# LᴬTEX AND BIBTEX FOR ASAE PAPERS*

## J. D. McCauley†
STUDENT MEMBER
ASAE

## ABSTRACT

A LᴬTEX style for the American Society for Agricultural Engineers (ASAE) is discussed. This is not official and not (yet) an accepted way to submit articles to ASAE. *This is NOT an ASAE Transcations article.*

KEYWORDS. LᴬTEX, BIBTEX, typesetting, ASAE Transactions.

## INTRODUCTION

This document, when compared to source code, instructs someone on the use of `asaetr.sty`, a LᴬTEX style file for writing documents that look like *ASAE Transactions* articles. Examples of section headers, itemized lists, tables, and figures are given. Hopefully, a document written using the default `article` style in LᴬTEX could be transformed to look like a *Transactions* article by only a few changes.

The American Society of Agricultural Engineers editorial staff encourages authors to submit electronic manuscripts in the following formats: MacWrite, MS–Word, MS–Works (preferably Version 2.0), WordPerfect (Version 5.0 or later), and WriteNow [1] (ASAE, 1991). Though LᴬTEX is not an accepted format to submit articles to ASAE, it does have utility when predicting page length and appearance of an article that you submit. Predicting page length is especially important when submitting "Technical Notes" (which cannot exceed two pages) and when trying to avoid unnecessary page charges.

It should be emphasized that this document was written as an example of use of the style files; it's value is greatly enhanced if you compare it with source code (see a later section for instructions) and a copy of *ASAE Transactions*.

## OBJECTIVE

The objective of this work was to develop LᴬTEX and BIBTEX style files for ASAE members.

---

*Written for presentation as the 1992 International Winter-Meeting of ASAE.

†USDA Fellow, Department of Agricultural Engineering, Purdue University. Formerly, Graduate Assistant–Research, Department of Agricultural Engineering, Texas A&M University. (`jdm5548@diamond.tamu.edu`).

### FINER OBJECTIVES

Well, that sounds pretty noble, but I also wanted to

1. Make it easier on myself (because I'm a programmer, and programmers are lazy),

2. Encourage a friend to switch to TEX and

3. Show you the use of a `\subsubsection` heading and the `enumerate` environment.

*TEST HEADING.* This is a test of level four headings.

## GETTING STARTED

If you're unfamilar with LᴬTEX, I would suggest picking up a copy of the manual (Lamport, 1986) [2, note] and putting this paper aside for a while. If you're already familiar, read on.

## THE PREAMBLE

The preamble is where tell LᴬTEX that you are going to use `asaetr.sty`. It's also where you list the authors and ASAE membership grades. Here's an example:

```
\documentstyle{asaetr}
\title{Boring Title}
\author{U.\ B.\ Boring \fellow \and
     I.\ M.\ Young \student \and
     R.\ U.\ Happy \nonmember   }
\begin{document}
\maketitle
```

I have used up to four authors and still got it fit on one line. Five authors may fit, depending on the lengths of the names. If they don't all fit, two rows of authors will be formed. Membership grades can be any of

```
\member, \associate, \student,
\affiliate, or \fellow.
```

You can also use `\nonmember`, but it has the same effect as leaving the membership grade off. The `\maketitle` command simply tells LᴬTEX to use this author and title information to compose the title of the paper.

## The Abstract

After the preamble comes the abstract. Here's an example:

```
\begin{abstract}
This is going to be short. See, I told you.
\keywords{brevity, terseness, words.}
\end{abstract}
```

This should be straightforward enough.

## The Body

The commands that you should be most familiar with to typeset the body of your paper are the sectioning commands. They are

**section:** Same level as the Introduction.

**subsection:** Secondary headings, such as "Objectives."

**subsubsection:** Third level headings.

**paragraph:** Avoid fourth level headings.

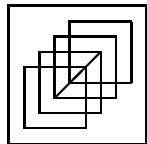The usage of these commands can be best described by an example:

```
\subsection{The Body}
```

This is the sectioning command for the section you are now reading.

