www.PinballBulbs.com

PinballBulbs LED Lighting Kit

Lethal Weapon 3

Instructions:

https://pinballbulbs.com/installs

DO NOT THROW AWAY!

Layout instructions inside.

Lamp Number	Color	Style	Quantity	Name (Lethal Weapon 3)
1	Red	555 Frosted	1	Uzi Clip 1 Bottom
2	Red	555 Frosted	1	Uzi clip 2
3	Red	555 Frosted	1	Uzi clip 3
4	Red	555 Frosted	1	Uzi clip 4
5	Red	555 Frosted	1	Uzi clip 5
6	Red	555 Frosted	1	Uzi clip top
7	Yellow	44 Frosted	1	Uzi Fire shooter lane
7	Cool White	555 Frosted	1	Uzi Fire
8	Pink	44 Frosted	1	Bullet proof vest
9	Cool White	44 Frosted	1	Start getaway (left outlane)
10	Cool White	555 Frosted	1	3 Million
11	Cool White	555 Frosted	1	Bonus multiplier
12	Cool White	555 Frosted	1	Lite super leo getz
13	Cool White	555 Frosted	1	Lite video
14	Cool White	555 Frosted	1	Start Crazy Riggs
15	Cool White	555 Frosted	1	Freeway Loops
16	Cool White	555 Frosted	1	Lethal 1-2-3- 10 mil
17	Red	555 Frosted	1	Shoot again
18	Cool White	44 Frosted	2	Murtough's Retirement (both outlanes)
19	Red	44 Frosted	1	Center drop tar left (coils)
20	Cool White	44 Frosted	1	Center drop target mid
21	Cool White	44 Frosted	1	Center drop right
22	Red	44 Frosted	1	Right drop target right
23	Cool White	44 Frosted	1	Right drop target middle
24	Cool White	44 Frosted	1	Right drop target bottom
25	Cool White	44 Frosted	1	Lite karate kick
26	Cool White	44 Frosted	1	Million plus
27	Red	555 Frosted	2	Subway (left and right orbit super spin signs)
28	Green	44 Frosted	1	2x
29	Green	44 Flex	1	4x
30	Green	555 Frosted	1	6x
31	Green	555 Frosted	1	8x
32	Pink	555 Frosted	1	Bonus multiplier and hold
33	Red	555 Super	1	Cabinet start button (either clip away all bulb plastics with side cutters or leave this stock bulb to avoid tangling with spring)
34	Red	555 Frosted	1	Center turbo bumper
35	Green	555 Frosted	1	Top left lane
36	Green	555 Frosted	1	Top middle lane

	A	B	C	D	E
39	37	Green	555 Frosted	1	Top right lane
40	38	Cool White	44 Super	1	Collect 1 LW 123
41	39	Red	44 Super	1	Lite jackpot 1
42	40	Red	44 Super	1	Extra ball
43	41	Red	555 Frosted	1	Ramp looping (left ramp sign)
44	42	Orange	555 Frosted	1	Double jackpot
45	43	Blue	555 Frosted	1	Victory lap (sign)
46	44	Warm White	44 Frosted	1	Silent alarm (flasher like dome on housing on left ramp)
47	45	Cool White	555 Frosted	1	Left bank #1 top
48	46	Cool White	555 Frosted	1	Left bank #2
49	47	Cool White	555 Frosted	1	Left bank #3
50	48	Cool White	555 Frosted	1	Left bank #4
51	49	Cool White	555 Frosted	1	5 million
52	50	Cool White	555 Frosted	1	10 million
53	51	Cool White	555 Frosted	1	15 million
54	52	Cool White	555 Frosted	1	20 million
55	53	Cool White	555 Frosted	1	25 million
56	54	Cool White	44 Frosted	1	collect 2 lw 123
57	55	Red	44 Super	1	Lite jackpot 2
58	56	Cool White	44 Frosted	1	Video mode
59	57	Cool White	44 Frosted	1	Karate Kick (kickback lane)
60	58	Red	44 Super	1	Collect jackpot
61	59	Blue	44 Super	1	Freeway for extra ball
62	60	Red	555 Frosted	1	Left turbo bumper
63	61	Red	555 Frosted	1	Right turbo bumper
64	62	Cool White	555 Frosted	1	Collect 3 LW 123
65	63	Red	555 Super	1	Lite jackpot 3
66	64	Green	555 Super	1	Leo Getz
67					
68					
69					
70					
71					
72					
73					
74					
75					
76					
77					

