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Gross cycling efficiency is not altered with and without toe-clips.

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The aim of this study was to examine the claim that reductions of 8 - 18% in submaximal oxygen consumption (VO_2) could be due to changing components on a Monark ergometer, from standard pedals without toe-clips or straps (flat pedals) to racing pedals of that era, which included toe-clips and straps (toe-clip pedals). This previously untested assertion was evaluated using 11 males (mean age 22.3 years, $s = 1.2$; height 1.82 m, $s = 0.07$; body mass 82.6 kg, $s = 8.8$) who completed four trials in a randomized, counterbalanced order at 60 rev . min⁻¹ on a Monark cycle ergometer. Two trials were completed on flat pedals and two trials on toe-clip pedals. The Douglas bag method was used to assess VO_2 and gross efficiency during successive 5-min workloads of 60, 120, 180, and 240 W. The mean VO_2 was 2.1% higher for toe-clip pedals than flat pedals and there was a 99% probability that toe-clip pedals would not result in an 8% lower VO_2 . These results indicate that toe-clip pedals do not reduce VO_2 .