

19	1	#20 GAUGE WIRE; 15 FT (LAMP CORD)
18	1	12VDC 1500ma AC ADAPTER; RS 273-1775
17	1	TRIDON STANT FLASHER; #EL13A-2
16	1	POWER CONNECTOR; RS 274-1563
15	1	PROJECT BOX; RADIO SHACK # 270-283
14	1	2-1/2" VINYL LETTERING; BLACK
13	2	1/2" CONDUIT LOCKNUT
12	2	2-3/4" DIA. RED CLEARANCE LIGHT; BLAZER # B827R
11	2	3" BLACK PVC OR ABS FOR VISOR
10	2	MOUNTING BRACKET; WOOD
9	2	8" WOOD DISC
8	2	1 x 4 x 20" WOOD; FOR CROSS BUCK
7	2	1/2" PVC ELBOW w/1/2" MALE THD
6	1	1/2" PVC x 12" LONG
5	1	1-1/2" PVC CAP
4	1	1-1/2" PVC 5-WAY SIDE OUTLET CROSS
3	4	1-1/2" PVC ELBOW
2	4	1-1/2" PVC x 12" LONG
1	1	1-1/2" PVC x 60" LONG
ITEM NO	QTY REQ	DESCRIPTION

RAILROAD CROSS BUCK PLANS

Bulk Items:

10 feet - 1-1/2" Schedule 40 or 80 PVC
2 feet - 1/2" Schedule 40 PVC
WHITE paint for Cross Bucks
BLACK paint for Light Fixture assembly
SILVER paint for all 1-1/2" PVC components
Epoxy or glue
Misc. hardware to fasten items as necessary:
 (1) 1-1/4" Lg #8 Sheet metal Screw
 (4) 1/2" Lg #6 or #8 Sheet metal Screws
 (2) 2-1/2" Lg Drywall Screws
Misc. electrical connectors

Source of Supply:

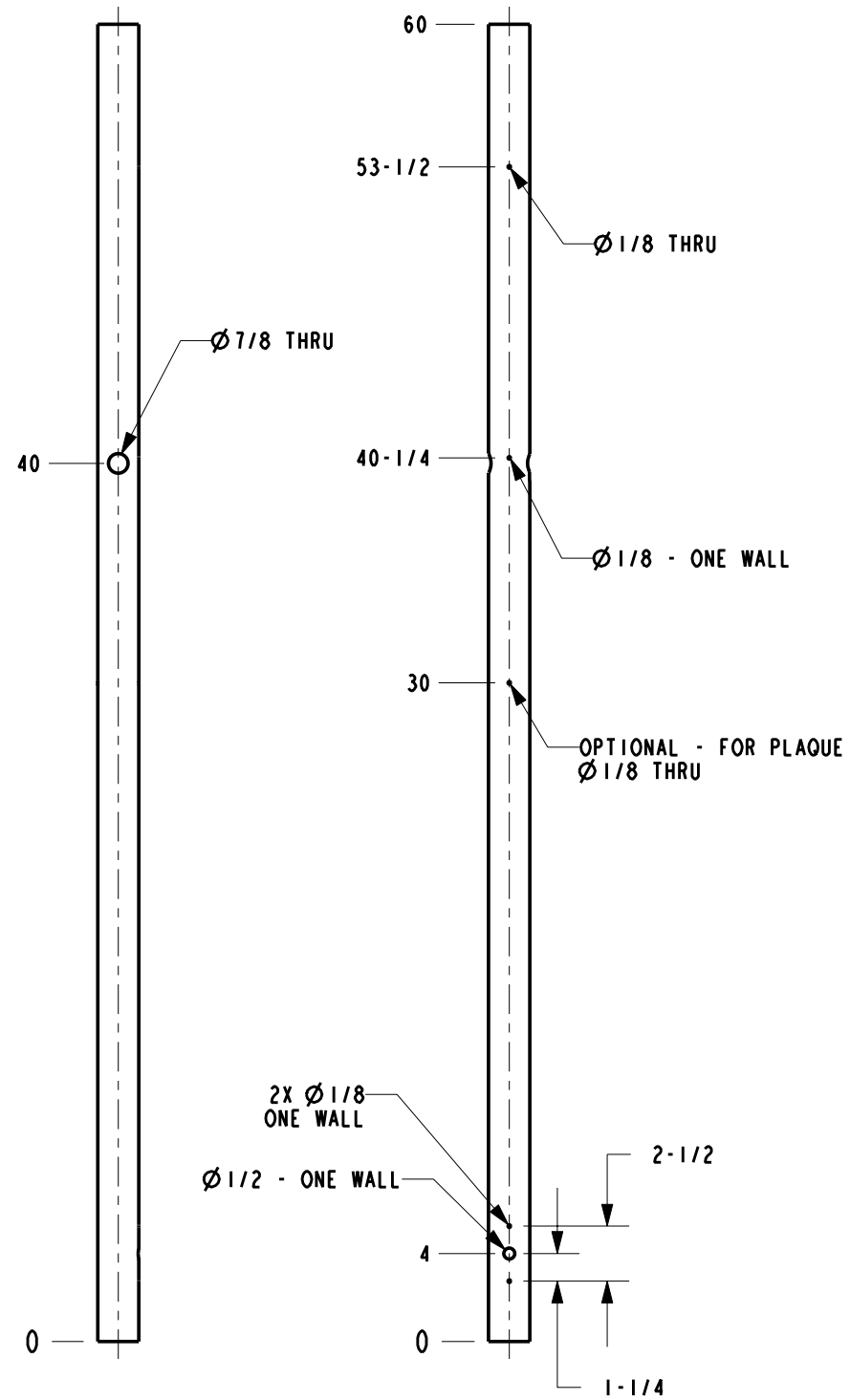
1-1/2" PVC 5-Way Side-Outlet Cross: PVCFittings.com
Electrical Components (except Flasher): Radio Shack
Tridon Flasher Unit and Blazer Lights: Checker Auto, Auto Zone, etc.
PVC, Wood, Paint, Hardware, etc.: Home Depot, Lowes, etc.

