



COLCHESTER TRIUMPH 2000



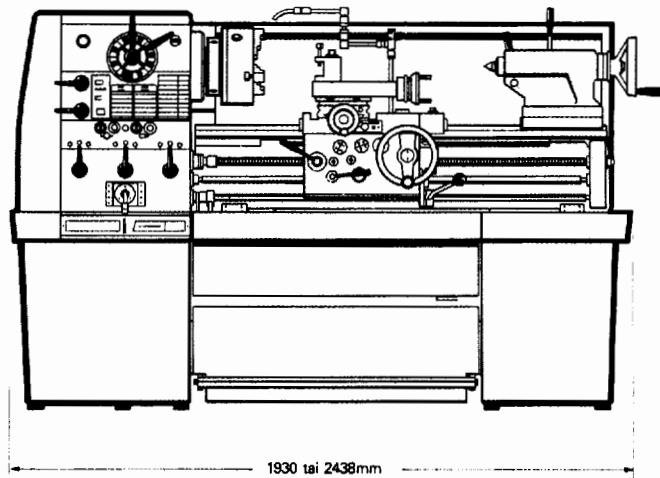
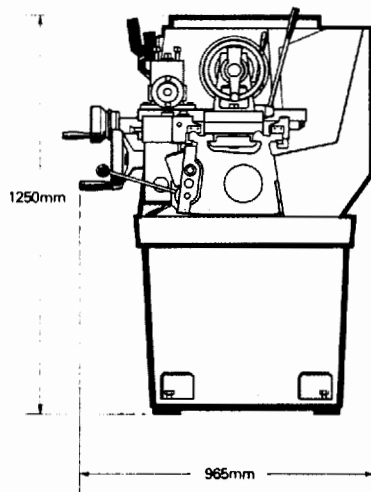
**INSTRUCTION & SPARE PARTS MANUAL
BETRIEBSANLEITUNG & ERSATZTEIL-LISTE
MANUEL D'ENTRETIEN ET DE RECHANGE**

THE COLCHESTER LATHE COMPANY LTD., COLCHESTER, ENGLAND

COLCHESTER TRIUMPH 2000

7½in x 30in or 50in (190mm x 750mm or 1250mm)

- 16 spindle speeds in geometric progression, 25–2000 r.p.m.
- 7½ h.p. motor
- 6in D.1 Camlock Nose Mounting
- Induction hardened and precision ground bed
- Bed lengths 30in or 50in (750mm or 1250mm) between centres



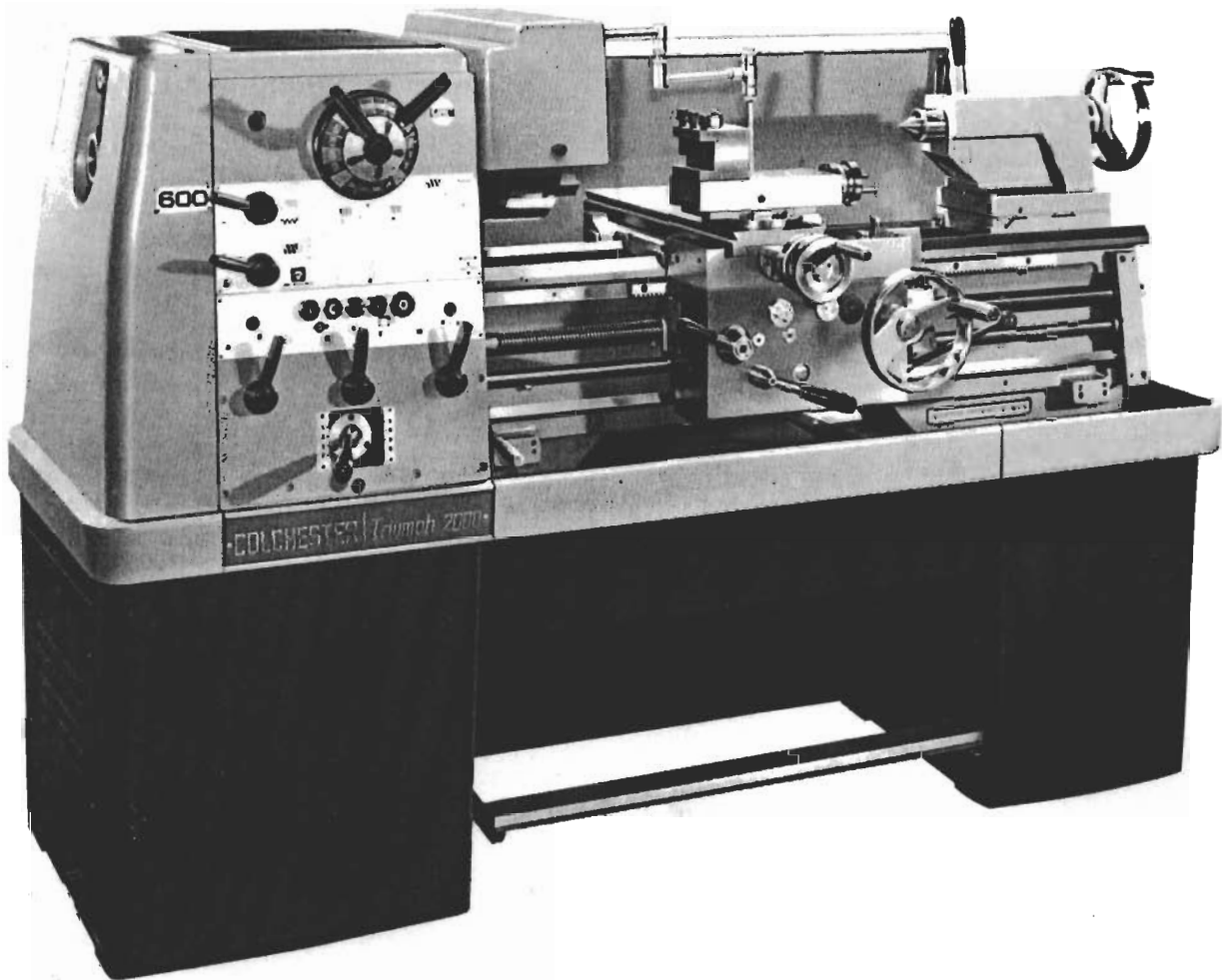
Models available

Code Word	Bed Type	Distance between Centres	Overall length of Machine	Weight
Triumph 2000 Thirty – Straight Triumph 2000 Thirty – Gap	Straight Gap	30in (750mm)	76in (1930mm)	2580 lb (1170kg)
Triumph 2000 Fifty – Straight Triumph 2000 Fifty – Gap	Straight Gap	50in (1250mm)	96in (2438mm)	2820 lb (1280kg)

Each model is available in the following versions:

Product Code
STANDARD
MIX
METRIC

With English pitch leadscrew; dial graduations in inches.
With English pitch leadscrew; dial graduations in millimetres.
With Metric pitch leadscrew; dial graduations in millimetres.



Specification

Height of centres	7½in (190mm)	Width of bedways	11in (280mm)
Swing over bed	15¼in (390mm)	Total travel of cross slide	9¼in (235mm)
Swing over cross slide	9½in (240mm)	Total travel of top slide	4¾in (120mm)
Spindle bore (max. bar dia.)	2½in (54mm)	Total travel of tailstock barrel	6⅞in (155mm)
Spindle nose mounting	6in D.1 Camlock	Number of spindle speeds	16
Taper in spindle nose bush	No. 4 Morse	Range of spindle speeds	25—2000 r.p.m.
Taper in tailstock barrel	No. 4 Morse	Overall width of machine	38in (965mm)
GAP BED MODELS		Overall height of machine	49in (1250mm)
Swing in gap	23in (580mm)	Drive	vee belts and clutches
Width in front of faceplate	6¼in (155mm)	Motor	7½ h.p.

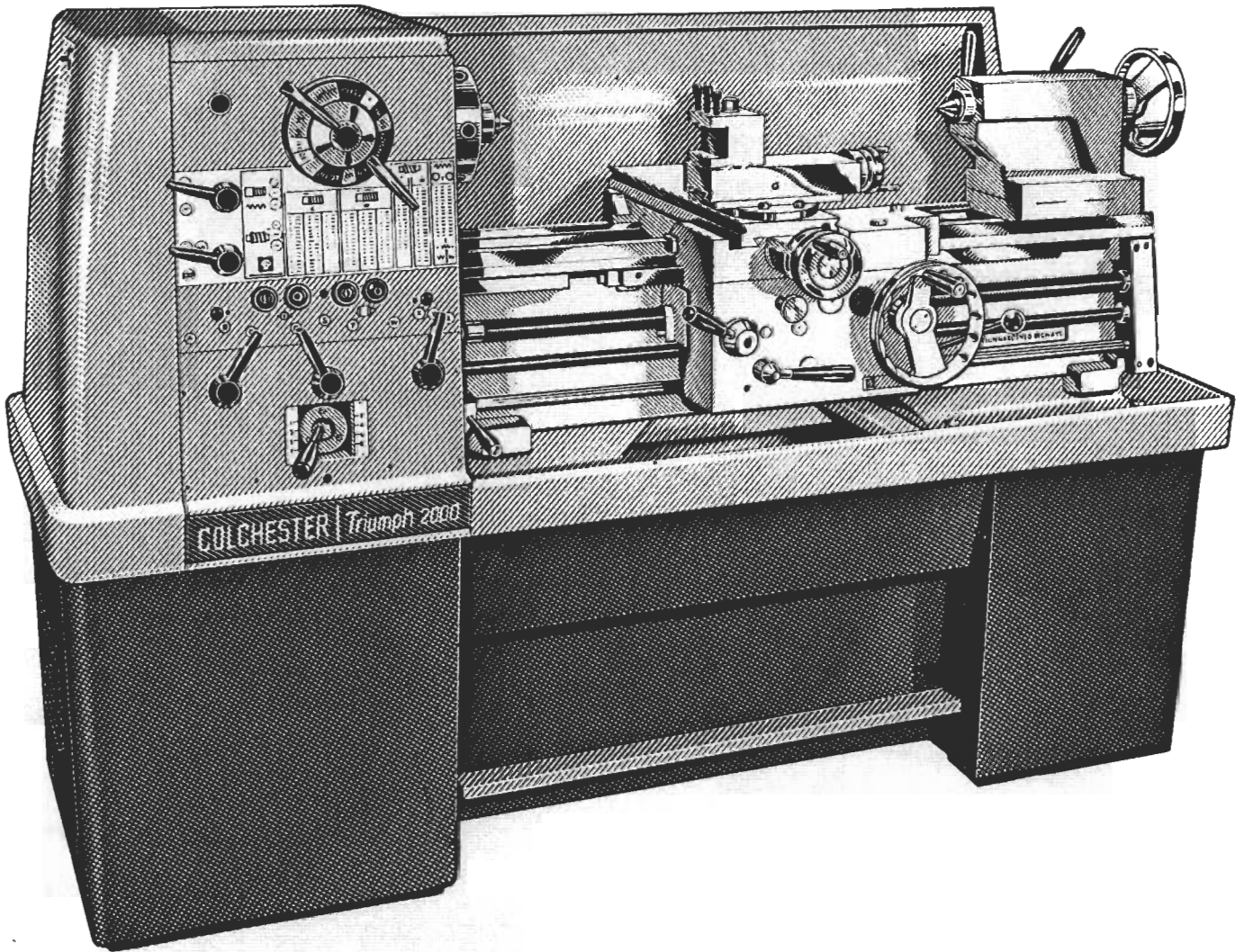
Threads:		Number of Module pitches	18
Number of Whitworth threads	45	Range of Module pitches	0.3—3.5 mod.
Range of Whitworth threads	2 t.p.i. — 72 t.p.i.	Feeds:	
Number of Diametral pitches	21	Range of sliding feeds	0.0015in—0.040in
Range of Diametral pitches	8—44 D.P.	per rev. of spindle	(0.04mm—1.0mm)
Number of Metric pitches	39	Range of surfacing feeds	0.00075in—0.020in
Range of Metric pitches	0.2—14mm	per rev. of spindle	(0.02mm—0.5mm)

Standard Equipment (unless otherwise specified):

Slotted toolblock. Driving plate. Centre bush. Two No. 4 Morse Taper centres. Thread indicator. Electrical equipment for standard 3 phase 50 cycle a.c. supply 110 volt control. End guard limit switch. Set of spanners and keys. Instruction and spare parts manual. Accuracy chart. Electric coolant, pump, tank and fittings. Splash guard. Chuck guard. 250mm 3-jaw chuck. Apron dail (English or Metric). Emergency Stop Button. Lockable Isolator switch. One-shot saddle lubrication. Apron adjustable knock-off. Foot actuated spindle brake.

INSTRUCTION & PARTS MANUAL

TRIUMPH 2000 LATHES Lathes



This manual applies only to the machine having the serial number shown; this is stamped on the front of the lathe bed at the tailstock end and MUST be quoted in all communications.



Machine Serial Number



THE COLCHESTER LATHE COMPANY LTD.
Colchester Essex England

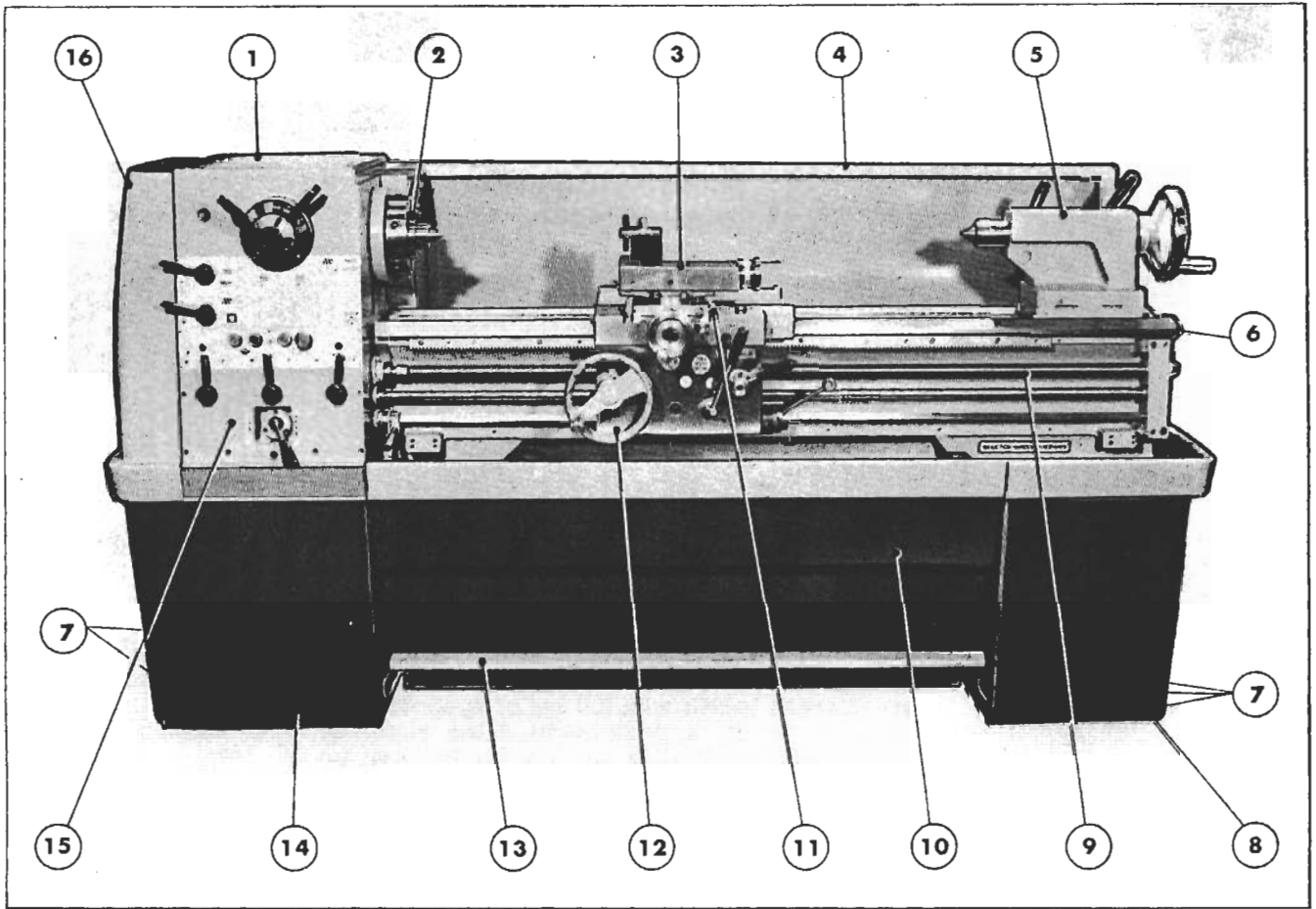
BRIEF SPECIFICATION

Height of centres	7½ in.
Distance between centres	30 in. or 50 in.
Swing: over bed	15½ in.
over cross-slide	9¾ in.
in gap	
(gap-bed lathes)	22½ in.
Spindle nose	6 in. D1 Camlock
Spindle bore (max. bar diam.)	2½ in.
Taper of centres	No. 4 Morse
Drive:	7½ h.p.
Weight (approx):	
Short Bed	2520 lb. (1143 kg.)
Long Bed	2600 lb. (1180 kg.)

Standard equipment, supplied with lathe: front toolholder, driving plate, spindle nose centre bush and two No. 4 Morse taper centres, threading dial indicator, toolkit with full set of spanners and wrenches, tin of re-touch paint, lathe accuracy chart. A full list of lathe accessories is given on page 22.

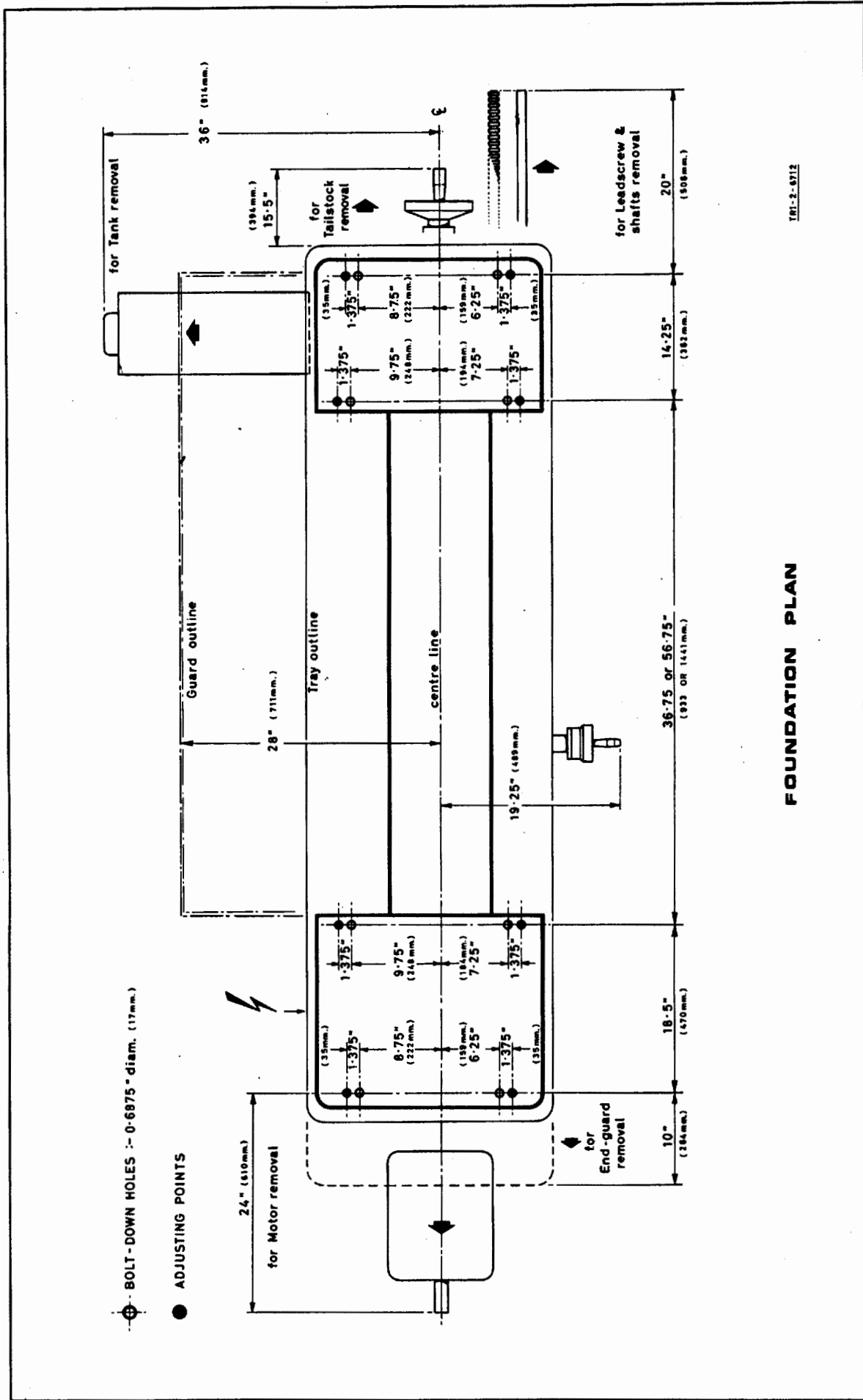
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LEGEND

- 1 Headstock
- 2 Spindle
- 3 Topslide
- 4 Splash guard
- 5 Tailstock
- 6 Bed
- 7 Mounting feet
- 8 Tail-end plinth
- 9 Leadscrew
- 10 Coolant tray
- 11 Saddle and cross-slide
- 12 Apron
- 13 Footbrake
- 14 Head-end plinth
- 15 Gearbox
- 16 End cover (gear train)



FOUNDATION PLAN

161-2-9712

CLEANING

Before operating any controls, remove the anti-corrosion coating from all slideways and the end gear train, see Fig. 1, using white spirit or Kerosene.

DO NOT USE CELLULOSE SOLVENTS FOR CLEANING AS THEY WILL DAMAGE THE PAINT FINISH.

Oil all bright machined surfaces immediately after cleaning using machine oil or slideway lubricant; use heavy oil or grease on the end gears.

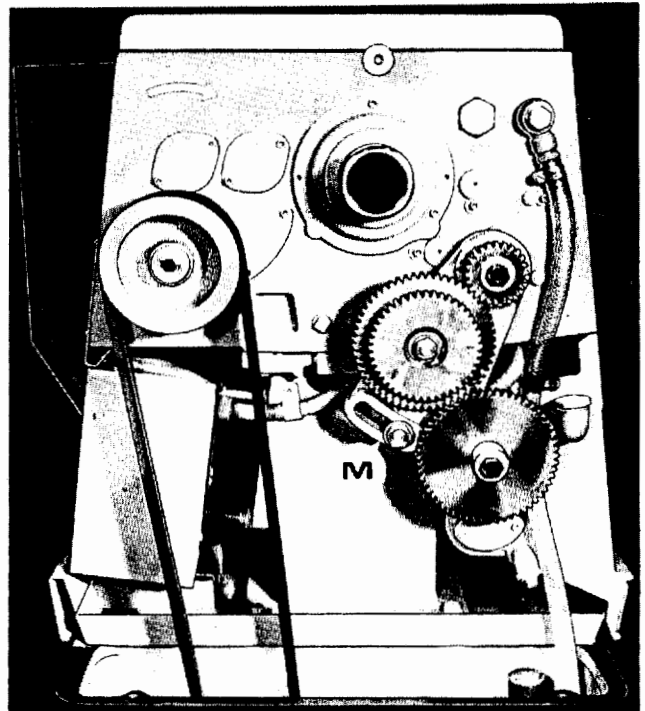


Fig. 1

LIFTING

Use the bed-clamping plate and eyebolt to sling the lathe as in Fig. 2. Position the saddle and tailstock along the bed to obtain balance.

IMPORTANT: DO NOT USE SLINGS AROUND BED AS LEADSCREW AND FEEDSHAFT MAY BE BENT.

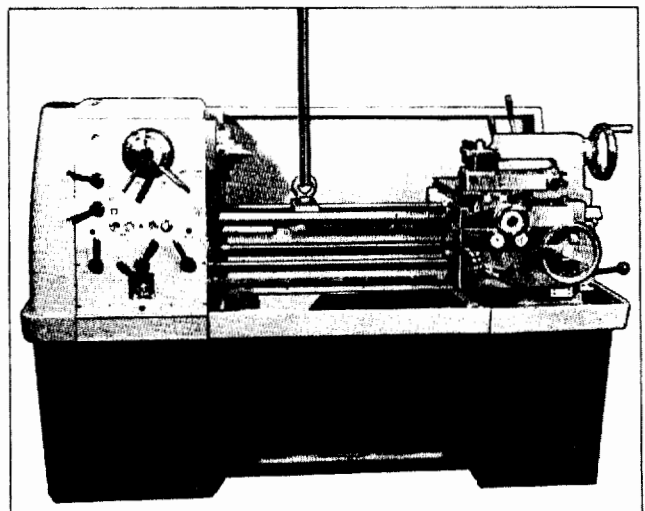


Fig. 2.

INSTALLING

Locate the machine on a solid foundation, allowing sufficient area all round for easy working and maintenance (see Foundation Plan). The lathe may be used free-standing or bolted to the foundation.

Free-standing: Position lathe on foundation and adjust each of the eight mounting feet to take equal share of the load. Then using an engineers' precision level on the bedways (as in Fig. 3) adjust the feet to level up machine. Periodically check bed level to ensure continued lathe accuracy.

Fixed installation: Position lathe over eight bolts ($\frac{3}{8}$ in. or 16mm. diam.) set into the foundation to correspond with holes in the mounting feet; dimensions are shown on Foundation Plan. Accurately level the machine, as in Fig. 3, then tighten hold-down bolts. Re-check bed level.

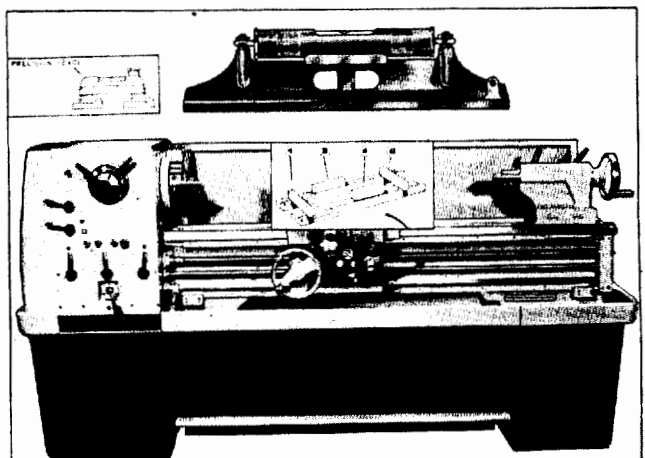


Fig. 3

ELECTRIC SUPPLY CONNECTION

Input wires should be connected to mains terminals of the isolator switch on the electrical panel in back of the bed, below the headstock, see Fig. 4.

Main motor rotation must be clockwise viewed from the pulley end. Should motor run in wrong direction, interchange any two of the three phase lines. Appropriate wiring diagrams are included in Servicing and Maintenance Section of this manual.

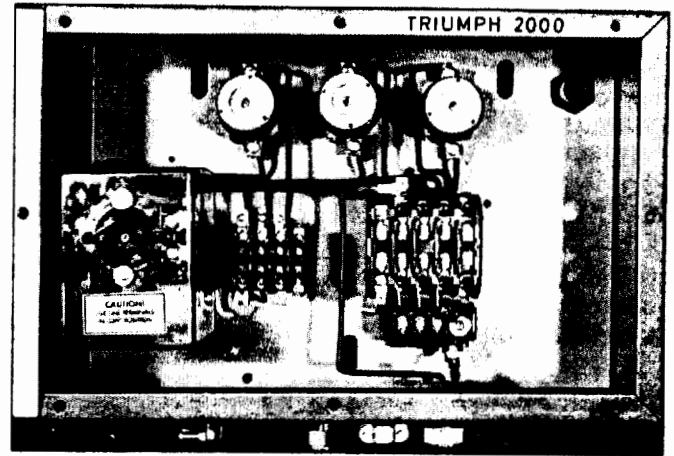
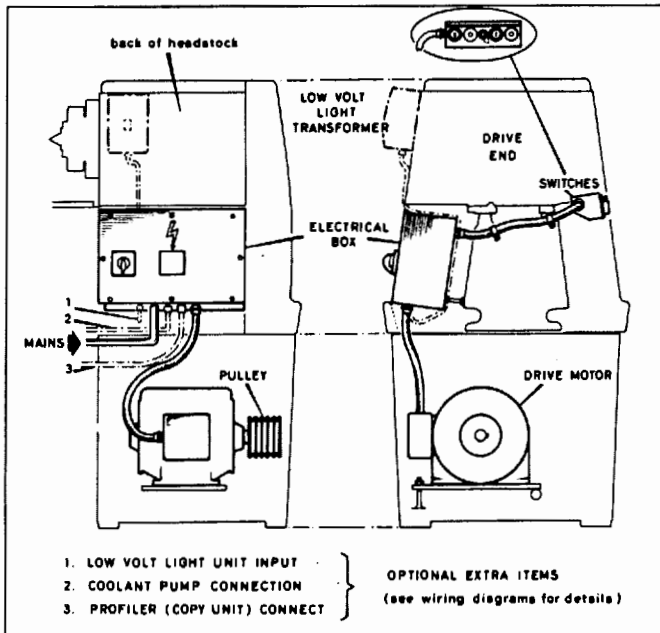


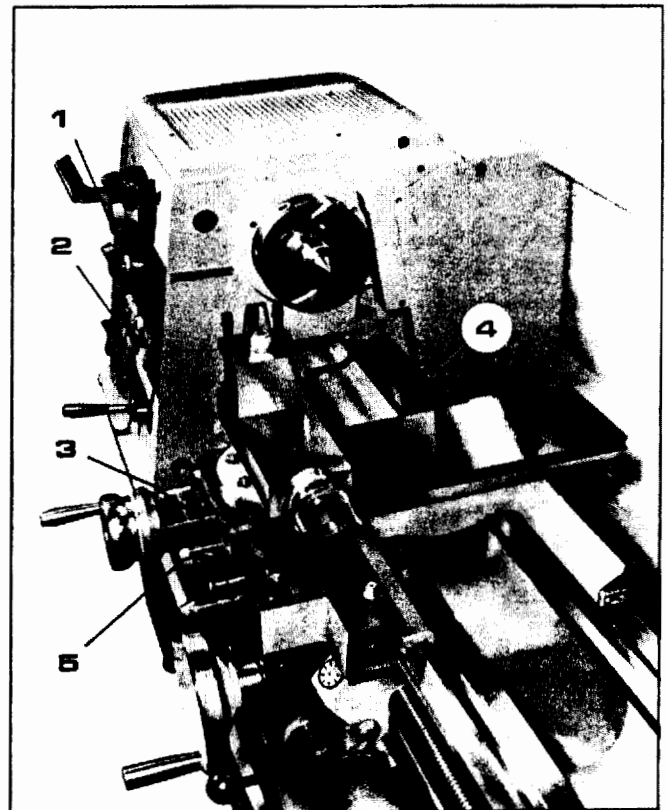
Fig. 4.

