

The flexipage package

Anton Vrba

1.0 from 2022/05/28

Abstract

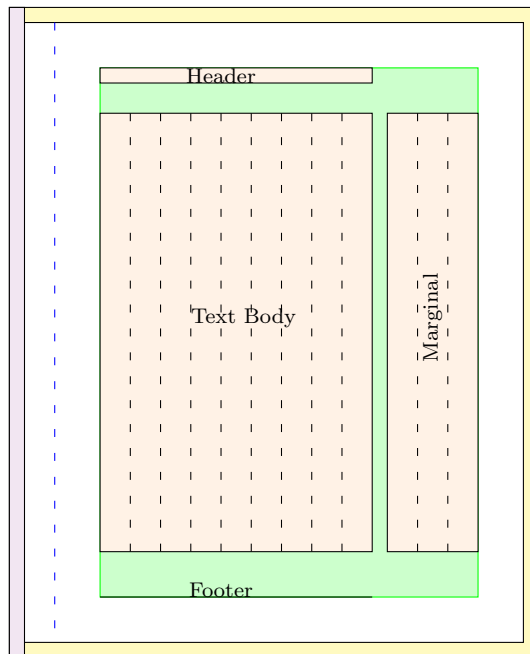
The package flexipage allows easy page layout if marginalia is required. Mid document changes are possible such as: new marginal width, full width text, and landscape text without marginal. Partners well with the package `sidenotesplus`. The package also aids the layout for book printing, allowing for binding corrections and adding page bleed, if required,

1 Introduction

The aim is an easy to use the page geometry setup, and allow mid-document changes such as from portrait to landscape, or change the text body width to marginalia width ratio. The philosophy is simple, easy to understand options quickly set up the page geometry:

1. `pageheight` and `pagewidth` of final document, default inherited.
2. Defines page margins `inner`, `outer`, `top` and `bot`. Inner refers to the binding that is the left side margin of on odd pages in `twoside` documents, or of pages in `oneside` documents. Page margins surround the printable area. Default for all `36pt`, or `0.5in`.
3. Add a `binding` correction, default `9pt`.
4. Add an `outerbleed`, increases the papersize by adding a bleed area to the non bound margins. For the seldom requirement an `innerbleed` adds to the paperwidth on the inner side. Refer to your publisher. Default for both `0pt`.
5. Divide the remaining printable area into a vertical `grid`, default `12`.
6. Insert a `marginparsep` (default `3ex`) at the `margingrid` position counting from the outer edge; `0` is for no marginalia, `1` is a narrow marginal note area, and `4` is a marginal note area of one halve the width of the text body area's width when `grid=12`. The marginal area is placed by the outer edge.
7. The `LATEX` `headsep`, `headheight` and `footskip` dimension can also be passed as options, otherwise default to class values.

8. As a visual guide, the option `show` frames the page geometry in the output



The basic paper geometry for book printing is illustrated to the left. This for odd page numbers, the recto page. The even pages mirror this geometry to maintain verso–recto symmetry. The final page size is the white area. The yellow outer coloured area is the **outerbleed** and the violet colored area on the left is the **innerbleed**, these are trimmed and discarded. Please refer to your publisher if needed.

The green area is the text block containing the text body, the marginal, the header and footer and is defined by the margins **top**, **outer** and **bottom** to the trimmed paper's edge. The inner side (left) vertical dot-dashed line represents the **binding** correction and the **inner** margin is defined from this line.

Here the illustrated text width plus the marginal width are divided into 12 equal **grid=12** divisions with the marginal taking 3 of them, defined by **marginalgrid=3**.

