

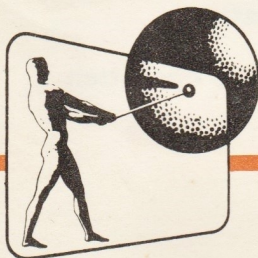
GK 37

Issue 1/957

GAUMONT-KALEE

GK 37 PROJECTOR and SOUNDHEAD

MANUAL and SPARES LIST



RANK PRECISION INDUSTRIES LTD.

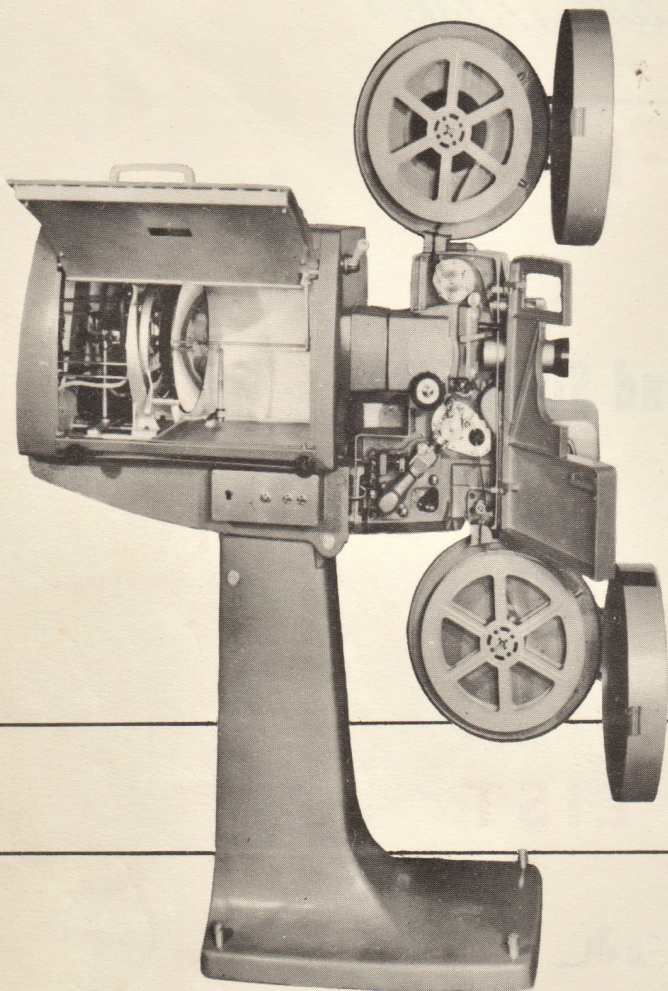
GAUMONT-KALEE DIVISION

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GAUMONT-KALEE



- * Triple filtered lubrication
- * Magoptical sprockets
- * Removable gate assembly
- * Illuminated framing aperture
- * Projected Slit Optical System
- * American type photocell
when required

G K '37' PROJECTOR MECHANISM

GAUMONT-KALEE

'37'

Arc Lamp

- * Automatic feed
- * High intensity D.C. or
A.C., or Low intensity
- * 14" ellipsoidal reflector
- * Maintained uniformity
of illumination
- * Trouble free operation

OPERATORS' MANUAL

Where PLATE Numbers are given, other than in the SPARE PARTS LIST, these are to facilitate cross-reference between a certain section and the appropriate Spare Parts List and Illustrations.

WITH BUILT-IN SOUNDHEAD

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SPARE PARTS LIST

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Maintenance

To maintain the high standard of Picture and Sound reproduction for which the GK 37 Equipment is designed it is essential that care and attention is given to

cleaning and lubrication. The following notes are intended as a guide to the projectionist to establish a routine in this respect.

Cleaning

CLEAN THE PROJECTOR DAILY. Sprockets should be cleaned with a small brush, great care being taken not to damage the teeth. The intermittent sprocket must be cleaned with the gate removed. Remove the gate by lifting the gate opening lever. Then slide the gate upwards out of the retaining slots.

Clean the pressure skates and the face of the gate frame to ensure that no grease, dust, or dirt from the film is present which can either scratch or mark the

film to be run. Make sure that no emulsion deposit is present.

Clean the face of the gate bracket. Remove the mask plate by pressing the two sprung faces together and withdrawing it.

Clean the mask plate. Press the mask plate smartly into position, with the sprung side facing the front of the projector.

Lenses

The projection and anamorphic lenses, and the soundhead optical system should be cleaned, any dust or slight deposit being removed either with special lens tissues or with the softest of cloths. The same care should be taken with the soundhead optics as is taken with the projection lenses.

Ensure that the bloomed surfaces of all lenses do not get scratched, otherwise picture and sound quality may

be impaired. The soundhead should be wiped out when dirty with a cloth saturated in carbon tetrachloride or some other similar grease solvent.

The sound drum and guide rollers must be wiped daily with a CLEAN soft cloth to remove all traces of dirt. Any accumulation of dust, dirt or emulsion will cause a deterioration in the quality of sound.

Arclamp

To clean out the lamphouse, remove the tray beneath the arc, by pulling it directly sideways out of the lamp. Any dirt which is not removed with the tray can then be swept out through the gap in the lamphouse between the carbon hand feed knobs.

Clean the mirror with a soft, clean cloth to remove

all dirt, carbon dust, etc. If dirt is allowed to remain on the mirror while the lamp is in use, the useful life of the mirror may be considerably shortened.

Place a drop of oil on each of the hand feed gears where they engage with the lead screw.

Clean and replace tray.

Lubrication

Daily Routine

Check the oil level in the projector sump to see that the oil reaches the correct sight line on the oil sight window. This window has several lines engraved on it, indicating the correct oil level at varying projection angles. The line to be used is that which is nearest to the horizontal. (*See Plate I: 13.*) If the oil level is too low, remove the plastic filler cap in the rear cover and add "GAUMONT KALEE SUPER OIL" until the level reaches the correct line. The oil should be added slowly through the fine mesh filter below the cap.

Oil the roller spindles. All spindles except the guide and tracking rollers on the scanning plate must be oiled daily with a light machine oil, Gaumont Kalee Super Oil is suitable for this purpose.

The guide and tracking rollers are fitted with ball bearings which need only a spot or two of light oil every six months. All the rollers to be lubricated are retained on their spindles by steel circlips which should be removed with the tip of a broad screwdriver or other similar tool. The rollers should then be removed and the old oil wiped from the spindles.

A drop of clean oil should be placed in each roller before it is replaced.

After replacing the circlips the rollers should be checked to ensure that they run freely, and any surplus oil wiped off with a clean cloth.

ALWAYS REMEMBER THAT OVER OILING CAN CAUSE TROUBLE. A LITTLE OIL DAILY WILL ENSURE THAT THE EQUIPMENT IS MAINTAINED IN FIRST CLASS ORDER FOR A LONG TIME. SURPLUS OIL, DUE TO OVER OILING WILL COLLECT DUST AND CAUSE EXCESSIVE WEAR ON BEARING SURFACES.

Notes on Operation

Having carried out the daily cleaning and lubrication routine the film should be laced through the projector in accordance with the diagram on the inside of the projector door.

Make sure that the loops are correct, and that the film passes correctly round the sound scanning drum and in between the two filter rollers. Engage the film with the teeth on the bottom sprocket in such a way that the tension on the filter rollers holds them with their film faces exactly 1in. (25mm) apart. To ensure that the film is correctly positioned in the projection aperture, set the masking knob with its arrow vertical, check that the intermittent sprocket is in the locked position and, with the lacing lamp switched on (*the switch is the press button switch on the projector control panel*), check that the film is framed centrally in the inspection aperture in the top of the gate.

Do not attempt to adjust the framing by means of the masking knob. This should be used only when the projector is running. Do not "inch" the film down by switching the motor on and off. If it is necessary to move the film down one or two frames, use the inching knob on the Projector motor.

When fitting carbons into the arc lamp, the tip of the positive carbon must be in line with the projecting peg on the position carbon crutch. The tip of the negative carbon should be positioned approximately $\frac{1}{2}$ in. (12.5mm) from the positive carbon. After striking the arc, adjust the two control knobs so that the images of the carbon tips appear on the sight card of the arc lamp periscope (*the sight card is on the arc lamp flue*) in line with the two lines engraved on the card.

Switch on the feed motor.

Check that the negative carbon is correctly aligned with the positive by looking through the inspection window in the centre of the rear panel on the arc lamp. Adjust with the controls provided.

Check that the carbons are feeding properly, and that the arc flame is steady. If unsteadiness is caused by a downdraught through the flue, partially close the damper by means of the knob on the non-operating side of the flue casting on the lamphouse.

The maximum length of carbon for this arc lamp is 14in. (355mm) Positive and 9in. (228mm) Negative.

Replacing exciter lamps

Great care must be taken not to drop or jar exciter lamps, as this may damage the filament or bend it out of alignment. Exciter Lamps should always be replaced as soon as blackening of the glass or sagging of the filament becomes visible, lamps left in service in this condition will impair the quality of the sound. When fitting new exciter lamps, do not over tighten the clamping screw, since this may crack the glass bulb. Should an exciter lamp fail during a film performance a replacement may be fitted without refocussing, although a slight drop in volume may be experienced.

At the first opportunity the alignment of the exciter lamp should be checked as follows:— Remove the Photo cell housing cover. Slacken the lamp elevator locking screw. Switch on the exciter lamp and adjust the height of the lamp by turning the knurled headed screw under the lamp bracket until maximum illumination on the Photo cell cathode is obtained. The correct position shows a faint circle of light having a bright bar of light across the centre. There is no lateral adjustment provided, as this position is accurately set during manufacture.

Photo electric cells

Spare photo cells should be stored in a cool dark place. Exposure of photo cells to direct sunlight, or too strong artificial light may cause loss of sensitivity. Great care must be taken not to operate photo cells at anode voltages above those specified for the type in use. Excess voltage may cause the cells to ionise, causing permanent

damage. No artificial light, other than that scanning the sound-track should be permitted to fall on the photo cell while it is in operation, as any modulation of the light source will be reproduced through the sound system.

Replacement of photo cell

To replace the photo cell, remove the two cheesehead screws passing through the flanges on the white enamelled cell cover casting. The cover casting can then be removed.

Withdraw the photo cell, taking care not to damage the socket in the cell-holder, and fit the replacement cell. Replace the cell cover.

The correct Photo electric cell for use with GK 37 equipment is Gaumont Kalee Type GS16 with 4 pin base.

The American octal Base R.C.A. 930 or equivalent is used when an octal base cell holder is fitted.

Periodic Maintenance

Changing oil

It is important that all oil should be regularly drained out and the projector refilled with clean Kalee "Super-oil." It is recommended that the oil should be changed after 100 hours, 200 hours, 300 hours, and 450 hours running and thereafter every 150 hours.

To drain the projector, take a container which will

hold 1 pint (0.6 litre approx.) and hold it under the oil drain extension tube under the projector mechanism.

Unscrew the knurled cap on the oil drain extension tube and allow all oil to drain into the container. Replace the cap, ensuring that the oil sealing washer is replaced.

IMPORTANT: CLEAN THE OIL FILTERS BEFORE REFILLING THE PROJECTOR

Three oil filters are provided, gauze filters in both filler cap and oil pump, and a magnetic filter in the oilpipe system. The purpose of the magnetic filter is to collect any small particles of metal which may inadvertently be carried into the lubrication system. These filters should be cleaned as follows:—

The filter magnets are attached to a plug screw. This screw is a large steel head situated in the projector frame casting immediately behind the gate operating lever. Remove this plug screw, and carefully remove all metal filings from the two magnets which project from it. (See Plate I: 14.) Replace the plug screw and magnets.

THE TOP FILTER is situated under the filler cap in the projector rear cover (See Plate I: 2) and should be removed and cleaned in paraffin or some other grease solvent ONLY if seen to be dirty.

THE PUMP FILTER is situated in the oil pump, on the non-operating side of the projector frame casting, just above the projector support beam, and to the left of the take-up chain sprocket. The filter itself is attached to the large slotted head in the pump, so that it can be withdrawn with the head. (See Plate I: 14a.) Unscrew the head with a coin or screwdriver. Clean the filter carefully. Screw back into the pump.

NOTE: USE ONLY "GAUMONT-KALEE" SUPEROIL IN THIS PROJECTOR

FILLING THE PROJECTOR for the first time or when changing the oil. Before filling, ensure that the projector is set at the correct projection angle, this is necessary since the choice of sight line on the oil window depends on the angle of the projector. To fill, remove the plastic filler cap from the top of the rear cover, and pour in Kalee "Superoil" until the level of oil in the sump reaches the "HORIZONTAL" white line on the oil sight window situated on the bottom sprocket bracket.

The projector must be filled slowly, as the oil has to pass through the top oil filter immediately beneath filler cap.

WARNING: On no account must the oil level be allowed to rise above the horizontal line.

When the sump is filled (it will take just a little less than a pint – 0.6 litre) replace the filler cap.

Adjusting roller brackets

Each roller bracket pivots about a spindle, towards or away from the sprocket, and is positively locked in either position by a spring loaded plunger. An adjustable screw in the roller bracket seats against a stop in the closed position, and controls the clearance between the roller and sprocket. This clearance is set before the projector is dispatched from the works but wear or

replacement of parts make it necessary to re-set the clearance. To re-set, rotate the adjusting screw until the space between the roller and the sprocket (*with the roller bracket in the closed position*) is equal to two thicknesses of the film. Tighten the locknut to secure the adjusting screw in this position.

Adjusting the film guide shoe

The film guide shoe is pivoted at the bottom of the gate assembly, so that it fits round the intermittent sprocket when the gate is closed. Its position can be adjusted by a small hexagonal headed adjusting screw which is situated on the front of the projector.

Like the sprocket rollers, the clearance between the shoe and the intermittent sprocket should be two thicknesses of the film when the gate is closed. Where necessary, this clearance should be set and the adjusting screw should then be locked with the locknut provided.

Replacing top sprocket

Open the sprocket roller bracket.

Slacken the stripper retaining screw and turn the stripper blade away from the sprocket. With a $\frac{1}{4}$ in. Allen key, slack off the screw holding the sprocket to the spindle.

Remove the sprocket.

When refitting, push the sprocket hard up to the shoulder before tightening the set screw.

After refitting, turn the stripper blade back into position so that the nearest edge of the blade is about 0.05in. (1mm) from the face of the sprocket.

Replacing bottom sprocket

Open the two roller brackets (*not the filter rollers*). Slacken the stripper retaining screw and turn the stripper blade away from the sprocket.

With a $\frac{1}{4}$ in. socket Allen key, slacken off the screw holding the sprocket to the spindle. Remove the

sprocket.

When refitting, push the sprocket hard up to the shoulder on the spindle before tightening set screws. After refitting, turn the stripper blade back into position about 0.05in. (1mm) from the face of the sprocket.

Removing the oil pump

Remove the motor and flywheel cover.

Place a suitable container (*clean if the oil is to be used again*) under the oil drain extension tube projecting below the projector frame on the non-operating side. Remove the knurled cap from the extension and allow the oil to drain into the container. Remove the rear cover, as described.

Unscrew the two plastic nuts securing the takeup chain guard. Remove the chain guard. Slacken the screw securing the takeup chain jockey sprocket arm and turn this to release the tension on the chain.

Remove the takeup chain. Unscrew the hexagonal headed end screw in the takeup chain sprocket post (*this screw is bored and fitted with an oiler*), and

remove the screw, the washer and the chain sprocket driving gear.

Remove the three outer screws from the face of the oil-pump flange.

Insert three of the screws which normally secure the rear cover in the three blank holes in the flange of the pump. (*See Plate I: 14a.*) Screw these half a turn at a time for each against the projector casting, to extract the pump from its seating.

Before extracting the pump, unscrew the two screws retaining the oil distribution box to the projector frame, and lift the box to release the oil feed pipe, which is a push fit, out of the pump.

Remove the pump, leaving the oil pipes in the projector unless they are to be relaced.

Refitting the pump

Remove the rear cover screws which were used to extract the pump. Remove the old oil sealing washer. Carefully clean the pump and its seating.

Coat a new oil seal with Hermetite sealing compound, provided by Gaumont-Kalee in 4oz. tins (*Part No. 21872*).

Carefully replace the pump in its seating. Secure it with the three screws.

Replace the oil feed pipe. Screw the oil distribution box back in position on the frame casting.

Replace the chain sprocket and chain in the opposite order to their removal. Take up the slack in the chain with the jockey sprocket and tighten the arm locking screw. Replace the chain guard and motor and flywheel cover.

Replace the rear cover of the projector.

Refill the projector with Kalee "Superoil."

Replacing intermittent sprocket

Open the gate, by lifting the gate operating lever upwards. Remove the gate frame, by sliding it upwards in its locating grooves until free.

WARNING: *When removing the gate frame, take great care that the bottom of the gate or the shoe does not catch the intermittent sprocket.*

Remove the screw securing the intermittent sprocket

stripper (*fitted to the underside of the shutter case*), and remove the stripper. Remove the end screw and washer and the key washer securing the intermittent sprocket to the spindle. (*See Plate I: 9.*)

Remove the sprocket.

IMPORTANT: *When releasing the end screw, take great care to avoid straining the spindle.*

Reassembly

The spindle and shoulder, and the sprocket, should be carefully cleaned before reassembly. The sprocket should be pushed hard up to the shoulder, with slots in the sprocket in line with those on the end of the spindle.

Replace the key washer, making sure that the key locates in the slots in the sprocket and spindle.

Replace the washer, and the end screw. Tighten the end screw, taking special care not to strain the spindle.

Take great care not to damage sprocket teeth.

Replace the stripper in its original position.

Replace and close the gate.

Replacing intermittent unit

Remove the intermittent sprocket.

Remove the twelve fixing screws securing the rear cover, place them in a safe place.

To break the oil seal, screw one of the fixing screws into the blank hole in the top centre of the rear cover, and force the cover away from the projector frame casting.

Unscrew the special nut securing the intermittent unit to the racking quadrant.

Remove the plastic oil pipe from the intermittent unit.

Very carefully withdraw the intermittent unit from the bore of the barrel gear behind it, carefully disengaging the nylon gear on the intermittent unit while doing so.

WARNING: *The complete intermittent unit is precision engineered, to limits of 0.0002in. (0.005mm), and requires special tools and skill in servicing. On no account should any further dismantling be carried out by the projectionist.*

Reassembly and timing

Timing lines are marked on:

- (a) Masking knob. (*Arrow.*)
- (b) Light cone.
- (c) Drum shutter.
- (d) Intermittent unit flywheel.

1. Set the masking knob in the central position of the masking movement.
2. Rotate the projector mechanism to bring the line on the shutter opposite to that on the light-cone.
3. Set the line on the intermittent unit flywheel at an angle slightly to the left of the oil pipe at the top of the housing, then holding the unit by the housing only, carefully insert the unit into the projector.

This will enable the gear on the flywheel shaft to rotate into mesh and should bring the line on the flywheel in line with the oil pipe.

When these and the shutter timing marks all line up, the nut securing the unit to the racking quadrant must be refitted and tightened.

4. Replace the intermittent sprocket.
5. Carefully refit the rear cover, using a new oil seal if the old one is torn, and attaching the oil seal to the rear cover and to the frame casting by the use of "HERMETICOL" sealing compound, available from Gaumont-Kalee in 4oz. tins (*Part No. 21870*). Only a thin covering of "HERMETICOL" should be used.

To time the shutter

1. Set the masking knob in central position of masking movement.
2. Remove rear cover of projector.
3. Rotate flywheel of intermittent unit to bring timing line in line with the oil pipe at the top of the unit housing.
4. The lines on the light-cone and the drum shutter can be seen through the interior of the lamphouse and should be opposite to each other. Any necessary

adjustment to the drum shutter can be made by removing the name-plate from the shutter cover thus giving access to the four screws clamping the shutter to the shutter-boss. Slacken these screws and rotate the shutter on the boss to bring the line on the shutter into the correct position, taking care to retighten the screws after the adjustment has been made.

Fuses

In addition to the fuses in the distribution board, cartridge fuses are provided on the equipment as follows:-

Arc feed motor: On Arc Lamp control panel.
2 Ampere Fuse. (Part No. 65/386).

Threading lamp and Arc inspection lamp: On panel on non-operating side of Projector (*Auxiliary Circuit Fuse*) 2 Ampere Fuse (Part No. 65/386).

Electrical Changeover (when fitted): On panel on non-operating side of Projector (*Picture Change-over Fuse*) 2 Ampere Fuse (Part No. 65/386).

Fuses are also fitted to the inside face of the projector control panel. These fuses are in circuit with the click suppression capacitors in the motor and electrical changeover circuits:-

5 Ampere Fuse (Part No. 65/565).

IMPORTANT: Removal of the Projector Control Panel will disclose LIVE MAINS terminals, isolate the incoming supply to the Projector before removing the panel.

Notes

SPARE PARTS LIST

When ordering Spare Parts from this List, always give as much information as possible. In addition to the number of the part to be replaced, quote its name, with the type and serial numbers of the unit in which it is fitted.

IMPORTANT: The Part Number must always be quoted.

Bei der Bestellung von Ersatzteilen sollte eine eingehende Beschreibung beigefügt werden. Ausser der Nummer des Teils, das ersetzt werden soll, sollte seine Benennung sowie die Typen- und Seriennummern des Gerätes angegeben werden, in den das Teil eingebaut werden soll.

WICHTIG: Die Listenbezeichnung des Teils muss auf jeden fall angegeben werden.

Quand vous commandez des pièces a l'aide de cette liste veuillez donner le plus d'information possible. En plus du numéro de la pièce, veuillez indiquer son nom ainsi que le type et numéro de la machine à laquelle elle est destinée.

IMPORTANT: Le numéro de la pièce doit toujours être donné.

Cuando se hace un pedido de piezas de recambio se debe hacer lo mas detallado posible. Aparte del número de la parte que se reemplaza, indicar su nombre, con los números de tipo y serie de la sección donde van ajustados.

IMPORTANTE: El número de la parte siempre debe indicarse.

Bij bestelling van onderdelen van deze lijst verzoeken wij U altijd zoveel mogelijk bijzonderheden te verstrekken. Afgezien van het nummer van het te vervangen onderdeel verzoeken wij U de naam ervan op te geven alsmede het type en de serie nummers van de machines, waarin e.e.a. gemonteerd moet worden.

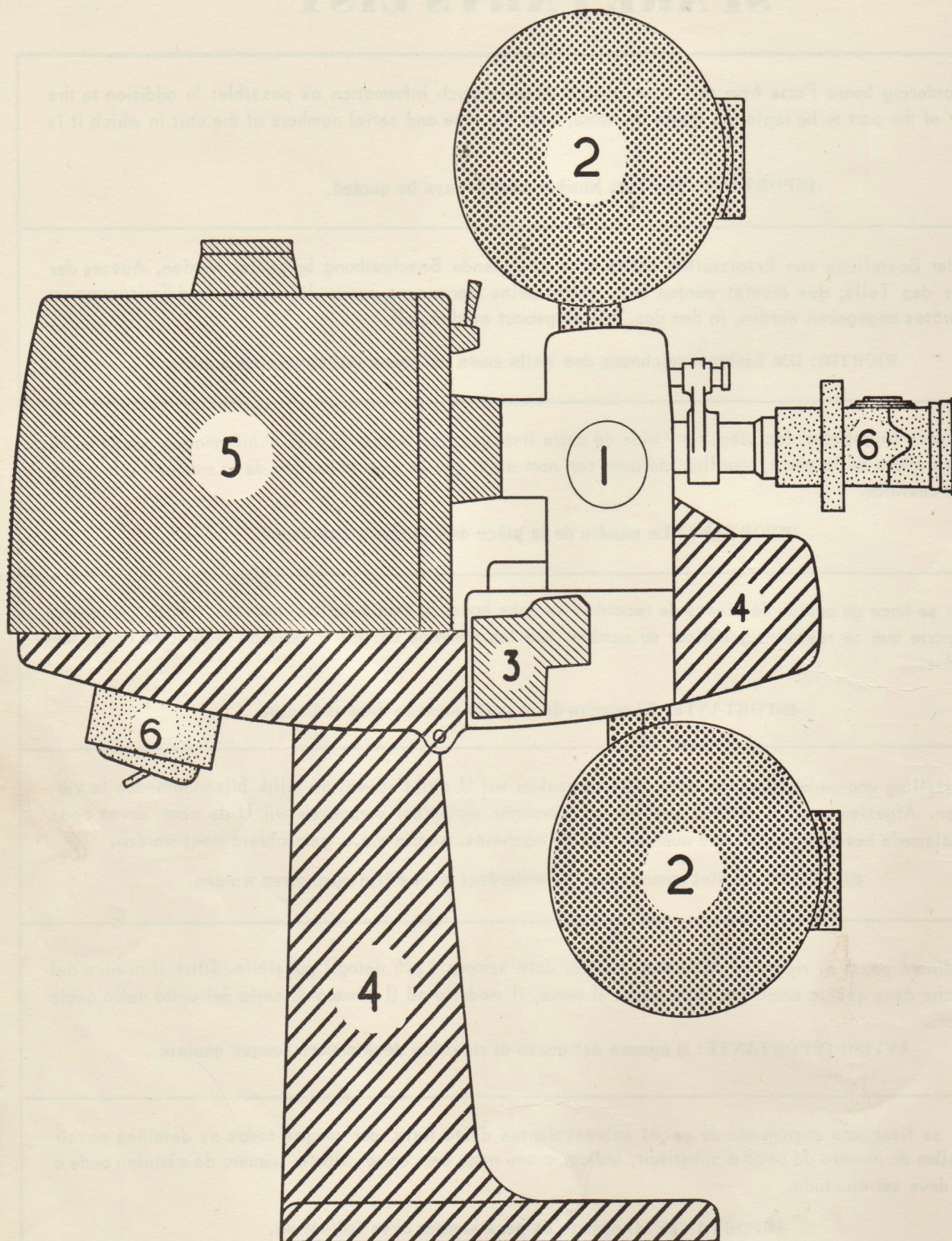
BELANGRIJK: Het nummer van het onderdeel moet altijd opgegeven worden.

Per ordinare pezzi di ricambio da questo elenco, date sempre i più dettagli possibile. Oltre il numero del pezzo che deve essere cambiato, date anche il nome, il modello ed il numero di serie del unità nella quale è montato.

AVVISO IMPORTANTE: Il numero del pezzo di ricambio deve essere sempre quotato.

Quando se fizer uma encomenda de peças sobressalentes desta lista, dar sempre todos os detalhes possíveis. Além do número da peça a substituir, indicar o seu nom, bem como tipo e número da máquina onde a mesma deve ser ajustada.

IMPORTANTE: O número da peça sempre deve indicar-se.

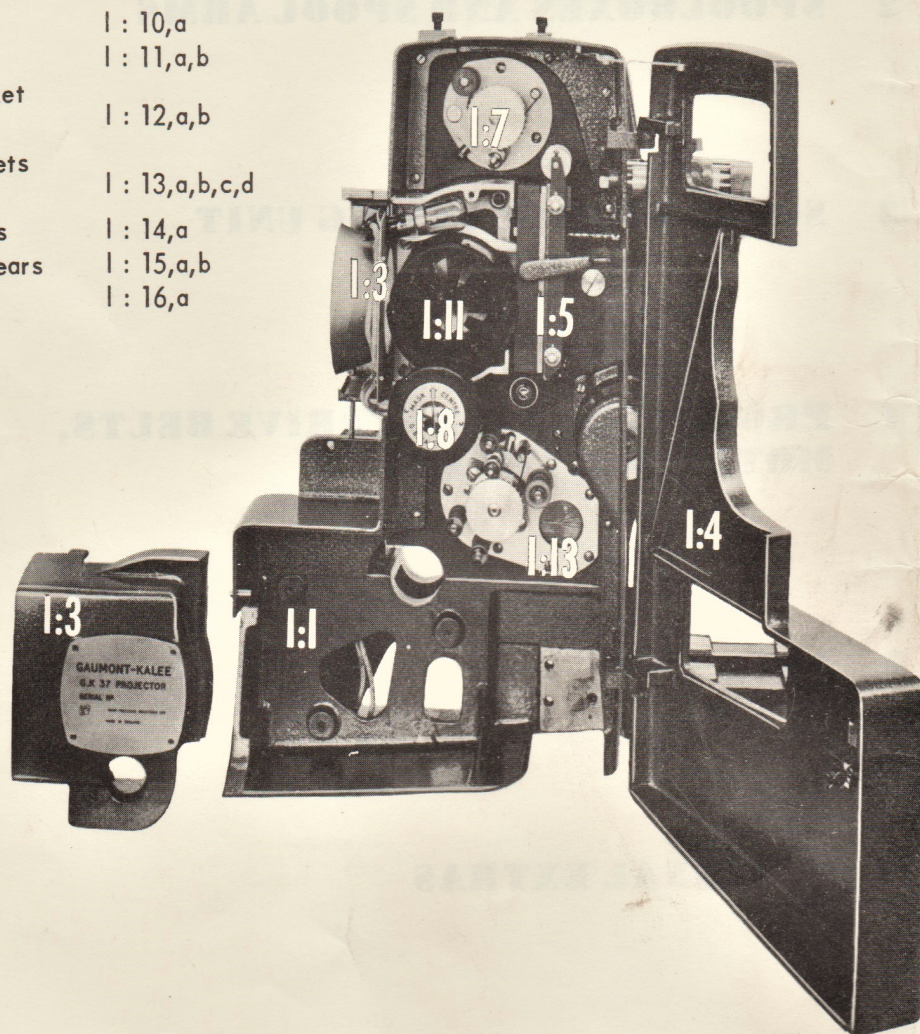


KEYPLATE – GK 37 Projector spare parts list

Section	Description	Plates
1	PROJECTOR MECHANISM AND FRAME (Less scanning unit)	I : (1 - 16)
2	SPOOLBOXES AND SPOOL ARMS	II : (1 - 9)
3	SOUNDHEAD SCANNING UNIT	III : (1 - 6)
4	PROJECTOR STAND, DRIVE BELTS, MOTOR AND COVERS	IV : (1 - 3)
5	ARCLAMP	V : (1 - 13)
6	OPTIONAL EXTRAS	VI : (1 - 13)

KEYPLATE SECTION I

<i>Description</i>	<i>Plate No.</i>
Projector main frame, front beam and frame extensions	1 : 1
Projector rear cover	1 : 2
Shutter case and light cone	1 : 3
Projector door	1 : 4
Gate assembly	1 : 5,a,b
Third intermediate gear and post	1 : 6
Top sprocket and roller bracket	1 : 7,a,b,c
Masking control	1 : 8,a,b,c
Intermittent unit and sprocket	1 : 9
Intermittent bearing assembly	1 : 10,a
Shutter, shaft and gear	1 : 11,a,b
Main drive, and bottom sprocket drive	1 : 12,a,b
Bottom sprocket, roller brackets and filter arms	1 : 13,a,b,c,d
Oil pump, oil pipes and filters	1 : 14,a
Take up drive sprocket and gears	1 : 15,a,b
Lens holder assembly	1 : 16,a



