

Annual Maintenance Checklist

The machine should be checked annually to ensure that it runs at optimum efficiency

This annual maintenance consists of:

- Safety and performance checks
- Cleaning and inspection of the mechanics
- Lubrication of the main mechanical items
- Adjustment of the main mechanical items
- Extension and Speed Checks

The machine should also be calibrated according to the local standards

Safety Checks

- ☐ Check that the earth pin of the mains input connector is connected to all exposed metalwork using a multi-meter and check that the resistance is less than 0.5 Ohms
- ☐ If the reading is higher than this, check the earth tags for corrosion and check the tightness of the earth bolts
- ☐ Check that the machine will not move if the safe-line button is lit
- ☐ Check that the machine will not move with the load cell disconnected
- ☐ Check that the machine stops when pressing upwards on the load cell when the crosshead is moving in the down direction (safety jog load)
- ☐ Check that the machine stops in the relevant direction when the limit switches are operated
- ☐ Check that load readings are displayed when load is applied to the load cell
- ☐ Check that extension readings are displayed when the crosshead is moved
- ☐ Check that the motor runs at a controlled speed, especially at slow speeds
- ☐ Check the machine for obvious signs of damage

Cleaning and Inspection

- ☐ Remove the lower case-ware then clean the inside of the machine using suction or a soft brush
- ☐ Remove any broken pieces of test samples that may have entered the case-ware
- ☐ Check the condition of the drive belt. If the belt is worn, indicated by signs of fraying or belt dust in the base of the machine, it is recommended that it be replaced

Lubrication

- ☐ Note that the motor, gearbox and idler rollers are sealed for life and require no routine maintenance
- ☐ Lubricate the full length of the leadscrew and the guide bars with a soft lint free cloth soaked in machine oil
- ☐ Apply a smear of petroleum jelly to the contact areas between the crosshead and the case-ware

Adjustment

- ☐ Check the clearance between the nylon slide blocks on the crosshead and the case-ware
- ☐ Check the leadscrew blind tension on twin column bench mounted machines
- ☐ On servo driven machines, check that the servo is correctly adjusted

Extension and Speed

- ☐ Move the crosshead by a known distance using an engineer's rule and check that the extension display is correct
- ☐ Move the crosshead by a known distance using an engineer's rule and check that the time to move this distance is correct using a stopwatch

Note that there is no adjustment possible for these checks and if they are incorrect, the system is faulty