Golden Rain	/	/	/	#	#
C13	Comet - Crackling comet	/	/	/	#	#
C14	Comet - Twilight glitter	/	/	/	#	#
C15	Comet - Silver Coconut	/	/	/	#	#
C16	Comet - Green Glittering Willow	/	/	/	#	#
C17	Comet - White Glittering Willow	/	/	/	#	#
C18	Comet - White Strobe (Same as C17 White Glittering Willow)	/	/	/	#	#
C19	Comet - Gold Wave	/	/	/	#	#
C20	Comet - Gold Glitter	/	/	/	#	#
C21	Comet - Green strobe	/	/	/	#	#
C22	Comet - Multicolor (Red, Orange, Yellow, Green, Blue, Purple)	/	/	/	#	#
C23	Comet - Midnight Snow	/	/	/	#	#
C24	Comet - Red Strobe	/	/	/	#	#

Comet with color tip

25 30 40 50 60

C31	Twilight Glitter Comet with red tip	/	/	/	#	#
C32	Twilight Glitter Comet with blue tip	/	/	/	#	#
C33	Golden Rain Comet with green tip	/	/	/	#	#
C33A	Golden Rain Comet with red tip	/	/	/	#	#
C34	Green Strobe Comet with red tip	/	/	/	#	#
C35	White Strobe Comet with green tip	/	/	/	#	#
C36	Spring Flower (crackling) comet with red tip	/	/	/	#	#
C37	Twilight Glitter Comet with green tip	/	/	/	#	#
C37A	Twilight Glitter Comet with orange tip	/	/	/	#	#
C37B	Twilight Glitter Comet with lemon tip	/	/	/	#	#
C37C	Twilight Glitter Comet with purple tip	/	/	/	#	#
C38	Lemon with Red tip Comet	/	/	/	#	#
C39	Orange with Green tip Comet	/	/	/	#	#
C40	Titanium Report with red tip	#	#	#	#	#
C40A	Titanium Report with green tip	#	#	#	#	#
C41	Silver Cascade with blue tip	/	/	/	#	#
C41A	Silver Cascade with red tip	/	/	/	#	#

Color Changing Star

25 30 40 50 60

C38	Lemon with red tip	/	/	/	#	#
C39	Orange with green tip	/	/	/	#	#

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25 30 40 50 60

C101	Blue to Red Star	/	/	/	#	#
C102	Yellow to Green Star	/	/	/	#	#
C103	Green to Red Star	/	/	/	#	#

Assorted Color Star/Comet (For modular cake only)

25 30 40 50 60

C201	Aqua/Blue/Red Stars assorted	/	/	/	#	#
C202	Red/Yellow/Blue Stars assorted	/	/	/	#	#

D Crossette, two color Crossette

25 30 40 50 60

D01	Golden Rain Crossette	/	NA	NA	NA	NA
D02	Silver Cascade Crossette	/	NA	NA	NA	NA
D03	Red Star Crossette	/	NA	NA	NA	NA
D04	Blue Star Crossette	/	NA	NA	NA	NA
D05	Green Star Crossette	/	NA	NA	NA	NA
D06	Yellow Star Crossette	/	NA	NA	NA	NA
D07	Red Star Crossette w/silver Tail	/	NA	NA	NA	NA
D07A	Purple Crossette	/	NA	NA	NA	NA
D08	Green Star Crossette w/silver Tail	/	NA	NA	NA	NA
D09	Silver Palm Crossette	/	NA	NA	NA	NA
D10	Crackling Star Crossette	/	NA	NA	NA	NA
D11	Green Glitter Willow Crossette	/	NA	NA	NA	NA
D12	White Glitter willow Crossette	/	NA	NA	NA	NA
D13	Green Star Crossette w/ Gold Tail	/	NA	NA	NA	NA
D14	Blue Star Crossette w/ Gold Tail	/	NA	NA	NA	NA

E Mine (Whistle, Criss Cross, Tourbillion, Thunder, Fishes, Bombard)

25 30 40 50 60

E01	Whistle w/white strobe Tail (mine)	NA	NA	///	///	///
E02	Red Criss Cross, single star per insert, multi inserts per shot	NA	NA	///	///	///#
E03	Green Criss Cross, single star per insert, multi inserts per shot	NA	NA	///	///	///#
E04	Large Red Criss Cross, multi star per insert, single insert per shot	NA	///	NA	NA	NA
E05	Large Green Criss Cross, multi star per insert, single insert per shot	NA	///	NA	NA	NA
E05A	Large Gold Wave Criss Cross, multi star per insert, single insert per shot	NA	///	NA	///	NA
E06	Tourbillion Mine w/Red Tail	NA	///	///	///#	///#
E07	Tourbillion Mine w/Green Tail	NA	///	///	///#	///#
E08	Tourbillion Mine w/Blue Tail	NA	///	///	///#	///#
E09	Tourbillion Mine w/Purple Tail	NA	///	///	///#	///#
E10	Tourbillion Mine w/Report	NA	///	///	///#	///#
E11	Tourbillion	NA	///	///	///#	///#
E11A	Tourbillion and Blue Stars	NA	///	///	///#	///#
E12A	Tourbillion with Purple Go-Getters	NA	NA	NA	///#	///#
E12B	Tourbillion with Red Go-Getters	NA	NA	NA	///#	///#
E12C	Tourbillion with Yellow Go-Getters	NA	NA	NA	///#	///#
E12D	Tourbillion with Green Go-Getters	NA	NA	NA	///#	///#
E13	Diamond Whistle	NA	NA	///	///	///
E13A	Diamond Screamer with Red Go-Getters	NA	NA	///	///	///
E14	Red Diamond Screamer	NA	NA	///	///	///
E15	Green Diamond Screamer	NA	NA	///	///	///
E16	Blue Diamond Screamer	NA	NA	///	///	///
# E17	Red Thunder	NA	NA	///#	///#	///#
# E18	Green Thunder	NA	NA	///#	///#	///#
# E19	Gold Thunder	NA	NA	///#	///#	///#
# E20	Silver Thunder	NA	NA	///#	///#	///#

25 30 40 50 60

E21	Red Hummers	NA	NA	///	///	NA
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		25	30	40	50	60	
#	E22	Green Hummers	NA	NA	III	III	NA
	E23	Multicolor Hummers	NA	NA	III	III	NA
	E27	Multicolor Star Mine + Whistle to Thunder Mine	NA	NA	III#	III#	NA
	E30	Red Glitter Mine - Tourbillion	NA	NA	I	I	NA

EA Color Star Mine

		25	30	40	50	60
	EA01	Red Stars	I	I	I	NA
	EA02	Green Stars	I	I	I	NA
	EA03	Blue Stars	I	I	I	NA
	EA04	Yellow Stars	I	I	I	NA
	EA05	White Stars	I	I	I	NA
	EA06	Crackling Stars	I	I	I	NA
	EA07	White Strobe	I	I	I	NA
	EA08	Twilight Glitter	I	I	I	NA
	EA09	Golden Rain	I	I	I	NA
	EA10	Silver Cascade	I	I	I	NA
	EA11	Gold Glitter	I	I	I	NA
	EA12	Multicolor	I	I	I	NA
	EA13	Twilight Glitter to Red	I	I	I	NA
	EA14	Twilight Glitter to Blue	I	I	I	NA
	EA15	Blue , Red, White Strobe, 3 layers Star Mine	I	I	I	NA
	EA15A	Crackling, Gold Glitter, Red, 3 layers Star Mine	I	I	I	NA
	EA15B	Crackling, Gold Glitter, Green, 3 layers Star Mine	I	I	I	NA
	EA15C	Crackling, Gold Glitter, Purple, 3 layers Star Mine	I	I	I	NA
M	EA16	Rainbow (Red, Yellow, Orange, Green, Aqua, Blue & Purple) Modular only	I	I	I	NA
	EA17	Gold Wave	I	I	I	NA
	EA18	Lemon Stars	I	I	I	NA
	EA19	Orange Stars	I	I	I	NA
	EA20	Brocade	I	I	I	NA
	EA21	Purple Stars	I	I	I	NA
	EA22	Gold Wave w/Blue	I	I	I	NA
	EA23	Gold Wave w/Yellow	I	I	I	NA
	EA24	Gold Wave w/Red	I	I	I	NA
	EA25	Gold Wave w/Purple	I	I	I	NA
	EA26	Gold Wave w/Green	I	I	I	NA
	EA27	Aqua stars	I	I	I	NA
	EA28	White Strobe to Green Mine	I	I	I	NA
	EA29	Photo Flash Mine	I	I	I	NA
	EA30	2 Layer : White strobe stars to Blue Mine	I	I	I	NA
	EA31	Gold to Green Mine	I	I	I	NA
M	EA32	Red / Green / Blue (Left/Centre/Right)	I	I	I	NA
M	EA33	Red / Orange / Lemon (Left/Centre/Right)	I	I	I	NA
	EA34	Pink stars	I	I	I	NA
	EA35	Red Dahlia Star w/Gold Glitter Mine	II	II	II	II#

EAS Sweeper Mine

		25	30	40	50	60
	EAS01	Green to Purple to Yellow Sweeper Mine	NA	NA	II	NA

EB Color Star Mine with Large Comet

		25	30	40	50	60
	EB01	Silver Cascade Comet w/green star mine	II	II	II	II#
	EB02	Silver Cascade Comet w/blue star mine	II	II	II	II#
	EB02A	Silver Cascade Comet w/red and blue star mine	II	II	II	II#
	EB02B	Silver Cascade Comet w/silver cascade mine	II	II	II	II#
	EB02C	Silver Cascade Comet w/red mine	II	II	II	II#

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M = Only available in Modular Cakes

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MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

v2018.10

		25	30	40	50	60
	EB02D Silver Cascade Comet w/yellow mine	//	//	//	I#	NA
	EB02E Silver Cascade Comet w/purple mine	//	//	//	I#	NA
**	EB03 Golden Rain Comet w/purple star mine	//	//	//	I#	NA
**	EB03A Golden Rain Comet w/purple & green star mine	//	//	//	I#	NA
	EB04 Twilight Glitter Comet w/multi-color star mine	//	//	//	I#	NA
	EB04A Twilight Glitter Comet w/red & blue star mine	//	//	//	I#	NA
		25	30	40	50	60
	EB04B Twilight Glitter Comet w/Red Mine	//	//	//	I#	NA
	EB04C Twilight Glitter Comet w/Blue Mine	//	//	//	I#	NA
	EB04D Twilight Glitter Comet w/Purple Mine	//	//	//	I#	NA
	EB04E Twilight Glitter Comet w/Green mine	//	//	//	I#	NA
	EB04F Twilight Glitter Comet w/Gold Glitter mine	//	//	//	I#	NA
	EB05 Crackling Comet w/red star mine	//	//	//	I#	NA
	EB05A Crackling Comet w/blue star mine	//	//	//	I#	NA
	EB06 Silver Cascade Comet w/ Crackling Stars Mine	//	//	//	I#	NA
	EB07 Golden Rain Comet w/Blue Stars Mine	//	//	//	I#	NA
	EB07A Golden Rain Comet w/Yellow Stars Mine	//	//	//	I#	NA
**	EB07G Golden Rain Comet w/Pink Stars Mine	//	//	//	I#	NA
**	EB07H Golden Rain Comet w/Red Stars Mine	//	//	//	I#	NA
**	EB07J Golden Rain Comet w/Green Stars Mine	//	//	//	I#	NA
**	EB07K Golden Rain Comet w/Twilight Glitter Stars Mine	//	//	//	I#	NA
	EB08 Midnight Snow Mine + Twilight Glitter Comet w/ Red Tip	//	//	//	I#	NA
	EB13 Aqua Comet w/ Orange Stars Mine	//	//	//	I#	NA
	EB14 Blue Comet w/ White Strobe Mine	//	//	//	I#	NA
	EB15 Midnight Snow Comet w/ Green Star Mine	//	//	//	I#	NA
	Color Star Mine with Large Comet	25	30	40	50	60
	EB16 White Glittering Willow w/ Red Star Mine	//	//	//	I#	NA
	EB16A White Glittering Willow w/Purple Star Mine	//	//	//	I#	NA
	EB16B White Glittering Willow w/Multicolor Star Mine	//	//	//	I#	NA
	EB17 Aqua Comet w/ Multicolor Star Mine	//	//	//	I#	NA
	EB17B Aqua Comet w/Gold Glitter Star Mine	//	//	//	I#	NA
	EB18 Midnight Snow Comet w/ Blue Star Mine	//	//	//	I#	NA
	EB19 Crackling Comet w/ Crackling Star Mine	//	//	//	I#	NA
M	EB20 Rainbow Mine w/ Silver Cascade Comet (Red/Orange/Yellow/Green/Aqua/Blue/Purple) Available only in 7 shots	NA	//	NA	NA	NA
	EB20A Silver Cascade Comet w/Multicolor Star Mine (Red,Green,Blue,Yellow,Purple)	NA	//	NA	NA	NA
	EB22 Silver Cascade Comet w/red star mine	//	//	//	I#	NA
	EB22A Red Mine/Silver Cascade/Blue Mine/Silver Cascade/Red Mine/Silver Cascade/Blue Mine	//	//	//	I#	NA
	EB23 Midnight Snow Comet w/Red Star Mine	//	//	//	I#	NA
	EB24 White Glittering Willow w/Blue star Mine	//	//	//	I#	NA
	EB24A White Glittering Willow w/Green star Mine	//	//	//	I#	NA
	EB25 Red Comet w/Red Mine	//	//	//	I#	NA
	EB25A Red Comet w/Blue Mine	//	//	//	I#	NA
	EB25B Red Comet w/Gold Glitter Mine	//	//	//	I#	NA
	EB25C Red Comet w/White Star Mine	//	//	//	I#	NA
	EB25D Red Comet w/Twilight Glitter Mine	//	//	//	I#	NA
	EB25E Red Comet w/Multicolor Mine	//	//	//	I#	NA
	EB25F Red Comet w/Silver Cascade Mine	//	//	//	I#	NA
	EB26 Orange Comet w/Orange Mine	//	//	//	I#	NA
	EB26S Orange Comet w/Silver Mine	//	//	//	I#	NA
	EB26B Orange Comet w/Gold Glitter Mine	//	//	//	I#	NA
	EB27 Yellow Comet w/Yellow Mine	//	//	//	I#	NA

MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

v2018.10

		25	30	40	50	60
	EB27B	Yellow Comet w/Gold Glitter Mine	II	II	II	II# NA
	EB28	Green Comet w/Green Mine	II	II	II	II# NA
	EB28A	Green Comet w/Gold Glitter Mine	II	II	II	II# NA
	EB28B	Green Comet w/White Star Mine	II	II	II	II# NA
	EB28C	Green Comet w/Twilight Glitter Mine	II	II	II	II# NA
	EB28D	Green Comet w/Multicolor Mine	II	II	II	II# NA
	EB28E	Green Comet w/Brocade Mine	II	II	II	II# NA
**	EB28F	Green Comet w/Orange Mine	II	II	II	II# NA
	EB29	Aqua Comet w/Aqua Mine	II	II	II	II# NA
	EB30	Blue Comet w/Blue Mine	II	II	II	II# NA
	EB30A	Blue Comet w/Red Mine	II	II	II	II# NA
	EB30B	Blue Comet w/Gold Glitter Mine	II	II	II	II# NA