Projector mechanism

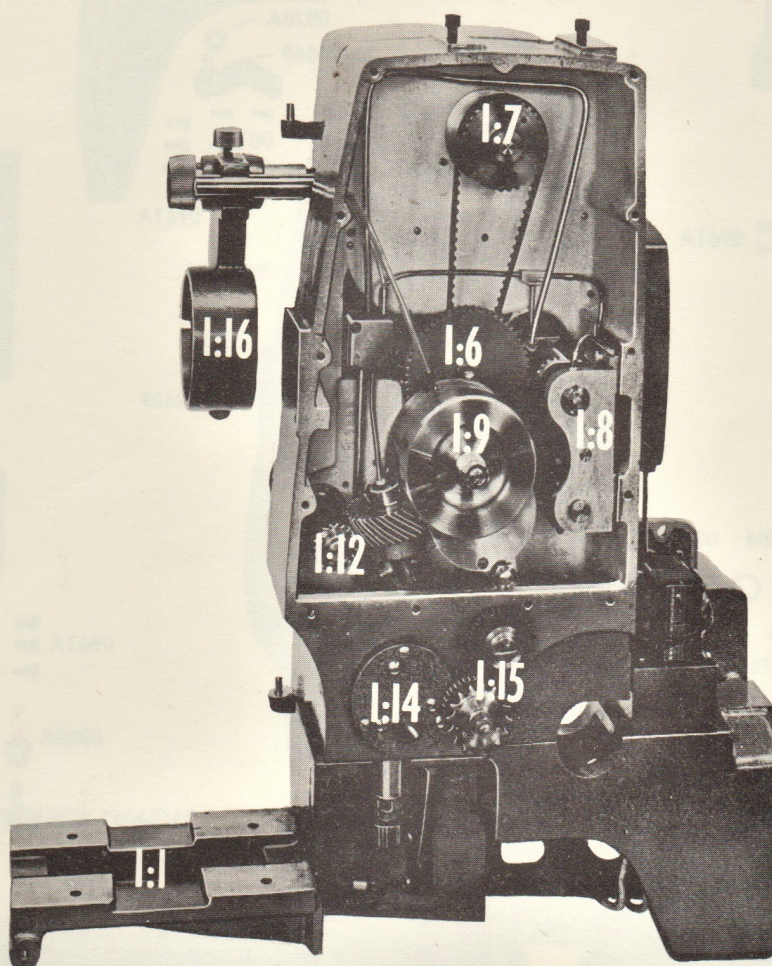


Plate I : 1

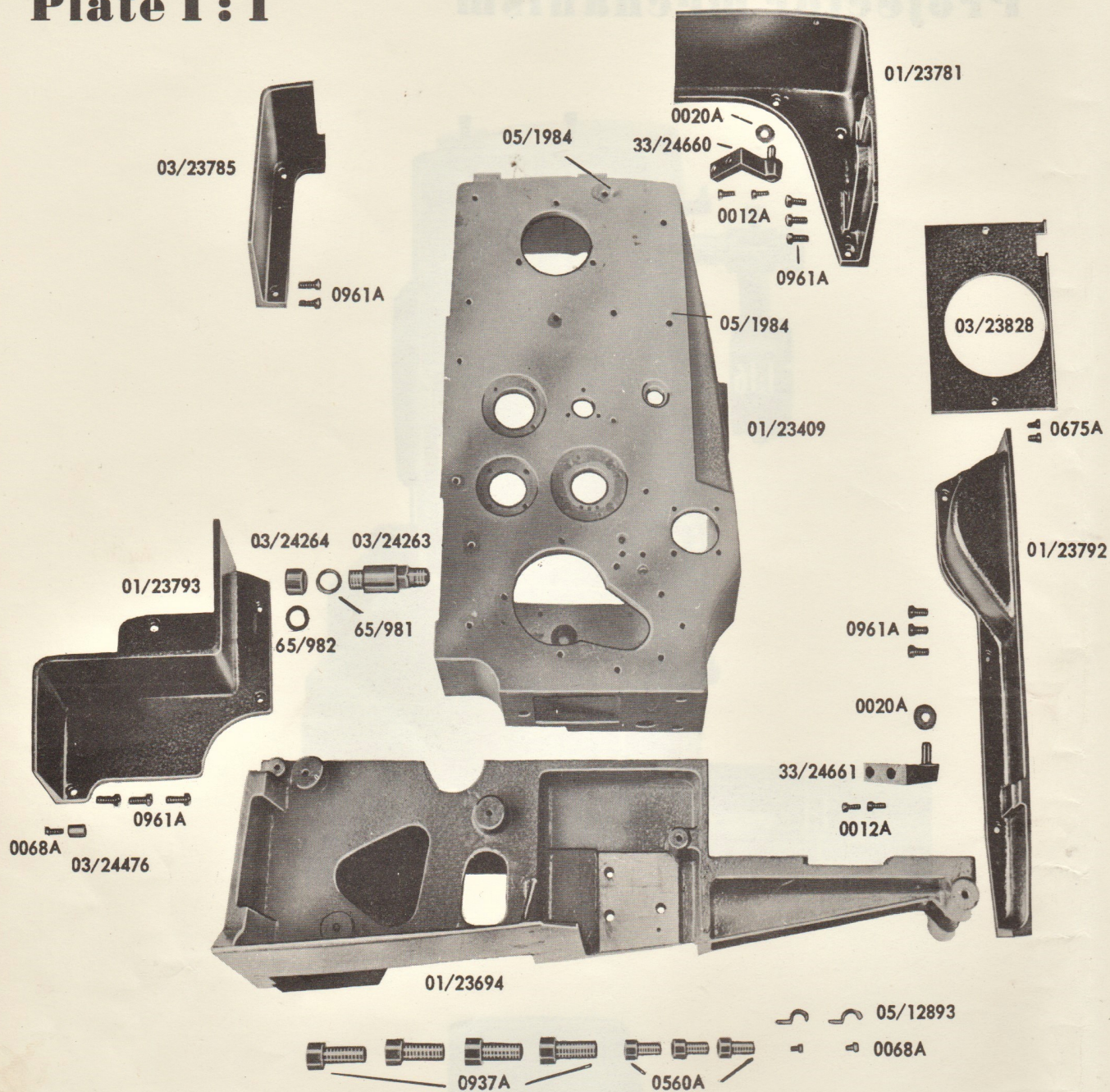


Plate I : 2

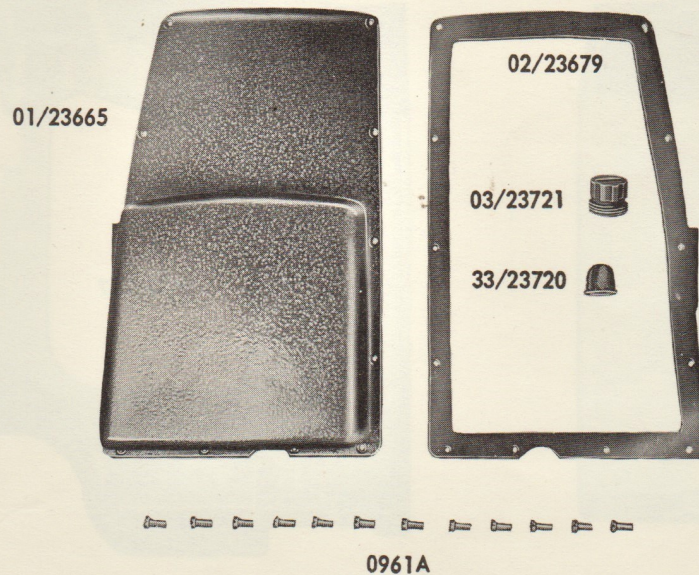


PLATE I : 1 PROJECTOR MAIN FRAME—FRONT BEAM—FRAME EXTENSIONS

Part No	Description	No.Off	Screws Etc	Part No	No.Off
01/23409	Projection main frame only	1	3/8in BSF.3/4in Allen cap screw	0560A	3
03/24263	Oil drain plug	1	(main frame to front beam)		
65/982	Drain plug washer	1			
03/24264	Oil drain plug cap	1			
65/981	Plug cap oil seal	1	Inside 03/24264		
01/23694	Front beam	1	1/2in BSF.1 1/4in Allen screw	0937A	4
05/12893	Cable clips	2	4BA.3/8in cheesehead screw	0068A	2
01/23781	Upper right hand extension	1	2BA.1/2in Filister head screw	0961A	3
05/1984	Dowel pin	2	Locating extension 01/23781		
33/24660	Complete upper hinge	1	4BA.1/2in Filister head screw	0012A	2
	On hinge pin. Spacing washer		1/4in M.S. washer	0020A	1
01/23792	Lower right hand extension	1	2BA.1/2in Filister head screw	0961A	3
03/23828	Front cover plate	1	4BA.1/4in Hexagon head screw	0675A	2
02/23785	Upper left hand extension	1	2BA.1/2in Filister head screw	0961A	2
01/23793	Lower left hand extension	1	2BA.1/2in Filister head screw	0961A	3
03/24476	Door catch	1	4BA.3/8in Cheesehead screw	0068A	1
33/24661	Complete lower hinge	1	4BA.1/2in Filister head screw	0012A	2
			1/4in Mild steel washer	0020A	1

PLATE I : 2 REAR COVER PARTS

01/23665	Projector rear cover	1	2BA.1/2in Filister head screw	0961A	12
03/23721	Oil filler cap	1	Threaded		
33/23720	Oil filter	1	Under filter cap		
02/23679	Oil seal	1	As rear cover		

Plate I : 3

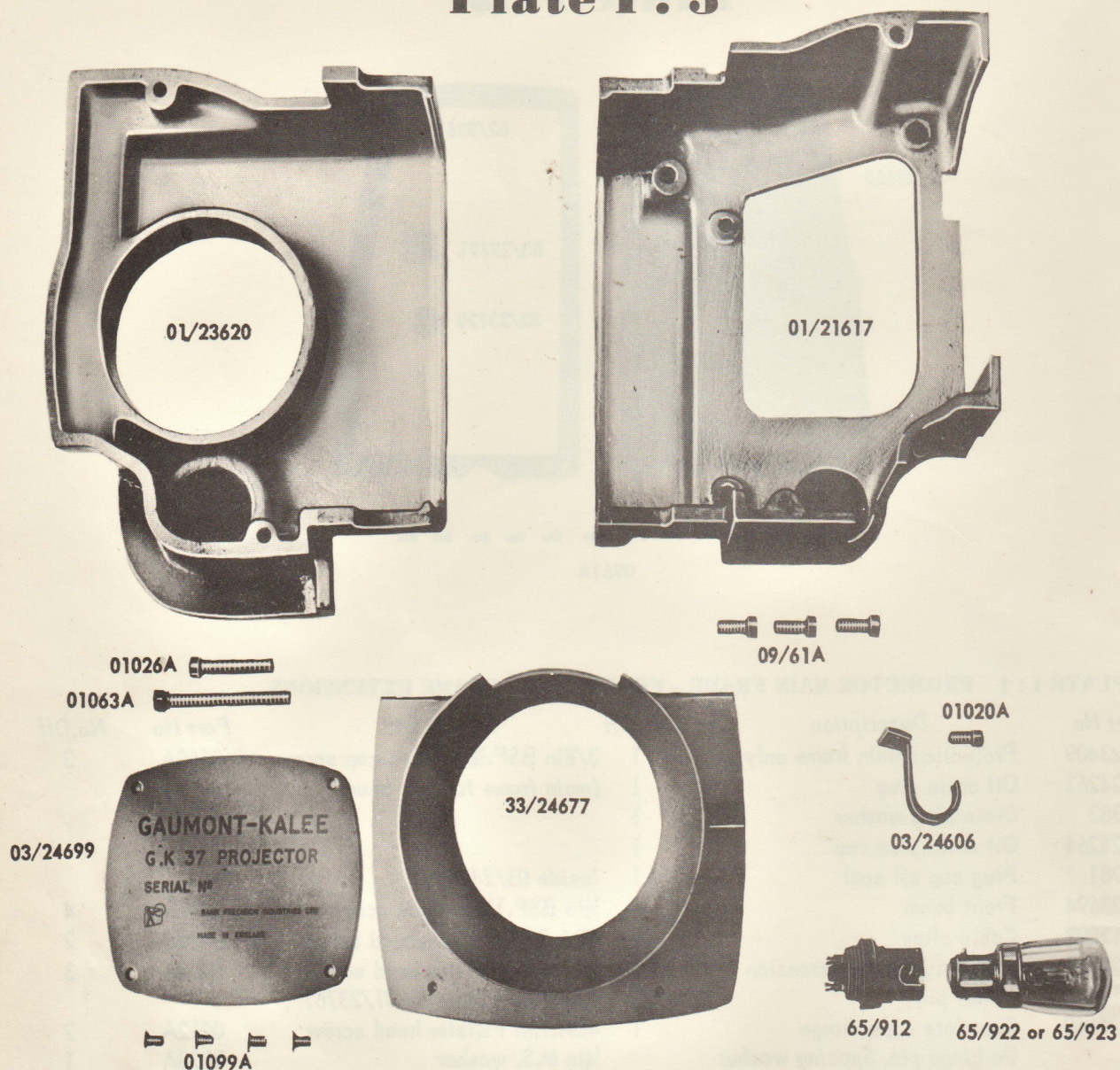
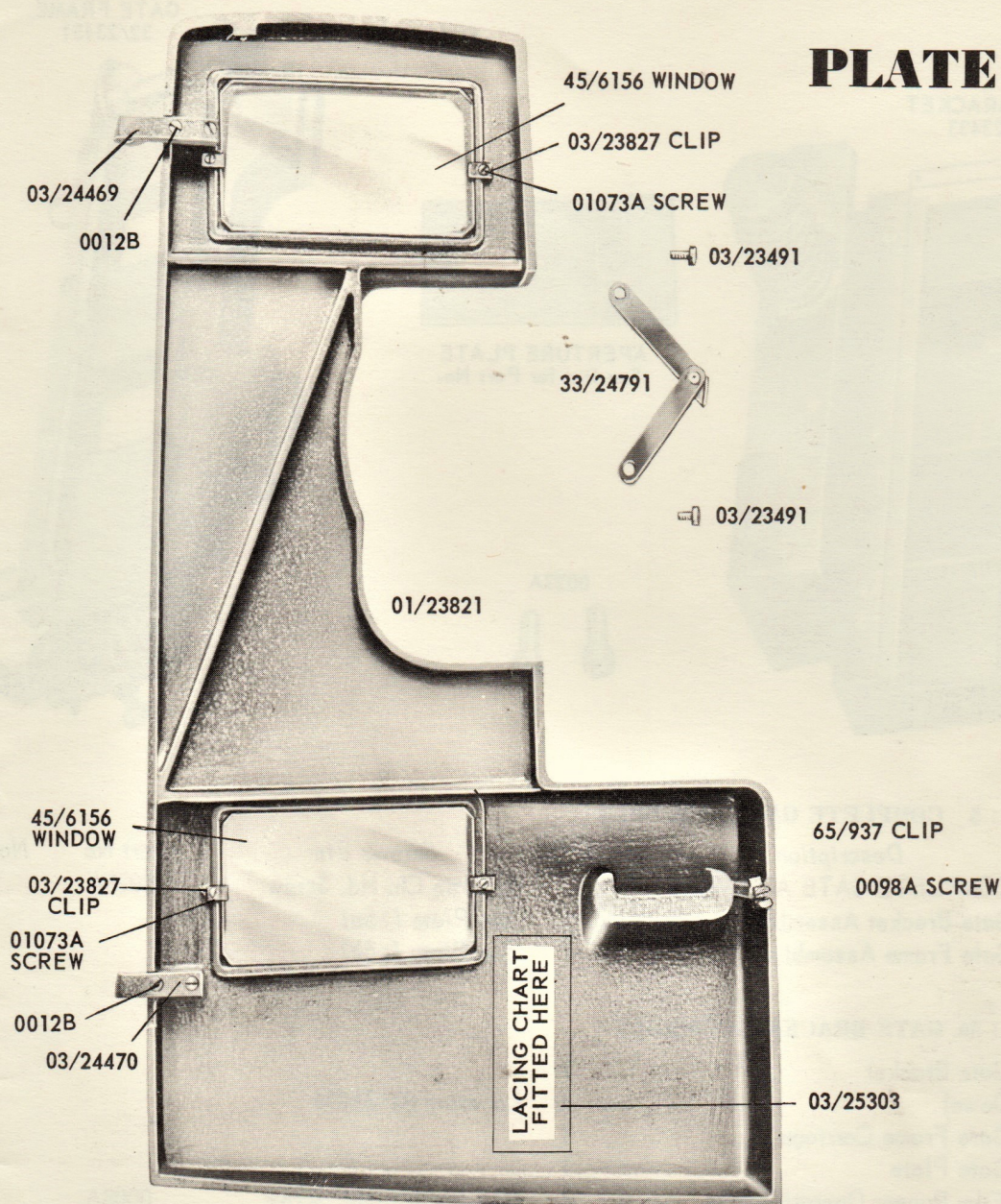


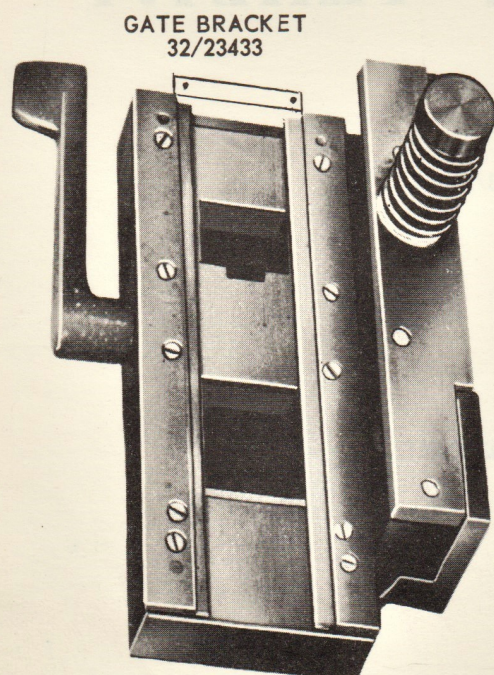
PLATE I : 3 SHUTTER CASE AND LIGHT CONE

Part No	Description	No.Off	Screws Etc	Part No	No.Off
01/23617	Shutter case	1	2BA. 1/2in Filister head screw	0961A	3
33/24677	Light cone with baffle plate	1			
65/912	Lampholder SBC.	1	For threading lamp		
65/922	Threading lamp 15w. 240v.	1			
65/923	Threading lamp 15w. 110v.	1	As ordered to suit local supply voltage		
03/24606	Stripper, intermittent sprocket	1	4BA. 1/4in Filister head screw	01020A	1
01/23620	Shutter cover	1	2BA. 1 1/4in Filister head screw	01063A	1
			2BA. 1in Filister head screw	01026A	1
03/24699	Nameplate	1	6BA. 3/16in Filister head screw	01099A	4

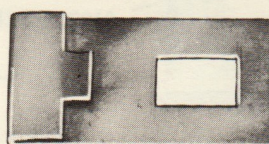
PLATE I : 4**PLATE I : 4 PROJECTOR DOOR**

Part No	Description	No. Off	Screws Etc	Part No	No. Off
01/23821	Projector door only	1			
03/24469	Door hinge-upper	1	4BA. $\frac{1}{2}$ in Filister head screw	0012B	2
03/24470	Door hinge-lower	1	4BA. $\frac{1}{2}$ in Filister head screw	0012B	2
45/6156	Window	2	Held by clip 03/23827		
03/23827	Window clip	4	4BA. $\frac{3}{8}$ in. cheesehead screw	01073A	4
65/937	Door clip	1	8BA. $\frac{3}{16}$ in roundhead screw	0098A	1
33/24791	Door stop and stay assembly	1	Secured by 03/23491		
03/25303	Lacing chart	1			

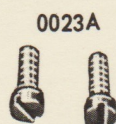
Plate I : 5



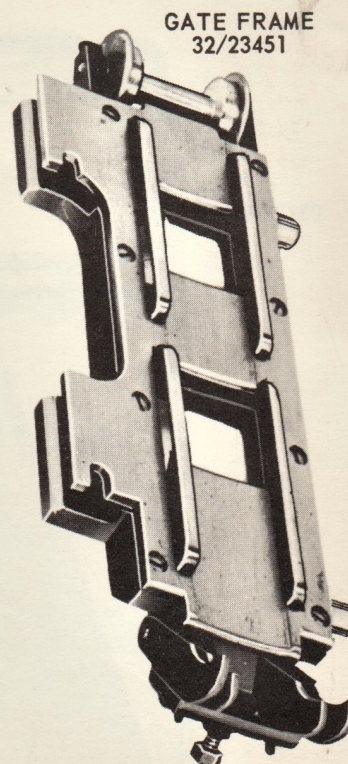
GATE BRACKET
32/23433



APERTURE PLATE
See list for Part No.



0023A



GATE FRAME
32/23451

PLATE I : 5 COMPLETE GATE ASSEMBLY

Part No	Description	No.Off	Screws Etc	Part No	No.Off
32/23432	COMPLETE GATE ASSEMBLY		2BA. 1/2in Ch. Hd. Screw	0023A	2
32/23433	Gate Bracket Assembly	1	(See Plate I : 5a)		
32/23451	Gate Frame Assembly	1	(See Plate I : 5b)		

PLATE I : 5a GATE BRACKET ASSEMBLY

02/23434	Gate Bracket	1			
03/23477	Dowel	4	Locating 02/23434		
33/23755	Gate Frame Carriage	1			
03/23435	Gate Plate	1			
03/23436	Film Runner Operating Side	1	6BA. 1/4in Ch. Hd. Screw	0008A	3
03/23437	Film Runner Non-operating side	1	6BA. 3/4in Ch. Hd. Screw	0008A	3
03/23445	Reflector Plate	1	6BA. 3/16in Ch. Hd. Screw	0045A	4
03/23439	Gate Arm	1	5/16in BSF. Nut	0632A	1
03/9654	Gate Arm Spring	1			
03/23443	Gate Lever	1	1/16in. 3/4in Taper Pin	01058A	1
03/24935	Guide Plate	1	6BA. 5/16in Ch. Hd. Screw	0111A	2
03/23444	Aperture Plate	1			
For alternative Aperture Plates see Section VI					
03/23448	Gate Lever Spindle	1			
03/23449	Roller Arm	1	1/16in. 3/4in Taper Pin	01058A	2
03/23450	Roller	1			
03/23442	Roller Spindle	1			

Plate I : 5a

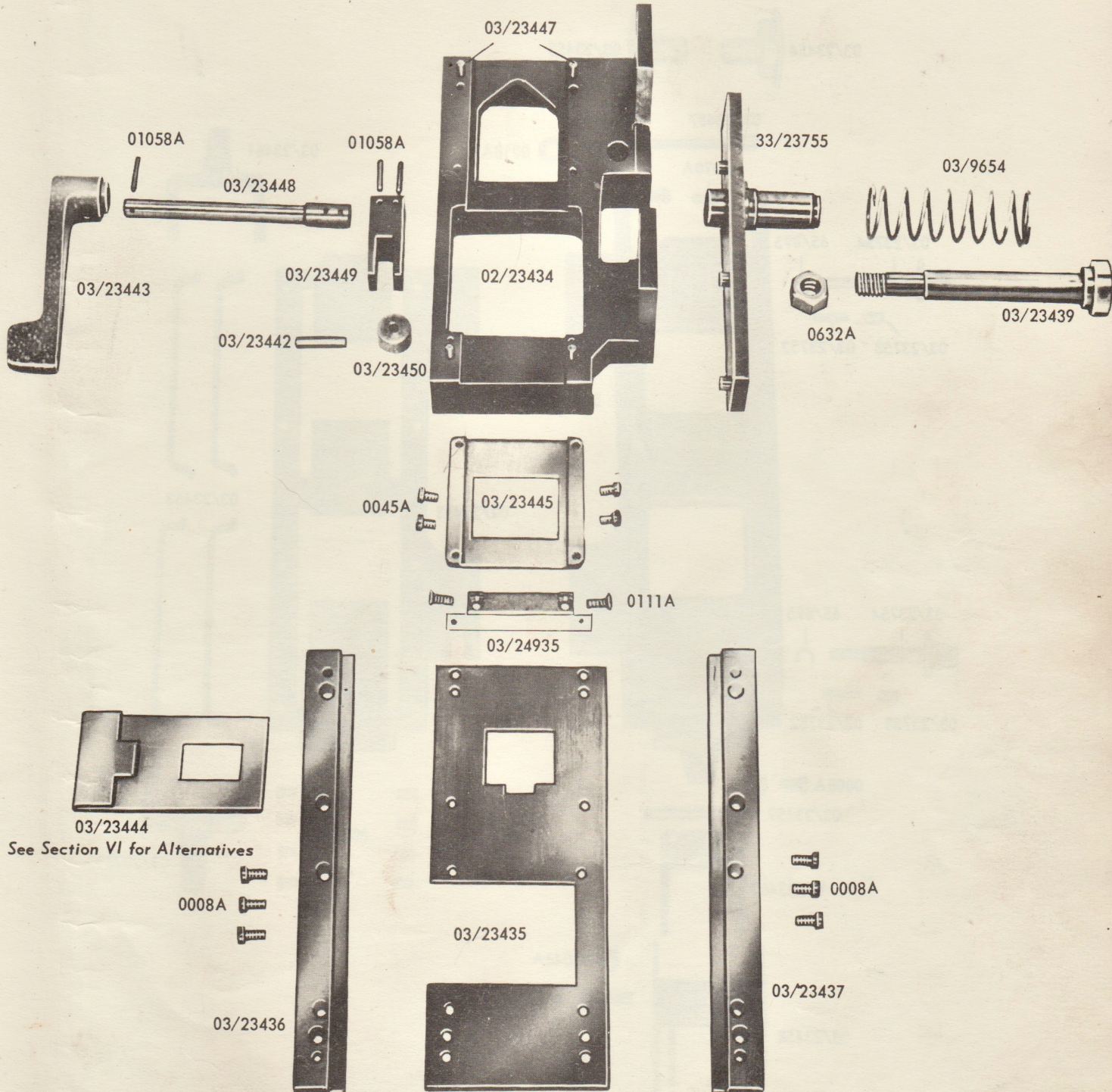


Plate I : 5b

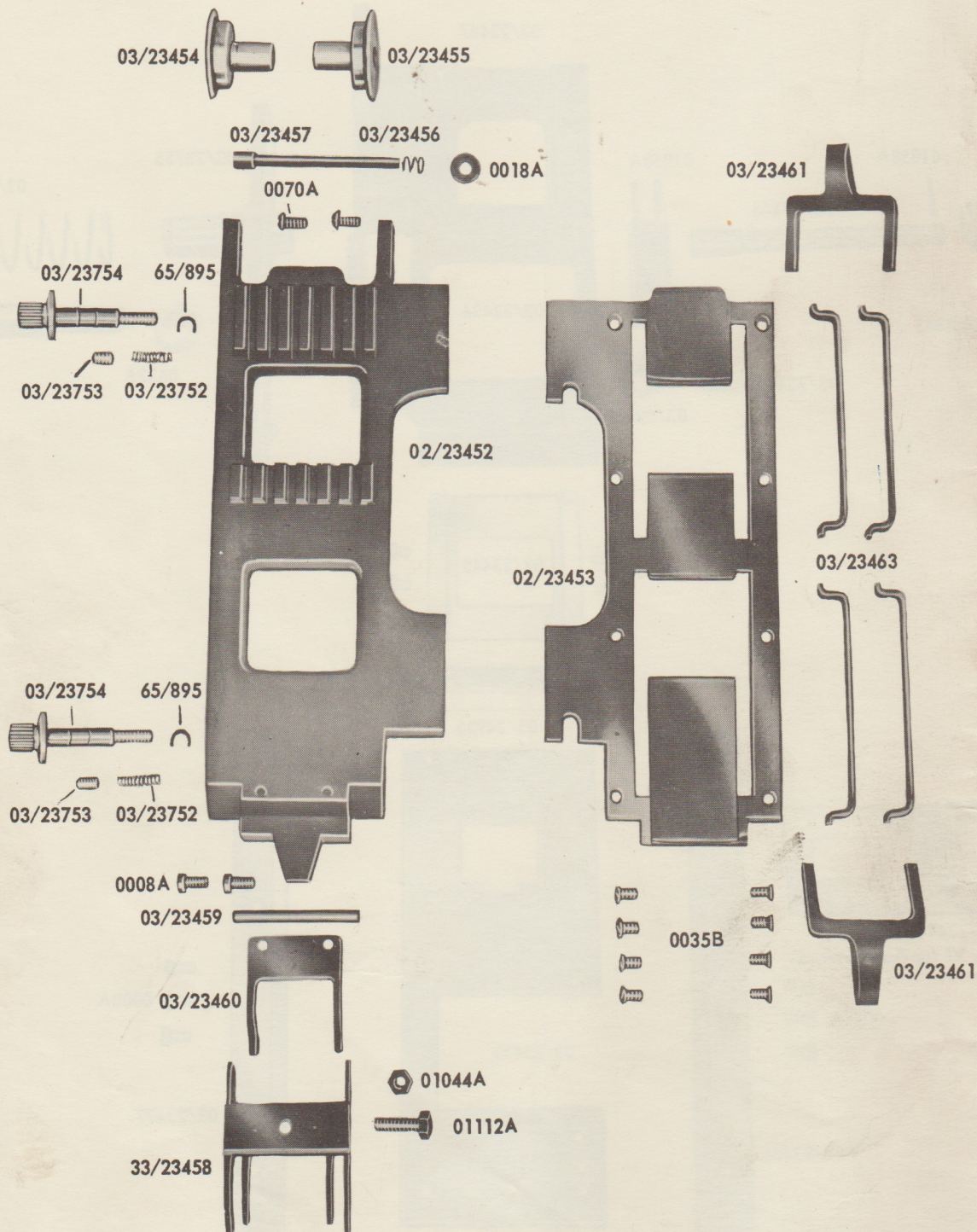
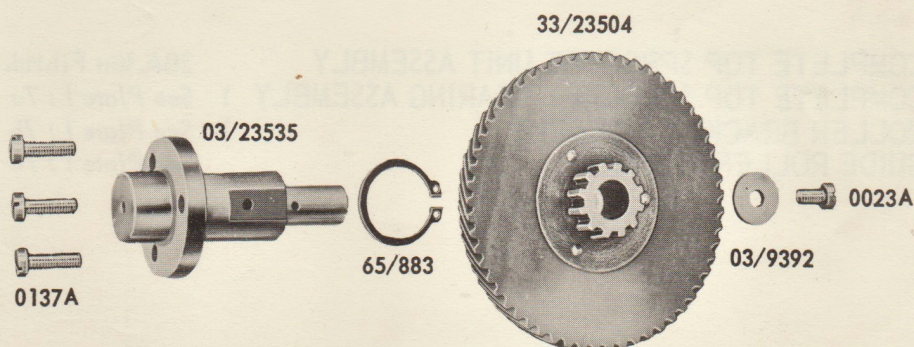


PLATE I : 5b GATE FRAME ASSEMBLY

Part No	Description	No.Off	Screws Etc	Part No	No.Off
02/23452	Gate Frame	1			
02/23453	Pressure Plate	1	6BA. 1/4in Csk. Hd. Screw	0035B	8
03/23454	Guide Roller	1			
03/23455	Pressure Roller	1			
03/23456	Pressure Roller Spring	1	Behind Spring is 4BA Washer	0018A	1
03/23457	Guide Roller Spindle	1	6BA. 1/4in Rd. Hd. Screw	0070A	2
03/23754	Eccentric Spindle	2	Retained by 65/895		
65/895	Circlip 3/16in	2			
03/23753	Plunger	2	Locating 03/23754		
03/23752	Compression Spring	2	Operating 03/23753		
03/23463	Skates	4			
03/23461	Skate Pressure Springs	2	4BA. 1/2in. Hex. Hd. Adjusting Screw	01112A	1
33/23458	Shoe Assembly	1	4BA. Locknut	01044A	1
03/23549	Shoe Spindle	1			
03/23460	Shoe Spring	1	6BA. 1/4in Ch. Hd. Screw	0008A	2

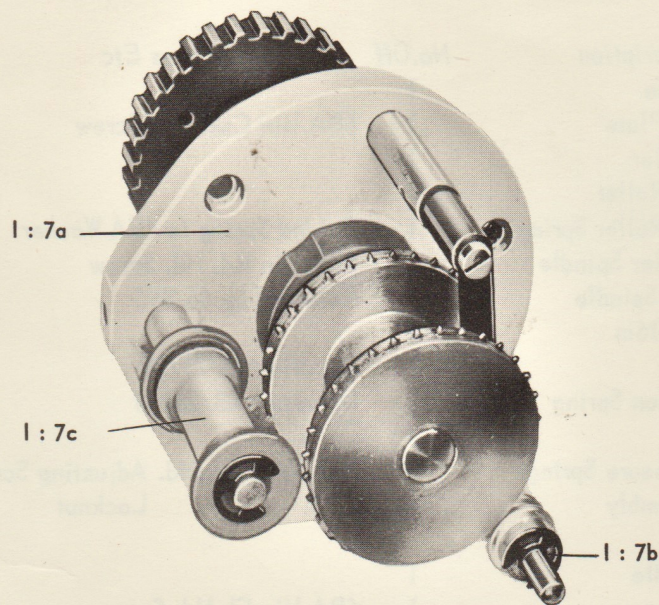
Plate I : 6

THIRD INTERMEDIATE GEAR AND POST (Driving top sprocket)



Part No	Description	No.Off	Screws Etc	Part No	No.Off
03/23535	Third intermediate gear post	1	2BA. 3/4in cheesehead screw	0137A	3
33/23504	Third intermediate gear	1	Includes circlip 65/883 Retained by washer 03/9392		
03/9392	End washer for gear	1	2BA. 1/2in cheesehead screw	0023A	1

Plate I : 7



TOP SPROCKET UNIT COMPLETE

33/25260	COMPLETE TOP SPROCKET UNIT ASSEMBLY		2BA. $\frac{3}{4}$ in Fil.Hd. Scr. 0914A	3
33/23741	COMPLETE TOP SPROCKET BEARING ASSEMBLY	1	See Plate I : 7a	
33/24647	ROLLER BRACKET ASSEMBLY	1	See Plate I : 7b	
	GUIDE ROLLER PARTS		See Plate I : 7c	