LUBRICATION CHECKS

Before operating the machine make the following important checks:

1. That the oil tank in the head-end plinth is filled to correct level indicated by dipstick with Shell Tellus Oil 27.
2. That the gearbox is filled to level marked on oil sight window with Shell Tellus Oil 27.
3. That the carriage apron is filled to level mark on oil sight window with Shell Tonna 33.
4. In addition, apply an oil can to the points shown on lubrication diagram which require daily oiling. Use light machine oil or way lubricant.
5. Before each working shift, operate the manual lubrication pump to ensure adequate lubrication of carriage slideways.

NOTE: When the lathe motor is switched on, the oil sight window in front of the headstock should fill with oil—indicating that the pump is operative. If this does not occur stop the machine and investigate the cause.



CHUCKS AND CHUCK MOUNTING

WARNING: GREY CAST-IRON CHUCKS MUST NOT BE FITTED ON THIS HIGH-SPEED LATHE. USE ONLY DUCTILE IRON CHUCKS RECOMMENDED BY THE COLCHESTER LATHE CO. LTD. (See Accessories Section).

When fitting chucks or faceplates, first ensure that spindle and chuck tapers are scrupulously clean and that all cams lock in the correct positions; see Fig. 5. It may be necessary when mounting a new chuck to re-set the camlock studs (A). To do this, remove the cap-head locking screws (B) and set each stud so that the scribed ring (C) is flush with the rear face of the chuck—with the slot lining up with the locking screw hole (see inset, Fig. 5).

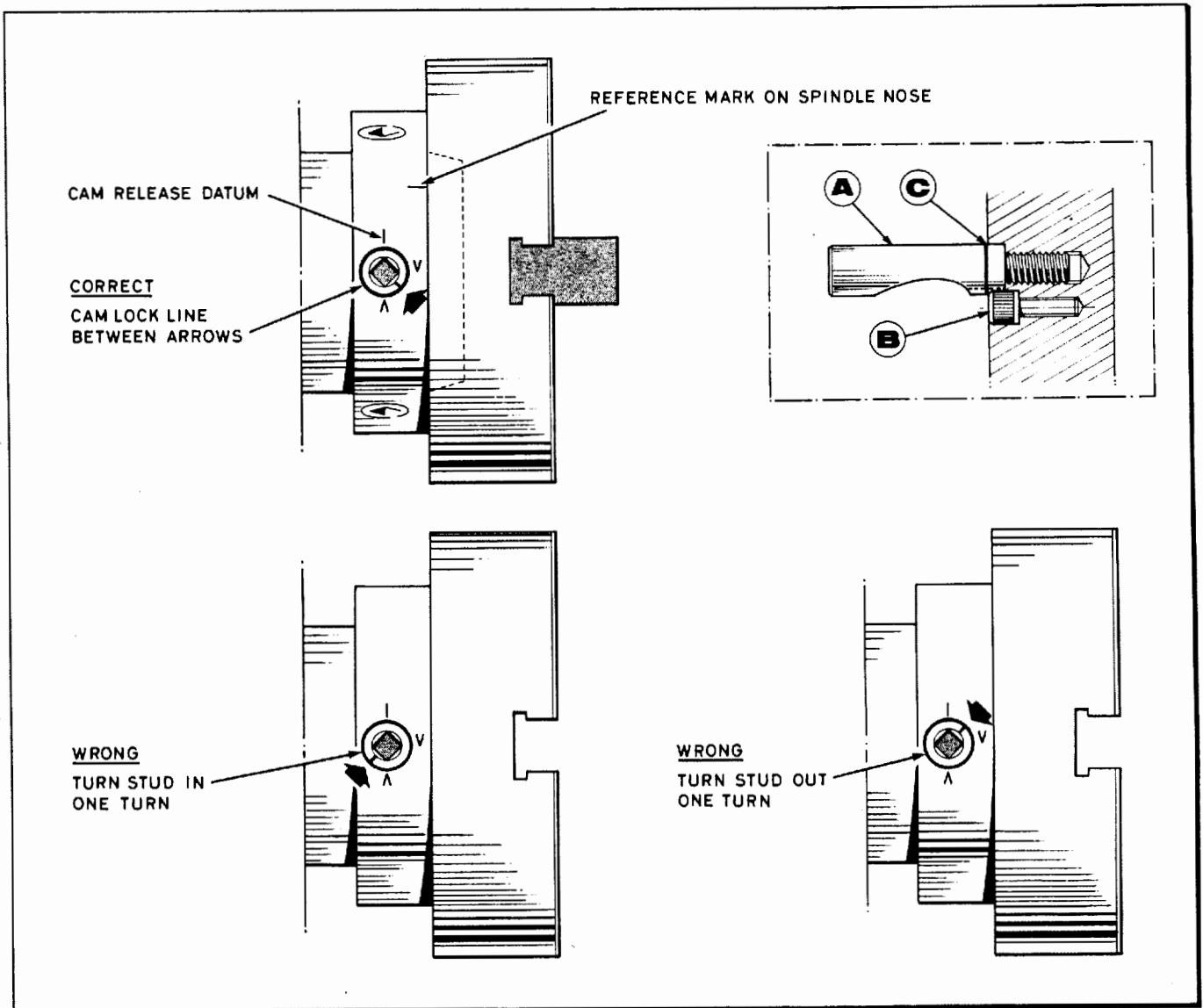
Now mount the chuck or faceplate on the spindle nose and tighten the six cams in turn. When fully tightened, the cam lock line on each cam should be between the two V marks on the spindle nose.

If any of the cams do not tighten fully within these limit marks, remove the chuck or faceplate and re-adjust the stud as indicated in the illustration. Fit and tighten the locking screw (B) at each stud before remounting the chuck for work. A reference mark should be made on each correctly fitted chuck or faceplate to coincide with the reference mark scribed on the spindle nose.

This will assist subsequent remounting. **DO NOT INTERCHANGE CHUCKS OR FACE PLATES BETWEEN LATHES WITHOUT CHECKING FOR CORRECT CAM LOCKING.**

IMPORTANT: Take careful note of speed limitations when using faceplates; 21 in. faceplates should not be run at speeds greater than 625 rev/min. and 14 in. faceplates at not more than 840 rev/min.

Fig. 5



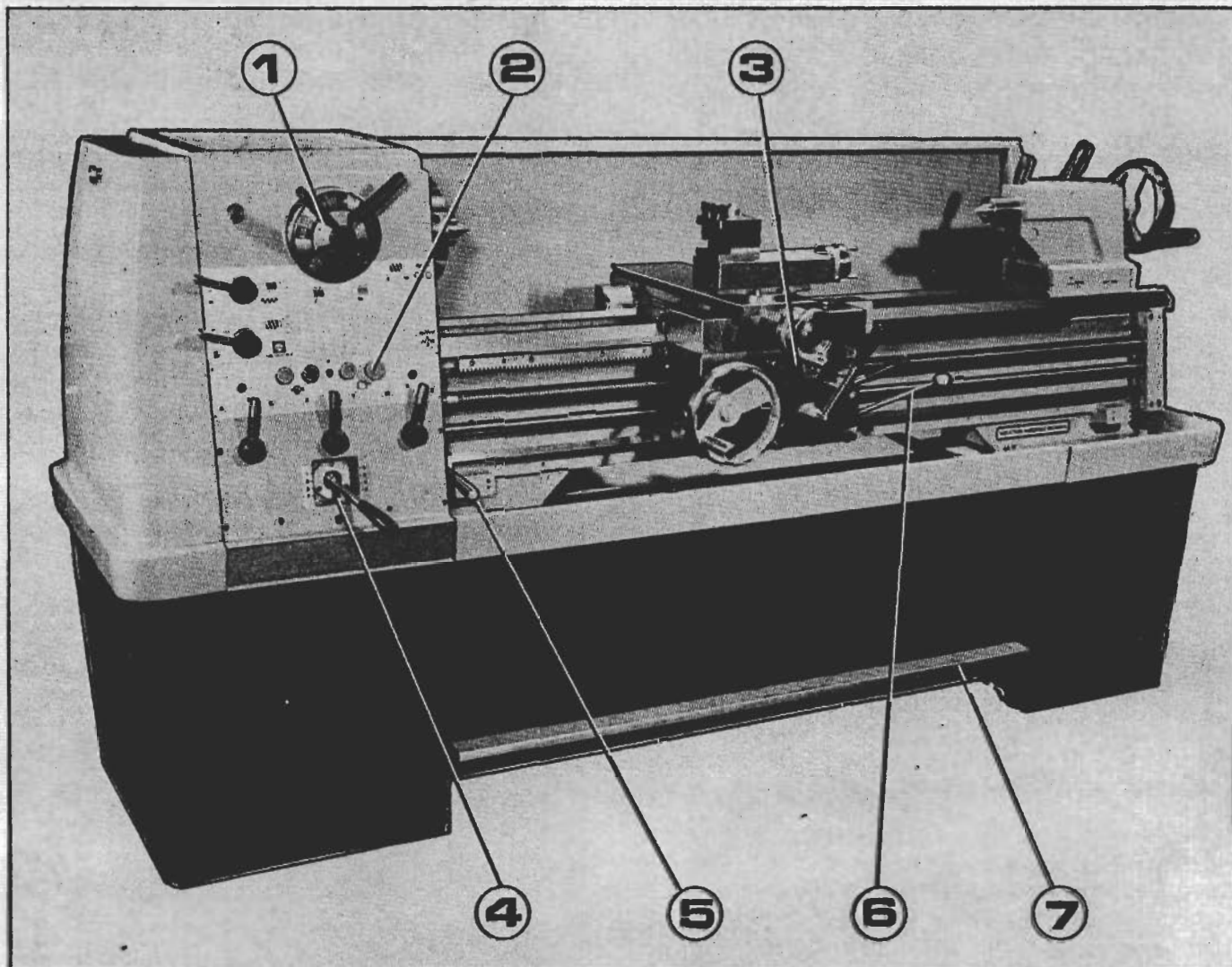


Fig. 6

LATHE CONTROLS (See Fig. 6)

1. Spindle speed selector
2. Electrical push buttons
3. Apron, surfacing or sliding feeds
4. Gearbox, threads and feeds
5. Spindle rotation (reverse only)
6. Spindle rotation (forward and reverse)
7. Footbrake

ELECTRICAL CONTROLS (See Fig. 7)

With the exception of the lathe isolator, all electrical controls are fitted into the front face of the headstock:—

1. Press the **GREEN** button to start the main drive motor.
2. The indicator lamp glows whilst the motor is running.
3. Press the **RED** mushroom-head button to stop the main motor and also electrical supply to ancillary services.
4. Coolant pump **ON/OFF** push buttons.



Fig. 7

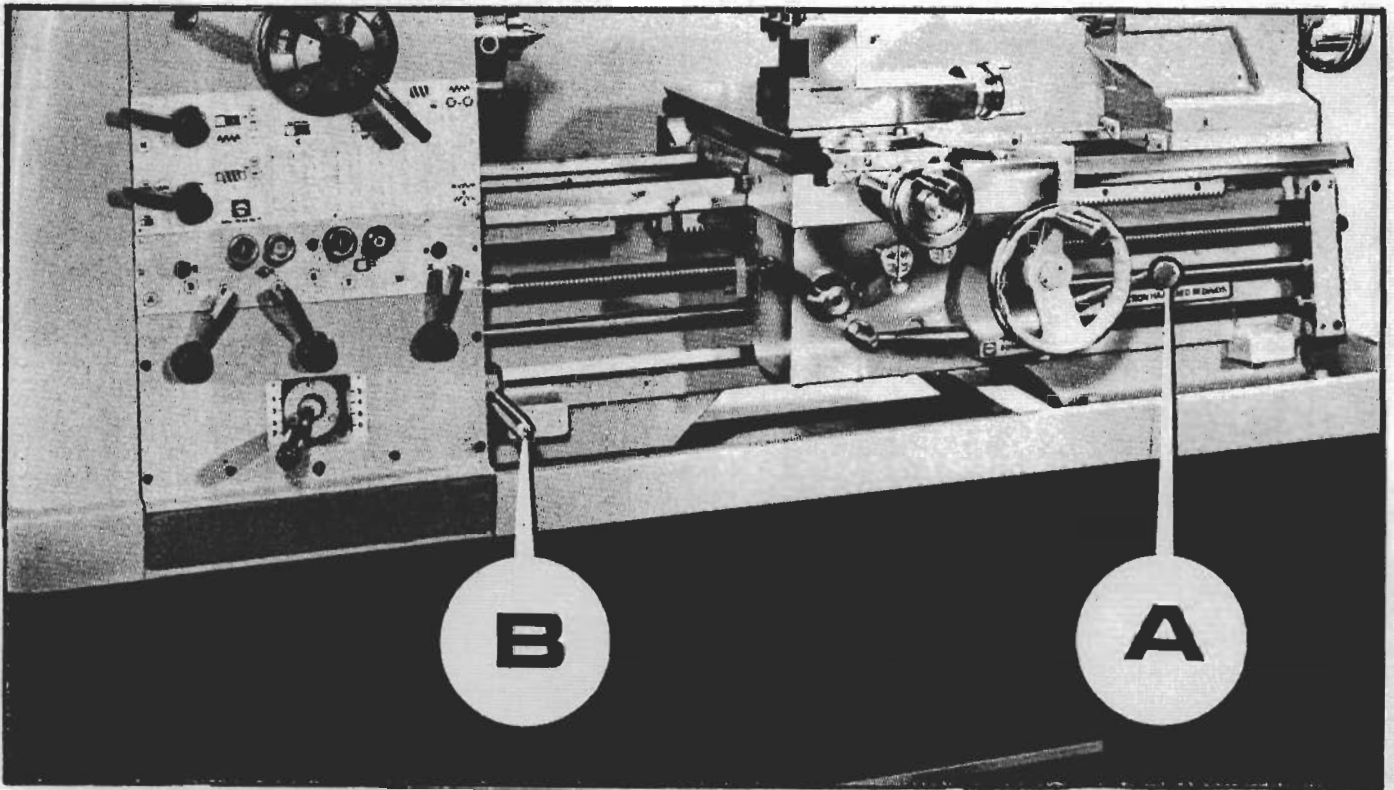


Fig. 8

SPEED CONTROLS (Standard lathes)

Spindle Rotation: Selected by the lever controls A and B (Fig. 8). The apron lever (A) for forward, free and reverse selections, the lever (B) for reverse and free selections only.

With the main motor running; move lever A out and down to engage forward rotation of spindle, or straight upward to engage reverse rotation. Lever B can be moved only upward to engage reverse rotation or returned to the central position to disengage drive.

Footbrake: A foot pedal between plinths operates the spindle brake and at the same time returns selector levers A and B to the central (disengaged) position.

Height of the foot pedal depends upon the position of a pin engaged in the bar (Fig. 9); a choice of three positions is provided.

Spindle speeds: Selected by the grouped dial controls on the headstock (Fig. 10).

The sixteen available speeds are shown directly on the lever-operated dial (A) in four groups—each of which is further divided into four displayed spindle speeds. Rotate this dial, using the large handle, to bring the required speed-group uppermost and opposite the fixed section (B). Now rotate the other handled dial (C) until the appropriately coloured arrow is aligned with the required speed on the uppermost dial group.

DO NOT MOVE SPEED-SELECTOR CONTROLS WHILST THE SPINDLE IS ROTATING.

To free the spindle for hand rotation, set any one of the blank spaces on the group-dial to the mid-position of the fixed section (B).

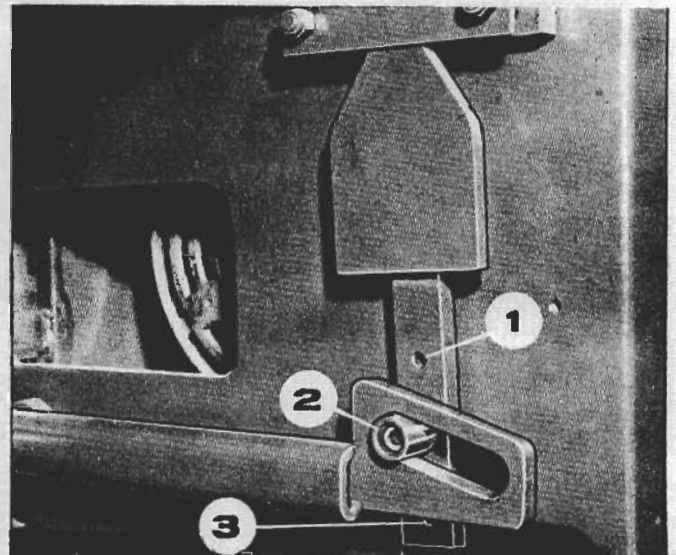


Fig. 9

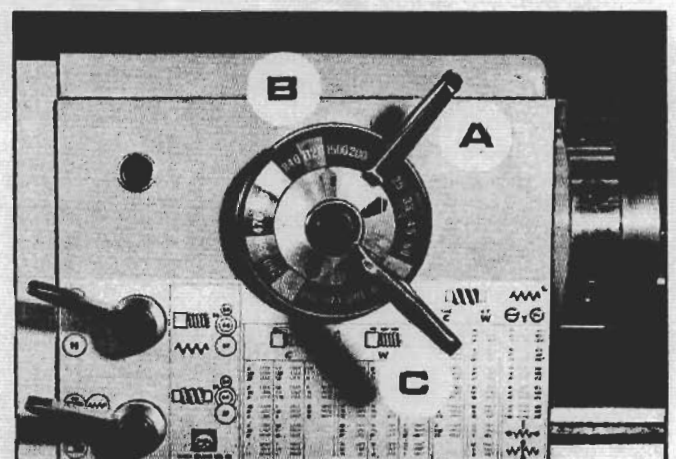


Fig. 10

THREADS AND FEEDS

All the threads and feeds directly available from the gearbox are shown on the data plate fitted on the front of the headstock (Fig. 11). The setting of control levers is shown in Fig. 12.

The L position of lever (Y) provides a range of fine threads, the H position a coarse thread range. Do not select the coarse range (H position) at spindle speeds higher than 625 rev/min.

Threads available:

45 Whitworth threads : 2 to 72 t.p.i.
 39 Metric threads : 0.2 to 14 mm pitch
 18 Metric modules : 0.3 to 3.5 mod.
 21 Diametral pitches : 8 to 44 D.P.

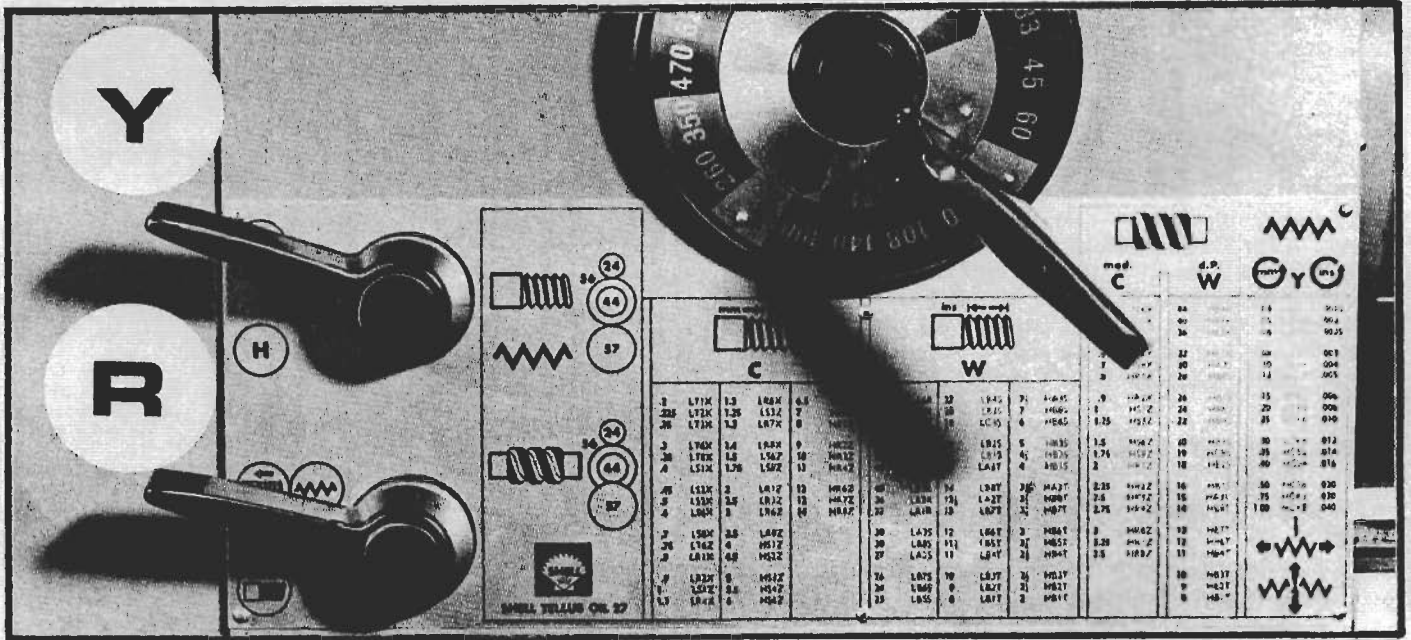


Fig. 11

The end-gear train should be arranged as in the diagrams shown on the data plate to suit threading requirements.

Change gears: our Technical Department will specify the most convenient change-gears required for any special thread not shown on data plate.

Feeds: Sliding feeds per spindle revolution range from .0015 to .040 in. (0.04 to 1.0 mm). Surfacing feeds per spindle revolution range from .00075 to .020 in. (0.02 to 0.5 mm) or half the sliding feed.

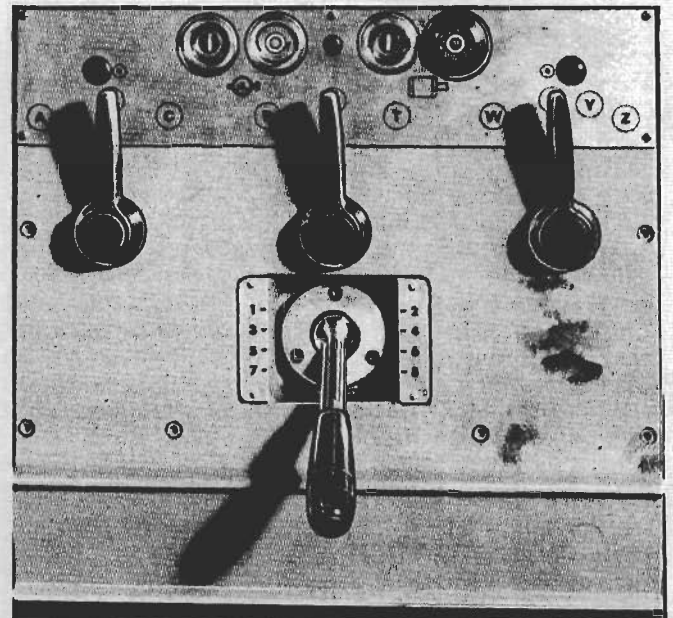


Fig. 12

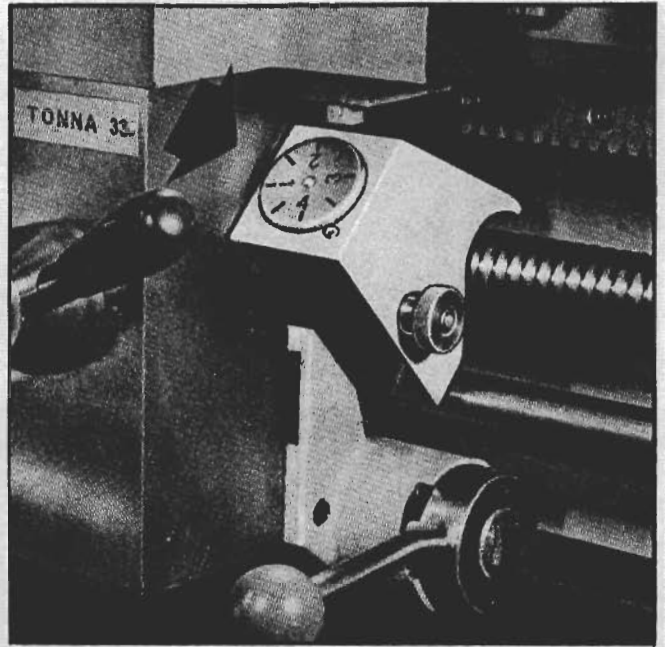
THREADING DIAL INDICATOR

Located on right-hand side of the apron on lathes having an English leadscrew, except when a rapid-threader unit is fitted as optional extra. Engage the indicator pinion with the leadscrew and tighten the handnut to retain indicator in engagement. Release handnut, swing indicator out of engagement and secure with the handnut when not required.

To cut threads of an even number per inch, close the leadscrew nut as ANY line on the dial passes the datum mark. To cut threads of odd numbers per inch, close the leadscrew nut at any NUMBERED line.

Fractional threads of $\frac{1}{2}$ or $\frac{1}{4}$ t.p.i. may be cut by closing the nut at the SAME numbered line on each pass of the tool.

This dial cannot be used with an English leadscrew to cut metric threads, D.P., module pitches or fractional threads other than those shown. For these the leadscrew nut must be kept closed and the machine reversed by use of the apron control lever after each cutting pass and tool withdrawal. For lathes having a metric leadscrew a dial indicator combination unit is supplied, and, by selection of the correct pinion, all metric pitches shown on the data plate can be cut in the manner used for English threads on an English leadscrew.



MULTI-START THREADS

Multi-start threads can be cut on a lathe in three ways:—

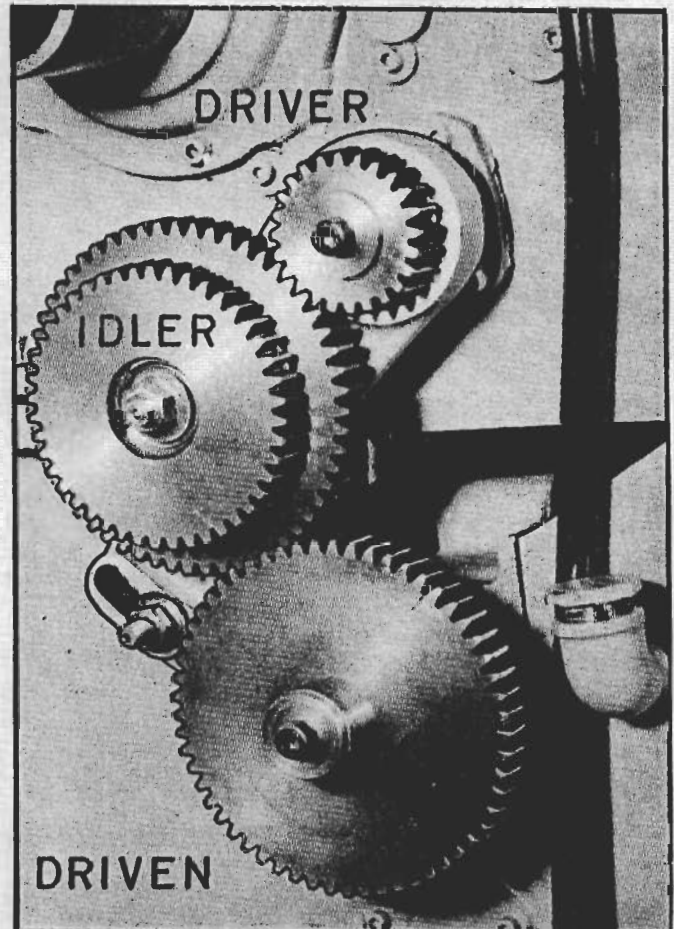
1. By repositioning the compound (top) slide one pitch forward for each start. Note that the slide is normally set at 90 deg. to the axis of the machine cross-slide. The accuracy of this method depends upon the skill of the operator.
2. By using an accurately-divided driver plate and turning the workpiece one division forward for each start.
3. By advancing the driver gear a calculated number of turns to advance the spindle by one pitch of the thread to be cut. The accuracy of this method is that of the machine.

With Colchester Triumph 2000 lathes, two ratios exist between the spindle and driver gear shaft; i.e. the LOW range where the ratio is 1:2, and the HIGH range where the ratio is 2:1.

In order to use this method, the number of teeth on the driver gear must be divisible by the number of starts being cut. The driver gear is then advanced by half this number of teeth when in LOW range and, conversely, by twice the number of teeth when in HIGH range.

The limitation of this method depends upon whether the number of starts required can be divided equally into the number of teeth on the driver gear without a remainder.

On the standard end gear train for this machine the driver gear has 24 teeth; so that two, three or four start threads can readily be cut. For other odd numbers of starts a choice must be made of methods 1 or 2.