		25	30	40	50	60
	EB30C	Blue Comet w/White Star Mine	II	II	II	NA NA
	EB30D	Blue Comet w/Twilight Glitter Mine	II	II	II	NA NA
	EB30F	Blue Comet w/Sivler Cascade Mine	II	II	II	NA NA
	EB31	Purple Comet w/Purple Mine	II	II	II	NA NA
	EB31A	Purple Comet w/Gold Glitter Mine	II	II	II	NA NA
	EB31B	Purple Comet w/Green mine	II	II	II	NA NA
	EB31C	Purple Comet w/Twilight Glitter mine	II	II	II	NA NA
	EB31D	Purple Comet w/Multicolor mine	II	II	II	NA NA
	EB31F	Purple Comet w/Silver Cascade mine	II	II	II	NA NA
**	EB31G	Purple Comet w/Orange mine	II	II	II	NA NA
	EB32	Twilight Glitter Comet w/Twilight Glitter Mine	II	II	II	NA NA
M	EB33	Red, Orange, Yellow, Green, Aqua, Blue, Purple (with matching mines)	II	II	II	NA NA
	EB34	White Comet w/White Mine	II	II	II	NA NA
	EB35	Lemon Comet w/Pink Mine	II	II	II	NA NA
	EB36	Pink Comet w/Gold Glitter Mine	II	II	II	NA NA
	EB36E	Pink Comet w/Gold Wave Mine	II	II	II	NA NA
	EB37	Aqua Comet w/Gold Rain Mine	II	II	II	NA NA
	EB39	Gold Glitter Comet w/Red Mine	II	II	II	NA NA
	EB39A	Gold Glitter Comet w/Blue Mine	II	II	II	NA NA
	EB39B	Gold Glitter Comet w/Green mine	II	II	II	NA NA
	EB39C	Gold Glitter Comet w/Multicolor Mine	II	II	II	NA NA
	EB39H	Gold Glitter Comet w/Aqua Mine	II	II	II	NA NA
	EB39J	Gold Glitter Comet w/Orange Mine	II	II	II	NA NA
	EB40A	Brocade Comet w/Red Mine	II	II	II	NA NA
	EB40B	Brocade Comet w/Blue Mine	II	II	II	NA NA
	EB40C	Brocade Comet w/Purple Mine	II	II	II	NA NA
	EB40D	Brocade Comet w/White Mine	II	II	II	NA NA
	EB41	Gold Wave Comet w/Gold Wave Mine	II	II	II	NA NA

	EC	Crossette Stars Mine	25	30	40	50	60
		EC01	Golden Rain Crossette Mine	NA	NA	NA	II# NA
		EC02	Silver Cascade Crossette Mine	NA	NA	NA	III NA
		EC03	Silver Palm Crossette Mine	NA	NA	NA	II# NA
		EC04	Red Star Crossette Mine	NA	NA	NA	II# NA
		EC05	Blue Star Crossette Mine	NA	NA	NA	II# NA
		EC06	Green Star Crossette Mine	NA	NA	NA	II# NA
		EC07	Yellow Star Crossette Mine	NA	NA	NA	II# NA
		EC08	Crackling Star Crossette Mine	NA	NA	NA	II# NA
M		EC09	Assorted Color Crossette Mine, Each Shot Single Color	NA	NA	NA	II# NA

= 1.3G UN0335 (USA)
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v2018.10

25 30 40 50 60

EC10	Silver to Red Star Crossette Mine	NA	NA	NA	III#	NA
EC11	Silver to Green Star Crossette Mine	NA	NA	NA	III#	NA
EC12	Purple to Green Star Crossette Mine	NA	NA	NA	III#	NA

ED Go-Getter Mine

25 30 40 50 60

ED1	Red Go-Getter Mine	NA	NA	III	III	NA
ED2	Green Go-Getter Mine	NA	NA	III	III	NA
ED3	Silver Go-Getter Mine	NA	NA	III	III	NA
ED4	Yellow Go-Getter Mine	NA	NA	III	III	NA
ED5	Purple Go-Getter Mine	NA	NA	III	III	NA
ED6	Gold Go-Getter Mine	NA	NA	III	III	NA
ED7	Red Go-Getter w/Silver Tail Mine	NA	NA	III	III#	NA
ED8	Green Go-Getter w/Silver Tail Mine	NA	NA	III	III#	NA
ED9	Yellow Go-Getter w/Silver Tail Mine	NA	NA	III	III#	NA
ED10	Purple Go-Getter w/Silver Tail Mine	NA	NA	III	III#	NA
ED11	Multicolor Go-Getter Mine (Red, Green, Purple, Yellow, Silver)	NA	NA	III	III	NA
ED12	Orange Go-Getter Mine	NA	NA	III	III	NA

EF Fish Mine

25 30 40 50 60

EF01	Silver Fish Mine	NA	NA	III	NA	NA
------	------------------	----	----	-----	----	----

Double Module (Two Rows of Modular Fire Simultaneously or In Sequency)

M	DM1	1st row Red Star Comet (3/4" x 17 shots) 2nd row Tourbillion Mine (1-1/2" x 9 shots) Fire row fires as a curtain style module from center to both ends. As soon the curtain is open the second row fires as a fan style module with all shots going simultaneously					
M #	DM3	Twice Crackling Rain & Flash Thunders w/o tail **double row of 25mm x13 shots = 26 shots, this size only					
M	DM4	Red, White, & Blue 3 layers Mine & Twice Crackling Bombard w/o tail **double row of 40mm x 7 shots = 14 shots, this size only					
M #	DM5	Red, White, & Blue 3 layers Mine & Flash Thunders w/o tail **double row of 40mm x 7 shots = 14 shots, this size only					
M	DM6	Twice Crackling Rain & Crackling Bombards w/crackling Tail **double row of 25mm x13 shots = 26 shots, this size only					
M #	DM7	Titanium Salute w/Silver tail **double row of 25mm x13 shots = 26 shots, this size only					
M	DM9	Red Star Mine & Blue Bombards w/o tail, & Silver Cascade Bombard w/o tail **double row of 40 mm x 7 shots = 14 shots, this size only					
M #	DM12	Titanium Salute w/silver tail, both open curtain style in sequency **double row of 25 mm x 13 shots = 26 shots, this size only					
M	DM13	2 Rows of Fan Wipe in sequency, Aqua Comet to Pink Comet ** double row of 25 mm x 13 shots = 26 shots, this size only					
M #	DM14	2 Rows of Fan Wipe in sequency of same effect: Blue Mine with Red Comet ** double row of 25 mm x 13 shots = 26 shots, this size only					
M	DM15	2 Rows of Fan Wipe in sequency of same effect: Silver Cascade Comet ** double row of 25 mm x 13 shots = 26 shots, this size only					

MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

v2018.10

25 30 40 50 60

M	DM16	2 Rows of Fan Wipe in sequency of same effect: Crackling Mine + Crackling Bombard w/o tail ** double row of 25 mm x 13 shots = 26 shots, this size only					
---	------	------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--	--

Triple Module (Three Rows of Modular Fire Simultaneously or in Sequency)

M	#	DM33	Titanium Salute with Silver Tail, Two rows of open curtain & one row of Althgether Fan in sequency. Duration 5 seconds **3 rows of 25 mm x 13 shots = 39 shots, this size only					
---	---	------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--	--

Quad Module (Four Rows of Modular Fire Simultaneously or in Sequency)

M	#	DM45	Rows of 25.4 mm, 40 mm and 60 mm, with White Strobe & Blue mine, Purple star Bombard mine and Gold Wave Bombard, Duration 5 seconds					
---	---	------	-------------------------------------------------------------------------------------------------------------------------------------	--	--	--	--	--

Hammer Module

M	#	HM-1	40 shots 1" flash thunder (no tail), straight up & salute simultaneously					
M	#	HM-2	40 shots 1" flash thunder with whistle tail, straight up & salute simultaneously					

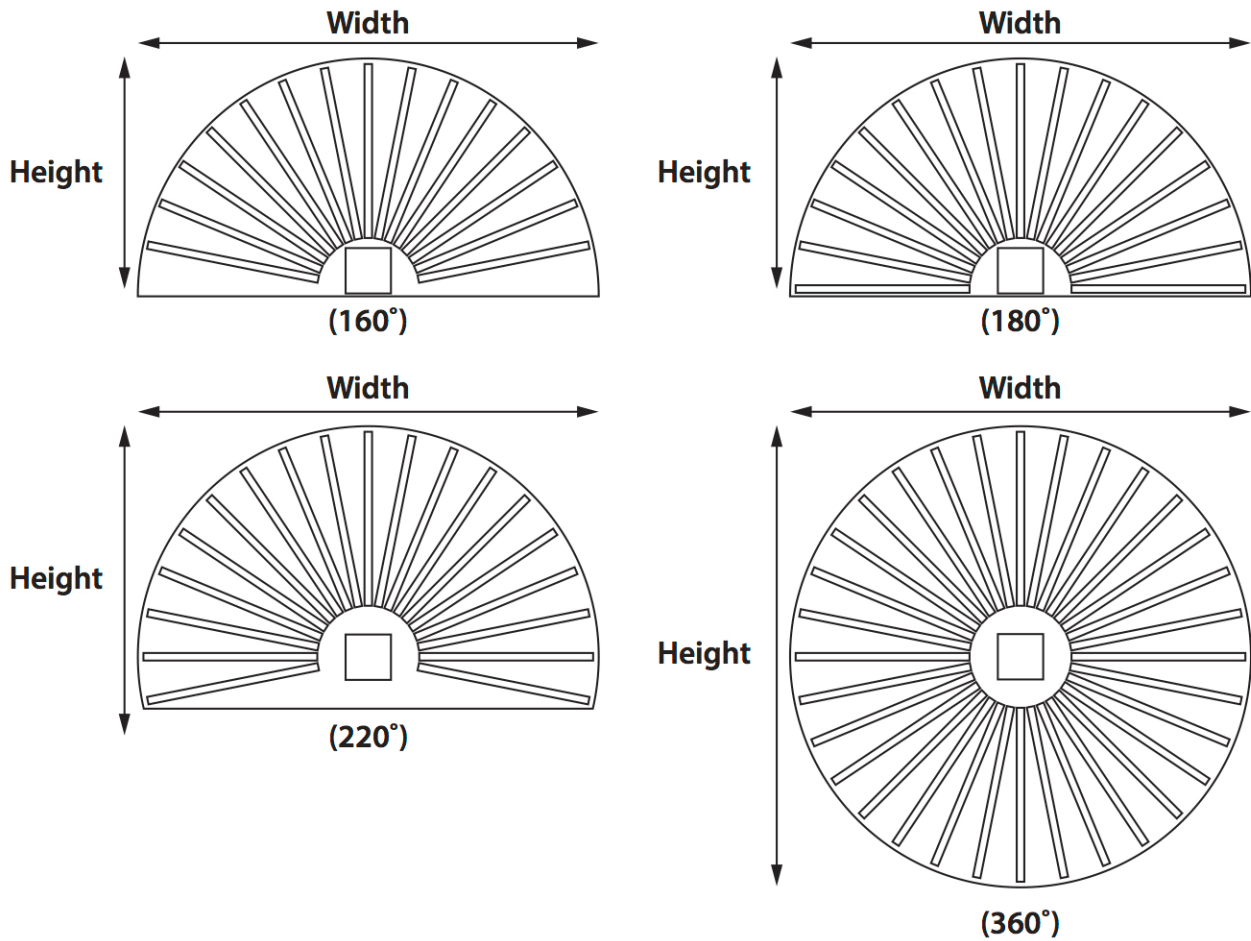


D1. Lollipop

As the next logical step in the evolution of our extremely popular Modular Cake Sections, Vulcan is now proud to offer yet another unique pattern producing element to the Vulcan display line up. Known as Lollipops, these truly spectacular items offer the Show Choreographer a new cost effective and versatile way to create huge crowd pleasing circular sun-like patterns of comets, mines, and comet/mine combinations. Constructed to fire their tubes either altogether simultaneously or as a sequential circular wipe, Lollipops are always fired using only a single igniter port thus drastically saving setup time and the cost of multiple igniters. Relatively light weight for their size and effect, Lollipops are easy to set up and are effective in a wide variety of show situations such as in frontal displays, elevated off towers or cherry pickers, or positioned on scaffolding, bridges and rooftops. They are tailored to meet your exact needs in pre-set angles of 160, 180, 220, 360 degree units, are completely self contained, disposable, and best of all pre-foiled to be fire resistant and waterproof eliminating the need for messy tin foil and plastic bags.



VULCAN LOLLIPOPS



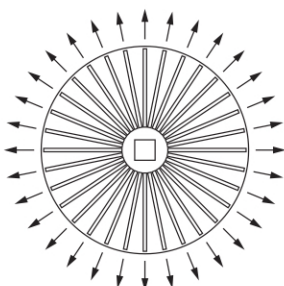
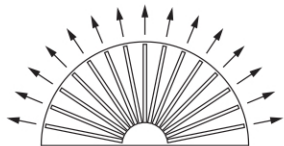
Sizes available:

19mm 15 shots (160°)	25mm 15 shots (160°)	40mm 9 shots (160°)
19mm 17 shots (180°)	25mm 17 shots (180°)	40mm 11 shots (180°)
19mm 21 shots (220°)	25mm 21 shots (220°)	40mm 13 shots (220°)
19mm 32 shots (360°)	25mm 32 shots (360°)	40mm 20 shots (360°)

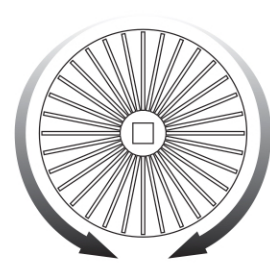
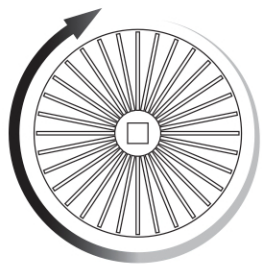
Dimensions (Height/Width):

	19mm	25mm	40mm
160°	30cm / 60cm	41.5cm / 83cm	42.5cm / 85cm
180°	30cm / 60cm	41.5cm / 83cm	42.5cm / 85cm
220°	43.5cm / 60cm	58.5cm / 83cm	59cm / 85cm
360°	60cm / 60cm	83cm / 83cm	85cm / 85cm

Patterns available:



TLP - Altogether Fire



FAN WIPE "WLP"

CURTAIN "CRN"

WLP or CRN - Fanwipe or Curtain

Provided with two ignition points allowing fusing for either the WLP or CRN Pattern

LOLLIPOPS EFFECTS LIST

Comets

19 25 40

C01ST	Red Comet with Silver tail	/	/	/
C02ST	Blue Comet with Silver tail	/	/	/
C03ST	Green Comet with Silver tail	/	/	/
C08ST	Purple Comet with Silver tail	/	/	/
C11	Comet - Silvery Cascade	/	/	/
C13	Crackling comet	/	/	/
MAST	Multicolor: Red/Orange/Yellow/Green/Aqua/Blue/Purple	/	/	/

Mine (Whistle, Tourbillon)

19 25 40

E11	Tourbillon	///	NA	NA
E11A	Tourbillon and Blue Stars	///	NA	NA
E13	Diamond Whistle	///	NA	NA
E13A	Diamond Whistle with Blue stars	///	NA	NA
E13B	Diamond Whistle with Red Stars	///	NA	NA

Color Star Mine

19 25 40

EA01	Red Stars	/	/	/
EA02	Green Stars	/	/	/
EA03	Blue Stars	/	/	/
EA12	Multicolor	/	/	/
EA18	Lemon Stars	/	/	/
EA15A	Red White Blue Mine (Left/Right/Centre)	/	/	/
EA20	Brocade Mine	/	/	/
EA21	Purple Stars	/	/	/
EA31	Gold to Green Mine	/	/	/

Color Star Mine with Large Comet

19 25 40

EB03	Golden Rain Comet w/purple star mine	//	//	//
EB04	Twilight Glitter Comet w/multi-color star mine	//	//	//
EB07	Golden Rain Comet w/Blue Stars Mine	//	//	//
EB22	Silver Cascade Comet w/red star mine	//	//	//

Patterns

19 25 40

P1	Butterfly : Red Mine / Silver Cascade Comet / Blue Mine (160° and 180° only)			
P2	Wagon Wheel : Alternating Silver Cascade Comet / 2 Red comets			



E. Finale Boxes, Grand Cake Boxes

Finale Boxes provide a mini finale lasting from one to five minutes. Great for the small celebration show, wedding, or party, these ready to shoot boxes provide a nice blend of candles and effects that are pre-fused and set to go.

Grand Cake Boxes are extended pyro displays that can be configured to fire from one to five minutes in several variations.

Finale and Grand Cake Boxes are equipped with the Vulcan E-Link Electric Match Connector.

For more information on the E-Link Electric Match Connector, please refer to the section marked "INNOVATIONS" in the Table of Contents of this catalog for a full description and help in ordering the best configuration for your needs.



GRAND CAKE BOXES



Recently developed by Vulcan, GRAND CAKE BOXES are an extended duration pyro display that can be configured to fire from one to five minutes in several variations.