Plate I : 7a

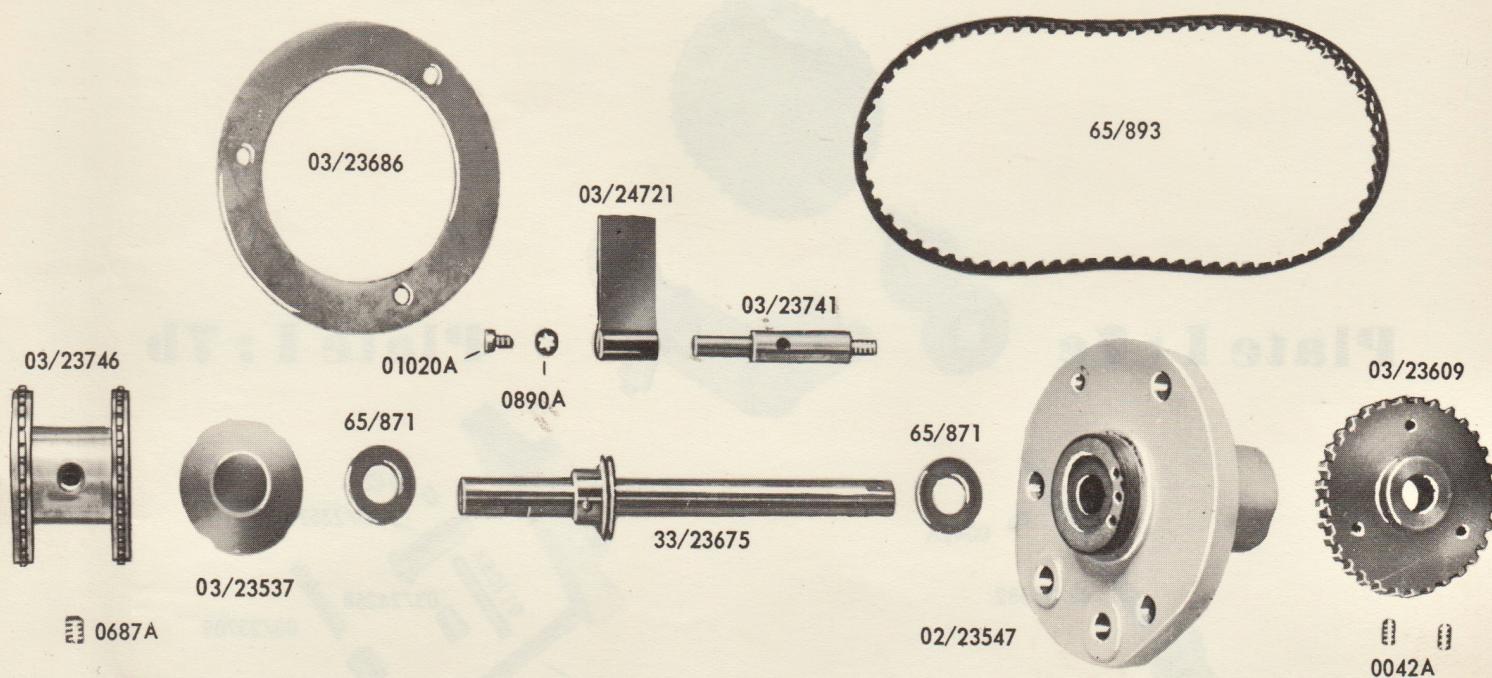


PLATE I : 7a TOP SPROCKET BEARING ASSEMBLY

Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/23675	Top sprocket spindle with oil Thrower	1			
02/23547	Top sprocket bearing only	1			
03/23609	Drive pulley	1	2BA.1/4in Allen set screw	0042A	2
03/23537	Oil deflector	1			
03/23746	Feed sprocket	1	1/4in BSF.5/16in Allen set screw	0687A	1
65/871	Thrust plate	2			
03/23741	Stripper post	1	4BA.5/16in Fil. Hd. Screw	01020A	1
03/24721	Stripper blade	1	4BA Shakeproof washer	0890A	1
03/23686	Oil seal for Complete Assembly Not Included	1	Driving 03/23609		
65/893	Drive belt as parts of these Assemblies	1			

Plate I : 7c

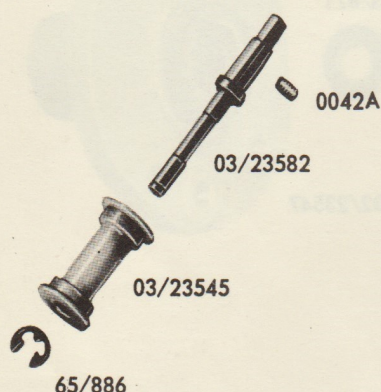
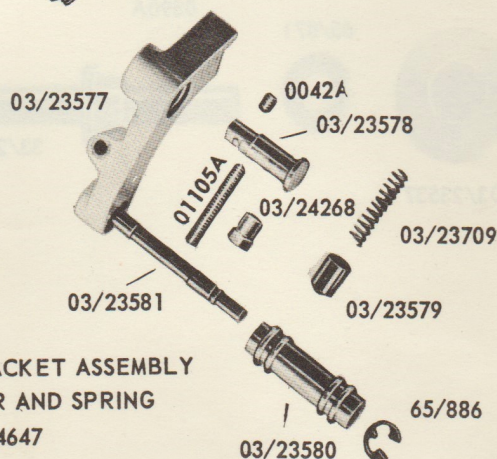
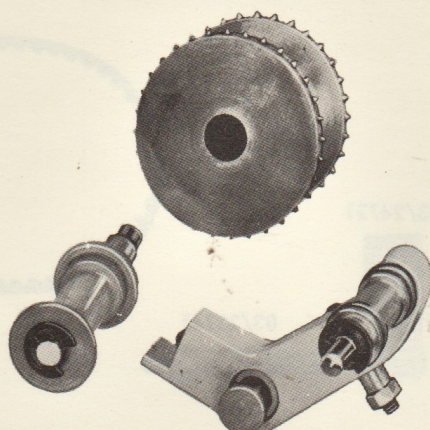


Plate I : 7b



TOP ROLLER BRACKET ASSEMBLY
LESS PLUNGER AND SPRING
33/24647

PLATE I : 7b ROLLER BRACKET ASSEMBLY (Less post)

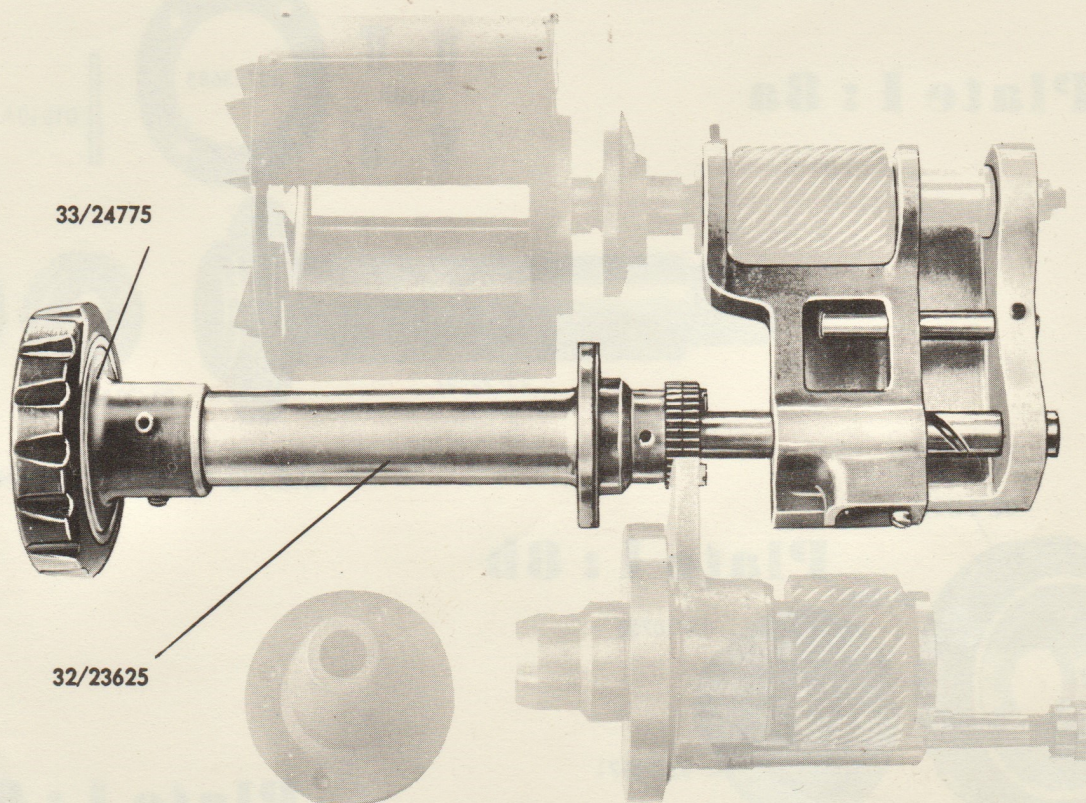
Part No	Description	No.Off	Screws Etc	Part No	No.Off
03/23577	Roller bracket only	1	These parts are pressed together, and should be ordered together for replacement		
03/23581	Pad roller spindle	1			
03/23580	Pad roller (steel)	1			
01105A	Adjusting screw 2BA.1¼in Allen set screw	1	Circlip	65/886	
0649A	Adjusting Screw 2BA.1in Hex. Hd.	1	2BA. Special locknut	03/24268	1
03/23579	Plunger	1	2BA Locknut	0049A	1
03/23709	Plunger spring	1	In Roller Bracket 03/23577		
03/23578	Top roller bracket post Not Part of assembly	1	2BA.¼in Allen set screw	0042A	1

PLATE I : 7c GUIDE ROLLER PARTS

03/23545	Guide roller (nylon)	1	Circlip	65/886	1
03/23582	Guide roller spindle	1	2BA.¼in Allen set screw	0042A	1

Plate I : 8

MASKING KNOB AND SPINDLE, COMPENSATING FORK AND OUTRIGGER BRACKET



- 32/23625 COMPLETE MASKING SPINDLE AND BEARING 1 2BA.3/8in Countersunk screw 0128A 4
 (See PLATE I :8a)
- 33/24775 COMPLETE MASKING KNOB AND CLUTCH 1 1/4in BSF 1/4in Allen screw 0044A 2
 (See PLATE I :8b)
- COMPENSATING FORK AND BRACKET PARTS**
 (See PLATE I :8c)

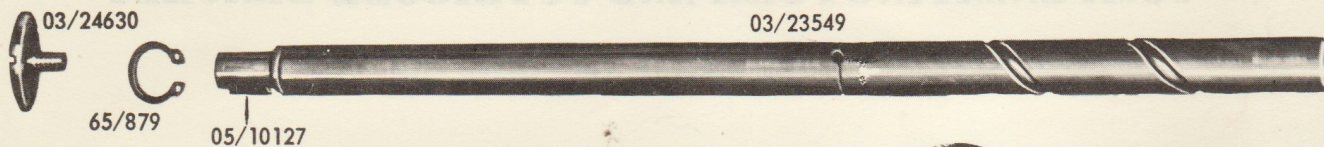
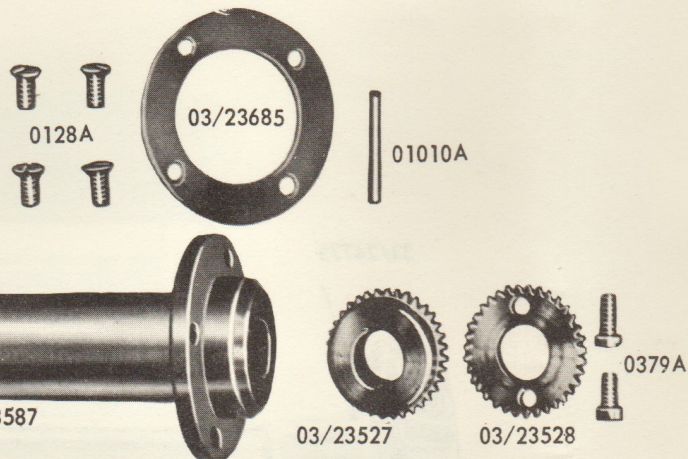
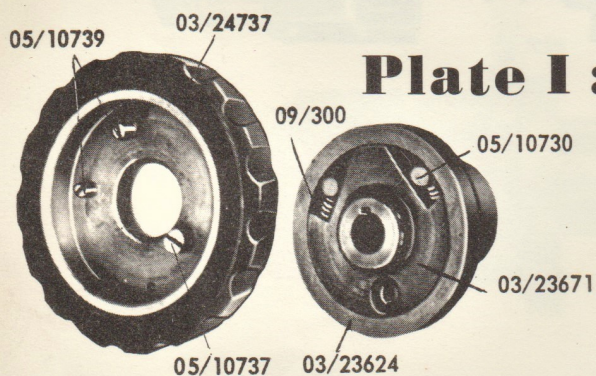


Plate I : 8a



MASKING SPINDLE & BEARING ASSEMBLY
32/23625



COMPLETE MASKING KNOB 33/24775

Plate I : 8b

Plate I : 8c

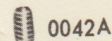
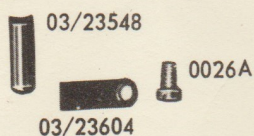
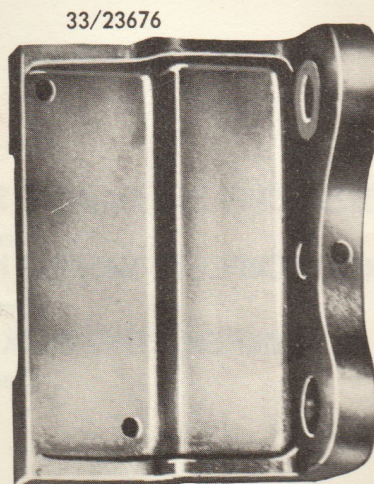
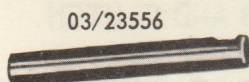
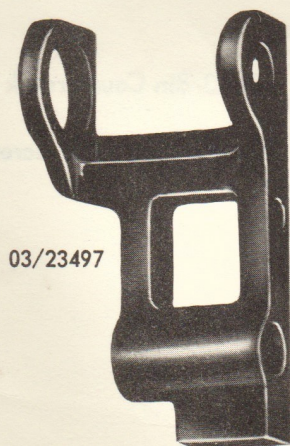


PLATE I : 8a MASKING SPINDLE AND BEARING

Part No	Description	No.Off	Screws Etc	Part No	No.Off
03/23587	Masking spindle bearing	1			
03/23549	Masking spindle	1	Circlip	65/879	1
03/23527	Masking gear	1	1/8.1¼in taper pin	01010A	1
03/23528	Masking gear	1	2BA.5/16in cheesehead screw	0379A	2
03/23685	Oilseal	1			

NOTE: When GEAR NO 03/23527 is supplied as a spare, fixing screws are incorporated in place of existing taper pin

PLATE I : 8b MASKING KNOB AND CLUTCH

03/24737	Masking knob	1	Special end screw	03/24630	1
03/24703	Masking knob label (NOT ILLUSTRATED)		(See Plate I : 8a)		
05/10737	Driving pin	1			
05/10739	Release screw	2			
03/23624	Clutch shell	1			
03/23671	Clutch hub	1	Keyed to shaft by	05/10127	1
05/10730	Clutch roller	2	(See Plate I : 8a)		
09/300	Clutch roller spring	2			

PLATE I : 8c COMPENSATING FORM AND BRACKET

03/23497	Compensating fork	1			
03/23548	Compensating fork key	1	Locating with spindle 03/23549		
03/23604	Spring	1	4BA.¾in Cheesehead screw	0026A	1
33/23676	Outtrigger bracket	1	2BA.¾in Cheesehead screw	0137A	2
03/23556	Guide pin	1	2BA.¼in Allen set screw	0042A	1
03/12865	Dowel pin for outrigger bracket	2	Locating 33/23676		

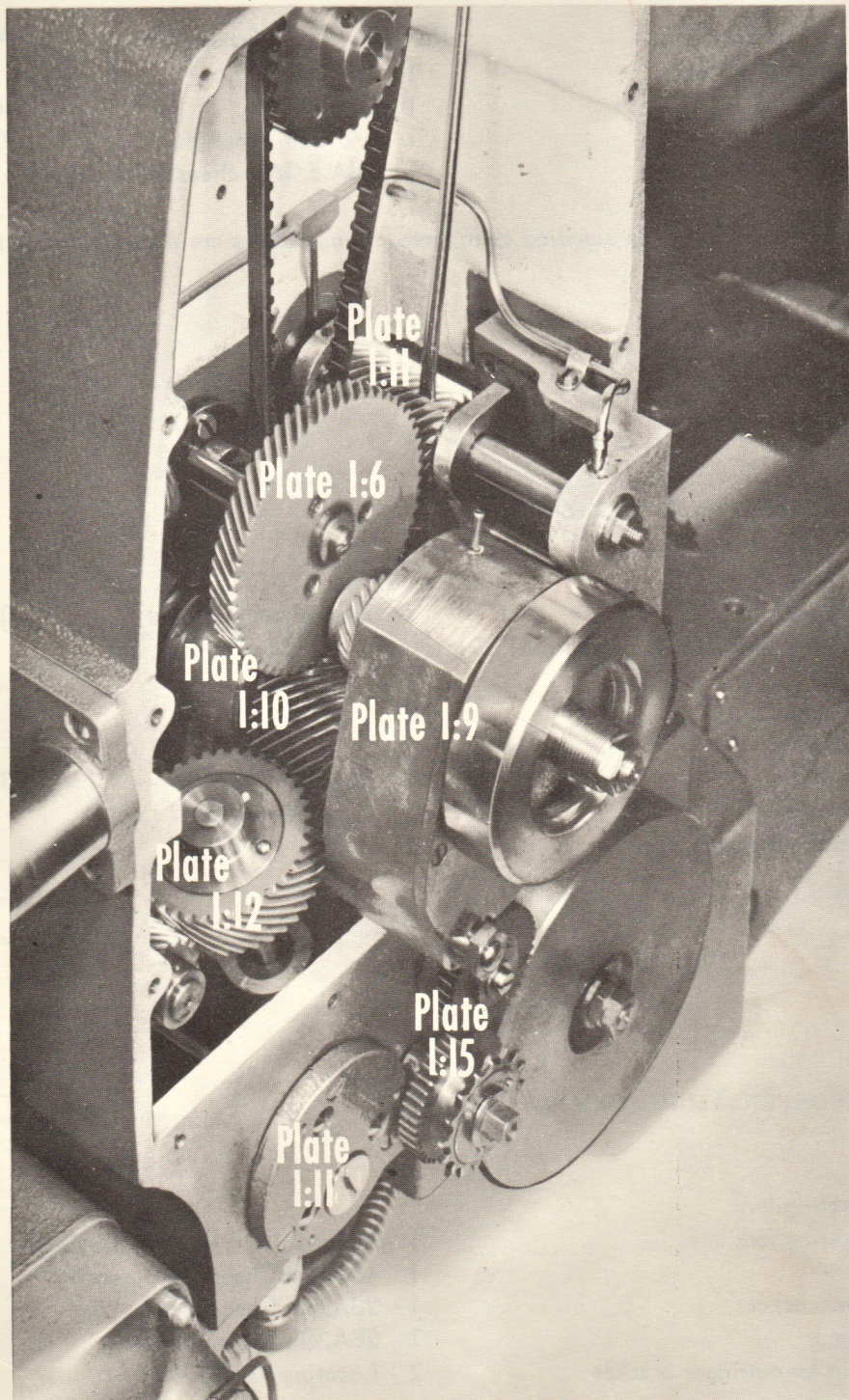
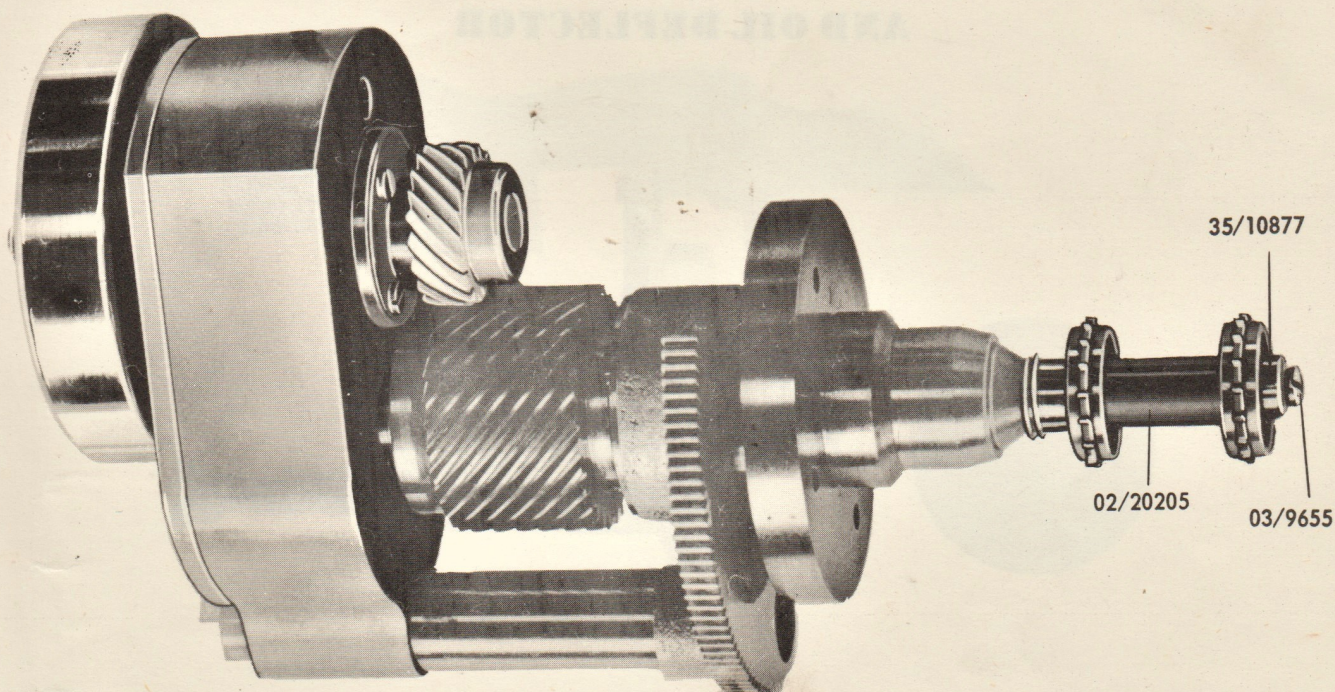


Plate I : 9



INTERMITTENT UNIT AND SPROCKET

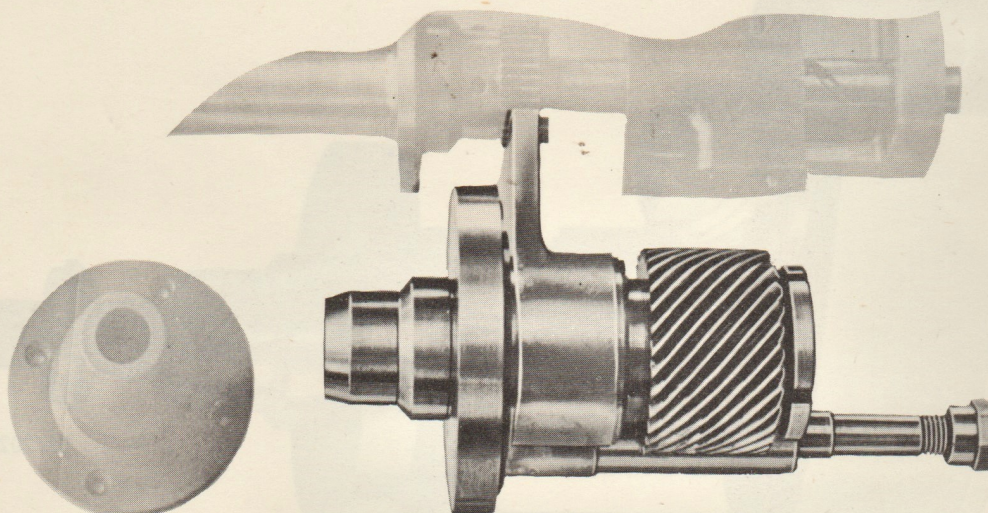
Part No	Description	No.Off	Screws Etc	Part No
32/23644	COMPLETE INTERMITTENT UNIT	1	Nut SX 194	
02/20205	Intermittent sprocket	1		
35/10877	Keywasher	1		
03/9656	Packing washer	1		
03/9655	Sprocket end screw	1		

NOTE: THIS ASSEMBLY IS MANUFACTURED TO SPECIAL TOLERANCES AND CANNOT BE DISMANTLED OR REASSEMBLED WITHOUT SPECIAL TOOLS AND SKILL.

FOR THIS REASON THE PARTS ARE NOT LISTED, IN SERVICING, THE COMPLETE UNIT SHOULD BE REMOVED AND REPLACED WITH A NEW ONE, AND THE OLD UNIT RETURNED TO THE MANUFACTURERS OR THEIR AGENTS FOR SERVICING.

Plate I : 10

INTERMITTENT BEARING ASSEMBLY AND OIL DEFLECTOR

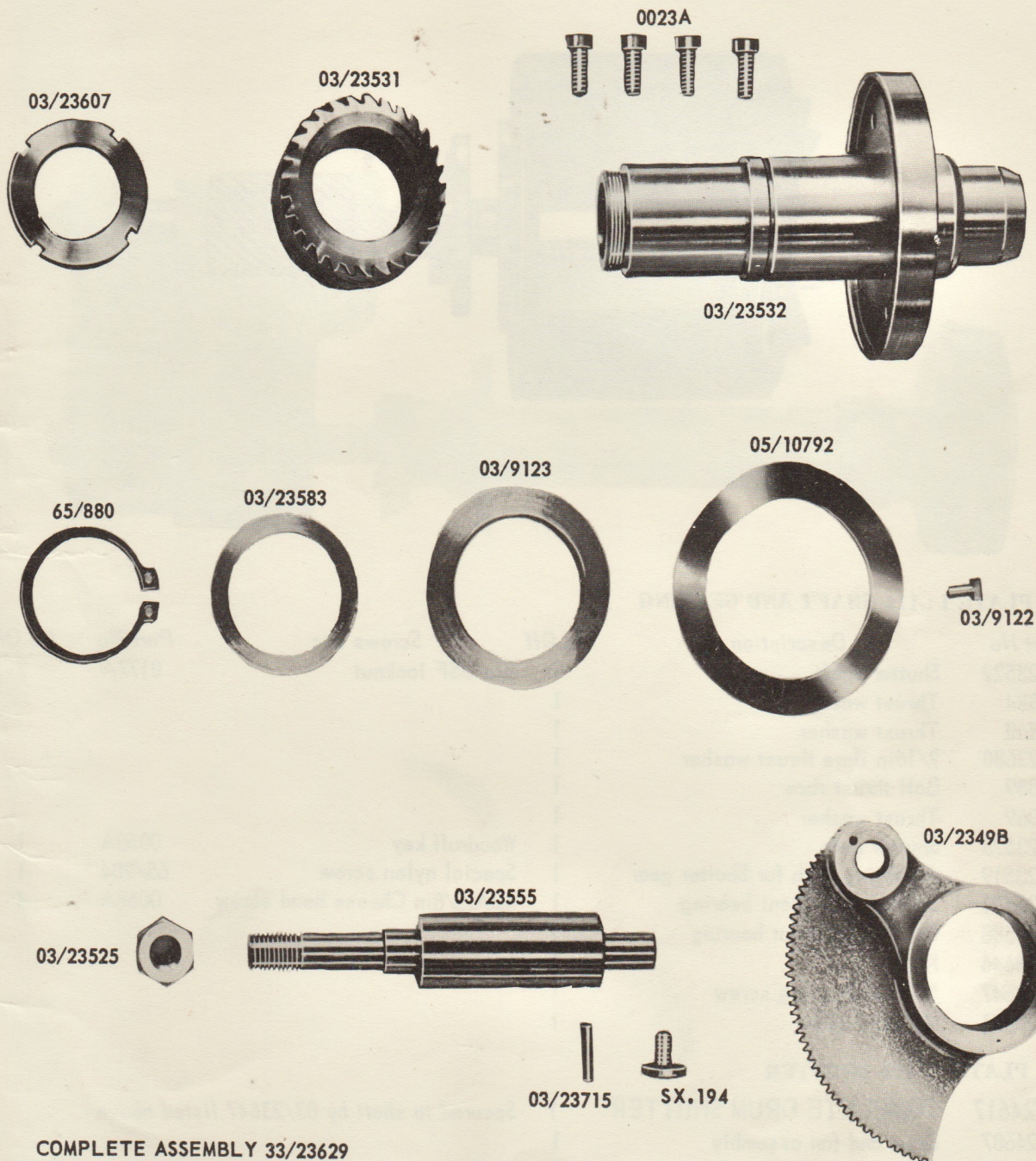


Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/23629	INTERMITTENT BEARING ASSEMBLY	2BA.½in	Ch. Hd Screw	0023A	4

PLATE I : 10a INTERMITTENT BEARING PARTS

03/23532	Intermittent Bearing	1	As Assembly		
03/9122	Stop Pin	1			
05/10792	Spring Washer	1			
03/9123	Washer	1	Over Spring Washer		
03/23498	Quadrant	1	Retained by 03/23583 and 65/880		
03/23583	Washer for Quadrant	1			
65/880	Circlip	1			
03/23531	Intermittent Gear	1	Retained by 03/23607		
03/23607	Lock Ring	1			
03/23555	Quadrant Post	1	Secured by SX194		
03/23715	Pin for Quadrant Post	1			
SX194	Screw Securing Post	1			
03/23525	Special Nut	1	Securing Intermittent Unit		
03/23605	Oil Deflector	1	4BA.3/8in CSK.Hd Screw	0081	4
03/23687	Oil Seal	1	Under Oil Deflector		

Plate I : 10a



COMPLETE ASSEMBLY 33/23629

Plate I : 11

SHUTTER WITH SHAFT AND GEAR

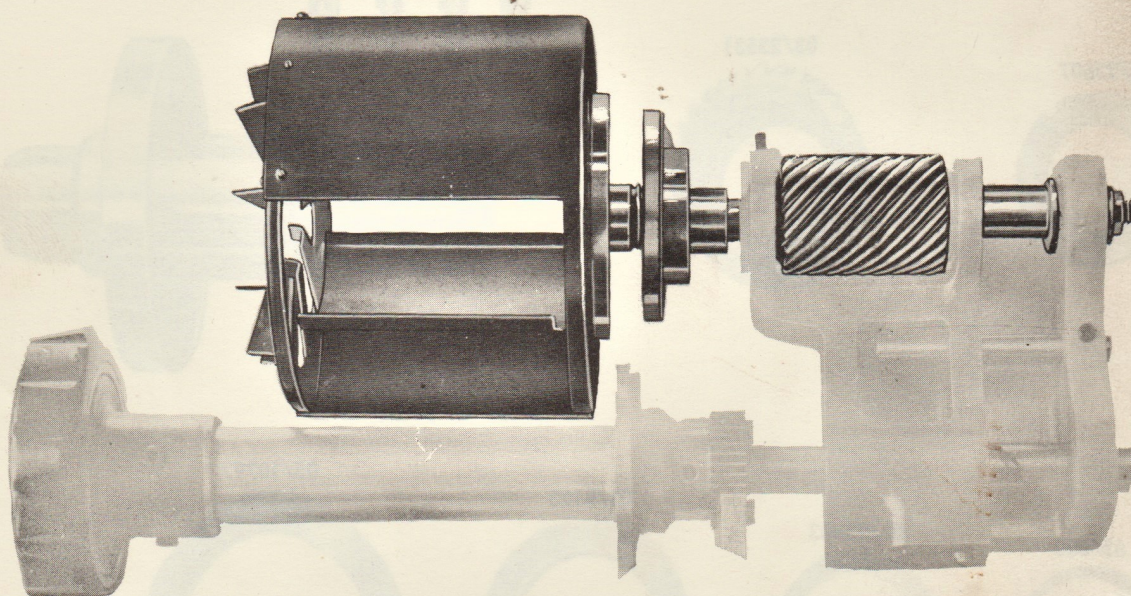


PLATE I : 11a SHAFT AND GEARING

Part No	Description	No.Off	Screws Etc	Part No	No.Off
03/23522	Shutter shaft	1	1/4in BSF locknut	0177A	2
65/884	Thrust washer	1			
65/868	Thrust washer	1			
03/23680	9/16in Bore thrust washer	1			
65/889	Ball thrust race	1			
65/869	Thrust washer	1			
03/23523	Shutter gear	1	Woodruff key	0050A	1
03/23519	Adjusting bush for Shutter gear	1	Special nylon screw	65/904	1
03/23521	Shutter shaft front bearing	1	4BA.3/8in Cheese head screw	0068A	4
03/23688	Oil seal for front bearing	1			
03/23646	Key	1			
03/23647	Shutter securing screw	1			
03/23681	Thrust washer	1			

PLATE I : 11b SHUTTER

33/24617	COMPLETE DRUM SHUTTER	1	Secured to shaft by 03/23647 listed above		
33/24687	Drum and fan assembly	1			
03/24618	Shutter wing	2			
05/13227	Shutter wing spindle	2			
05/13229	Collar for spindle	4	1/32in. 1/4in split pin	01059A	2
05/14772	Shutter wing spring	2			
03/23541	Shutter hub	1			
03/23540	Shutter clamp ring	1	4BA.3/8in countersunk screw	0081A	4

