$V \supseteq \text{null } \pi$

Let $k \in V$ such that $\pi(k) = 0$

$\Rightarrow \pi_1 \circ \pi_2 (k)$

$= \pi_1 (k + U)$ by definition of π_2

$= 0k + U$ by definition of π_1, with $\lambda = 0$

$= U$

$\Rightarrow \text{null } \pi \subseteq U$. ✓