Assembly Instructions:

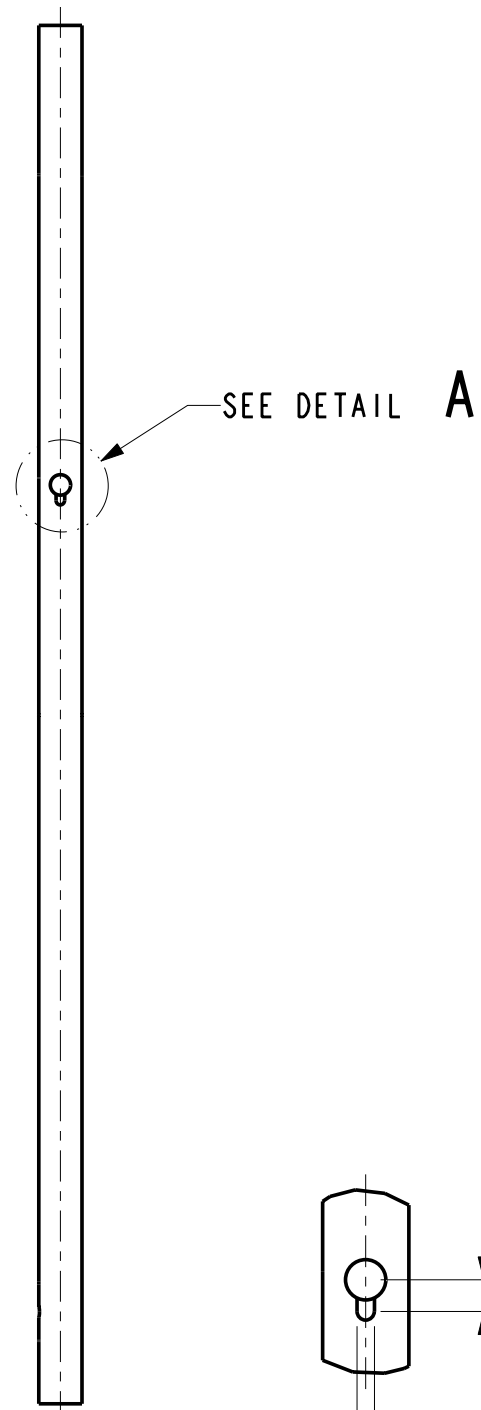
1. Cut 1-1/2" PVC pipe (Items 1 & 2) to length
2. Dry-fit Item 2, 1-1/2" x 12" PVC, (4 pieces) into Item 4 (5-Way Cross)
3. Dry-fit Item 3, 1-1/2" PVC Elbow, (4 pieces) on to ends of Item 2. Adjust Elbows until assembly rests evenly on floor
4. Drill holes in Item 1, 1-1/2" x 60" PVC, as shown.
5. Dry-fit or glue Item 5, 1-1/2" PVC Cap, on to Item 1
 Note location per assembly view
6. Temporary insert Item 1 into 5-Way Cross assembly and paint entire assembly SILVER
7. Cut 1/2" PVC pipe (Item 6) to length
8. Drill hole in Item 6, 1/2" x 12" PVC, as shown
9. Drill 7/8" diameter hole in center of Item 9, 8" diameter Disc, (2 pieces)
10. Install Item 7, 1/2" PVC Elbow, threaded end into hole in Item 9.
11. Install Item 13, Locknut, on to threaded end of PVC. Grind or sand away exposed threads
12. Paint the two disc and elbow assemblies, and Item 6, BLACK
13. Open Item 12, Clearance Light, remove bulb, and enlarge center hole to approximately 1/4" diameter (2 pieces)
14. Cut a single strand of wire into two pieces; one approximately 60" long and one approximately 18" long
15. Feed one end of the long wire through the drilled-hole in Item 6, out one end of the pipe, and through the 1/2" Elbow and Disc assembly
 NOTE: Do not assemble Elbow on the pipe at this time
16. Feed the wire from Step 15 (long wire) and one end of the short wire through the center hole of one Clearance Light fixture. Strip the ends and install a mounting lug.
 NOTE: This will be the Common (ground) wire of the wiring harness
17. Feed the opposite end of the short wire through the Elbow and pipe until it comes out the opposite end of the pipe
18. Cut a piece of two-strand wire (like Lamp Cord or equivalent) approximately 52" long. Cut and Splay about 7" of one end of the wire (forming two single strands of wire)