Plate I : 11a

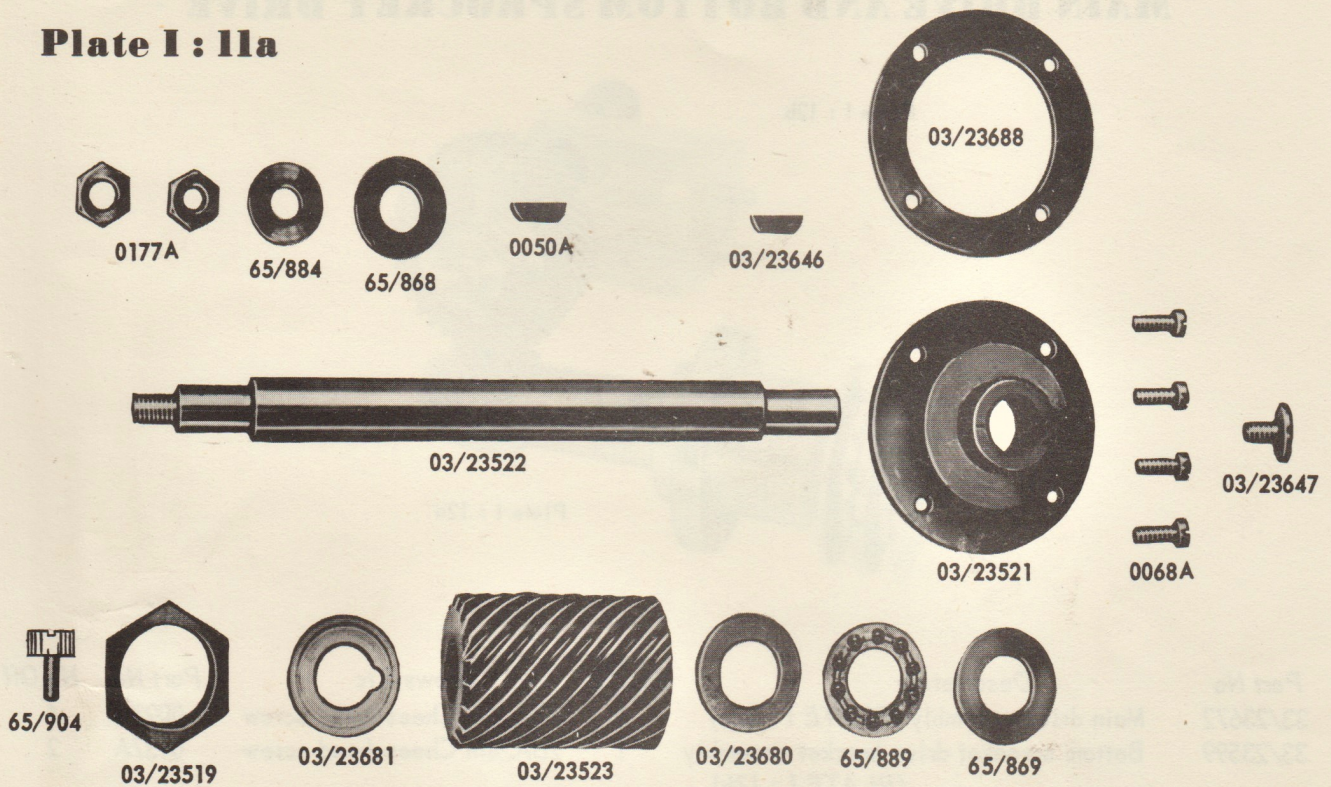


Plate I : 11b

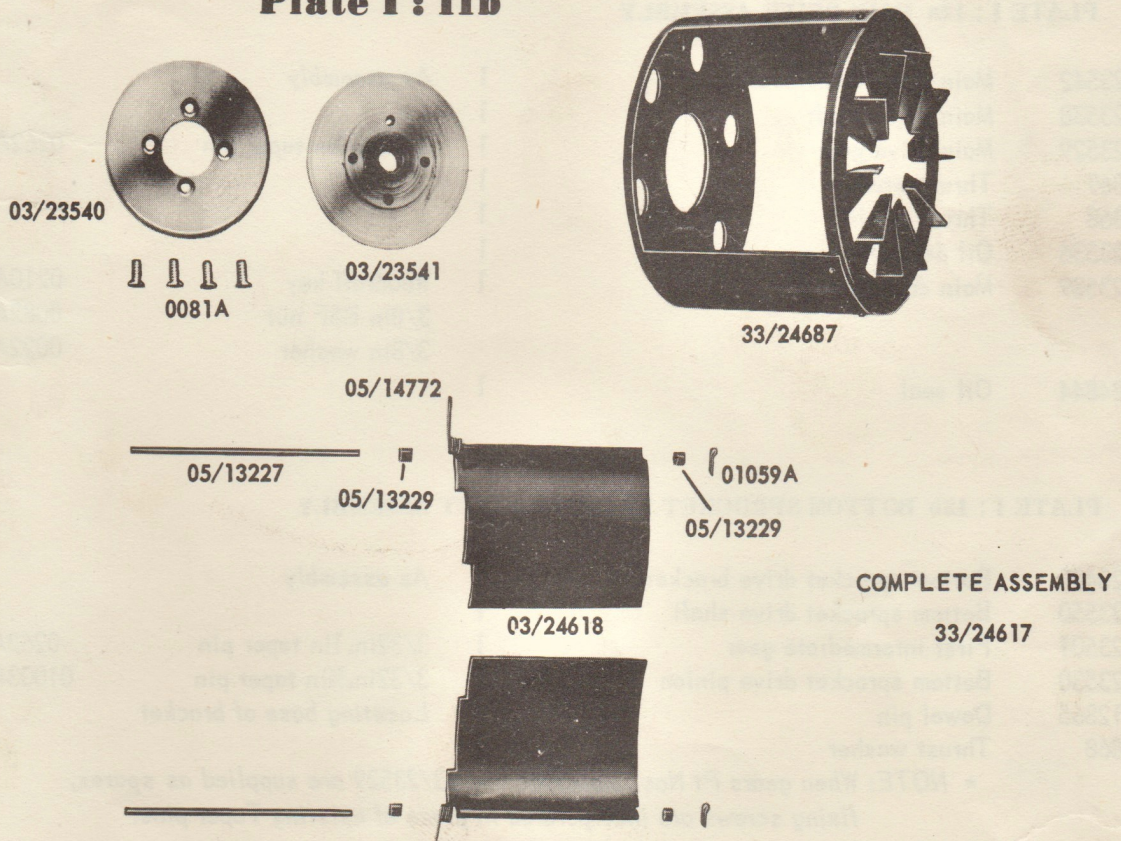


Plate I : 12

MAIN DRIVE AND BOTTOM SPROCKET DRIVE

Plate I : 12b

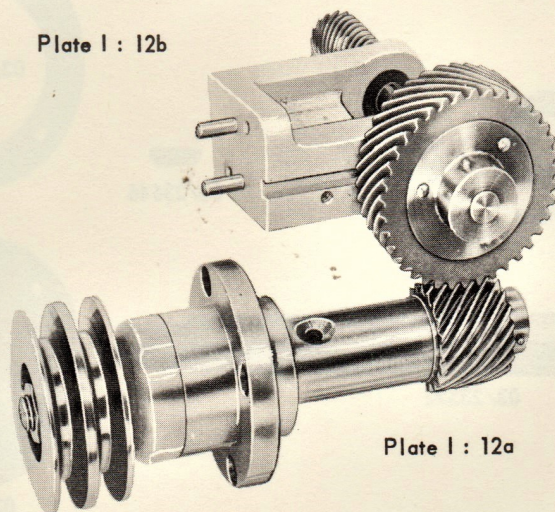


Plate I : 12a

Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/23672	Main drive assembly (PLATE I : 12a)	1	2BA.½in Cheesehead screw	0023A	4
33/23599	Bottom sprocket drive bracket assembly (PLATE I : 12b)	1	2BA.¾in Cheesehead screw	0137A	2

PLATE I : 12a MAIN DRIVE ASSEMBLY

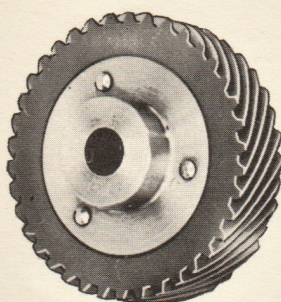
03/23542	Main drive shaft bearing	1	As assembly		
03/23538	Main drive shaft	1			
* 03/23529	Main drive gear	1	3/32in. 1in taper pin	0262A	1
65/869	Thrust washer	1			
65/868	Thrust washer	1			
03/23536	Oil deflector	1			
03/23539	Main drive pulley	1	Woodruff key	0210A	1
			3/8in BSF nut	0082A	1
			3/8in washer	0022A	1
03/24844	Oil seal	1			

PLATE I : 12b BOTTOM SPROCKET DRIVE BRACKET ASSEMBLY

03/23499	Bottom sprocket drive bracket	1	As assembly		
03/23550	Bottom sprocket drive shaft	1			
* 33/23501	First intermediate gear	1	3/32in. 1in taper pin	0262A	1
03/23530	Bottom sprocket drive pinion	1	3/32in. ¾in taper pin	01003A	1
03/12865	Dowel pin	2	Locating base of bracket		
65/868	Thrust washer	1			

* NOTE: When gears Pt Nos. 33/23501 and 03/23529 are supplied as spares, fixing screws are incorporated in place of existing Taper pins.

Plate I : 12b



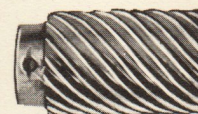
33/23501



65/568



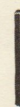
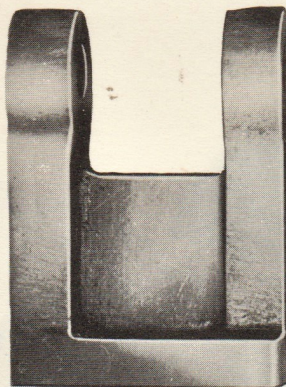
03/23550



03/23530



0262A

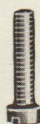


01003A

03/23499



03/12865



0137A

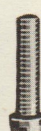


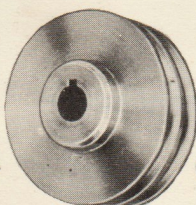
Plate I : 12a



0082A



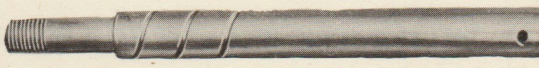
8022A



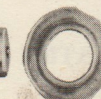
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0210A 65/868



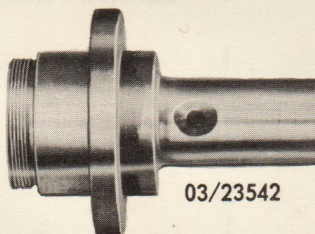
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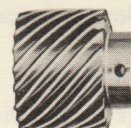
65/869



03/23536



03/23542



03/23529



0262A



0023A



03/24844

Plate I : 13

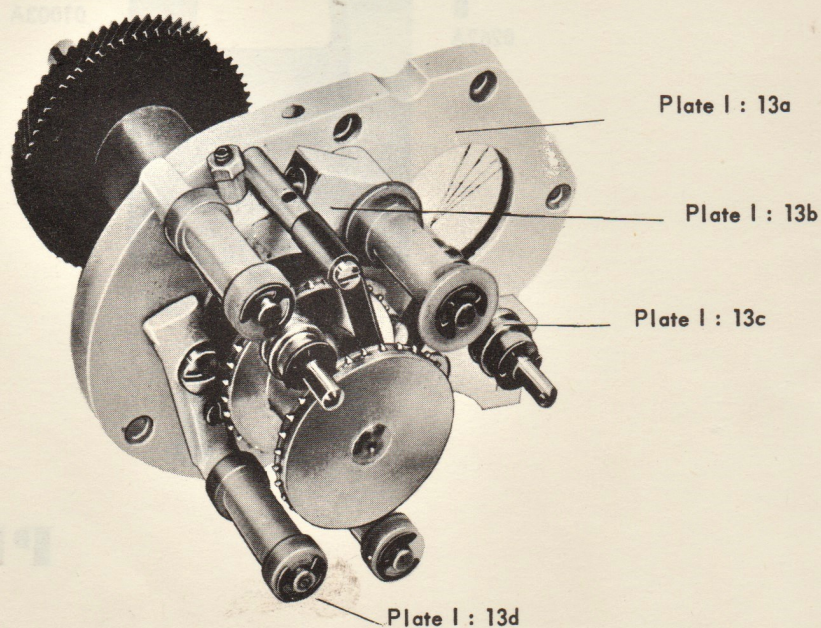


PLATE I : 13 BOTTOM SPROCKET UNIT WITH ROLLERS AND BRACKET

Part No	Description	No. Off	Screws Etc	Part No	No. Off
33/25259	BOTTOM SPROCKET UNIT COMPLETE	1	2BA. $\frac{3}{4}$ in Filister Hd. screw	0914A	7
32/23682	Complete Bottom Sprocket Bearing Assy.	1			
33/24929	Lower Roller Bracket Assy.	1			
03/23579	Roller Bracket Plunger	2			
03/23709	Plunger Springs	2			
03/24720	Stripper Post	1			
03/24721	Stripper Blade	1	4BA. $\frac{1}{4}$ in Fil. Hd. Screw	01020A	1
			4BA Shakeproof washer	0890A	1

Plate I : 13a

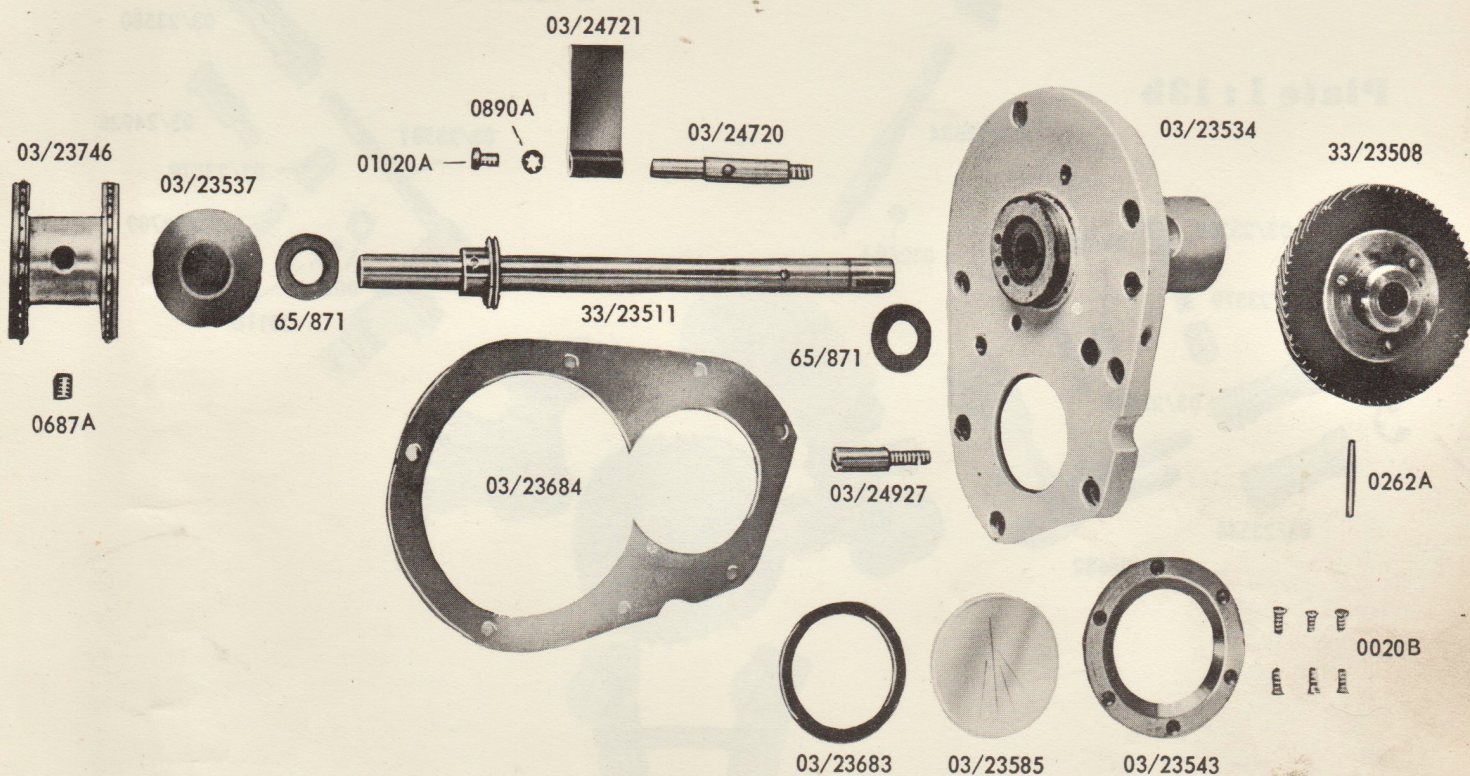


PLATE I : 13a BOTTOM SPROCKET UNIT LESS ROLLERS

Part No	Description	No. Off	Screws Etc	Part No	No. Off
03/23534	Bottom sprocket bearing	1	As complete unit		
33/23511	Bottom sprocket spindle	1			
33/23508	Bottom sprocket gear	1	3/32in. 1in taper pin	0262A	
65/871	Thrust washer	2			
03/23537	Oil deflector	1			
03/23746	Bottom sprocket	1	1/4in. BSF. 5/16in Allen set screw	0687A	1
03/23543	Oil sight window frame	1	6BA. 5/16in countersunk screw	0020B	6
03/23585	Oil sight window	1	As frame		
03/23683	Oil seal for window	2	Each side of window		
03/24720	Stripper post	1	4BA. 1/4in Fil. Hd. screw	01020A	1
03/24721	Stripper blade	1	4BA shakeproof washer	0890A	1
03/24927	Stop stud for lower roller bracket	1			
03/23684	Oil seal	1			
03/23585	Window	1			

Plate I : 13b

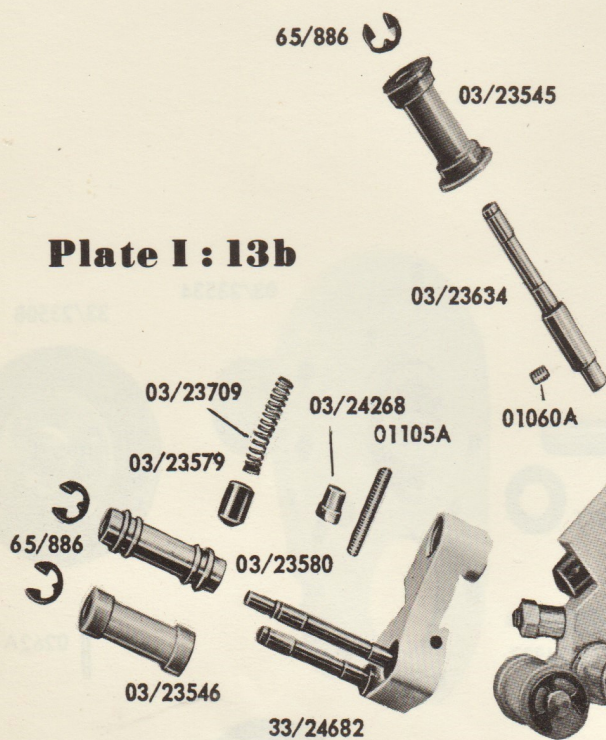


Plate I : 13c

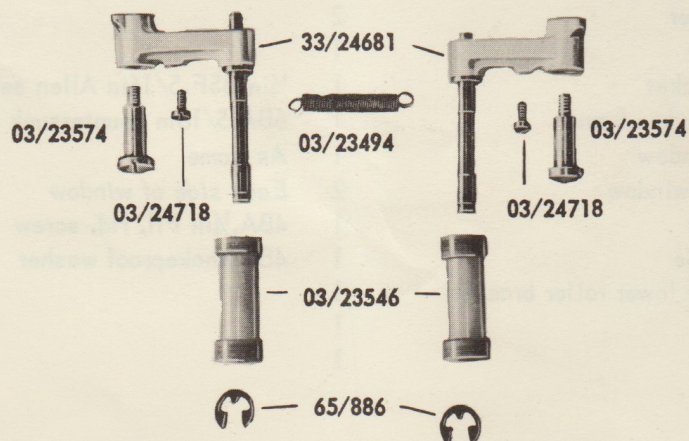
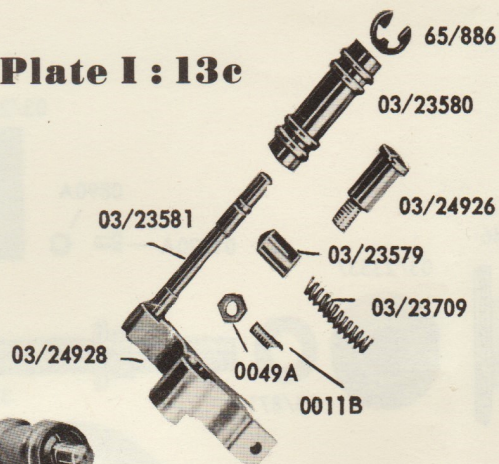


Plate I : 13d

PLATE I : 13b UPPER ROLLER BRACKET

<i>Part No</i>	<i>Description</i>	<i>No.Off</i>	<i>Screws Etc</i>	<i>Part No</i>	<i>No.Off</i>
33/24682	Bottom roller bracket with spindles	1			
03/23546	Plain guide roller (nylon)	1	Circlip	65/886	1
03/23580	Sprocket roller (steel)	1	Circlip	65/886	1
03/23545	Flanged guide roller (nylon)	1	Circlip	65/886	1
01105A	Adjusting screw	1	2BA.1 $\frac{1}{4}$ in		
03/23634	Bottom roller bracket pivot	1	2BA. $\frac{1}{2}$ in Allen set screw	01060A	1
03/23579	Roller bracket plunger	1			
03/23709	Plunger spring	1			
03/24268	Special locknut	1	(Locking Adjusting screw 01105A)		

PLATE I : 13c LOWER ROLLER BRACKET**33/24929 ROLLER BRACKET ASSEMBLY
COMPLETE**

03/24928	Roller bracket	1			
03/23580	Pad roller	1	Circlip	65/886	1
03/23581	Pad roller spindle	1			
03/24926	Roller bracket pivot	1			
00110	Stop screw	1	2BA.3/8in Allen set screw		
0049A	Locknut for stop screw	1	2BA		
03/23579	Roller bracket plunger	1			
03/23709	Plunger spring	1			

PLATE I : 13d FILTER ARMS AND ROLLERS

33/24681	Filter roller arm and spindle	2			
03/23546	Filter roller (nylon)	2	Circlip	65/886	2
03/23574	Filter roller arm pivot	2			
03/23494	Filter roller arm spring	1	Held by special screw 03/24718		
03/24718	Special screw securing spring	2			

Plate I : 14

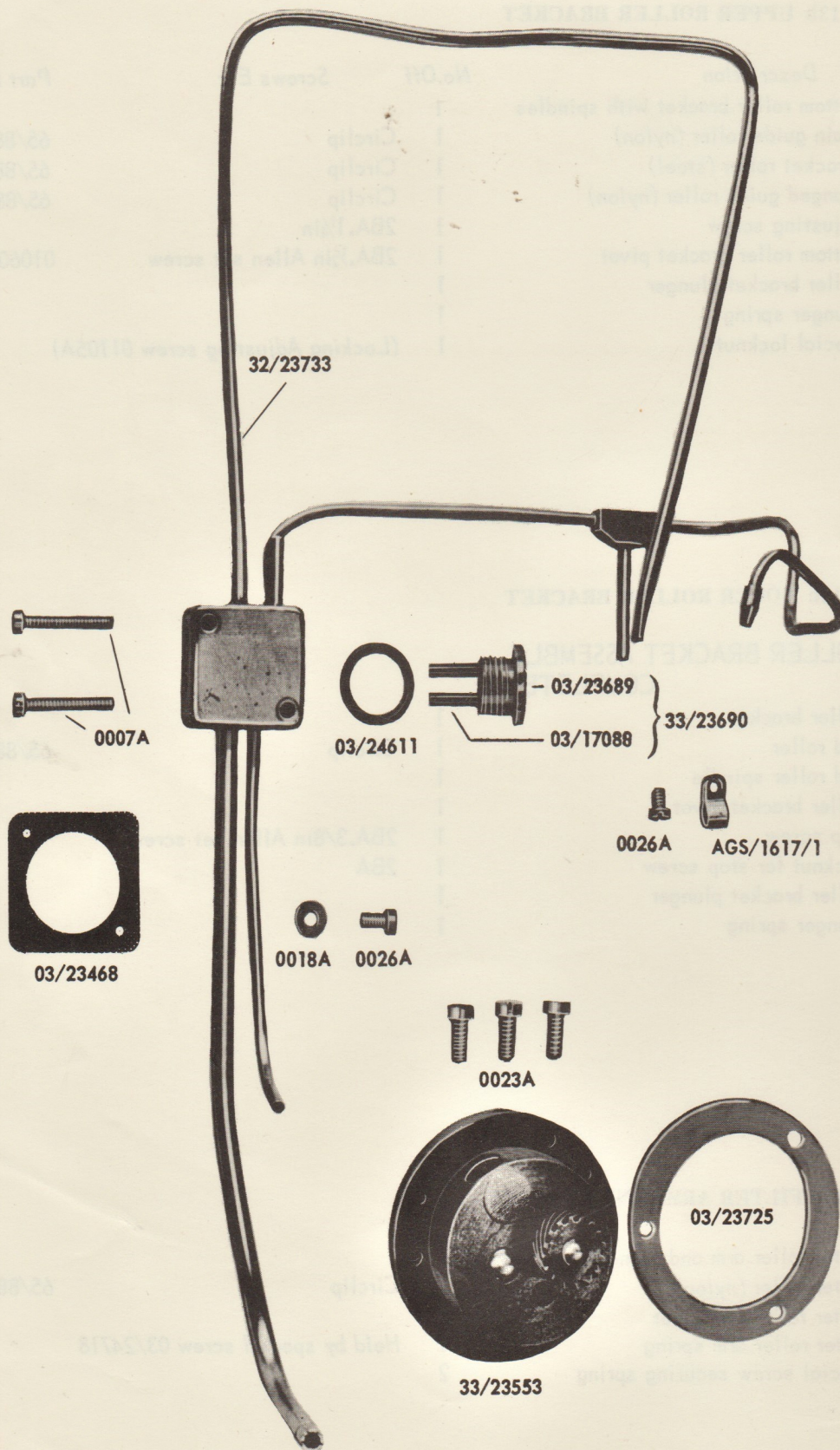


Plate I : 14a

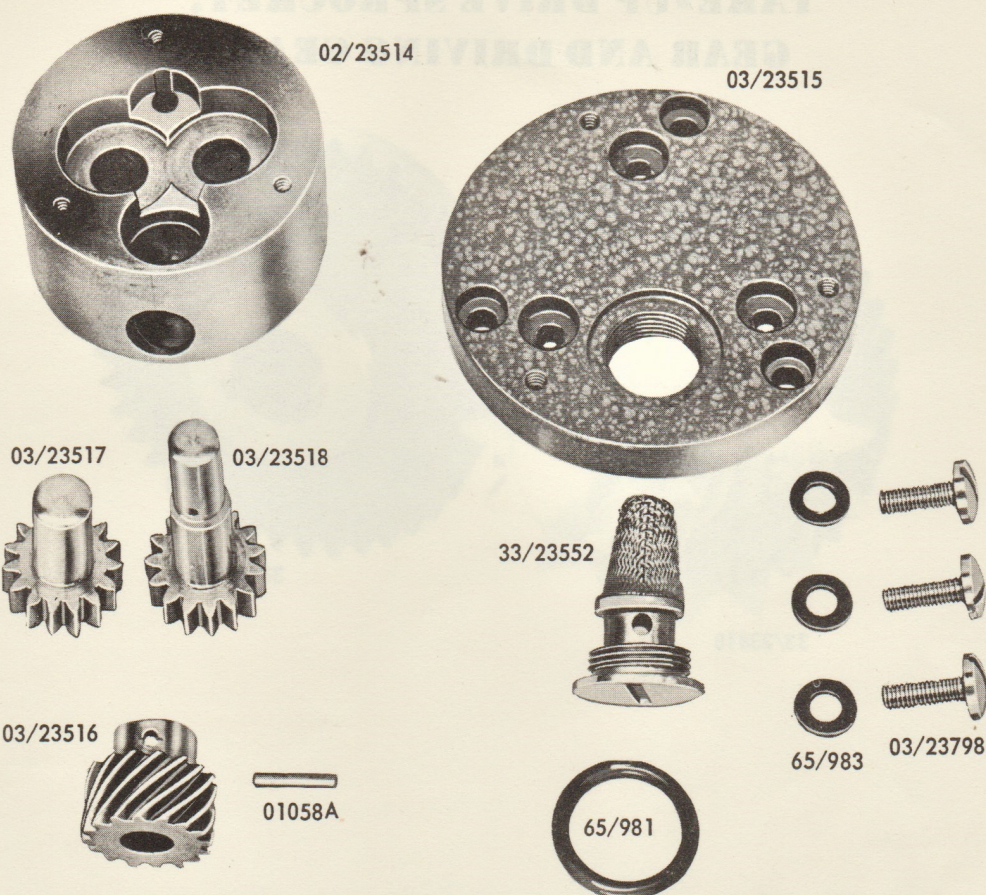


PLATE I : 14 OIL PUMP, OIL PIPES AND FILTERS

Part No	Description	No.Off	Screws Etc	Part No	No.Off
32/23733	Oil feed assembly	1	4BA.1in cheesehead screw	0007A	2
			4BA.¼in cheesehead screw	0026A	1
			4BA washer	0018A	1
03/23731	Flexible feed pipe, 2½mm Bore	1	To intermittent unit see Plate I : 9 For feed assembly 32/23733		
03/23468	Oil seal	1			
33/23553	Oil pump assembly	1	2BA.½in cheesehead screw	0023A	3
03/23725	Oil seal	1	For pump		
AGS/1617/1	Clip for oil pipe	1	4BA.¼in cheesehead screw	0026A	1
33/23690	PLUG SCREW AND MAGNETS ASSEMBLY				
03/23689	Plug screw	1			
03/17088	Magnet	2			
65/981	Oil seal for plug screw	1			

PLATE I : 14a OIL PUMP

02/23514	Pump body	1	Secured to flange by 03/23798		
03/23515	Pump flange	1	As assembly		
03/23516	Pump drive gear	1	1/16in.¾in taper pin	01058A	1
03/23518	Pumping gear	1			
03/23517	Pumping idler gear	1			
03/23798	Screw (Securing flange to body)	3	Oil Seal under 03/23798	65/983	3
33/23552	Oil filter and screw	1	Oil Seal under 33/23552	65/981	1

Plate I : 15

TAKE-UP DRIVE SPROCKET, GEAR AND DRIVING GEAR

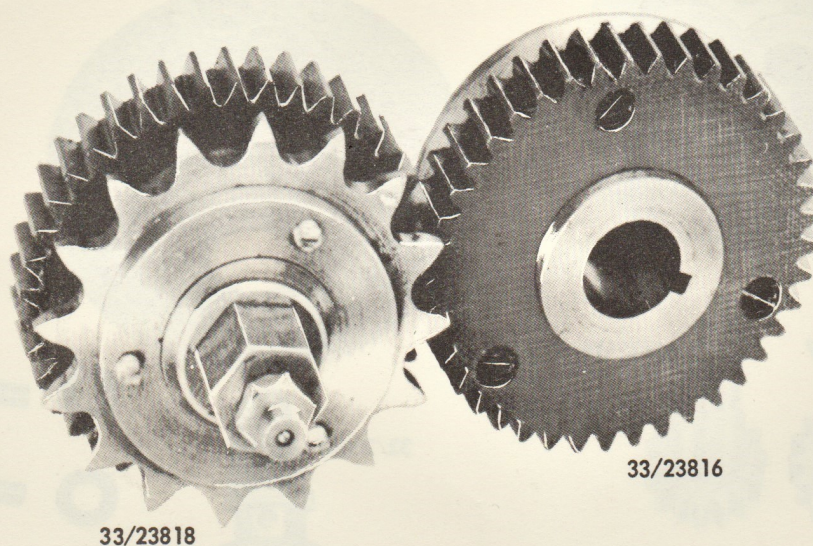


PLATE I : 15a TAKE-UP SPROCKET, GEAR AND POST (Part No 33/23818 Complete)

Part No	Description	No. Off	Screws Etc	Part No	No. Off
03/23812	Take-up sprocket post	1			
03/23814	Retaining washer for gear	1			
03/23819	Lubricator adaptor	1			
65/537	Lubricator	1			
33/23815	TAKE-UP SPROCKET AND GEAR ASSEMBLY	1			
03/23811	Take-up gear	1	6BA. 1/2 in Cheesehead screw	01062A	3
33/23817	Take-up sprocket and bearing	1			

PLATE I : 15b DRIVING GEAR ASSEMBLY (Part No 33/23816 Complete)

Secured by 2BA. 3/8 in Cheesehead screw		0136A	1		
2BA Large washer		01061A	1		
03/23811	Driving gear	1	6BA. 7/16 in Cheesehead screw	01102A	3
03/23813	Driving gear hub	1	Circlip	65/888	1
05/10127	Key, driving gear to shaft	1			
65/892	Oil seal	1			

Plate I : 15a

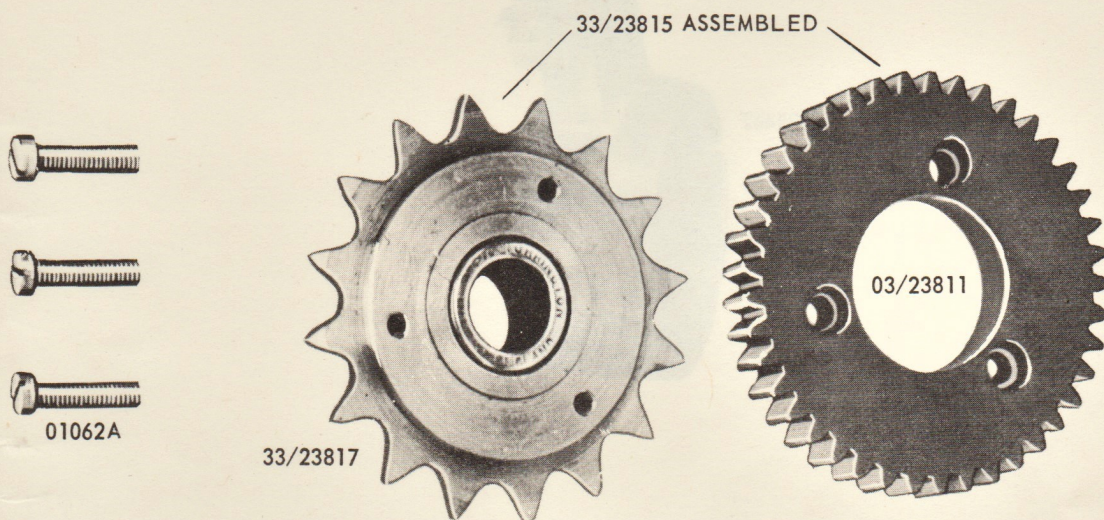
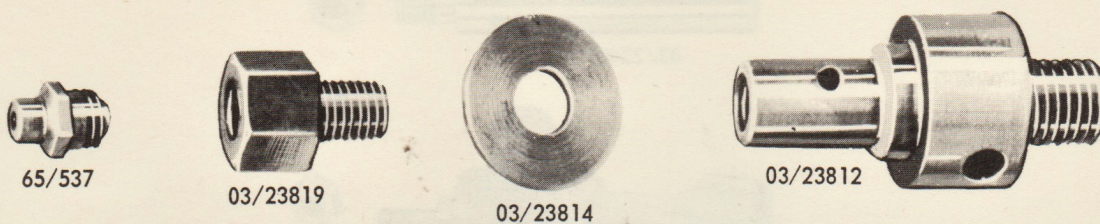


