

# Mars mission within one month

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**Abstract-** Three ideas may help to reach mars within one month.

1. Use atmospheric oxygen instead of oxidizer.
2. Use retro rockets and earth's gravity to accelerate upper stages of rockets and reach outer space from low earth orbit.
3. The travelling distance will reduce when speed increases.

## INTRODUCTION

This document theoretically explains the way to reach mars within one month by applying Hohmann transfer orbit mechanism to upper stages of rocket.

## THREE IDEAS MAY HELPFUL TO REACH MARS WITHIN ONE MONTH

- 1) Using atmospheric oxygen instead of oxidizer for lower stages of rocket. so we can reduce the weight of oxidizer and carry more fuel. So rocket can fly for more distance and time and also can carry more weight.
- 2) Two or three stages of rocket will use for reaching low earth orbit. Then we have to fix retro rockets with 4th stage of rocket. We have to accelerate the remaining rocket using retro rockets and earth's gravity to create escape velocity and take the rocket to outer space. i.e, while rocket orbiting elliptical path, we have to give thrust using retro rocket when rocket coming towards earth as we accelerating satellite's for inter planetary missions (Hohmann transfer orbit). Then we have to burn the fourth stage of rocket in outer space. So the payload will get the full speed of rocket. The rocket speed is from 35km/sec to 60km/sec without gravity, atmospheric resistance and weight of the payload. In outer space rocket is weightless. so the payload will get full speed of rocket.
- 3) When speed increases the travelling distance will reduce. we can launch the rocket when earth goes close to the mars.

## CONCLUSION

This is just an idea. It has challenges to design a rocket engine which uses atmospheric oxygen, trajectory design, fuel consumption etc.