The basic GRAND CAKE BOXES come in two or four minute duration times, each as an "A" or "B" effect style. Coupling on a one minute "A", "B", "C" or "D" SUPER GRAND CAKE BOX will extend the duration to three and five minutes respectively, while at the same time increasing the overall impact of the show. The SUPER GRAND CAKE BOXES use 23 shots of our great 3 and 4 inch Display Shells and a surprise ending of a Super Loud Flash Thunder Salute Mine, to really create a stunning conclusion to the display.

Highlights and Features of the GRAND CAKE BOX system:

- Equipped with the E-Link Electric Match Connector and Fire Transfer Connector making set up, interconnection, and fire, fast, easy, and safe.
- 2 and 4 minute GRAND CAKE BOXES use Straight Up, Fan, and Curtain fire patterns for maximum display appeal.
- Tube sizes vary from 3/4" all the way to 4" diameter making these a truly impressive stand alone item.
- Fully compatible with all our other E-Link Connector Display Products.
- Perfect for a variety of show venues and applications.

ITEM NO.	DESCRIPTION	CONTENTS
GB1A	1 minute Super Grand Cake Box A	15 shots of 3" and 8 shots of 4"
GB1B	1 minute Super Grand Cake Box B	15 shots of 3" and 8 shots of 4"
GB1C	1 minute Super Grand Cake Box C	15 shots of 3" and 8 shots of 4"
GB1D	1 minute Super Grand Cake Box D	15 shots of 3" and 8 shots of 4"
GB1E	1 minute Super Grand Cake Box E	18 shots of 2.5" and 10 shots of 3"
GB1F	1 minute Super Grand Cake Box F	18 shots of 2.5" and 10 shots of 3"
GB1G	1 minute Super Grand Cake Box G	18 shots of 2.5" and 10 shots of 3"
GB1H	1 minute Super Grand Cake Box H	18 shots of 2.5" and 10 shots of 3"
GB2A	2 minute Grand Cake Box A	varies caliber from 3/4" to 2-1/2"
GB2B	2 minute Grand Cake Box B	varies caliber from 3/4" to 2-1/2"
GB2C	2 minute Grand Cake Box C with Whistles and Salutes	varies caliber from 3/4" to 2-1/2"
GB2D	2 minute Grand Cake Box D with Whistles and Salutes	varies caliber from 3/4" to 2-1/2"
GB3A	3 minute Grand Cake Box A with Whistles and Salutes (packed in 2 parts)	varies caliber from 3/4" to 1-1/2"
GB3B	3 minute Grand Cake Box B with Whistles and Salutes (packed in 2 parts)	varies caliber from 3/4" to 1-1/2"
GB4A	4 minute Grand Cake Box A (packed in 2 parts)	varies caliber from 3/4" to 2-1/2"
GB4B	4 minute Grand Cake Box B (packed in 2 parts)	varies caliber from 3/4" to 2-1/2"
GB4C	4 minute Grand Cake Box C with Whistles and Salutes	varies caliber from 3/4" to 2-1/2"
GB4D	4 minute Grand Cake Box D with Whistles and Salutes	varies caliber from 3/4" to 2-1/2"
GB5A	5 minute Grand Cake A with Whistles and Salute	varies caliber from 3/4" to 1-1/2"
GB5B	5 minute Grand Cake B with Whistles and Salutes	varies caliber from 3/4" to 1-1/2"



F. Roman Candles

Supplied in a variety of shots, sizes, and loads, Vulcan Roman Candles will compliment any size show or event with ease. From comet stars to bombards to mines, tourbillions, or crossettes, these Candles deliver fine performance and timing. Available as single candles or barrages and pre-mounted on fan rack sets.

Roman Candles can be equipped with the Vulcan E-Link Electric Match Connector per your request.

For more information on the E-Link Electric Match Connector, please refer to the section marked "INNOVATIONS" in the Table of Contents of this catalog for a full description and help in ordering the best configuration for your needs.



CAKES & CANDLES FUSE PREFERENCE

ITEM NUMBER _____

ITEM NAME _____

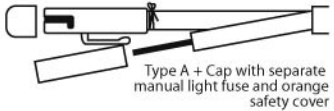
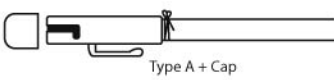

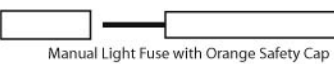

CUSTOMER _____

DATE _____

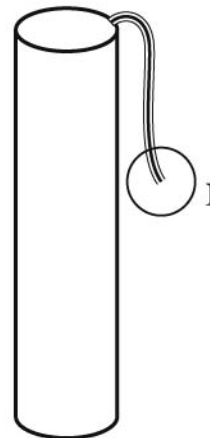
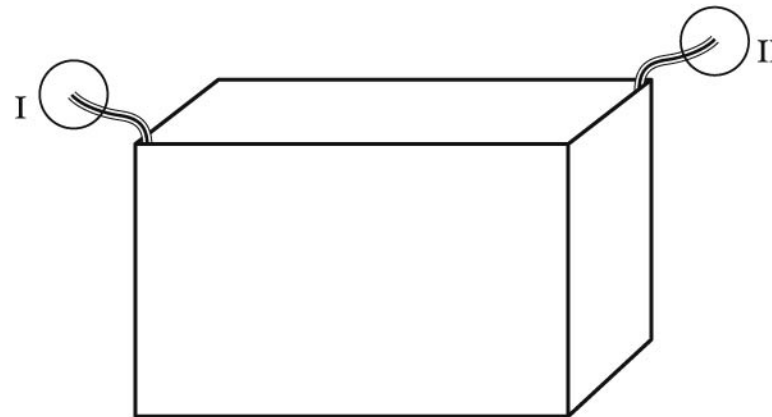
Please mark "✓" in box.

I. FIRING OPTIONS

Preference :

-  Type A + Cap with separate manual light fuse and orange safety cover
-  Type A + Cap
-  Type A with plug in manual light fuse and orange safety cover
-  Manual Light Fuse with Orange Safety Cap
-  Type O + Cap
- Custom - (Fill in Requirements)

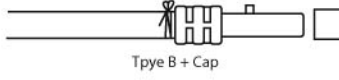

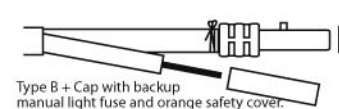

REMARKS: _____



II. TAIL END OPTIONS

(FOR CAKES ONLY)

Preference :

-  Type B + Cap
-  Traditional Tied Paper Bucket
-  Type B + Cap with backup manual light fuse and orange safety cover.
-  Traditional bucket with backup manual light fuse and orange safety cover
- No Tail required
- Custom - (Fill in Requirements)

REMARKS: _____

OTHER REMARKS _____

SMALL BORE CANDLE

Version 2011.1

1. SMALL BORE (18" X 1") CANDLE

A great general purpose display candle, the Vulcan 1" bore (25 mm) Display Candle is always an excellent value in terms of price, performance, color, and height

Supplied as single candles or as pre-bundled barrages of 7, 10 or 19 candles per bundle

SINGLES

Item No.	Description	No. of Shots	MC3xx
MC301	Oriole	7	
MC302	Flash Thunder	7	
MC303	Magnolia	7	
MC304	Starmine	10	
MC305	Crackling Comet	10	
MC321	Red Eruption	10	
MC322	Blue Eruption	10	
MC323	White Eruption	10	
MC324	Green Eruption	10	
MC325	Yellow Eruption	10	
MC326	Whistle Comet	7	
MC327	White Glitter to Red Comet	10	
MC328	White Glitter to Blue Comet	10	
MC329	White Glitter to Green Comet	10	
MC330	Gold Glitter to Green Comet	10	
MC331	Red, White & Blue Comet	10	
MC332	Red, White, Blue to Crackling Comet	10	
MC333	Purple, Blue, Silver & Crackling Comet	10	
MC334	Orange, Whistle, Red, Silver & Crackling	10	
MC335	Red, White, Green, Crackling & Thunder	10	
MC336	Red Hummers	7	
MC337	Green Hummers	7	
MC338	Blue Hummers	7	
MC339	Silver Hummers	7	
MC340	Multi-color Hummers	7	
MC350	Blue to Red Stars	10	
MC351	Yellow to Green Stars	10	
MC352	Green to Red Stars	10	
MC353	Crackling Comets	10	
MC354	Orange Stars	10	
MC355	Purple Stars	10	
MC356	Multicolor Stars	10	
MC357	Gold Wave to Red Stars	10	
MC370	Crackling Bombards	6	
MC371	White Strobe Bombard	6	
MC372	Multi-color Bombard	6	

Packing: 100/1 per carton

CBM: 0.037 per carton

SMALL BORE CANDLE

Version 2011.1

CANDLE BARRAGES

Item No.	Description	No. of shots per candle	Bundle of 7 MC3xxA	Bundle of 10 MC3xxB	Bundle of 19 MC3xxC
MC320	Flash Thunder	7			
MC321	Red Eruption	10			
MC322	Blue Eruption	10			
MC323	White Eruption	10			
MC324	Green Eruption	10			
MC325	Yellow Eruption	10			
MC326	Whistle Comet	7			
MC327	White Glitter to Red Comet	10			
MC328	White Glitter to Blue Comet	10			
MC329	White Glitter to Green Comet	10			
MC330	Gold Glitter to Green Comet	10			
MC331	Red, White & Blue Comet	10			
MC332	Red, White, Blue to Crackling Comet	10			
MC333	Purple, Blue, Silver & Crackling Comet	10			
MC334	Orange, Whistle, Red, Silver & Crackling	10			
MC335	Red, White, Green, Crackling & Thunder	10			
MC336	Red Hummers	7			
MC337	Green Hummers	7			
MC338	Blue Hummers	7			
MC339	Silver Hummers	7			
MC340	Multi-color Hummers	7			
MC350	Blue to Red Stars	10			
MC351	Yellow to Green Stars	10			
MC352	Green to Red Stars	10			
MC353	Crackling Comets	10			
MC354	Orange Stars	10			
MC355	Purple Stars	10			
MC356	Multicolor Stars	10			
MC357	Gold Wave to Red Comets	10			
MC370	Crackling Bombards	6			
MC371	White Strobe Bombard	6			
MC372	Multi-color Bombard	6			

PACKING

12/1

9/1

9/1

To order barrages, indicate the Candle Barrage Item number, followed by option A, B, or C (7, 10, or 19 candles per bundle).

Example - MC322B indicates a bundle of 10 Blue Eruption Candles in the barrage.



G. Comets

With many shows going to complete computer fired extravaganzas, single shot comets are becoming more and more predominate as low level aerial accents. Vulcan offers two styles to fit your needs, comets in a disposable cardboard mortar either top or side fused and which work great in our Vulcan Metal Fan Racks or the more traditional drop in comet for which you supply the reusable mortar. Both styles come in a selection of effects and calibers.

As a standard option, all Vulcan Comets are equipped with our E-Link Electric Match Connector, now offered in a variety of leader configurations. Please refer to the section marked "INNOVATIONS" in the Table of Contents of this catalog for a full description and help in ordering the best configuration for your needs.



COMETS (Pre-installed with our E-Link® Connector)

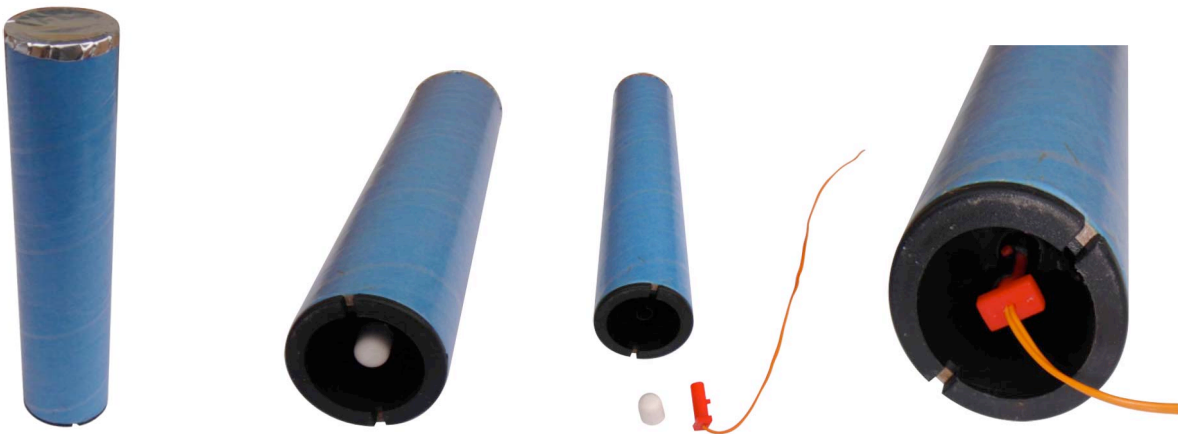
Version 2008.1

1. Drop in Mortar Style

Item No.	Description	For use with mortar size			price cat.
		2"	2.5"	3"	
C5750	Golden Rain Comet				LC
C5751	Silver Cascade Comet				LC
C5752	Twilight Glitter Comet				LC
C5753	Twilight Glitter Comet with Red Heading			N/A	LC
C5754	Twilight Glitter Comet with Green Heading			N/A	LC
C5755	Twilight Glitter Comet with Blue Heading			N/A	LC
C5756	Twilight Glitter Comet with Yellow Heading			N/A	LC
C5757	Golden Rain Comet with Green Heading			N/A	LC
C5758	Golden Rain Comet with Red Heading			N/A	LC
C5759	Golden Rain Comet with White Strobe Heading			N/A	LC
C5760	White Strobe Comet				LC
C5761	Green Strobe Comet				LC
C5762	Red Star				LC
C5763	Blue Star				LC
C5764	Green Star				LC
C5765	Orange Star				LC
C5766	Yellow Star				LC
C5767	Spring Flower Comet				LC
*** C5768	Crackling Comet				LC

SINGLE SHOT DISPOSABLE STYLES

PREMIUM



Waterproof Blue Paper Tube with tin foil on top.
Plastic base with e-match connector plug and white cap.

STANDARD



Normal Paper Tube with tin foil on top.
Hole on side of tube for e-match insertion.

MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

v2018.10

25 30 40 50 60

B Bombard with Color Tail

B01	Titanium Salute w/Silver Tail	#	NA	NA	NA	NA
B01RM	Titanium Salute w/Red Mine	#	NA	NA	NA	NA
B02	Crackling Bombard w/Gold Tail	/	/	NA	NA	NA
B02A	Crackling Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
B02B	Crackling Bombard w/Red Tail	/	/	NA	NA	NA
B02C	Crackling Bombard w/Blue tail	/	/	NA	NA	NA
B02D	Crackling Bombard w/green tail	/	/	NA	NA	NA
B02E	Crackling Bombard w/purple tail	/	/	NA	NA	NA
B03	Multi-color Bombard w/Silver Tail	/	/	NA	NA	NA
B03A	Multi-color Bombard	/	/	NA	NA	NA
B03B	Multi-color Bombard w/Red Tail	/	/	NA	NA	NA
B03C	Multi-color Bombard w/Green Tail	/	/	NA	NA	NA
B04	Red Star Bombard w/Silver Tail	/	/	NA	NA	NA
B04A	Red Star Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
B04B	Red Star Bombard w/Gold Rain Tail	/	/	NA	NA	NA
B05	Green Star Bombard w/Gold Tail	/	/	NA	NA	NA
B06	Blue Star Bombard w/Gold Tail	/	/	NA	NA	NA
B06A	Blue Star Bombard w/Silver Tail	/	/	NA	NA	NA
B06B	Blue Star Bombard	/	/	NA	NA	NA
B06C	Blue Star Bombard w/Blue Tail	/	/	NA	NA	NA
B06D	Blue Star Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
B06E	Blue Star Bombard w/Gold Rain Tail	/	/	NA	NA	NA
B07	White Strobe Bombard	/	/	NA	NA	NA
B07A	White Strobe Bombard w/Silver Tail	/	/	NA	NA	NA
B07B	White Strobe Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
B07C	White Strobe Bombard w/White Strobe Tail	/	/	NA	NA	NA
B07D	White Strobe Bombard w/Red Tail	/	/	NA	NA	NA
B07E	White Strobe Bombard w/Blue Tail	/	/	NA	NA	NA
B08	Yellow Bombard	/	/	NA	NA	NA
B08A	Yellow Star Bombard w/Gold Tail	/	/	NA	NA	NA
B08B	Yellow Star Bombard w/yellow Tail	/	/	NA	NA	NA
B09	Silver Cascade Bombard w/Silver Tail	/	/	NA	NA	NA
B10	Golden Rain Bombard w/gold Tail	/	/	NA	NA	NA
B10A	Golden Rain Bombard w/golden rain Tail	/	/	NA	NA	NA
B10B	Golden Rain Bombard w/red Tail	/	/	NA	NA	NA
B10C	Golden Rain Bombard w/blue Tail	/	/	NA	NA	NA
B10D	Golden Rain Bombard w/green Tail	/	/	NA	NA	NA
B10E	Golden Rain Bombard w/purple tail	/	/	NA	NA	NA
B11	Purple star Bombard w/Gold Tail	/	/	NA	NA	NA
B12	Midnight Snow Bombard w/Gold Tail	/	/	NA	NA	NA
B13	Aqua Bombard w/Green Tail	/	/	NA	NA	NA
B15	Pink+Yellow+Green Star Bombard w/Purple Tail	/	/	NA	NA	NA
B16	Silver Time Rain bombard w/Silver Tail	/	/	NA	NA	NA
B17	Gold Crackling Rain + Green Falling Leaves Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
B18	Crackling Rain + Silver Palm Bombard w/Silver Tail	/	/	NA	NA	NA
B19	Thousand Bees Bombard w/Silver Tail	/	/	NA	NA	NA
B20	Brocade Crown	/	/	NA	NA	NA
B21	Green Bees + Red Star Bombard w/Silver Tail	/	/	NA	NA	NA
B22	Green Fish Bombard w/Green Tail	/	/	NA	NA	NA
B23	Silver Coconut Bombard w/Silver Tail	/	/	NA	NA	NA
B24	Flash Thunder Bombard w/Silver Tail	/	/	NA	NA	NA
B25	Titanium Salute w/Whistle Tail	/	NA	NA	NA	NA
B26	Midnight Snow Bombard no Tail	/	/	NA	NA	NA

= 1.3G UN0335 (USA)

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MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

v2018.10

		25	30	40	50	60
B27	Lemon + Purple + Crackling Bombard w/Silver Tail	/	/	NA	NA	NA
B28	Bees & Brocade Star Bombard w/ Silver Tail	/	/	NA	NA	NA
B29	Hummer & Brocade Bombard w/Gold Tail	/	/	NA	NA	NA
B30	Bees & Green Star Bombard w/ Silver Tail	/	/	NA	NA	NA
B31	Orange Star Bombard no Tail	/	/	NA	NA	NA
B31A	Orange Star Bombard with Silver Tail	/	/	NA	NA	NA
B31B	Orange Star Bombard with Orange tail	/	/	NA	NA	NA
B31C	Orange Star Bombard with Green tail	/	/	NA	NA	NA
B31D	Orange Star Bombard with Purple tail	/	/	NA	NA	NA
B32	White Strobe + Purple Bombard w/Silver Tail	/	/	NA	NA	NA
B33	Yellow + Green + Purple Bombard w/Gold Tail	/	/	NA	NA	NA
B34	Midnight Snow + Spring Flower Bombard w/Gold Tail	/	/	NA	NA	NA
B35	Golden Rain + Blue + Green Star Bombard w/Gold Tail	/	/	NA	NA	NA
B35A	Golden Rain + Green Star Bombard w/Gold Tail	/	/	NA	NA	NA
B35B	Golden Rain + Red Star Bombard w/Gold Tail	/	/	NA	NA	NA
B36	Blue Palm + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
B36A	Blue Palm + Gold Wave Bombard w/Silver Tail	/	/	NA	NA	NA
B37	Gold Time Rain + Silver Fish Bombard w/Red Tail	/	/	NA	NA	NA
B38	Spring Flower + Red Falling Leaves Bombard w/Red Tail	/	/	NA	NA	NA
B39	Spring Flower + Green Falling Leaves Bombard w/Red Tail	/	/	NA	NA	NA
B40	Spring Flower + Yellow Falling Leaves Bombard w/Red Tail	/	/	NA	NA	NA
B41	Spring Flower + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
B42	Silver Palm + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
B43	Red Palm + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
	Bombard with Color Tail	25	30	40	50	60
B44	Green Palm + Crackling Time Rain Bombard w/Silver Tail	/	/	NA	NA	NA
B45	Blue Star + Silver Fish Bombard w/Red Tail	/	/	NA	NA	NA
B46	Aqua & Orange Bombard w/Silver Tail	/	/	NA	NA	NA
B47	Yellow Palm + Blue Star Bombard w/Purple Tail	/	/	NA	NA	NA
B48	Red Palm + White Strobe Bombard w/Red Tail	/	/	NA	NA	NA
B48A	Blue Palm + White Strobe Bombard w/Blue Tail	/	/	NA	NA	NA
B49	Green Palm + White Strobe Bombard w/Green Tail	/	/	NA	NA	NA
B50	Purple Star + Gold Wave Bombard w/Gold Tail	/	/	NA	NA	NA
B51	Blue Star + Gold Wave Bombard w/Gold Tail	/	/	NA	NA	NA
B52	Lemon Star + Gold Wave Bombard w/Gold Tail	/	/	NA	NA	NA
B53	Crackling Time Rain + Gold Wave Bombard w/Gold Tail	/	/	NA	NA	NA
B54	Red, Aqua, Purple and Lemon Dahlia Bombard	/	/	NA	NA	NA
B55	Lemon Star Bombard	/	/	NA	NA	NA
B55A	Lemon Star Bombard w/Lemon Tail	/	/	NA	NA	NA
B55B	Lemon Star Bombard w/Red Tail	/	/	NA	NA	NA
B55C	Lemon Star Bombard w/Green Tail	/	/	NA	NA	NA
B55D	Lemon Star Bombard w/Purple Tail	/	/	NA	NA	NA
B56	Twilight Glitter Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
B56A	Twilight Glitter Bombard w/Red Tail	/	/	NA	NA	NA
B56B	Twilight Glitter Bombard w/Blue Tail	/	/	NA	NA	NA
B56C	Twilight Glitter Bombard w/Green Tail	/	/	NA	NA	NA
B56D	Twilight Glitter Bombard w/Purple Tail	/	/	NA	NA	NA
B57	White Star Bombard w/White Tail	/	/	NA	NA	NA
B58	Green Strobe Bombard w/Green Tail	/	/	NA	NA	NA
B59	Silver Fish Bombard w/Silver Tail	/	/	NA	NA	NA
B60	Red Fish Bombard w/Red Tail	/	/	NA	NA	NA
B61	Crackling Palm Bombard	/	/	NA	NA	NA
B62	Double Time Rain Bombard	/	/	NA	NA	NA
B63	White Strobe + Blue Star Bombard	/	/	NA	NA	NA

MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

v2018.10

		25	30	40	50	60
B64	Golden Palm Bombard w/Gold Tail	/	/	NA	NA	NA
B65	Silver Palm Bombard w/Silver Tail	/	/	NA	NA	NA
B66	Waterfall	/	/	NA	NA	NA
B66A	Pixie Dust Willow Waterfall with Twilight Glitter Tail	/	/	NA	NA	NA
B66B	Pixie Dust Willow Waterfall with Red Tail	/	/	NA	NA	NA
B66C	Pixie Dust Willow Waterfall with Green Tail	/	/	NA	NA	NA
B66D	Pixie Dust Willow Waterfall with Purple Tail	/	/	NA	NA	NA
B66E	Pixie Dust Willow Waterfall with Green Strobe Tail	/	/	NA	NA	NA
B66F	Pixie Dust Willow Waterfall with White Strobe Tail	/	/	NA	NA	NA
B66G	Brocade Waterfall with Brocade tail	/	/	NA	NA	NA
B66H	Brocade Waterfall with Red Tail	/	/	NA	NA	NA
B66J	Brocade Waterfall with Green Tail	/	/	NA	NA	NA
B66K	Brocade Waterfall with Green Strobe Tail	/	/	NA	NA	NA
B66L	White Strobe Waterfall with White strobe tail	/	/	NA	NA	NA
B66M	Brocade Waterfall with Purple Tail	/	/	NA	NA	NA
B66N	White Strobe Waterfall with red tail	/	/	NA	NA	NA
B67	Multicolor Falling Leaves Bombard w/purple tail	/	/	NA	NA	NA
B67A	Multicolor Waterfall with Twilight Glitter tail	/	/	NA	NA	NA
B68	Crackling Time Rain Bombard with Gold Tail	/	/	NA	NA	NA
B70	Twilight Glitter and Blue bombard with Red Tail	/	/	NA	NA	NA
B70A	Red and Blue Bombard with Twilight Glitter tail	/	/	NA	NA	NA
B90	Red, Yellow, Orange, Green, Aqua, Blue & Purple Bombard w/same color tail	NA	NA	NA	NA	NA
B90B	Purple Star Bombard w/Purple Tail	/	/	NA	NA	NA
B90C	Red Star Bombard w/Red Tail	/	/	NA	NA	NA
B90D	Purple Star Bombard w/Twilight Glitter Tail	/	/	NA	NA	NA
B90E	Purple Star Bombard w/Golden Rain Tail	/	/	NA	NA	NA
B91	Pink Bombard with Pink Tail	/	/	NA	NA	NA
B92	Pixie Dust Willow Bombard without tail	/	/	NA	NA	NA
B93	Photo Flash Bombard	NA	NA	NA	NA	NA
B94	Red Bombard no tail	/	/	NA	NA	NA
B95	Green Bombard no tail	/	/	NA	NA	NA
B95A	Green Bombard with green tail	/	/	NA	NA	NA
B95B	Green Bombard with twilight glitter tail	/	/	NA	NA	NA
B95C	Green Bombard with golden rain tail	/	/	NA	NA	NA
B96	Blue Bombard no tail	/	/	NA	NA	NA
B97	White Bombard	/	/	NA	NA	NA
B97A	White Bombard with White Tail	/	/	NA	NA	NA
B97B	White Bombard with Red Tail	/	/	NA	NA	NA
B97C	White Bombard with Blue tail	/	/	NA	NA	NA
B97D	White Bombard with Green tail	/	/	NA	NA	NA
B97E	White Bombard with Purple tail	/	/	NA	NA	NA
B98	Gold Glitter Bombard	/	/	NA	NA	NA
B98A	Gold Glitter Bombard with gold glitter tail	/	/	NA	NA	NA
B98B	Gold Glitter Bombard with red tail	/	/	NA	NA	NA
B98C	Gold Glitter Bombard with green tail	/	/	NA	NA	NA
B99	Red strobe bombard	/	/	NA	NA	NA
B99A	Red strobe bombard with red strobe tail	/	/	NA	NA	NA

BH Bombard with Star Mine

		25	30	40	50	60
BH01	Red Star Bombard w/ Silver Tail + Green Star Mine	//	//	NA	NA	NA
BH02	Golden Rain Bombard w/ Gold Tail + Gold Star Mine	//	//	NA	NA	NA
BH03	Crackling Bombard + Crackling Star Mine	//	//	NA	NA	NA
BH04	Multicolor Bombard w/Silver Tail + Multicolor Star Mine	//	//	NA	NA	NA
BH04A	Multicolor Bombard w/Silver Tail + Multicolor Star Mine (each shot one colour)	//	//	NA	NA	NA

= 1.3G UN0335 (USA)
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MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

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		25	30	40	50	60
BH05	Midnight Snow Bombard w/ Gold Tail + Blue Star Mine	//	//	NA	NA	NA
BH06	Orange and Green Bombard with Green Fish Mine	//	//	NA	NA	NA
BH07	Yellow Chrysanthemum Bombard w/ Gold Tail + Red Star Mine	//	//	NA	NA	NA
BH08	Midnight Snow Bombard w/ Gold Tail + Crackling Star Mine	//	//	NA	NA	NA
BH09	White Strobe Bombard w/ White Strobe Star Mine	//	//	NA	NA	NA
BH10	Midnight Snow Bombard w/ Midnight Snow Star Mine	//	//	NA	NA	NA
BH11	Crackling Bombard w/ Lemon and Purple Star Mine	//	//	NA	NA	NA
BH12	Gold Glitter to Purple Bombard w/ Purple Star Mine	//	//	NA	NA	NA
BH13	Cardinal Purple Bombard w/Gold Glitter Tail w/ Purple Mine	//	//	NA	NA	NA
BH14	Midnight Snow Bombard + Red Star Mine	//	//	NA	NA	NA
BH15	Red Star Bombard w/ Silver Tail + Red Star Mine	//	//	NA	NA	NA
BH16	Purple Star Bombard + Lemon Star Mine	//	//	NA	NA	NA
BH17	Crackling Bombard w/o tail + Twice Crackling Mine	//	//	NA	NA	NA
BH18	Aqua Bombard with Silver Tail + Blue Star Mine	//	//	NA	NA	NA
BH19	Golden Rain Bombard w/ Gold Tail + Blue Star Mine	//	//	NA	NA	NA
BH20	Green to Crackle Bombard w/ Silver Tail + Green to Crackle Star Mine	//	//	NA	NA	NA
BH21	Red to Crackle Bombard w/ Gold Tail + Red to Crackle Star Mine	//	//	NA	NA	NA
BH22	Red Star Bombard w/ Silver Tail + Blue to Crackle Star Mine	//	//	NA	NA	NA
BH23	Golden Rain Bombard w/ Gold Tail + Green Star Mine	//	//	NA	NA	NA
BH24	Green Fish Bombard w/ Gold Tail + Green Star Mine	//	//	NA	NA	NA
BH25	Green Strobe Willow Bombard + Green Star Mine	//	//	NA	NA	NA
BH26	Green Star Bombard w/ Silver Tail + Lemon Star Mine	//	//	NA	NA	NA
BH27	Red Star Bombard w/ Silver Tail + Lemon Star Mine	//	//	NA	NA	NA
BH28	Blue Star Bombard w/ Silver Tail + Orange Star Mine	//	//	NA	NA	NA
BH29	Green Star Bombard w/ Silver Tail + Orange Star Mine	//	//	NA	NA	NA
BH30	Green Fish Bombard w/ Gold Tail + Orange Star Mine	//	//	NA	NA	NA
BH31	Golden Rain Bombard w/ Gold Tail + Purple Star Mine	//	//	NA	NA	NA
BH32	Green Fish Bombard w/ Gold Tail + Purple Star Mine	//	//	NA	NA	NA
BH33	Lemon Star Bombard w/ Silver Tail + Purple Star Mine	//	//	NA	NA	NA
BH34	Crackling Bombard w/ Silver Tail + Red & Blue Star Mine	//	//	NA	NA	NA
BH35	White Strobe Bombard w/ Silver Tail + Red & Blue Star Mine	//	//	NA	NA	NA
BH36	Lemon and Red Star Bombard w/ Silver Tail + Red Fish Mine	//	//	NA	NA	NA
BH37	Red Fish Bombard w/ Silver Tail + Red Fish Mine	//	//	NA	NA	NA
BH38	Golden Rain Bombard w/ Gold Tail + Red Star Mine	//	//	NA	NA	NA
BH39	Lemon Star Bombard w/ Silver Tail + Red Star Mine	//	//	NA	NA	NA
BH40	White Strobe Willow Bombard w/ Silver Tail + Red Star Mine	//	//	NA	NA	NA
BH41	Red & Green Fish Bombard w/ Silver Tail + Silver Fish Mine	//	//	NA	NA	NA
BH42	Silver Fish Bombard w/ Silver Tail + Silver Fish Mine	//	//	NA	NA	NA
BH43	Green Fish Bombard w/ Gold Tail + Twilight Glitter Mine	//	//	NA	NA	NA
BH44	Red Fish Bombard w/ Silver Tail + Twilight Glitter Mine	//	//	NA	NA	NA
BH45	Silver Fish Bombard w/ Silver Tail + Twilight Glitter Mine	//	//	NA	NA	NA
BH46	Twilight Glitter Bombard w/ Silver Tail + Twilight Glitter Mine	//	//	NA	NA	NA
BH47	Blue & Red Bombard w/ Silver Tail + Crackling Mine	//	//	NA	NA	NA
BH48	Twilight Glitter Bombard + Red & Blue Mine	//	//	NA	NA	NA
BH50	Twice Crackling Rain w/Crackling Bombard	//	//	NA	NA	NA
BH51	Red Star Mine & Blue Bombards without Tail	NA	NA	NA	NA	NA
BH52	Blue Bombard with White strobe mine	//	//	NA	NA	NA
BH52A	Blue Bombard with crackling mine	//	//	NA	NA	NA
BH53	Green Bombard with White strobe mine	//	//	NA	NA	NA
BH53A	Green Bombard with Crackling mine	//	//	NA	NA	NA
BH54	Red Bombard with White strobe mine	//	//	NA	NA	NA
BH54A	Red Bombard with Crackling mine	//	//	NA	NA	NA
BH55	3xGold Time Rain Bombard Mine w/Silver tail (L/R) and 3xGold Rain Bombard (C)	NA	NA	NA	NA	NA
BH56	Gold Glitter Bombard with Gold Glitter Mine	//	//	NA	NA	NA

