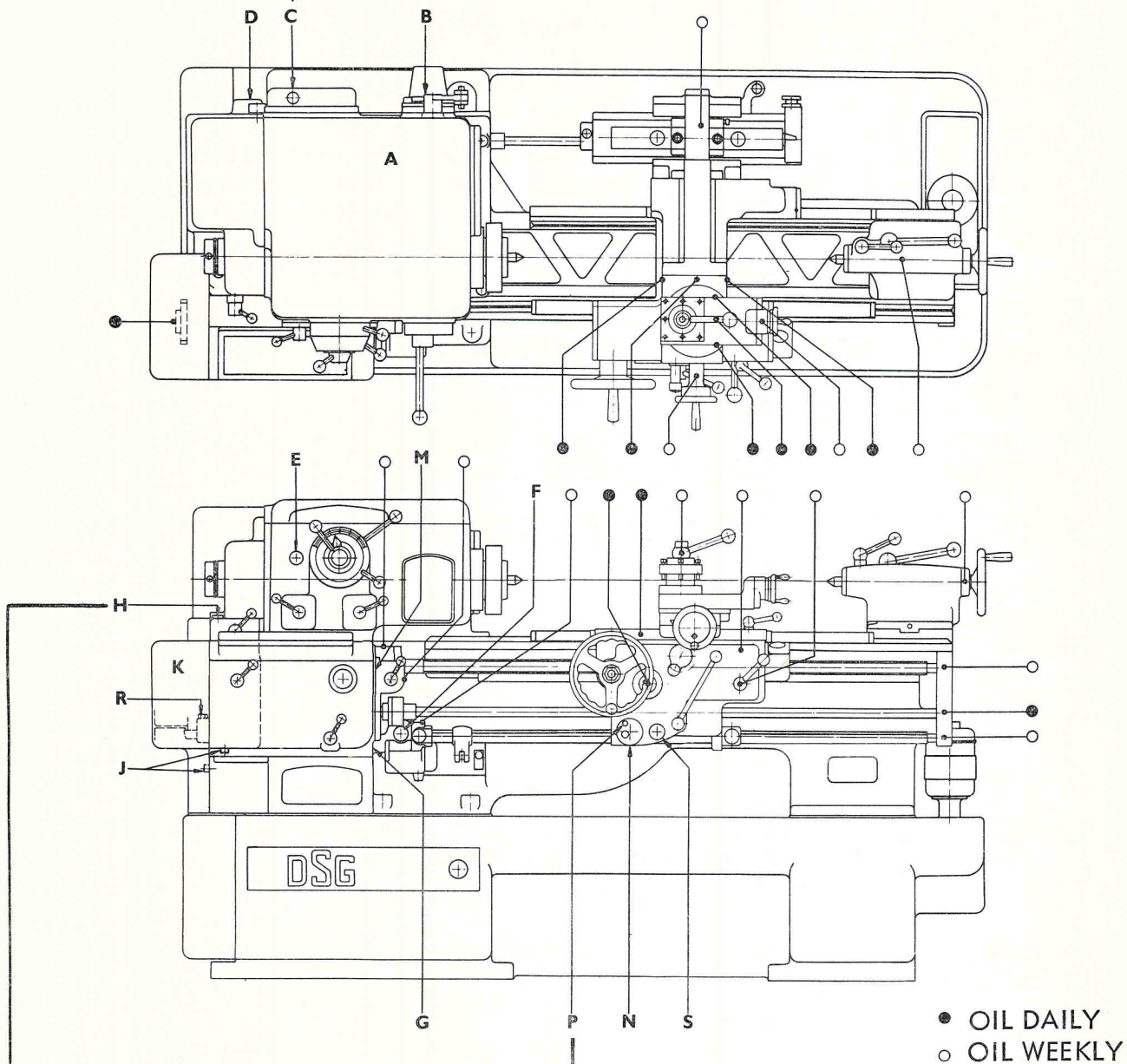


### 3.1 LUBRICATION

**TURBO 32 HEADSTOCK OIL**

Use Shell Vitrea-27 or equivalent oil. Specification as follows	Specific gravity .86      Viscosity at 100°F.      { 150 Redwood Sec. (36.5cs.) Flash point closed 400°F.      Viscosity index -      95 }	{ 170 Saybolt
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CHANGE OIL IN HEADSTOCK EVERY 6 MONTHS - QUANTITY 26 PINTS (14.8 LITRES)