Plate I : 15b

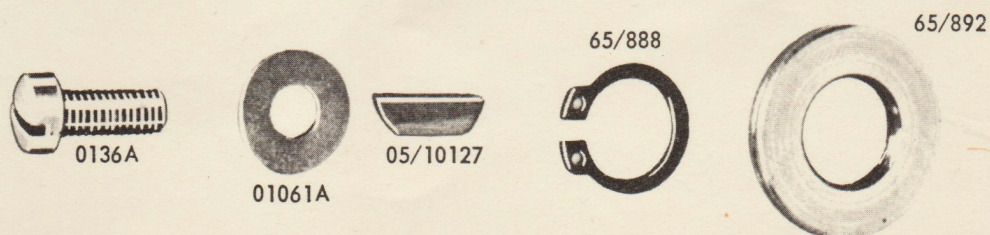
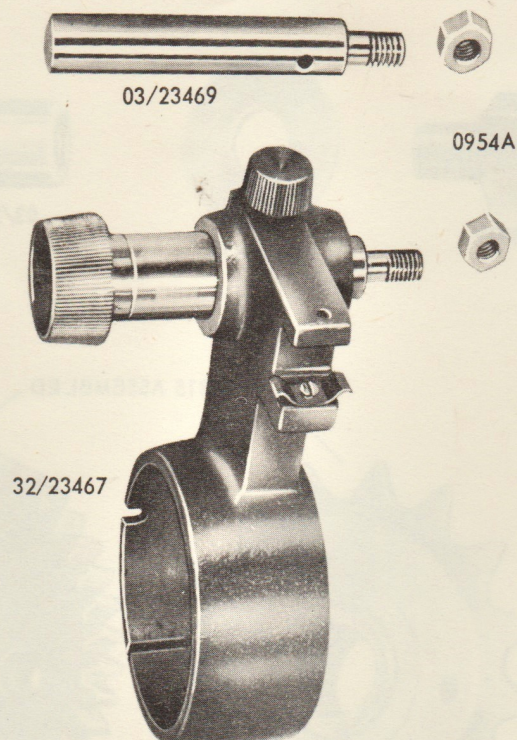


Plate I : 16

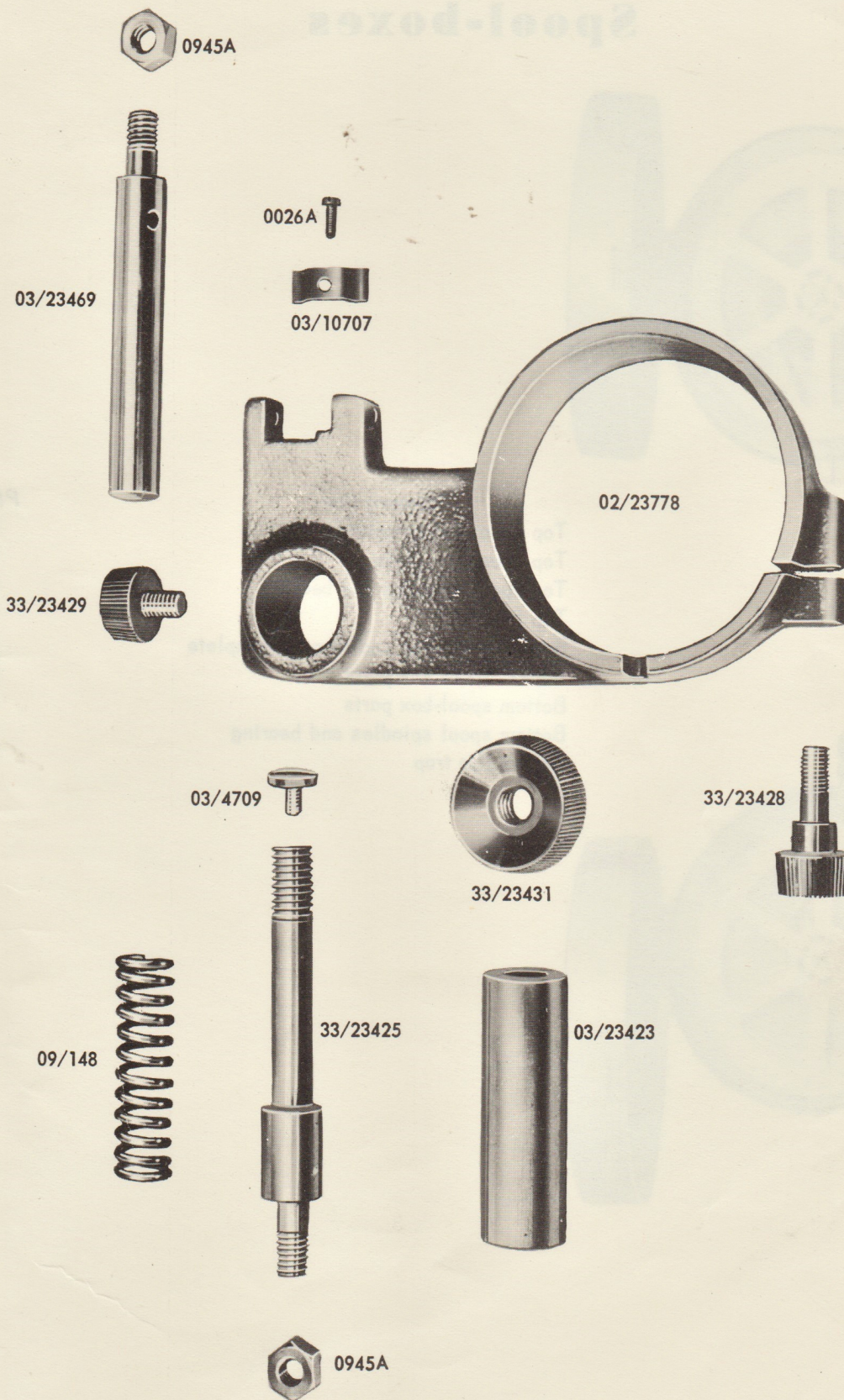


Part No	Description	No.Off	Screws Etc	Part No	No.Off
32/23467	LENSHOLDER COMPLETE	1	3/8in Whitworth nut	0945A	1

PLATE I : 16a LENSHOLDER PARTS

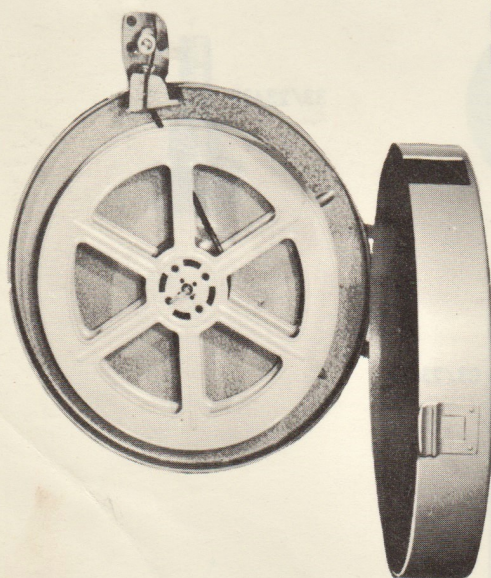
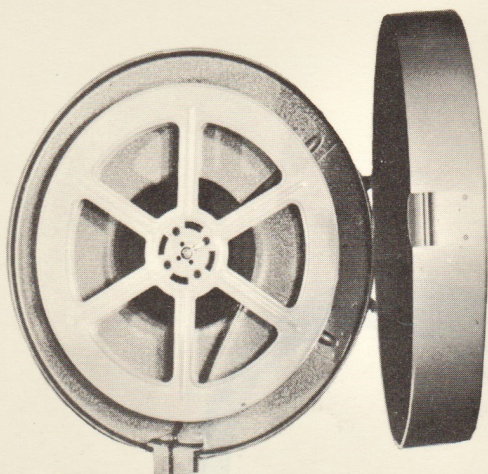
02/23778	Lens arm	1			
03/10707	Friction spring	1	4BA. 1/4in cheesehead screw	0026A	1
33/23429	Screw clamping lens arm (short)	1			
33/23428	Screw clamping lens arm (long)	1			
03/23423	Sleeve	1			
33/23425	Stud with pin	1	As assembly		
09/148	Compression spring	1			
33/23431	Focussing nut	1	Special retaining screw	03/4709	1
03/23469	Guide rod	1	3/8in Whitworth nut	0945A	1

Plate I : 16a



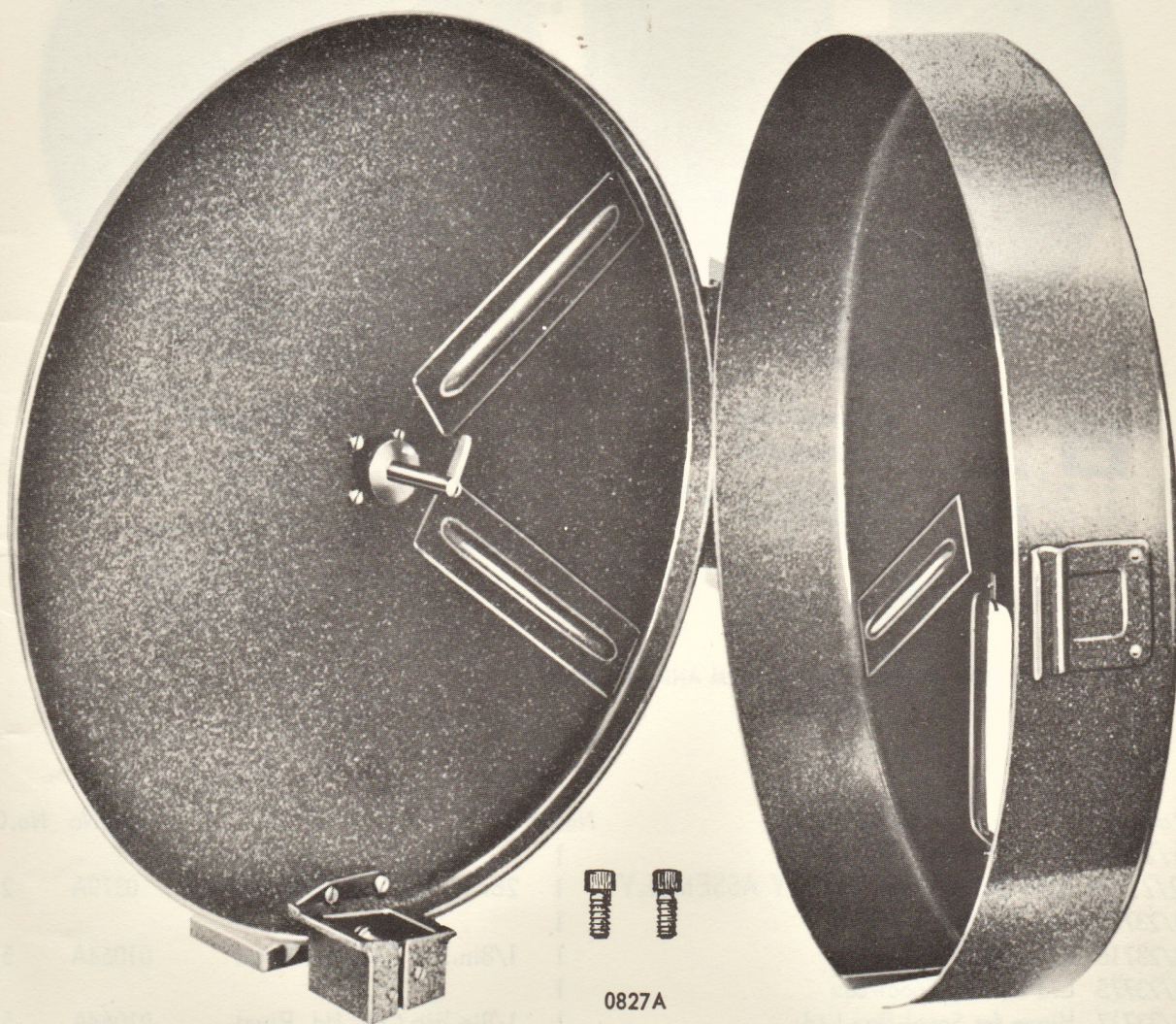
KEYPLATE SECTION II

Spool-boxes



<i>Description</i>	<i>Plate No</i>
Top spool-box complete	II : 1
Top spool-box parts	II : 2
Top spool spindles and bearing	II : 3
Top fire trap	II : 4
Bottom spool-box and take-up complete	II : 5
Bottom spool arm parts	II : 6
Bottom spool-box parts	II : 7
Bottom spool spindles and bearing	II : 8
Bottom fire trap	II : 9

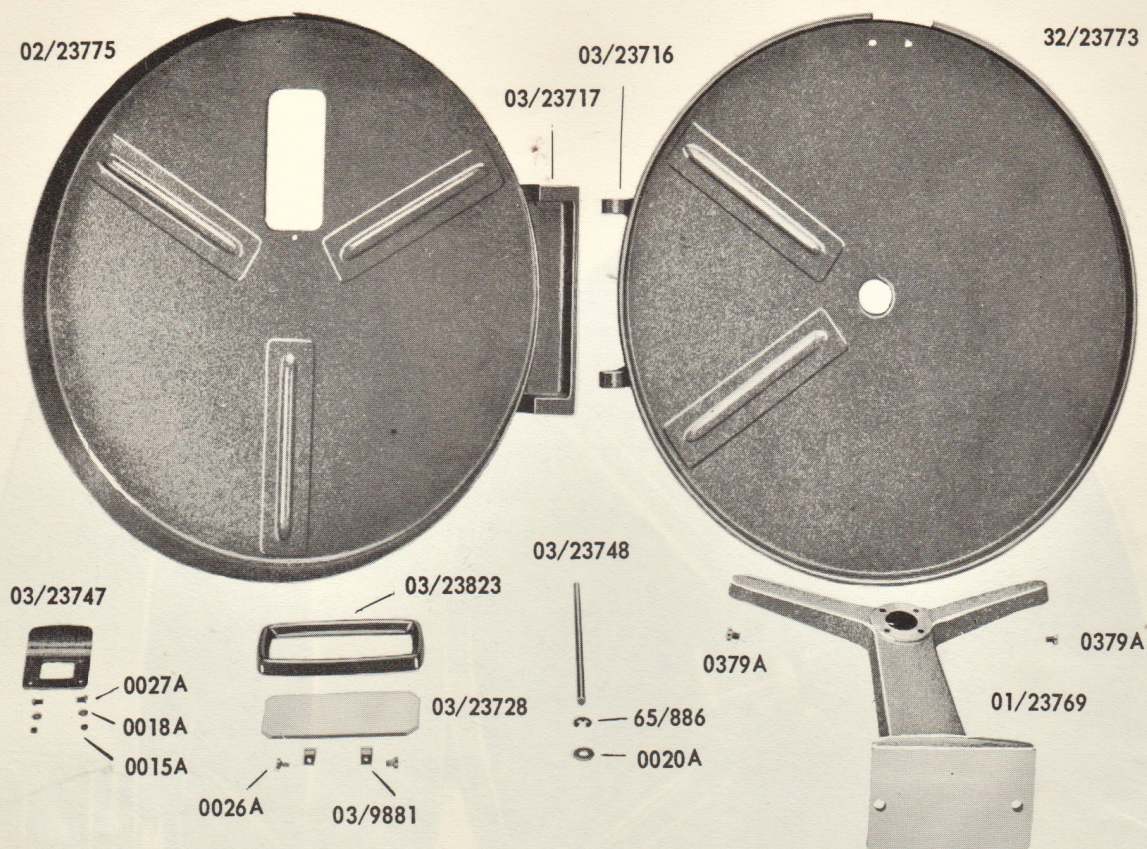
Plate II : I



Part No	Description	Screws Etc	Part No	No. Off
32/24974	COMPLETE TOP SPOOL-BOX & ARM WITH 5/16 in SPINDLE	5/16in BSF.5/8in Allen cap screw	0827A	2
32/24975	COMPLETE TOP SPOOL-BOX & ARM WITH 3/8in SPINDLE	5/16in BSF.5/8in Allen cap screw	0827A	2
32/24976	COMPLETE TOP SPOOL-BOX & ARM WITH 9 mm SPINDLE	5/16in BSF.5/8in Allen cap screw	0827A	2
32/24977	COMPLETE TOP SPOOL-BOX & ARM WITH 1/2 in. SPINDLE	5/16in BSF.5/8in Allen cap screw	0827A	2

Plate II : 2

TOP SPOOL-BOX AND ARM

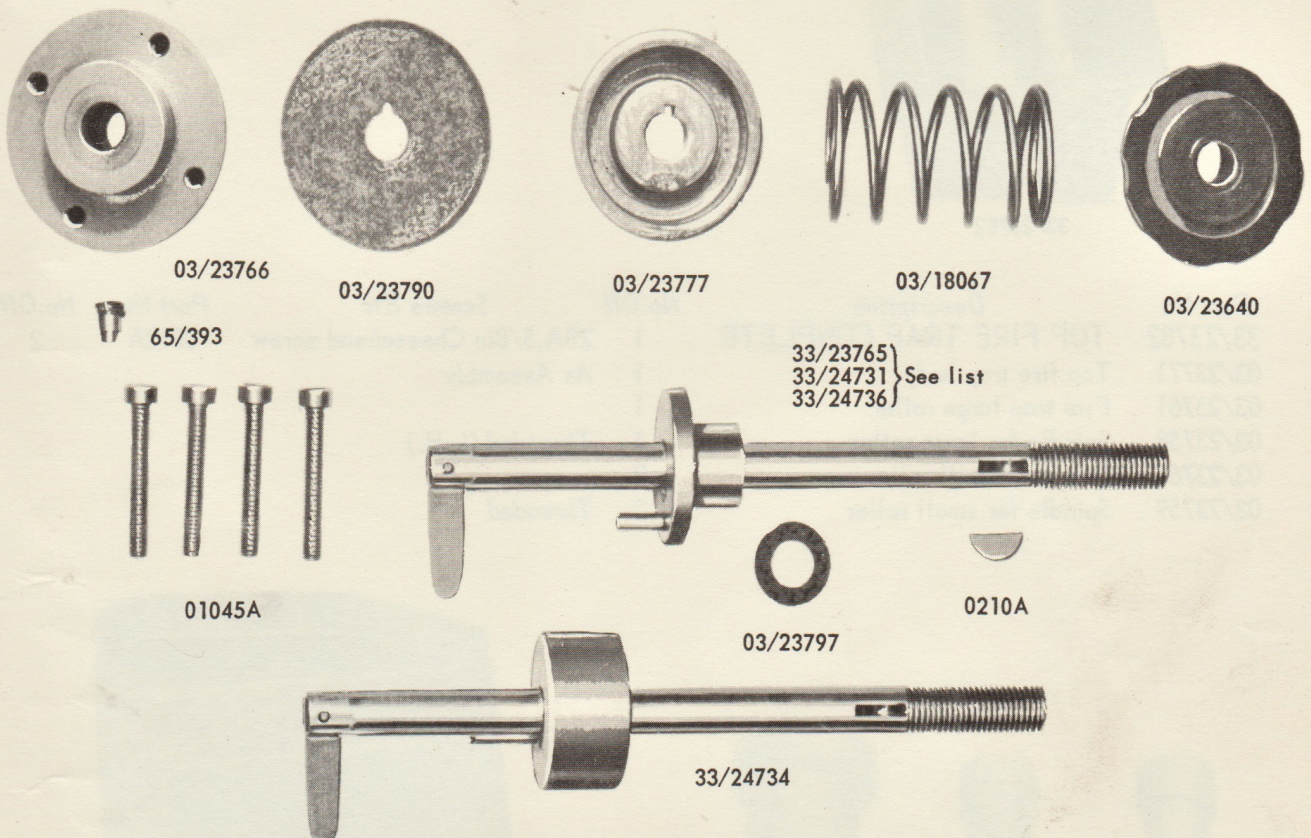


TOP SPOOL BOX ASSEMBLY LESS ARM AND SPINDLE
32/23776

Part No	Description	No. Off	Part No	No. Off
01/23769	TOP SPOOL ARM ONLY	1		
32/23776	TOP SPOOL-BOX ONLY ASSEMBLY	1	2BA.5/16in cheesehead screw	0379A 2
32/23773	Top Spool-Box	1		
03/23716	Hinge for Spool-Box	1	1/8in. 1/2in Csk. Hd. Rivet	01064A 5
02/23775	Lid for Top Spool-box	1		
03/23717	Hinge for Spool-Box Lid	1	1/8in. 1/2in Csk. Hd. Rivet	01064A 5
03/23748	Hinge Pin	1	1/4in Washer	0020A 1
65/886	Circlip	1	Securing 03/23748	
03/23728	Window for Spool-Box Lid	1		
03/9881	Clip for Window	2	4BA. 1/4in Ch. Hd. Screw	0026A 2
03/23823	Window Frame	1		
03/23747	Spool-Box Catch	1	4BA. 1/4in Rd. Hd. Screw	0027A 2
			4BA. 1/4in Washer	0018A 2
			4BA. 1/4in Nut	0015A 2

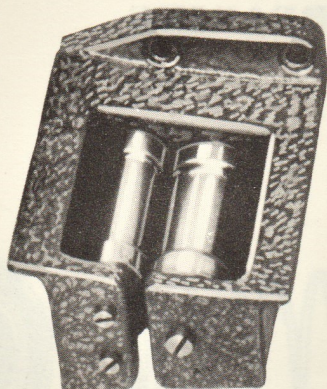
Plate II : 3

TOP SPOOL SPINDLES AND BEARING



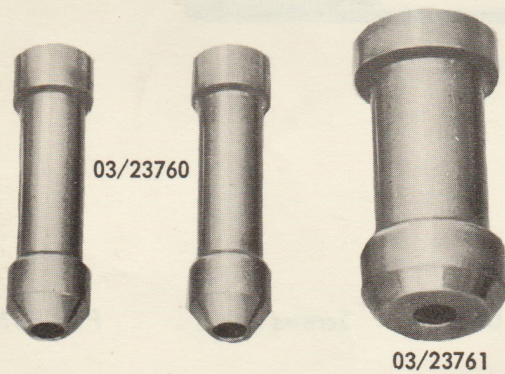
Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/24734	5/16in TOP SPOOL-BOX SPINDLE ASSY.				
33/23765	3/8in TOP SPOOL-BOX SPINDLE ASSY.				
33/24731	9mm TOP SPOOL-BOX SPINDLE ASSY.				
33/24736	1/2in TOP SPOOL-BOX SPINDLE ASSY.				
03/23766	Top Spool Spindle Bearing	1	2BA.1-3/8in cheesehead screw	01045A	4
65/393	Oil Cup 3/8in "Kingfisher" 3/16in Shank	1	Fitted to 03/23766		
03/23797	Thrust Disc for Top Spool Spindle	1	Behind Spool Drive Collar		
03/23790	Clutch Disc for Top Spool Spindle	1			
03/23777	Spring Collar for Top Spool Spindle	1	No 2 Woodruff Key	0210A	1
03/18067	Pressure Spring for Top Spool Spindle	1			
03/23640	Tension Nut for Top Spool Spindle	1			

Plate II : 4



33/23782

Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/23782	TOP FIRE TRAP COMPLETE	1	2BA,5/8in Cheesehead screw	0212A	2
03/23771	Top fire trap body	1	As Assembly		
03/23761	Fire trap large roller	1			
03/23758	Spindle for large roller	1	Threaded (L.H.)		
03/23760	Fire trap small roller	2			
03/23759	Spindle for small roller	2	Threaded		



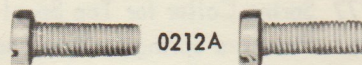
03/23759



03/23758

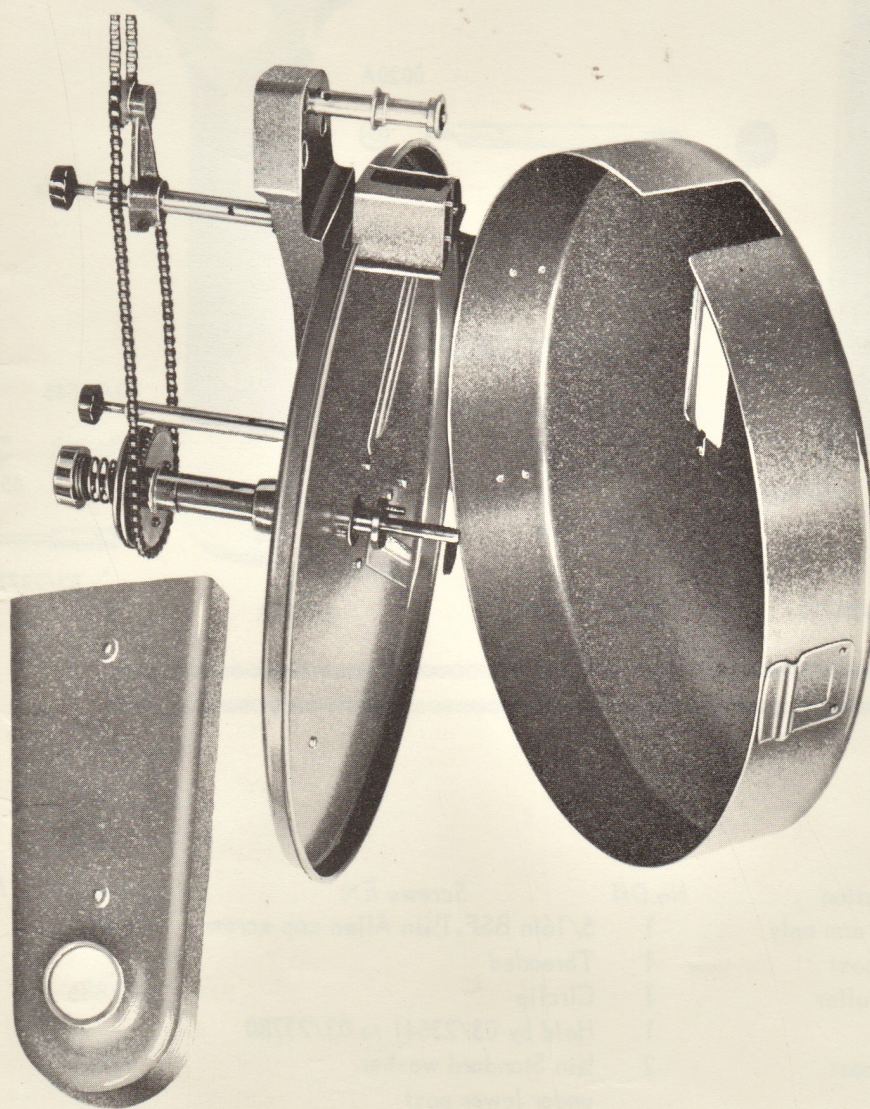


03/23771



0212A

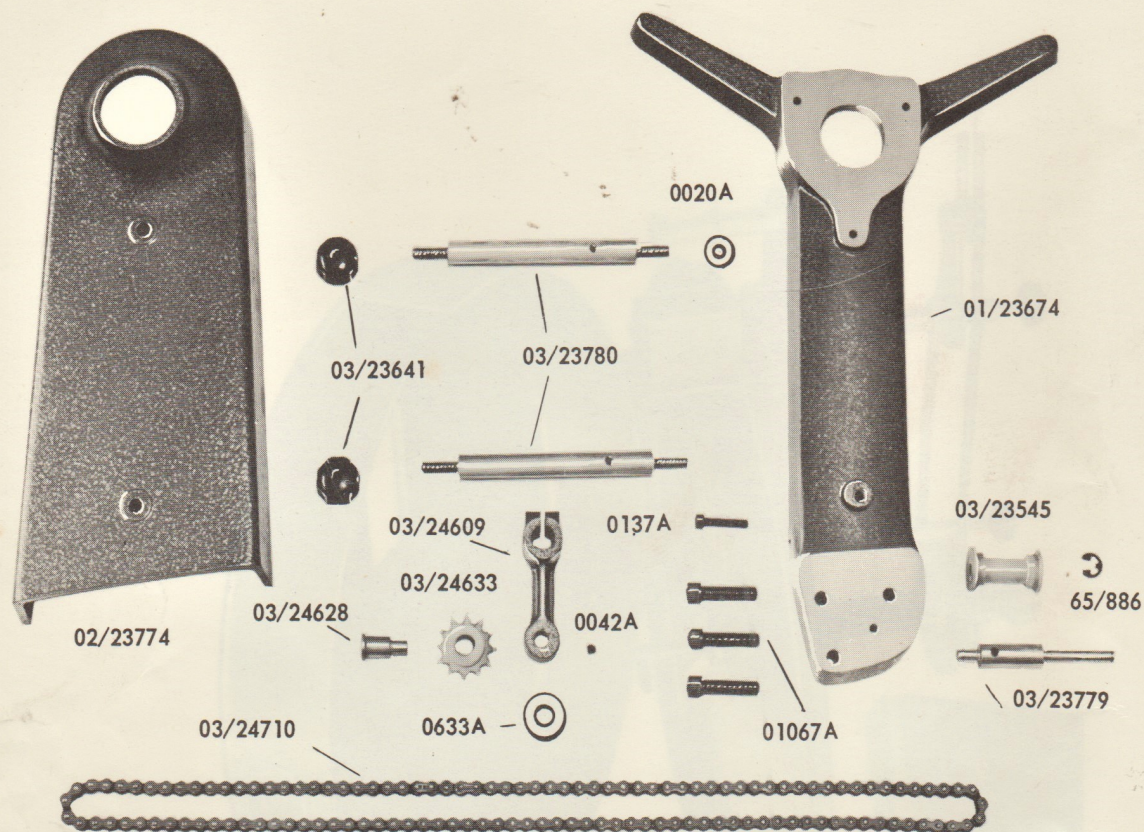
Plate II : 5



Part No	Description	Screws Etc	Part No	No. Off
32/24981	COMPLETE BOTTOM SPOOL-BOX ARM & TAKE-UP WITH 5/16in SPINDLES	5/16in BSF. 1¼in Allen cap screw	01067A	3
32/24982	COMPLETE BOTTOM SPOOL-BOX ARM & TAKE-UP WITH 3/8in SPINDLE	5/16in BSF. 1¼in Allen cap screw	01067A	3
32/24983	COMPLETE BOTTOM SPOOL-BOX ARM & TAKE-UP WITH 9 mm SPINDLE	5/16in BSF. 1¼in Allen cap screw	01067A	3
32/24984	COMPLETE BOTTOM SPOOL-BOX ARM & TAKE-UP WITH ½in SPINDLE	5/16in BSF. 1¼in Allen cap screw	01067A	3

Plate II : 6

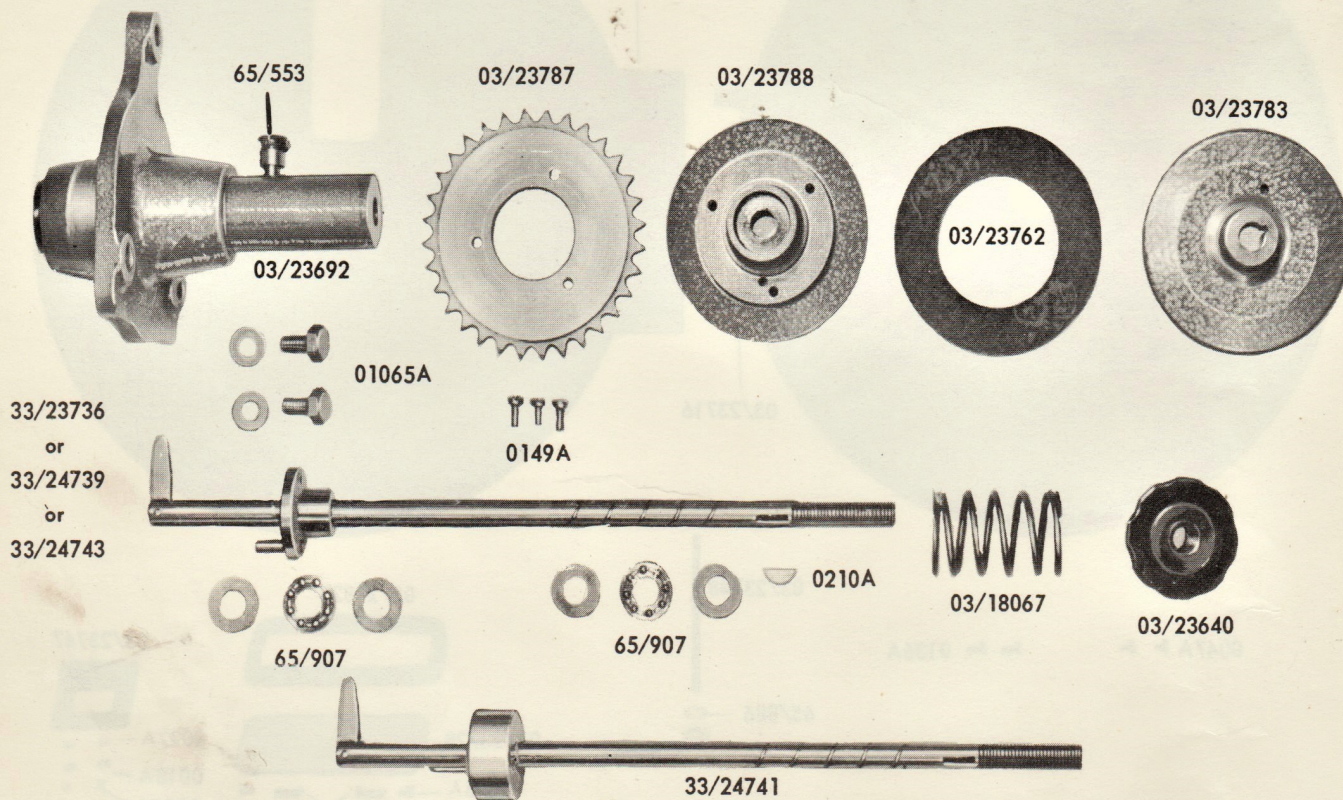
BOTTOM SPOOL ARM PARTS



Part No	Description	No. Off	Screws Etc	Part No	No. Off
01/23674	Bottom spool arm only	1	5/16in BSF. 1 1/4in Allen cap screw	01067A	3
03/23779	Guide roller post	1	Threaded	65/886	1
03/23545	Nylon guide roller	1	Circlip	0020A	1
02/23774	Chain guard	1	Held by 03/23641 to 03/23780	0137A	1
03/23780	Chain guard post	2	1/4in Standard washer	0042A	1
			under lower post	0633A	1
03/23641	Chain guard nut	2			
03/24609	Jockey arm	1	2BA. 3/4in cheesehead screw		
03/24628	Jockey sprocket spindle	1	2BA. 1/4in Allen set screw		
			5/16in standard washer		
03/24633	Jockey sprocket	1	Held by flange on spindle		
03/24710	Sprocket chain 8mm	1			
65/499	Connecting link for 8mm chain	1	Included in 03/24710		