You may want to avoid fourth level headings because it requires an additional font for your TeX installation: `cmcscsl10`. This is a slanted, small caps font. If you have METAFONT working on your system, this is not a problem. Source code for this font is available with the style files. Ask you local TeX guru for help, should you need it.

## Figures and Tables

If you have a POSTSCRIPT printer available, it's highly recommended that you use the `\psfig` macros written by Trevor Darrell to include high quality figures. Another useful utility for including figures is `fig` (or `xfig` if you use X Windows). Figure 1 was created in about 30 seconds using `xfig`. You can get `fig` from `cayuga.cs.rochester.edu` by anonymous ftp. Remember that in *Transactions of the ASAE*, captions for figures go *below* the figures.



**Figure 1 − Primitive figure.**

If you plan to include tables, and if you want to have footnotes within these tables, use the `minipage` environment. Contact your local LaTeX guru or see your *local guide* for more information about how to code tables. The source code for this paper also provides good information. You'll notice in *Transactions of the ASAE* or in *Applied Engineering in Agriculture* they use thicker lines for the top and bottom rules in tables. Instead of having to change line thickness yourself (as you do in using document style "article" and others), you can use two macros that come with this style: `\thickhline` and `\thinhline`. See the example table in this document (Table 1). Don't forget to put the caption *above* the table instead of below it.

## The References

BibTeX automatically generates the "References" section of your paper from an external database. Style files govern to appearance of your "References" section. In principle, you could change a paper, which met the requirements of one professional society, to that of another by simply changing the style file that you use. The style file `asaetr.bst` (for ASAE) is currently being developed. Other style files exist for IEEE, ACM, APA, etc.

To use BibTeX, you normally process your file with LaTeX, then with BibTeX, then twice more with LaTeX. The BibTeX style file, which is unfinished, comes close to the citation style used by ASAE. You may have to edit some entries by hand. To do this, edit the `*.bbl` file after you have processed the file with BibTeX. See Appendix B in [2] (Lamport, 1986) for more information about BibTeX.

## Submission

When you submit to ASAE, they want a double–spaced, single–column document with figures and tables on separate pages. If you've written you document using
`\documentstyle{asaetr}`,
simply change that first line to read
`\documentstyle[asaesubmit]{asaetr}`.
This makes all the changes necessary.

**Table 1: Comparison of Publishing Tools**

| Tool | Learning Curve[a] (*units*) | Support[b] (*units*) |
|---|---|---|
| FrameMaker | 5.0 | 6.0 |
| Troff | 10.0 | 1.0 |
| TeX[c] | 7.0 | 10.0 |

[a]1.0 being easiest.
[b]10.0 being the best.
[c]TeX is the winner!

## WHERE TO FIND

This collection of files discussed in this paper include:

**asaetr.sty:** LaTeX style

**asaesubmit.sty:** for paper submissions to ASAE

**asaetr.bst:** BibTeX style

**asaetr.tex:** example usage of and documentation for above (source for this document)

**asaetr.bib:** part of the above example

**cmcscsl10.mf:** METAFONT source for level four heading font

A copy of this collection of style files can be obtained via anonymous ftp:

```
% ftp sun.soe.clarkson.edu
Connected to sun.soe.clarkson.edu.
Name (sun.soe.clarkson.edu:jdm5548): anonymous
331 Guest login ok, send ident as password.
Password: jdm5548@diamond.tamu.edu
230 Guest login ok, access restrictions apply.
ftp> cd pub/tex/latex-style
250 CWD command successful.
ftp> mget asae*
...
ftp> quit
```

To retrieve this collection via electronic mail, send a MAIL message to

> FILESERV@SHSU.BITNET

with the command:

> SENDME ASAETR

## CONCLUSION

This file should serve as an excellent example of the use of the style files. If you still can't figure things out, hunt up your local guru and ask him/her to explain LaTeX and BibTeX style files.

## REFERENCES

ASAE 1990. Instructions to authors of ASAE technical publications. *Transactions of the ASAE* 33(4).

Lamport, L. 1986. *LaTeX: A Document Preparation System.* Reading, MA : Addison–Wesley Pub. Co.