	A	B	C	D	E
78					
79					
80					
81					
82					
83					
84					
85					
86					
87					
88					
89					
90					
91					
92	Flashers				
93	1R	Red	89 Flasher	2	Right target area
94	2R	Red	89 Flasher	2	Back board one, left side 1
95	2R	Blue	89 Flasher	2	Backboard
96	3R	Red	89 Flasher	2	Left orbit
97	3R	Blue	89 Flasher	1	Left dome by left orbit entrance
98	4R	Red	89 Flasher	1	Left dome left corner
99	4R	Blue	89 Flasher	1	Left dome left corner
100	4R	Cool White	89 Flasher	1	Under playfield left cornerish
101	5R	Cool White	89 FlatTop	1	Pops (there are 2 sockets here, we only use 1 other leave empty. Not need 2 when doing led)
102	6R	Red	89 Flasher	1	Red dome right corner
103	6R	Blue	89 Flasher	1	Blue dome right corner
104	6R	Cool White	89 Flasher	1	Right corner under playfield
105	7R	Cool White	89 Flasher	2	Near center targets under playfield
106	8R	Red	89 FlatTop	1	Under playfield right orbit (again, there are 2 sockets but we only need 1)
107	8R	Blue	89 Flasher	1	Blue dome right side
108	14	Red	89 Flasher	1	Lite mars topper
109	16	Cool White	89 Flasher	2	Fire uzi insert
110	16	Cool White	89 Flasher	1	Shooter lane
111	Unknown	Cool White	89 Flasher	4	In the left ramp housing
112					
113					
114	Backbox				

A	B	C	D	E
115		Cool White	555 Frosted	11	The bottom of the backbox before the row that's even across that lights "lethal weapon 3"
116		Warm White	555 Frosted	25	The rest of the backbox gi
117		Cool White	906 FlatTop	9	Flashers
118					
119					
120	GI				
121		Cool White	44 Clear	5	Right plastic above where ball comes out of shooter
122		Cool White	44 Clear	6	Slings and inlanes
123		Cool White	44 Frosted	2	Center plastic in front of pop bumpers
124		Red	44 Frosted	4	Top lanes
125		Cool White	44 Clear	4	Directly above pops
126		Cool White	44 Frosted	1	One bulb from above directly above pops
127		Cool White	44 Clear	2	Left side plastic by outlane target
128		Cool White	44 Clear	1	Left plastic by 4 bullet standups
129		Cool White	44 Clear	2	Back left corner
130		Cool White	44 Clear	2	Back right corner
131		Cool White	44 Clear	1	Left ramp plastic housing pointing down from the plastic
132		Cool White	44 Clear	4	Under left ramp
133		Cool White	555 Frosted	2	Coindoor
134					
135	LightStrips				
136		Cool White	3-Segment	1	See generic 6.3v flipper strip install on our website. This strip goes in the trough to light up between the flippers
137					
138					
139					
140	Spotlights				
141		Cool White	8-32 Double	1	Left sling upper bolt, top at 1:00 bottom at 4:00
142		Cool White	6-32 Single	1	Right bolt above ball shooter by airplane. Point between 9:00 and 10:00 position

