

Engineering Change Notice

Definition

An *Engineering Change Notice* (ECN) is a document authorizing and recording design changes throughout the prototyping and life-cycle phases of a product. ECN documentation contains the justification for changes made to a component or system once the initial design is complete. It also forces changes to be approved by the relevant authorities (often the project manager).

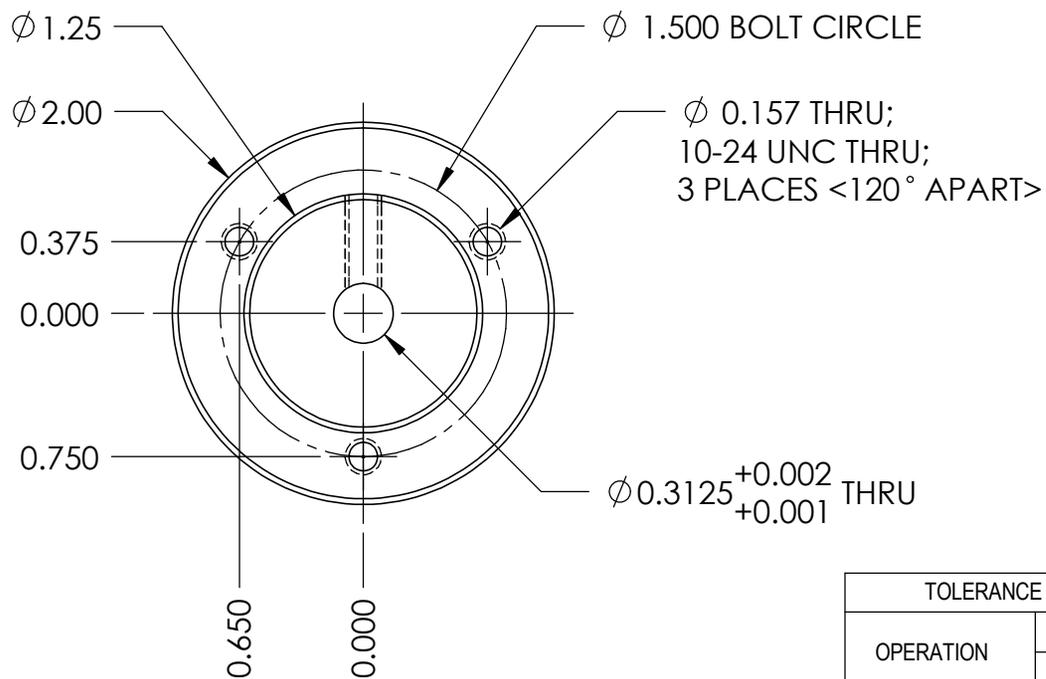
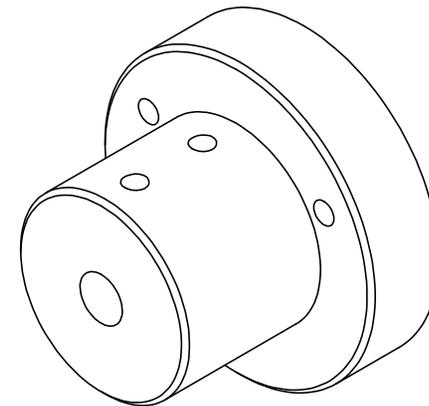
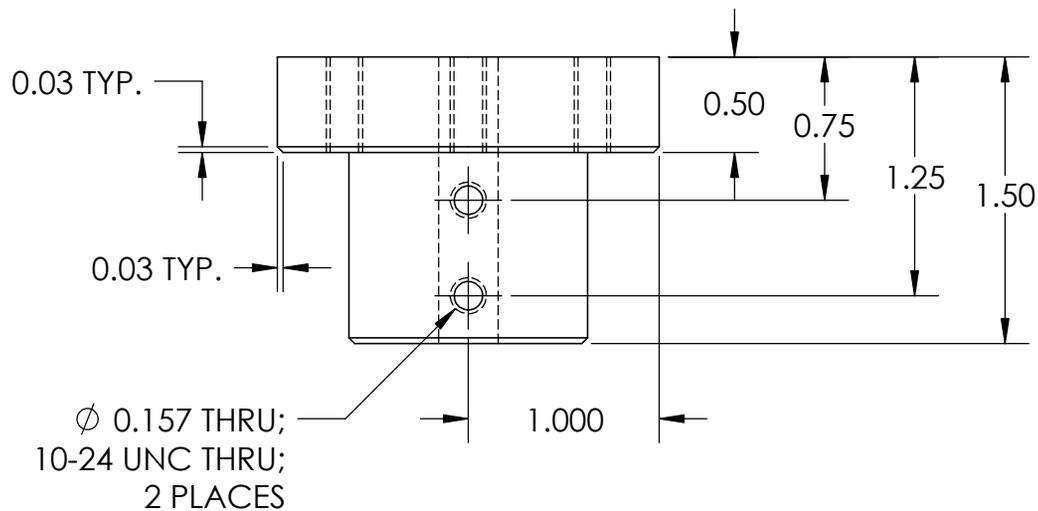
An ECN must contain at least the following information (Ullman 2009):

- Identification of what needs to be changed. This should include the part number and name of the component and reference to drawings showing the component in detail or assembly.
- Reason(s) for the change.
- Description of the change. This includes a drawing of the component before and after the change. The drawings must clearly show the detail(s) affected by the change.
- List of documents (and in industry, the departments) affected by the change. The most important part of making a change is ensuring all pertinent groups are notified and all documents updated.
- Approval of the change. As with the detail and assembly drawings, the changes must be approved by management.
- Instruction about when to introduce the change—immediately (scrapping current inventory), during the next production run, or at some other milestone.

