

3.11 LUBRICATION continued

HEADSTOCK

Oil is fed from a sump in the bed casting, by means of a gear pump 'A' and through double magnetic filters situated in an housing at 'B', to a pressure relief valve placed in the feed line at the tee junction supplying oil to the front and rear spindle bearings. As a safety factor an A.C. pressure switch is fitted between the gear pump and main filters 'B', and an amber warning light will appear if the pump pressure fails. Should this happen the lathe must be stopped and the cause investigated. Various gears are splash lubricated whilst others are fed from an oil collector tray situated in the top of the headstock and piped accordingly.

DRAINING THE HEADSTOCK

To drain the headstock, remove the large sheet metal end guard over the main drive to expose a flexible pipe 'O' held in position by a spring retaining clip. Place end of drain pipe over container of 2½ gall. min. capacity and remove end cap (NOTE:- A sealing washer is fitted inside the end cap).

DRAINING THE SUMP

To drain the headstock sump, remove the large sheet metal end guard over the main drive to expose a drain plug 'F' which is situated approximately 20" below the main spindle centre. A five gallon container will be required for draining purposes.

CLEANING THE FILTERS

To clean main magnetic filters at 'B', place small tray below filter housing to catch any surplus oil and remove small cover plate, the filters can now be removed for cleaning.

Recommended oil change every 1000 working hours.

NOTE: - When flushing out the headstock and sump, flushing oil only should be used, NOT petrol or parafin.

19 pints (11 litres) of oil are required for the headstock, and a further 37 pints (21 litres) for the headstock sump, making a total of 7 galls (32 litres). A filler cap 'E' is provided in the headstock cover, whilst the oil level is indicated at 'D'.

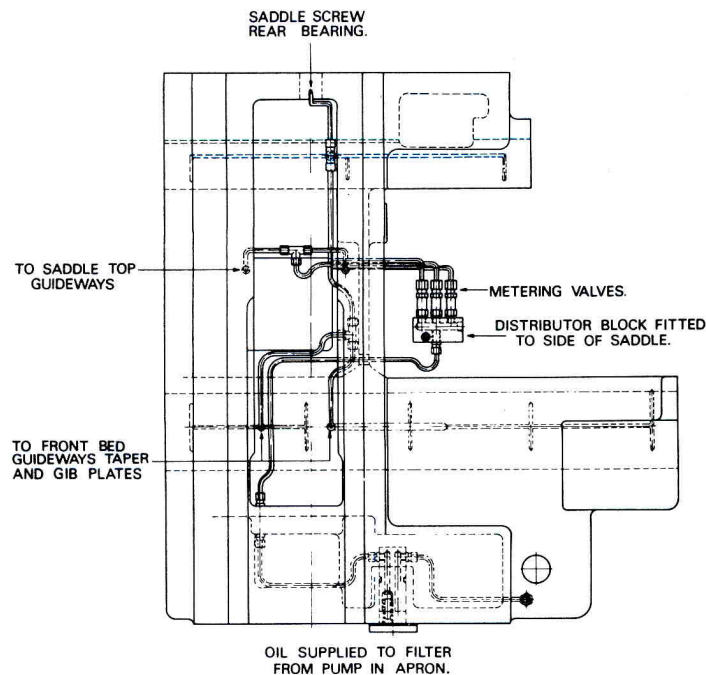
GEARBOX

The gears and bearings in the gearbox are lubricated by a plunger pump situated under the cover 'K'. To prime, remove the plug 'R' at the top of the pump. The oil sight 'M' indicates when the oil pump is functioning. The gearbox is filled through cap 'H' to the centre of the oil level 'G' with the lathe at rest. The quantity of oil required is approximately 4 pints (2.3 litres).

DRAINING GEARBOX

To drain, remove large end guard to provide access to plug 'J'. An oil change is recommended every 1000 working hours.

3.12 LUBRICATION continued



CHANGE GEARS

The change gear teeth and intermediate stud situated under cover 'K' should be oiled daily as these run continuously.

APRON AND BED GUIDEWAYS

The apron is lubricated by means of a plunger pump and oiling spider, a pressure relief valve being incorporated.

A separate feed from the spider supplies oil to a reservoir for the leadscrew nuts.

To lubricate the bed guideways a separate piping arrangement is fitted to the underside of the saddle and a filter unit provided at 'Q'. Access to the filter for cleaning purposes can be gained by removing the small cover plate 'Q'.

Due to the lubrication of the bed guideways being supplied from the apron sump, the apron requires topping up at frequent intervals. This can be done by unscrewing plug 'T'. If the apron has not been used for long periods it may be necessary to prime the apron pump, this can be accomplished by removing the right hand plug on top of the pump body.

SADDLE, TURRET AND COMPOUND SLIDES

Oil the slide guideways and tool slide nut daily, through the nipple provided at the front of the swivel slide.

The turret should be oiled daily through the nipple provided near the turret locking handle.

CROSS SLIDE NUT

Oil daily through the nipple on top of the cross slide.

TAIL END BRACKET

The feed shaft bearing should be oiled daily through the nipple at the bottom of the bracket.

NOTE:- All points indicated by a circle should be oiled daily, by a triangle weekly and by a square monthly.

3.2 CARE OF MACHINE

TO HELP ENSURE EFFICIENCY & ACCURACY OF THE MACHINE IT IS ESSENTIAL THAT THE POINTS NOTED HERE ARE CARRIED OUT.

- * Ample & correct lubrication, together with regular oil changes. See machine lubrication section 3.1
- * It is advisable to flush out the headstock & gear box when changing the oil. Use a flushing oil & NOT petrol (gasoline) or paraffin (kerosene).
- * Regular cleaning of the machine is paramount. DO NOT, UNDER ANY CIRCUMSTANCES USE COMPRESSED AIR FOR CLEANING. This will force foreign particles under slides and moving parts affecting the performance & accuracy of the machine. Lubricate machine immediately after cleaning.
- * Ensure that all slide & guideway wipers are regularly cleaned and in good condition, replace if damaged.
- * Do NOT use overstrong coolant solutions as these may damage the paintwork.
- * When removing or replacing chucks & faceplates etc., place a board on the bed to protect the guideways from bruising.
- * To prevent damage or scratching hammers, spanners, tools etc., must NOT be placed on the bed guideways.
- * Before fitting chucks etc., or attachments ensure mating parts are clean & free from bruises.
- * If the machine has been standing over the weekend or for longer periods do not immediately engage top speed, but run for a short time on intermediate speed. Ensure that the oil is circulating by running drive motor for a few minutes before engaging the clutch.