1124-13-275 **Timothy S Long*** (tlong314@gmail.com). *Epimorphisms and the Amalgamated Duplication of a Ring Along an Ideal.* Preliminary report.

We consider homomorphisms involving the ring construction $R \bowtie I$, the amalgamated duplication of a ring along an ideal. Given two such rings $R \bowtie I$, $T \bowtie J$, and a ring map $f : R \to T$, we find necessary and sufficient conditions for the map $\hat{f} : R \bowtie I \to T \bowtie J$ defined by $\hat{f}(r, r + i) := (f(r), f(r) + f(i))$ to be a (flat) epimorphism. Consequently, we are able to describe certain localizations of $R \bowtie I$. We use these results to examine the structure of the total quotient ring of $R \bowtie I$, determine when $R \bowtie I$ is complemented, and attain partial results describing the epimorphic hull of $R \bowtie I$. (Received September 11, 2016)