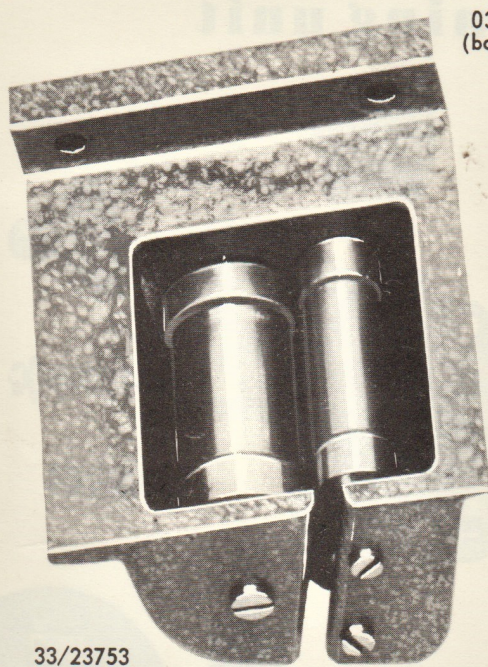
Plate II : 8

BOTTOM SPOOL SPINDLES AND BEARING



Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/24741	5/16in BOTTOM TAKE-UP SPINDLE ASS'Y.				
33/23736	3/8in BOTTOM TAKE-UP SPINDLE ASS'Y.				
33/24739	9 mm BOTTOM TAKE-UP SPINDLE ASS'Y.				
33/24743	1/2in BOTTOM TAKE-UP SPINDLE ASS'Y.				
03/23692	Take-up spindle bearing	1	1/4inBSF.7/8in hexagon head screw	01065A	3
65/907	Thrust bearing	2	1/4in standard washer	0020A	3
03/23788	Take-up sprocket adaptor	1			
03/23762	Clutch disc	1			
03/23783	Clutch plate	1	Woodruff key	0210A	1
03/18067	Clutch	1			
03/23640	Tension nut	1			
65/553	Oil cup	1			

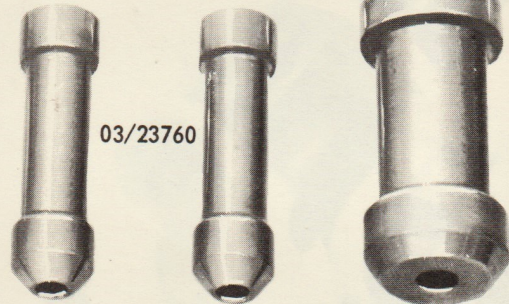
Plate II : 9



33/23753
(assembly)

03/23724
(body only)

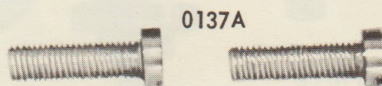
03/23761



03/23760

03/23759

03/23758

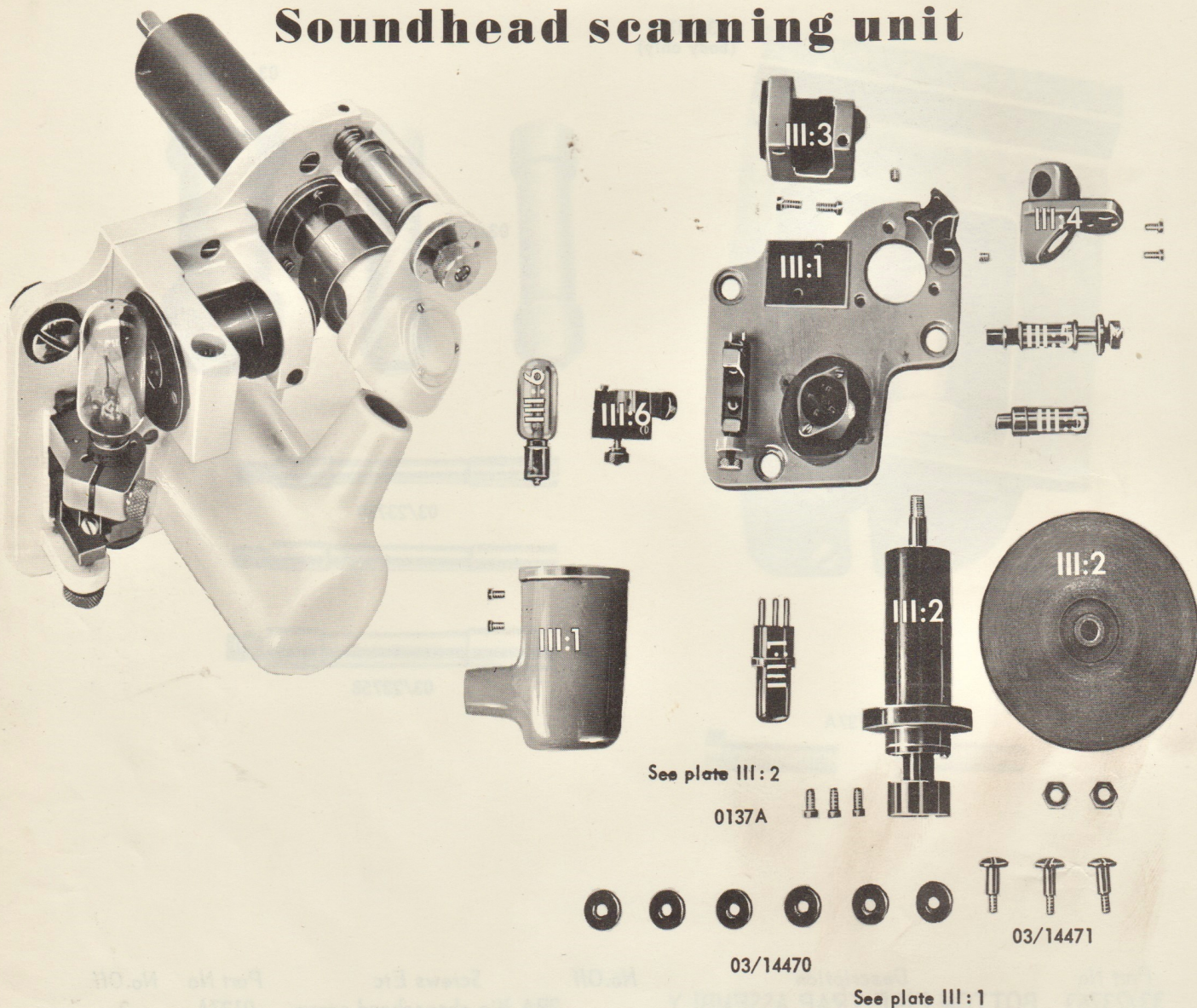


0137A

Part No	Description	No. Off	Screws Etc	Part No	No. Off
33/23763	BOTTOM FIRE TRAP ASSEMBLY			0137A	2
03/23724	Bottom fire trap body	1	2BA. 3/4 in cheesehead screw		
03/23761	Fire trap large roller	1	As assembly		
03/23758	Spindle for large roller	1	Threaded		
03/23760	Fire trap small roller	2			
03/23759	Spindle for small roller	2	Threaded		

KEYPLATE SECTION III

Soundhead scanning unit



Description

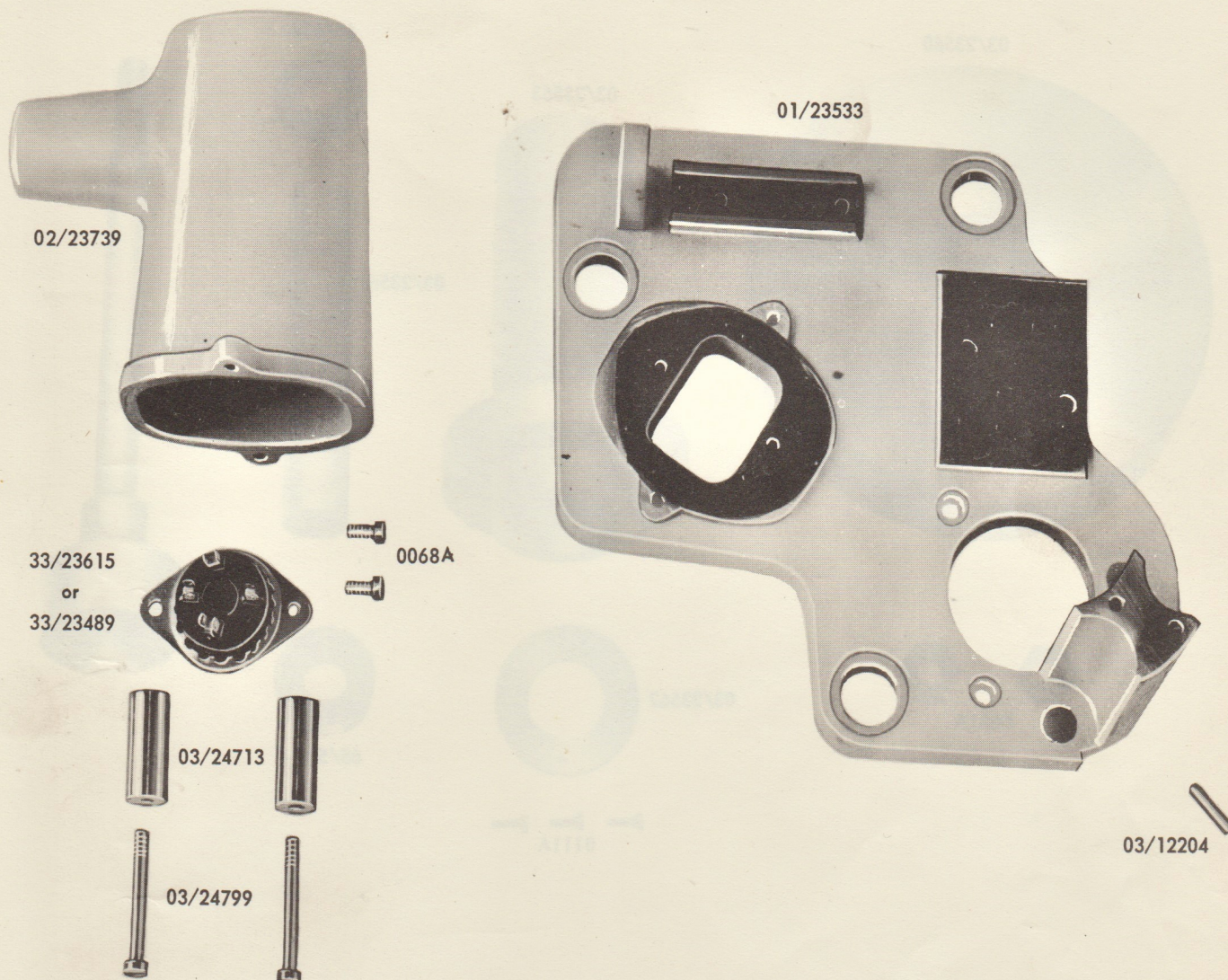
Scanning plate, cell-holder, photocell and cover
 Scanning drum, bearing and flywheel
 Optical system assembly
 Mirror mount assembly
 Tracking roller and idle roller
 Exciter lamp holder: Exciter lamp

Plate No

III : 1
 III : 2
 III : 3
 III : 4
 III : 5
 III : 6

Plate III : 1

SCANNING PLATE, CELL HOLDER

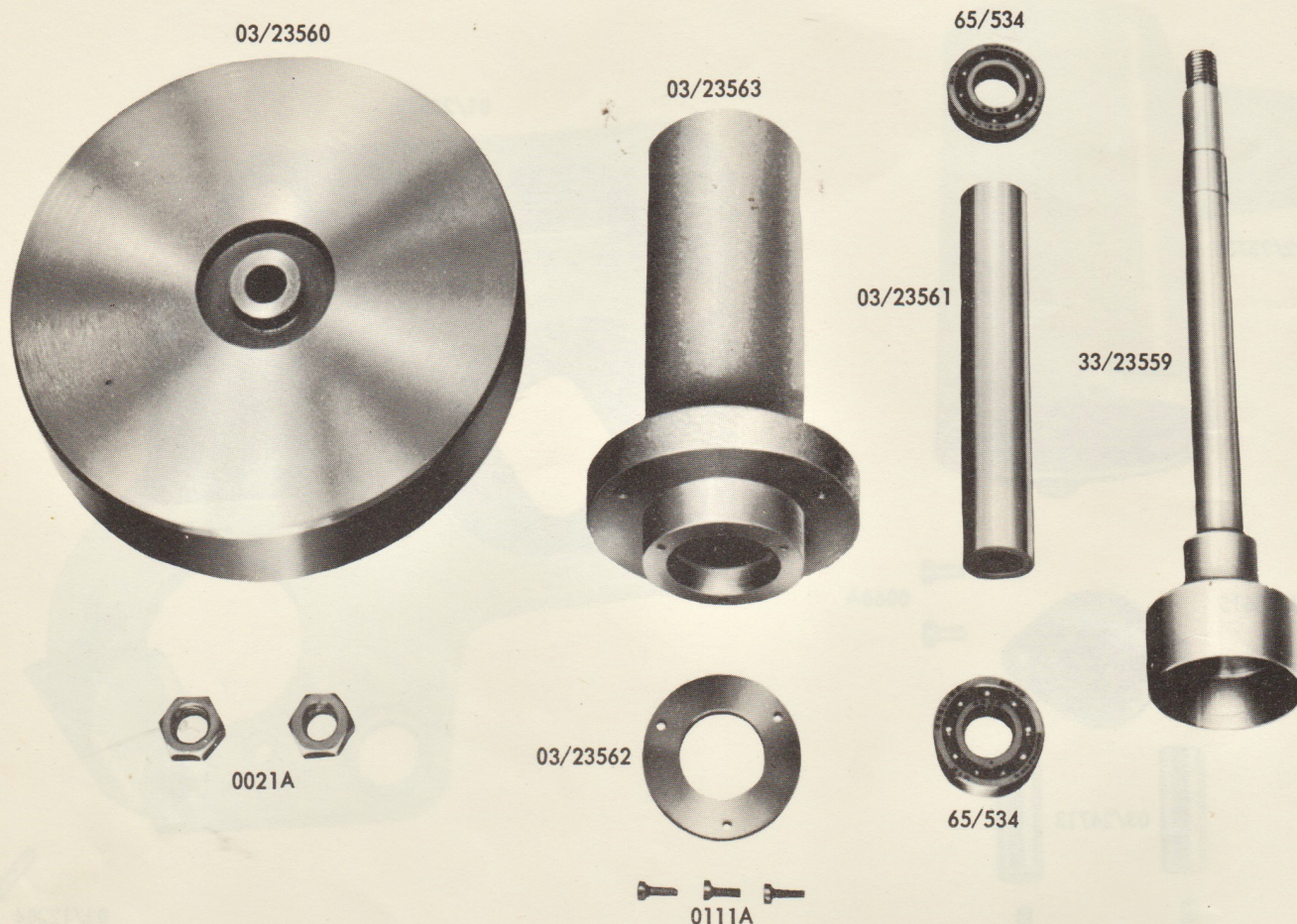


Part No	Description
01/23533	Soundhead scanning plate
03/12204	Dowel pin
33/23615	Photocrystal holder, four pin British
33/23489	Photocrystal holder, International octal
03/24713	Photocrystal holder support column
02/23739	Photocrystal housing
65/948	P.E. Cell G.S.16 90v Four pin British
65/1045	P.E. Cell R.C.A. 930 International Octal
03/14470	Rubber mounting cushion
03/14471	Mounting screw

No.Off	Screws Etc	Part No	No.Off
1			
4	Locating mirror mount and slit system to plate		
1	Special securing screw		2
	03/24799		
1	Cell holder as required		
2	As cell holder		
1	4BA.3/8in cheesehead screw	0068A	2
	as ordered		
6	Shock absorber for scanning plate		
3	For scanning plate or complete soundhead		

Plate III : 2

SCANNING DRUM AND FLYWHEEL ASSEMBLY



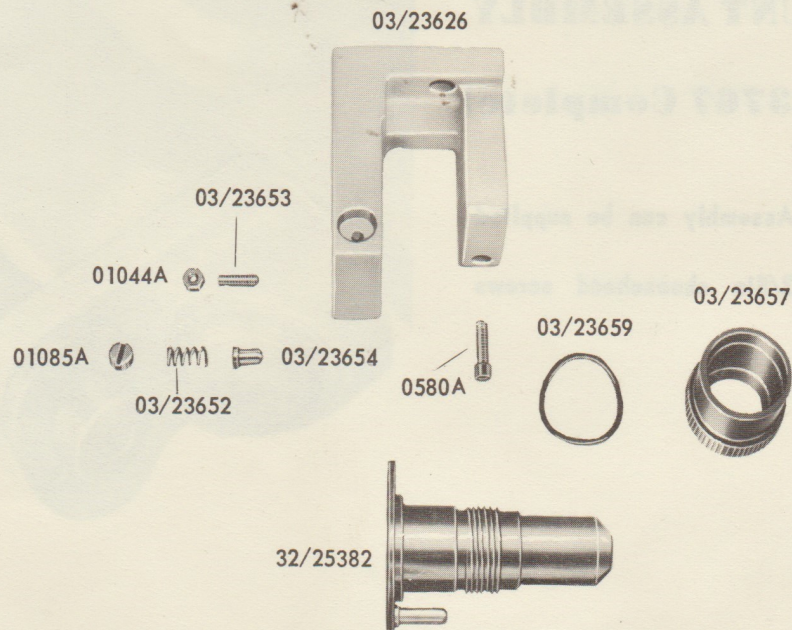
33/23723 SCANNING DRUM AND FLYWHEEL COMPLETE

03/23563 Housing
03/23562 Bearing cover

65/534 Ball race OO fit
03/23561 Spacer
03/23560 Flywheel
33/23559 DRUM AND SPINDLE

1	2BA.3/4in cheesehead screw	0137A	3
1	As assembly		
1	6BA.5/16in cheesehead screw	0111A	3
2			
1			
1	3/8in.BSF locknut	0021A	2
1			

Plate III : 3



OPTICAL SYSTEM ASSEMBLY (Part No 32/23707 Complete)

Part No	Description	No.Off	Screws Etc	Part No	No.Off
03/23626	Soundhead Mount	1	4BA.5/8in Allen cap screw	0580A	1
03/23654	Focus Control Plunger	1			
03/23652	Plunger Spring	1	Retained by 5/16in BSF. 3/16in Grub Screw	01085A	1
32/25382	Complete Lens Barrel Assembly	1			
03/23653	Azimuth Setting screw	1	4BA Locknut	01044A	1
03/23659	Spring Washer	1	Behind Flange of 32/25382		
03/23657	Focus Control Nut	1			

Plate III : 4

MIRROR MOUNT ASSEMBLY

(Part No 32/23767 Complete)

The Mirror Mount Assembly can be supplied only as a unit.

Secured by 4BA.3/8in cheesehead screws (2 off) Pt. No. 0068A.

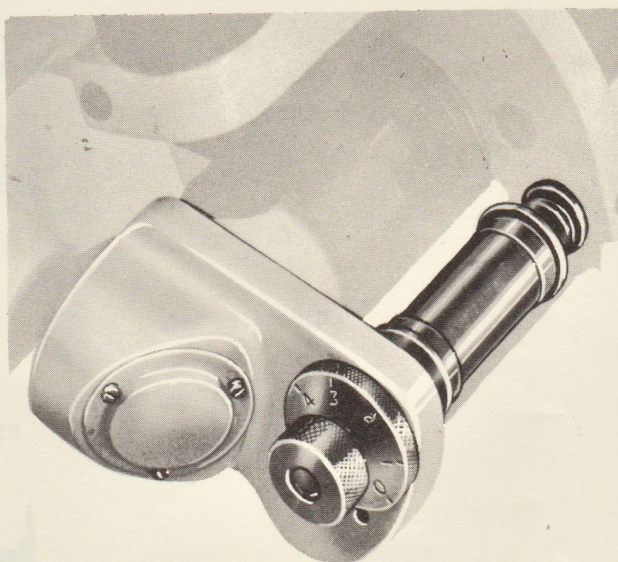


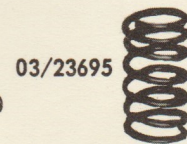
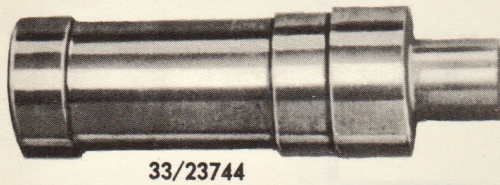
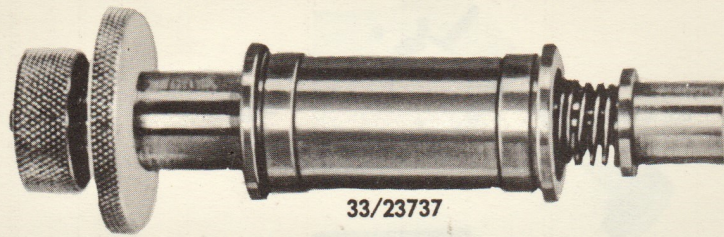
PLATE III : 5 TRACKING AND IDLE ROLLERS

Part No	Description	No.Off	Screws Etc	Part No	No.Off
TRACKING ROLLER ASSEMBLY (33/23737 COMPLETE)					
03/23596	Roller spindle	1	2BA.3/16in Allen set screw	0043A	1
03/23695	Compression spring	1			
03/23595	Bush for spring	1			
03/23597	Roller	1			
65/854	Ballrace	2			
03/23594	Spacer	1	Spacing ballraces		
03/23593	Retaining ring	1	Retaining ballrace adjacent to spring		
03/23590	Adjusting knob	1			
03/23696	Locknut	1			
03/24770	Label for adjusting knob	1			

IDLE ROLLER ASSEMBLY (33/23744 COMPLETE)

03/23591	Spindle	1	2BA.3/16in Allen set screw	0043A	1
03/23608	Roller	1	Special screw	03/23738	1
65/854	Ballrace	2			
03/23594	Spacer	1	Spacing ballraces		
03/23593	Retaining ring	1			

Plate III : 5



LABEL 03/24770

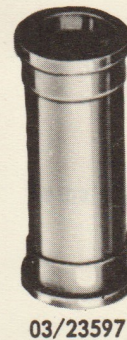
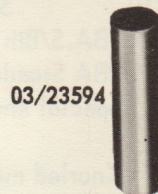
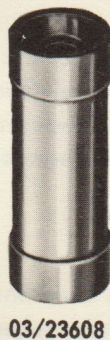
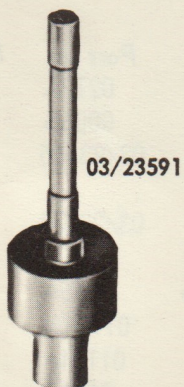
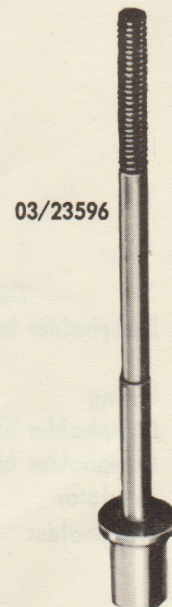
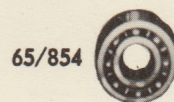
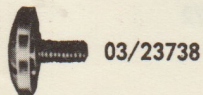
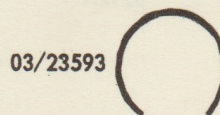
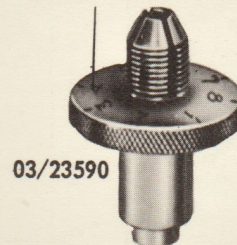
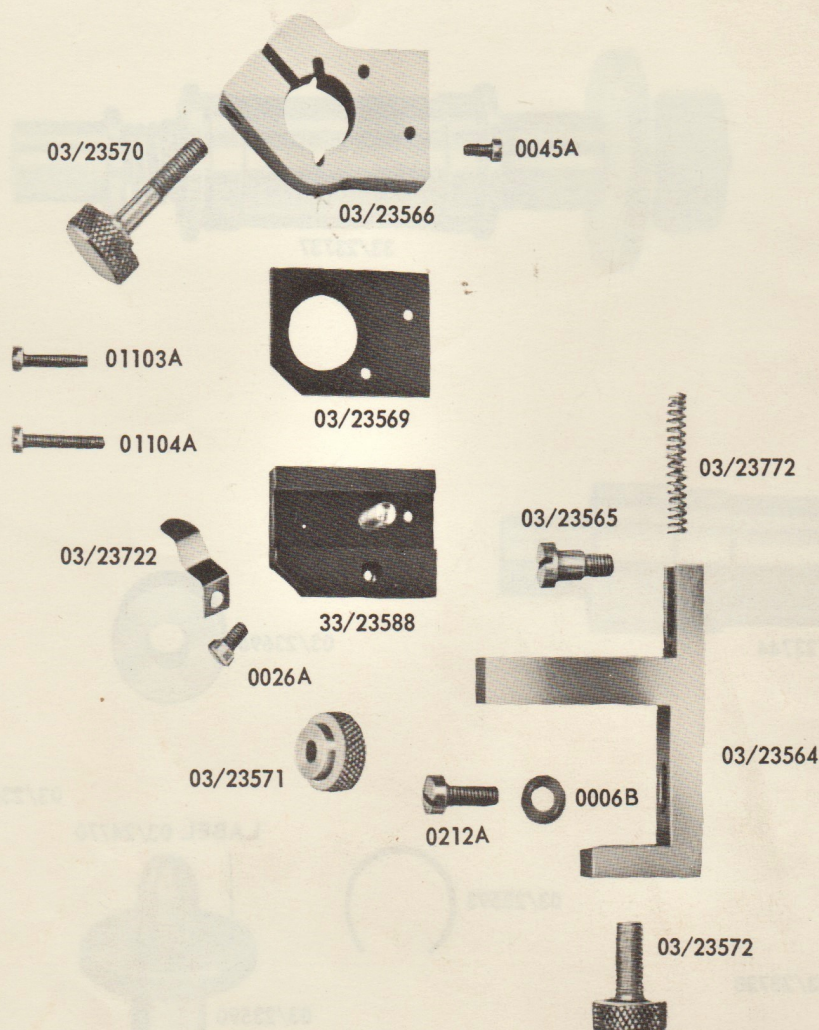


Plate III : 6

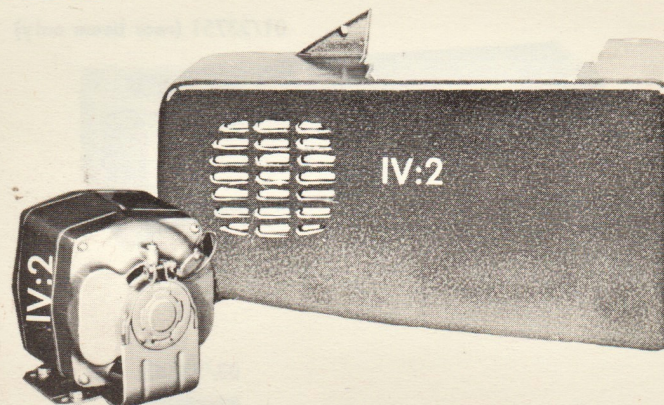
EXCITER LAMPHOLDER, EXCITER LAMP



Part No	Description	No. Off	Screws Etc	Part No	No. Off
03/23564	Lampholder bracket	1	2BA.5/8in cheesehead screw	0212A	1
			2BA Standard washer	0006B	1
03/23772	Spring	1	Special shouldered screw	03/23565	1
03/23572	Lampholder elevating screw	1			
33/23588	Lampholder block	1	Knurled nut	03/23571	1
03/23569	Insulator	1			
03/23566	Lampholder	1	6BA.3/16in cheesehead screw	0045A	1
			6BA.5/8in cheesehead screw	01103A	1
			6BA.3/4in cheesehead screw	01104A	1
03/23722	Contact spring	1	4BA.1/4in cheesehead screw	0026A	1
03/23570	Lamp clamping screw	1			
65/947	Exciter lamp. 8 volt:32 watt. S.C.C.				

KEYPLATE SECTION IV

Stand



Description

Projector stand, rear beam and levelling adjustments
 Projector motor, pulley, belts, stand covers
 Control panel and fuse panel

Plate No.