Also refer to: https://www.overleaf.com/learn/latex/Single_sided_and_double_sided_documents

2 Usage

2.1 Document preamble

```
\PassOptionsToPackage{
% a4paper           , % or another recognised paper size
% paperheight =    , % inherits from class
% paperwidth =     , % inherits from class
% inner =          , % default 36pt or 0.5in
% outer =          , % 36pt or 0.5in
% top =            , % 36pt or 0.5in
% bot =            , % 36pt or 0.5in
% binding =        , % 9pt or 0.125in
% outerbleed =     , % 0pt, but check with your printer
% innerbleed =     , % 0pt, but check with your printer
% grid =           , % 12 it is just a number
% marginalgrid =   , % 3 it is just a number
% marginparsep =   , % 3ex, if using sidenotesplus change to 4 or 5ex
% headsep =        , % inherits from class
% headheight =     , % inherits from class
% footskip=        , % inherits from class
% show             , % a switch to show frames around the printable areas.
% fancyhdrOff      , % Do not use the fancyhdr package
% NoFixMargin      , % a possible future requirement
}\flexipage}
\usepackage{flexipage}
```

Known Issue: If using the option `show` and the package `xcolor` is loaded later with options, an error will occur. The reason is that when option `show` is specified the package `eso-pic` is loaded which in turns loads `xcolor` without options.

Marginalia Position Issue: When doing mid document changes to `\textwidth` and `\marginparwidth` then `\marginpar{content}` renders the marginalia to the correct width but places it at the old position. A patch is provided here to correct this issue. Should this ever be fixed in the latex base software then the `NoFixMargin` option would be required.

Using fancyhdr package By default the `fancyhdr` package is loaded and the `\headerlength` is set to span the page, that is it overhangs the text body. The advantage here is that the header has the same format throughout the document if mid-document layout changes are made. If no such changes are made then use the `fancyhdr0ff` and load `fancyhdr` in your preamble. Now the header does not overhang the text body and is as shown in the previous illustration.

The following paper sizes are recognised:

Standard Paper		Standard Book	
a4paper	210×297mm	US-Trade	6×9in
a5paper	148×210mm	UK-B-Format	135×210mm
b4paper	250×353mm	US-B-Format	129×198mm
b5paper	176×250mm	UK-Royal	156×234mm
c4paper	229×324mm	Quarto	9.5×12in
c5paper	162×229mm	Octavo	6×9in
b4jpaper	257×364mm	CrownQuarto	189×246mm
b5jpaper	182×257mm	Demi	138×216mm
letterpaper	8.5×11in		
legalpaper	8.5×14in		
executivepaper	7.25×10.5in		

2.2 User Interfaces

<code>\NewMarginPage</code>	Changes text–marginal ratio. <code>\NewMarginPage[⟨g⟩]<⟨parsep⟩>{⟨m⟩}</code> where optionally the grid count is reset to <code>grid=g</code> , and marginal width is determined by <code>marginalgrid=m</code> . The ratio of the lengths <code>\textwidth</code> to <code>\marginparwidth</code> is $g - m$ to n . The second option changes the <code>\parsep</code> length.
<code>\NewFullPage</code>	Continues the document with a new page without margins, and is equivalent to <code>\NewMarginPage{⟨0⟩}</code>
<code>\OldMarginPage</code>	After <code>\NewMarginPage</code> or <code>\NewFullPage</code> revert to the previous page geometry,
<code>\ResetFlexiPage</code>	these are not stacked. <code>\ResetFlexiPage</code> reverts to the layout specified in the initial options
<code>Landscape</code>	These two environments provide landscape layouts. The big <code>Landscape</code> provides full text block landscape. The small <code>landscape</code> environments respects the portrait orientated marginal space which now is white space. Do not use marginalia in landscape mode.
<code>landscape</code>	
<code>\Landscape</code>	Alternatives to <code>\begin{Landscape} ... \end{Landscape}</code>
<code>\endLandscape</code>	
<code>\landscape</code>	
<code>\endlandscape</code>	

