

# Oregon OSHA Worksite Redesign Grant Final Quarterly and Project Report

Company: **Electronics Assemblers Inc.**

Contract Number: **#99/01-30**

Project Name: **Benchtop Heatshrink Application Device**

Date: 7/8/02

## *Project accomplishments and effectiveness:*

The original objectives of this project, as outlined in the grant application, were to:

- A. A cable gripping device that will handle a range of outside cable diameters from about ¼” to ¾” outside diameter.
- B. Process that allows cable ends in a top-to-bottom motion (cable end is placed through a chute on the top, discharges out the bottom).
- C. Little or no adjustment to process different cable sizes.
- D. A “speed dial” to control the amount application heat.
- E. Adjustable guides to keep heat-shrink tubing in place before heat applied.
- F. 110 VAC power.
- G. Bench top mounting.
- H. Automatic start-up when operator drops cable onto gripper.
- I. Automatic shutdown when cable discharged onto hanger.
- J. The use of standard components wherever possible (including standard heat gun).
- K. Easy replication with the use of a standardized CAD design.

The final ergonomic and hygienist reports indicate that most of the above objectives have been accomplished. Those items that were not incorporated (items B, E, H and I) have little to do with ergonomic or safety qualities and were replaced with alternate methods that were equally effective.

It should also be noted that all grant responsibilities and project steps as outline in contact #99/01-30 have been completed as well.

## *Project evaluation data:*

The post ergonomic and hygienist report has been provided as part of the dissemination package and illustrate that all targeted conditions have been either improved or eliminated.

## *A synopsis of the project evaluation:*

A one-page “executive overview” of the project has been included with the dissemination package.

*A plan to continue evaluating the project:*

Howard Marquis, president of Electronics Assemblers will ensure that the device receives continued use, evaluation and application within the production environment. During development and implementation, the overall workload was down due to the prevailing business climate. Thus, we were able to develop applications for only a few products. This will increase as new orders for different products arrive.

*How have other employers been informed of the results of the project?*

A dissemination article was written and submitted for publication in the Hood River News and the Columbia Gorge Regional News.

*List of deliverables supplied for posting to the Oregon OSHA website:*

The list agreed to in project close meetings has been supplied below. This has been supplied in electronic format, and includes:

1. VRML Solid Model.  
In leu of a VRML file, digital photos have been supplied as they provide a better visual impact of the final product. CAD and BOM files, as noted below, were included for anyone wishing to replicate this product.
2. Solid Model CAD File:
  - A. Original CAD File Format from creation (AutoCAD).
  - B. AutoCAD part and schematic drawings with BOM information.
3. One page executive overview with digital photo of device.  
Microsoft Word
4. Vendor list with cross ref. code.  
Excel
5. Bill of material with vendor cross ref. code and estimated costs.  
Excel
6. Published article.  
Microsoft Word
7. Ergonomic and Industrial Hygienist Original and Final reports.  
Microsoft Word

Additionally, a VHS Video of the device has been supplied as outlined in the contract.

*Cost of project:*

The Or-OSHA dollars spent on this project total \$37,394.15, which is \$3,960.85 less than the budgeted amount of \$41,355. A request for the final disbursement for the amount of the \$6,646.15 is included in the attached Exhibit C, which is \$3960.85 less than the maximum allowed final disbursement.

*Customer match overview:*

Electronics Assemblers provided in-kind labor and material in the amount of \$6,040 against a required amount of \$3,740.

Additional notes:

The completed Exhibit C Quarterly Report Expenditure Worksheet has been included with this report which outlines the use of the budget.

An additional financial form has been included from Barb Forni, OMEP's Financial Manager, which shows where all fees were expended. Please note that OMEP billed this grant for \$14,860.00 for all the various consultative services that we outlined in the original application process. Additionally, OMEP completed some items originally targets for completion by Electronics Assemblers.

Despite several challenges during the development of this project, the overall outcome is considered a success by all involved. In the beginning, it became clear that a "one size fits all solution" would not be easily attainable. As indicated in the ergonomic report, a substantial reduction in factors that could contribute to injury have been eliminated.

Sincerely,

Mark Biederbeck  
OMEP Manufacturing Consultant  
and Project Manager for Electronics Assemblers.