IV : 1

IV : 2

IV : 3,a

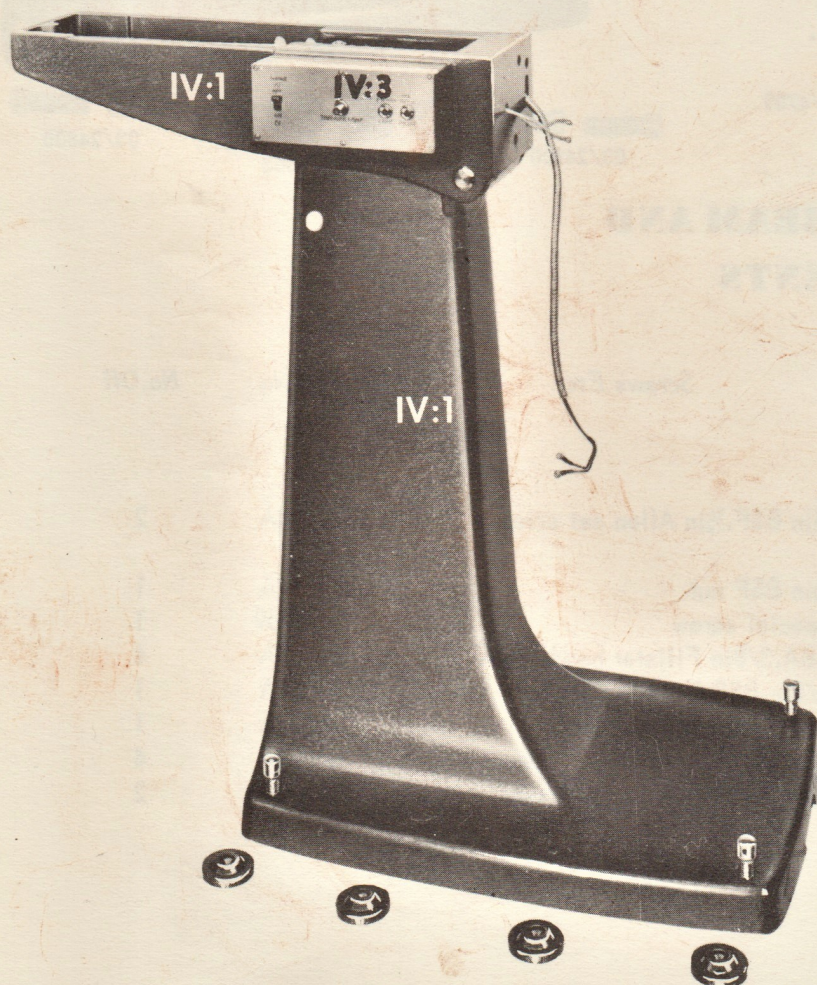
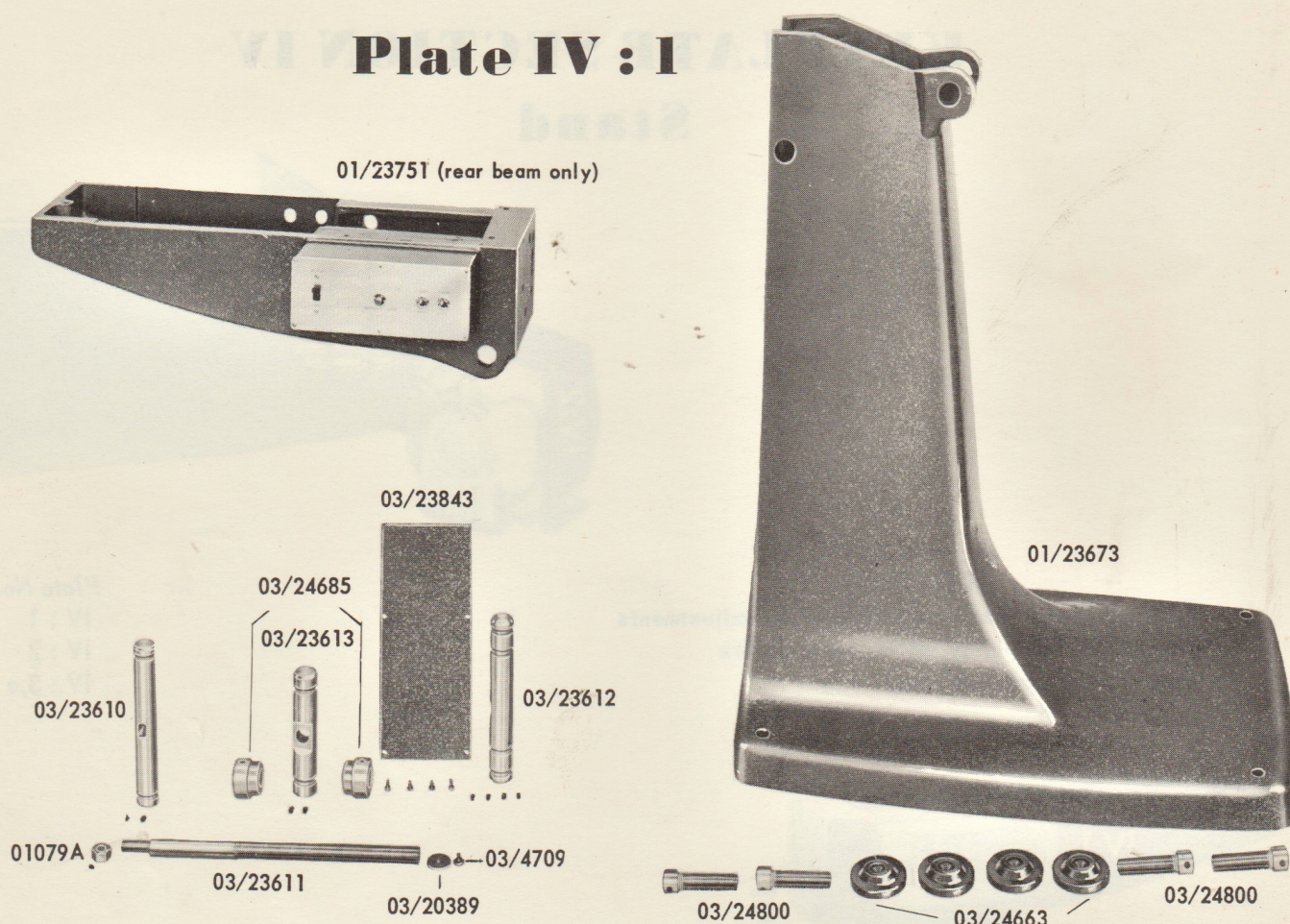


Plate IV : I

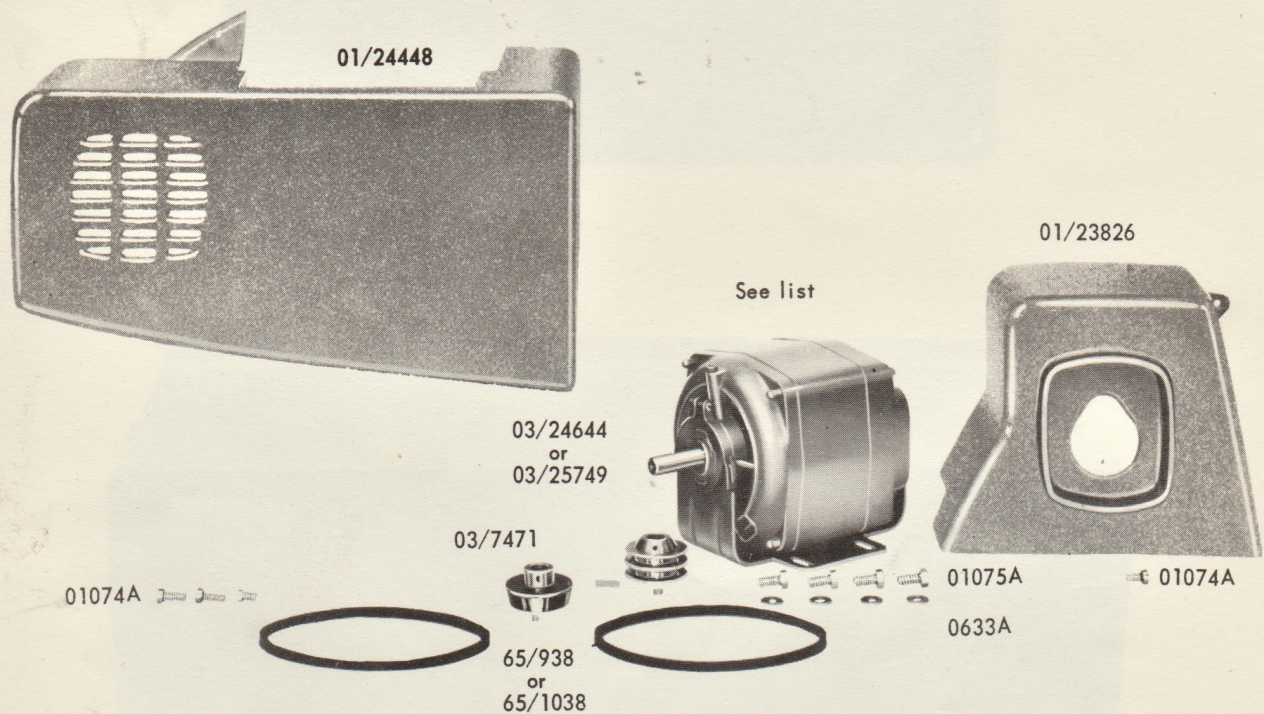


PROJECTOR STAND, REAR BEAM AND LEVELLING ADJUSTMENTS

Part No	Description	No.Off	Screws Etc	Part No	No.Off
01/23673	Stand base	1			
03/24800	Levelling screw	4			
03/24663	Levelling cups	4			
03/23613	Elevating pin	1	1/4in BSF. 1/2in Allen set screw	01078A	2
03/24685	Elevating nut	2			
03/23611	Elevating screw	1	1/2in BSF nut	01079A	1
03/20389	Stop washer	1	Special screw	03/4709	1
03/23843	Cover plate	1	2BA.3/8in Filister head screw	01018A	4
65/420	Earthing lug	1	3/8in BSF. 1/2in hexagon head screw	01080A	1
01/23751	Rear beam only	1	3/8in Standard washer	0022A	1
03/23612	Fulcrum	1	1/4in BSF. 1/2in Allen set screw	01078A	4
03/23610	Trunnion	1	1/4in BSF. 1/2in Allen set screw	01078A	2

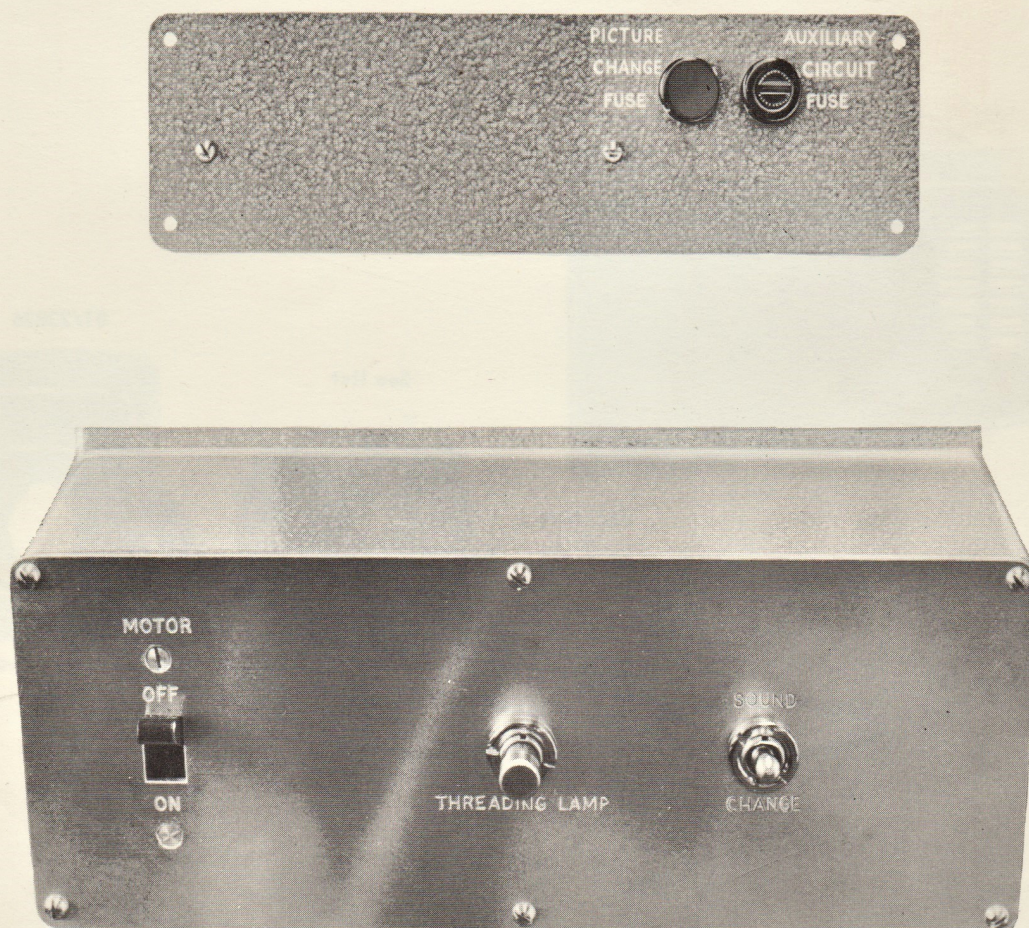
Plate IV : 2

PROJECTOR MOTOR, DRIVE BELTS AND COVERS



Part No	Description	No. Off	Screws Etc	Part No	No. Off
03/24644	Motor pulley (50 c.p.s.)	1	3/16in. 3/4in key	01072A	1
			2BA. 1/4in Allen set screw	0042A	1
03/25749	Motor pulley (60 c.p.s.)	1			
03/7471	Inching knob	1	2BA. 3/16in Allen set screw	0043A	1
65/938	Driving belts (50 c.p.s.)	2	(5/16in Vee section 18in inside length)		
65/1038	Driving belts (60 c.p.s.)	2	16 1/2in inside length		
01/24448	Flywheel and motor non/operating side cover	1	1/4in. BSF. 5/8in Filister head screw	01074A	1
			Special screw	03/10245	2
01/23826	Motor & belt drive cover	1	1/4in. BSF. 5/8in Filister head screw	01074A	1
PROJECTOR DRIVE MOTORS The following range is available and can be supplied to order					
65/1002	110/115 volts 50/60 c.p.s.	Secured by			
65/1003	200/210 volts " "	5/16in BSF. 5/8in Hexagon head screw		01075A	4
65/1004	220/230 volts " "	5/16in Washer		0633A	4
65/1005	240/250 volts " "				

Plate IV : 3



CONTROL PANEL AND FUSE PANEL

BASIC EQUIPMENT ONLY:- Use in conjunction with section VI : 4 when electrical picture change-over is fitted.

ELECTRICAL ASSEMBLY No 1 PROJECTOR (Part No 32/24985 Complete)

ELECTRICAL ASSEMBLY No 2 PROJECTOR (Part No 32/24987 Complete)

Each assembly comprises:-

- / Control panel complete
- / Fuse panel complete
- / Wiring assembly

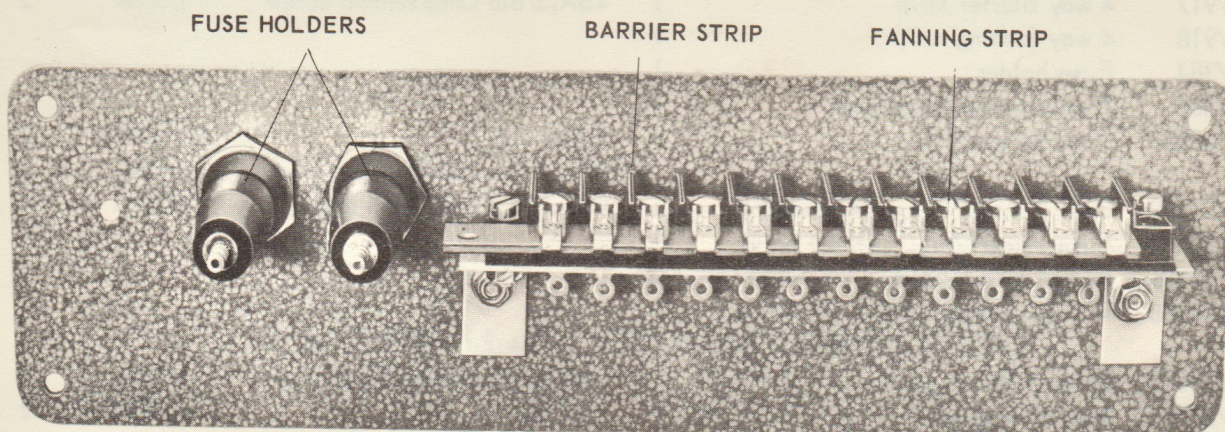
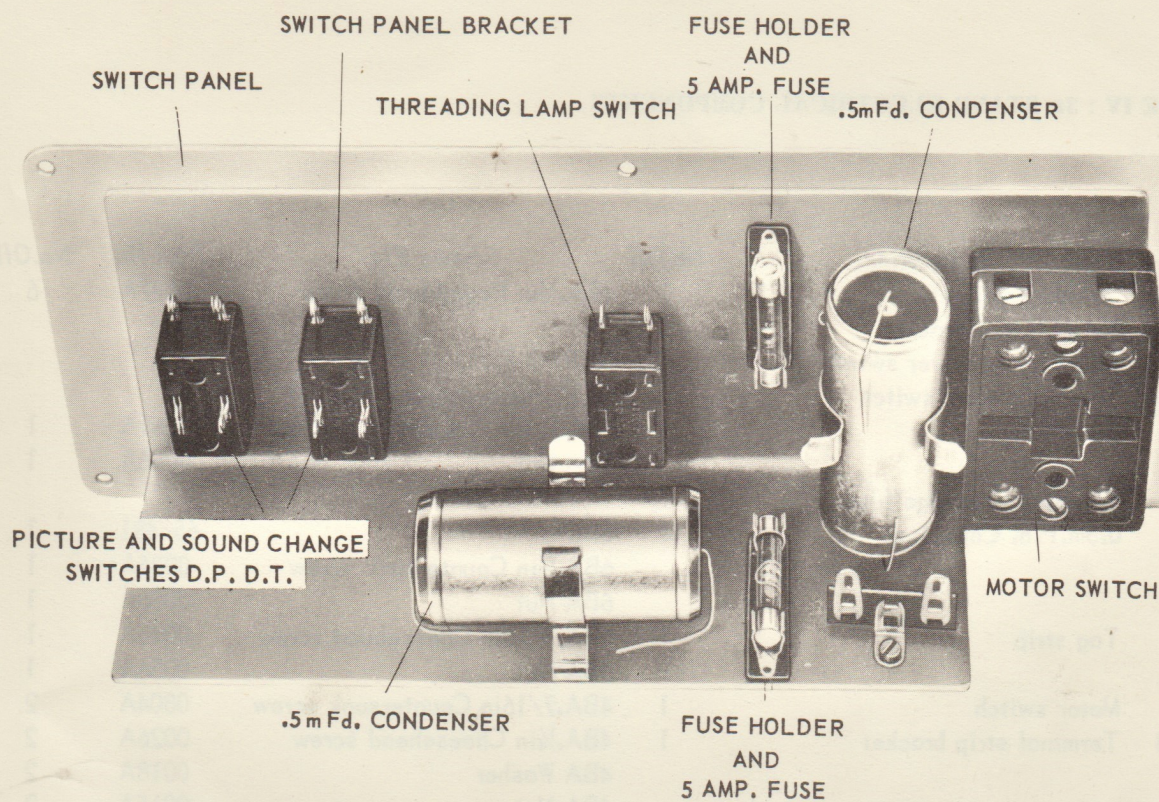


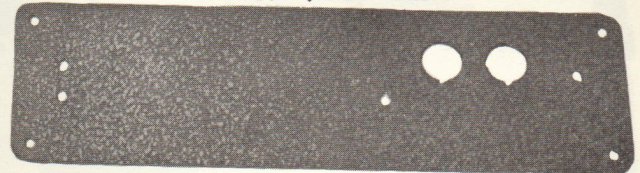
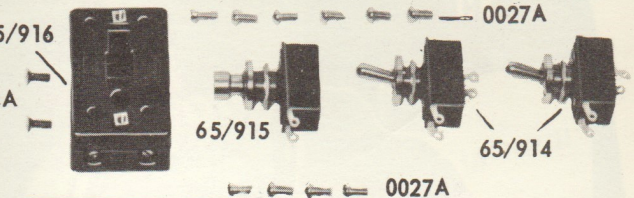
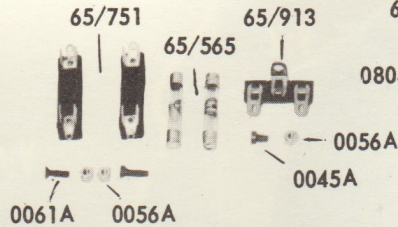
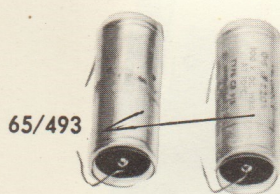
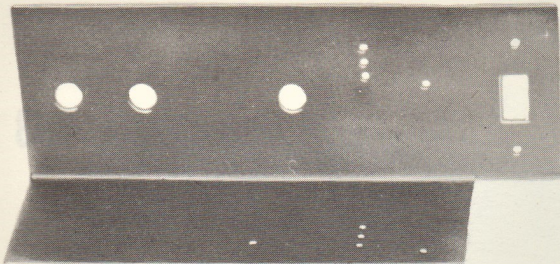
PLATE IV : 3a STAND ELECTRICAL COMPONENTS

Part No	Description	No. Off	Screws Etc	Part No	No. Off
03/24942	Switch panel only	1	4BA. 1/4in Round head screw	0027A	6
03/24667	Switch panel bracket	1			
65/914	Sound change-over switch	1	(D.P. D.T.)		
65/915	Threading lamp switch	1	(D.P. Push on/push off)		
65/751	Fuseholder	1	6BA. 3/8in Countersunk screw	0061A	1
			6BA Nut	0056A	1
65/565	5 ampere Cartridge fuse	1			
65/493	0.5m. F.d. Capacitor	1	clip	65/481	1
			6BA. 1/4in Countersunk screw	0035A	1
			6BA Nut	0056A	1
65/913	Tag strip	1	6BA. 3/16in Cheesehead screw	0045A	1
			6BA Nut	0056A	1
65/916	Motor switch	1	4BA. 7/16in Countersunk screw	0804A	2
03/24833	Terminal strip bracket	1	4BA. 1/4in Cheesehead screw	0026A	2
			4BA Washer	0018A	2
			4BA Nut	0015A	2
65/970	12 way Marker strip	1	4ba. 1/2in Cheesehead screw	0149A	2
65/919	12 way Barrier strip	1	4BA Nut	0015A	2
65/920	12 way fanning strip	1			
65/917	4 way Barrier strip	1	4BA. 3/8in Cheesehead screw	0068A	2
65/918	4 way fanning strip	1			
65/384	Fuse holder	1			
65/386	2 ampere Cartridge fuse	1			
03/25381	Flexible conduit	1	Cable clip	05/12893	3
			4BA. 5/16in Cheesehead screw	0135A	3
03/24859	Fuse Panel (No 1 machine only)	1	4BA. 1/4in Round head screw	0027A	4
03/23833	Fuse Panel (No 2 machine only)	1			
33/24986	Wiring assembly (No 1 machine)	1			
33/24988	Wiring assembly (No 2 machine)	1			
THE FOLLOWING ITEMS FITTED IN No 2 PROJECTOR ONLY					
03/24619	Bracket for resistor	1	2BA. 3/8in Cheesehead screw	0136A	2
03/21383	Stud for resistor	1	2BA Nut	0915A	2
03/21382	Locating bush for resistor	1			
65/965	0.5ohm Resistor	1			

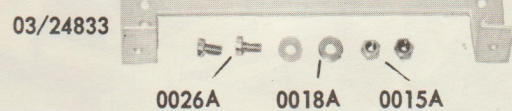
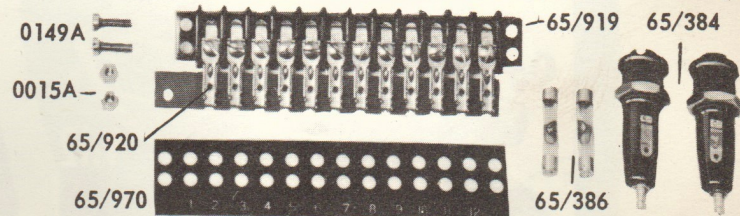
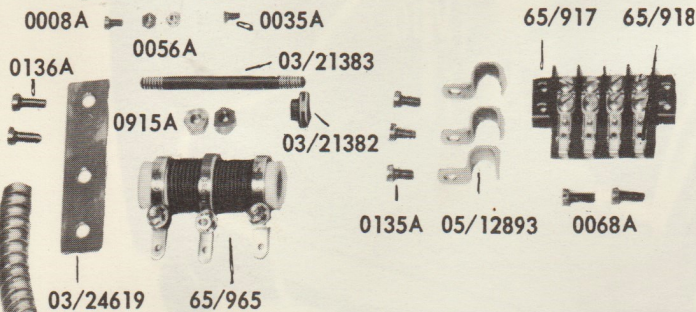
Plate IV : 3a

03/24292
03/24666 } TO ORDER

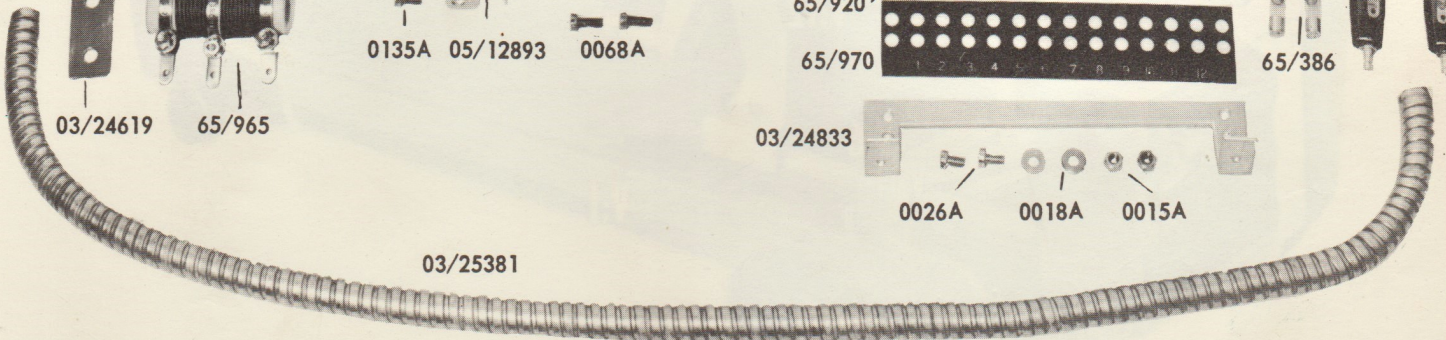
03/24667



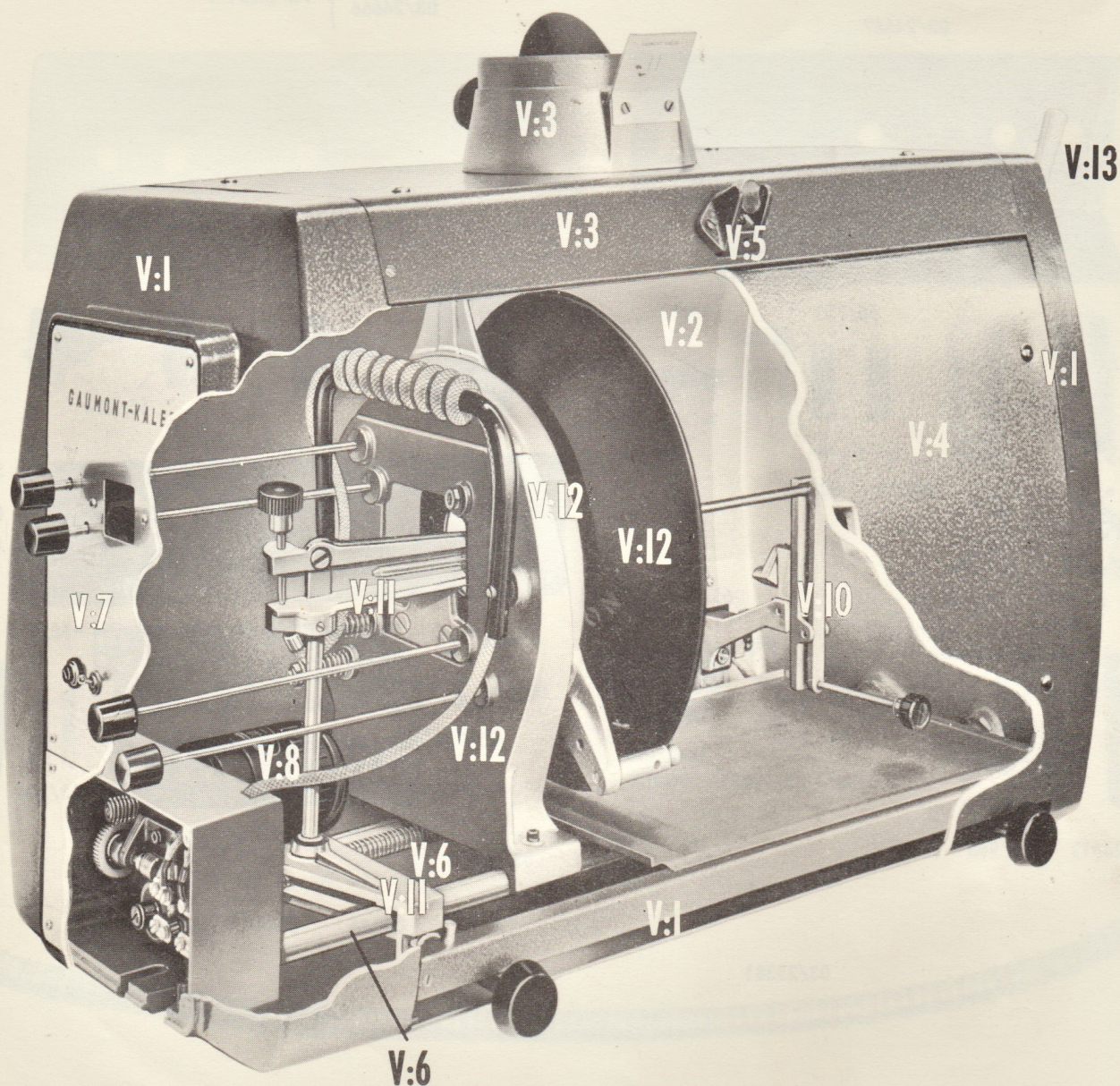
SEE LIST
03/24859
03/23833



03/25381



GK 37 Arc lamp complete



Type H.I.Pt No 32/24744 Complete
Type L.I.Pt No 31/24890 Complete
Type A.C.Pt No 31/24869 Complete

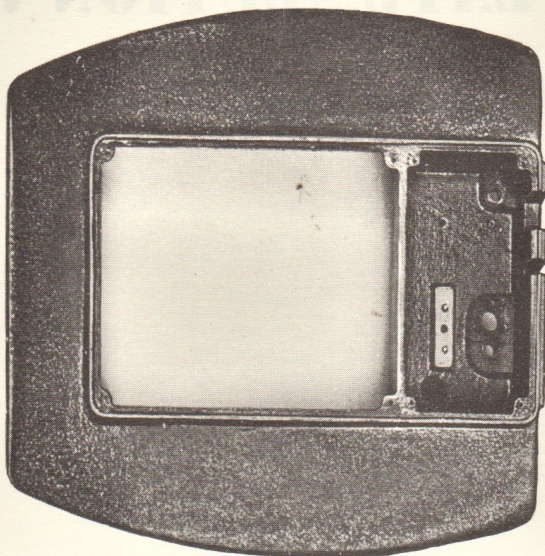
KEYPLATE SECTION V

Arclamp

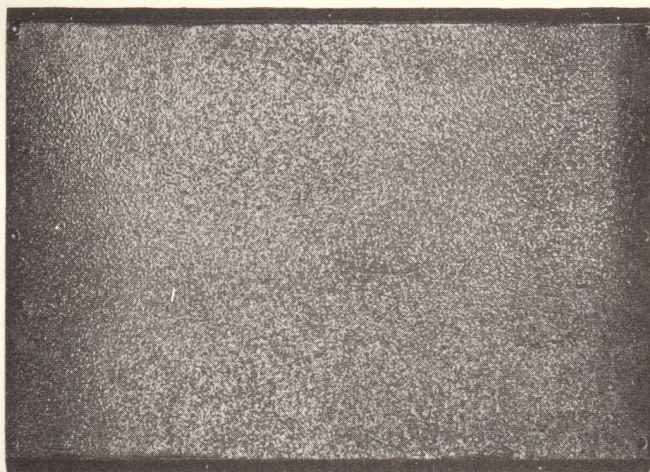
<i>Description</i>	<i>Plate No</i>
Bottom panel, end castings and tray	V : 1
Non-operating side panel and tray support	V : 2
Roof panel and chimney	V : 3
Operating side door	V : 4
Periscope	V : 5
Lead screw and guide rods	V : 6
Control panel	V : 7
Feed motor and gearing	V : 8
Positive crutch assembly	V : 9
Positive carbon holder and carriage assembly	V : 10,a
Negative carbon holder and carriage assembly	V : 11,a
Mirror holder, magnet, and negative crutch	V : 12,a,b,c
Light cut-off and mirror shield	V : 13,a

