Kerbal Space Program - Bug #13328

When burning away from a targeted vessel, as soon as the target (docking port or vessel) goes out of range, the delta-v counter resets and the planned trajectory is wrong

11/28/2016 09:19 PM - jd284

Status:	New	**Start date:**	11/28/2016
Severity:	Normal	**% Done:**	0%
Assignee:			
Category:	Gameplay		
Target version:			
Version:	1.2.1	**Language:**	English (US)
Platform:	Linux	**Mod Related:**	No
Expansion:			

Description

Description: When burning away from a target that is in physics range (i.e. 200 m for a docking port or 2.3 km for a vessel), there is a forced target change when it goes out of range. This target change resets the delta-v counter and messes up the target trajectory.

Steps to Replicate:
1) Bring two vessels within 200 m. Or simply undock from one. Target a docking port on the other vessel.
2) Plan a trajectory, e.g. to a certain Ap/Pe.
3) Start the burn at the appropriate time.
4) During the burn, the burn counter will reset when the target goes out of range.
5) After the burn, notice that you're on the wrong trajectory, e.g. the Ap/Pe is way off from the planned value.
6) Hope you have enough fuel left to correct the trajectory.

Expected: Burning according to the delta-V indicator should bring me to the planned trajectory.

Result/Observed: The reset of delta-V counter causes overburning to the wrong trajectory.

Fixes/Workarounds: Target a vessel outside of physics range before burning to avoid this bug.

Notes:
This may be two bugs, one for docking ports (at a range of 200 m) and one for entire vessels. Dockings ports are 100% reproducible. For vessel targets I've only noticed it in some cases but have not been able to make a reproducible test case for it. If there are cases where there's a forced target change, it would probably trigger this bug reliably.

I have attached a savegame to reproduce this. Note that the planned trajectory to the Mun with a periapsis of 50 km. A few seconds after burning with the docking port targeted, the delta-V indicator resets and the trajectory changes to a periapsis of 822 km. This difference is more pronounced with more powerful engines, where in the short time until the docking port goes out of range more delta-V has been expended, which causes the reset of the counter to have a larger effect.

Files

quicksave.sfs	55.5 KB	11/28/2016	jd284