3 Implementation

```

1 \RequirePackage{xparse} % new LaTeX3 syntax to define macros and environments
2 \RequirePackage{l3keys2e} % nice way for option processing
3 \RequirePackage{calc} % length manipulation
4 \RequirePackage{fp} % floating point calculation
5 \RequirePackage{ifoddpage}
6 \RequirePackage{graphics} % provides landscaping
7 \RequirePackage{mparhack} % not needed here, but the user certainly needs it.
8 \RequirePackage{etoolbox} % provides \patchcmd
9 % ***** \RequirePackage{eso-pic} only loaded later if option show is specified
10 \newlength{\fleximarginparsep}
11 \newlength{\flx@paperheight}
12 \newlength{\flx@paperwidth}
13 \newlength{\flx@temp}
14 \newlength{\flx@LSfix}
15 \setlength{\flx@LSfix}{0pt}
16 \newlength{\flx@lsfix}
17 \setlength{\flx@lsfix}{0pt}
18 \newlength{\flx@textheight}
19 \newlength{\flx@orgtextwidth}
20 \newlength{\flx@oldparsep}
21 \newlength{\flx@oparsep}
22 \newlength{\flx@binding}
23 \newlength{\marginparsepodd}
24 \newlength{\marginparsepeven}
25 \newlength{\flx@inner}
26 \newlength{\flx@outer}
27 \newlength{\flx@top}
28 \newlength{\flx@bot}
29 \newlength{\flx@parsep}
30 \newlength{\flx@printarea}
31 \newlength{\flx@outerbleed}
32 \newlength{\flx@innerbleed}
33 \setlength{\flx@binding}{9pt}
34 \setlength{\flx@inner}{36pt}
35 \setlength{\flx@outer}{36pt}
36 \setlength{\flx@top}{36pt}
37 \setlength{\flx@bot}{45pt}
38 \setlength{\flx@parsep}{3ex}
39 \setlength{\flx@outerbleed}{0pt}
40 \setlength{\flx@innerbleed}{0pt}
41 \FPset\flx@m{3}
42 \FPset\flx@g{12}
43 \newif\ifSF@frame\SF@framefalse
44 \newif\ifFix@Margin\Fix@Margintrue
45 \newif\ifUse@fancyhdr\Use@fancyhdrtrue

46 \setlength{\flx@paperheight}{\paperheight}
47 \setlength{\flx@paperwidth}{\paperwidth}
48
49 \NewDocumentCommand \flx@setpapersize {o o m}{
50 \setlength{\flx@paperheight}{#2#3}
51 \setlength{\flx@paperwidth}{#2#3}
52 }

```

```

53
54
55 \ExplSyntaxOn
56 \keys_define:nn { flexiprint }
57 {
58     binding .code:n = \setlength{\flx@binding}{#1},
59     inner .code:n = \setlength{\flx@inner}{#1},
60     outer .code:n = \setlength{\flx@outer}{#1},
61     top .code:n = \setlength{\flx@top}{#1},
62     bot .code:n = \setlength{\flx@bot}{#1},
63     marginparsep .code:n = \setlength{\flx@parsep}{#1},
64     paperheight .code:n = \setlength{\flx@paperheight}{#1},
65     paperwidth .code:n = \setlength{\flx@paperwidth}{#1},
66     outerbleed .code:n = \setlength{\flx@outerbleed}{#1},
67     innerbleed .code:n = \setlength{\flx@innerbleed}{#1},
68     grid .code:n = \FPset\flx@g{#1},
69     marginalgrid .code:n = \FPset\flx@m{#1} ,
70     show .code:n = \SF@frametrue ,
71     NoFixMargin .code:n = \Fix@Marginfalse ,
72     headsep .code:n = \setlength{\headsep}{#1},
73     headheight .code:n = \setlength{\headheight}{#1},
74     footskip .code:n = \setlength{\footskip}{#1},
75     fancyhdrOff .code:n = \Use@fancyhdrfalse,
76     a4paper .code:n = \flx@setpapersize[210][297]{mm},
77     a5paper .code:n = \flx@setpapersize[148][210]{mm},
78     b4paper .code:n = \flx@setpapersize[250][353]{mm},
79     b5paper .code:n = \flx@setpapersize[176][250]{mm},
80     c4paper .code:n = \flx@setpapersize[229][324]{mm},
81     c5paper .code:n = \flx@setpapersize[162][229]{mm},
82     b4jpaper .code:n = \flx@setpapersize[257][364]{mm},
83     b5jpaper .code:n = \flx@setpapersize[182][257]{mm},
84     letterpaper .code:n = \flx@setpapersize[8.5][11]{in},
85     legalpaper .code:n = \flx@setpapersize[8.5][14]{in},
86     executivepaper .code:n = \flx@setpapersize[7.25][10.5]{in},
87     10x8paper .code:n = \flx@setpapersize[8][10]{in},
88     US-Trade .code:n = \flx@setpapersize[6][9]{in},
89     UK-B-Format .code:n = \flx@setpapersize[135][210]{mm},
90     US-B-Format .code:n = \flx@setpapersize[129][198]{mm},
91     UK-Royal .code:n = \flx@setpapersize[156][234]{mm},
92     Quarto .code:n = \flx@setpapersize[9.5][12]{in},
93     Octavo .code:n = \flx@setpapersize[6][9]{in},
94     CrownQuarto .code:n = \flx@setpapersize[189][246]{mm},
95     Demi .code:n = \flx@setpapersize[138][216]{mm},
96 }
97 \ProcessKeysOptions { flexiprint }
98
99 \DeclareExpandableDocumentCommand{\IfNoValueOrEmptyTF}{ m m m }
100 {
101     \IfNoValueTF{#1}
102     {#2}
103     {\t1_if_empty:nTF {#1} {#2} {#3}}
104 }
105 \ExplSyntaxOff
106