19. Feed the two splayed wires through the hole in Item 6 with one wire coming out each end of the pipe
NOTE: These will be the Power (positive) wires of the wiring harness
21. Feed the existing wire of the Clearance Light from Step 16 through the Elbow and Disc assembly and attach the two exposed wires together (crimp or solder)
22. Refer to the assembly picture and install Item 6, 1/2" pipe, into the Elbow and Disc assembly from Step 15 insuring that the hole in Item 6 faces downward (this can be a dry-fit or a glue-fit)
23. Time to install Item 6, with one Light assembly attached, into the 7/8" diameter hole in Item 1. Insert wires through the "key slot" in Item 1
NOTE: Do not assemble the second Elbow and Disc on the pipe at this time
24. Feed the short wire (Common) from Step 16 through the second Elbow and Disc assembly and the second Clearance Light. Strip wire and attach a mounting lug
25. Feed the existing wire of the second Clearance Light through the Elbow and Disc assembly and attach the Power and Light wires together (crimp or solder)
26. Refer to the assembly picture and install the second Elbow and Disc assembly so that the two assemblies are facing the same direction and parallel to each other (this can be a dry-fit or a glue-fit)
NOTE: Securing Item 6 assembly to Item 1 can be done now. Refer to the assembly pictures and center Item 6 in Item 1
27. Attach the two Clearance Light bases to Item 9, Disc, with to 1/2" Lg Sheet metal screws each. Make sure to attach the wires with the mounting lug to the metal contact on the bases. Center the Light base on the Disc. Addition gluing is recommended for a more secure attachment
NOTE: Install Light base with notch to remove lens facing downward
28. Re-install the light bulbs and snap the lenses in place
29. Remove Item 1 from Leg assembly if necessary. Feed the two Power wires and one Ground wire through the 1/2" diameter hole in Item 1 and Item 15 (Project Box)
30. Mount the Project Box case to Item 1 using 1/2" Lg Sheet metal screws
31. Mount Item 16, Power Connector, to the Project Box cover and attach a short, approximately 6" Lg, piece of wire to the center (Power) terminal. Insulate the connection
32. Attach the appropriate electrical connector, that mate with the spades on the Flasher Relay, to the two Power wires on Item 1 and the Power wire on the Power Connector
33. Attach the Ground wire from Item 1 to the outside terminal on the Power Connector. Insulate if desired
34. Refer to the wiring diagram to plug in the Flasher Relay (Item 17)
35. Assemble and paint the two cross bucks, Item 8, WHITE
36. Apply lettering to cross bucks. Refer to assembly picture
37. Make Item 10, Mounting Bracket, (2 pieces) and paint BLACK
38. Attach Item 10 to back of Cross Buck assembly using glue and two screws. Avoid the center of Item 10 since that is how this assembly will be attached to Item 1
39. Attach the Cross Buck assembly to Item 1. For a more secure fit it's recommended to glue the assembly to Item 1 along with a 2-1/2" Lg Drywall Screw
40. The second Item 10 can be installed at this time to mount a specialty plaque

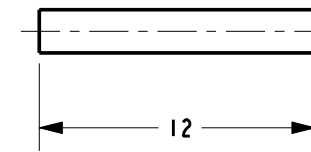
Plug in the AC Power Adapter, attach to the Power Connector, and watch the lights flash on and off!!!



