



FlashOfGenius LLC

Memo

To: Manufacturing Design Teams
Date: 2010-03-31
From: Ralph Stirling
Subject: Flashlight Manufacturing

Summary

FlashOfGenius will be manufacturing a new single-cell flashlight in 2010. This flashlight will have an all-aluminum, sealed body, with a magnetic switch, a Cree XR-E light-emitting diode, and a 3.6v rechargeable LiFePO4 battery. The components of the body will be produced on a Mori Seiki DuraTurn 2050 CNC turning center, and the flashlight will be assembled using a custom automation system.

Criteria

1. Components are:
 - * 18650 size battery
 - * Carclo 10199 lens holder
 - * Cree XR-E LED mounted to a custom printed circuit board and heatsink
 - * Magnet to activate Hall switch (4mm x 4mm x 1mm magnet)
2. Flashlight body will consist of three major assemblies.
 - * Nose, with lens, o-rings, and LED module
 - * Tail, with battery
 - * Ring with magnet
3. The lens will fit into the nose with an O-ring to seal it. The nose and tail pieces thread together, with an O-ring seal. The magnet ring rotates around the nose/tail joint to activate the Hall magnetic switch.
4. The nose, tail, magnet ring, lens, LED module, battery, and seals are to be automatically assembled.

Additional criteria may be issued as the design is finalized.

Team 1 - Motoman Robot Cell #1
Tim Van Arsdale (team leader)
Alex Roddy
Tyler Anderson

Team 3 - Cartesian Robot Cell
Tim Rasmussen (team leader)
John Hawkins
Andrew Sell
Erik Biesenthal

Team 2 - Motoman Robot Cell #2
Wesley Brown
Tyler Starr
Brielle Starr
David Robbins

"The people walking in darkness have seen a great Light." Matthew 4:16

Batteryspace.com

LFP-18650-1200 battery

Drawing

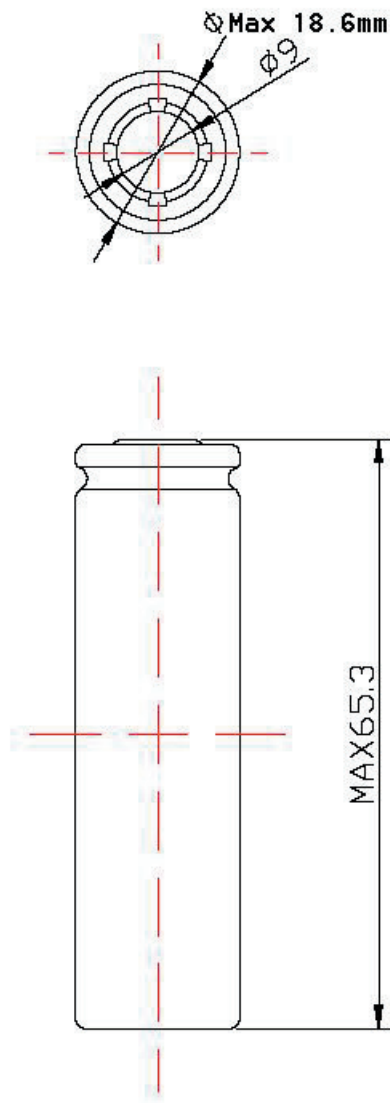
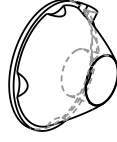
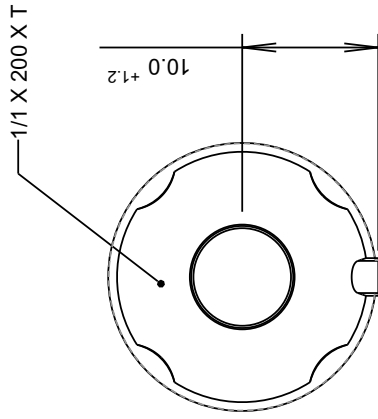
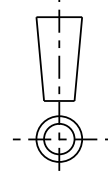


fig.1

ISS.	DATE	E.C.N.	DESCRIPTION
1	17-Aug-06		FIRST ISSUE
2	31-Oct-06		EJECTOR PIN CUT OUTS ENLARGED

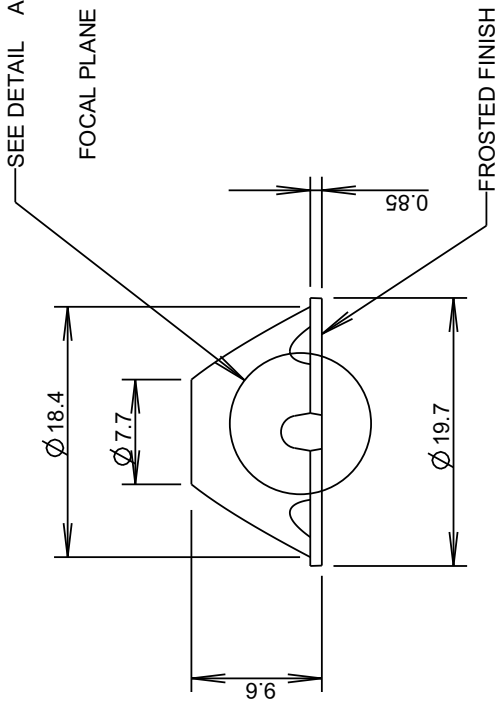
© 2007 CARCLO
ALL DIMENSIONS IN mm

CUSTOMER DRAWING



3D VIEW
SCALE 1:1

DETAIL A
SCALE 4:1



NOTES:
1. MATERIAL - UV STABILISED POLYCARBONATE
2. INCLUSIONS SPECIFIED TO BS4301

DESCRIPTION	PART NO.
PLAIN (NO FROSTING)	10199
SOFT NARROW BEAM	10200
SOFT MEDIUM BEAM	10201
SOFT WIDE BEAM	10202



CARCLO TECHNICAL PLASTICS (SLOUGH)
111 BUCKINGHAM AVE, SLOUGH
SL1 4PF, ENGLAND

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e-mail: design@carclo-optics.com

GENERAL TOLERANCES (UNLESS STATED)

LINEAR	ANGULAR
X ± 0.25	X $\pm 1^\circ$
X.X ± 0.1	X.X $\pm 0.5^\circ$
X.XX ± 0.05	X.XX $\pm 0.1^\circ$

CUSTOMER

CARCLO

TITLE

14MM OFFSET FOCUS
20 MM DIA OPTIC

DRAWN AJD DATE 17-Aug-06

CHK'D DATE

APP'D DATE

SCALE CARCLO PART No.

2:1 SEE TABLE

SIZE A4 CARCLO DRG. No. 60434 SHEET 1 OF 1

LED Module - 2010 Model

