

# Package ‘CMAPSS’

May 7, 2026

**Date** 2021-09-03

**Title** Commercial Modular Aero-Propulsion System Simulation Data Set

**Version** 0.1.1

**Description**

Contains the Commercial Modular Aero-Propulsion System Simulation (C-MAPSS) data set.

**License** GPL-3

**Imports** Rdpack

**RdMacros** Rdpack

**Depends** R (>= 4.0.0)

**Encoding** UTF-8

**LazyData** true

**LazyDataCompression** bzip2

**RoxygenNote** 7.1.1

**NeedsCompilation** yes

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**Repository** CRAN

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## Contents

CMAPSS .....	<a href="#">2</a>
<b>Index</b>	<a href="#">3</a>

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CMAPSS

*CMAPSS data set*

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## Description

Commercial Modular Aero-Propulsion System Simulation (C-MAPSS) Data Set.

## Usage

```
data("CMAPSS")
```

## Format

A list of the following 2 objects:

- `train` a list of class "hhsmm.data" as the train dataset
- `test` a list of class "hhsmm.data" as the test dataset
- `subsets` a matrix containig the number of units in each subset of the CMAPSS data set (FD001-FD004) for the train and test datasets

## Details

The turbofan engine data is from the Prognostic Center of Excellence (PCoE) of NASA Ames Research Center, which is simulated by the Commercial Modular Aero-Propulsion System Simulation (C-MAPSS). Only 14 out of 21 variables, by a method mentioned by Li, et al. (2019) are selected. The train and test lists are of class "hhsmm.data", which is used in the hhsmm package.

## Author(s)

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## References

Frederick, D. K., DeCastro, J. A., & Litt, J. S. (2007). User's guide for the commercial modular aero-propulsion system simulation (C-MAPSS).

Saxena, A., Goebel, K., Simon, D., & Eklund, N. (2008, October). Damage propagation modeling for aircraft engine run-to-failure simulation. In *2008 international conference on prognostics and health management* (pp. 1-9). IEEE.

Li, J., Li, X., & He, D. (2019). A directed acyclic graph network combined with CNN and LSTM for remaining useful life prediction. *IEEE Access*, 7, 75464-75475.

## Examples

```
data(CMAPSS)
str(CMAPSS$train)
str(CMAPSS$test)
CMAPSS$subsets
```

# Index

\* **datasets**

CMAPSS, [2](#)

CMAPSS, [2](#)