```

```

107 \FPset\flx@oldg{\flx@g}
108 \FPset\flx@oldm{\flx@m}
109 \FPset\flx@og{\flx@g}
110 \FPset\flx@om{\flx@m}
111 \setlength{\flx@oparsep}{\flx@parsep}
112 \ifUse@fancyhdr
113     \RequirePackage{fancyhdr}
114     \pagestyle{fancy}
115 \fi
116
117 \setlength{\flx@oldparsep}{\flx@parsep}
118 \setlength{\flx@oparsep}{\flx@parsep}
119 \addtolength{\flx@binding}{\flx@innerbleed}
120 \global\hoffset=0pt
121 \global\voffset=0pt
122

```

\flx@setpagevertical

```

123 \NewDocumentCommand \flx@setpagevertical {} {
124     \setlength{\flx@temp}{\flx@paperwidth+\flx@innerbleed+\flx@outerbleed}
125     \global\paperwidth=\flx@temp
126
127     \setlength{\flx@temp}{\flx@paperheight+2\flx@outerbleed}
128     \global\paperheight=\flx@temp
129
130     \setlength{\flx@temp}{\flx@top+\flx@outerbleed-72pt}
131     \setlength{\topmargin}{\flx@temp}
132
133     \setlength{\flx@temp}{\paperheight - \flx@top %
134         - \headheight - \headsep - \footskip - \flx@bot - 2\flx@outerbleed}
135     \setlength{\textheight}{\flx@temp}
136 }

137 \flx@setpagevertical
138 \setlength{\flx@textheigt}{\textheight}
139 \newlength{\flx@linewidth}

```

\flx@setpage

```

140
141 \NewDocumentCommand \flx@setpage {} {
142     \FPifgt\flx@m0\relax\else\setlength{\flx@parsep}{0pt}\fi
143     \setlength{\flx@temp}{\flx@binding+\flx@inner-72pt}
144     \global\oddsidemargin=\flx@temp
145
146     \setlength{\flx@linewidth}{\paperwidth-\oddsidemargin-\flx@outer-72pt-\flx@outerbleed}
147     \ifUse@fancyhdr
148         \setlength{\headwidth}{\flx@linewidth}
149     \fi
150     \setlength{\flx@printarea}{\flx@linewidth-\flx@parsep}
151     \FPsub\flx@t\flx@g\flx@m
152     \setlength{\flx@temp}{\flx@printarea * \real{\flx@t}/\real{\flx@g} }
153     \global\textwidth=\flx@temp
154
155     \setlength{\flx@temp}{\flx@printarea * \real{\flx@m}/\real{\flx@g} }