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MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

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		25	30	40	50	60
BH56B	Orange Bombard w/Orange Mine	/	/	NA	NA	NA
BH56C	Yellow Bombard w/Yellow Mine	/	/	NA	NA	NA
BH56D	Green Bombard w/Green mine	//	//	NA	NA	NA
BH56E	Red Bombard with red mine	//	//	NA	NA	NA
BH56F	Aqua Bombard with aqua mine	//	//	NA	NA	NA
BH56G	Blue Bombard with blue mine	//	//	NA	NA	NA
BH56H	Purple Bombard with purple mine	//	//	NA	NA	NA
BH56J	Pink Bombard with pink mine	//	//	NA	NA	NA
BH57A	Purple Bombard with Crackling mine	//	//	NA	NA	NA
BH58A	Red Bombard w/Red tail w/Red Mine	//	//	NA	NA	NA
BH58B	Blue Bombard w/Blue tail w/Blue Mine	//	//	NA	NA	NA
BH58C	Silver Bombard w/Silver tail w/silver Mine	//	//	NA	NA	NA
BH58D	Green Bombard w/Green tail w/Green Mine	//	//	NA	NA	NA
BH58E	Yellow Bombard w/Yellow tail w/Yellow Mine	//	//	NA	NA	NA
BH58F	Purple Bombard w/Purple tail w/Purple Mine	//	//	NA	NA	NA
BH58G	Pink Bombard w/Pink tail w/Pink Mine	//	//	NA	NA	NA
BH58H	Orange Bombard w/Orange tail w/Orange Mine	//	//	NA	NA	NA
BH58J	Aqua Bombard w/Aqua tail w/Aqua Mine	//	//	NA	NA	NA
BH58K	White strobe Dahlia Bombard w/Twilight Glitter tail & white strobe mine	/	/	NA	NA	NA
BH58L	Gold Glitter Bombard w/Gold Glitter Tail & Gold Glitter Mine	/	/	NA	NA	NA
BH59A	Red Dahlia Bombard with crackling tail & crackling mine	/	/	NA	NA	NA
BH59B	Yellow Dahlia Bombard with crackling tail & crackling mine	/	/	NA	NA	NA
BH59C	Green Dahlia Bombard with crackling tail & crackling mine	/	/	NA	NA	NA
BH60	Silver Cascade Waterfall w/Silver Cascade Tail & Blue Mine	/	/	NA	NA	NA
BH60A	Silver Cascade Waterfall w/Silver Cascade Tail & Silver Cascade Mine	/	/	NA	NA	NA
BH61	Gold Glitter & Blue Bombard w/Gold Glitter & Blue Mine	/	/	NA	NA	NA
BH62	Gold Palm to Red Plum	/	/	NA	NA	NA

BL Falling Leaves

		25	30	40	50	60
BL01	Multicolour Falling Leaves Bombard	/	/	NA	NA	NA
BL02	Red Falling Leaves Bombard	/	/	NA	NA	NA
BL03	Green Falling Leaves Bombard	/	/	NA	NA	NA
BL04	Yellow Falling Leaves Bombard	/	/	NA	NA	NA
BL05	Silver Falling Leaves Bombard	/	/	NA	NA	NA
BL06	Purple Falling Leaves Bombard	/	/	NA	NA	NA

BD Dahlia Waterfall

		25	30	40	50	60
BD01	Red Dahlia Waterfall	/	/	NA	NA	NA
BD01A	Red Dahlia Waterfall with red tail	/	/	NA	NA	NA
BD01B	Red Dahlia Waterfall with twilight glitter tail	/	/	NA	NA	NA
BD02	Blue Dahlia Waterfall	/	/	NA	NA	NA
BD03	Green Dahlia Waterfall	/	/	NA	NA	NA
BD03A	Green Dahlia Waterfall with green tail	/	/	NA	NA	NA
BD03B	Green Dahlia Waterfall with twilight glitter tail	/	/	NA	NA	NA
BD04	Purple Dahlia Waterfall	/	/	NA	NA	NA
BD04A	Purple Dahlia Waterfall with purple tail	/	/	NA	NA	NA
BD04B	Purple Dahlia Waterfall with twilight glitter tail	/	/	NA	NA	NA
BD05	White strobe Dahlia Waterfall	/	/	NA	NA	NA
BD05A	White strobe Dahlia Waterfall with white strobe tail	/	/	NA	NA	NA
BD06	Pink Dahlia Waterfall	/	/	NA	NA	NA
BD06A	Pink Dahlia Waterfall with pink tail	/	/	NA	NA	NA
BD07	Rainbow Dahlia Waterfall (Red,Orange,Yellow,Green,Blue,Purple) with twilight glitter tail	/	/	NA	NA	NA
BD07A	Rainbow Dahlia Waterfall (Red,Orange,Yellow,Green,Blue,Purple) with brocade tail	/	/	NA	NA	NA

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		25	30	40	50	60
BD08	Red Strobe Dahlia Waterfall	/	/	NA	NA	NA
BD08A	Red Strobe Dahlia Waterfall with red strobe tail	/	/	NA	NA	NA
BD08B	Red Strobe Dahlia Waterfall with brocade tail	/	/	NA	NA	NA

C Comets Color Stars

		25	30	40	50	60
C01	Color Star - Red	/	/	/	#	#
C02	Color Star - Blue	/	/	/	#	#
C03	Color Star - Green	/	/	/	#	#
C04	Color Star - Orange	/	/	/	#	#
C05	Color Star - Yellow	/	/	/	#	#
C06	Color Star - Aqua	/	/	/	#	#
C07	Color Star - Lemon	/	/	/	#	#
C08	Color Star - Purple	/	/	/	#	#
C09	Color Star - White	/	/	/	#	#
C10	Color Star - Pink	/	/	/	#	#

Comets

		25	30	40	50	60
C11	Comet - Silvery Cascade	/	/	/	#	#
C12	Comet - Golden Rain	/	/	/	#	#
C13	Comet - Crackling comet	/	/	/	#	#
C14	Comet - Twilight glitter	/	/	/	#	#
C15	Comet - Silver Coconut	/	/	/	#	#
C16	Comet - Green Glittering Willow	/	/	/	#	#
C17	Comet - White Glittering Willow	/	/	/	#	#
C18	Comet - White Strobe (Same as C17 White Glittering Willow)	/	/	/	#	#
C19	Comet - Gold Wave	/	/	/	#	#
C20	Comet - Gold Glitter	/	/	/	#	#
C21	Comet - Green strobe	/	/	/	#	#
C22	Comet - Multicolor (Red, Orange, Yellow, Green, Blue, Purple)	/	/	/	#	#
C23	Comet - Midnight Snow	/	/	/	#	#
C24	Comet - Red Strobe	/	/	/	#	#

Comet with color tip

		25	30	40	50	60
C31	Twilight Glitter Comet with red tip	/	/	/	#	#
C32	Twilight Glitter Comet with blue tip	/	/	/	#	#
C33	Golden Rain Comet with green tip	/	/	/	#	#
C33A	Golden Rain Comet with red tip	/	/	/	#	#
C34	Green Strobe Comet with red tip	/	/	/	#	#
C35	White Strobe Comet with green tip	/	/	/	#	#
C36	Spring Flower (crackling) comet with red tip	/	/	/	#	#
C37	Twilight Glitter Comet with green tip	/	/	/	#	#
C37A	Twilight Glitter Comet with orange tip	/	/	/	#	#
C37B	Twilight Glitter Comet with lemon tip	/	/	/	#	#
C37C	Twilight Glitter Comet with purple tip	/	/	/	#	#
C38	Lemon with Red tip Comet	/	/	/	#	#
C39	Orange with Green tip Comet	/	/	/	#	#
C40	Titanium Report with red tip	#	#	#	#	#
C40A	Titanium Report with green tip	#	#	#	#	#
C41	Silver Cascade with blue tip	/	/	/	#	#
C41A	Silver Cascade with red tip	/	/	/	#	#

Color Changing Star

		25	30	40	50	60
C38	Lemon with red tip	/	/	/	#	#
C39	Orange with green tip	/	/	/	#	#

MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

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		25	30	40	50	60
C101	Blue to Red Star	/	/	/	#	#
C102	Yellow to Green Star	/	/	/	#	#
C103	Green to Red Star	/	/	/	#	#

Assorted Color Star/Comet (For modular cake only)

		25	30	40	50	60
C201	Aqua/Blue/Red Stars assorted	/	/	/	#	#
C202	Red/Yellow/Blue Stars assorted	/	/	/	#	#

D Crossette, two color Crossette

		25	30	40	50	60
D01	Golden Rain Crossette	/	NA	NA	NA	NA
D02	Silver Cascade Crossette	/	NA	NA	NA	NA
D03	Red Star Crossette	/	NA	NA	NA	NA
D04	Blue Star Crossette	/	NA	NA	NA	NA
D05	Green Star Crossette	/	NA	NA	NA	NA
D06	Yellow Star Crossette	/	NA	NA	NA	NA
D07	Red Star Crossette w/silver Tail	/	NA	NA	NA	NA
D07A	Purple Crossette	/	NA	NA	NA	NA
D08	Green Star Crossette w/silver Tail	/	NA	NA	NA	NA
D09	Silver Palm Crossette	/	NA	NA	NA	NA
D10	Crackling Star Crossette	/	NA	NA	NA	NA
D11	Green Glitter Willow Crossette	/	NA	NA	NA	NA
D12	White Glitter willow Crossette	/	NA	NA	NA	NA
D13	Green Star Crossette w/ Gold Tail	/	NA	NA	NA	NA
D14	Blue Star Crossette w/ Gold Tail	/	NA	NA	NA	NA

E Mine (Whistle, Criss Cross, Tourbillion, Thunder, Fishes, Bombard)

		25	30	40	50	60
E01	Whistle w/white strobe Tail (mine)	NA	NA	///	///	///
E02	Red Criss Cross, single star per insert, multi inserts per shot	NA	NA	///	///	///#
E03	Green Criss Cross, single star per insert, multi inserts per shot	NA	NA	///	///	///#
E04	Large Red Criss Cross, multi star per insert, single insert per shot	NA	///	NA	NA	NA
E05	Large Green Criss Cross, multi star per insert, single insert per shot	NA	///	NA	NA	NA
E05A	Large Gold Wave Criss Cross, multi star per insert, single insert per shot	NA	///	NA	///	NA
E06	Tourbillion Mine w/Red Tail	NA	///	///	///#	///#
E07	Tourbillion Mine w/Green Tail	NA	///	///	///#	///#
E08	Tourbillion Mine w/Blue Tail	NA	///	///	///#	///#
E09	Tourbillion Mine w/Purple Tail	NA	///	///	///#	///#
E10	Tourbillion Mine w/Report	NA	///	///	///#	///#
E11	Tourbillion	NA	///	///	///#	///#
E11A	Tourbillion and Blue Stars	NA	///	///	///#	///#
E12A	Tourbillion with Purple Go-Getters	NA	NA	NA	///#	///#
E12B	Tourbillion with Red Go-Getters	NA	NA	NA	///#	///#
E12C	Tourbillion with Yellow Go-Getters	NA	NA	NA	///#	///#
E12D	Tourbillion with Green Go-Getters	NA	NA	NA	///#	///#
E13	Diamond Whistle	NA	NA	///	///	///
E13A	Diamond Screamer with Red Go-Getters	NA	NA	///	///	///
E14	Red Diamond Screamer	NA	NA	///	///	///
E15	Green Diamond Screamer	NA	NA	///	///	///
E16	Blue Diamond Screamer	NA	NA	///	///	///
E17	Red Thunder	NA	NA	///#	///#	///#
E18	Green Thunder	NA	NA	///#	///#	///#
E19	Gold Thunder	NA	NA	///#	///#	///#
E20	Silver Thunder	NA	NA	///#	///#	///#
		25	30	40	50	60
E21	Red Hummers	NA	NA	///	///	NA

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		25	30	40	50	60
E22	Green Hummers	NA	NA	///	///	NA
E23	Multicolor Hummers	NA	NA	///	///	NA
E27	Multicolor Star Mine + Whistle to Thunder Mine	NA	NA	///#	///#	NA
E30	Red Glitter Mine - Tourbillion	NA	NA	/	/	NA

EA	Color Star Mine	25	30	40	50	60
EA01	Red Stars	/	/	/	/	NA
EA02	Green Stars	/	/	/	/	NA
EA03	Blue Stars	/	/	/	/	NA
EA04	Yellow Stars	/	/	/	/	NA
EA05	White Stars	/	/	/	/	NA
EA06	Crackling Stars	/	/	/	/	NA
EA07	White Strobe	/	/	/	/	NA
EA08	Twilight Glitter	/	/	/	/	NA
EA09	Golden Rain	/	/	/	/	NA
EA10	Silver Cascade	/	/	/	/	NA
EA11	Gold Glitter	/	/	/	/	NA
EA12	Multicolor	/	/	/	/	NA
EA13	Twilight Glitter to Red	/	/	/	/	NA
EA14	Twilight Glitter to Blue	/	/	/	/	NA
EA15	Blue , Red, White Strobe, 3 layers Star Mine	/	/	/	/	NA
EA15A	Crackling, Gold Glitter, Red, 3 layers Star Mine	/	/	/	/	NA
EA15B	Crackling, Gold Glitter, Green, 3 layers Star Mine	/	/	/	/	NA
EA15C	Crackling, Gold Glitter, Purple, 3 layers Star Mine	/	/	/	/	NA
EA16	Rainbow (Red, Yellow, Orange, Green, Aqua, Blue & Purple) Modular only	/	/	/	/	NA
EA17	Gold Wave	/	/	/	/	NA
EA18	Lemon Stars	/	/	/	/	NA
EA19	Orange Stars	/	/	/	/	NA
EA20	Brocade	/	/	/	/	NA
EA21	Purple Stars	/	/	/	/	NA
EA22	Gold Wave w/Blue	/	/	/	/	NA
EA23	Gold Wave w/Yellow	/	/	/	/	NA
EA24	Gold Wave w/Red	/	/	/	/	NA
EA25	Gold Wave w/Purple	/	/	/	/	NA
EA26	Gold Wave w/Green	/	/	/	/	NA
EA27	Aqua stars	/	/	/	/	NA
EA28	White Strobe to Green Mine	/	/	/	/	NA
EA29	Photo Flash Mine	/	/	/	/	NA
EA30	2 Layer : White strobe stars to Blue Mine	/	/	/	/	NA
EA31	Gold to Green Mine	/	/	/	/	NA
EA32	Red / Green / Blue (Left/Centre/Right)	/	/	/	/	NA
EA33	Red / Orange / Lemon (Left/Centre/Right)	/	/	/	/	NA
EA34	Pink stars	/	/	/	/	NA
EA35	Red Dahlia Star w/Gold Glitter Mine	//	//	//	//#	NA

EAS	Sweeper Mine	25	30	40	50	60
EAS01	Green to Purple to Yellow Sweeper Mine	NA	NA	//	NA	NA

EB	Color Star Mine with Large Comet	25	30	40	50	60
EB01	Silver Cascade Comet w/green star mine	//	//	//	//#	NA
EB02	Silver Cascade Comet w/blue star mine	//	//	//	//#	NA
EB02A	Silver Cascade Comet w/red and blue star mine	//	//	//	//#	NA
EB02B	Silver Cascade Comet w/silver cascade mine	//	//	//	//#	NA
EB02C	Silver Cascade Comet w/red mine	//	//	//	//#	NA

MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

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		25	30	40	50	60
EB02D	Silver Cascade Comet w/yellow mine	//	//	//	II#	NA
EB02E	Silver Cascade Comet w/purple mine	//	//	//	II#	NA
EB03	Golden Rain Comet w/purple star mine	//	//	//	II#	NA
EB03A	Golden Rain Comet w/purple & green star mine	//	//	//	II#	NA
EB04	Twilight Glitter Comet w/multi-color star mine	//	//	//	II#	NA
EB04A	Twilight Glitter Comet w/red & blue star mine	//	//	//	II#	NA
		25	30	40	50	60
EB04B	Twilight Glitter Comet w/Red Mine	//	//	//	II#	NA
EB04C	Twilight Glitter Comet w/Blue Mine	//	//	//	II#	NA
EB04D	Twilight Glitter Comet w/Purple Mine	//	//	//	II#	NA
EB04E	Twilight Glitter Comet w/Green mine	//	//	//	II#	NA
EB04F	Twilight Glitter Comet w/Gold Glitter mine	//	//	//	II#	NA
EB05	Crackling Comet w/red star mine	//	//	//	II#	NA
EB05A	Crackling Comet w/blue star mine	//	//	//	II#	NA
EB06	Silver Cascade Comet w/ Crackling Stars Mine	//	//	//	II#	NA
EB07	Golden Rain Comet w/Blue Stars Mine	//	//	//	II#	NA
EB07A	Golden Rain Comet w/Yellow Stars Mine	//	//	//	II#	NA
EB07G	Golden Rain Comet w/Pink Stars Mine	//	//	//	II#	NA
EB07H	Golden Rain Comet w/Red Stars Mine	//	//	//	II#	NA
EB07J	Golden Rain Comet w/Green Stars Mine	//	//	//	II#	NA
EB07K	Golden Rain Comet w/Twilight Glitter Stars Mine	//	//	//	II#	NA
EB08	Midnight Snow Mine + Twilight Glitter Comet w/ Red Tip	//	//	//	II#	NA
EB13	Aqua Comet w/ Orange Stars Mine	//	//	//	II#	NA
EB14	Blue Comet w/ White Strobe Mine	//	//	//	II#	NA
EB15	Midnight Snow Comet w/ Green Star Mine	//	//	//	II#	NA
	Color Star Mine with Large Comet	25	30	40	50	60
EB16	White Glittering Willow w/ Red Star Mine	//	//	//	II#	NA
EB16A	White Glittering Willow w/Purple Star Mine	//	//	//	II#	NA
EB16B	White Glittering Willow w/Multicolor Star Mine	//	//	//	II#	NA
EB17	Aqua Comet w/ Multicolor Star Mine	//	//	//	II#	NA
EB17B	Aqua Comet w/Gold Glitter Star Mine	//	//	//	II#	NA
EB18	Midnight Snow Comet w/ Blue Star Mine	//	//	//	II#	NA
EB19	Crackling Comet w/ Crackling Star Mine	//	//	//	II#	NA
EB20	Rainbow Mine w/ Silver Cascade Comet (Red/Orange/Yellow/Green/Aqua/Blue/Purple) Available only in 7 shots	NA	//	NA	NA	NA
EB20A	Silver Cascade Comet w/Multicolor Star Mine (Red,Green,Blue,Yellow,Purple)	NA	//	NA	NA	NA
EB22	Silver Cascade Comet w/red star mine	//	//	//	II#	NA
EB22A	Red Mine/Silver Cascade/Blue Mine/Silver Cascade/Red Mine/Silver Cascade/Blue Mine	//	//	//	II#	NA
EB23	Midnight Snow Comet w/Red Star Mine	//	//	//	II#	NA
EB24	White Glittering Willow w/Blue star Mine	//	//	//	II#	NA
EB24A	White Glittering Willow w/Green star Mine	//	//	//	II#	NA
EB25	Red Comet w/Red Mine	//	//	//	II#	NA
EB25A	Red Comet w/Blue Mine	//	//	//	II#	NA
EB25B	Red Comet w/Gold Glitter Mine	//	//	//	II#	NA
EB25C	Red Comet w/White Star Mine	//	//	//	II#	NA
EB25D	Red Comet w/Twilight Glitter Mine	//	//	//	II#	NA
EB25E	Red Comet w/Multicolor Mine	//	//	//	II#	NA
EB25F	Red Comet w/Silver Cascade Mine	//	//	//	II#	NA
EB26	Orange Comet w/Orange Mine	//	//	//	II#	NA
EB26S	Orange Comet w/Silver Mine	//	//	//	II#	NA
EB26B	Orange Comet w/Gold Glitter Mine	//	//	//	II#	NA
EB27	Yellow Comet w/Yellow Mine	//	//	//	II#	NA

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		25	30	40	50	60
EB27B	Yellow Comet w/Gold Glitter Mine	//	//	//	II#	NA
EB28	Green Comet w/Green Mine	//	//	//	II#	NA
EB28A	Green Comet w/Gold Glitter Mine	//	//	//	II#	NA
EB28B	Green Comet w/White Star Mine	//	//	//	II#	NA
EB28C	Green Comet w/Twilight Glitter Mine	//	//	//	II#	NA
EB28D	Green Comet w/Multicolor Mine	//	//	//	II#	NA
EB28E	Green Comet w/Brocade Mine	//	//	//	II#	NA
EB28F	Green Comet w/Orange Mine	//	//	//	II#	NA
EB29	Aqua Comet w/Aqua Mine	//	//	//	II#	NA
EB30	Blue Comet w/Blue Mine	//	//	//	II#	NA
EB30A	Blue Comet w/Red Mine	//	//	//	II#	NA
EB30B	Blue Comet w/Gold Glitter Mine	//	//	//	II#	NA
		25	30	40	50	60
EB30C	Blue Comet w/White Star Mine	//	//	//	NA	NA
EB30D	Blue Comet w/Twilight Glitter Mine	//	//	//	NA	NA
EB30F	Blue Comet w/Sivler Cascade Mine	//	//	//	NA	NA
EB31	Purple Comet w/Purple Mine	//	//	//	NA	NA
EB31A	Purple Comet w/Gold Glitter Mine	//	//	//	NA	NA
EB31B	Purple Comet w/Green mine	//	//	//	NA	NA
EB31C	Purple Comet w/Twilight Glitter mine	//	//	//	NA	NA
EB31D	Purple Comet w/Multicolor mine	//	//	//	NA	NA
EB31F	Purple Comet w/Silver Cascade mine	//	//	//	NA	NA
EB31G	Purple Comet w/Orange mine	//	//	//	NA	NA
EB32	Twilight Glitter Comet w/Twilight Glitter Mine	//	//	//	NA	NA
EB33	Red, Orange, Yellow, Green, Aqua, Blue, Purple (with matching mines)	//	//	//	NA	NA
EB34	White Comet w/White Mine	//	//	//	NA	NA
EB35	Lemon Comet w/Pink Mine	//	//	//	NA	NA
EB36	Pink Comet w/Gold Glitter Mine	//	//	//	NA	NA
EB36E	Pink Comet w/Gold Wave Mine	//	//	//	NA	NA
EB37	Aqua Comet w/Gold Rain Mine	//	//	//	NA	NA
EB39	Gold Glitter Comet w/Red Mine	//	//	//	NA	NA
EB39A	Gold Glitter Comet w/Blue Mine	//	//	//	NA	NA
EB39B	Gold Glitter Comet w/Green mine	//	//	//	NA	NA
EB39C	Gold Glitter Comet w/Mulitcolor Mine	//	//	//	NA	NA
EB39H	Gold Glitter Comet w/Aqua Mine	//	//	//	NA	NA
EB39J	Gold Glitter Comet w/Orange Mine	//	//	//	NA	NA
EB40A	Brocade Comet w/Red Mine	//	//	//	NA	NA
EB40B	Brocade Comet w/Blue Mine	//	//	//	NA	NA
EB40C	Brocade Comet w/Purple Mine	//	//	//	NA	NA
EB40D	Brocade Comet w/White Mine	//	//	//	NA	NA
EB41	Gold Wave Comet w/Gold Wave Mine	//	//	//	NA	NA

EC	Crossette Stars Mine	25	30	40	50	60
EC01	Golden Rain Crossette Mine	NA	NA	NA	III#	NA
EC02	Silver Cascade Crossette Mine	NA	NA	NA	III	NA
EC03	Silver Palm Crossette Mine	NA	NA	NA	III#	NA
EC04	Red Star Crossette Mine	NA	NA	NA	III#	NA
EC05	Blue Star Crossette Mine	NA	NA	NA	III#	NA
EC06	Green Star Crossette Mine	NA	NA	NA	III#	NA
EC07	Yellow Star Crossette Mine	NA	NA	NA	III#	NA
EC08	Crackling Star Crossette Mine	NA	NA	NA	III#	NA
EC09	Assorted Color Crossette Mine, Each Shot Single Color	NA	NA	NA	III#	NA

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MODULAR CAKES AND SINGLE SHOT EFFECTS LIST

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		25	30	40	50	60
EC10	Silver to Red Star Crossette Mine	NA	NA	NA	III#	NA
EC11	Silver to Green Star Crossette Mine	NA	NA	NA	III#	NA
EC12	Purple to Green Star Crossette Mine	NA	NA	NA	III#	NA

ED	Go-Getter Mine	25	30	40	50	60
ED1	Red Go-Getter Mine	NA	NA	III	III	NA
ED2	Green Go-Getter Mine	NA	NA	III	III	NA
ED3	Silver Go-Getter Mine	NA	NA	III	III	NA
ED4	Yellow Go-Getter Mine	NA	NA	III	III	NA
ED5	Purple Go-Getter Mine	NA	NA	III	III	NA
ED6	Gold Go-Getter Mine	NA	NA	III	III	NA
ED7	Red Go-Getter w/Silver Tail Mine	NA	NA	III	III#	NA
ED8	Green Go-Getter w/Silver Tail Mine	NA	NA	III	III#	NA
ED9	Yellow Go-Getter w/Silver Tail Mine	NA	NA	III	III#	NA
ED10	Purple Go-Getter w/Silver Tail Mine	NA	NA	III	III#	NA
ED11	Multicolor Go-Getter Mine (Red, Green, Purple, Yellow, Silver)	NA	NA	III	III	NA
ED12	Orange Go-Getter Mine	NA	NA	III	III	NA

EF	Fish Mine	25	30	40	50	60
EF01	Silver Fish Mine	NA	NA	III	NA	NA

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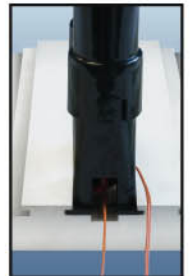
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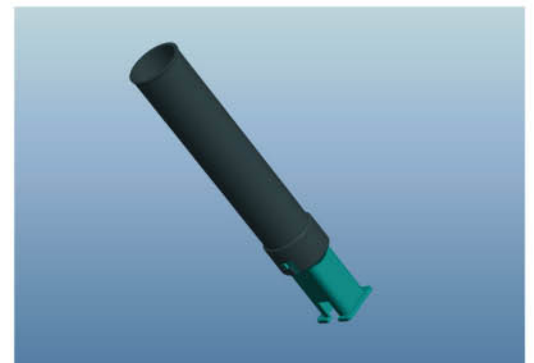
EFFECTS AVAILABLE

PRCS30-C 30mm Comet

PRCS30-EA 30mm Mine

PRCS30-EB 30mm Mine+Comet

20mm & 40mm will be introduced late 2017



Classification for USA: EX Approved by PHMSA as 1.4G UN0431 Article Pyrotechnics
Classification for Europe and other Markets: 1.4G UN0336 Fireworks
(€ approval under CAT-T1/T2 (BAM))

NO DEBRIS SINGLE SHOT EFFECTS LIST

V2016.1

C	Comets	30mm
C01	Color Star - Red	/
C02	Color Star - Blue	/
C03	Color Star - Green	/
C04	Color Star - Orange	/
C05	Color Star - Yellow	/
C06	Color Star - Aqua	/
C07	Color Star - Lemon	/
C08	Color Star - Purple	/
C09	Color Star - White	/
C10	Color Star - Pink	/
C11	Comet - Silvery Cascade	/
C12	Comet - Golden Rain	/
C13	Comet - Crackling comet	/
C14	Comet - Twilight glitter	/
C15	Comet - Silver Coconut	/
C16	Comet - Green Glittering Willow	/
C17	Comet - White Glittering Willow	/
C19	Comet - Gold Wave	/
C20	Comet - Gold Glitter	/
C21	Comet - Green strobe	/
C23	Comet - Midnight Snow	/
C31	Twilight Glitter Comet with red tip	/
C32	Twilight Glitter Comet with blue tip	/
C33	Golden Rain Comet with green tip	/
C33A	Golden Rain Comet with red tip	/
C34	Green Strobe Comet with red tip	/
C35	White Strobe Comet with green tip	/
C36	Spring Flower (crackling) comet with red tip	/
C37	Twilight Glitter Comet with green tip	/
C38	Lemon with Red tip Comet	/
C39	Orange with Green tip Comet	/
C41	Silver Cascade with blue tip	/
C101	Blue to Red Star	/
C102	Yellow to Green Star	/
C103	Green to Red Star	/

NO DEBRIS SINGLE SHOT EFFECTS LIST

V2016.1

EA	Color Star Mine	30mm
EA01	Red Stars	/
EA02	Green Stars	/
EA03	Blue Stars	/
EA04	Yellow Stars	/
EA05	White Stars	/
EA06	Crackling Stars	/
EA07	White Strobe	/
EA08	Twilight Glitter	/
EA09	Golden Rain	/
EA10	Silver Cascade	/
EA11	Gold Glitter	/
EA12	Multicolor	/
EA13	Twilight Glitter to Red	/
EA14	Twilight Glitter to Blue	/
EA15	Blue , Red, White Strobe, 3 layers Star Mine	NA
EA17	Gold Wave	/
EA18	Lemon Stars	/
EA19	Orange Stars	/
EA20	Brocade	/
EA21	Purple Stars	/
EA22	Gold Wave w/Blue	/
EA23	Gold Wave w/Yellow	/
EA24	Gold Wave w/Red	/
EA25	Gold Wave w/Purple	/
EA26	Gold Wave w/Green	/
EA27	Aqua stars	/
EA28	White Strobe to Green Mine	/
EA30	2 Layer : White strobe stars to Blue Mine	NA
EA31	Gold to Green Mine	/

NO DEBRIS SINGLE SHOT EFFECTS LIST

V2016.1

EB	Color Star Mine with Large Comet	30mm
EB17	Aqua Comet w/ Multicolor Star Mine	//
EB13	Aqua Comet w/ Orange Stars Mine	//
EB29	Aqua Comet w/Aqua Mine	//
EB37	Aqua Comet w/Gold Rain Mine	//
EB14	Blue Comet w/ White Strobe Mine	//
EB30	Blue Comet w/Blue Mine	//
EB30B	Blue Comet w/Gold Glitter Mine	//
EB30A	Blue Comet w/Red Mine	//
EB30D	Blue Comet w/Twilight Glitter Mine	//
EB30C	Blue Comet w/White Star Mine	//
EB19	Crackling Comet w/ Crackling Star Mine	//
EB05A	Crackling Comet w/blue star mine	//
EB05	Crackling Comet w/red star mine	//
EB39A	Gold Glitter Comet w/Blue Mine	//
EB39B	Gold Glitter Comet w/Green mine	//
EB39C	Gold Glitter Comet w/Multicolor Mine	//
EB39	Gold Glitter Comet w/Red Mine	//
EB07	Golden Rain Comet w/Blue Stars Mine	//
EB03	Golden Rain Comet w/purple star mine	//
EB28A	Green Comet w/Gold Glitter Mine	//
EB28	Green Comet w/Green Mine	//
EB28D	Green Comet w/Multicolor Mine	//
EB	Color Star Mine with Large Comet	30mm
EB28C	Green Comet w/Twilight Glitter Mine	//
EB28B	Green Comet w/White Star Mine	//
EB35	Lemon Comet w/Pink Mine	//
EB18	Midnight Snow Comet w/ Blue Star Mine	//
EB15	Midnight Snow Comet w/ Green Star Mine	//
EB23	Midnight Snow Comet w/Red Star Mine	//
EB08	Midnight Snow Mine + Twilight Glitter Comet w/ Red Tip	//
EB26	Orange Comet w/Orange Mine	//
EB26S	Orange Comet w/Silver Mine	//
EB36	Pink Comet w/Gold Glitter Mine	//
EB31A	Purple Comet w/Gold Glitter Mine	//
EB31B	Purple Comet w/Green mine	//
EB31D	Purple Comet w/Multicolor mine	//
EB31	Purple Comet w/Purple Mine	//
EB31C	Purple Comet w/Twilight Glitter mine	//
EB25A	Red Comet w/Blue Mine	//
EB25B	Red Comet w/Gold Glitter Mine	//
EB25E	Red Comet w/Multicolor Mine	//
EB25	Red Comet w/Red Mine	//
EB25D	Red Comet w/Twilight Glitter Mine	//
EB25C	Red Comet w/White Star Mine	//