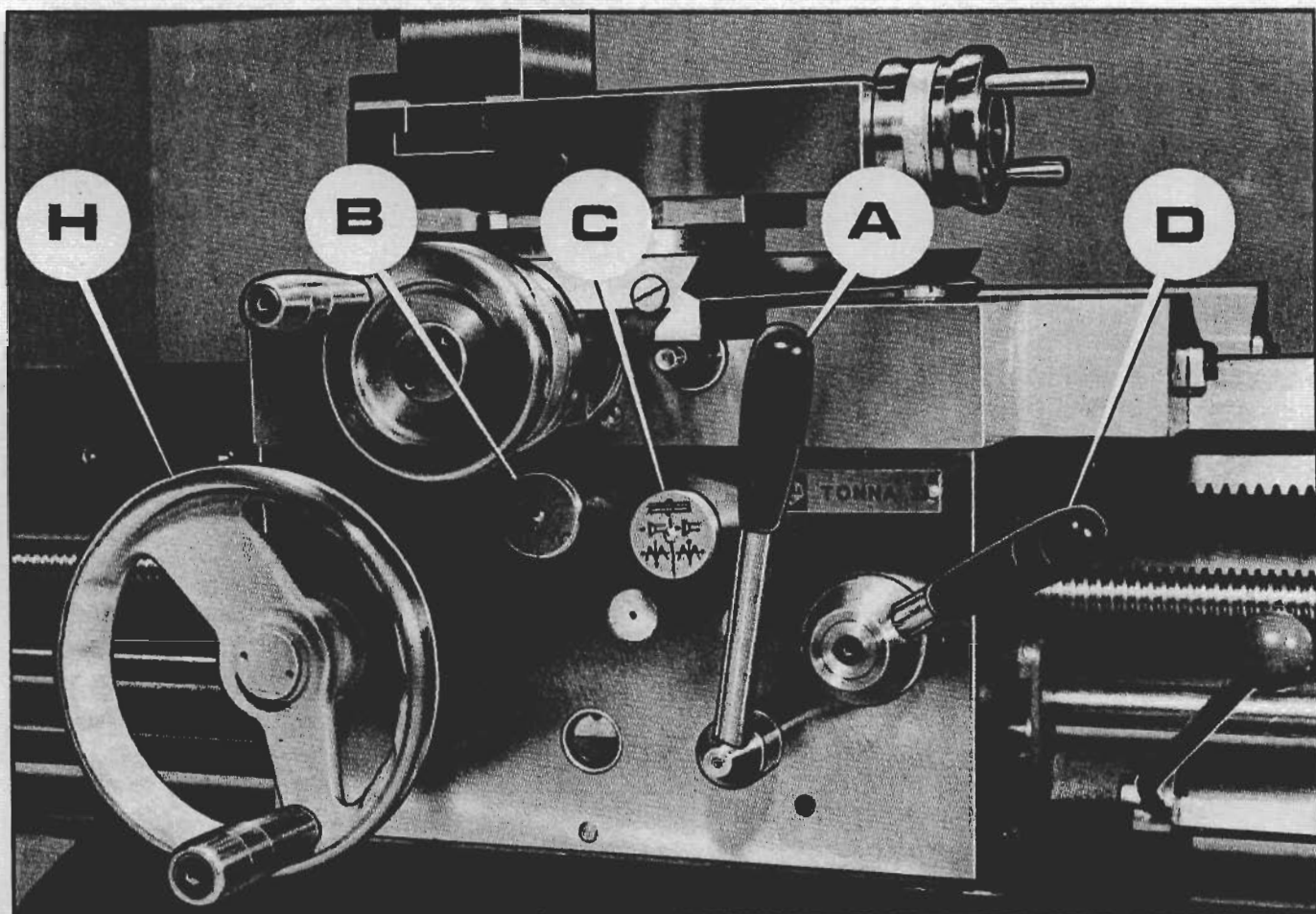


Fig. 13.

APRON CONTROLS

In addition to handwheel traverse, the carriage can be power-operated through controls on the front of the apron, see Fig. 13. Lever (A) is moved up for power feed engagement and down for manual operation.

The push-pull knob (B) selects power surfacing (cross-feed) when pulled out, sliding feeds are selected when the knob is pushed right in. The adjacent push-pull handle (C) controls forward or reverse feed direction.

Lever (D) is pressed downward to engage the leadscrew nut for screwcutting. To avoid undue wear, release the nut except when screwcutting. An interlock within the apron prevents inadvertent engagement of levers A and D at the same time.

NOTE: Do not use headstock lever for reversing feeds except during left-hand screwcutting; use, instead, the apron handle (C).

Feed-trip adjustment: A trip mechanism is incorporated in the apron, enabling saddle and/or cross-slide to be fed up to fixed stops. Trip loads can be set high or low by adjustment of the knurled handwheel on the side of the apron. The apron handwheel may be disengaged from its gear train during power operation or when screwcutting, by pulling the handwheel outwards to another spring-ball detent.

NOTE: This does not apply when the longitudinal dial accessory is fitted.

CROSS-SLIDE AND TOPSLIDE—see Fig. 14

A solid topslide is fitted as standard to the cross-slide, carried on a rotatable base which is marked 0-90-0-90 deg. for accurate indexing. Handwheel dials are graduated in inch or metric divisions to suit the operating screw and nut fitted.

The cross-slide can be power operated by pulling out the hand knob (B), at half sliding feed per spindle revolution; or it can be hand-operated using the large-diameter dial graduated in either inch or metric divisions to suit the operating screw and nut fitted.

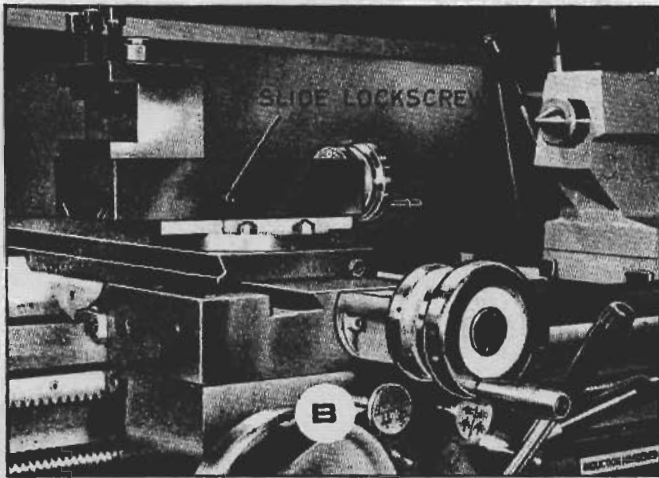


Fig. 14

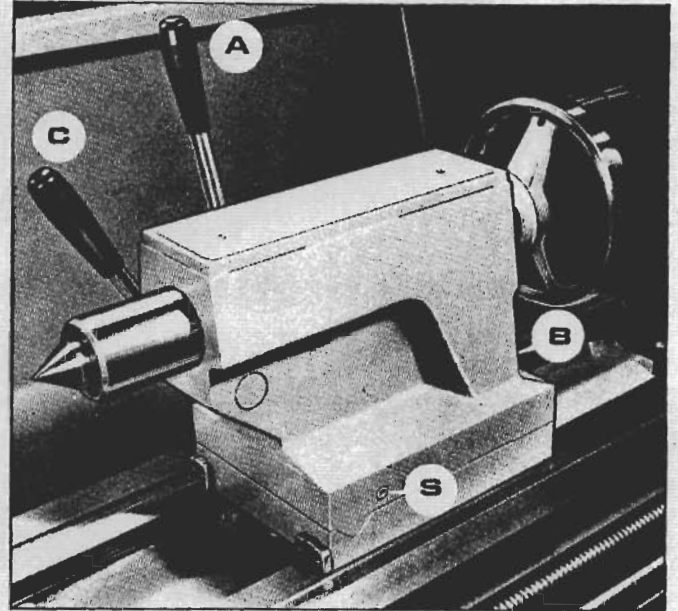


Fig. 15

TAILSTOCK

Can be freed for movement along the bed by unlocking the clamp lever (A). Additional clamping may be obtained by tightening the large nut (B) located in a recess below the handwheel.

Release this clamping nut before attempting to move the tailstock and on completion of the need for extra clamping.

The tailstock barrel is locked by lever (C), see Fig. 15.

The tailstock can be set-over for production of shallow tapers or for re-alignment. Release the clamping lever and adjust screws (S) at each side of the base (Fig. 15) to move tailstock laterally across the base. An indication of the set-over is given by the datum mark (D) at the tailstock end face, as shown in Fig. 16. Apply clamp lever after adjustment of set-over.

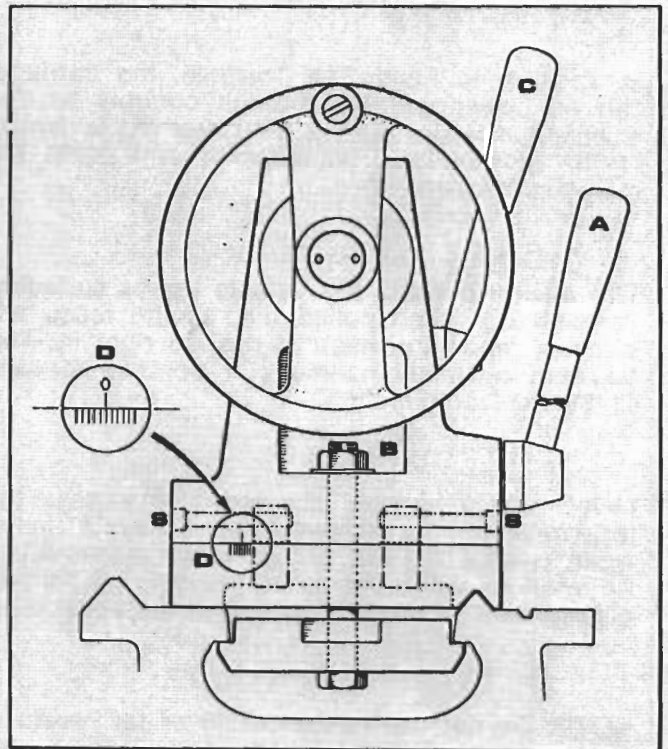


Fig. 16

LATHE ALIGNMENT

With the lathe installed and running, we recommend a check on machine alignment before commencing work. Check levelling and machine alignment at regular periods to ensure continued lathe accuracy.

Headstock check: Take a light cut with a keen tool over a 6 in. (150 mm) length of 2 in. dia. (50 mm) steel bar gripped in the chuck but not supported at the free end. Micrometer readings at each end of the turned length (at A and B of Fig. 17) should be the same.

To correct a difference in readings, slacken the four headstock hold-down screws (J) shown in Fig. 18 and adjust the set-over pad (K) beneath the headstock to pivot the headstock about the dowel (L). Tighten all screws after adjustment and repeat the test-cut / micrometer-reading sequence until micrometer readings are identical, i.e. machine now cutting absolutely parallel.

Tailstock check: Using a 12 in. (305 mm) ground steel bar fitted between headstock and tailstock centres, check the alignment by fitting a dial-test indicator to the topslide and traversing the centre line of the bar (lower sketch, Fig. 17). To correct error release the tailstock clamp lever and adjust the two set-over screws provided. Continue with checking and correction until the alignment is perfect.

END GEAR TRAIN

Drive from headstock to gearbox is transmitted through a gear train enclosed by the headstock end-guard. Intermediate gears are carried on an adjustable swing-frame (M) shown in Fig. 19. Gears must be thoroughly cleaned before fitting and backlash maintained at .005 in. (.127 mm) for correct meshing. Lubricate gears regularly with thick oil or grease.

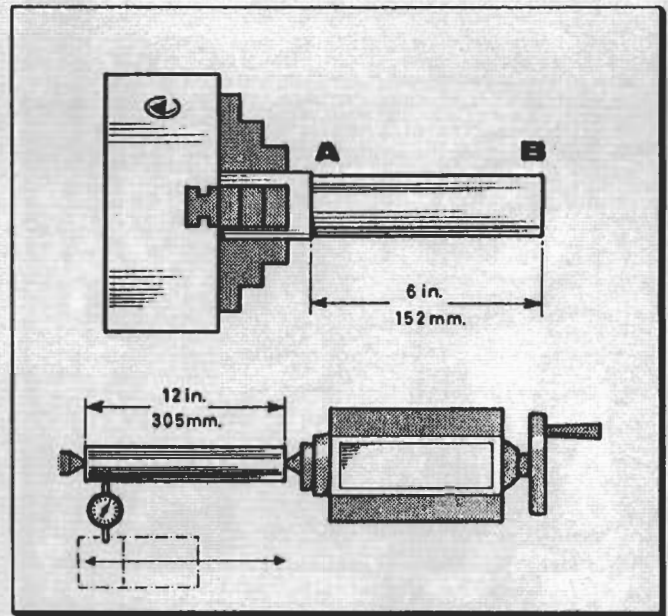


Fig. 17

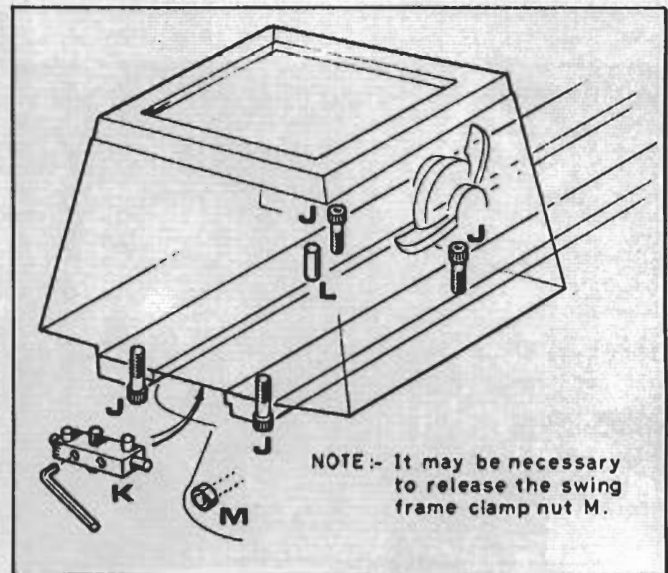


Fig. 18

DRIVING BELTS

To alter belt tension, remove the cover plate in back of the headstock plinth and adjust the two screws (X Fig. 20) on the hinged motor platform. Ensure that the motor is correctly aligned with the lathe axis.

Light finger pressure at a point midway between motor and headstock pulleys should produce about 3/8 in. (19 mm) movement of each belt when under correct tension, see Fig. 21.

NOTE: The oil pump driving belt is automatically tensioned by its own spring-loaded jockey pulley.

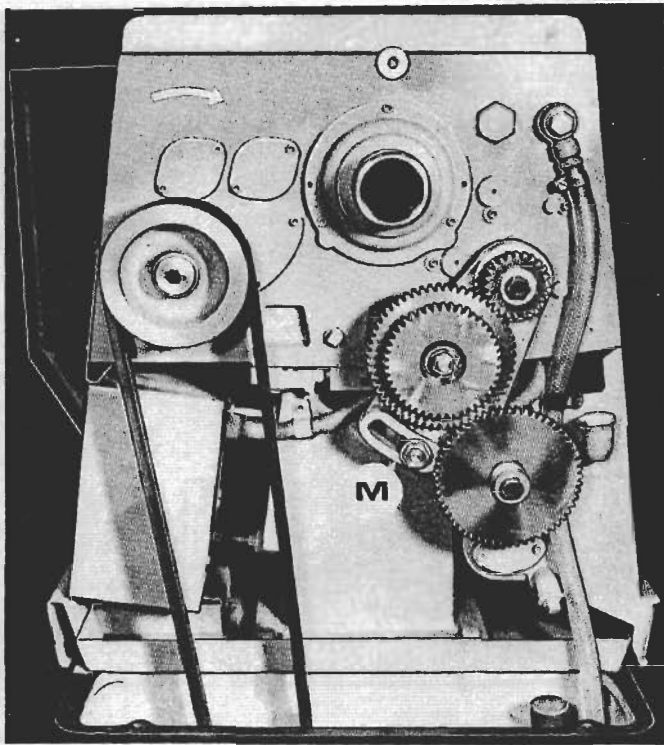


Fig. 19.

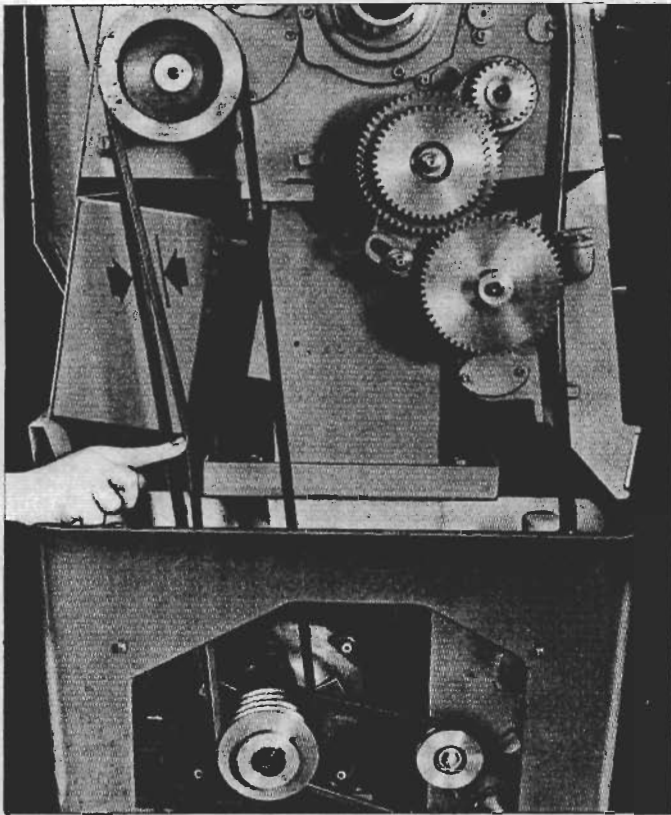


Fig. 21

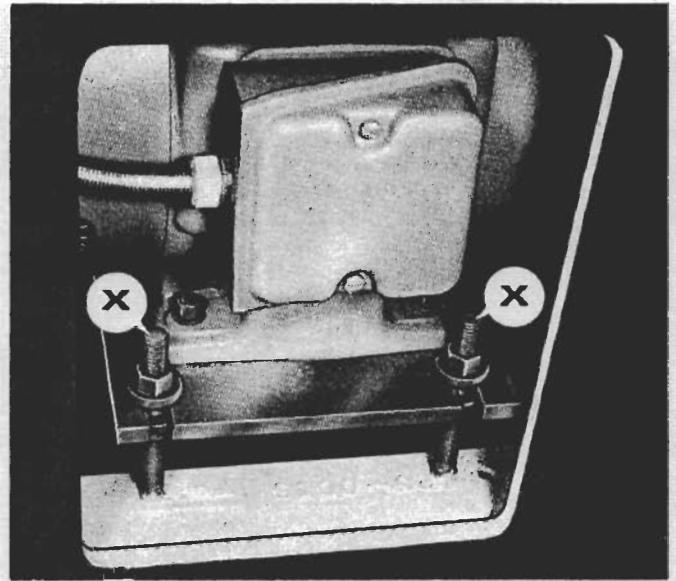


Fig. 20

LEADSCREW SHEARPIN

The transmission is protected against severe overload by a shearpin fitted into the leadscrew drive, just forward of the gearbox, see Fig. 22.

To replace a sheared pin, first disengage drive to the leadscrew (F) by setting the right-hand lever of the gearbox to the position Y. Then rotate the flanged shaft (A) carrying the broken pin to the slot at the bottom of the gearbox housing (B). Press the spring-loaded collar (C) to the right and push the pin into the slot. Rotate the shroud washer (D) to expose the pin head for removal from the collar (C).

Align the holes in flanged-shaft (A), collar (C) and shroud washer (D) then insert a new pin (E) and rotate the shroud washer to cover and retain the new shearpin.

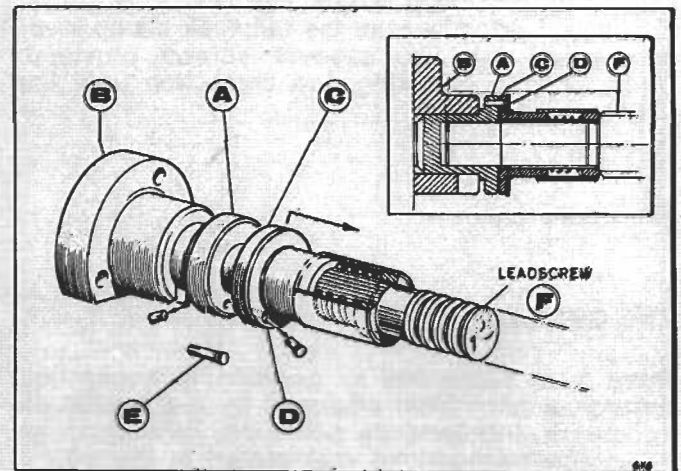
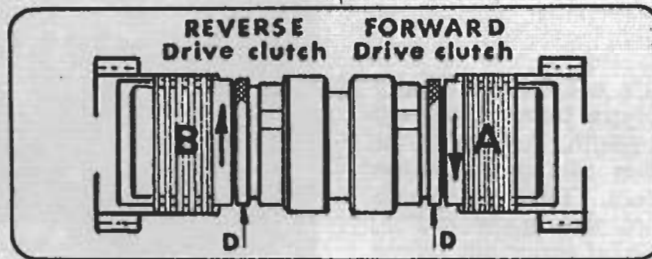


Fig. 22

CAUTION: USE ONLY CORRECT REPLACEMENT SHEARPINS OF MATERIAL $\frac{1}{16}$ in. DIAMETER STEEL, 30 TON TENSILE STRENGTH.



Ensure main drive belts correctly tensioned before adjusting clutches.

CLUTCH ADJUSTMENT.

1. Isolate main power supply.
2. Set apron clutch control lever to neutral.
3. Remove cover from rear of headstock, slide back knurled lock-ring (D) and rotate one notch in direction of arrow to tighten clutch.
4. Slide lock-ring forward to lock setting.
5. Check performance.

When correctly set the clutches accelerate the spindle from rest to 2000 r.p.m. within 3 to 4 seconds with 10.0 inch - 3 jaw chuck fitted and no workpiece.

WARNING

Over adjustment will cause serious damage to clutches or operating mechanism with no gain in performance.

537-0597.S

Fig. 23

DRIVE CLUTCHES

Two multi-plate clutches (A and B of Fig. 23) provide drive for forward and reverse headstock spindle rotation. Initial bedding-in of the friction surfaces will usually necessitate some adjustment. To adjust clutches:

1. Isolate the lathe from mains power supply at the switch on rear electrical panel then disengage the clutches by setting red-handled apron control to the central position.
2. Remove the rectangular cover plate from back of headstock for access to both clutches.
3. Slide back knurled lock-ring from each clutch in turn and rotate it one notch at a time in direction of arrow (Fig. 23) to tighten the clutch. Slide lock-ring back into position to lock this setting.
4. Refit cover plate and check performance. When correctly set, clutches should accelerate the spindle from rest to 2000 rev/min. within 3-4 seconds; when fitted with a standard 10½ in. (267 mm) 3-jaw chuck without work-piece.

AVOID OVER ADJUSTMENT WHICH MAY CAUSE SERIOUS DAMAGE TO CLUTCHES OR OPERATING MECHANISM WITH NO GAIN IN PERFORMANCE

CROSS-SLIDE NUT

This is adjustable for elimination of slackness which may develop in service. Reduce backlash by slackening rear cap-head screw in top of cross-slide (A in Fig. 24) then carefully screw in the center screw (B) to adjust a wedge within the split nut.

Make only small adjustment at a time and re-tighten screw A before operating the cross-slide several times by hand to be sure of smooth operation throughout full travel.

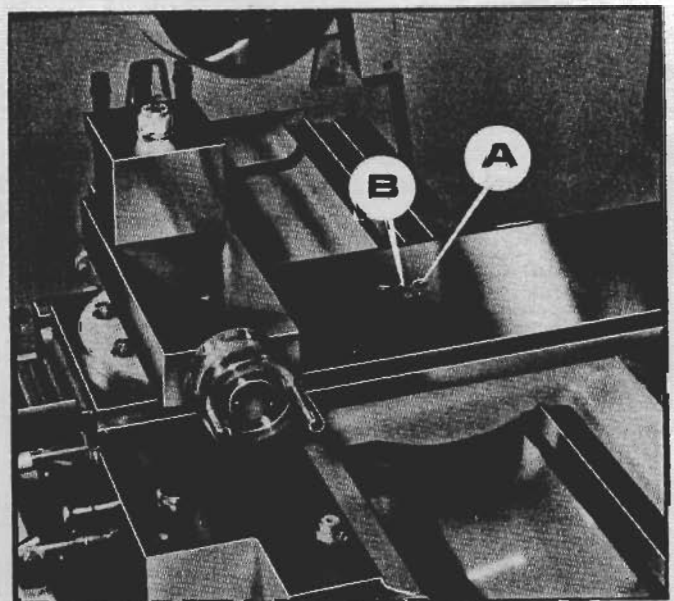


Fig. 24

LUBRICATION SYSTEM

Headstock bearings and gears are supplied with oil delivered by an impeller-type pump attached to a tank in the head-end plinth. A distributor within the headstock supplies oil to the drive clutches, bearings and gears. The oil pump is driven by a vee-belt from the main motor, insuring continuous supply whilst the main motor is running; evidence of supply is shown through an oil sight window in the headstock front face. A self-adjusting jockey pulley ensures constant belt tension.

A large-bore pipe returns oil from the bottom of the headstock into the tank. Ensure that the oil level in the tank is kept topped up to the mark on the filler-cap dipstick, see Fig. 25. Check oil level weekly and change the oil every year using Shell Tellus Oil 27 or equivalent grade (see below). Tank capacity is $3\frac{1}{2}$ gallons.

To empty the tank, set apron control lever to central position and stop the main motor. Detach the delivery pipe at the headstock, remove pipe cleats and with the pipe directed into a suitable container restart the main motor so causing the pump to empty the tank contents. The small quantity of oil left in the tank below the level of the pump intake can then be drained off through the drain plug projecting from the end of tank through the plinth wall.

The gearbox is splash-lubricated from an internal reservoir of oil (Shell Tellus 27). Check the oil level constantly to the mark on the oil sight window in the front end face of the gearbox; a weekly check is recommended, with the oil changed every year. Top up through a filler cap in the top of the gearbox, enclosed by the end-guard. Drain from a drain plug in the bottom of the gear-box, see Fig 25.

NOTE: Use of incorrect grades of oil can cause damage.

Where Shell Tellus Oil 27 is not obtainable, a grade with the following characteristics must be used:—

Specific gravity (20°C)	0.870
Flash point closed	210°C (410°F)
Pour point	-29°C (-20°F)
Viscosity, Redwood No. 1	70°F — 320 secs. 140°F — 68 secs. 200°F — 41 secs.
Viscosity, Engler degrees	10.5

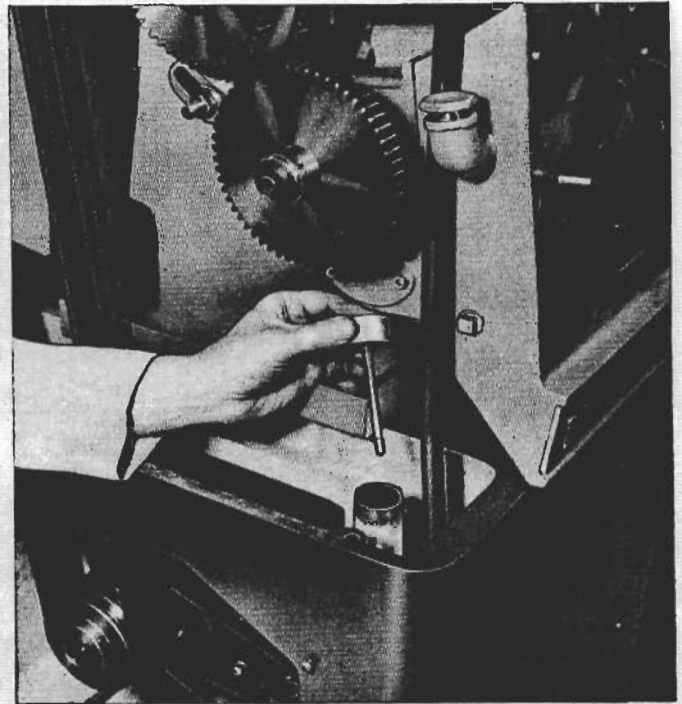
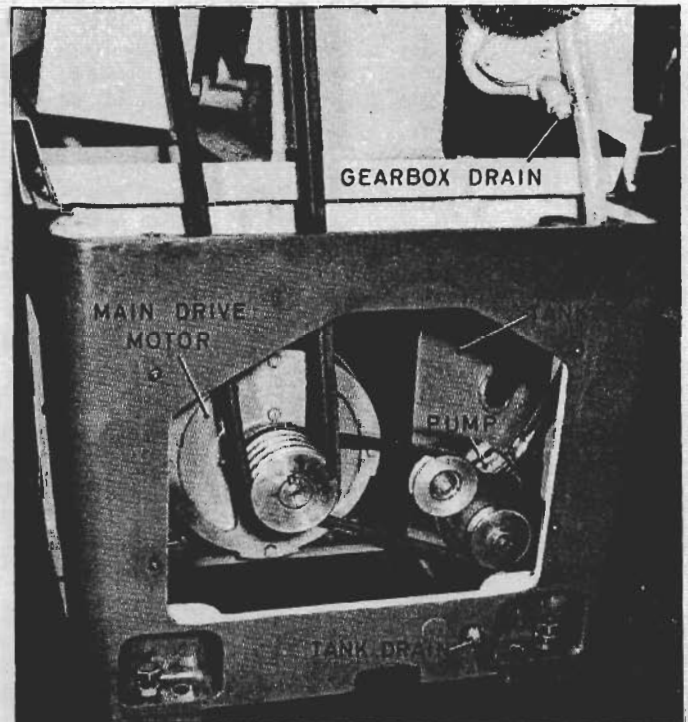
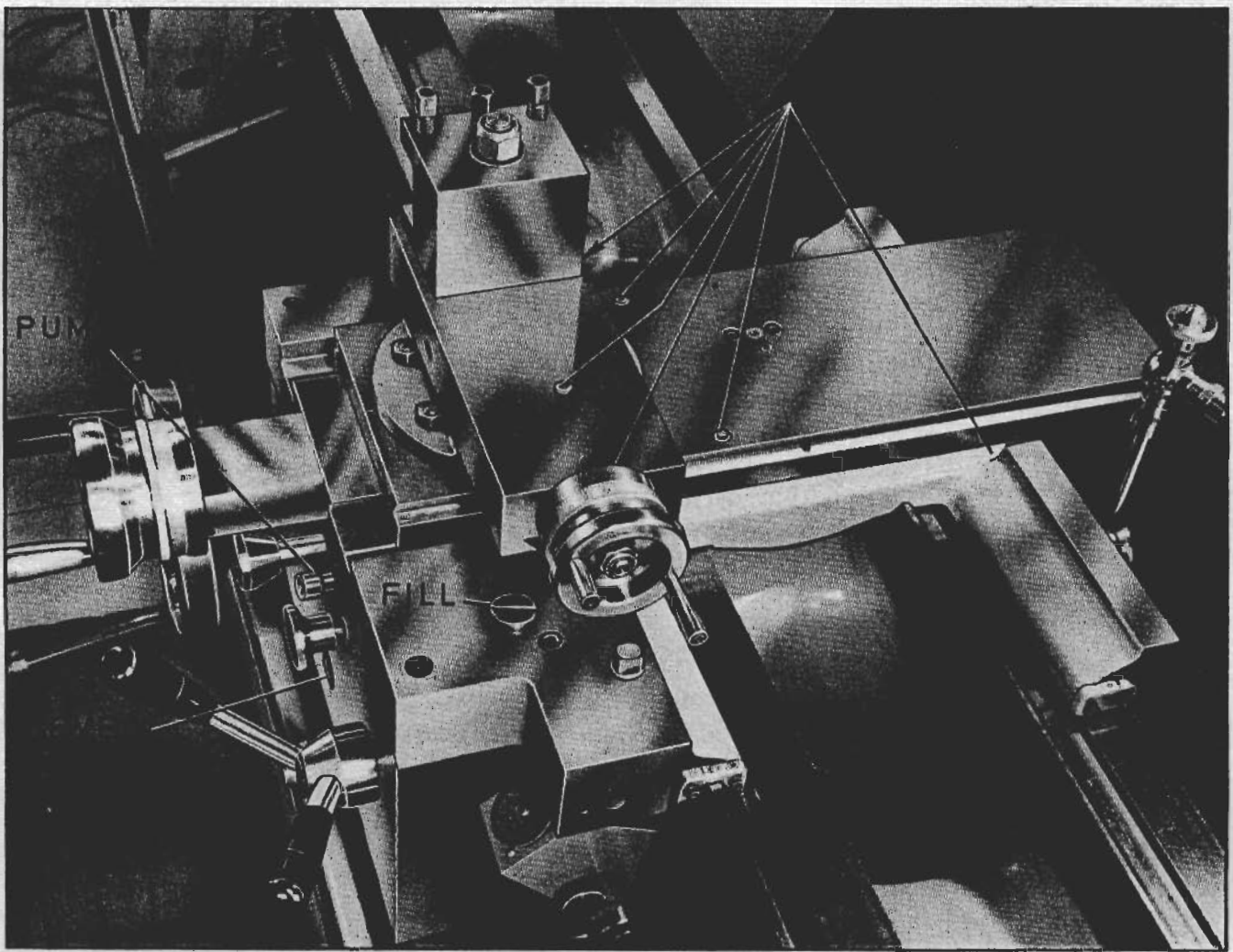


Fig. 25





GENERAL LUBRICATION

Fig. 26

Apron and slideways: A manually-operated, single-stroke lubricating pump is incorporated into the carriage saddle. Drawing oil from a reservoir in the apron, it enables the operator to ensure that slideways are kept adequately lubricated. We recommend that the pump is operated several times before commencing work and then occasionally throughout the work period.

