

## SECTION G — PHYSICS

### G01 MEASURING; TESTING

#### G01M TESTING STATIC OR DYNAMIC BALANCE OF MACHINES OR STRUCTURES; TESTING OF STRUCTURES OR APPARATUS, NOT OTHERWISE PROVIDED FOR

##### Note(s)

Attention is drawn to the Notes following the title of class G01.

##### Subclass index

|   |                     |
|---|---------------------|
| TESTING STATIC OR DYNAMIC BALANCE OF MACHINES OR STRUCTURES.....      | 1/00                |
| INVESTIGATING FLUID-TIGHTNESS; ELASTICITY.....                        | 3/00, 5/00          |
| VIBRATION- OR SHOCK-TESTING.....                                      | 7/00                |
| SPECIAL APPLICATIONS  |                     |
| Aerodynamic; hydrodynamic testing.....                                | 9/00, 10/00         |
| Optical testing.....  | 11/00               |
| Mechanical or engine testing.....                                     | 13/00, 15/00, 17/00 |
| SUBJECT MATTER NOT PROVIDED FOR IN OTHER GROUPS OF THIS SUBCLASS..... | 99/00               |

#### **1/00 Testing static or dynamic balance of machines or structures**

- 1/02 • Details of balancing machines or devices
- 1/04 • • Adaptation of bearing support assemblies for receiving the body to be tested
- 1/06 • • Adaptation of drive assemblies for receiving the body to be tested
- 1/08 • • Instruments for indicating directly the magnitude and phase of the unbalance
- 1/10 • Determining the moment of inertia
- 1/12 • Static balancing; Determining position of centre of gravity (by determining unbalance G01M 1/14)
- 1/14 • Determining unbalance (G01M 1/30, G01M 1/38 take precedence)
- 1/16 • • by oscillating or rotating the body to be tested
- 1/18 • • • and running the body down from a speed greater than normal
- 1/20 • • • and applying external forces compensating forces due to unbalance
- 1/22 • • • and converting vibrations due to unbalance into electric variables
- 1/24 • • • Performing balancing on elastic shafts, e.g. for crankshafts
- 1/26 • • • with special adaptations for marking, e.g. by drilling
- 1/28 • • • with special adaptations for determining unbalance of the body in situ, e.g. of vehicle wheels
- 1/30 • Compensating unbalance (G01M 1/38 takes precedence)
- 1/32 • • by adding material to the body to be tested, e.g. by correcting-weights
- 1/34 • • by removing material from the body to be tested, e.g. from the tread of tyres
- 1/36 • • by adjusting position of masses built-in the body to be tested

- 1/38 • Combined machines or devices for both determining and correcting unbalance

#### **3/00 Investigating fluid tightness of structures**

- 3/02 • by using fluid or vacuum
- 3/04 • • by detecting the presence of fluid at the leakage point
- 3/06 • • • by observing bubbles in a liquid pool
- 3/08 • • • • for pipes, cables, or tubes; for pipe joints or seals; for valves
- 3/10 • • • • for containers, e.g. radiators
- 3/12 • • • by observing elastic covers or coatings, e.g. soapy water
- 3/14 • • • • for pipes, cables, or tubes; for pipe joints or seals; for valves
- 3/16 • • • using electric detection means (G01M 3/06, G01M 3/12, G01M 3/20, G01M 3/24, G01M 3/26 take precedence)
- 3/18 • • • • for pipes, cables, or tubes; for pipe joints or seals; for valves
- 3/20 • • • using special tracer materials, e.g. dye, fluorescent material, radioactive material
- 3/22 • • • • for pipes, cables, or tubes; for pipe joints or seals; for valves
- 3/24 • • • using infrasonic, sonic, or ultrasonic vibrations
- 3/26 • • by measuring rate of loss or gain of fluid, e.g. by pressure-responsive devices, by flow detectors [2]
- 3/28 • • • for pipes, cables, or tubes; for pipe joints or seals; for valves [2]
- 3/30 • • • • using progressive displacement of one fluid by another [2]
- 3/32 • • • for containers, e.g. radiators [2]
- 3/34 • • • • by testing the possibility of maintaining the vacuum in containers, e.g. in can-testing machines [2]

## G01M

- 3/36
  - • by detecting change in dimensions of the structure being tested
- 3/38
  - by using light (G01M 3/02 takes precedence)
- 3/40
  - by using electric means, e.g. by observing electric discharges
- 5/00 Investigating the elasticity of structures, e.g. deflection of bridges or aircraft wings**  
(G01M 9/00 takes precedence)
- 7/00 Vibration-testing of structures; Shock-testing of structures** (G01M 9/00 takes precedence)
  - 7/02
    - Vibration-testing [5]
  - 7/04
    - • Monodirectional test stands [5]
  - 7/06
    - • Multidirectional test stands [5]
  - 7/08
    - Shock-testing [5]
- 9/00 Aerodynamic testing; Arrangements in or on wind tunnels**
  - 9/02
    - Wind tunnels [5]
  - 9/04
    - • Details [5]
  - 9/06
    - Measuring arrangements specially adapted for aerodynamic testing [5]
  - 9/08
    - Aerodynamic models [5]
- 10/00 Hydrodynamic testing; Arrangements in or on ship-testing tanks or water tunnels**
- 11/00 Testing of optical apparatus; Testing structures by optical methods not otherwise provided for**
  - 11/02
    - Testing of optical properties
  - 11/04
    - • Optical benches
  - 11/06
    - • Testing of alignment of vehicle head-light devices
  - 11/08
    - Testing of mechanical properties
- 13/00 Testing of machine parts**
  - 13/02
    - Testing of gearing or of transmission mechanisms
  - 13/04
    - Testing of bearings
- 15/00 Testing of engines [4]**
  - 15/02
    - Details or accessories of testing apparatus [2006.01]
  - 15/04
    - Testing of internal-combustion engines, e.g. diagnostic testing of piston engines [2006.01]
  - 15/05
    - • by combined monitoring of two or more different engine parameters [2006.01]

**Note(s) [2006.01]**  
Group G01M 15/05 takes precedence over groups G01M 15/06-G01M 15/12.

  - 15/06
    - • by monitoring positions of pistons or cranks [2006.01]
  - 15/08
    - • by monitoring pressure in cylinders [2006.01]
  - 15/09
    - • by monitoring pressure in fluid ducts, e.g. in lubrication or cooling parts [2006.01]
  - 15/10
    - • by monitoring exhaust gases [2006.01]
  - 15/11
    - • by detecting misfire [2006.01]
  - 15/12
    - • by monitoring vibrations [2006.01]
  - 15/14
    - Testing of gas-turbine plants or jet-propulsion plants [2006.01]
- 17/00 Testing of vehicles** (G01M 15/00 takes precedence; testing fluid tightness G01M 3/00; testing elastic properties of bodies or chassis, e.g. torsion-testing, G01M 5/00; testing alignment of vehicle head-lighting devices G01M 11/06)
  - 17/007
    - of wheeled or endless-tracked vehicles (G01M 17/08 takes precedence) [6]
  - 17/013
    - • of wheels [6]
  - 17/02
    - • of tyres [6]
  - 17/03
    - • of endless-tracks [6]
  - 17/04
    - • of suspension or of damping [6]
  - 17/06
    - • of steering behaviour; of rolling behaviour [6]
  - 17/08
    - of railway vehicles [6]
  - 17/10
    - • of suspensions, axles or wheels [6]
- 99/00 Subject matter not provided for in other groups of this subclass [2011.01]**