NO DEBRIS SINGLE SHOT EFFECTS LIST

V2016.1

EB	Color Star Mine with Large Comet	30mm
EB06	Silver Cascade Comet w/ Crackling Stars Mine	//
EB02	Silver Cascade Comet w/blue star mine	//
EB01	Silver Cascade Comet w/green star mine	//
EB20A	Silver Cascade Comet w/Multicolor Star Mine	//
EB02A	Silver Cascade Comet w/red and blue star mine	//
EB22	Silver Cascade Comet w/red star mine	//
EB04C	Twilight Glitter Comet w/Blue Mine	//
EB04E	Twilight Glitter Comet w/Green mine	//
EB04	Twilight Glitter Comet w/multi-color star mine	//
EB04D	Twilight Glitter Comet w/Purple Mine	//
EB04A	Twilight Glitter Comet w/red & blue star mine	//
EB04B	Twilight Glitter Comet w/Red Mine	//
EB32	Twilight Glitter Comet w/Twilight Glitter Mine	//
EB34	White Comet w/White Mine	//
EB16	White Glittering Willow w/ Red Star Mine	//
EB24	White Glittering Willow w/Blue star Mine	//
EB24A	White Glittering Willow w/Green star Mine	//
EB16A	White Glittering Willow w/Purple Star Mine	//
EB27	Yellow Comet w/Yellow Mine	//



H. Mines

As an alternative to aerial shells, Vulcan Mines provide low level accents that really tie a show together into a stunning performance. Manufactured in a range of sizes to fit any venue, Vulcan Mines contain the same great colors used in all our Ball and Cylinder Shells, thereby making it easy to set up complimentary flights and patterns with these other devices. Supplied as mine bags or as pre-loaded disposable mortar units, our Mines come in one, two, or three layer configurations.

As a standard option, all Vulcan Mines are equipped with our E-Link Electric Match Connector, now offered in a variety of leader configurations. Please refer to the section marked "INNOVATIONS" in the Table of Contents of this catalog for a full description and help in ordering the best configuration for your needs.



MINES (PRE-INSTALLED WITH OUR E-LINK® CONNECTOR)

Version 2013.8

1. Mine Bags (Drop in Mortar Style)

- M2 Minebags made to fit into 2" mortar, packing 120 pcs per carton
- M2.5 Minebags made to fit into 2.5" mortar, packing 120 pcs per carton
- M3 Minebags made to fit into 3" mortar, packing 72 pcs per carton
- M4 Minebags made to fit into 4" mortar, packing 36 pcs OR 18 pcs per carton
- M5 Minebags made to fit into 5" mortar, packing 12 pcs per carton
- M6 Minebags made to fit into 6" mortar, packing 6 pcs per carton

Effect

No.	Single Layer	2"	2.5"	3"	4"	5"	6"	Cat.
01	Purple and Twilight Glitter						N/A	A
02	Twilight Glitter to Red						N/A	A
03	Gold Glitter to Green						N/A	A
04	Silver Cascade						N/A	A
05	Multicolor Stars						N/A	A
06	Red and Silver Cascade						N/A	A
07	Twilight Glitter						N/A	A
08	Green to Crackling						N/A	A
09	Red to Crackling						N/A	A
10	Yellow Cascade						N/A	A
11	All Whistle	N/A	N/A				N/A	B
11A	Whistle & Red Stars	N/A	N/A				N/A	B
12	Thunders	N/A	N/A				N/A	B
13	Red Yellow Blue to Thunders	N/A	N/A				N/A	B
14	Brocade						N/A	A
15	Autumn Gold						N/A	A
16	Hummers	N/A	N/A				N/A	B
17	Twilight Glitter to Blue						N/A	A
18	Golden Rain Crossette	N/A	N/A				N/A	B
19	Silver Cascade Crossette	N/A	N/A				N/A	B
20	Red Star Crossette	N/A	N/A				N/A	B
21	Green Star Crossette	N/A	N/A				N/A	B
22	Blue Star Crossette	N/A	N/A				N/A	B
23	Crackling Star Crossette	N/A	N/A				N/A	B
24	Silver Cascade Bombard w/Silver Tail	N/A	N/A				N/A	B
25	Red Diamond Screammers	N/A	N/A				N/A	B
26	Blue Diamond Screammers	N/A	N/A				N/A	B
27	Green Diamond Screammers	N/A	N/A				N/A	B
28	Assorted Color Diamond Screammers	N/A	N/A				N/A	B
29	Tourbillion with Report	N/A	N/A				N/A	B
29A	Tourbillions	N/A	N/A				N/A	B
30	All Crackling						N/A	A
31	All Red						N/A	A
***	31A						N/A	A
	32						N/A	A
	33						N/A	A
***	70						N/A	A
***	71						N/A	A
***	71	N/A	N/A				N/A	B
***	72						N/A	A
	97						N/A	A
***	R04						N/A	D
***	R05A						N/A	D
***	R10						N/A	D
***	R31						N/A	D
***	R33						N/A	D
***	R35						N/A	D

MINES (PRE-INSTALLED WITH OUR E-LINK® CONNECTOR)

Version 2013.8

1. Mine Bags (Drop in Mortar Style)

M2	Minebags made to fit into 2" mortar, packing 120 pcs per carton
M2.5	Minebags made to fit into 2.5" mortar, packing 120 pcs per carton
M3	Minebags made to fit into 3" mortar, packing 72 pcs per carton
M4	Minebags made to fit into 4" mortar, packing 36 pcsOR 18 pcs per carton
M5	Minebags made to fit into 5" mortar, packing 12 pcs per carton
M6	Minebags made to fit into 6" mortar, packing 6 pcs per carton

Effect

No.	Single Layer	2"	2.5"	3"	4"	5"	6"	Cat.
*** R36	Special Lemon Go Getter Mines						N/A	D
*** FL01	White Falling Leaves						N/A	A
*** FL02	Blue Falling Leaves						N/A	A
*** FL03	Lemon Falling Leaves						N/A	A
*** FL04	Aqua Falling Leaves						N/A	A

1. Mine Bags (drop in mortar style) continued..

2 Layers		12/6 3"	18/2 4"	5"	6"	Cat.
34	Bottom: Yellow, Top: Green			N/A	N/A	E
35	Bottom: Red, Top: Blue			N/A	N/A	E
36	Bottom: Silver Crackling, Top: Red			N/A	N/A	E
37	Bottom: Green, Top: Blue			N/A	N/A	E

3 Layers		18/2 3"	9/2 4"	5"	6"	Cat.
40	Bottom to Top: Silver Crackling, Red, Blue			N/A	N/A	C
41	Bottom to Top: Silver Crackling, Red+Blue, White Strobe Bombard			N/A	N/A	C
42	Bottom to Top: Silver Crackling, Green, Golden Rain Bombard			N/A	N/A	C
43	Bottom to Top: Silver Crackling, Red+White, Blue			N/A	N/A	C
*** 46	Three Color Changing: Red, White and Blue	N/A	N/A		N/A	D

4 Layers		3"	4"	5"	6"	Cat.
45	Bottom to Top: Crackling, Green, Thunders, Red Peony Shell	N/A	N/A		N/A	D

2. Pre-loaded, Disposable Mortars

PDM2	Disposable Mortars pre-loaded with 2" minebag
PDM2.5	Disposable Mortars pre-loaded with 2.5" minebag
PDM3	Disposable Mortars pre-loaded with 3" minebag
PDM4	Disposable Mortars pre-loaded with 4" minebag

effects: same as Mine Bags above

3. Water Mines

		3"	4"	5"	6"	Cat.
60-5	5", 10 seconds Silver fountains, 16 pcs.	N/A	N/A		N/A	D
60-6	6", 10 seconds Silver fountains, 26 pcs.	N/A	N/A	N/A		D
61-5	5", 7 seconds Silver fountains w/2 shots Candle, 16 pcs.	N/A	N/A		N/A	D
61-6	6", 7 seconds Silver fountains w/2 shots Candle, 26 pcs.	N/A	N/A	N/A		D
62-5	5", 7 seconds whistles, 40 pcs.	N/A	N/A		N/A	D
62-6	6", 7 seconds whistles, 60 pcs.	N/A	N/A	N/A		D

For use over water. Angle water mine at 45 degrees towards water before firing.



N. Fuse and Electric Match Connectors

Vulcan Quickmatch burns fast and hot. Use for leaders, finale chains, set piece work or wherever a fast burning fuse is needed.

For those display companies that want to make up their own Finale and Flight Chains, Vulcan now offers a variety of types to fit every need. We supply the Chains, you supply the shells.

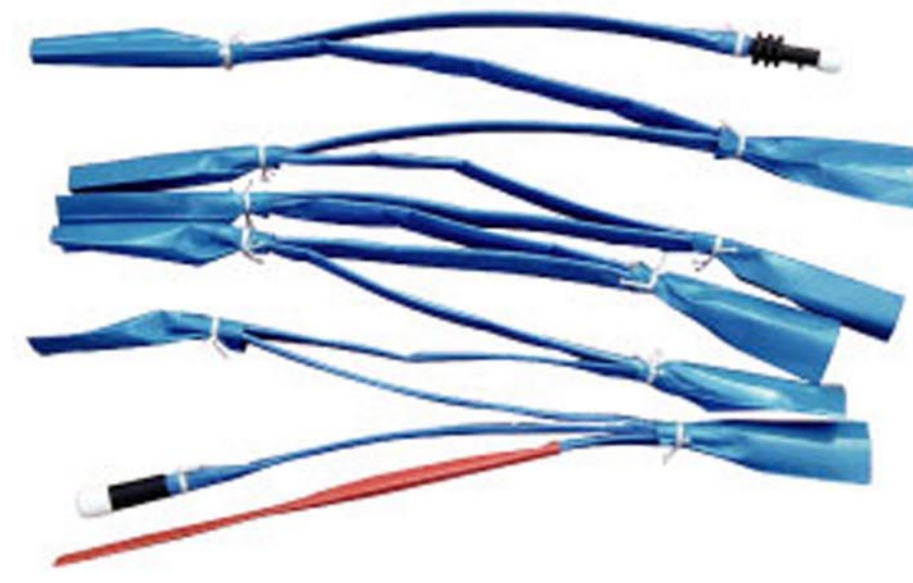
E-Link Electric Match Connectors, supplied with quickmatch leaders, makes retro fitting existing stocks of shells with the Vulcan E-Link Connector quick and easy.

For more information on the E-Link Electric Match Connector, Finale Chains, and Flight Chains, please refer to the section marked "INNOVATIONS" in the Table of Contents of this catalog for a full description and help in ordering the best configuration for your needs.



FUN10 TRADITIONAL FINALE CHAINS
< 10 BUCKETS PER CHAIN >
100 Chains per Carton.

FUN15 TRADITIONAL FINALE CHAINS
< 5 BUCKETS PER CHAIN >
100 Chains per Carton.



TRADITIONAL FINALE CHAINS

FUN20 INSTANTANEOUS FINALE CHAINS
< 10 CONNECTIONS PER CHAIN >
100 Chains per Carton.

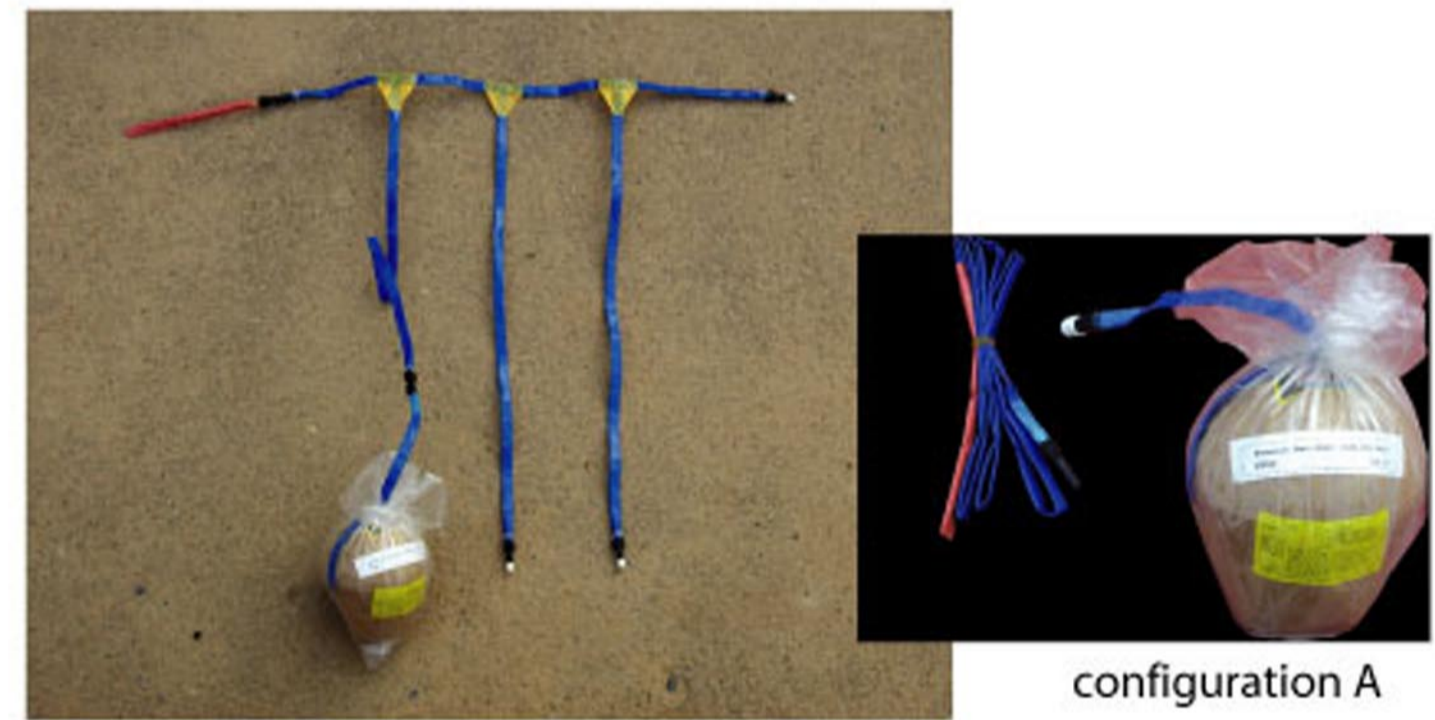
FUN25 INSTANTANEOUS FINALE CHAINS
< 5 CONNECTIONS PER CHAIN >
100 Chains per Carton.



INSTANTANEOUS FINALE CHAINS

FUN30 E-LINK® FLIGHT CHAIN STYLE A
For connection to our shells with E-LINK® connector
with short leader (configuration A)
< 10 CONNECTORS PER CHAINS >
100 Chains per carton.