This same reservoir lubricates all moving parts and gears within the apron; it is essential, therefore, that the oil level is kept constantly to the level shown on the sight window in the front face of the apron. Use only Shell Tonna Oil 33. A filler plug is provided in the top surface of the saddle. The apron can be drained by unscrewing a hex-headed drain plug in the bottom plate.

In addition to pump-fed lubrication, oiler points are provided for the saddle, cross-slide, cross-slide nut and top-slide (compound slide) screw using a standard pump-type can with light machine oil or way lubricant, see Fig. 26.

On the tailstock, oiler points are provided for daily attention from a standard oil can.

It is recommended that all slideways, the lead-screw and feed shaft are cleaned off (a bristle paint brush is useful for this) and lightly oiled after each period of work.

SLIDEWAYS ATTENTION

Tapered gib strips are fitted to slideways of saddle cross-slide and top (compound) slides so that any slackness which may develop can be rectified.

Ensure that slideways are thoroughly cleaned and lubricated before attempting adjustment. Then reset the gibs by slackening the rear gib screw and tightening the front screw, a little at a time. Check constantly for smooth action throughout full slide travel; avoid over-adjustment which can result in increased wear-rate and stiff or jerky action.

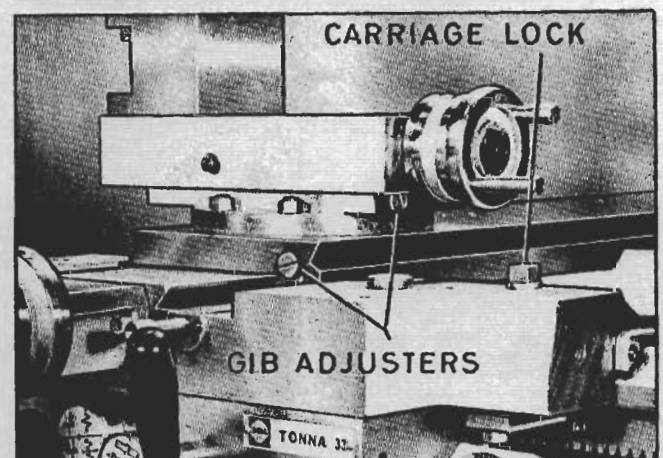
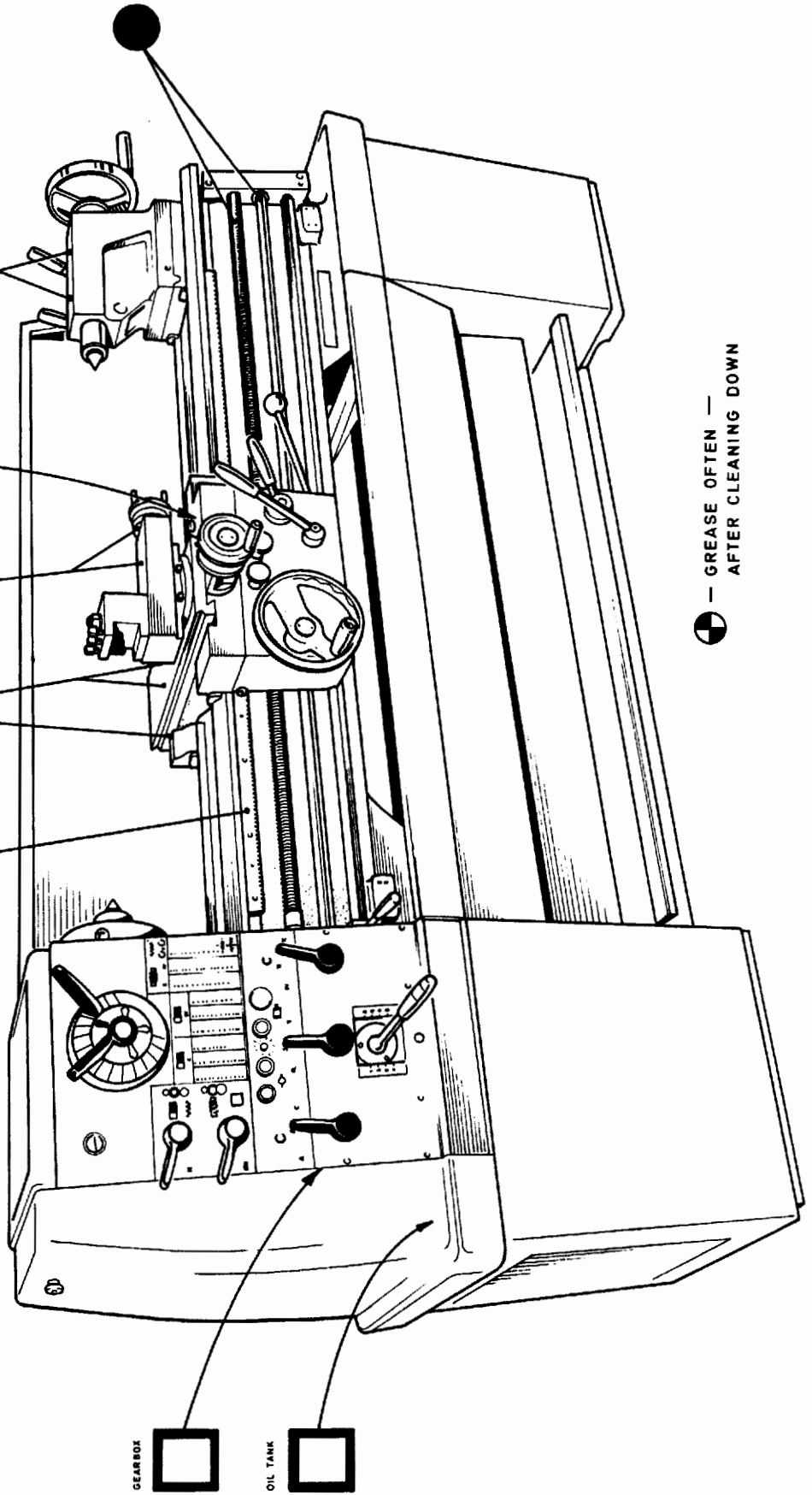


Fig. 27

LUBRICATION CHART

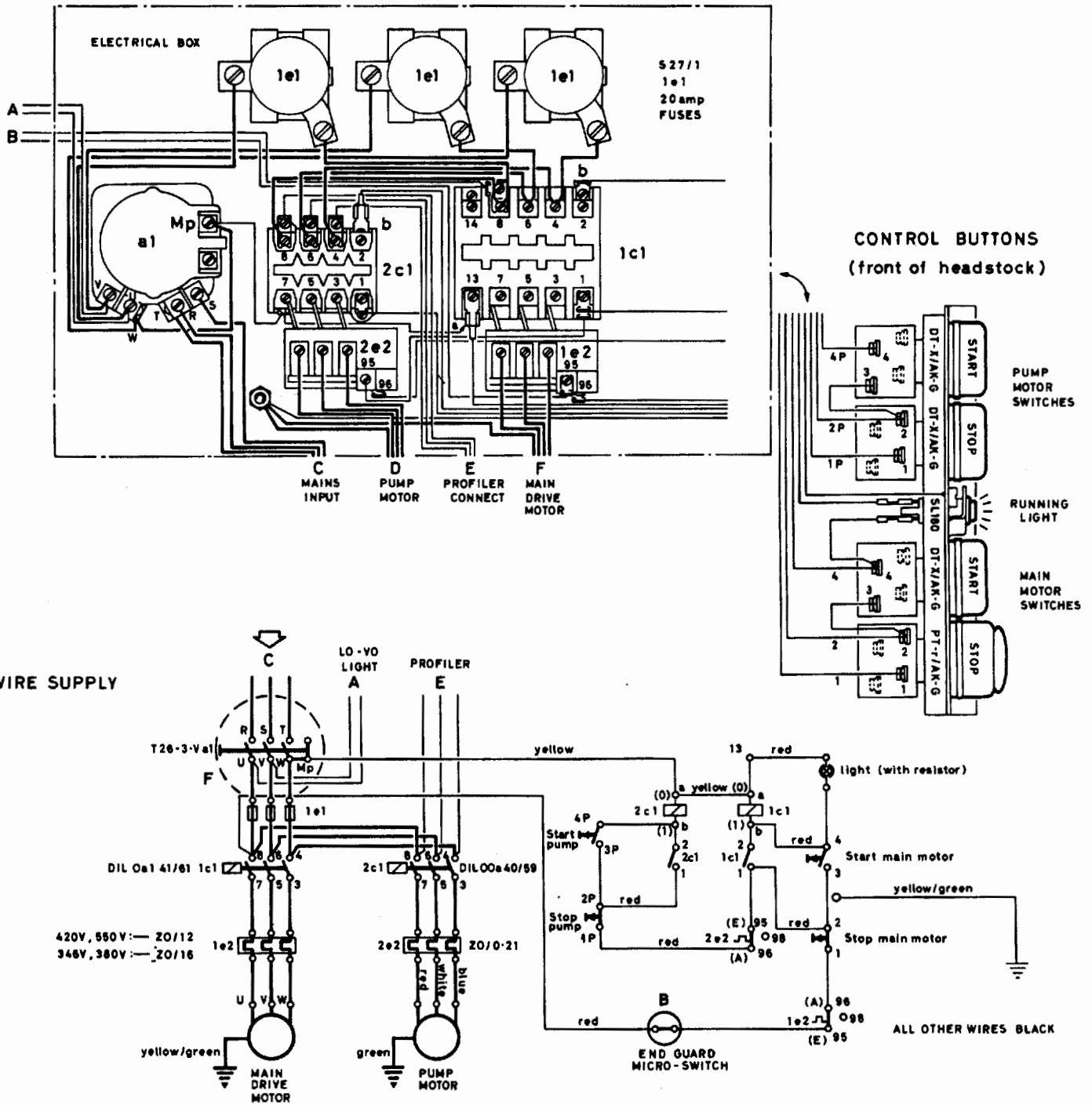
- — OIL EVERY WEEK
- — TOP-UP EVERY WEEK
- — OIL EVERY DAY



*

WIRING DIAGRAM FOR 346, 380 , 420, 550 VOLTS CIRCUIT — control circuit wired phase-to-phase

* Note:- 380V circuit wired as this diagram only when supply has no neutral wire available.



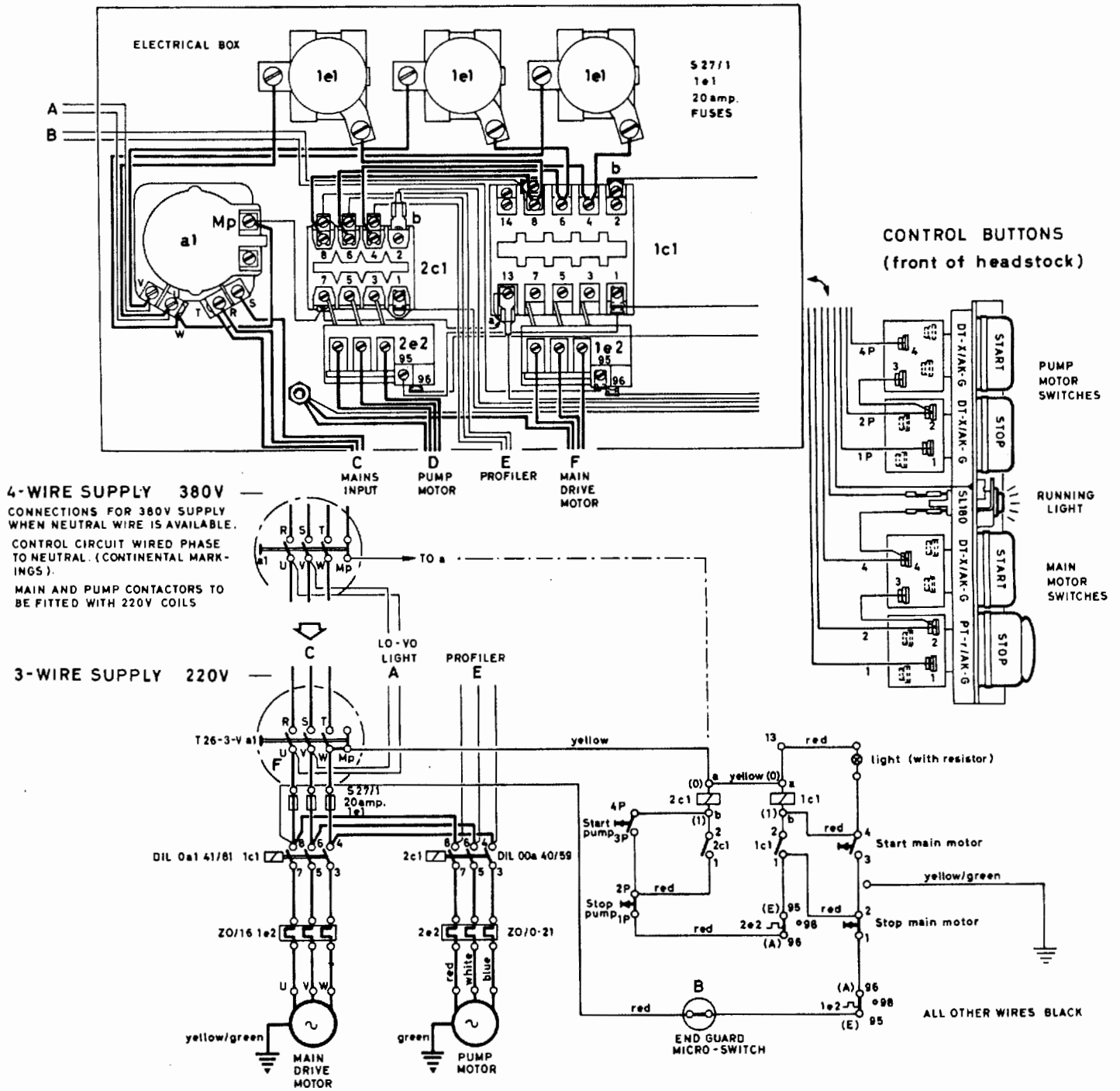
MAIN MOTOR

A.E.I. 7.5 h.p. 3-phase 220-240/360-420 volts or 500-550 volts
 1430 rev/min (50 c/s) or 1730 rev/min (60 c/s).
 40% D.A.B. (V.D.E.) rating. Suitable for frequent reversing.
 Drip-proof, screen protected.

**Standard TRIUMPH 2000 lathe
 (with optional extras)**

WIRING DIAGRAM FOR 220VOLTS CIRCUIT
 WIRING DIAGRAM FOR 380VOLTS CIRCUIT

control circuit wired phase-to-phase.
 control circuit wired phase-to-neutral.



4-WIRE SUPPLY 380V
 CONNECTIONS FOR 380V SUPPLY WHEN NEUTRAL WIRE IS AVAILABLE. CONTROL CIRCUIT WIRED PHASE TO NEUTRAL. (CONTINENTAL MARKINGS). MAIN AND PUMP CONTACTORS TO BE FITTED WITH 220V COILS

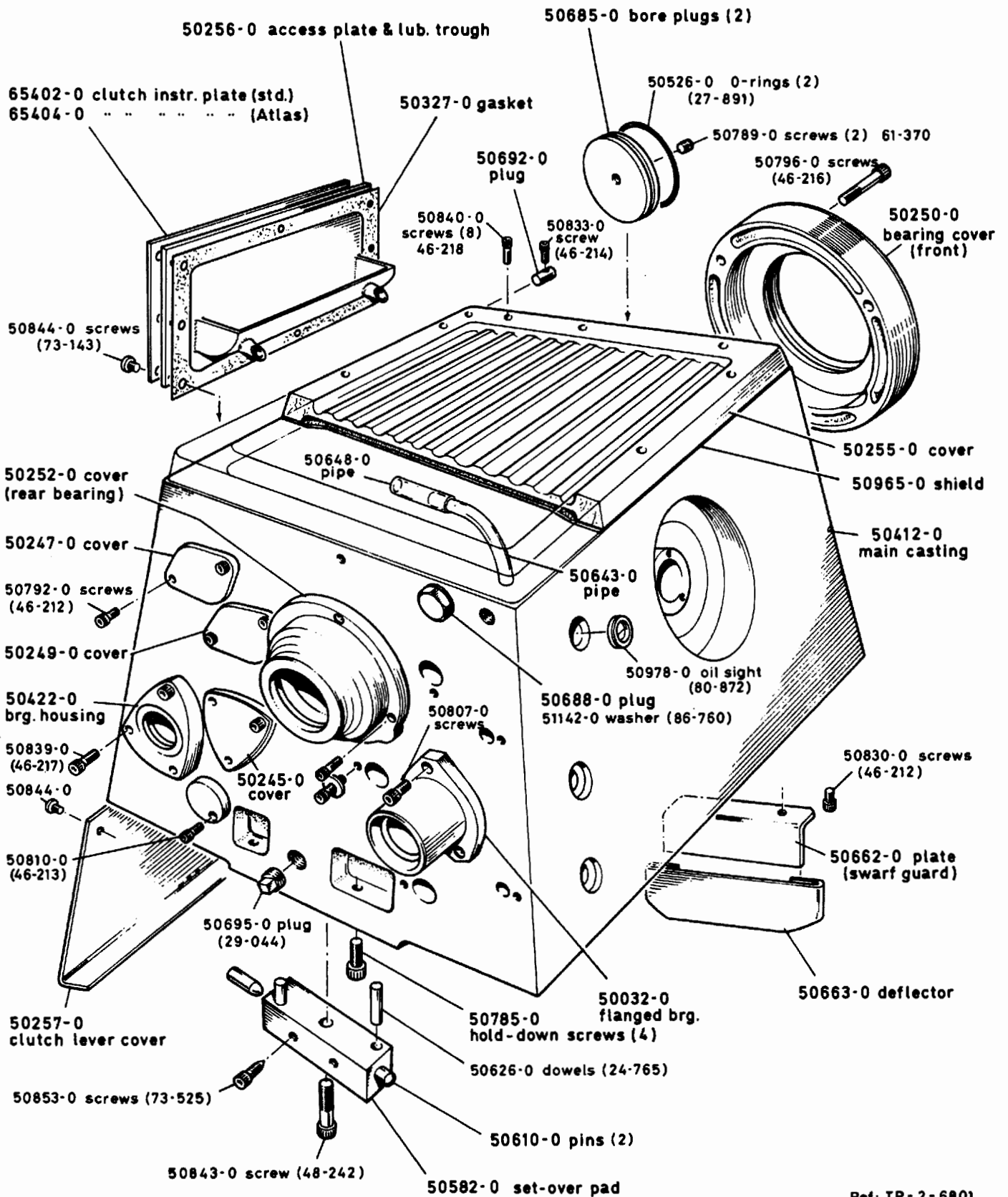
3-WIRE SUPPLY 220V

CONTINENTAL
 Standard TRIUMPH 2000 lathe.
 (with optional extras)

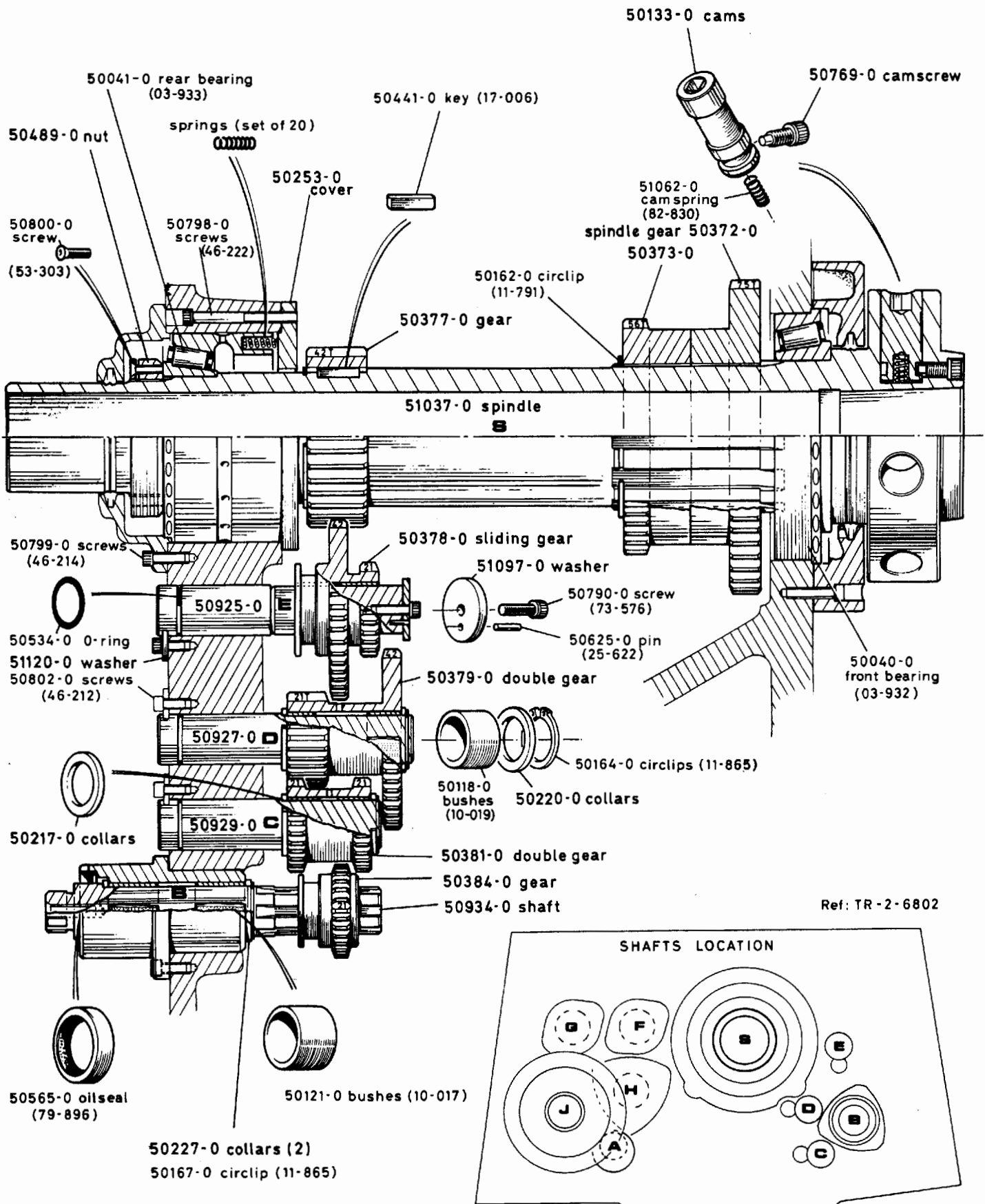
MAIN MOTOR
 A.E.I. 7.5hp. 3-phase 50 cycles for 220-240/380-420V. 40% D.A.B. (V.D.E.) rating. Suitable for frequent reversing. Drip-proof, screen protected. 1430 rev/min. Frame size D112M.

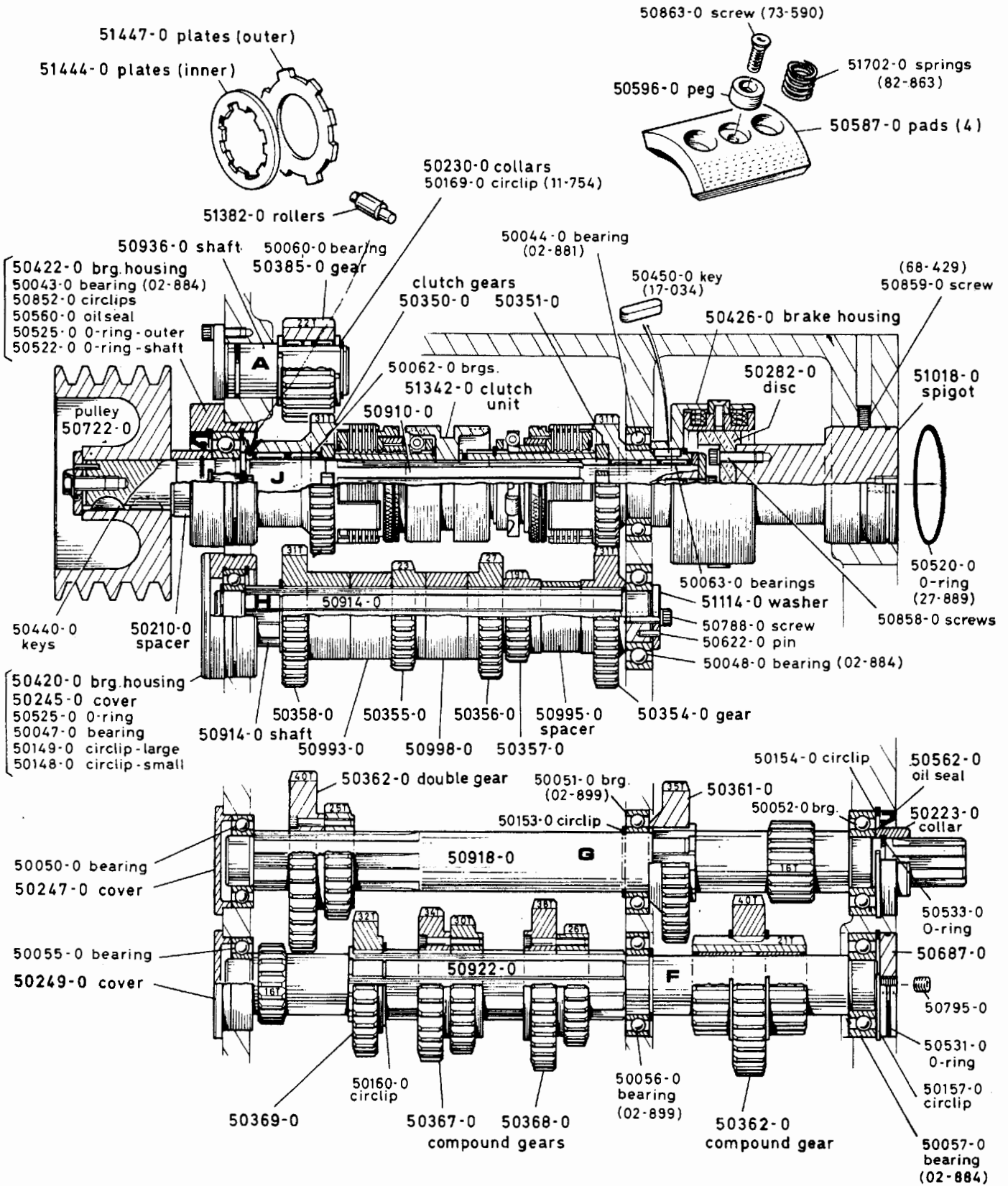
SPARE PARTS SECTION

When ordering spares for your Colchester Lathe, it is essential to quote the Serial Number, stamped on the bed at the tailstock end. This will ensure rapid service.