```

```

156     \global\marginparwidth=\flx@temp
157     \global\marginparsep=\flx@parsep
158     \if@twoside
159         \setlength{\flx@temp}{\flx@outer+\marginparwidth+\marginparsep-1in+\flx@outerbleed}
160         \global\evensidemargin=\flx@temp
161     \else
162         \global\evensidemargin=\oddsidemargin
163     \fi
164     \global\fleximarginparsep=\marginparsep
165     \global\hsize=\textwidth
166 }

167 \flx@setpage
168 \flx@orgtextwidth=\textwidth
169 \FPset\flx@oldg\flx@g
170 \FPset\flx@oldm\flx@m
171 \setlength{\flx@oldparsep}{\flx@parsep}
172 \setlength{\flx@oldparsep}{\flx@parsep}

\NewMarginPage

173 \NewDocumentCommand \NewMarginPage {o d<> m} {
174     \FPset\flx@oldg\flx@g
175     \FPset\flx@oldm\flx@m
176     \setlength{\flx@oldparsep}{\flx@parsep}
177     \ResetFlexiPage
178     \IfNoValueOrEmptyTF{#2}{\relax}{\setlength{\flx@parsep}{#2} }
179     \IfNoValueOrEmptyTF{#1}{\relax}{\FPset\flx@g{#1}}
180     \FPset\flx@m{#3}
181     \flx@setpage
182     \flx@marginparcorrection
183 }

\OldMarginPage

184 \NewDocumentCommand \OldMarginPage {} {
185     \FPset\flx@m\flx@oldm
186     \FPset\flx@g\flx@oldg
187     \flx@ResetFlexiPage
188     \setlength{\flx@parsep}{\flx@oldparsep}
189     \flx@setpage
190     \flx@marginparcorrection
191 }

\NewFullPage

192 \NewDocumentCommand \NewFullPage {}{
193     \FPset\flx@oldg\flx@g
194     \FPset\flx@oldm\flx@m
195     \setlength{\flx@oldparsep}{\flx@parsep}
196     \flx@ResetFlexiPage
197     \FPset\flx@m{0}
198     \setlength{\flx@parsep}{0pt}
199     \flx@setpage
200 }

\ResetFlexiPage

```

```

201 \NewDocumentCommand \ResetFlexiPage{} {
202   \FPset\flx@oldg\flx@g
203   \FPset\flx@oldm\flx@m
204   \flx@ResetFlexiPage
205 }

\flx@ResetFlexiPage
206 \NewDocumentCommand \flx@ResetFlexiPage{} {
207   \clearpage
208   \FPset\flx@g\flx@g
209   \FPset\flx@m\flx@m
210   \setlength{\flx@parsep}{\flx@oparsep}
211   \flx@setpage
212   \flx@marginparcorrection
213 }

\Landscape
214 \NewDocumentCommand \Landscape {}

215 {
216   \FPset\flx@oldm\flx@m
217   \FPset\flx@oldg\flx@g
218   \setlength{\flx@oldparsep}{\flx@parsep}
219   \clearpage
220   \setlength{\flx@LSfix}{\textheight-\flx@linewidth}
221   \FPset\flx@m{0}
222   \setlength{\flx@parsep}{0ex}
223   \flx@setpage
224   \flx@landscape
225 }

\endLandscape
226 \NewDocumentCommand \endLandscape {}
227 {
228   \flx@endlandscape
229   \FPset\flx@m\flx@oldm
230   \FPset\flx@g\flx@oldg
231   \setlength{\flx@parsep}{\flx@oldparsep}
232   \flx@setpage
233   \setlength{\flx@LSfix}{0pt}
234   \flx@marginparcorrection
235 }

\landscape
236 \NewDocumentCommand \landscape {}

237 {
238   \FPset\flx@oldm\flx@m
239   \FPset\flx@oldg\flx@g
240   \setlength{\flx@oldparsep}{\flx@parsep}
241   \clearpage
242   \setlength{\flx@LSfix}{\textheight-\textwidth}
243   \FPset\flx@m{0}
244   \setlength{\flx@parsep}{0ex}

