$= B_{L_0}$

But the map $L \longmapsto \kappa(L) + L$ is again a group homomorphism, and since $B_{L_0} + B_{L_0} = A$, this implies that $\kappa(L) + L$ is constant, i.e.,

$$\kappa(L) = -L .$$

or in other words

$$B_L = B_{L_0} - L \quad \text{for all } L .$$

$\ulcorner$ κ, id are group homo. $\Rightarrow$ $\kappa + \mathrm{id}$ is a (additive) group homo.

Let $\tilde{\Theta}$ be the section corresponding to B_{L_0}. $\Rightarrow$ $\{ (t, z) \in B_{L_0} \times A \mid \tilde{\Theta}(z-t) = 0 \}$ is a dimensional variety. $\Rightarrow$ By the proper mapping theorem, the projection image to A is 2-dimensional subvariety of A. $\Rightarrow$ The projection image is A, i.e., $B_{L_0} + B_{L_0} = A$. (Here if we let $\{ \tilde{\Theta}(z-t) = 0 \} = K$, and $\pi : K \longrightarrow A$ is the projection, then $\pi(K) = A$.)

Let $f = \kappa + \mathrm{id}$. $\Rightarrow$ If f is not constant, since $f(A)$ is a variety and $\dim B_{L_0} = 1$, $f(A) = B_{L_0}$. ($\because$ B_{L_0} is smooth and irreducible). $\Rightarrow$ Let K be the kernel of f. $\Rightarrow$ By the argument above, we have $K + K = A$, since $\dim K = 1$. This is impossible since $B_{L_0} = f(A) = f(K + K) = 0$. $\Rightarrow$ Since f is a group homomorphism, $\operatorname{im} f = 0$. $\Rightarrow$ $\kappa(L) = -L$.