Lamp

Number	Description
01	Uzi Clip Bottom
02	Uzi Clip 1
03	Uzi Clip 2
04	Uzi Clip 3
05	Uzi Clip 4
06	Uzi Clip 5
07	Fire Uzi
08	Bullet Proof Vest
09	Start Getaway
10	3 Million
11	Bonus Multiplier
12	Lite Super Leo Getz
13	Lite Video
14	Start Crazy Riggs
15	Freeway Loops
16	Lethal Weapon 1,2,3 10 Million
17	Shoot Again
18	Murtough's Retire
19	Center Drop Target Left
20	Center Drop Target Mid.
21	Center Drop Target Right
22	Right Drop Target Top
23	RightDrop Target Mid.
24	Right Drop Target Bottom
25	Lite Karate Kick
26	Million Plus
27	Subway
28	2X
29	4X
30	6X
31	8X
32	Bonus Multiplier & Hold
33	Cab. Start Button
34	Center Turbo Bumper
35	Top Left Lane
36	Top Middle Lane
37	Top Right Lane
38	Collect 1 L.W. 1,2,3
39	Lite Jackpot 1
40	Extra Ball
41	Ramp Looping
42	Double Jackpot
43	Victory Lap
44	Silent Alarm
45	Left Bank 1 Top
46	Left Bank 2
47	Left Bank 3
48	Left Bank 4 Bottom
49	3 Million
50	6 Miillion
51	9 Million
52	12 Million
53	15 Million
54	Collect 2 L.W. 1,2,3
55	Lite Jackpot 2
56	Video Mode
57	Karate Kick
58	Collect Jackpot
59	Freeway for Extra Ball
60	Left Turbo Bumper
61	Right Turbo Bumper
62	Collect 3 L.W. 1,2,3
63	Lite Jackpot 3
64	Leo Getz
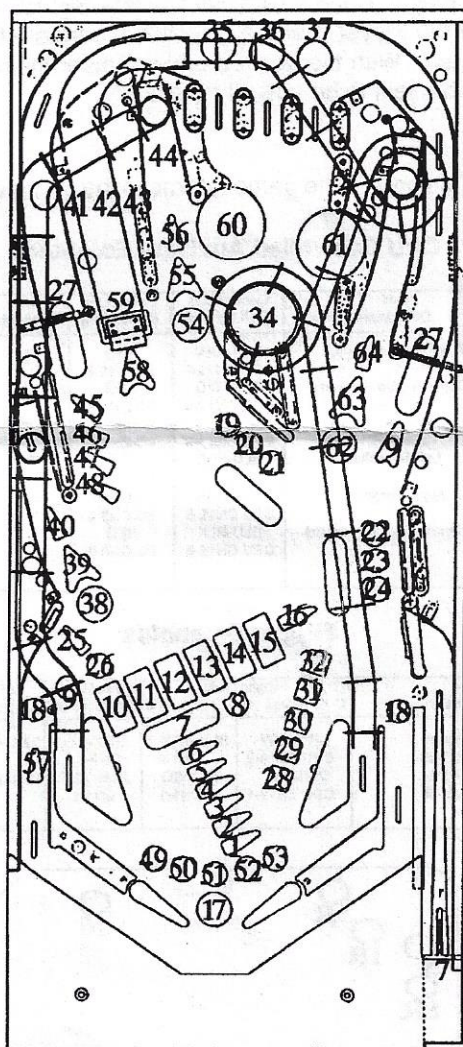
Lamp Locations

FLASH LAMP COIL TESTS

Twenty-Two regular (pulsed under microprocessor control) coil drivers are provided to switch ground to coils. The Left/Right relay is used in conjunction with drives 1 through 8 to switch +32 volts between coils or flash lamps; these sets are termed "left" and "right". This relay is located on the PPB board which provides isolation diodes and current limiting resistors. This effectively provides 29 regular coils.

Flash Lamp

From the Single Lamp test, depress the STEP push-button switch. All Flash lamps will fire randomly. This allows the Technician to easily spot any burned out bulbs and replace them without steping through the tests below.