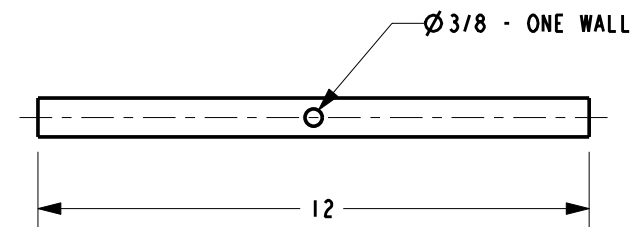
ITEM 1
SCALE: 1/8



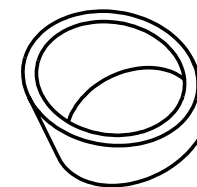
DETAIL A
SCALE 1/4



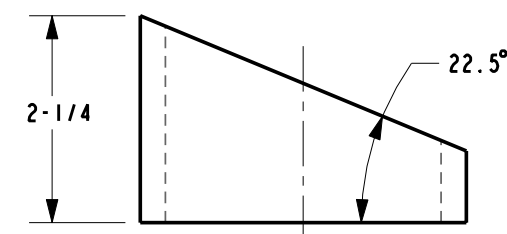
ITEM 2
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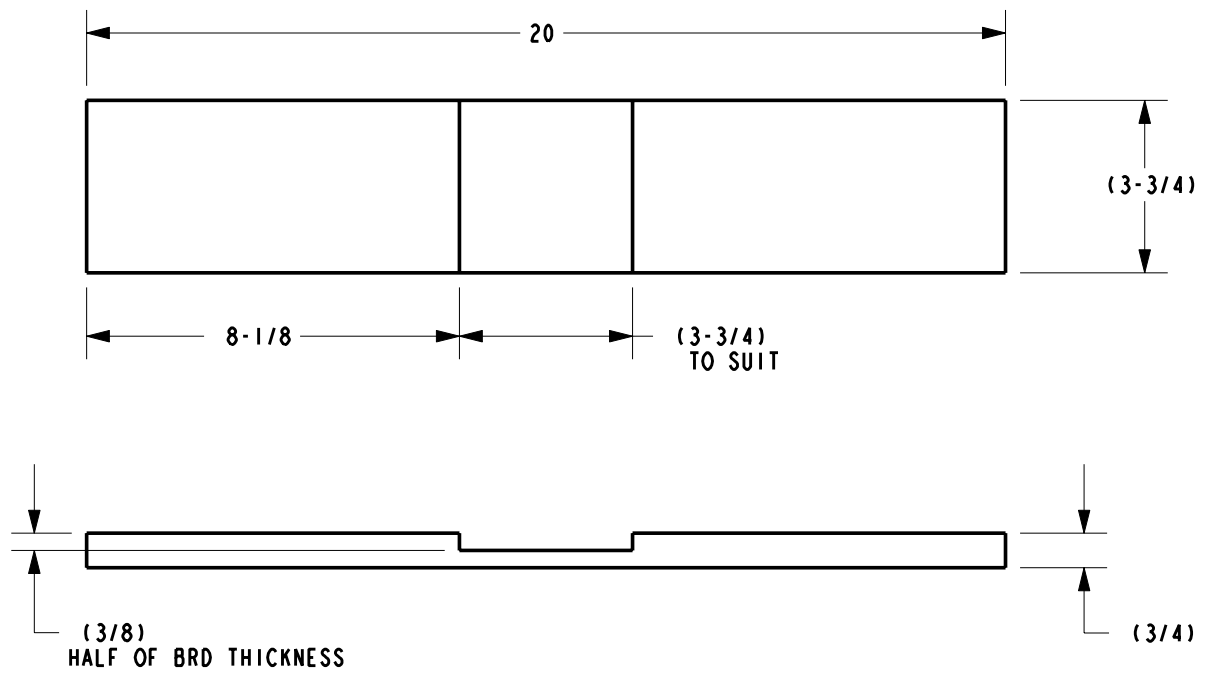
ITEM 6
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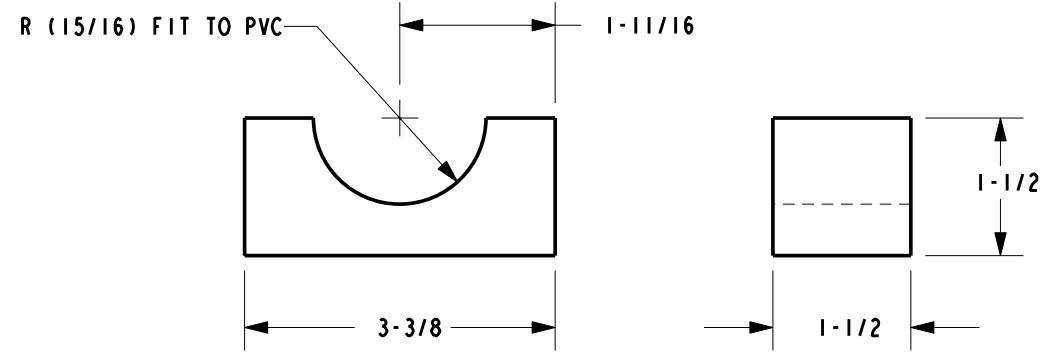
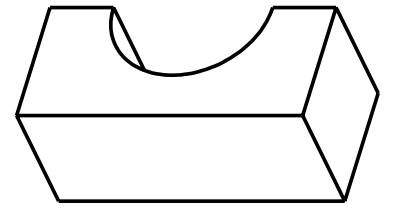
SCALE 1/4