```



```

245 \flx@landscape
246 }

```

\endlandscape

```

247 \NewDocumentCommand \endlandscape {}
248 {
249   \flx@endlandscape
250   \FPset\flx@m\flx@oldm
251   \FPset\flx@g\flx@oldg
252   \setlength{\flx@parsep}{\flx@oldparsep}
253   \flx@setpage
254   \setlength{\flx@LSfix}{0pt}
255   \flx@marginparcorrection
256 }

```

If the page layout includes a marginal these lscape.sty package respect these

```

257 %
258
259 \def\flx@LS@rot{%
260   \setbox\@outputbox\vbox{\hbox{\rotatebox{90}{\box\@outputbox}}}}
261
262 \def\flx@landscape{%
263   \let\flx@LS@makecol=\@makecol
264   \let\flx@LS@makefcolumn=\@makefcolumn
265   \clearpage
266   \begingroup
267   \global\vsiz=\textwidth
268   \global\hsiz=\textheight
269   \linewidth=\hsiz
270   \columnwidth=\hsiz
271   \@colroom=\vsiz
272   \textheight=\vsiz
273   \@colht=\vsiz
274   \def\@makecol{\flx@LS@makecol\flx@LS@rot}%
275   \def\@makefcolumn##1{\flx@LS@makefcolumn{##1}\flx@LS@rot}}
276
277 \def\flx@endlandscape{%
278   \clearpage
279   \endgroup
280   \global\@colht=\textheight
281   \global\vsiz=\textheight
282   \global\@colroom=\textheight}
283 %

```

\flx@marginparcorrection Mid-document changes to textwidth are not communicated the LaTeX marginpar routines hence the patch to correct the odd-side marginparsep.
 lifted from <https://tex.stackexchange.com/questions/174605>

```

284 \NewDocumentCommand\flx@marginparcorrection{}{
285 \ifFix@Margin
286   \setlength{\marginparsepodd}{\marginparsep-\flx@orgtextwidth+\textwidth}
287   \setlength{\marginparsepeven}{\marginparsep}
288   \patchcmd{\@addmarginpar}%In this command
289   {\mph@orig@addmarginpar}%...replace this...

```

```

290 {\if@twoside\ifodd\c@page\relax%...with this
291     \marginparsep=\marginparsepodd%Page isodd
292     \else%twoside and eveb
293     \marginparsep=\marginparsepeven%Page iseven
294     \fi
295     \else% oneside
296     \marginparsep=\marginparsepodd
297     \fi
298     \mph@orig@addmarginpar}
299 {}%success
300 {\message{Error! Couldn't hook into command    %failure
301     '\string\@addmarginpar'}} %end patch command
302
303 {
304     \def\patcherr{%
305         \message{Error!Couldn't hook into command'\string\@mn@@@marginnote'}}
306     \def\patchok{%
307         \let\patcherr\relax%Only display error if first patch fails
308         \patch%Now patch again.
309     }
310     \def\patch{
311         \patchcmd{\@mn@@@marginnote}%In this command
312             {\kern\marginparsep}%...replace this...
313         {\ifx\@mn@currpage\relax\else%...with this
314             \if@twoside\ifodd\@mn@currpage\relax
315                 \kern\marginparsepodd%Page is odd
316             \else
317                 \kern\marginparsepeven
318             \fi
319             \else% one side
320                 \kern\marginparsepodd
321             \fi
322         \fi}
323         {\message{Patched!}\patchok}%success(recurse)
324         {\patcherr}%fail
325     }
326     \message{Patching'\string\@mn@@@marginnote'!}
327     \patch
328     \global\let\@mn@@@marginnote\@mn@@@marginnote%Makepatch global
329 }
330 \fi
331 }

