Also $g_{\alpha\beta} = \pi^* g'_{\alpha\beta}$, where $g'_{\alpha\beta}$ are the transition functions for K_M with respect to coordinates $w_{i,\alpha}$ in U_α, $w_{i\beta}$ in U_β.

Now E is given in $\tilde{U}_i$ by $(z_i\ )$, in $\tilde{U}_\alpha$ by (1); so the transition functions for $[E]$ over $\tilde{\mathcal{U}}$ are

$$h_{ij} = \frac{z_i}{z_j} = z(i)_j^{-1}$$
$$h_{i\alpha} = z_i$$
$$h_{\alpha\beta} = 1 .$$

⌈ See note (P467) ⌋

Thus the transition functions for the bundle $K_{\tilde{M}} \otimes [E]^{-n+1}$ are

$$f_{ij} = z(i)_j^{-n+1}\ z(i)_j^{n-1} = 1$$
$$f_{i\alpha} = z_i^{n-1} \cdot z_i^{-n+1} = 1$$
$$f_{\alpha\beta} = \pi^* g_{\alpha\beta} .$$

⌈
$$f_{ij} = g_{ij} \cdot h_{ij}^{-n+1} = z(i)_j^{-n+1} \cdot \left(z(i)_j^{-1}\right)^{-n+1} = 1$$
$$f_{i\alpha} = g_{i\alpha} \cdot h_{i\alpha} = z_i^{(n-1)} \cdot z_i^{-(n-1)} = 1$$
$$f_{\alpha\beta} = g_{\alpha\beta} \cdot h_{\alpha\beta} = \pi^* g'_{\alpha\beta} \cdot 1 = \pi^* g'_{\alpha\beta} = g_{\alpha\beta} = g'_{\alpha\beta}$$ ⌋

and we see that $K_{\tilde{M}} - (n-1)E$ is just the pull-back via of the bundle on M given by transition functions $e_{0\alpha} = 1$, $e_{\alpha\beta} = g_{\alpha\beta}$; i.e, $K_{\tilde{M}} - (n-1)E = \pi^* K_M$. Q.E.D.

⌈ $f_{0\alpha} = 1$, $f_{\alpha\beta} = \pi^* g_{\alpha\beta}$

$\quad\ \ \| $
$\ \ \pi^* 1$ ⌋

We will develop a much more complete picture