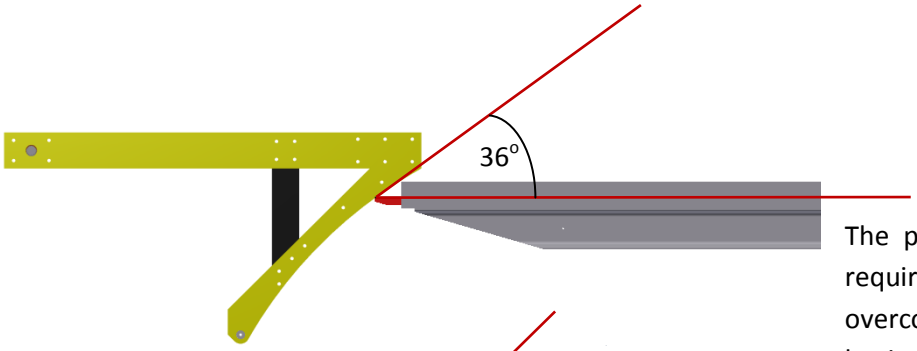
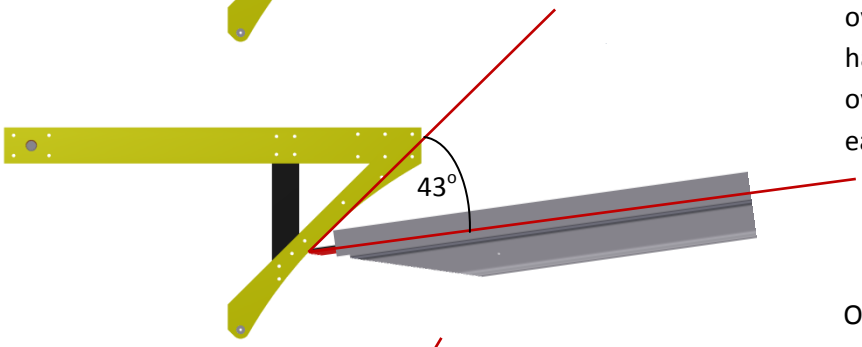
The Tail of the Monkey

Why the curve?

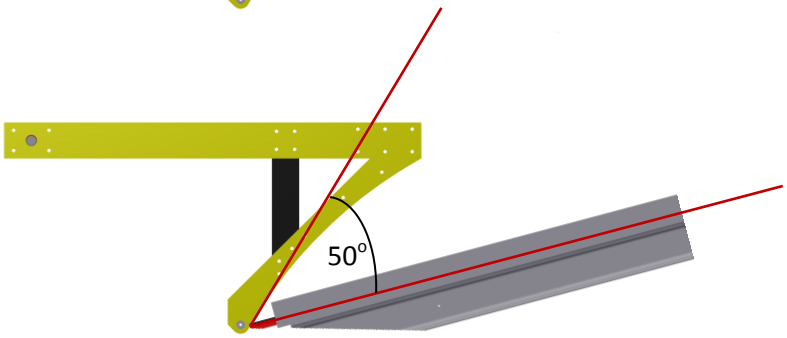
The curved surface of the “Tail of the Monkey” allows us to achieve an optimal pushing angle while still meeting the 14” length requirement.



The point where we first contact the bridge requires us to apply the most force in order to overcome the bridge's inertia. We found that having a shallower angle allows the bridge to overcome the friction of the bridge more easily.



Once we get the bridge moving, we don't need to apply as much force to keep the bridge in motion. This is why we are able to increase the angle between the bridge and the "Tail" as the bridge gets lower.



The Material

Material	Coefficient of Friction
Aluminum	1.35
Steel	0.8

In order to reduce the friction between the appendage and the bridge we decided to use a strip of steel as the contact surface. Steel is an ideal choice because of its excellent combination of durability and slipperiness.