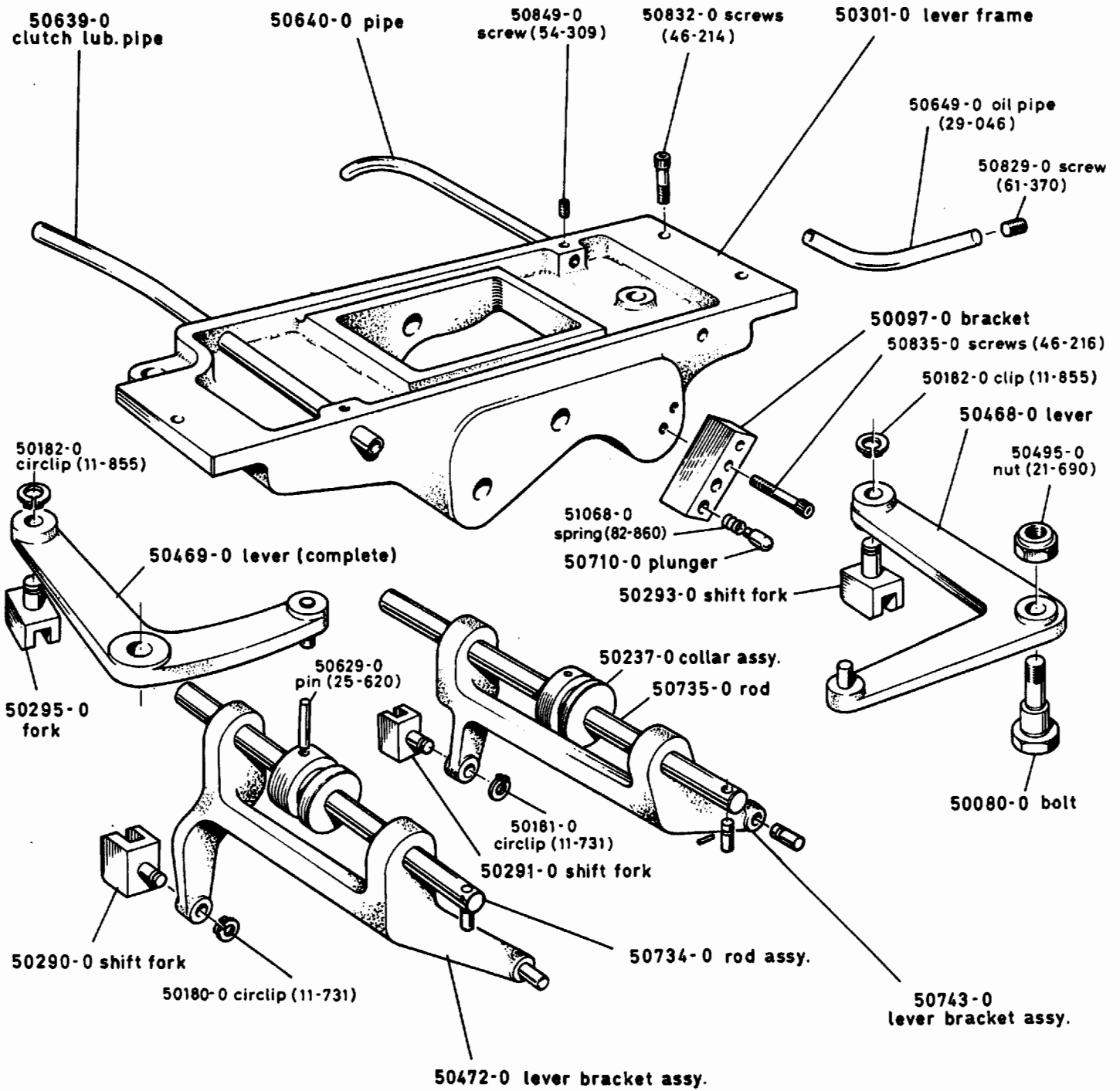


Ref: TR-2-6801

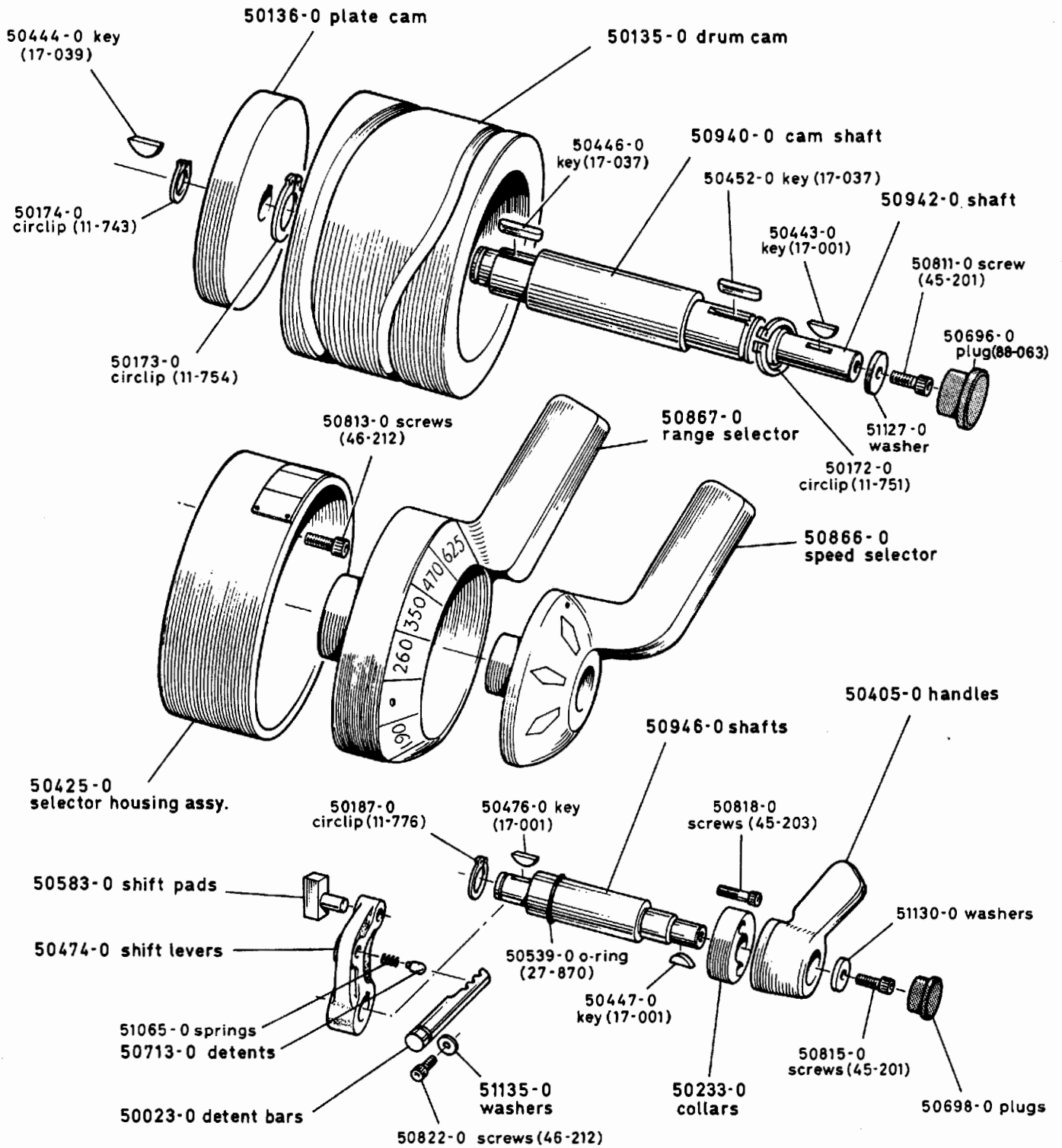




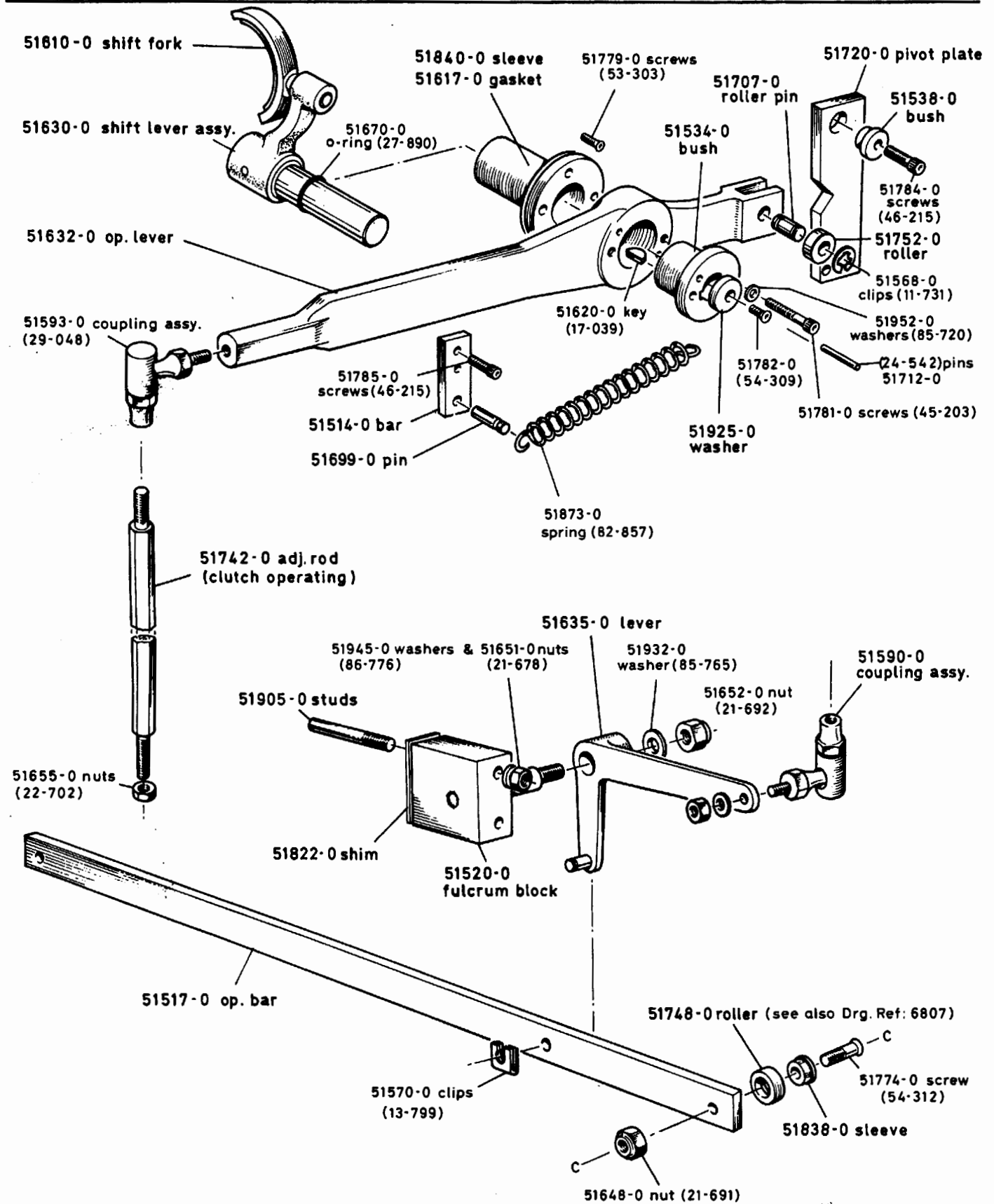
Ref: TR-2-6803



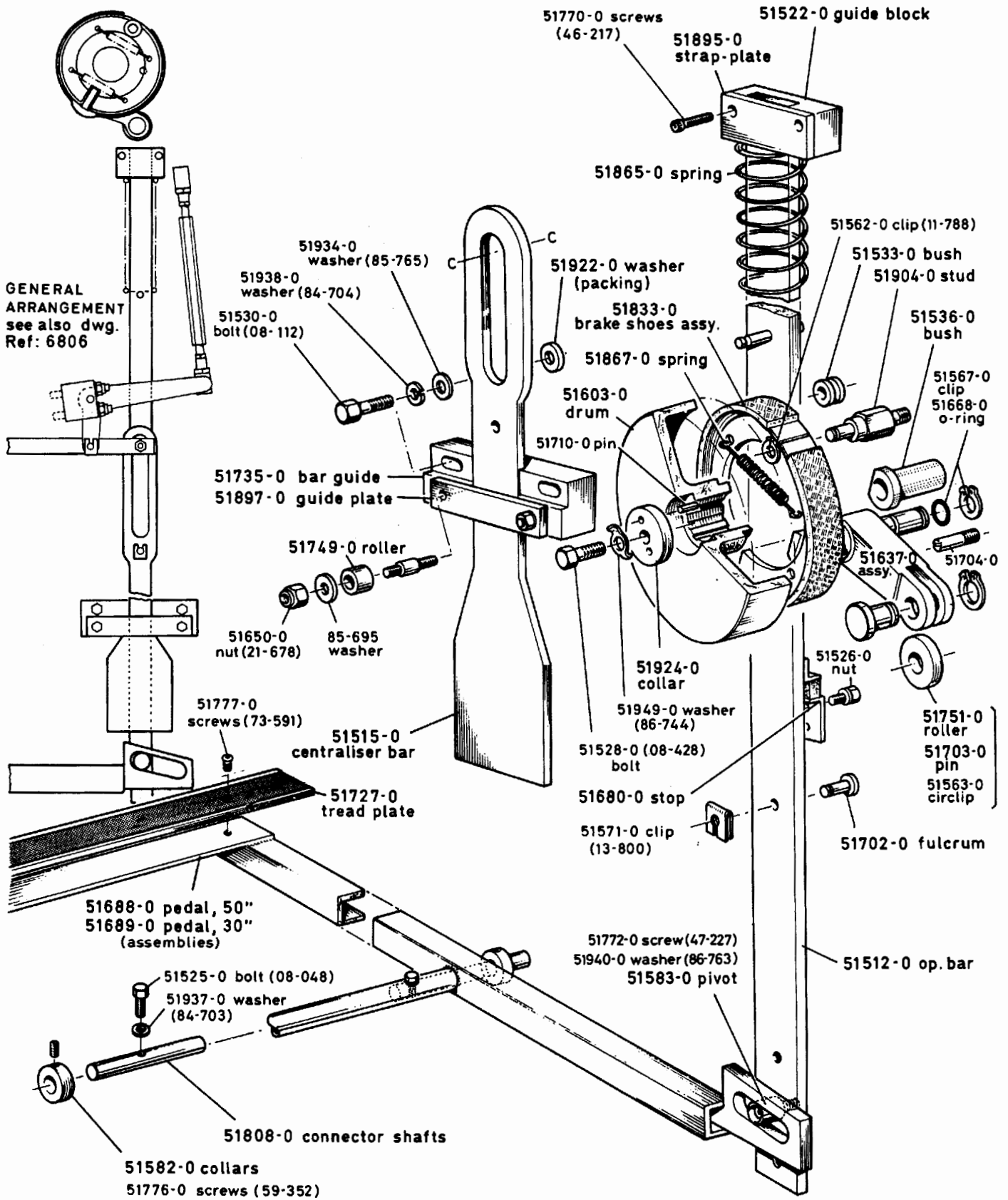
REF: TR-2-6804



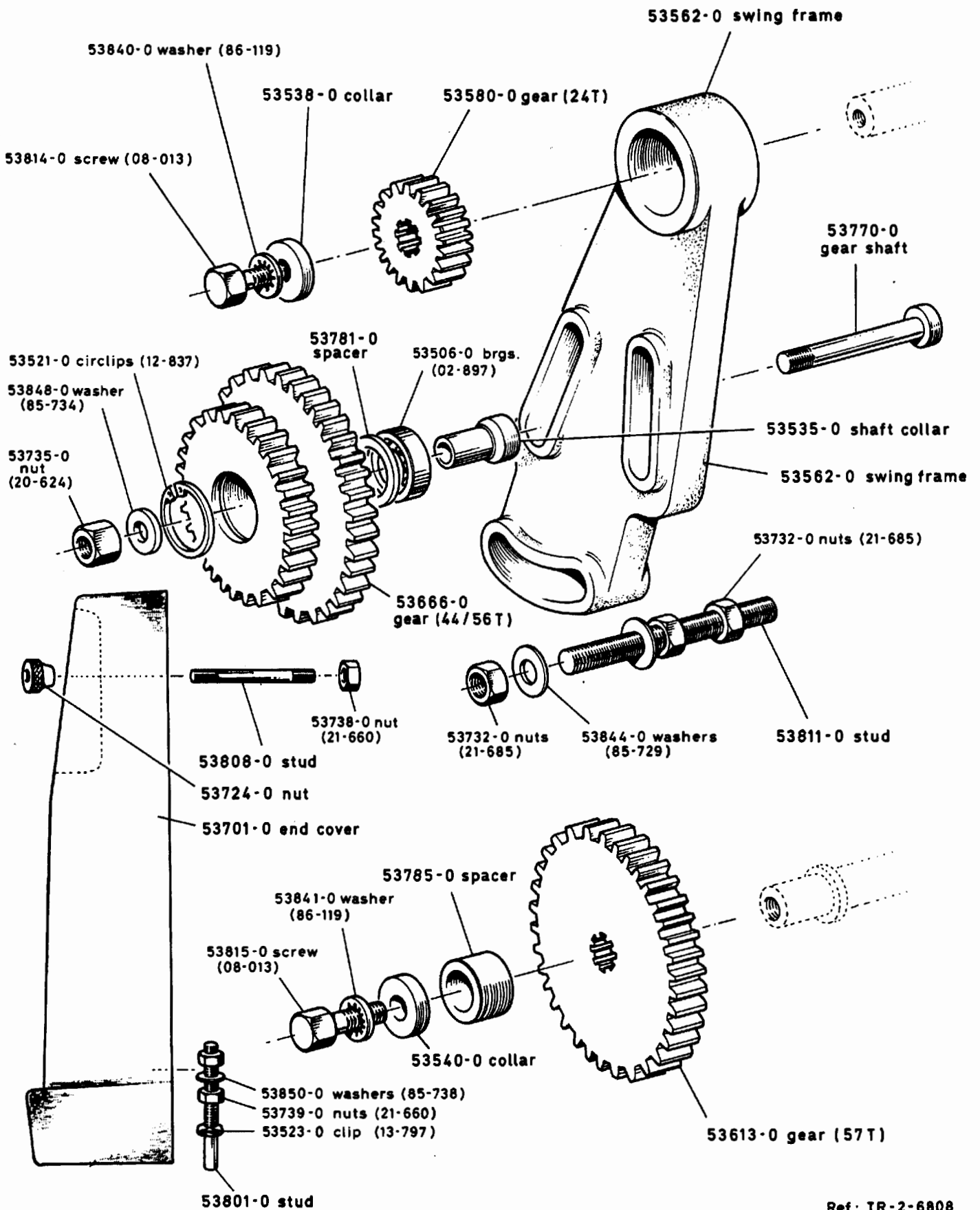
Ref: TR-2-6805

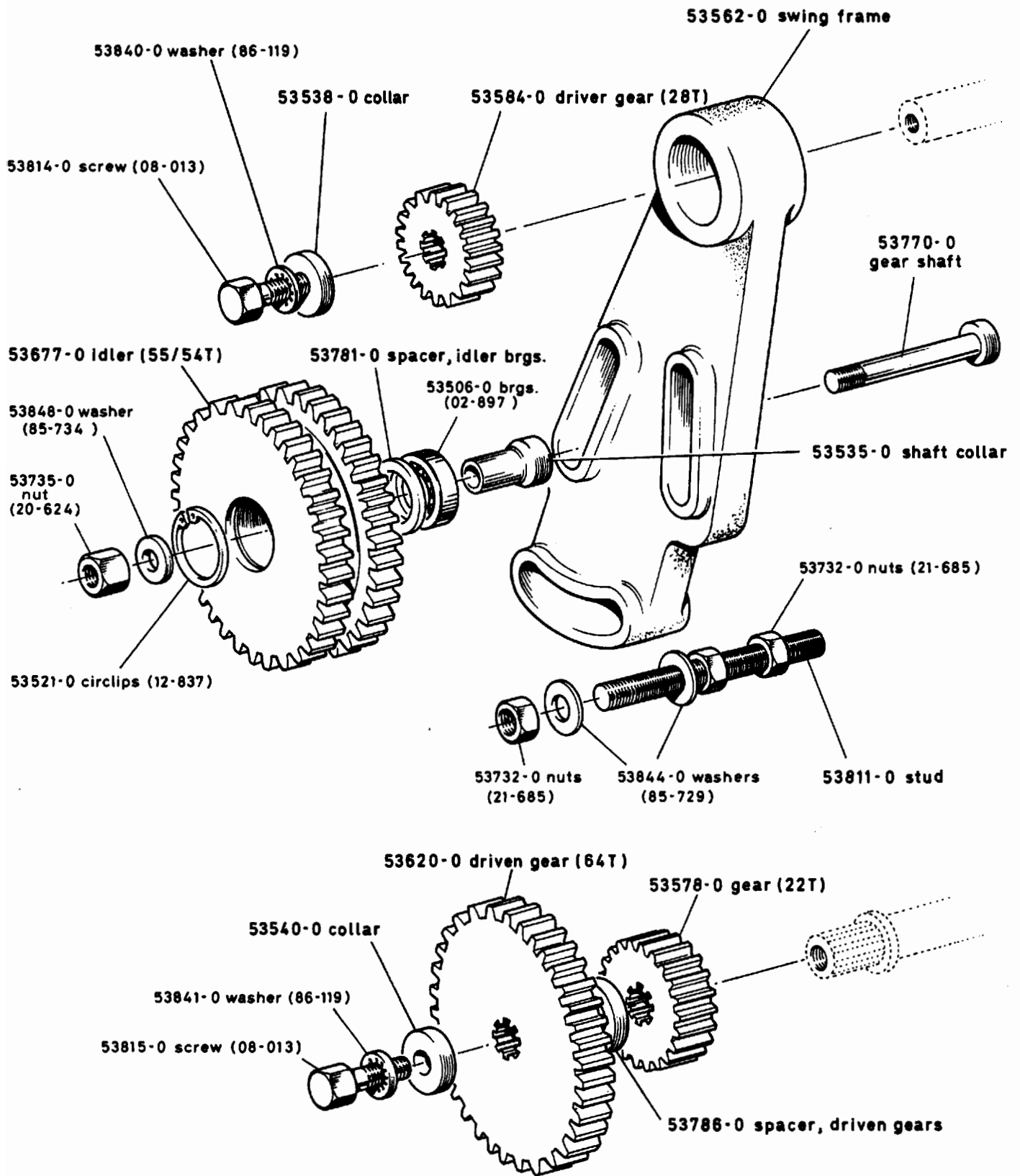


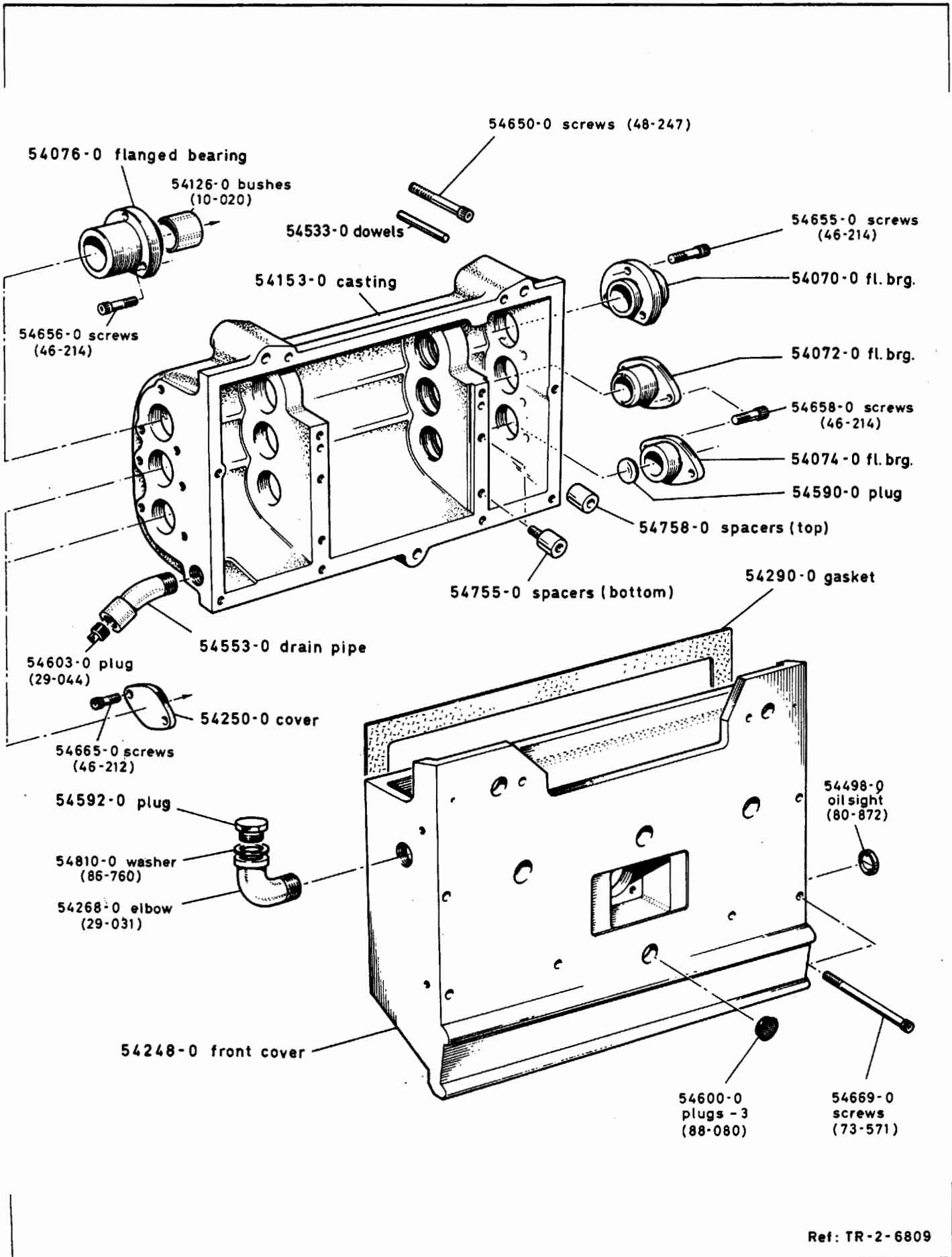
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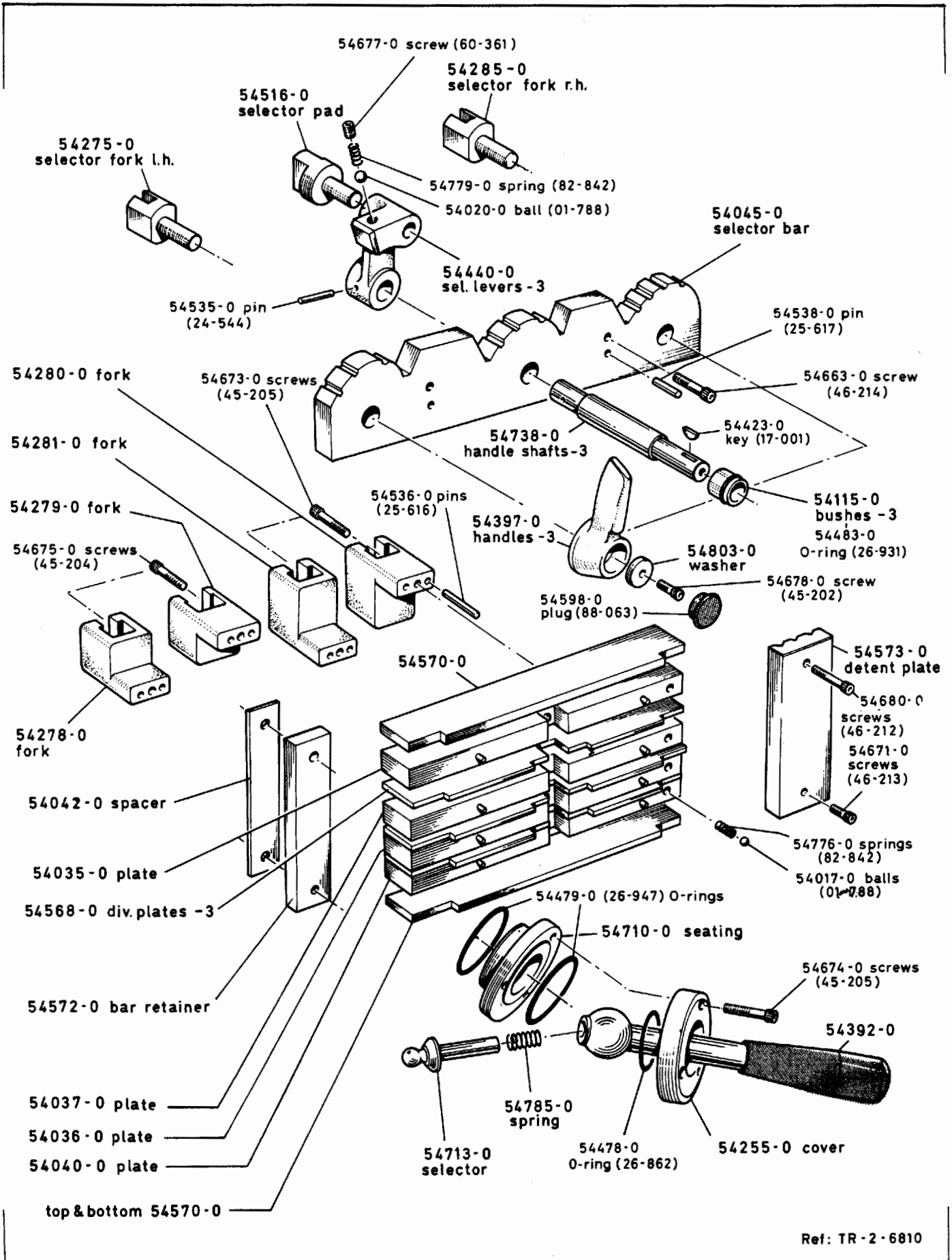
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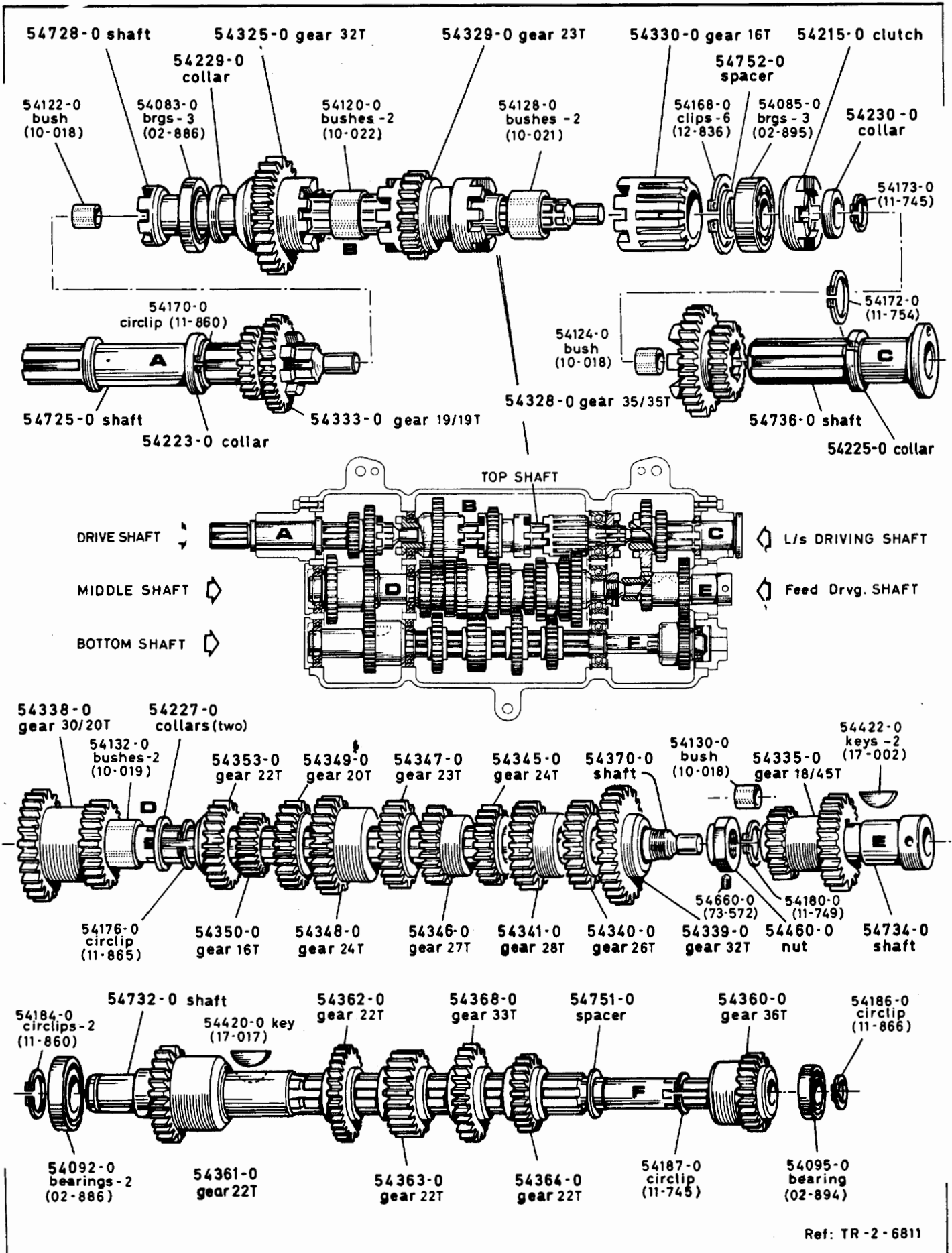