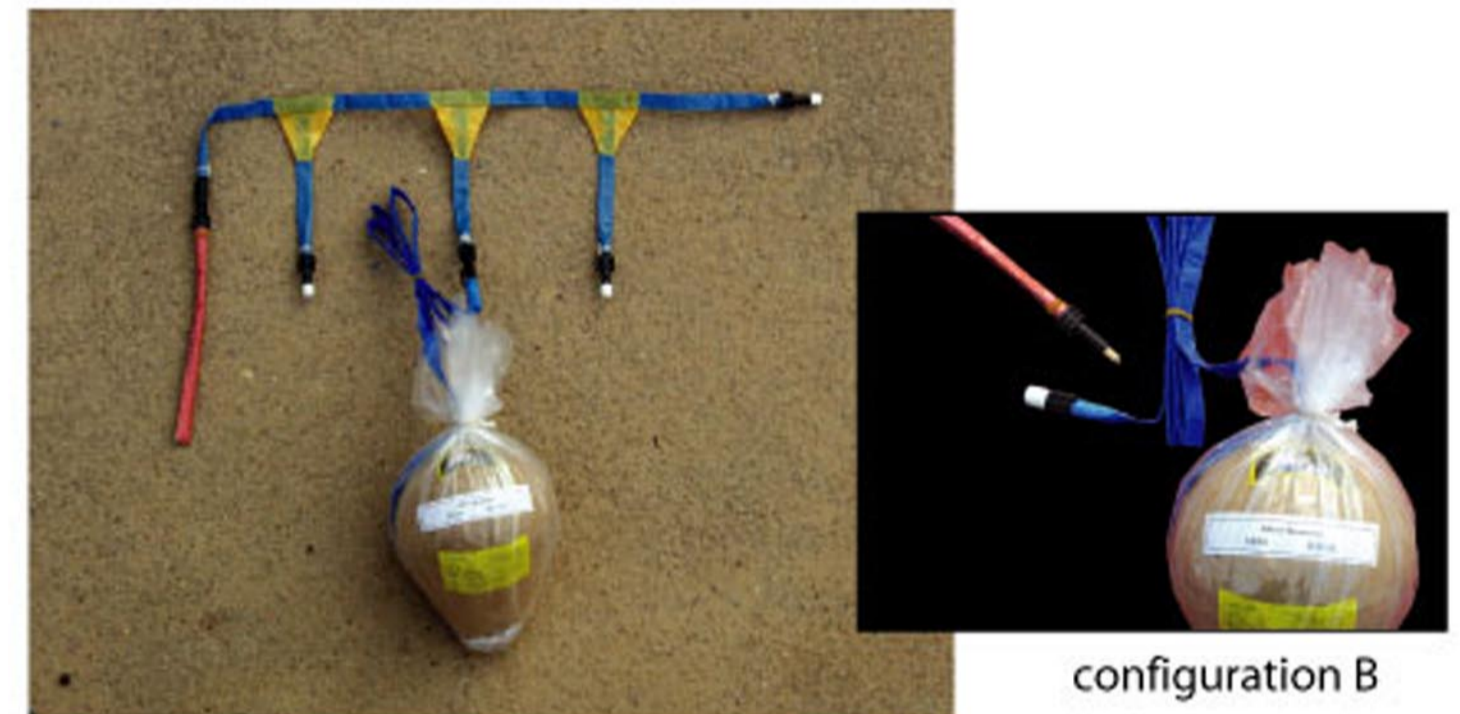
FUN35 E-LINK® FLIGHT CHAIN STYLE A
For connection to our shells with E-LINK® connector
with short leader (configuration A)
< 5 CONNECTORS PER CHAINS >
100 Chains per carton.



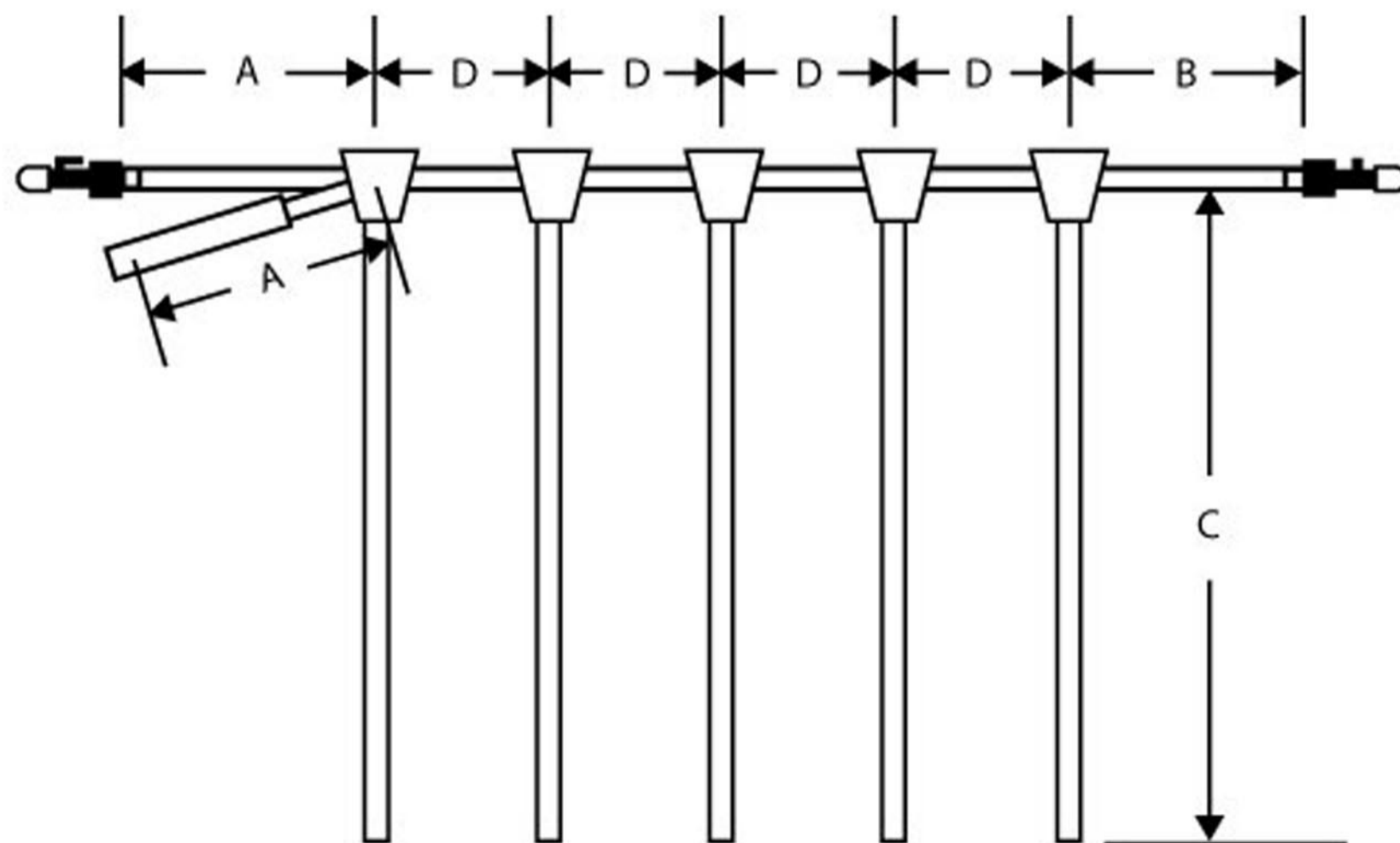
E-Link® FLIGHT CHAIN STYLE A

FUN40 E-LINK® FLIGHT CHAIN STYLE B
For connection to our shells with E-LINK® connector
with long leader (configuration B)
< 10 CONNECTORS PER CHAINS >
100 Chains per carton.

FUN45 E-LINK® FLIGHT CHAIN STYLE B
For connection to our shells with E-LINK® connector
with long leader (configuration B)
< 5 CONNECTORS PER CHAINS >
100 Chains per carton.



E-Link® FLIGHT CHAIN STYLE B



Dimension of our finale chains and flight chains

	A	B	C	D	No. of Shells
FUN10	6"	6"	0	4"	10
FUN15	6"	6"	0	4.5"	5

	A	B	C	D	No. of Shells
FUN20	6"	6"	4"	4"	10
FUN25	6"	6"	4"	4.5"	5

	A	B	C	D	No. of Shells
FUN30	6"	6"	26"	4"	10
FUN35	6"	6"	28"	4.5"	5

	A	B	C	D	No. of Shells
FUN40	6"	6"	4"	4"	10
FUN45	6"	6"	4"	4.5"	5

Please note that the dimension listed above is our standard.
We can also tailor make to suit your requirement.

DELAY TIME FUSE FOR DISPLAY USE - MADE WITH MACHINE PRESSED DELAY

- DY2 MACHINE PRESSED DELAY (2 sec delay)
- DY2/30 MACHINE PRESSED DELAY (2 sec delay, with 30 cm lead fuse)
- DY2/40 MACHINE PRESSED DELAY (2 sec delay, with 40 cm lead fuse)
- DY3 MACHINE PRESSED DELAY (3 sec delay)
- DY3/30 MACHINE PRESSED DELAY (3 sec delay, with 30 cm lead fuse)
- DY3/40 MACHINE PRESSED DELAY (3 sec delay, with 40 cm lead fuse)
- DY4 MACHINE PRESSED DELAY (4 sec delay)
- DY4/30 MACHINE PRESSED DELAY (4 sec delay, with 30 cm lead fuse)
- DY4/40 MACHINE PRESSED DELAY (4 sec delay, with 40 cm lead fuse)
- DY5 MACHINE PRESSED DELAY (5 sec delay)
- DY5/30 MACHINE PRESSED DELAY (5 sec delay, with 30 cm lead fuse)
- DY5/40 MACHINE PRESSED DELAY (5 sec delay, with 40 cm lead fuse)
- DY6 MACHINE PRESSED DELAY (6 sec delay)
- DY6/30 MACHINE PRESSED DELAY (6 sec delay, with 30 cm lead fuse)
- DY6/40 MACHINE PRESSED DELAY (6 sec delay, with 40 cm lead fuse)



DELAY TIME FUSE FOR DISPLAY USE - MADE WITH TIME FUSE

- DYF2 DELAY TIME FUSE - (2 sec delay)
- DYF2/30 DELAY TIME FUSE - (2 sec delay, with 30 cm lead fuse)
- DYF2/40 DELAY TIME FUSE - (2 sec delay, with 40 cm lead fuse)
- DYF3 DELAY TIME FUSE - (3 sec delay)
- DYF3/30 DELAY TIME FUSE - (3 sec delay, with 30 cm lead fuse)
- DYF3/40 DELAY TIME FUSE - (3 sec delay, with 40 cm lead fuse)
- DYF4 DELAY TIME FUSE - (4 sec delay)
- DYF4/30 DELAY TIME FUSE - (4 sec delay, with 30 cm lead fuse)
- DYF4/40 DELAY TIME FUSE - (4 sec delay, with 40 cm lead fuse)
- DYF5 DELAY TIME FUSE - (5 sec delay)
- DYF5/30 DELAY TIME FUSE - (5 sec delay, with 30 cm lead fuse)
- DYF5/40 DELAY TIME FUSE - (5 sec delay, with 40 cm lead fuse)
- DYF6 DELAY TIME FUSE - (6 sec delay)
- DYF6/30 DELAY TIME FUSE - (6 sec delay, with 30 cm lead fuse)
- DYF6/40 DELAY TIME FUSE - (6 sec delay, with 40 cm lead fuse)



DELAY TIME FUSE- MADE WITH E-LINK CONNECTORS ON EACH END

Available in standard timings from 2 to 20 seconds in 1 second intervals. Allows for easily inserted delays in finale chains, flight chains, and all Vulcan products equipped with E-Link Connectors.
DYF2(E) to DYF20(E)



VULCAN QUICKMATCH

- FUQ QUICK MATCH FUSE, KRAFT PAPER CASING
- FUQP QUICK MATCH FUSE, LAMINATED PLASTIC CASING PRESSED FLAT YELLOW
- VFUQP QUICK MATCH FUSE, LAMINATED PLASTIC CASING ORIGINAL BLUE/RED

VULCAN E-MATCH LINK

- EM/12 E-MATCH LINK WITH 12" QUICKMATCH LEADER
- EM/16 E-MATCH LINK WITH 16" QUICKMATCH LEADER
- EM/20 E-MATCH LINK WITH 20" QUICKMATCH LEADER
- EM/30 E-MATCH LINK WITH 30" QUICKMATCH LEADER



ELECTRIC IGNITERS (TRADITIONAL) AND WIRES

- | | | | |
|----------|-----------------------------------------|----------|-----------------------------------------|
| FUSQ-0.5 | ELECTRIC IGNITERS WITH 0.5M DOUBLE WIRE | FUSQ-2.5 | ELECTRIC IGNITERS WITH 2.5M DOUBLE WIRE |
| FUSQ-1 | ELECTRIC IGNITERS WITH 1M DOUBLE WIRE | FUSQ-3 | ELECTRIC IGNITERS WITH 3M DOUBLE WIRE |
| FUSQ-1.5 | ELECTRIC IGNITERS WITH 1.5M DOUBLE WIRE | FUSQ-4 | ELECTRIC IGNITERS WITH 4M DOUBLE WIRE |
| FUSQ-2 | ELECTRIC IGNITERS WITH 2M DOUBLE WIRE | FUSQ-5 | ELECTRIC IGNITERS WITH 5M DOUBLE WIRE |
| FUCW | COPPER WIRES (DOUBLE) 500M ROLLS | | |

TWIST LOCK ELECTRIC IGNITER



Compatible with our E-Link Electric Match Connector

- FUSQ-0.5(EVB) ELECTRIC IGNITERS WITH 0.5M DOUBLE WIRE
- FUSQ-1(EVB) ELECTRIC IGNITERS WITH 1M DOUBLE WIRE
- FUSQ-1.5(EVB) ELECTRIC IGNITERS WITH 1.5M DOUBLE WIRE
- FUSQ-2(EVB) ELECTRIC IGNITERS WITH 2M DOUBLE WIRE
- FUSQ-2.5(EVB) ELECTRIC IGNITERS WITH 2.5M DOUBLE WIRE
- FUSQ-3(EVB) ELECTRIC IGNITERS WITH 3M DOUBLE WIRE
- FUSQ-4(EVB) ELECTRIC IGNITERS WITH 4M DOUBLE WIRE
- FUSQ-5(EVB) ELECTRIC IGNITERS WITH 5M DOUBLE WIRE

WIDE MOUTH ELECTRIC IGNITER



For products not equipped with our E-Link Electric Match Connectors. Quickmatch leader fits INSIDE the igniter shroud and easily tapes in place.

- FUSQ-0.5(EVE) ELECTRIC IGNITERS WITH 0.5M DOUBLE WIRE
- FUSQ-1(EVE) ELECTRIC IGNITERS WITH 1M DOUBLE WIRE
- FUSQ-1.5(EVE) ELECTRIC IGNITERS WITH 1.5M DOUBLE WIRE
- FUSQ-2(EVE) ELECTRIC IGNITERS WITH 2M DOUBLE WIRE
- FUSQ-2.5(EVE) ELECTRIC IGNITERS WITH 2.5M DOUBLE WIRE
- FUSQ-3(EVE) ELECTRIC IGNITERS WITH 3M DOUBLE WIRE
- FUSQ-4(EVE) ELECTRIC IGNITERS WITH 4M DOUBLE WIRE
- FUSQ-5(EVE) ELECTRIC IGNITERS WITH 5M DOUBLE WIRE



O. FIBERGLASS MORTAR TUBES

SMT-48	STANDARD 1-3/4" FIBERGLASS MORTAR TUBES	Length 35cm
SMT-50	STANDARD 2" FIBERGLASS MORTAR TUBES	Length 38cm
SMT-65	STANDARD 2-1/2" FIBERGLASS MORTAR TUBES	Length 40cm
SMT-75	STANDARD 3" FIBERGLASS MORTAR TUBES	Length 45cm
SMT-100	STANDARD 4" FIBERGLASS MORTAR TUBES	Length 55cm
SMT-125	STANDARD 5" FIBERGLASS MORTAR TUBES	Length 30cm
SMT-150	STANDARD 6" FIBERGLASS MORTAR TUBES	Length 90cm
SMT-175	STANDARD 7" FIBERGLASS MORTAR TUBES	Length 100cm
SMT-200	STANDARD 8" FIBERGLASS MORTAR TUBES	Length 110cm
SMT-250	STANDARD 10" FIBERGLASS MORTAR TUBES	Length 120cm
SMT-300	STANDARD 12" FIBERGLASS MORTAR TUBES	Length 130cm



VULCAN
DISPLAY FIREWORKS PRODUCTS

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