Automatic Test

From the Flash Lamps test, depress the STEP push-button switch. Player 1 and 2 displays indicate ALL COILS. The test pulses each regular solenoid or flash lamp sequentially with the coil/flash lamp name indicated in the Player 1 and 2 displays and the wire colors in the Player 3 and 4 displays.

Select Coil

From the Coil Test, depress the STEP push-button switch. Player 1 and 2 displays indicate SELECT COIL and then the name of 1st drive , the wire colors are indicated in the Player 3 and 4 displays. Operate either Flipper push-button switch to select the coil or flash lamp to be tested. With the desired drive number indicated in the Player 4 display, depress the START push-button switch to cause it to be pulsed repeatedly.

RETURN TO GAME OVER

From the Select Coil test, depress the STEP push-button switch once. The game returns to the game-over mode.
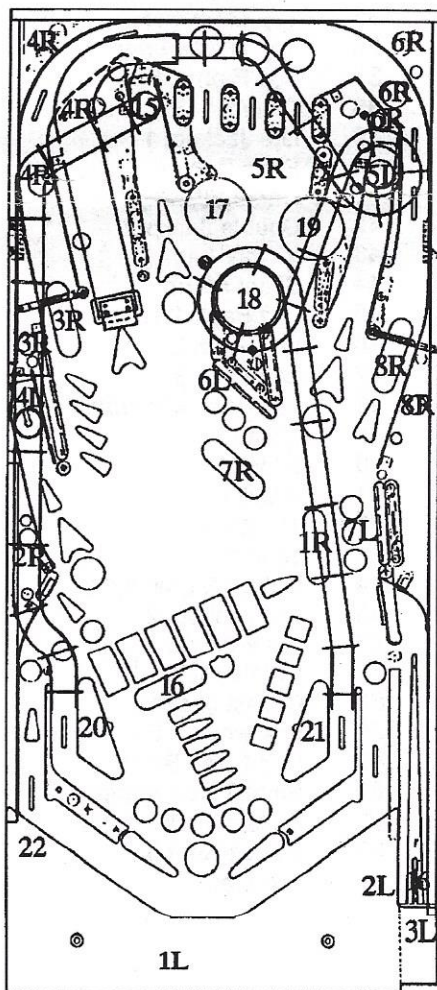
CPU Controlled Auxillary Solenoids

Coil Number	Coil Description	Control Line (CPU to Coil)	Power Line (PS to Coil)	Drive Transistor	Coil Type
17	Left Turbo Bumper	BLU-BRN CPU CN19-7	RED PS CN3-6	Q11	23-800
18	Center Turbo Bumper	BLU-RED CPU CN19-4	RED PS CN3-6	Q9	23-800
19	Right Turbo Bumper	BLU-ORN CPU CN19-3	RED PS CN3-6	Q8	23-800
20	Left Slingshot	BLU-YEL CPU CN19-6	RED PS CN3-6	Q10	23-800
21	Right Slingshot	BLU-GRN CPU CN19-8	RED PS CN3-6	Q12	23-800
22	Kickback (See Schematic)	BLU-BLK CPU CN19-9	RED PS CN3-6	Q13	23-800

Flipper Solenoids

Coil Description	Flipper GND CPU to Coil	Sw. to Flip.PCB	Power Lines FlipPc toCoil	Coil Type	Power Input To Flip PCB
Left Flipper 090-5030-00	ORN-GRY CPU CN19-2	BLU-GRY CN1-9	GRY-YEL CN2-1,2	23-1100	BLK-WHT 50VDC
RightFlipper 090-5030-00	ORN-VIO CPU CN19-1	BLU-VIO CN1-1	BLK-WHT CN1-1	23-1100	GRY, GRY-GRN 8VAC
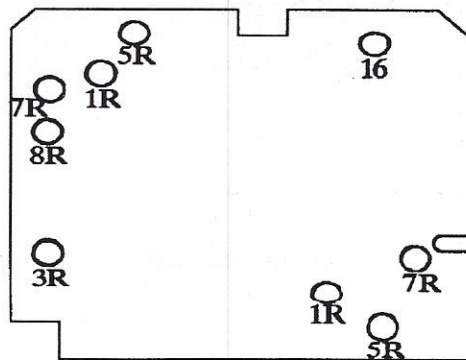
Thank you for purchasing the pinballbulbs.com LED kit. Our kit is the most advanced lighting kit you can add to your pinball game. If you have any issues or questions with your kit, we are happy to assist. Please email us at support@pinballbulbs.com.