Application for EML2322L

On any engineering project, the design work should conclude before manufacturing commences. Sometimes we rush through the design phase because we are excited to begin fabrication. Design changes made in the manufacturing phase are much more costly than changes made during the initial design phase. To encourage groups to do the best job possible during the initial design phase, teams must fill out an ECN for any change(s) made once the third design report is formally submitted. For EML2322L an ECN will contain the following information:

- Identification of what needs to be changed. This should include the component's name, part number and reference to the component's detail drawing(s).
- Reason(s) for change(s).
- Description of change(s). This includes a drawing of the component before (i.e. REV. A) and after the change (REV. B). *REV. is short for revision.*
- List of components and documents affected by the change (i.e. assembly drawing, B.O.M., other detail drawings, P.O., etc.). The most important part of making a change is ensuring all pertinent people are notified of changes that affect their component(s).
- Approval of the change. As with the detail and assembly drawings, the changes must be approved by "management". For this course, management will comprise all group members plus the signature of the course instructor or TA.
- Instruction about introducing the change: modifying or eliminating an existing part, making a new part, etcetera.
- ECNs must be completed and submitted within one week of initiation or they will be late.



NOTES:

1. QTY: 1
2. ALL DIMS IN INCHES
3. MATL: ALUMINUM
4. FINISH ALL SURFACES
5. BREAK ALL EDGES

TOLERANCE UNLESS NOTED			TITLE: WHEEL HUB		
OPERATION	PLACES IN DIMENSION			DRAWN	M. BRADDOCK
	0.0	0.00	0.000		
MACHINING	±0.050	±0.020	±0.005	DESIGNED	J. KOCH
CUT OFF (SAW, BURN, SHEAR)	±0.1	±0.060		SIZE	DWG. NO. EML2322L-020
WELDING	±0.1	±0.060		A	REV A
ANGULAR DIMS	±5	±2	±0.5	SCALE: 1:1	SHEET 1 OF 1

Engineering Change Notice

ENGINEERING CHANGE			
ORIGINAL PART/DRAWING NAME/NO.	REVISION. NO.	PART DESCRIPTION	ECN NO.
CHANGED PART/DRAWING NAME/NO.	REVISION. NO.		GROUP NO.
REASON FOR CHANGE			
DESCRIPTION OF CHANGE			
AFFECTED DOCUMENTS & PARTS <input type="checkbox"/> PURCHASE ORDER(S) * <input type="checkbox"/> OTHER PARTS (LIST NAMES): <input type="checkbox"/> ASSEMBLY DRAWING(S) * <input type="checkbox"/> BILL OF MATERIALS (BOM) *			
ORIGINATOR NAME (#1)	SIGNATURE:		DATE / /
APPROVAL			
REQUIREMENTS	IS THE ECN FILLED OUT <i>COMPLETELY</i> ? <input type="checkbox"/> YES <input type="checkbox"/> NO IS THE <i>ORIGINAL DRAWING</i> ATTACHED? <input type="checkbox"/> YES <input type="checkbox"/> NO IS THE <i>UPDATED DRAWING</i> ATTACHED? <input type="checkbox"/> YES <input type="checkbox"/> NO IS THE <i>DUE DATE</i> UNDERSTOOD BY THE TEAM? <input type="checkbox"/> YES <input type="checkbox"/> NO	DUE DATE / /	
EXECUTION	<input type="checkbox"/> A – MODIFY EXISTING PART <input type="checkbox"/> C – SCRAP EXISTING PART (IF MANUFACTURING ALREADY COMMENCED) <input type="checkbox"/> B – CREATE NEW PART <input type="checkbox"/> D – DELETE EXISTING PART (IF MANUFACTURING HASN'T COMMENCED)		
GROUP MEMBER NAME (#2)	SIGNATURE:		DATE / /
GROUP MEMBER NAME (#3)	SIGNATURE:		DATE / /
GROUP MEMBER NAME (#4)	SIGNATURE:		DATE / /
GROUP MEMBER NAME (#5)	SIGNATURE:		DATE / /
TA NAME	SIGNATURE:		DATE / /

* NOTE: ECNs submitted for EML2322L only need to include the affected detail part drawings; other documents affected by the changes / corrections (such as purchase orders, budgets, assembly drawings and BOMs) should be updated and submitted in lab the day of your group's final competition, as noted in the [Design Report Template](#).