**TABLEWAY OIL FOR APRON, GEARBOX AND OIL GUN**

SUN 11-80 Use Shell Tonna 33 or equivalent oil. Specification as follows	Specific Gravity .875      Viscosity at 100°F.      { 280 Redwood Sec. (69 cs.) Flash point closed 400°F.      Viscosity index -      95 }	{ 320 Saybolt
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Containing non drip, anti-wear and oiliness additives

CHANGE OIL IN GEARBOX EVERY 6 MONTHS - QUANTITY 3 PINTS (1.7 LITRES)

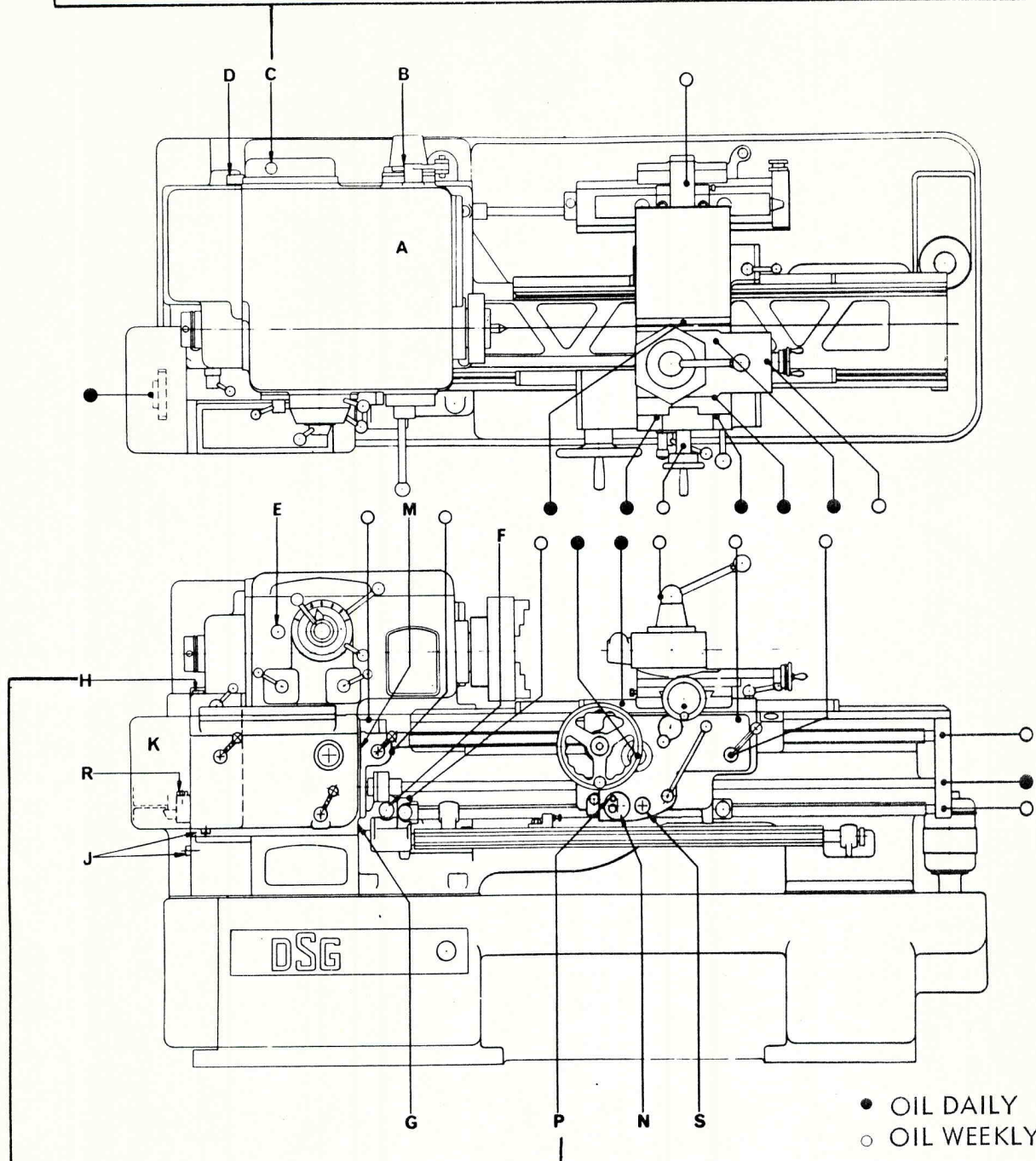
**NOTE:- GREASE MUST NEVER BE USED IN THE OIL GUN**

### 3.1 LUBRICATION

**HEADSTOCK OIL**

Use Shell Vitrea 27 or equivalent oil. Specification as follows	} Specific gravity .86      Viscosity at 100°F.      { 150 Redwood Sec. (36.5cs.) } Flash point closed 400°F.      Viscosity index      -      95	
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CHANGE OIL IN HEADSTOCK EVERY 6 MONTHS - QUANTITY 26 PINTS (14.8 LITRES)