```

The package showframe.sty is adapted and localised

```

332 \ifSF@frame\RequirePackage{eso-pic}\fi % so that below code can draw frames
333
334 \ifSF@frame\AddToShipoutPictureBG{\flx@ShowFramePicture}\fi
335
336 \newcommand*\flx@framecolor{\color{green}}
337 \newcommand*\flx@frameline{.8pt}
338 \newdimen\SF@tempdima
339
340 \newcommand\flx@ShowFramePicture{%
341     \begin{group}

```

```

342 \color{orange}\linethickness{\flx@frameline}%
343 \if@twoside
344 \ifodd\c@page
345 \AtPageUpperLeft{%
346 \put(\flx@innerbleed,-\paperheight+\flx@outerbleed){%
347 \framebox(\paperwidth-\flx@outerbleed-\flx@innerbleed,\paperheight-2\flx@outerble
348 \else
349 \AtPageUpperLeft{%
350 \put(\flx@outerbleed,-\paperheight+\flx@outerbleed){%
351 \framebox(\paperwidth-\flx@outerbleed-\flx@innerbleed,\paperheight-2\flx@outerble
352 \fi
353 \else
354 \AtPageUpperLeft{%
355 \put(\flx@innerbleed,-\paperheight+\flx@outerbleed){%
356 \framebox(\paperwidth-\flx@outerbleed-\flx@innerbleed,\paperheight-2\flx@outerble
357 \fi
358 \flx@framecolor\linethickness{\flx@frameline}%
359 \AtTextLowerLeft{%
360 \put(0,-\flx@LSfix){\framebox(\textwidth,\textheight+\flx@LSfix){}}}%
361
362 \ifUse@fancyhdr
363 \if@twoside
364 \ifodd\c@page
365 \AtPageUpperLeft{%
366 \put(\flx@inner+\flx@binding,-\flx@outerbleed-\flx@top-\headheight){%
367 \framebox(\flx@linewidth,\headheight){}}}%
368 \AtPageUpperLeft{%
369 \put(\flx@inner+\flx@binding,%
370 -\flx@outerbleed-\flx@top-\headheight-\headsep-\textheight%
371 -\footskip -\flx@LSfix){%
372 \line(1,0){\flx@linewidth}}}%
373 \else
374 \AtPageUpperLeft{%
375 \put(\flx@outer+\flx@outerbleed,-\flx@outerbleed-\flx@top-\headheight){%
376 \framebox(\flx@linewidth,\headheight){}}}%
377 \AtPageUpperLeft{%
378 \put(\flx@outer+\flx@outerbleed,%
379 -\flx@outerbleed-\flx@top-\headheight-\headsep-\textheight%
380 -\footskip -\flx@LSfix){%
381 \line(1,0){\flx@linewidth}}}%
382
383 \fi
384 \else
385 \AtPageUpperLeft{%
386 \put(\flx@inner+\flx@binding,-\flx@outerbleed-\flx@top-\headheight){%
387 \framebox(\flx@linewidth,\headheight){}}}%
388 \AtPageUpperLeft{%
389 \put(\flx@inner+\flx@binding,%
390 -\flx@outerbleed-\flx@top-\headheight-\headsep-\textheight%
391 -\footskip -\flx@LSfix){%
392 \line(1,0){\flx@linewidth}}}%
393 \fi
394 %
395 \else

```

```

396 \AtTextUpperLeft{%
397 \put(0,\headsep){%
398 \framebox(\textwidth,\headheight){}}}%
399 \AtTextLowerLeft{%
400 \put(0,-\footskip-\flx@LSfix){%
401 \line(1,0){\textwidth}}}%
402 \fi
403 %
404 \FPifgt\flx@m 0{%
405 \AtTextLowerLeft{%
406 \SF@tempdima=\textwidth\advance\SF@tempdima\marginparsep%
407 \if@twoside
408 \ifodd\c@page\else
409 \if@mparswitch
410 \SF@tempdima=-\marginparsep\advance\SF@tempdima-\marginparwidth
411 \fi
412 \fi
413 \fi
414 \put(\SF@tempdima,0)%
415 {\framebox(\marginparwidth,\textheight){}}}%
416 }%
417 }\fi
418 \endgroup
419 }

```