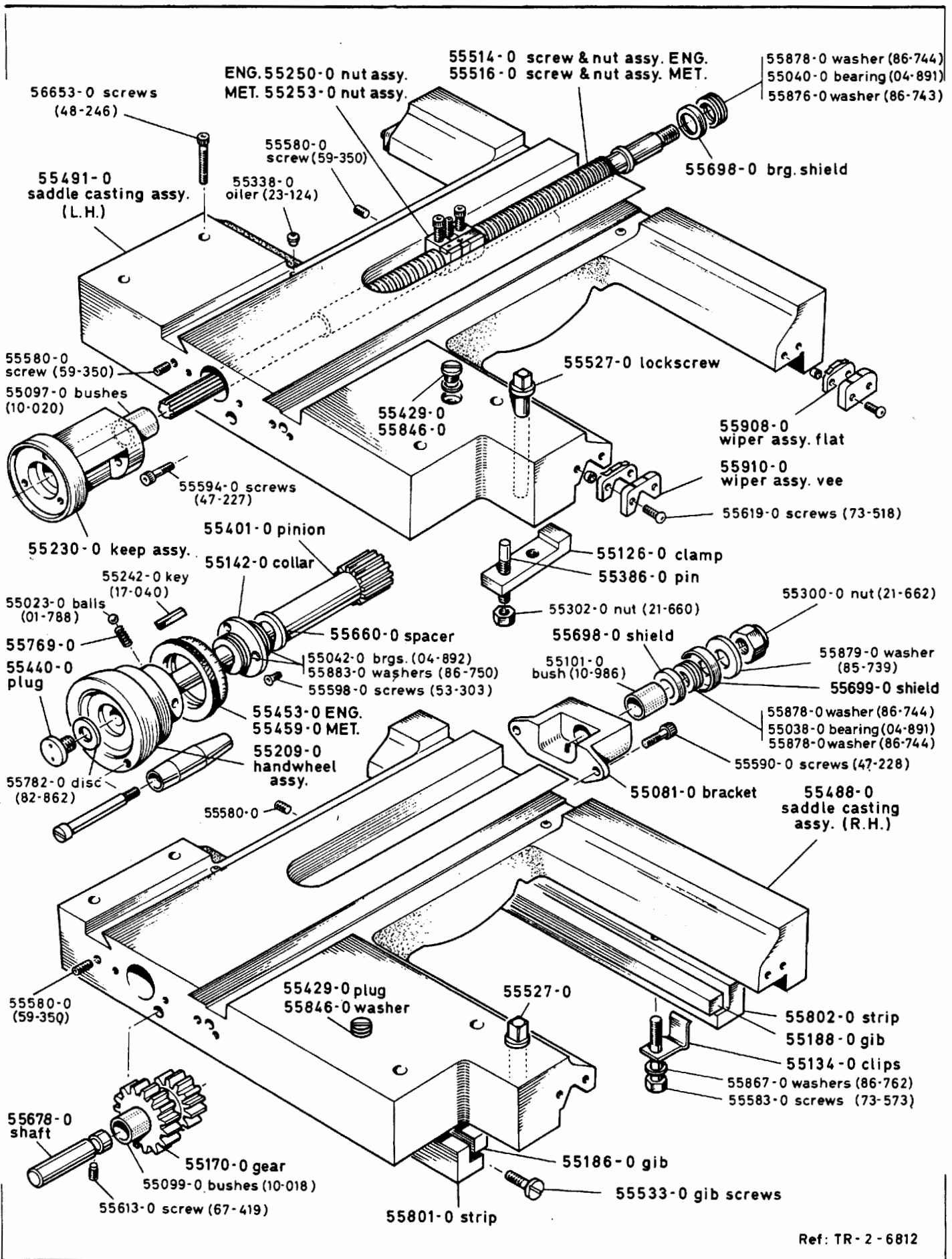
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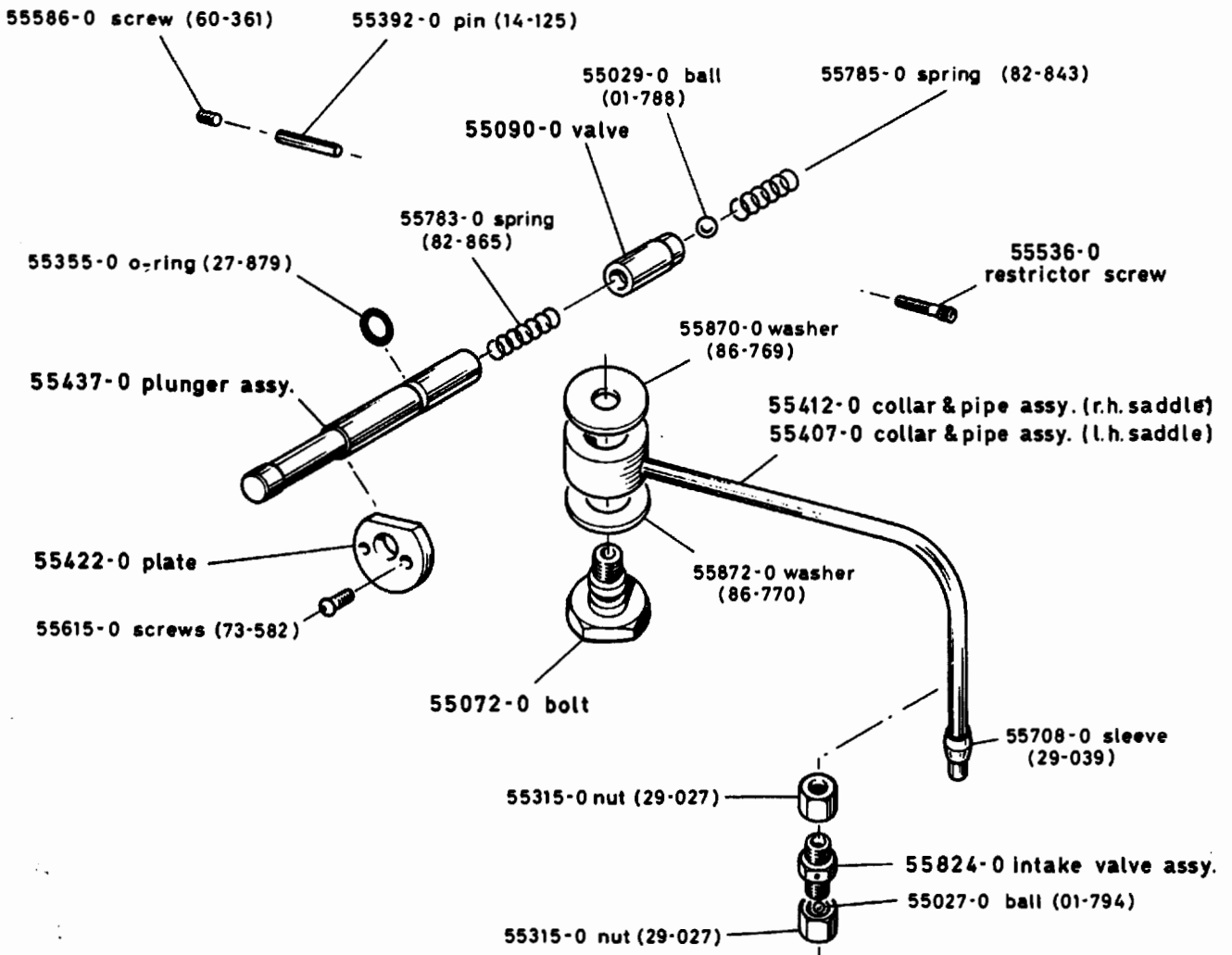
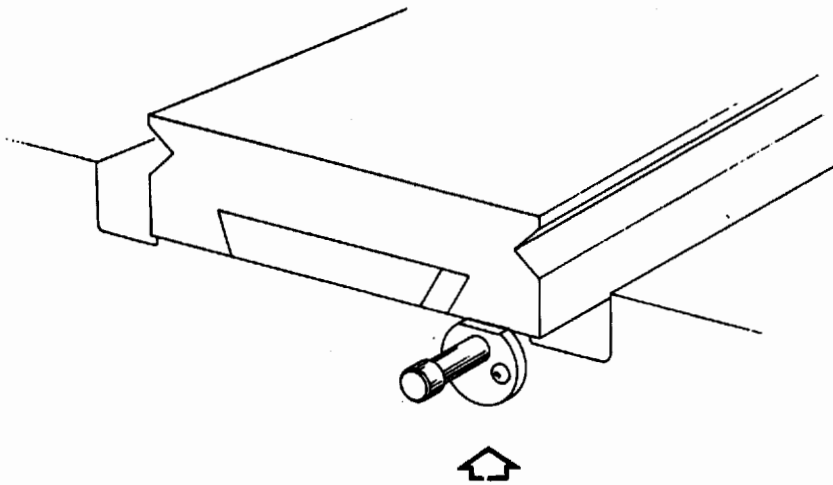


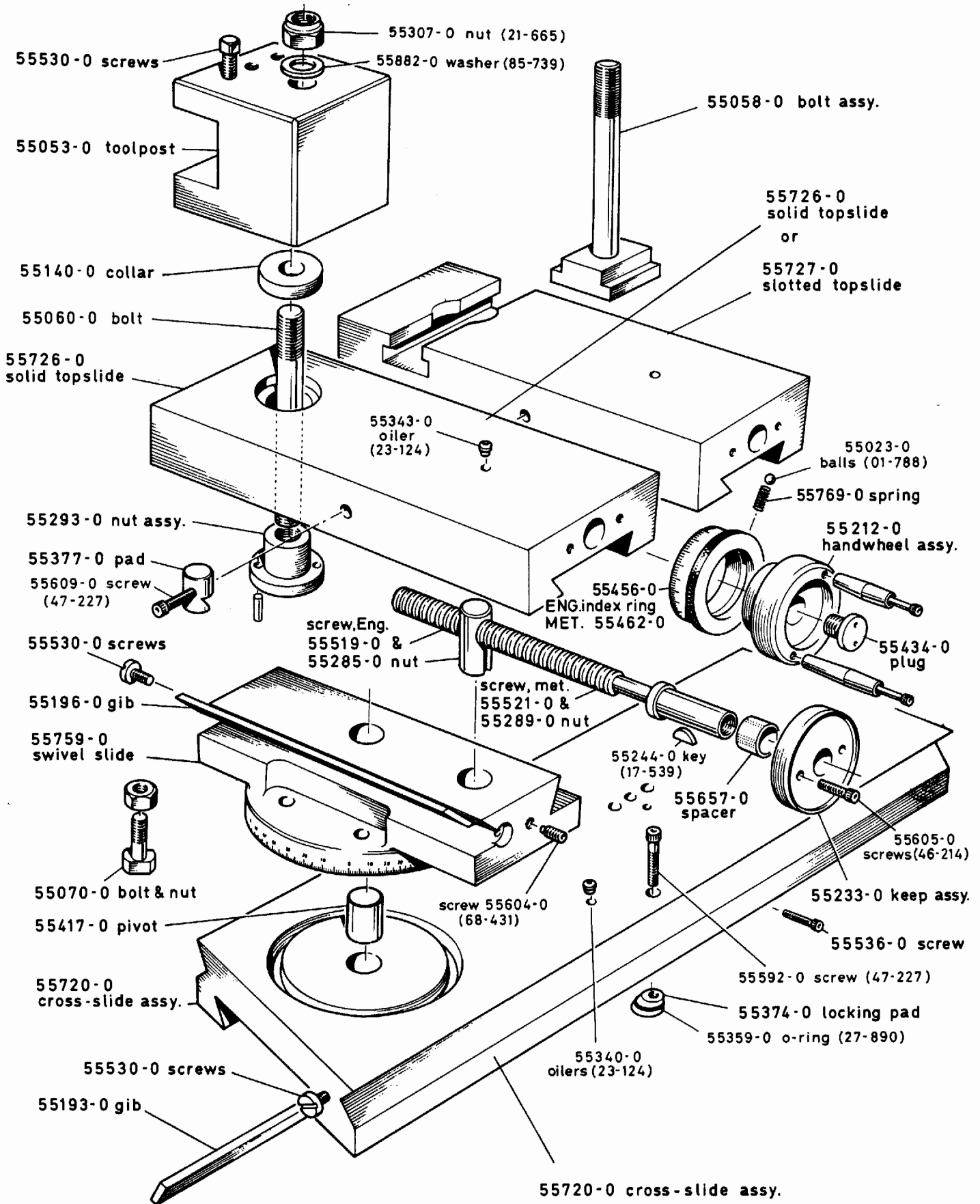
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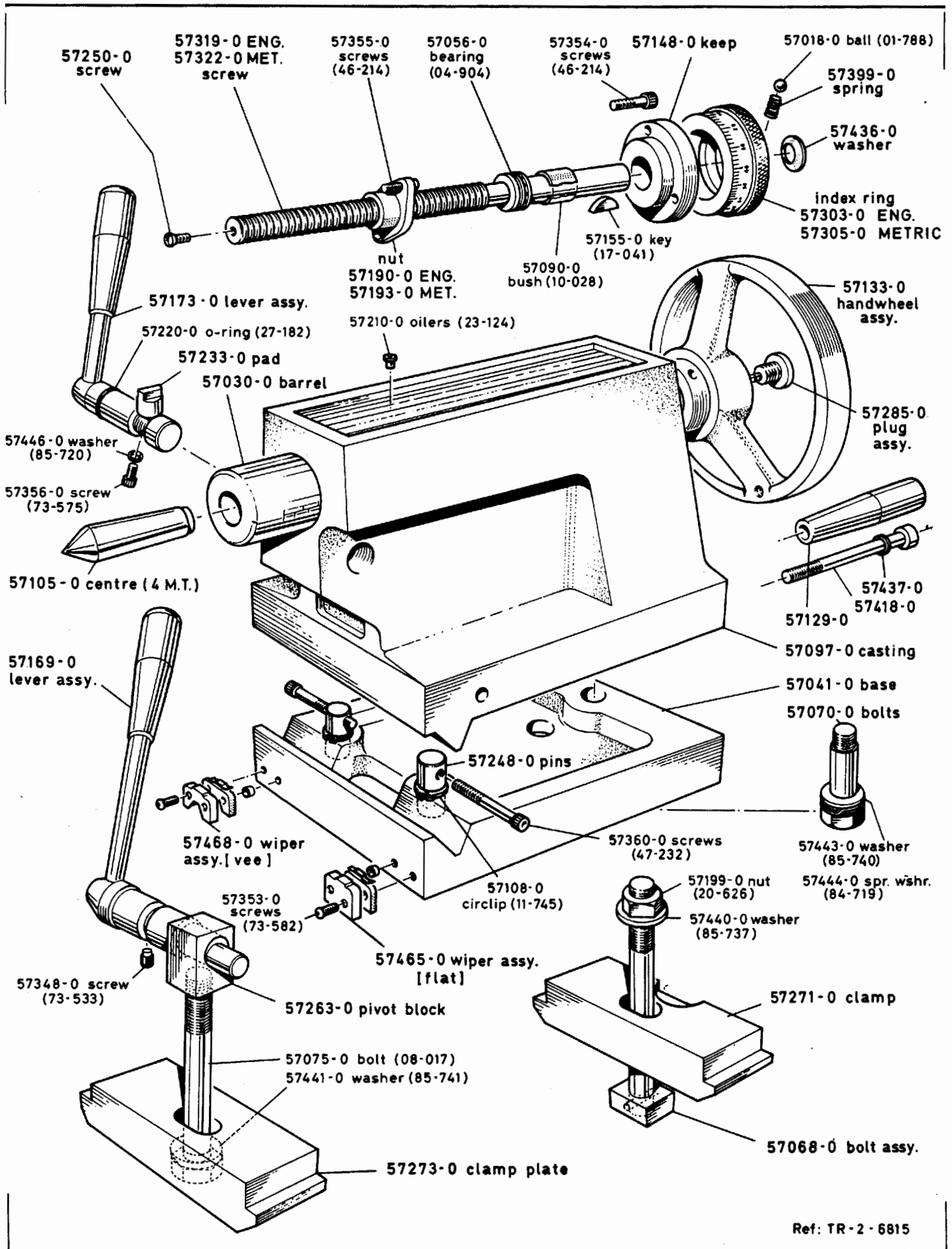


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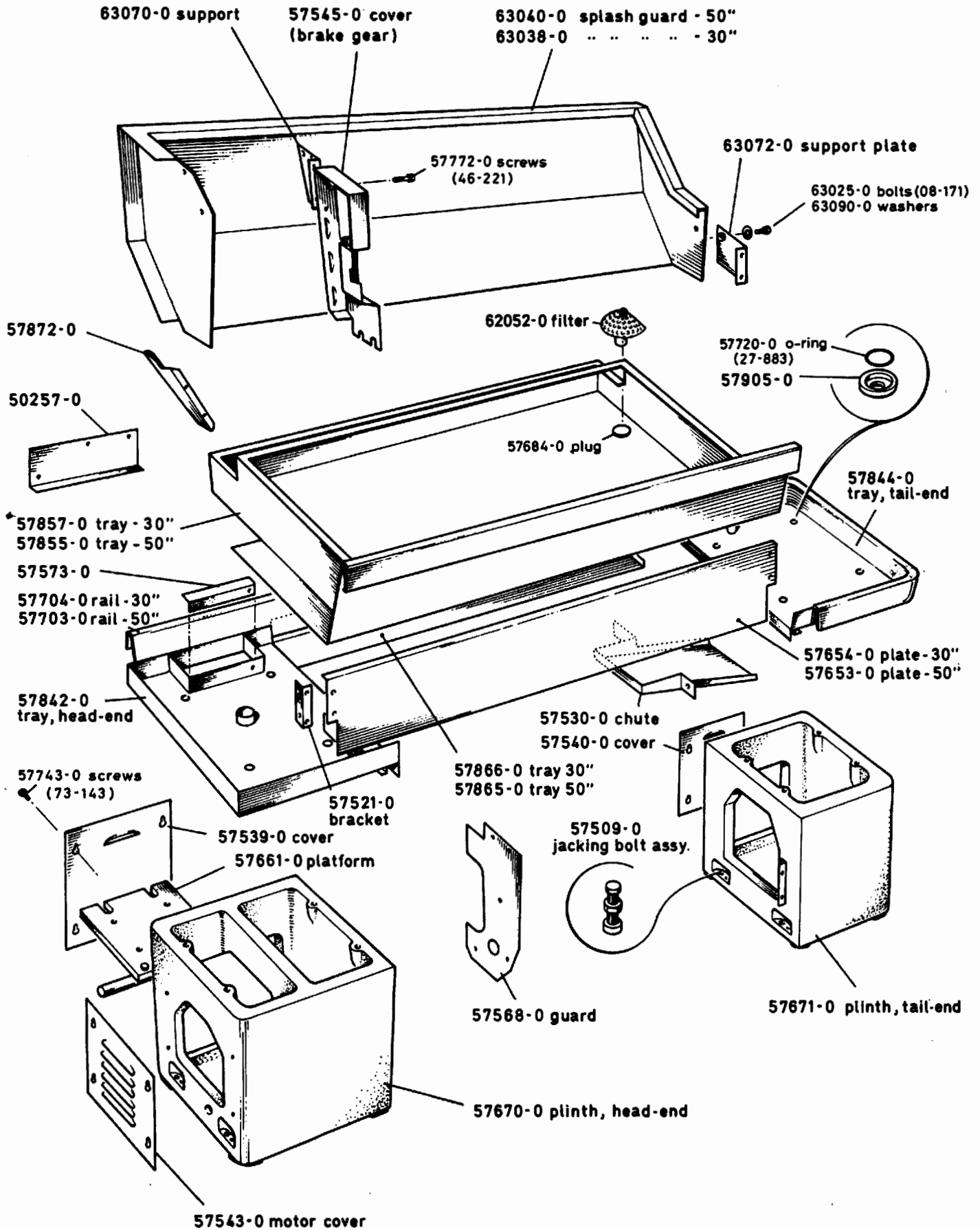




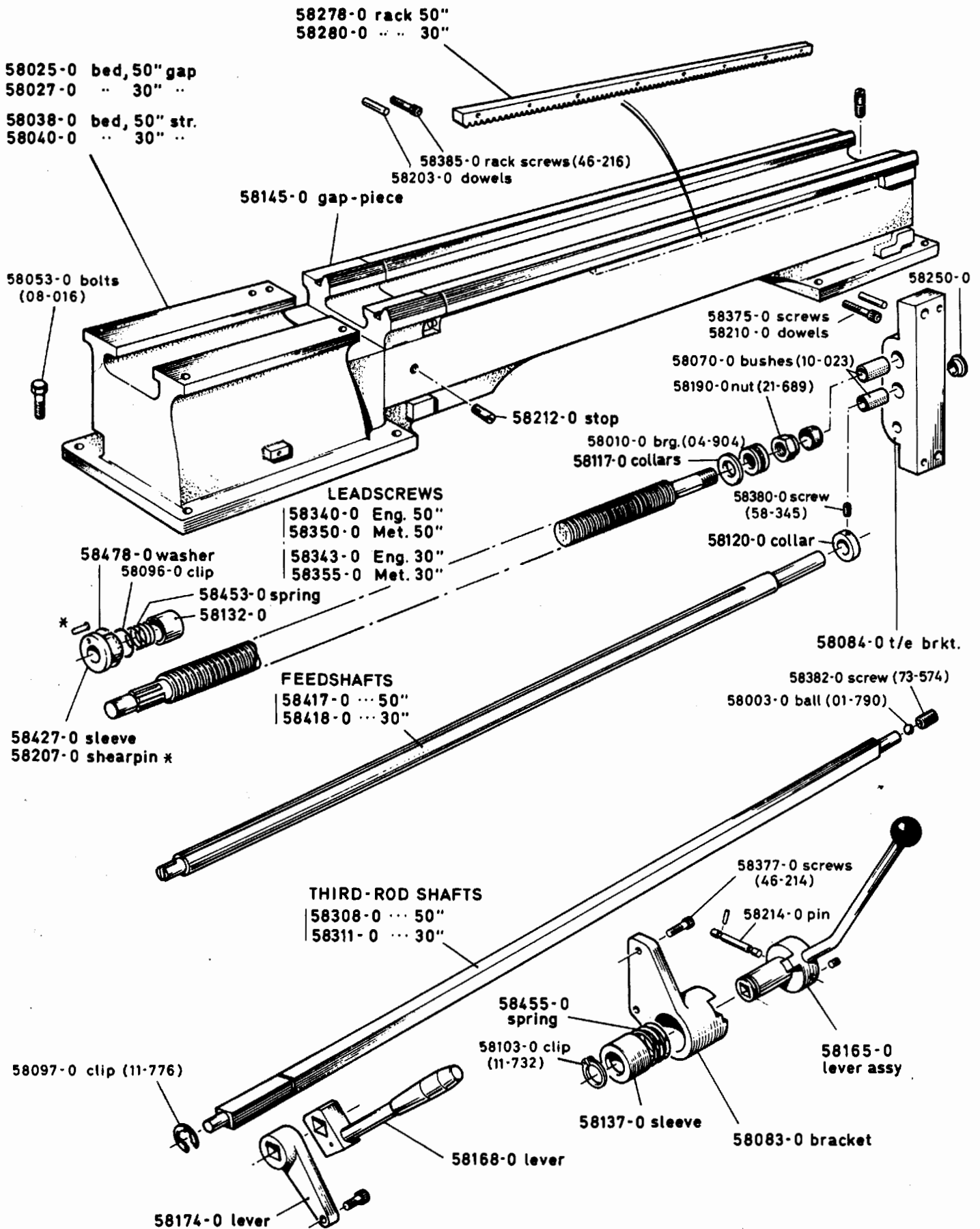




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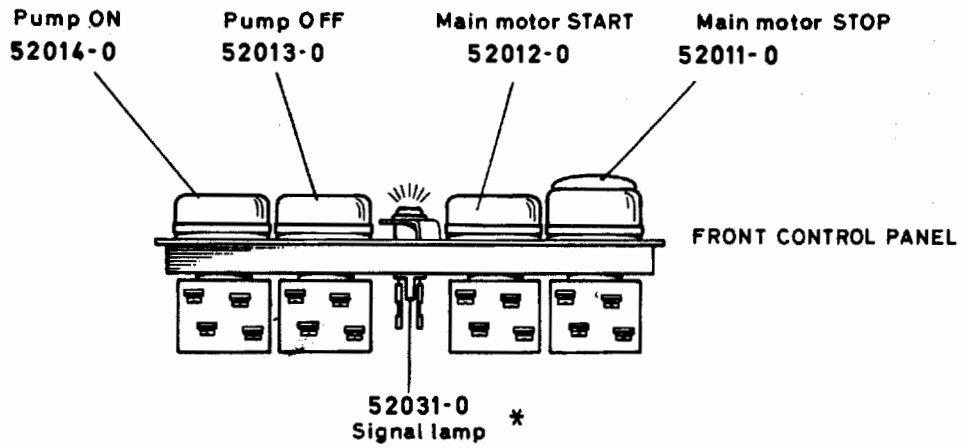


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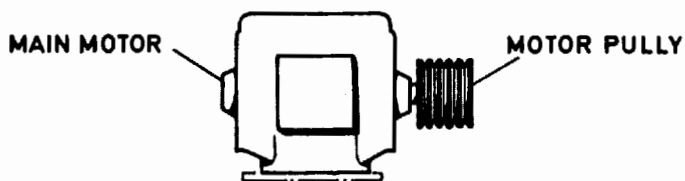
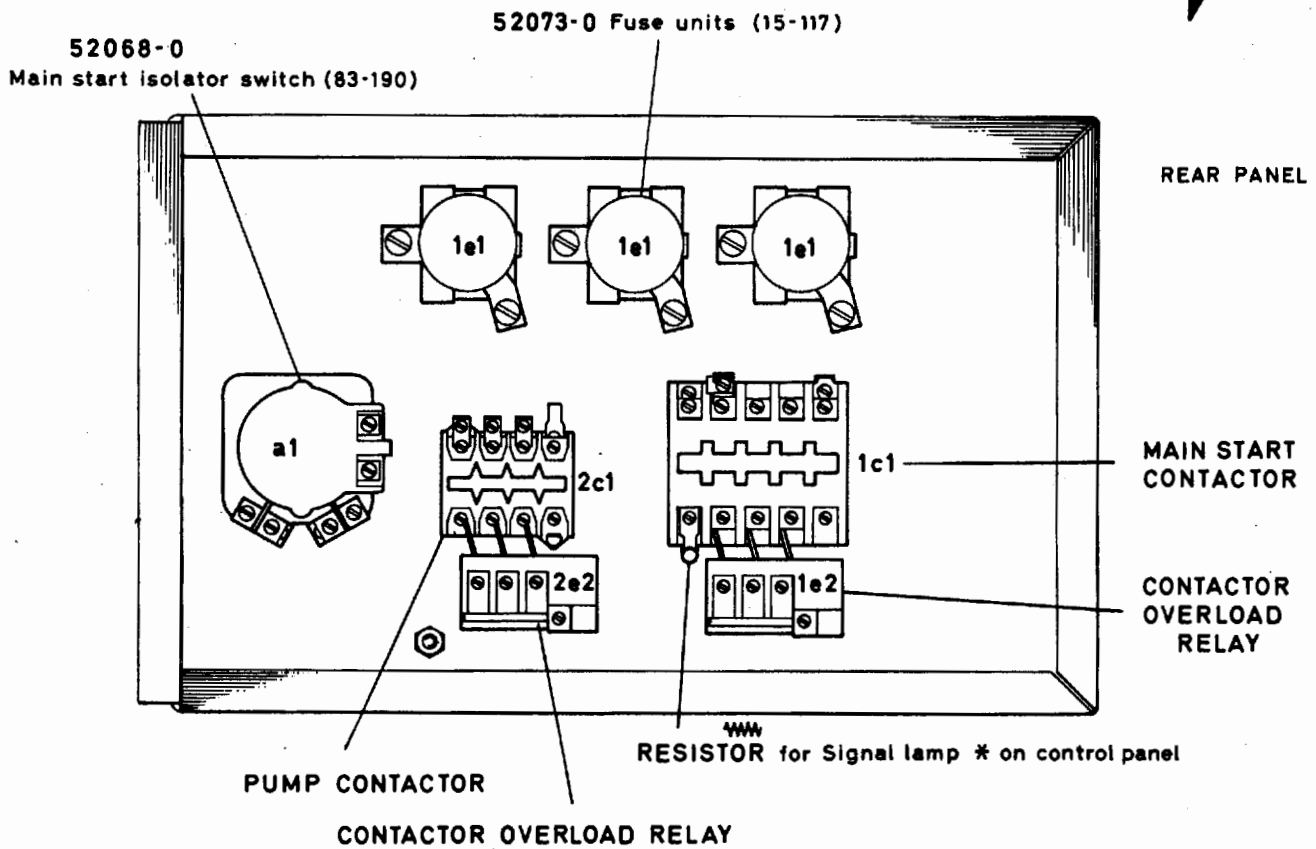
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WIRING DIAGRAM

