

Kerbal Space Program - Feedback #27521

extendable ladders have surprisingly high drag

04/11/2021 08:43 PM - Anonymous

Status:	New		
Severity:	Low		
Assignee:			
Category:	Aerodynamics		
Target version:			
Version:	1.3.1	Language:	English (US)
Platform:	Windows	Mod Related:	No
Expansion:	Core Game		

Description

The extendable ladder has an automatically generated drag-cube corresponding to its container, which is clipped inside the craft by default. The shape of the (usually hidden) box and KSPs rules for drag of surface mounted parts means that the ladder contributes more drag to a rocket than a 1-man pod.

Reported here:

<https://forum.kerbalspaceprogram.com/index.php?topic/201186-rate-stock-ladders-on-the-drag-index/&do=findComment&comment=3952683>

The ladders' configuration files *could* specify dimensions so only the usually-exposed part of the container contributes to drag:

```
@PART[telescopicLadder] {
  %DRAG_CUBE{// back of box      face with door  top                bottom                side
side
  cube = A, 0.13,0.70,0.58, 0.13,0.85,0.17, 0.05,0.70,0.25, 0.05,0.70,0.14, 0.11,0.84,0.19, 0.11
,0.84,0.19, 0.149,-0.015,-0.007, 0.57,0.22,0.63
  cube = B, 0.33,0.79,0.70, 0.33,0.94,0.41, 0.10,0.80,0.54, 0.10,0.80,1.52, 0.20,0.81,0.42, 0.20
,0.81,0.44, 0.109,-0.672,-0.007, 0.65,1.56,0.63
}}// door is 63cm wide, so if it sticks out 8cm that's about 50cm² area as seen from the top, and
rounded so Cd about 0.7
@PART[telescopicLadderBay] {
  %DRAG_CUBE{// back of box      face with door  top                bottom                side
side
  cube = A, 0.10,0.67,1.03, 0.10,0.84,0.16, 0.04,0.70,0.22, 0.04,0.70,0.22, 0.19,0.86,0.34, 0.19
,0.86,0.33, 0.369, 0.091,0.004, 1.00,0.23,0.51
  cube = B, 0.42,0.80,1.13, 0.42,0.90,0.27, 0.10,0.80,0.65, 0.10,0.80,2.90, 0.30,0.84,0.35, 0.30
,0.83,0.35, 0.342,-1.177,0.004, 1.05,3.04,0.51
}}// door is 51cm wide, so if it sticks out 8cm that's about 40cm² area
```