

# The Bradford Challenge

Saturday, 7 June 2025, 10:30 – 16:00



Bradford Model Engineering Society invites you to join us in:

## A Day of Speed & Fun

Every year, our members build locomotives that are designed to compete in a time trial around our miniature raised track in Northcliffe Woods, Shipley. This has evolved into “The Bradford Challenge” for which, as a local model engineering society, college or school, you are cordially invited to join.



We believe that this challenge offers an excellent opportunity for your students or members, either individually or in teams, to design and build a bespoke locomotive. Each is an excellent project in mechanical, electrical and electronic engineering, which could be part of a student's curriculum or just a fun model to make.

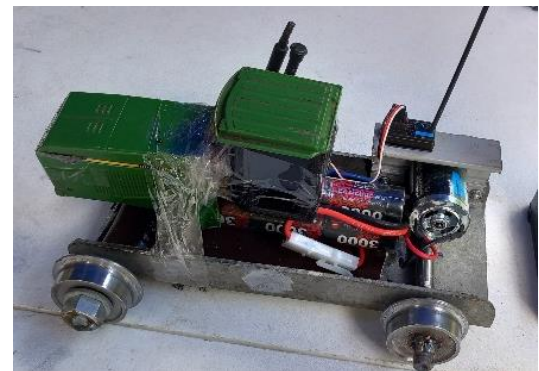
Typically, the locomotives are either powered by:

- **“Ducted fan(s) or Propellers” or**
- **“Wheel-driven”**

To give as much opportunity as possible and to cater for all levels of expertise and pockets, particularly younger or aspiring engineers, we also run an:

- **“All-Comers” class**
  - Incorporating the **‘Junior Section’** for anyone 18 years or younger.

In this entry class, any form of construction and propulsion can be considered, including Lego or Meccano, electric motor or rubber band! Depending on response & demand, a basic kit of parts, including wheels and an electric motor, can be provided.



For further details and guidelines of all the classes, please see over the page. To see a locomotive's view of the track, click here: <https://www.youtube.com/watch?v=GHCult62ZPY>.

If you are interested in participating or would like further details, please contact:

- Adrian Shuttleworth      07767 375 648      [president@bradfordmes.uk](mailto:president@bradfordmes.uk)

For more information on the society, please visit our website or Facebook pages:

<https://www.bradfordmes.uk/>

Facebook: [BradfordMES](#)

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## Guidelines & Rules

The guidelines and rules are simple, thereby ensuring that the vehicles are relatively low cost to build. They are:

- The locomotive must have:
  - At least 2 flanged wheels at a gauge of 5" (127 mm)
  - Radio-controlled speed control
  - An effective braking system to bring the locomotive to a complete stop within a reasonable distance of 30 metres – about a quarter of the track length (\*see footnote)
    - For 'All-Comers' who are not competing at high speed, this can be optional
- Engines using combustible fuels are not permitted!
- To aid timing and identification, each entry should have a suitable, unique name
- Timing is over 2 laps of the track.
  - The time trial starts from standing, which can be held by the loco's brakes but not by the contestant, at the timing gate
  - The loco must complete 2 laps of the track, then come to a complete stop after passing the timing gate for the second time
  - Each contestant will have 2 attempts to set a time. Should any locomotive fail to complete a timed run, it will still count as one of their runs
- Competitors will be allowed a reasonable number of practice runs on the day, before the competition proper starts
- In the "All-Comers" class, the judging will be mainly on the innovative qualities and amusement value of the entry, be that the loco's construction, propulsion method or message(s) that it portrays

The raised track at Northcliffe Woods is configured in such a way that passers-by or spectators are protected from any locomotive that derails and/or leaves the track. However, to ensure the safety of the members and public, the Bradford MES organisers can, with due consideration, prohibit the running of a locomotive if it is deemed to be dangerous or unsafe.

If anyone would like to check that their loco will be acceptable, or simply to do test runs, then they are very welcome to bring it to the track prior to the event. If you'd like to do so, please let us know.

If you have any queries on the competition, track or rules, please do not hesitate to contact myself or any member on the BMES Committee.

Adrian Shuttleworth

President, Bradford Model Engineering Society  
October 2024

\* **Please note:** Bradford's raised track is unusual in having both 3½" rails inside the 5" rails. Most tracks have only one, using one of the 5" rails as common. This means that any braking system should use the outer, 5" rails rather than the inner 3½" ones.

- The video mentioned above gives a good appreciation of the track environment and the track itself.