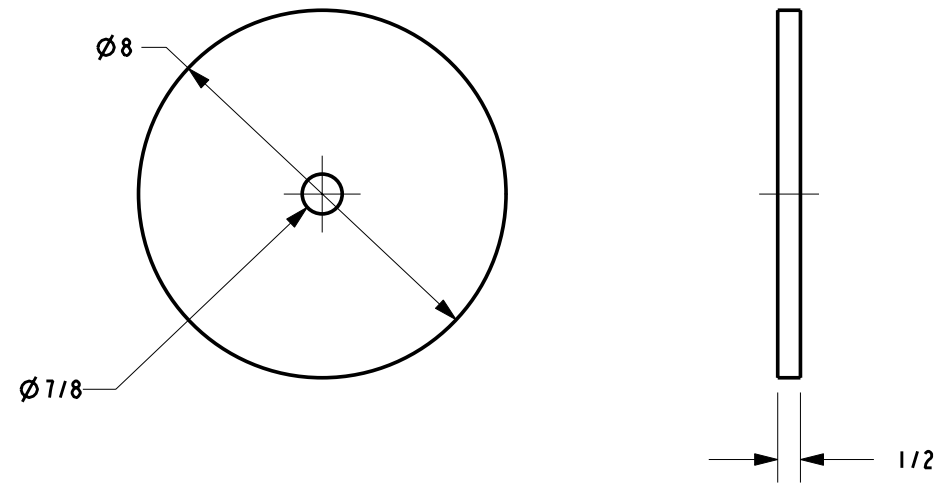
ITEM 11
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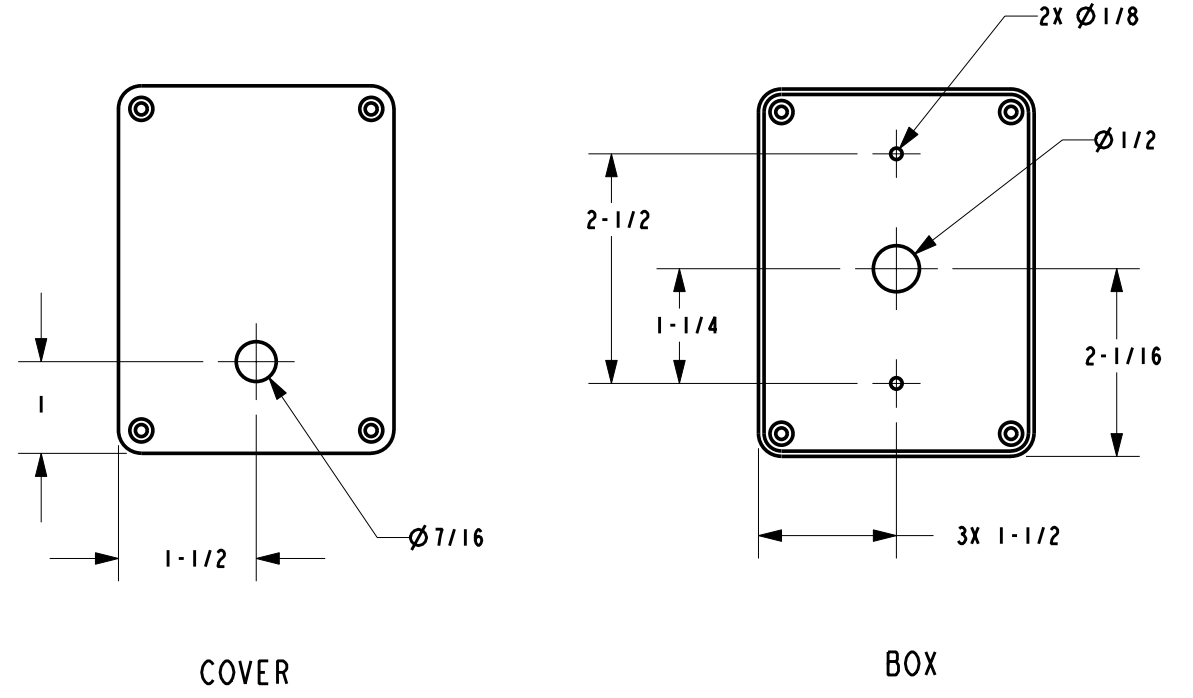
ITEM 8