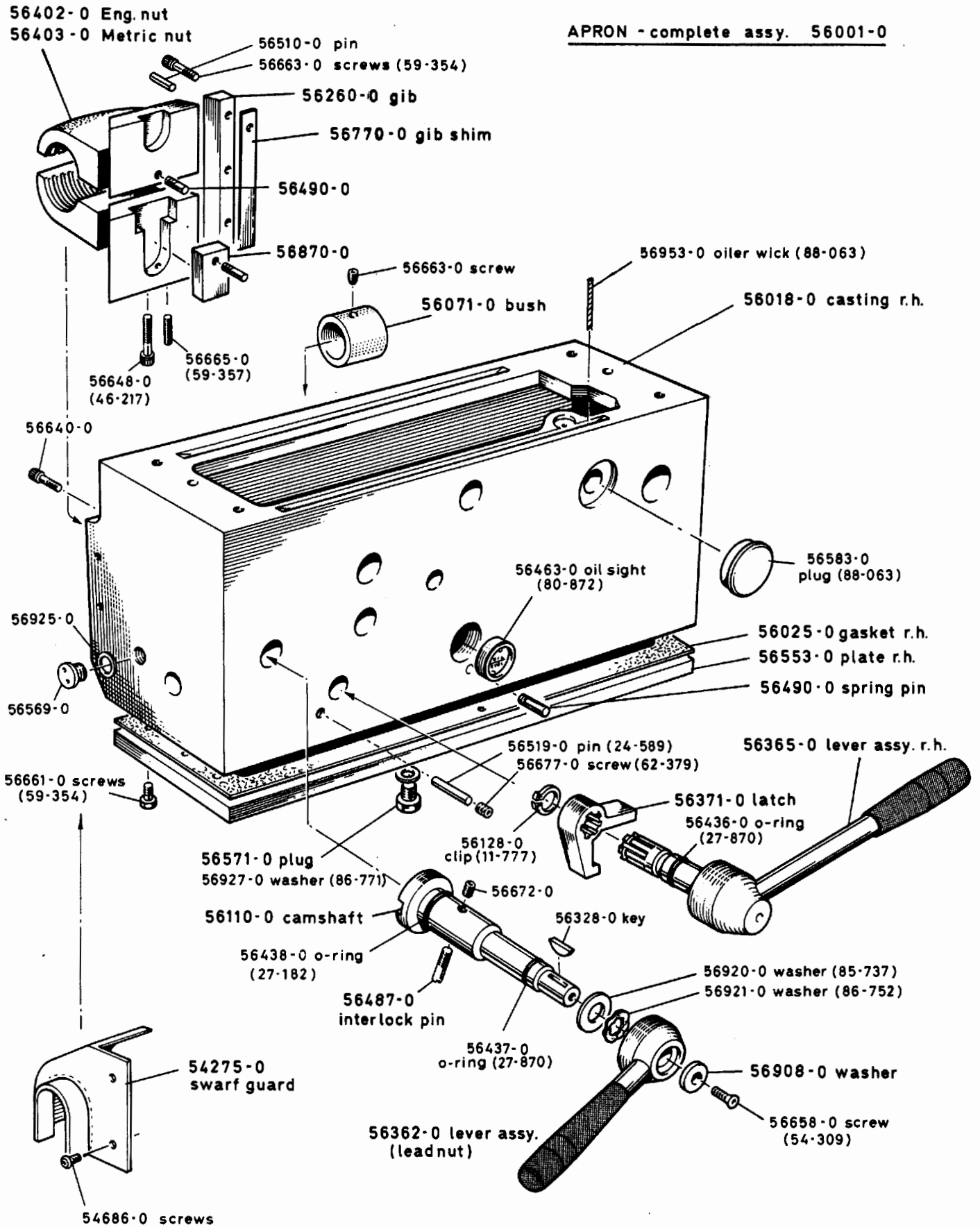


STATE MACHINE SUPPLY VOLTAGE

WHEN ORDERING ELECTRICAL PARTS

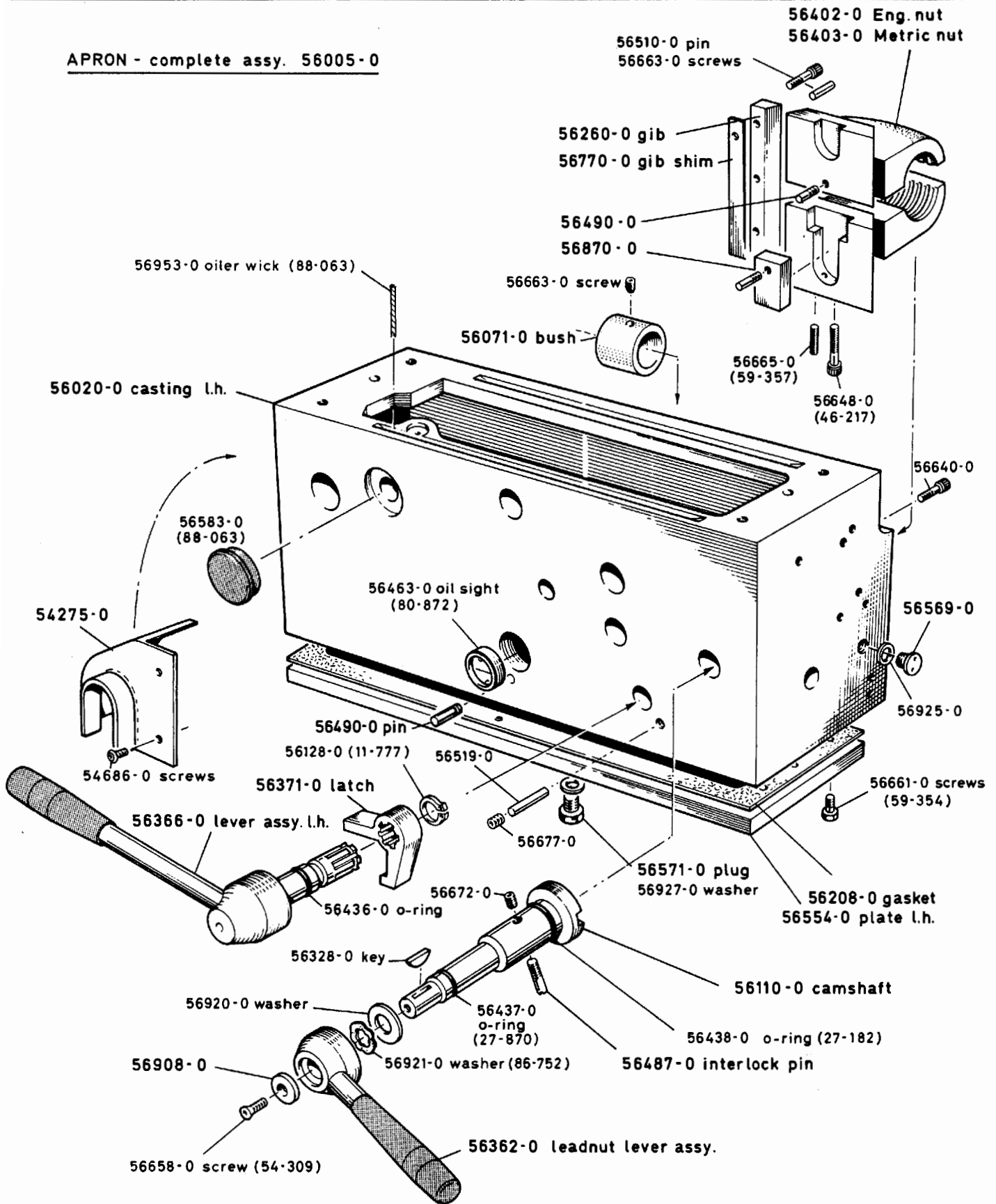


APRON - complete assy. 56001-0

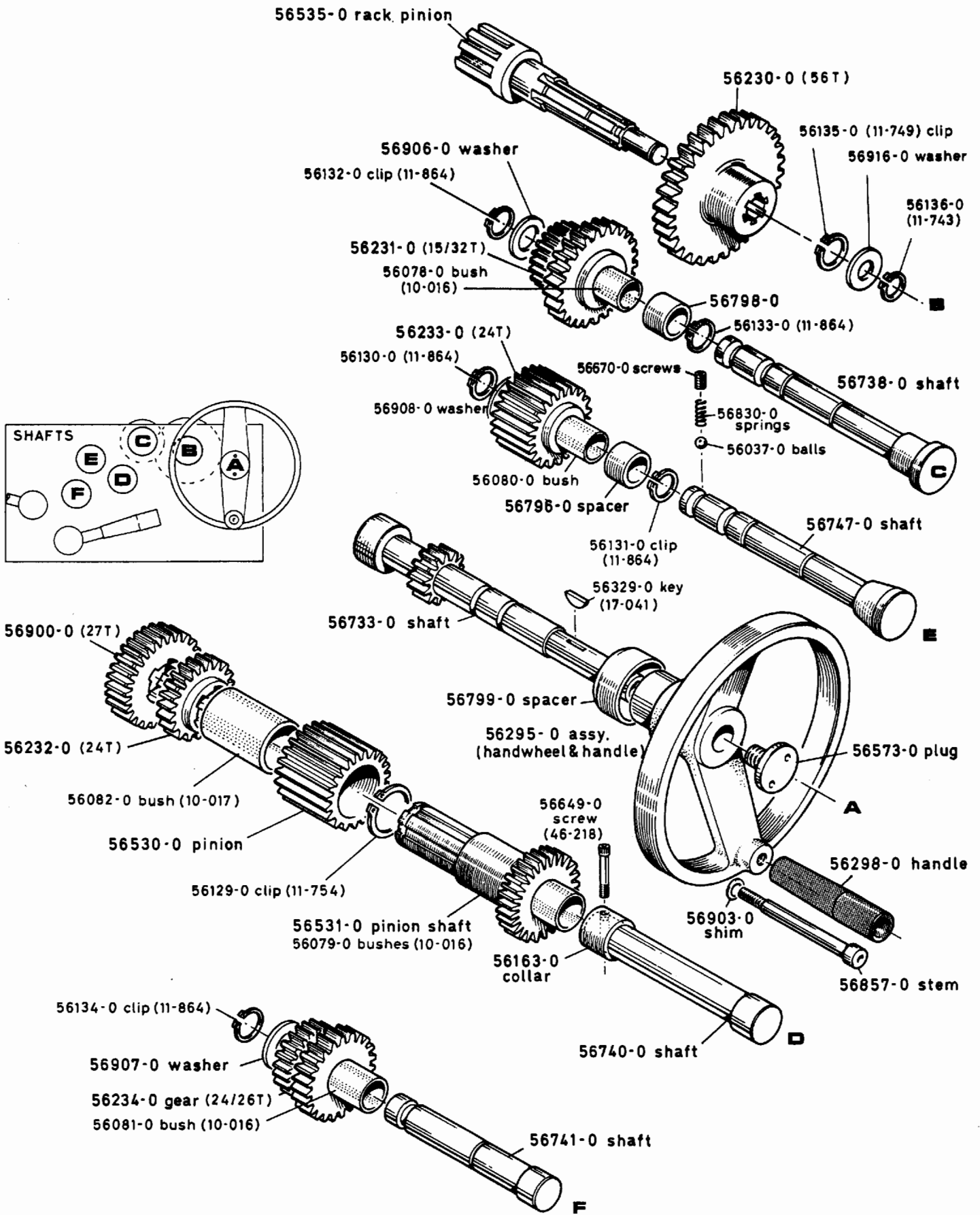


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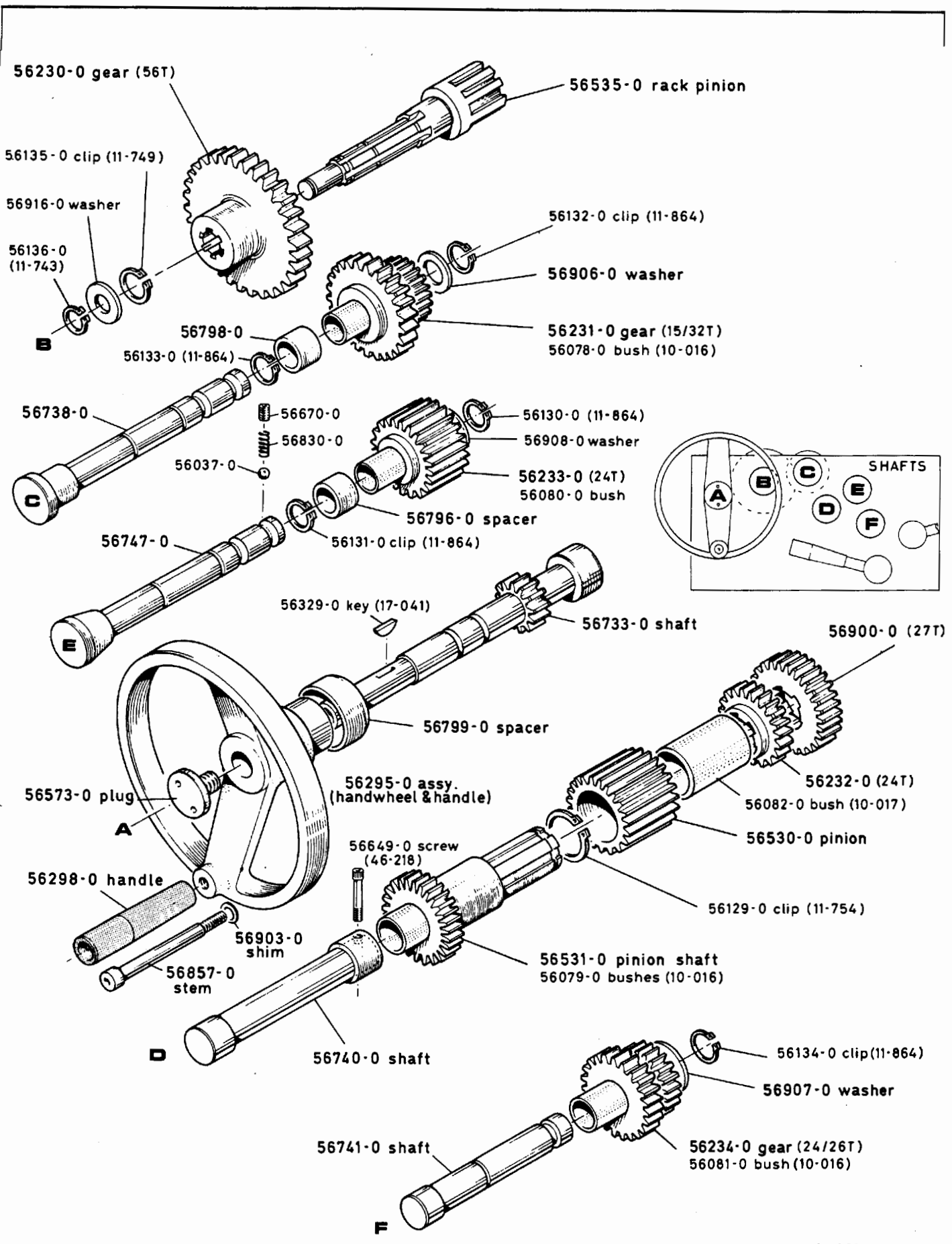
APRON - complete assy. 56005-0



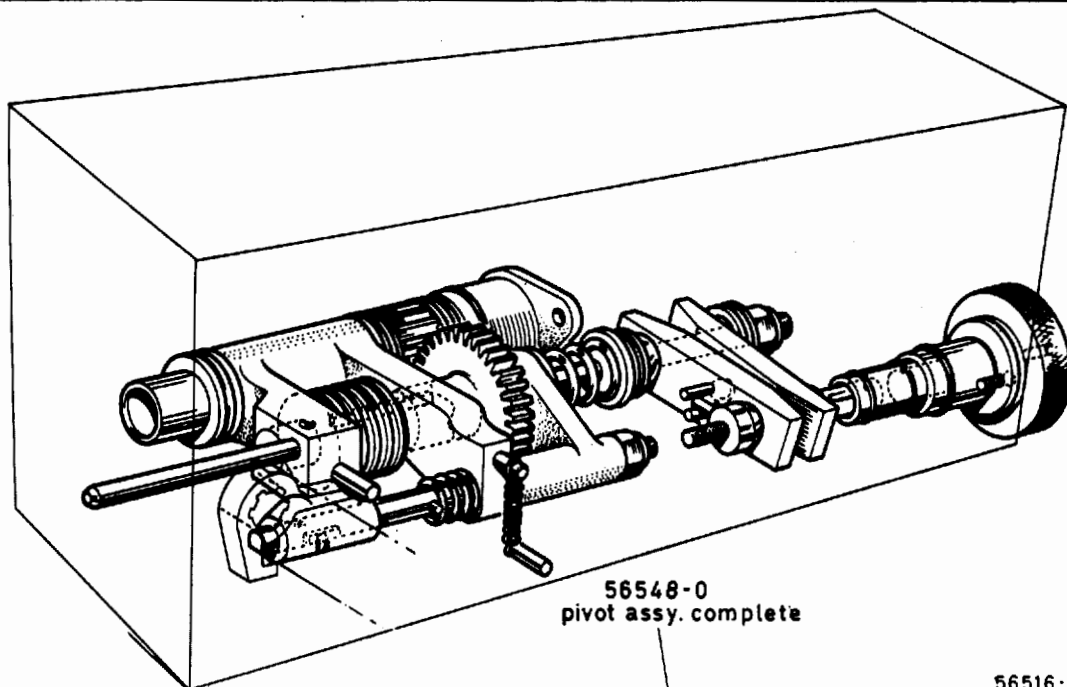
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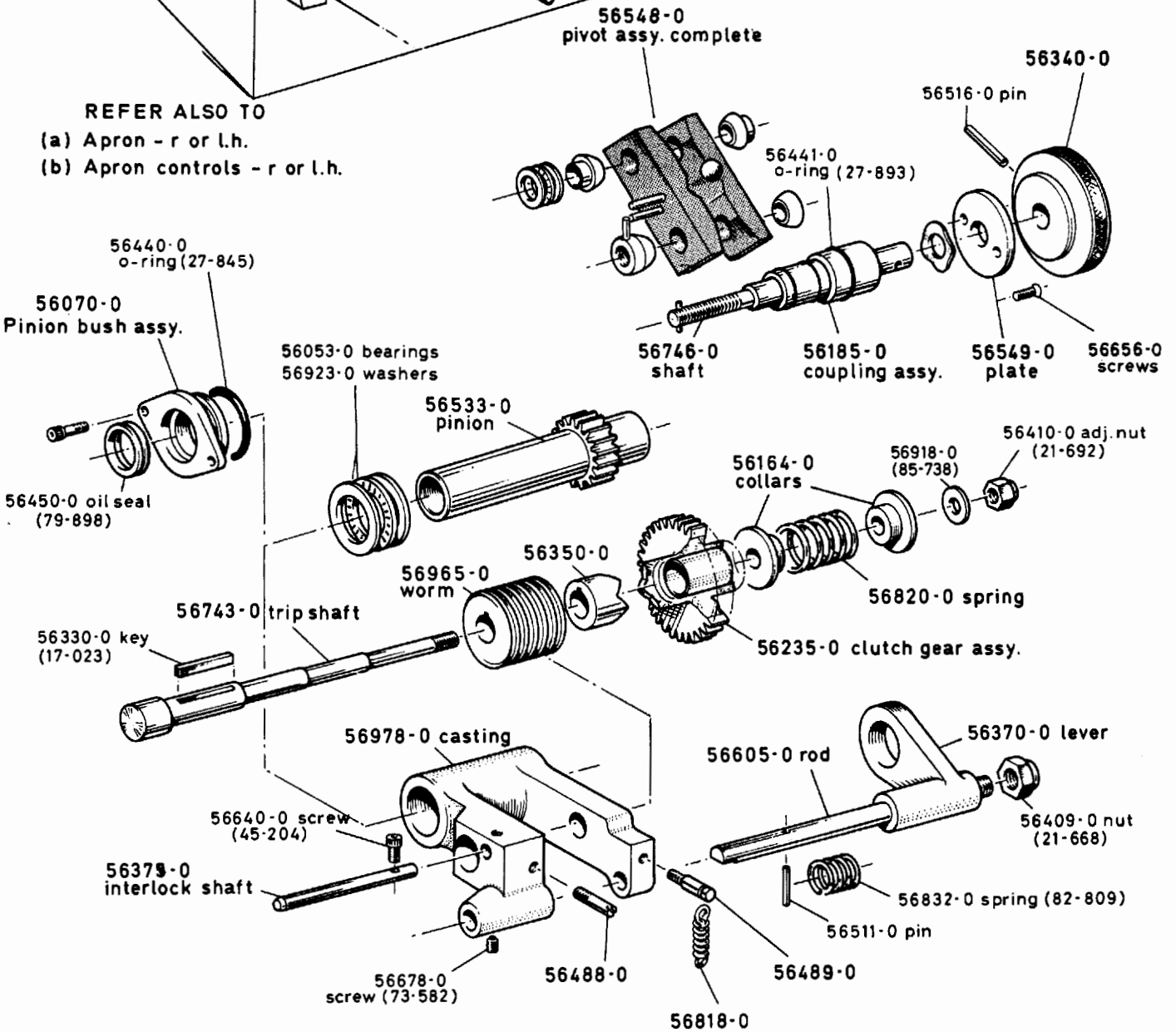
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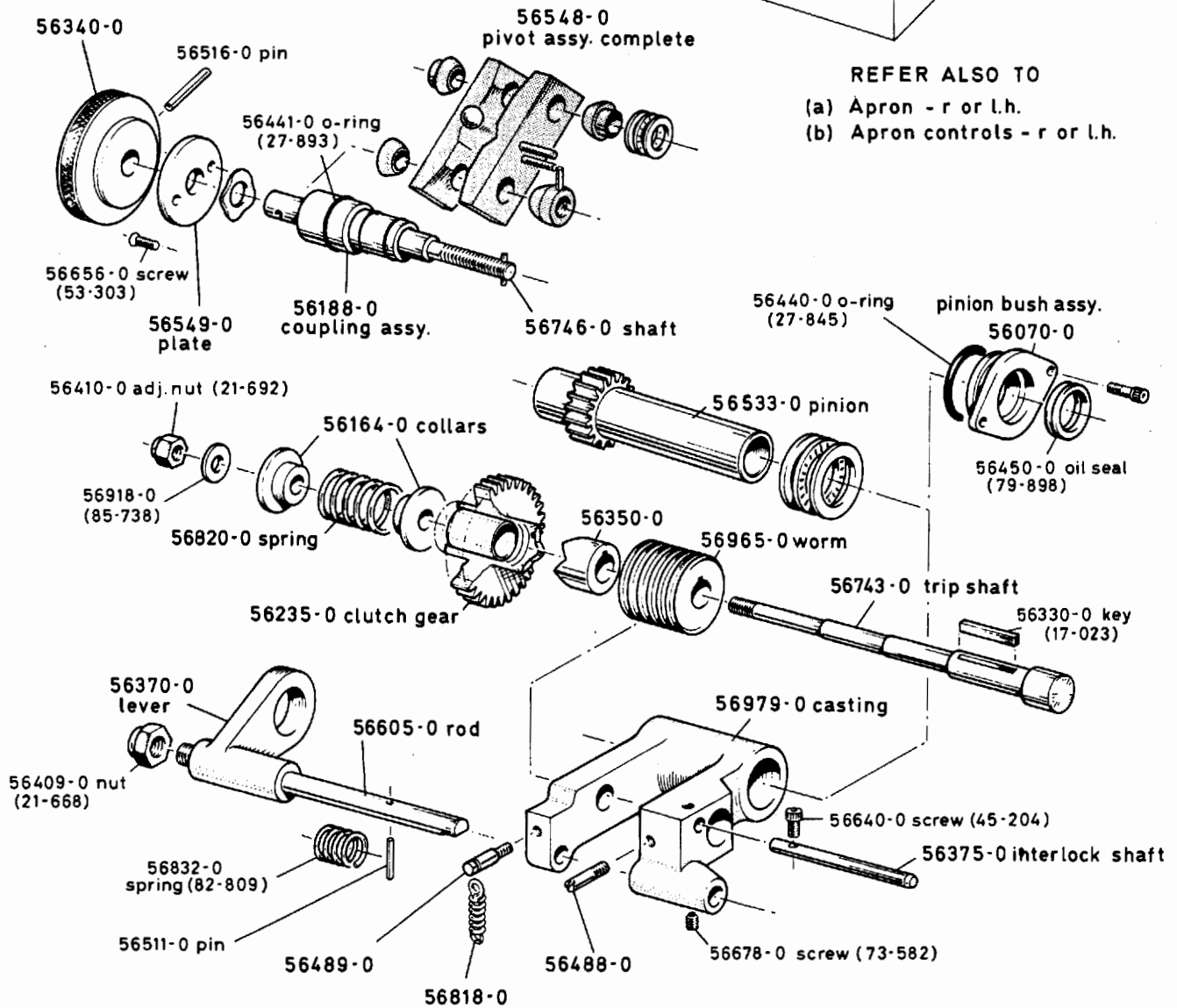
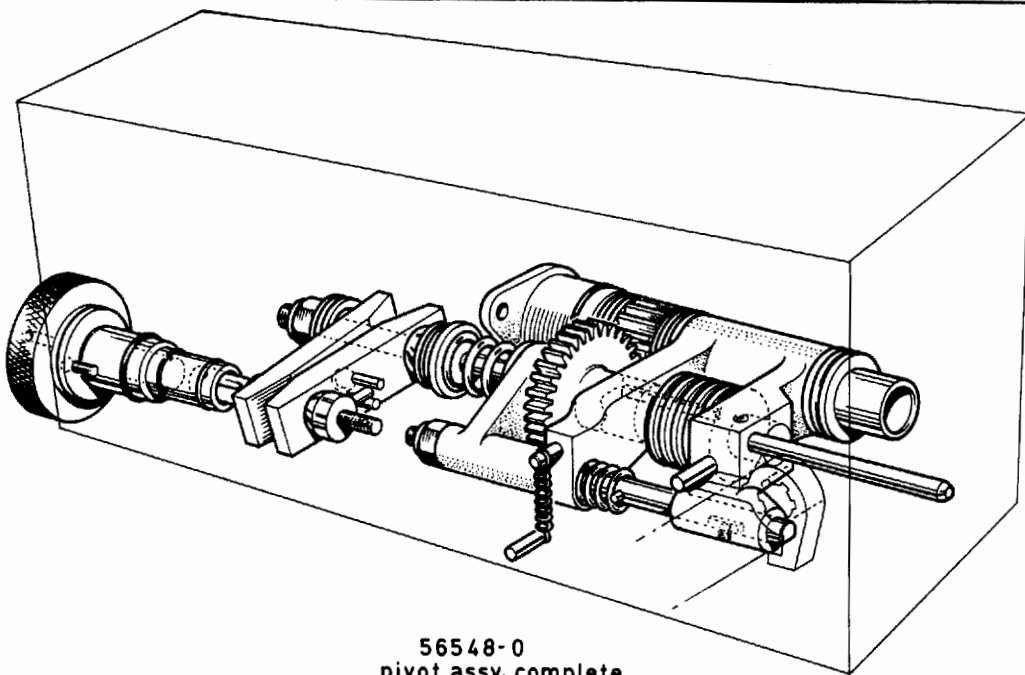
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REFER ALSO TO
 (a) Apron - r or l.h.
 (b) Apron controls - r or l.h.

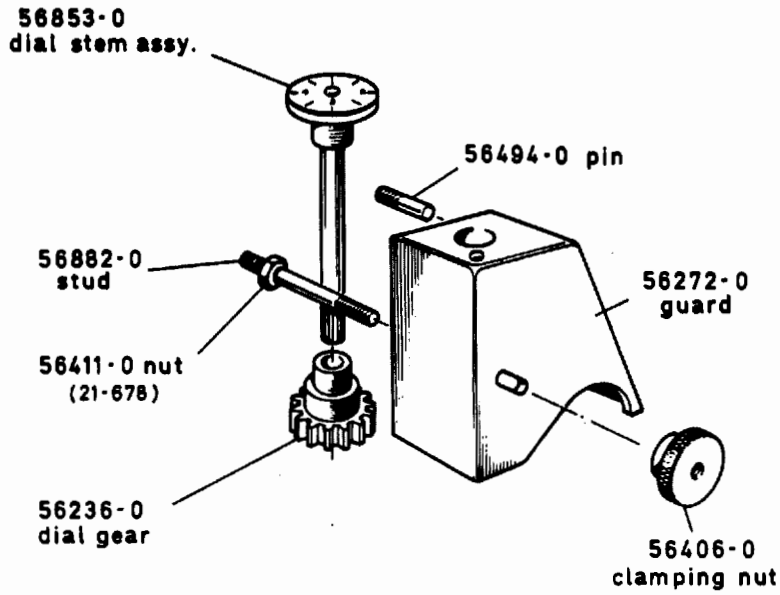


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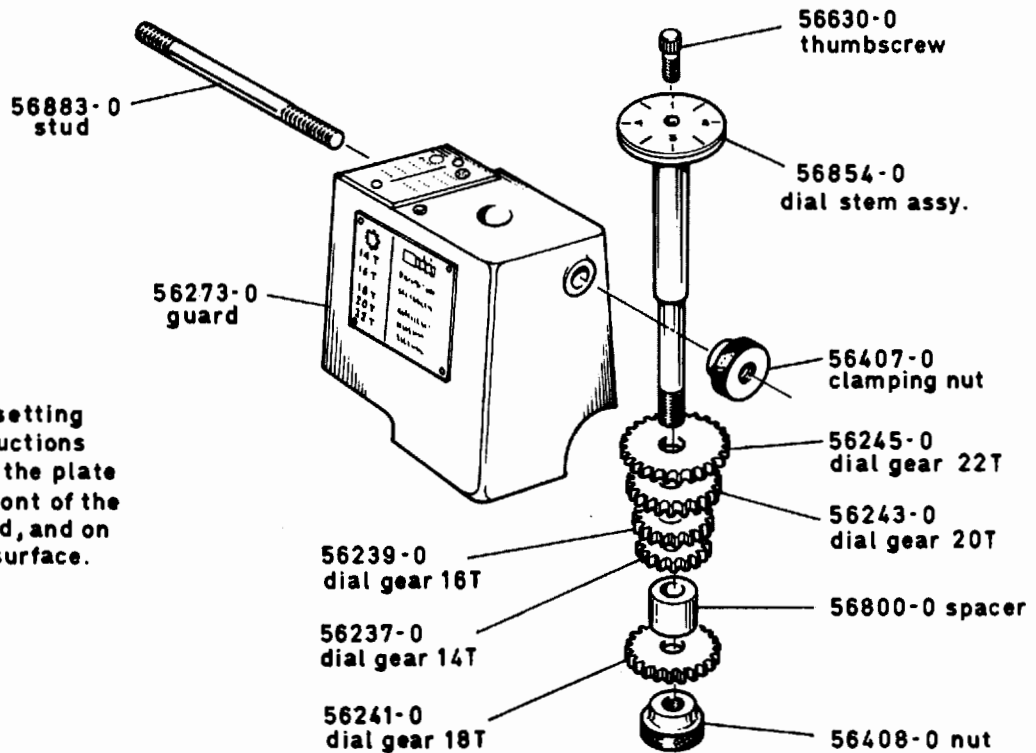


REFER ALSO TO
 (a) Apron - r or l.h.
 (b) Apron controls - r or l.h.

Ref: TR-2-6824



ENGLISH



METRIC

For setting instructions read the plate on front of the guard, and on top surface.

SPECIFICATIONS OF STANDARD ITEMS

Ref. No.

01-788 Ball, steel 1/4 in. dia.
 01-789 Ball, steel 5/16 in. dia.
 01-790 Ball, steel 3/8 in. dia.
 01-794 Ball, steel 7/32 in. dia.