Installation

The paperwork in the kit shows the layout for each section of the kit. But the how-to installation instructions are located on our website at: http://pinballbulbs.com/installs

The sheets included will detail each section of the game and layout where the bulbs should go for each:
Inserts are at the top and ordered by game lamp numbers. These are also known as controlled lamps.
Flashers will also be listed by game solenoid number in the manual and menus.
Backbox will be listed. Flashers for backbox are in flasher section
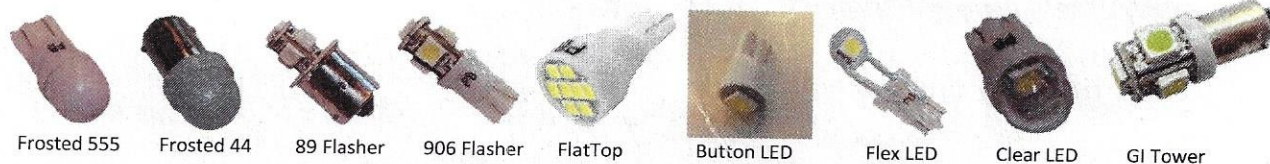**GI** (General Illumination) is next and listed by section. These are lamps that are always on under your plastics.
Spotlights will be listed next. These are the bags of spotlights we provide. Spotlight install instructions are detailed on our website: https://pinballbulbs.com/installs/spotlight-kit-installation
Light Strips are last on the sheet. Most games come with at least 2 strips – one for flipper one for rear of machine and those are listed on our installs page under the game installs section for the brand of game. For example Williams flipper, Williams rear strip, stern flipper, stern rear strip all have their own install instructions off the main installation page above.

Note: Super bulbs are just the regular bulbs with the cap squeezed off with pliers. This step is optional.

Bulbs Types

These are some common bulb types in our kits:

| Frosted 555 | Frosted 44 | 89 Flasher | 906 Flasher | FlatTop | Button LED | Flex LED | Clear LED | GI Tower |

Note: Supers can be sent as frosted, clear, or flex.

Missing Bulbs

All of our kits contain a few extra bulbs in case there are some game variances. We almost always include a couple extras in white or warm white and any other color that is widely used. If you need extras, you can usually use one of the whites under any insert. Warm white or pink works really well under red, orange colored inserts and cool white under yellow or white inserts.

If you think you are missing any bulbs please email us and *indicate which line numbers in instruction the sheet* are missing or wrong. This is key and will always be the first question we ask.

We do not always provide a bulb for every game socket. Since our kits are priced at the cost of each bulb, in some cases the manufacturer doubled up bulbs that were not necessary when moving to LEDs so we only provide one bulb for those cases. This was common on older data east using many flashers for one insert. They did this because old flasher bulbs were dim and burnt out fast and they wanted the insert to work. The LED bulbs are way brighter and won't burn out so one bulb in this case handles the insert where 3 might have been used before. In the above case, we only charge for 1 bulb and provide 1 bulb as that's all that's needed.

You can also order replacement lights, spares, supplies, and other kits at our website at http://pinballbulbs.com.

Also, if you like our unique kit, we have many other kits on our website at pinballbulbs.com as well as mini-kits to brighten up machines in which you have already installed a competitor's LED kit.