GUIDANCE FOR MAINTENANCE OF IMP-OWNED EQUIPMENT

User checks

- The person using the equipment should be encouraged to look at it before use and check for signs that it may not be in sound condition, for example:

    ■ damage (apart from light scuffing) to the supply cable, including fraying or cuts;

    ■ damage to the plug or connector, e.g., the casing is cracking or the pins are bent;

    ■ inadequate joints, including taped joints in the cable;

    ■ the outer sheath of the cable is not effectively secured where it enters the plug or the equipment. Evidence would be if the coloured insulation of the internal cable cores were showing;

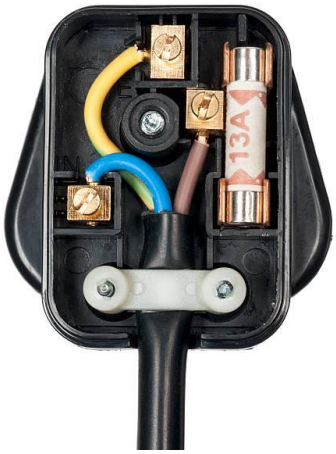
    ■ the equipment has been subjected to conditions for which it is not suitable, e.g., it is wet or excessively contaminated;

    ■ damage to the external casing of the equipment;

    ■ loose parts or screws;

    ■ evidence of overheating (burn marks or discolouration).

- These checks also apply to extension leads, plugs and sockets.
- A user check should be made when the equipment is taken into use and during use.
- Any faults should be reported to a committee member, the equipment taken out of use immediately and not used until repaired



The diagram above shows the key features of a three-pin mains plug

Formal visual inspections

- An important part of a maintenance regime is the formal visual inspection.
- Such inspections are necessary because they can reveal most potentially dangerous faults.
- They can normally be carried out by a member of staff who has sufficient information and knowledge of what to look for, what is acceptable, and is competent to do the task
- These inspections can help to control the risks and to monitor the user checks in a more formal and systematic manner.

- As part of the visual inspection, you should also consider whether:
    - ■ the electrical equipment is being used in accordance with the manufacturer's instructions;
    - ■ the equipment is suitable for the job;
    - ■ there has been any change of circumstances;
    - ■ the user has reported any issues.
- Additional checks could include removing the plug cover to ensure:
    - ■ there are no signs of internal damage, overheating or water damage to the plug;
    - ■ the correct fuse is in use and it is a proper fuse, not a piece of wire, nail etc.
    - ■ the wires including the earth, where fitted, are attached to the correct terminals (see Figure 1);
    - ■ the terminal screws are tight;
    - ■ the cord grip is holding the outer part (sheath) of the cable tightly
    - ■ no bare wire is visible other than at the terminals
    - For moulded plugs the fuse can be checked.
    - The formal visual inspections should be carried out at regular intervals and should not include taking the equipment apart.
    - Faulty equipment should be taken out of service and not used again until properly repaired.
    - The pattern of faults can help the committee decide what action to take, depending on whether the faults show:
        - ■ the wrong equipment is being selected for the job;
        - ■ further protection may be necessary in a harsh environment
        - ■ the equipment is being misused.

    C**ombined inspection and test (PAT)**

    - The checks and inspections outlined previously should reveal the most potentially dangerous faults.
    - However, some faults, such as loss of earth integrity (e.g., broken earth wire within a flexible cable), deterioration of insulation integrity, or contamination of internal and external surfaces, cannot be detected by visual examination alone.
    - Such faults can only be reliably detected by a combined visual inspection and test. This should be carried out periodically to back up the checks and inspections and is likely to be justified:
        - ■ whenever there is reason to suppose the equipment may be defective and this cannot be confirmed by visual examination
        - ■ after any repair, modification or similar work
        - ■ at periods appropriate to the equipment, the manner and frequency of use and the environment
- The inspection carried out in conjunction with testing should usually include checking:
    - ■ the correct polarity of supply cables;
    - ■ the correct fusing;

- effective termination of cables and cores;
- that the equipment is suitable for its environment.

- Combined inspection and testing require a greater degree of competence (in terms of knowledge, training and experience) than for inspection alone, because appropriate electrical knowledge is needed to undertake the tests and interpret the test results.

Trailer

- Should be checked before use - lights, brakes etc.
- Independent service to be arranged every year