 02-881 Bearing, FAG 6008
 02-884 Bearing, FAG 6206
 02-886 Bearing, FAG 160-05
 02-894 Bearing, FAG 160-03
 02-895 Bearing, FAG 6204
 02-897 Bearing, FAG 6004 2Z
 02-898 Bearing, FAG 6006
 02-899 Bearing, FAG 6007
 02-900 Bearing, FAG 6301 2Z

 03-898 Bearing, Needle, INA SC 188
 03-918 Bearing, Needle, HK 3020
 03-932 Bearing, Gamet, 131093X/131152 XC
 03-933 Bearing, Gamet, 133075/133130 P
 03-934 Bearing, Needle, INA HK 2220

 04-891 Bearing, Thrust, INA AXK 1528
 04-892 Bearing, Thrust, INA AXK 2035
 04-903 Bearing, Thrust, INA AXK 3047
 04-904 Bearing, Thrust, FAG 51104

 07-930 Belts, Vee A31
 07-931 Belts, Vee A32
 07-972 Belts, Vee A72
 07-973 Belts, Vee A74

 08-013 Bolt, Hex head 1/2 UNC x 1.1/4 in.
 08-016 Bolt, Hex head 1/2 UNC x 2 in.
 08-017 Bolt, Hex head 5/8 UNC x 3 1/2 in.
 08-032 Bolt, Hex head 1/4 UNC x 5/8 in.
 08-048 Bolt, Hex head 5/16 UNC x 3/4 in.
 08-069 Bolt, Hex head 3/8 UNC x 1 in.
 08-112 Bolt, Hex head 5/8 UNC x 1.1/4 in.
 08-170 Bolt, Hex head 7/16 UNC x 1.1/2 in.
 08-171 Bolt, Hex head 5/16 UNC x 1/2 in.

 10-016 Bush, Glacier, MB 1825 DU
 10-017 Bush, Glacier, MB 3030 DU
 10-018 Bush, Glacier, MB 1215 DU
 10-019 Bush, Glacier, MB 3020
 10-020 Bush, Glacier, MB 2525
 10-021 Bush, Glacier, MB 2215
 10-022 Bush, Oilite, BS2 x 1.1/2 in.
 10-023 Bush, Glacier, MB 2025
 10-025 Bush, Glacier, 22 DU 16
 10-026 Bush, Glacier, 09 DU 08
 10-027 Bush, Oilite, CT 474 x 1/2 in.
 10-028 Bush, Glacier, MB 2015 DU
 10-986 Bush, Glacier, MB 1515 DU

Ref. No.

11-731 Circlip, external, 3/8 in. Anderton 1400
11-732 Circlip, external, 1.1/4 in. Anderton 1400
11-736 Circlip, external, 1/2 in. Anderton 1400
11-739 Circlip, external, 1.3/8 in. Anderton 1400
11-743 Circlip, external, 5/8 in. Anderton 1400
11-745 Circlip, external, 3/4 in. Anderton 1400
11-746 Circlip, external, 1.1/2 in. Anderton 1400
11-749 Circlip, external, 7/8 in. Anderton 1400
11-751 Circlip, external, 15/16 in. Anderton 1400
11-754 Circlip, external, 1.1/8 in. Anderton 1400
11-759 Circlip, external, 1.5/8 in. Anderton 1400
11-776 Circlip, external, 5/8 in. Anderton 1500 E 485
11-777 Circlip, external, 3/4 in. Anderton 1500 E 580
11-786 Circlip, external, 3.3/16 in. Anderton 1400
11-788 Circlip, external, 3.3/8 in. Anderton 1400
11-791 Circlip, external, 3.9/16 in. Anderton 1400
11-848 Circlip, external, 3/16 in. Anderton 1400
11-855 Circlip, external, 7/16 in. Anderton 1500 E 343
11-860 Circlip, external, 25 mm. Anderton 1400
11-864 Circlip, external, 18 mm. Anderton 1400
11-865 Circlip, external, 30 mm. Anderton 1400
11-866 Circlip, external, 17 mm. Anderton 1400
11-867 Circlip, external, 35 mm. Anderton 1400
11-869 Circlip, external, 12 mm. Anderton 1400

12-795 Circlip, internal, 2.7/16 in. Anderton 1300
12-836 Circlip, internal, 47 mm. Anderton 1300
12-837 Circlip, internal, 42 mm. Anderton 1300
12-838 Circlip, internal, 55 mm. Anderton 1300
12-839 Circlip, internal, 62 mm. Anderton 1300
12-840 Circlip, internal, 37 mm. Anderton 1300

13-797 Circlip, 3/8 in. Anderton 1900
13-798 Circlip, Anderton 900-106
13-799 Circlip, 5/16 in SL Narromore & Tozier
13-800 Circlip, 3/8 in. SL Narromore & Tozier
13-802 Circlip, Anderton 1000 - 15

14-103 Spring dowel, 1/8 dia. x 1/2 in.
14-104 Spring dowel, 1/8 dia. x 3/4 in.
14-125 Spring dowel, 1/4 dia. x 1.1/2 in.
14-144 Spring dowel, 3/16 dia. x 1.1/4 in.
14-605 Spring dowel, 3/16 dia. x 3/4 in.
14-610 Spring dowel, 3/32 dia. x 1/4 in.
14-616 Spring dowel, 3/32 dia. x 3/4 in.
14-649 Spring dowel, 3/16 dia. x 5/8 in.
14-664 Spring dowel, 1/4 dia. x 3/4 in.
14-668 Spring dowel, 1/4 dia. x 1.1/4 in.

15-110 K & M, Push button disc. Black '1' No. 3
15-111 K & M, Push button disc. Red '0' No. 2
15-117 Fuse unit c/w cartridge 20 amp.
15-122 Reset button Sq.D. Pt. No. 2760 D6 G1
15-123 Terminal Klippon type SAK 4 Cat. No. 1932
15-124 Terminal indicator cartridge Klippon SAK 5
15-126 Plastic brkt. Klippon 2WK Cat No. 1846

Ref. No.

17-001 Key, Woodruff No. 3 BS 404
17-002 Key, Woodruff No. 9 BS 606
17-006 Key, 1/4 x 1/4 x 1 long. Feather
17-017 Key, Woodruff Letter 'A' BS 807
17-023 Key, 3/16 x 3/16 x 1.3/4 Plain.
17-034 Key, 3/16 x 3/16 x 5/8 long BS 46
17-037 Key, 3/16 x 3/16 x 3/4 long BS 46
17-039 Key, Woodruff BS 505
17-040 Key, 1/8 x 1/8 x 3/4 long. Round end. BS 46
17-041 Key, 3/4 O/D x 3/16 Thk BS 46 No. 606
17-042 Key, Woodruff BS 46 404
17-043 Key, Woodruff BS 46 303

18-847 Knob, Bluemel type D 119

19-175 Motor, A.E.I. 7.1/2 hp. D 112 M . 220/240/380/420/3/50cy
19-176 Motor, A.E.I. 7.1/2 hp. D 112 M. 500/550/3/50cy
19-177 Motor, A.E.I. 7.1/2 hp. D 112 M. 220/240/380/420/3/60cy
19-178 Motor, Newman 7.1/2 hp. C 213 T 206/3/60cy
19-179 Motor, Newman 7.1/2 hp. C 213 T 230/460/3/60cy
19-180 Motor, Newman 7.1/2 hp. C 213 T 230/460/3/60cy(C.S.A. approved)
19-181 Motor, Newman 7.1/2 hp. C 213 T 575/3/60cy(C.S.A. approved)
19-182 Motor, Newman 7.1/2 hp. C 213 T 208/3/60cy(C.S.A. approved)

20-260 Nut, 1/4 UNC Standard
20-621 Nut, 5/16 UNC Standard
20-622 Nut, 3/8 UNC Standard
20-624 Nut, 1/2 UNC Standard
20-626 Nut, 5/8 UNC Standard
20-635 Nut, 1/4 UNC Thin

21-648 Locknut, 1/4 UNF
21-658 Locknut, 1/4 UNC
21-660 Locknut, 3/8 UNC Simmonds Aero
21-662 Locknut, 1/2 UNC Standard Nyloc NT/N1166
21-665 Locknut, 5/8 UNC Standard NP/N206
21-678 Locknut, 5/8 UNC Thin Armaloc A-5 CAPZ
21-680 Locknut, 3/8 UNC Thin Philidas JUCJ
21-685 Locknut, 5/8 UNC Thin 'T' NT/N206
21-688 Locknut, 1/2 UNC Simmonds
21-689 Locknut, 5/8 UNC Philidas c/w Plastic cap. Type QUCN
21-690 Locknut, 1/2 UNC Simmonds NT/N162
21-691 Locknut, 1/4 UNC Armaloc A-4 CAPZ
21-692 Locknut, 3/8 UNC Armaloc A-6 CAPZ
21-693 Locknut Simmonds PT/N166

22-693 Nut, 3/8 BSF
22-700 Nut, 1 in. Conduit
22-702 Nut, 7/16 BSF L/H
22-703 Nut, 3/4 Flex. Conduit thread

23-124 1/4 dia. Springwell oiler

24-542 Mills pin, 3/16 dia. x 3/4 GP3
24-544 Mills pin, 3/16 dia. x 1 GP3
24-589 Mills pin, 3/8 dia. x 1.1/2 GP3
24-765 Mills pin, 11/32 dia. x 1.1/2 GP1

Ref. No.

25-600 Dowel, 1/2 x 1.1/2 in. Grade 3
25-602 Dowel, 3/8 x 1.1/8 in.
25-616 Split pin, 1/8 x 1/2 in.
25-617 Split pin, 3/16 x 1/2 in.
25-620 Roll pin, 5/32 x 1.1/2 in.
25-622 Roll pin, 1/8 x 1/2 in.
25-623 Dowel, 3/8 x 1.3/4 in. Grade 3
25-625 Dowel, 1/8 x 1/4 in. Boneham & Turner
25-626 Roll pin, 1/4 x 1.3/4 in.
25-627 Roll pin, 3/16 x 1.1/4 in.
25-628 Roll pin, 3/32 x 1/4 in.

26-862 Oil-ring, Pioneer PO/13711213
26-931 Oil-ring, Dowty No. 20
26-947 Oil-ring, Dowty No. 4

27-182 Oil-ring, Dowty List 5 MK10pp49c
27-866 Oil-ring, Dowty List 5 MK12pp.49c
27-870 Oil-ring, Dowty List 5 MK6pp 49c
27-871 Oil-ring, Dowty List 1 MK7pp 51c
27-879 Oil-ring, Dowty List 1 MK6pp 51c
28-880 Oil-ring, Dowty List 5 MK2pp 49c
27-883 Oil-ring, Pioneer 6-017/MP 908
27-885 Oil-ring, Dowty List 4 MK15pp 73c
27-888 Oil-ring, Dowty List 5 MK29pp 49c
27-889 Oil-ring, Dowty List 5 MK28pp 49c
27-890 Oil-ring, Dowty List 5 MK4pp 49c
27-891 Oil-ring, Dowty List 4 MK24pp 73c
27-892 Oil-ring, Dowty List 4 MK17pp 73c
27-893 Oil-ring, Dowty List 5 Mk8pp 49c

29-027 Nut, union ENOTS B-1741-C
29-031 Tecalemit 90° M & F Elbow type 43336/3
29-034 Socket plug ENOTS B-17240
29-039 Tubing sleeve ENOTS Z2
29-041 Breather No. MB 2030 1/8 BSP
29-043 Pipe 45° bend 1/2 BSP Male/Female
29-044 Plug 1/2 BSP Tecalemit 4377/4
29-046 Oil pipe Gripflex, Surlon No. NF40
29-047 Oil pipe Gripflex, Surlon No. NF 70
29-048 Coupling ENOTS M 1122
29-051 Elbow 1 in. BS 1740
29-052 Parallel nipple BS 1740 1 in. BSP x 2.1/2 in.
29-053 Nut BS 1740 1 in. BSP
29-054 Nut BS 1740 1/4 in. BSP
29-057 Tubing nut ENOTS Z21
29-058 Tubing sleeve ENOTS Z7

45-201 Cap screw, 10-24 t.p.i. x 3/8 in.
45-202 Cap screw, 10-24 t.p.i. x 1/2 in.
45-203 Cap screw, 10-24 t.p.i. x 5/8 in.
45-204 Cap screw, 10-24 t.p.i. x 3/4 in.
45-205 Cap screw, 10-24 t.p.i. x 7/8 in.
45-206 Cap screw, 10-24 t.p.i. x 1 in.
45-207 Cap screw, 10-24 t.p.i. x 1.1/4 in.
45-210 Cap screw, 10-24 t.p.i. x 2 in.

Ref. No.

46-212 Cap screw, 1/4 UNC x 1/2 in.
46-213 Cap screw, 1/4 UNC x 5/8 in.
46-214 Cap screw, 1/4 UNC x 3/4 in.
46-215 Cap screw, 1/4 UNC x 7/8 in.
46-216 Cap screw, 1/4 UNC x 1 in.
46-217 Cap screw, 1/4 UNC x 1.1/4 in.
46-218 Cap screw, 1/4 UNC x 1.1/2 in.
46-219 Cap screw, 1/4 UNC x 1.3/4 in.
46-220 Cap screw, 1/4 UNC x 2 in.
46-221 Cap screw, 1/4 UNC x 2.1/4 in.

47-223 Cap screw, 5/16 UNC x 1/2 in.
47-224 Cap screw, 5/16 UNC x 5/8 in.
47-225 Cap screw, 5/16 UNC x 3/4 in.
47-226 Cap screw, 5/16 UNC x 7/8 in.
47-227 Cap screw, 5/16 UNC x 1 in.
47-228 Cap screw, 5/16 UNC x 1.1/4 in.
47-229 Cap screw, 5/16 UNC x 1.1/2 in.
47-231 Cap screw, 5/16 UNC x 2 in.
47-232 Cap screw, 5/16 UNC x 2.1/4 in.

48-240 Cap screw, 3/8 UNC x 1 in.
48-242 Cap screw, 3/8 UNC x 1.1/2 in.
48-244 Cap screw, 3/8 UNC x 2 in.
48-246 Cap screw, 3/8 UNC x 2.1/2 in.
48-247 Cap screw, 3/8 UNC x 3 in.

50-260 Cap screw, 1/2 UNC x 1.1/2 in.

53-300 Countersunk screw, 10-24 t.p.i. x 1/4 in.
53-303 Countersunk screw, 10-24 t.p.i. x 1/2 in.

54-309 Countersunk screw, 1/4 UNC x 5/8 in.
54-310 Countersunk screw, 1/4 UNC x 3/4 in.
54-312 Countersunk screw, 1/4 UNC x 1 in.
54-316 Countersunk screw, 1/4 UNC x 1.3/4 in.

58-345 Cup-point screw, 10-24 t.p.i. x 3/8 in.

59-350 Cup-point screw, 1/4 UNC x 1/4 in.
59-352 Cup-point screw, 1/4 UNC x 3/8 in.
59-354 Cup-point screw, 1/4 UNC x 1/2 in.
59-356 Cup-point screw, 1/4 UNC x 3/4 in.
59-357 Cup-point screw, 1/4 UNC x 1 in.

60-361 Cup-point screw, 5/16 UNC x 5/16 in.
60-362 Cup-point screw, 5/16 UNC x 3/8 in.
60-364 Cup-point screw, 5/16 UNC x 1/2 in.

61-370 Cup-point screw, 3/8 UNC x 3/8 in.
61-371 Cup-point screw, 3/8 UNC x 1/2 in.

62-379 Cup-point screw, 7/16 UNC x 1/2 in.

67-419 Dog screw, 1/4 UNC x 3/8 in.

Ref. No.

68-429 Dog screw, 5/16 UNC x 3/8 in.
68-431 Dog screw, 5/16 UNC x 1/2 in.

70-445 Dog screw, 1/2 UNC x 1/2 in.

73-143 Domed head screw 1/4 UNC x 3/8 in.
73-525 Cone point Skt. set screw. Wedglok 1/2 UNC x 1 in. x 90°
73-533 Full dog Skt. set screw 3/8 UNC x 1/2 in.
73-549 Cheese head screw, Brass 1/4 UNF x 3/4 in.
73-554 Cup point Skt. set screw, Wedglok 5/16 UNC x 3/8 in.
73-568 Domed head screw 1/4 UNC x 3/4 in.
73-570 Cap head screw, Wedglok 5/16 UNC x 1.1/4 in.
73-571 Cap head screw 1/4 UNC x 3.1/2 in.
73-572 Hex Skt. cone point Wedglok 10-24 UNC x 5/16 in.
73-573 Hex head screw 5/16 UNC x 1.1/2 in.
73-574 Skt. set screw, Wedglok 1/2 UNC x 3/4 in.
73-575 Cap hd. screw, Wedglok 10-24 UNC x 1/2 in.
73-576 Hex Skt cap head, Wedglok 1/4 UNC x 3/4 in.
73-579 Hex Skt. button head screw 1/4 UNC x 1/2 in.
73-582 Domed head cadium plated screw 10-24 UNC x 1/2 in.
73-584 Half dog screw, Wedglok 3/8 UNC x 1/2 in.
73-585 Half dog screw, Wedglok 1/4 UNC x 3/8 in.
73-586 Cheese head screw 1/4 UNC x 1/2 in.
73-587 Knurled cup point Skt. set screw 7/16 UNC x 1/2 in.
73-588 Hex head screw 5/16 UNC x 3/4 in.
73-589 Cup point set screw 1/4 UNC x 1/4 in.
73-590 Skt. C/Sunk head screw, Wedglok 1/4 UNC x 5/8 in.
73-591 Self Tapping screw, NPK type Z No. 6 1/4 in.
73-596 Slotted cheese head screw 4 mm. Dia x 8 mm
73-597 Slotted cheese head screw 4 mm dia x 15 mm
73-598 Slotted cheese head screw 4 mm dia x 35 mm
73-599 Round head screw 10-24 UNC x 3/8 in
73-600 Round head screw No. 8-32 UNC x 1/2 in.
73-601 Half dog Skt set screw 4BA x 3/16 in.
73-602 Skt. C/Sunk screw No. 6 UNC x 1/2 in.
73-603 Skt. C/Sunk screw No. 4 - 40 UNC x 3/8 in.
73-604 Half dog screw 6BA x 1/8 in.
73-605 Skt. domed head screw No. 4-40 UNC x 1/4 in.

79-895 Oil seal, Burtonwood TR31/M40-62-10/PA
79-896 Oil seal, Burtonwood M35-50-10
79-897 Oil seal, Burtonwood M12-28-8

80-872 Oilsight, Tecalemit IC 4611

81-151 Open end spanner 15/16 A/F x 3/4 A/F
81-156 Allen key 3/8 A/F
81-157 Allen key 5/16 A/F
81-158 Allen key 7/32 A/F
81-159 Allen key 3/16 A/F
81-160 Allen key 5/32 A/F
81-164 Box spanner 15/16 x 1.1/8 A/F
81-165 Ring spanner 1/2 x 3/4 A/F
81-167 Allen key 1/4 A/F
81-168 Standard spanner 1.5/16 x 15/16 A/F
81-169 Standard spanner 9/16 x 7/16 A/F

Ref. No.

82-809 Spring, Flexo 243608
82-830 Spring, Flexo 123306
82-842 Spring, Flexo 82905
82-843 Spring, Flexo 92812
82-850 Spring, Flexo 83104
82-856 Spring, Flexo 82703
82-857 Spring, Flexo AR 3748
82-858 Spring, Flexo 103203
82-859 Spring, Flexo 83005
82-860 Spring, Flexo 123204
82-862 Schnorr disc spring type K 16.34 x 22.5 x 0.8 mm
82-863 Spring, Flexo 123006
82-864 Spring, Flexo AM 3220
82-865 Spring, Flexo 92814

83-179 K & M Push button unit. type DT - X/AK-G
83-182 K & M Contactor type Dil 00a - 459
83-183 K & M Overload Relay type ZO-0-21
83-185 K & M Contactor green series Dil-0a-1/41/61
83-186 K & M Overload Relay type ZO-16
83-188 K & M Overload Relay type ZO-12
83-190 K & M Isolator switch type T26-3/62v
83-192 Sq. D Push button unit red. Class 9001.TP41R. 110 v 60cy
83-194 Sq. D Starter Class 8501 type DO-40 relay
83-201 Pump starter overload 9065 CO-1R
83-202 Pump starter overload CO-1L
83-210 K & M Push button unit type PT-N/AK-G
83-211 Neon signal lamp 220v c/w int. resistor
83-212 Neon signal lamp 346; 380; 420; 550v c/w separate resistor
83-213 Brookhurst igranic type A4 Cat D100 transformer
83-214 Push button unit red. Class 9001 TR4A
83-215 Push button unit red. Class 9001 TR2A1

84-703 Lock washer, 5/16 dia. bore single coil
84-704 Lock washer, 3/8 dia bore single coil
84-719 Lock washer, 3/4 dia. bore double coil

85-691 Washer, 1/4 dia. bore.
85-692 Washer, 5/16 dia. bore
85-693 Washer, 3/8 dia. bore
85-695 Washer, 1/2 I/D x 1 O/D x .092
85-720 Washer, 2 BA standard plain
85-729 Washer, 1/2 standard light gauge
85-733 Washer, 5/16 I/D large series 15 SWG
85-734 Washer, 1/2 I/D x 1 O/D x 13 SWG
85-735 Washer, 1/4 dia. bore.
85-737 Washer, 5/8 I/D x 1.1/4 O/D x 15 SWG
85-738 Washer, 3/8 I/D x 3/4 O/D x 15 SWG
85-739 Washer, 5/8 I/D x 1.1/4 O/D x 11 SWG
85-740 Washer, 3/4 I/D x 1.1/2 O/D x 15 SWG
85-741 Washer, 5/8 I/D x 1.3/8 O/D x 11 SWG

86-119 Washer, Fan disc 1/2 I/D
86-738 Washer, 1/4 bore shakeproof
86-743 Washer, INA thrust AS 1528
86-744 Washer, INA thrust GS 1528
86-750 Washer, INA thrust AS 2035

Ref. No.

86-752 Washer, crinkle. T. Haddon type DP/10008A
86-756 Washer, fibre 5/8 O/D x 5/16 I/D x 1/16
86-760 Washer, fibre 1.1/16 I/D x 1.3/8 O/D x 1/16
86-761 Washer, thrust AS 3047
86-762 Washer, 5/16 I/D x 5/8 O/D x .040
86-763 Washer, Schnorr 8 mm
86-764 Washer, 1/4 I/D x 9/16 O/D x .056
86-766 Washer, fibre ENOTS MF 110
86-767 Washer, fibre ENOTS 1386 G
86-768 Washer, 1/2 I/D x 1 O/D x .062
86-769 Washer, sealing ENOTS B1821 A
86-770 Washer, sealing ENOTS B1821 B
86-771 Washer, fibre 1/2 I/D x 3/4 O/D x 1/16
86-772 Washer, fibre 1 I/D x 1.3/8 O/D x 1/16
86-773 Washer, 7/16 I/D x 7/8 O/D x .092
86-774 Tab washer, for 5/16 UNC screw SP 107
86-775 Black washer, 11/32 I/D x 7/8 O/D x 12 SWG
86-776 Washer, 5/16 I/D x 3/4 O/D x .072
86-777 Washer, 1/4 I/D x 9/16 O/D x .036
86-778 Curved washer, 4mm.

87-827 Thread insert 1185-8 x 1D
87-831 Thread insert 1191-18 x 1D

88-059 Terry's hose clip 1234
88-062 Lamp wick 3/16 dia. x 1 in.
88-063 Sealing plug, Robert Moss A46
88-064 End plug, Robert Moss A179
88-080 Sealing plug, Robert Moss A48
88-081 Plug K & M KT16
88-082 Hose clip, Terry's No. 087-5
88-089 Plug, Robert Moss H181
88-090 Tube clip, Walsall No. 747 H 5/8
88-091 Gripflex suroflex braided P.V.C hose 1/2 I/D x .850 O/D
88-092 Terminal receptacle solderless slide
88-093 Flexible conduit, Kopex grade NLS/1
88-094 Conduit coupling, Kopex code C/10
88-095 Reducing adaptor
88-096 Wall clip for 3/4 conduit
88-097 Conn. link K & M type BT 2571
88-098 Ext. terminal clamp K & M Z212-12-12 Form 1
88-099 Ext. terminal clamp K & M Z212-12-12 Form 2
88-100 Ext. terminal clamp K & M Z212-12-03 Form 2

CHUCKS AND COLLET CHUCKS

10 in. 3 JAW CHUCK : 10in three-jaw (direct on spindle) dynamically balanced ductile-iron chuck. A light-weight piece with unhardened scrolls to standard limits of accuracy.

Order Code No. 701

12 in. 4 JAW CHUCK : 12 in. dia. Burnerd four-jaw extra precision (direct on spindle mounting) ductile-iron dynamically balanced with hardened and ground scroll.

Order Code No. 702.

IT IS DANGEROUS TO USE GREY CAST-IRON CHUCKS ON THESE
HIGH SPEED LATHES

1½" capacity Burnerd key operated 'Multisize' collet chuck.

Order Code No. 721.

2" capacity Burnerd key operated 'Multisize' collet chuck

Order Code No. 722

1½" capacity Burnerd lever operated 'Multisize' collet chuck.

Order Code 723

2" capacity Burnerd lever operated 'Multisize' collet chuck

Order Code No. 724

Machined backplate for fitting to customers' own chucks

Order Code No. 719

HYDRAULIC COPYING ATTACHMENT

The Colchester hydraulic 470 copying equipment comprises a profile slide assembly, a rear beam assembly, (capable of receiving as masters either round models or flat templates) and a Colchester quick change toolpost with one standard toolholder. The free-standing hydraulic power unit has a set of inter-connecting hose housed in a single flexible armoured conduit. This universal unit, capable of longitudinal copy turning, face copy turning and copy boring, has a copying accuracy to 0.0005 in. Order Code No. 728. A turret stop (Order Code No. 768) and facing beam (Order Code No. 769) are also available for this equipment.

Colchester 4-way automatic indexing turret

Order Code No. 705

TRAVELLING STEADY

This steady is available for fitting to the saddle in the tapped holes provided and has a capacity for material up to 3 in. dia.

Order Code No. 711

STATIONARY STEADY

Materials up to 6 in. dia. can be held by the steady which may be clamped between the bedways at any position along the length.

Order Code No. 712

English/Metric dual reading cross-slide and top-slide dials

Order Code No. 736

English/Metric Apron Dial

CAPSTAN UNIT (Code 741)

Metric dial indicator

Order Code No. 737

BED STOPS

A 5-position turret-type bedstop which can be fitted to either end of the saddle allows the operator to achieve a number of consistent shoulder lengths and accurate positioning for grooving, parting-off etc.

Order Code No. 731

The single-type bedstop fits on the front of the bed at any position for use with the 5-position stop or on its own.

Order Code No. 732

A micrometer bed stop which fits on the front vee way of the lathe bed at any point, can be set to micrometer accuracy for cutting consistently to shoulders, etc, on batch components.

Order Code No. 733

A 6-position longitudinal bed stop.

Order Code No. 742

TOOLPOSTS - FRONT

Colchester quick change toolpost (see rear toolpost for toolholders)

Order Code No. 775

TOOLPOSTS - REAR

Rear slotted toolpost

Order Code No. 730

Colchester quick change rear toolpost

Order Code No. 725

Standard Toolholders No. 83119

Order Code No. 776

Vee holders No. 83120

Order Code No. 777

Morse taper holders No. 83121

Order Code No. 778

Parting-off toolholders No. 83127 complete with one cobalt high-speed steel parting-off blade.

Order Code No. 779

Cobalt high-speed parting-off blades

Order Code No. 780

FACEPLATES

14 in dia. standard faceplate for use on either straight or gap bed models.

Order Code No. 703.

21 in dia. large faceplate for use on gap bed lathes only.

Order Code No. 704.

TAPER TURNING ATTACHMENT

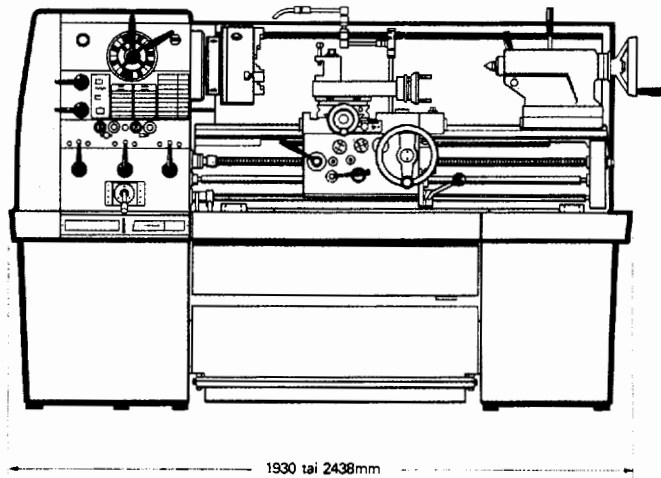
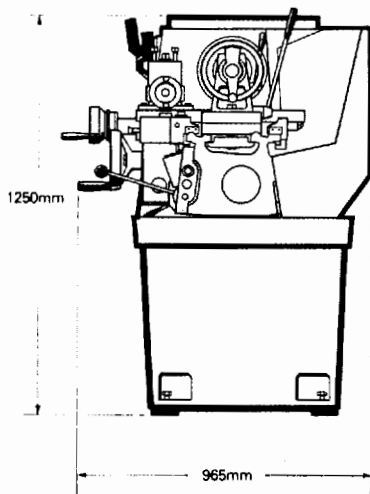
The Colchester Taper Turner is designed to produce accurate tapers up to 15 in. long and 20° included angle at any distance from the spindle nose. The taper turner is of the telescopic type and once set to the desired angle the tightening of a single clamp screw converts from plain to taper turning.

Order Code No. 717

COLCHESTER TRIUMPH 2000

7¹/₂in x 30in or 50in (190mm x 750mm or 1250mm)

- 16 spindle speeds in geometric progression, 25–2000 r.p.m.
- 7¹/₂ h.p. motor
- 6in D.1 Camlock Nose Mounting
- Induction hardened and precision ground bed
- Bed lengths 30in or 50in (750mm or 1250mm) between centres



Models available

Code Word	Bed Type	Distance between Centres	Overall length of Machine	Weight
Triumph 2000 Thirty – Straight Triumph 2000 Thirty – Gap	Straight Gap	30in (750mm)	76in (1930mm)	2580 lb (1170kg)
Triumph 2000 Fifty – Straight Triumph 2000 Fifty – Gap	Straight Gap	50in (1250mm)	96in (2438mm)	2820 lb (1280kg)

Each model is available in the following versions:

Product Code
STANDARD
MIX
METRIC

With English pitch leadscrew; dial graduations in inches.
With English pitch leadscrew; dial graduations in millimetres.
With Metric pitch leadscrew; dial graduations in millimetres.