**TABLEWAY OIL FOR APRON, GEARBOX AND OIL GUN**

Use Shell Tonna 33 or equivalent oil. Specification as follows	} Specific Gravity .875      Viscosity at 100°F.      { 280 Redwood Sec. (69 cs.) } Flash point closed 400°F.      Viscosity index      -      95 } Containing non drip, anti-wear and oiliness additives	
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CHANGE OIL IN GEARBOX EVERY 6 MONTHS - QUANTITY 3 PINTS (1.7 LITRES)

NOTE:- GREASE MUST NEVER BE USED IN THE OIL GUN

## 3.11 LUBRICATION continued

### HEADSTOCK

Remove the sealing tape from the breather hole on oil sight 'D'.

The gears and bearings in the headstock are lubricated by the gear pump 'A' situated inside the headstock. The pump can be primed by means of the nipple on the top of the pump body, to effect this, it is necessary to remove the cover from the top of the headstock.

The oil sight 'E' indicates when the oil pump is functioning.

From the pump the oil passes through a combined mechanical and magnetic filter 'B' which should be removed monthly and both elements cleaned. To clean, unscrew the filter and withdraw it from the body casting, then for access to the magnetic filter, remove the knurled nut at the rear.

The headstock is filled through cap 'C' to the centre of the oil sight 'D' with the lathe at rest. The quantity of oil required is 26 pints, (14.8 litres).

To drain the headstock remove cap 'F' at the front of the bed.

The oil should be changed every 6 months. When changing, clean the filter, remove the top cover, clean the headstock and flush out the sump.

Use a flushing oil and NOT petrol or paraffin.

### 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 sight 'G' with the lathe at rest. The quantity of oil required is 3 pints, (1.7 litres).

To drain remove plugs 'J'.

The oil should be changed every six months.

### ● CHANGE GEARS

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

### ● BED GUIDEWAYS

The bed ways are oiled by the hand pump 'N' at the front of the apron. Give 6 strokes per day. Fill and keep to the centre of the oil sight 'S' through cap 'P'.

### ● APRON

The apron should be oiled daily through the nipples at the front of the left hand saddle wing and the centre of the rack pinion shaft.

### ● SADDLE AND COMPOUND SLIDES

Oil the slideways daily through the nipples provided. The tool slide screw nut is oiled through the nipple at the centre of the tool slide.

### ● CROSS SLIDE NUT

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

### ● TAIL END BRACKET

The feed shaft bearing should be oiled daily through the nipple in the centre of the Tail End Bracket.

### ○ GENERAL

All other points should be oiled weekly through the nipples indicated by red washers, using the oil gun provided.

## 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.

RECOMMENDED LUBRICANTS

FOR ALL TYPES OF LATHE (EXCEPT NC)

ASSEMBLY	SHELL	CASTROL	MOBIL	GULF
HEADSTOCK	TURBO 32 <del>VITREA 27</del>	HYSPIN AWS. 32	D.T.E. 24	HARMONY <del>44</del> <sup>32</sup>
THREAD & FEED GEARBOX	TONNA 33	MAGNA BD.	VACTRA NO. 2	GULFWAY 52
APRON, SADDLE & SLIDEWAYS	TONNA 33	MAGNA BD.	VACTRA NO. 2	GULFWAY 52
ELECTRICALLY OPERATED TURRET	TURBO 32 <del>VITREA 27</del>	HYSPIN AWS. 32	D.T.E. 24	HARMONY <del>44</del> <sup>32</sup>
RELIEVING UNIT, INCLUDING G/BOX	TONNA 33	MAGNA BD.	VACTRA NO. 2	GULFWAY 52
LUNZER INTEGRAL REVOLVING CENTRE	ALVANIA EP2	SPHEEROL EPL 2	MOBILPLEX 47	GULFCROWN NO. 2
HYDRAULIC COPYING UNIT	TELLUS <del>33</del> 68	HYSPIN AWS. 68	D.T.E. 26	HARMONY <del>54</del> <sup>68</sup> AW
OIL NIPPLES & OIL GUN	TONNA 33	MAGNA BD	VACTRA NO. 2	GULFWAY 52

NOTE! THE NUMBER OF OILS HAS BEEN KEPT TO A MINIMUM. QUANTITIES & REGULARITY OF CHANGES ARE LISTED FOR EACH MODEL ON SEPARATE DIAGRAM & LUBRICATION SHEET.