

## NATIONAL METAL AND ENGINEERING CURRICULUM

**MODULE:** WASHING APPLIANCES (NR026)

**PURPOSE:** This module aims to provide the student with the knowledge and skills to service and fault find laundry appliances.

**NOMINAL DURATION:** One module

*This module is designed on the assumption that most of the students will achieve the competencies specified in 35 to 40 hours.*

*The length of time taken to complete a module will vary depending on factors such as teaching method used, knowledge and skills at entry and individual students ability.*

**PREREQUISITES:** Timer and Controllers (NR22)  
Appliance Motors and Circuits (NR08)

**LEARNING OUTCOMES:** On completion of this module the student will be able to:

1. Describe the construction, operation and installation of washing appliances
2. Use appropriate resources to service and fault find washing appliances

**STUDENTS SHOULD BE MADE AWARE OF OCCUPATIONAL HEALTH AND SAFETY ISSUES IN ALL SITUATIONS AND BE EXPECTED TO DEMONSTRATE SAFE WORKING PRACTICES AT ALL TIMES.**

**OUTLINE OF CONTENT:**

**This module contains:**

- 1. Construction, operation and installation**
  - . washing machines
    - washing actions
    - transmissions
    - couplings
    - motors
    - pumps
    - water inlet solenoids
    - water level controls
    - sud saver
    - draining actions
    - heaters & temperature control
    - cycle controls
    - installation procedures
  - . dryers
    - types (tumble/airing)
    - motors
    - drives
    - heating elements & temperature control
    - cycle controls
    - installation procedures
  - . dish washers
    - water control devices
    - pumps (wash and drain)
    - washing action
    - elements
    - temperature control
    - safety devices
    - overall unit operation
  - . relevant codes, acts and rules
  - . customer information
- 2. Service and fault finding**
  - . manufacturers' service instructions
  - . circuit diagrams
  - . operating sequences
  - . typical symptoms
  - . test equipment
  - . fault finding
  - . respect for customers premises

**ON THE JOB TRAINING:**

**For consolidation, the material in this module should be linked with and complemented by relevant on-job skill practice or other equivalent experience.**

**PERFORMANCE CRITERIA:**

The criteria for each learning outcome should be:

**Learning Outcome 1**

**Assessment:**

**Short answer questions  
Practical exercises**

**Performance:**

- a. For each washing appliance, describe the construction and principle of operation
- b. Within each washing appliance, identify and describe the principle of operation of each component assembly.
- c. Using manufacturers' data and relevant codes describe the appropriate installation procedure
- d. From manufacturers' data develop essential operator instructions to assist customers
- e. Demonstrate correct lifting and moving techniques consistent with the installation and service of washing appliances

**Learning Outcome 2**

**Assessment:**

**Short answer questions  
Practical exercises**

**Performance:**

- a. Using manufacturers' data identify the operating sequences of the equipment
- b. From given symptoms identify typical faults
- c. Using manufacturers' data select and use appropriate tools, equipment and test equipment to service and fault find washing appliances
- d. Carry out electrical safety checks
- e. Isolate electrically and make safe component assemblies and the overall appliance