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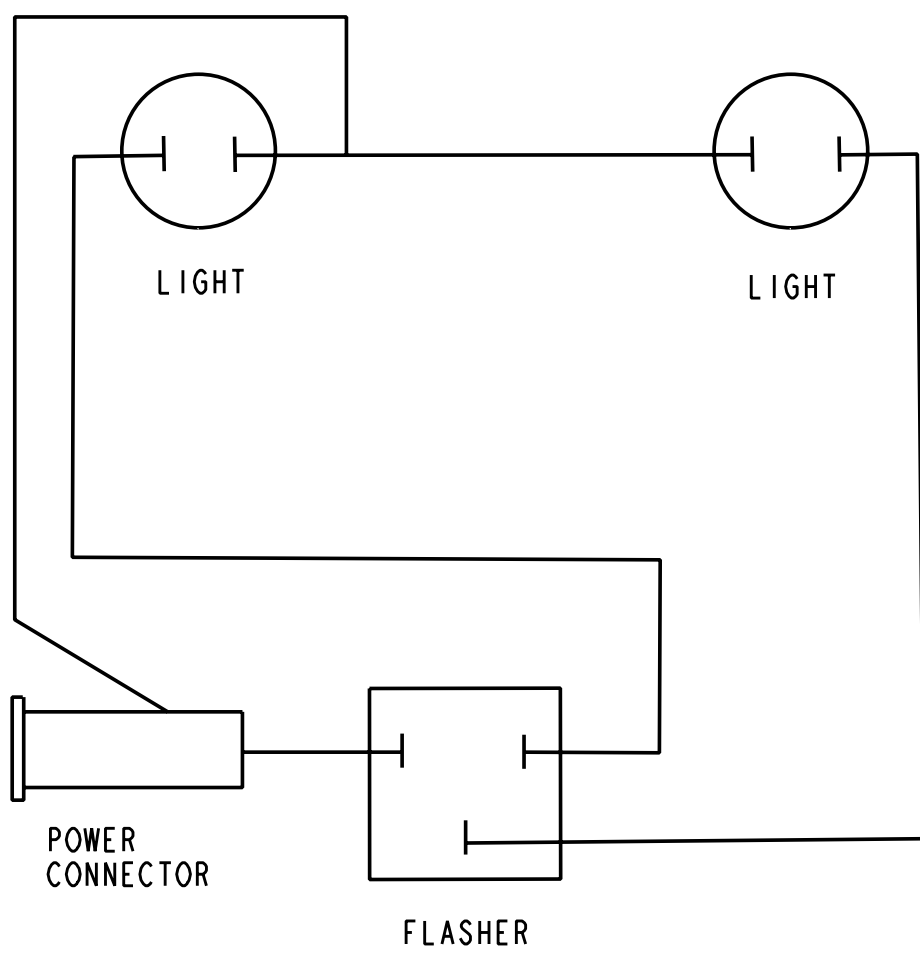
ITEM 10
SCALE: 1/2



ITEM 9
SCALE: 1/4



ITEM 15
SCALE: 1/2



WIRING SCHEMATIC