Plate V : 1

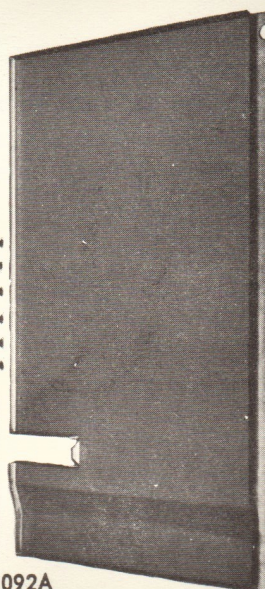
01/23770



01/24363



01/24678



01092A

01/23784

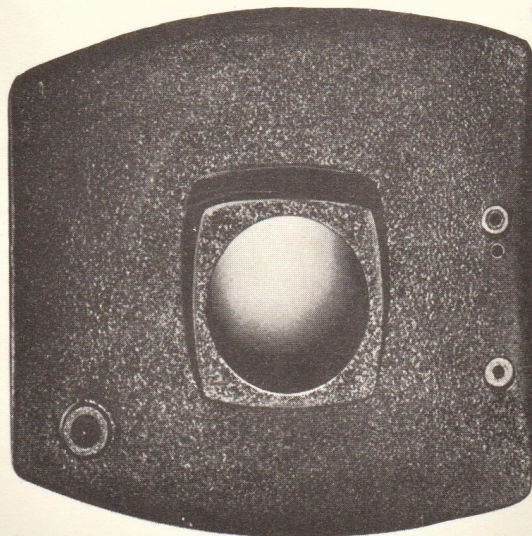


Plate V : 2

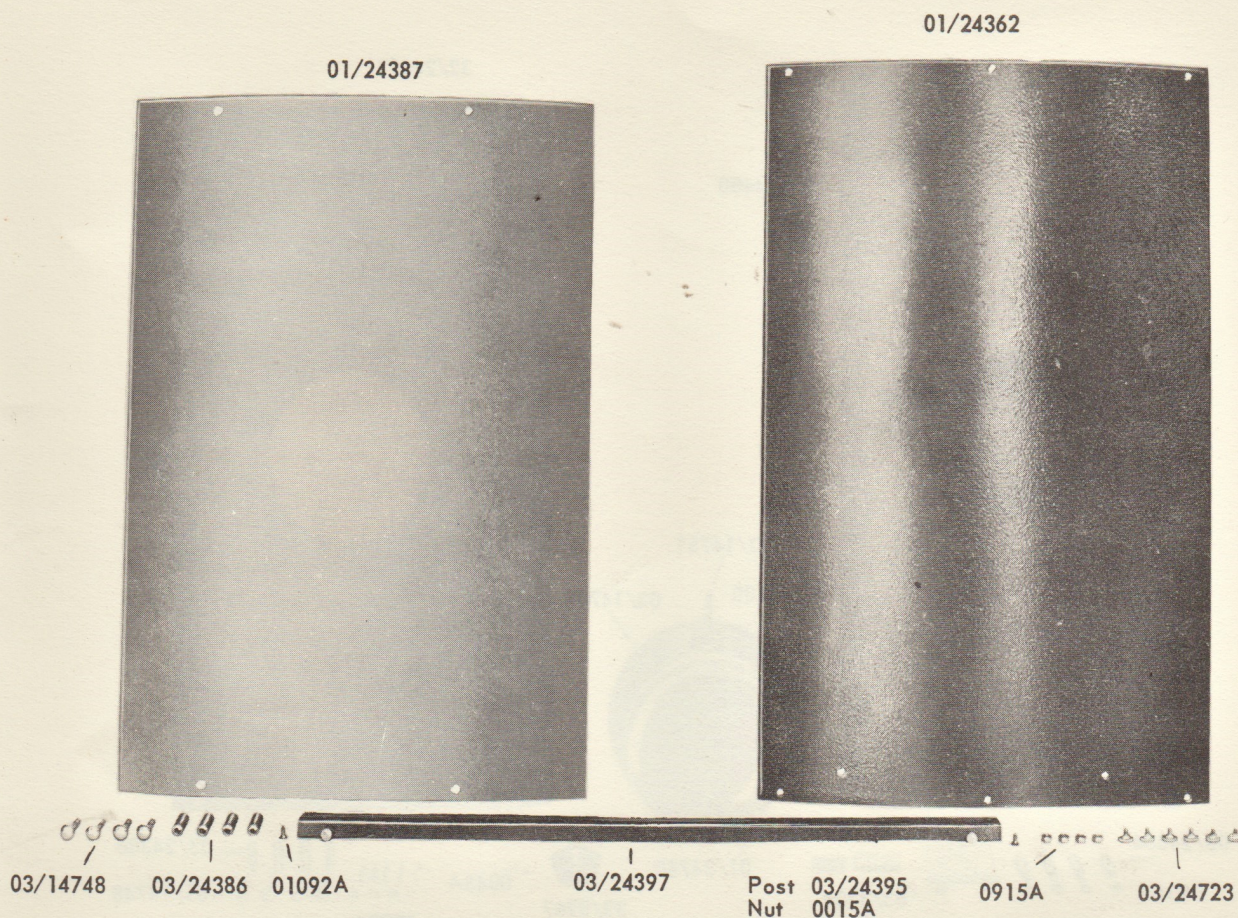


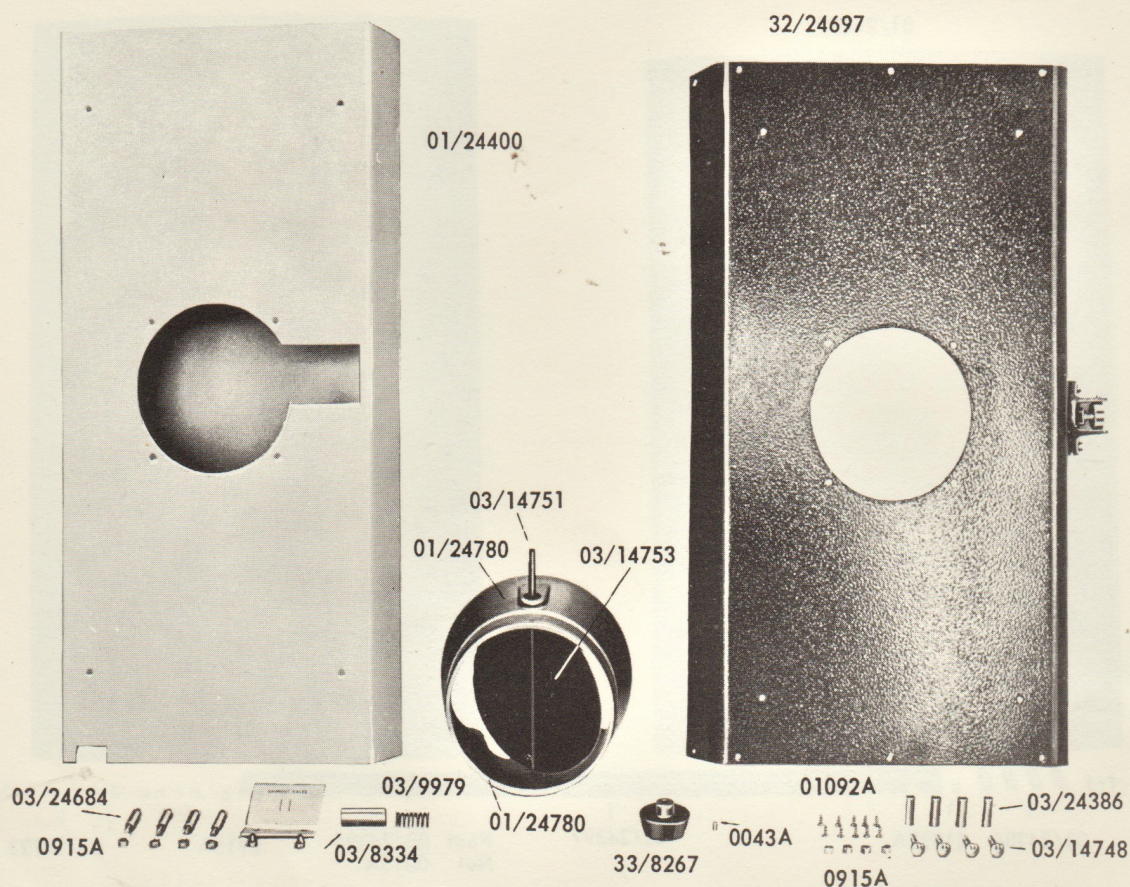
PLATE V : 1 LAMPHOUSE BASE, AND END CASTINGS

Part No	Description	No.Off	Screws Etc	Part No	No.Off
01/23770	Rear end casting	1			
01/23784	Front casting	1			
01/24363	Bottom panel	1	No 6.3/8in self-tapping screws	01092A	6
01/24678	Carbon tray	1			

PLATE V : 2 NON-OPERATING SIDE PANEL AND TRAY SUPPORT

03/24397	Tray support	1	No 6.3/8in self tapping screws	01092A	2
32/24696	NON-OPERATING SIDE PANEL COMPLETE	1	Special securing thumbscrews	03/24723	6
01/24362	Non-operating side panel	1	As assembly 32/24696		
01/24387	Side panel baffle	1	Special screw	03/14748	4
03/24386	Spacer (for baffle)	4	2BA Nut	0915A	4

Plate V : 3

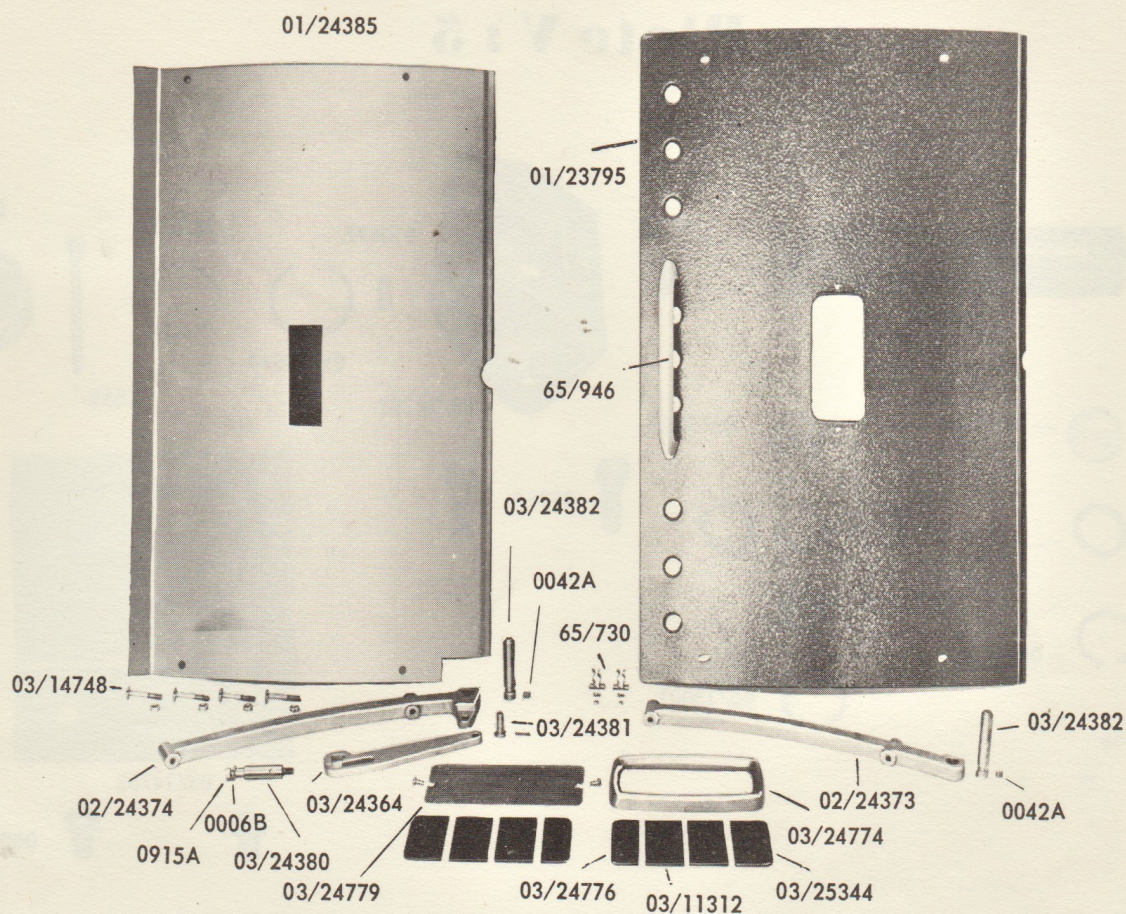


LAMPHOUSE ROOF CHIMNEY

*31/24727 COMPLETE ROOF PANEL (LESS PERISCOPE)	1	No 6.3/8in self tapping screw	01092A	10
01/24400 Roof baffle	1	special screw	03/14748	4
03/24386 Spacer (for baffle)	4	2BA Nut	0915A	4
03/24684 Supports for roof baffle and chimney	4	2BA Nut	0915A	4
02/24784 CHIMNEY COMPLETE	1	Secured by 03/24684		
01/24780 Chimney	1			
03/14753 Chimney damper	1	Secured by clips 03/8332		
03/8332 Damper clip	2	4BA. 1/4in hexagon head screw	0675A	4
		4BA washer	0018A	4
		4BA Nut	0015A	4
03/14751 Damper spindle	1	1/4in spacing washer	0020A	1
33/8267 Damper knob	1	2BA. 3/16in Allen set screw	0043A	1
03/9979 Spring	1			
03/8334 Spring housing	1			
03/9975 Washer for spring	1			

*NOTE:- THE PERISCOPE FITTED TO THE ROOF PANEL, AND THE SIGHT CARD FITTED ON THE CHIMNEY ARE LISTED ON PLATE V : 5

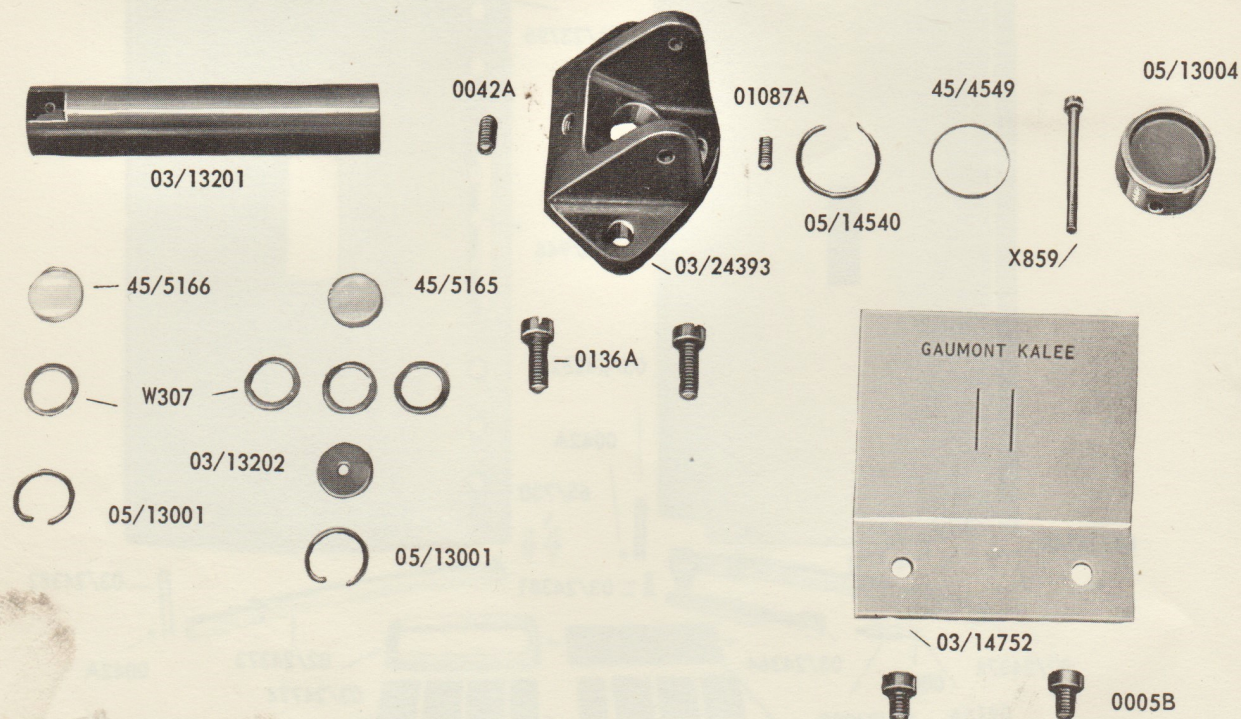
Plate V : 4



OPERATING SIDE LAMPHOUSE DOOR

Part No	Description	No.Off	Screws Etc	Part No	No.Off
01/23795	Door panel	1			
01/24385	Door baffle	1			
02/24374	Door support hinge	1			
02/24373	Door hinge	1			
03/14748	Special door screw	4	2BA Nut	0915A	4
			2BA Washer	0006B	4
03/24382	Door hinge pin	2	2BA.1/4in Allen set screw	0042A	2
03/24364	Door stay	1			
03/24381	Door stay pivot pin	1	1/16in.1/2in Split pin	0014A	1
03/24380	Door stay stop	1	2BA Nut	0915A	1
			2BA Washer	0006B	1
03/24774	Window frame	1	6BA.3/8in Cheesehead screw	01106A	2
03/11312	Window glass tinted (wide)	4	6BA Washer	0031A	2
03/24776	Window glass tinted (narrow)	2			
03/25344	End window glass (wide, chamfered)	2			
03/24779	Window gauze	1			
65/946	Door handle with fixing nuts	1			
03/24395	Door catch post	2	4BA Nut	0015A	2
65/730	Door clip	2	8BA.1/4in Roundhead screw	01089A	2
			8BA Washer	01091A	2
			8BA Nut	01090A	2

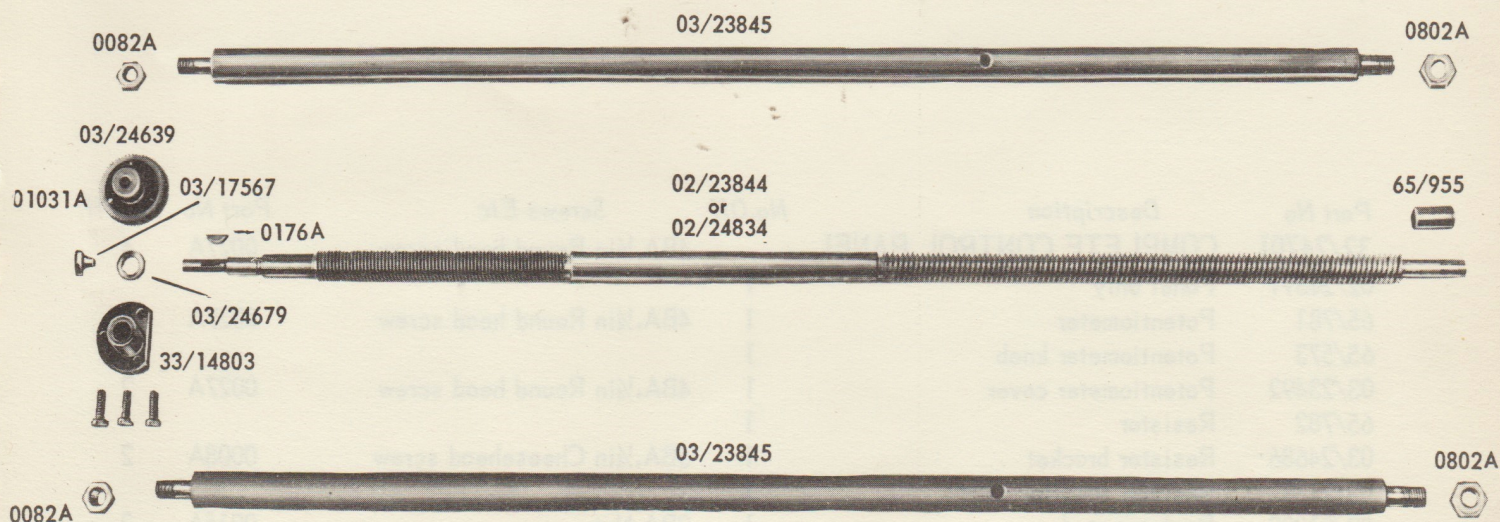
Plate V : 5



PERISCOPE AND SIGHT CARD

Part No	Description	No. Off	Screws Etc	Part No	No. Off
33/24659	PERISCOPE COMPLETE	1	2BA.3/8in Cheesehead screw	0136A	2
			4BA.5/16in Allen set screw	01087A	1
03/24393	Periscope mounting bracket	1	As Assembly		
05/13004	Periscope mirror holder	1	Special screw	X859	1
45/4549	Mirror	1	Spring ring	05/14540	1
33/13218	PERISCOPE BARREL COMPLETE	1	2BA.1/4in Allen set screw	0042A	1
03/13201	Periscope barrel only	1	As assembly 33/13218		
03/13202	Stop washer	1			
45/5165	Inner lens	1	Spring ring	05/13001	1
45/5166	Outer lens	1	Spring ring	05/13001	1
W307	Packing washers		As required		
03/14752	Periscope sight card	1	2BA.1/4in Roundhead screw	0005B	2

Plate V : 6



LEAD SCREW AND GUIDE RODS

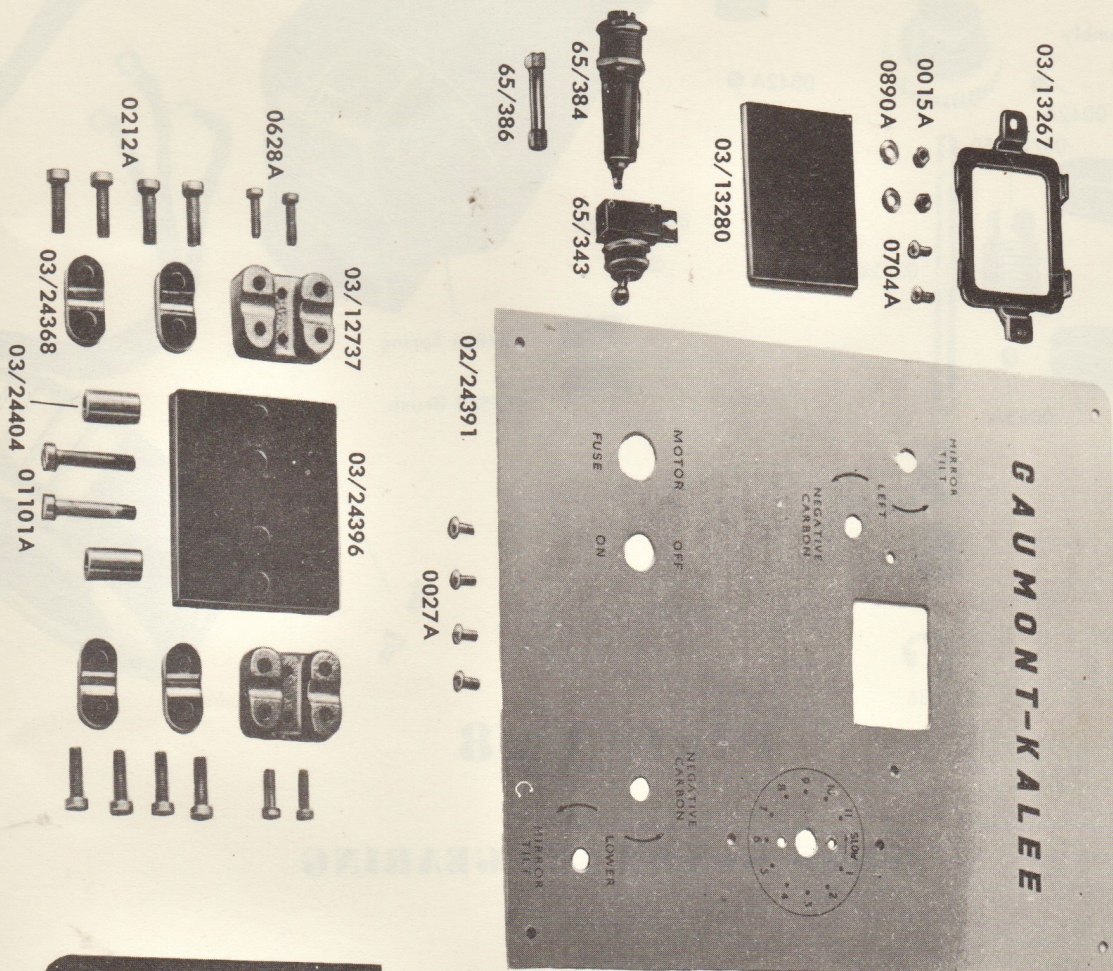
Part No	Description	No. Off	Screws Etc	Part No	No. Off
03/23845	Guide rod	2	Locknut 3/8in BSF	0082A	2
			Locknut 7/16in BSF	0802A	2
03/24639	Lead screw worm wheel	1	End screw	03/17567	1
03/24679	Lead screw thrust washer	1	Woodruff key	0176A	1
33/14803	Lead screw bearing with bush	1	2BA.5/8in Filister head screw	01031A	3
65/955	Bush for lead screw	1			
02/23844	(H.I.)				
02/24834	(L.I. and A.C.) Lead screw	1			

PLATE V : 7 CONTROL PANEL

Part No	Description	No.Off	Screws Etc	Part No	No.Off
32/24701	COMPLETE CONTROL PANEL		4BA.1/4in Round head screw	0027A	4
02/24391	Panel only	1			
65/781	Potentiometer	1	4BA.1/4in Round head screw	0027A	2
65/573	Potentiometer knob	1			
03/23492	Potentiometer cover	1	4BA.1/4in Round head screw	0027A	2
65/782	Resistor	1			
03/24686	Resistor bracket	1	6BA.1/4in Cheesehead screw	0008A	2
03/21382	Resistor locating plug	1			
03/21383	Resistor stud	1	2BA Nut	0915A	2
65/384	Fuse holder	1			
65/386	2 Ampere fuse	1			
65/343	Motor switch	1			
33/24695	Complete wiring	1			
03/13280	Window	1			
03/13267	Window frame	1	4BA.5/16in Round head screw	0704A	2
			4BA Shakeproof washer	0890A	2
			4BA Nut	0015A	2
03/24404	Terminal panel spacers	2			
03/24396	Terminal panel	1	2BA.1/1/8in Cheesehead screw	01101A	2
03/12737	Terminal block	2	4BA.7/16in Cheesehead screw	0628A	4
03/24368	Cable clamp	4	2BA.5/8in Cheesehead screw	0212A	8
03/24398	Lower rear panel	1	4BA.1/4in Round head screw	0027A	4
For A.C. Arc-Lamp add:-					
65/546	Terminal block	1	4BA.1in Cheesehead screw	0007A	2

Plate V : 7

COMPLETE CONTROL PANEL ASSEMBLY 32/24701



COMPLETE WIRING
33/24695

03/24398

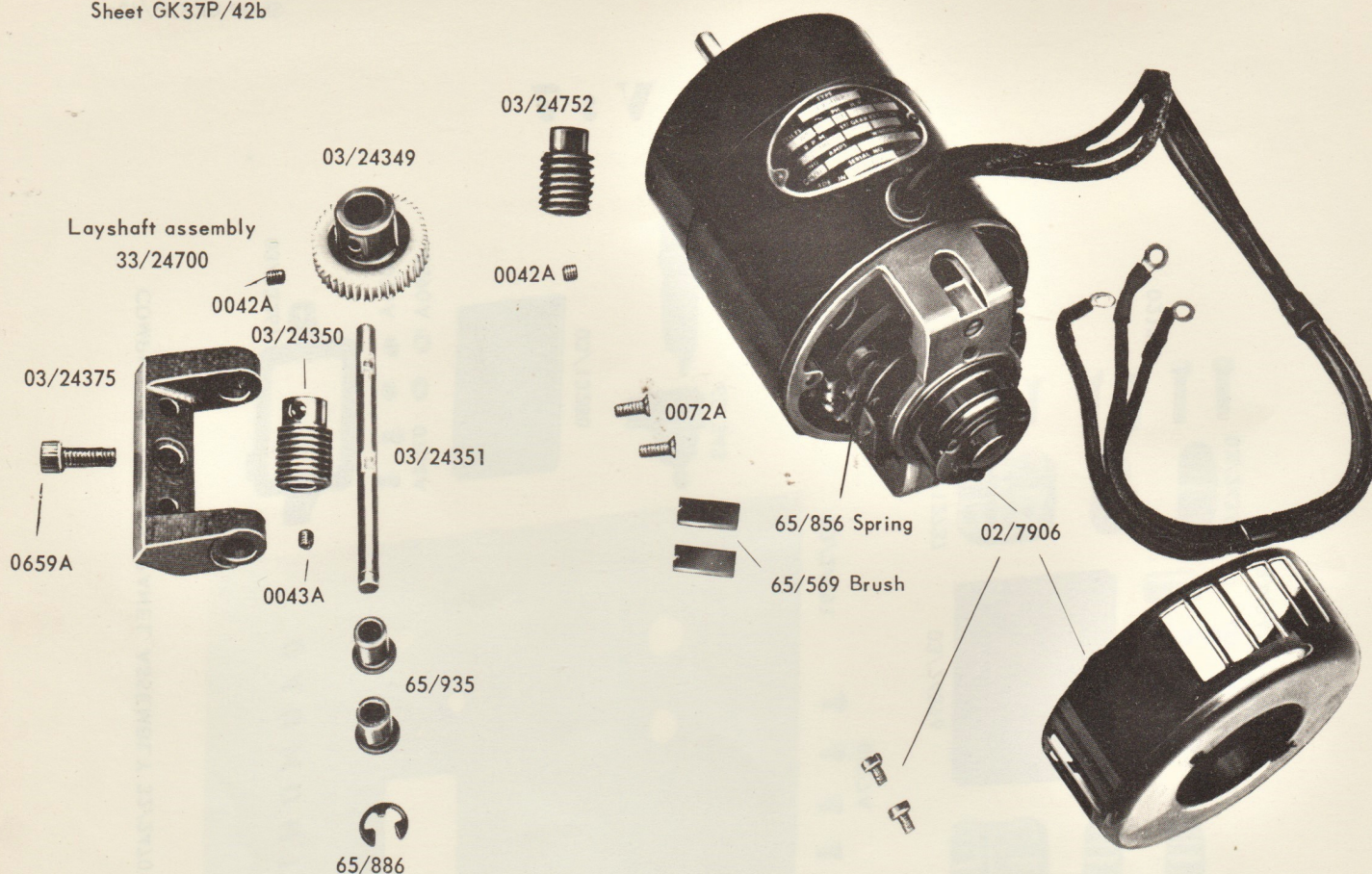
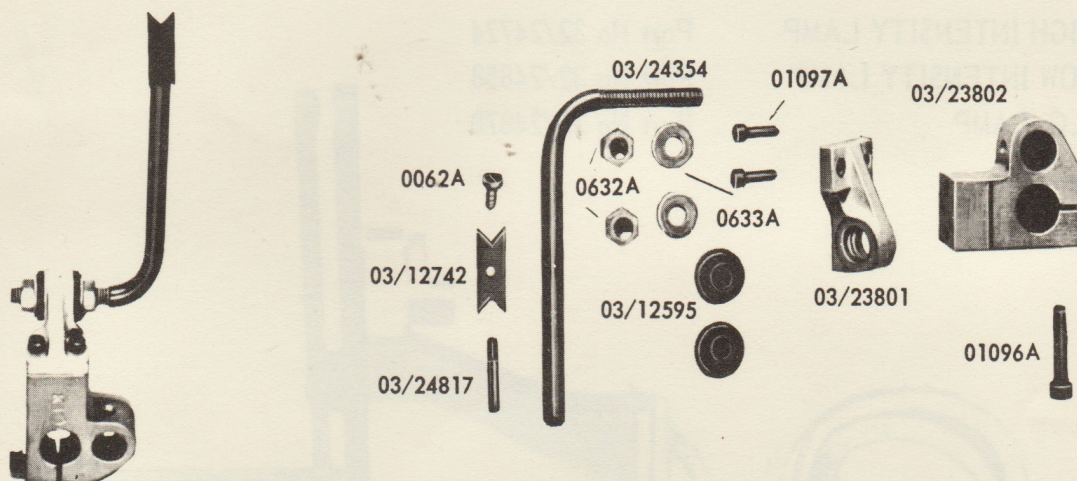


Plate V : 8

FEED MOTOR AND GEARING

Part No	Description	No. Off	Screws Etc	Part No	No. Off
02/7906	Feed motor complete	1	4BA. 1/2in Countersunk screw	0072A	2
65/569	Feed motor brush	2			
65/856	Brush spring	2			
03/24752	Feed motor worm	1	2BA. 1/4in Allen set screw	0042A	1
33/24700	LAYSHAFT ASSEMBLY	1	1/4in BSF. 7/8in Allen set screw	0659A	1
03/12865	Dowel pins (Locating 33/24700)	2			
03/24375	Layshaft bracket	1	As assembly		
65/935	Bush	2			
03/24351	Layshaft	1	Circlip	65/886	1
03/24350	Lead screw worm	1	2BA. 3/16in Allen set screw	0043A	1
03/24349	Motor worm wheel	1	2BA. 1/4in Allen set screw	0042A	1

Plate V : 9



POSITIVE CRUTCH ASSEMBLY (Part No 32/24725 Complete)

NOTE:- NOT USED ON LOW INTENSITY LAMPS

Part No	Description	No.Off	Screws Etc	Part No	No.Off
03/23802	Positive crutch support bracket	1	1/4in BSF.1/1/8in Allen cap screw	01096A	1
03/23801	Positive crutch bracket	1	2BA.9/16in Allen cap screw	01097A	2
03/12595	Insulating bush	2			
03/24354	Positive crutch support post	1	5/16in BSF Nut	0632A	2
			5/16in Washer	0633A	2
			5/16in Double coil spring washer	01114A	1
			5/16in Shakeproof washer	01115A	1
			5/8in. 1/8in Taper pin	0342A	1
03/24817	Positive alignment pin	1			
03/12742	Positive crutch	1	2BA.3/8in Hexagon head screw	0062A	1

Plate V : 10

POSITIVE CARBON CLAMP AND CARRIAGE ASSEMBLY

FOR HIGH INTENSITY LAMP
FOR LOW INTENSITY LAMP
FOR A.C. LAMP

Part No 32/24724

Part No 32/24858

Part No 32/24870

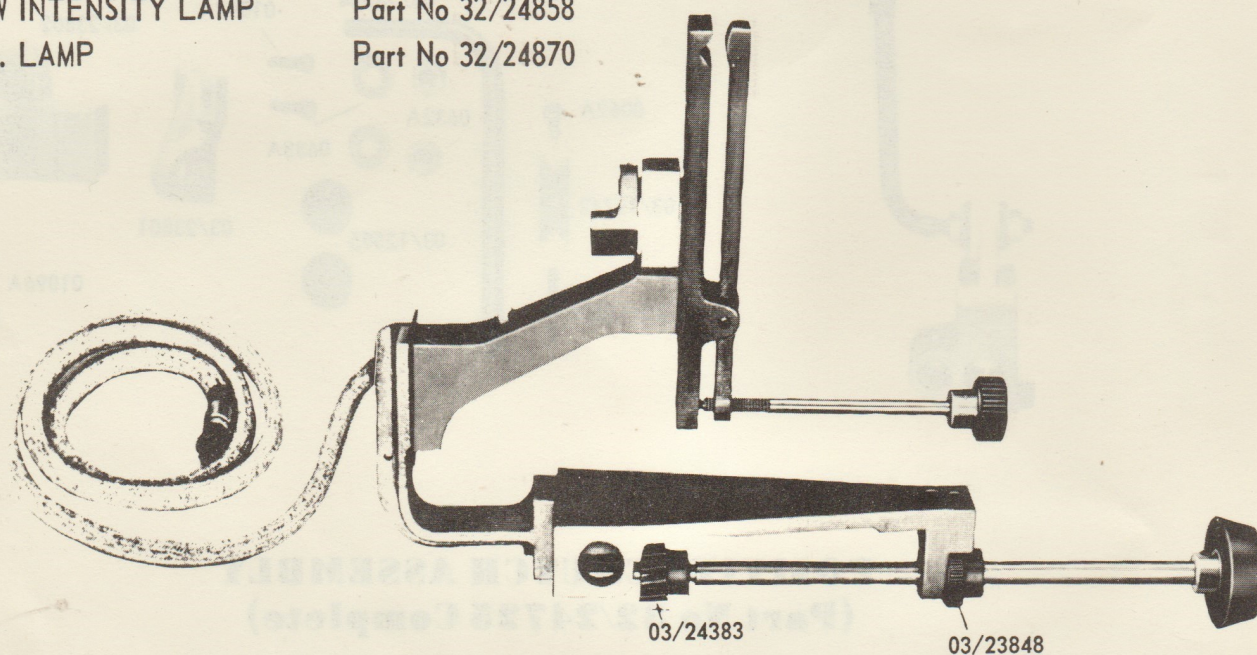
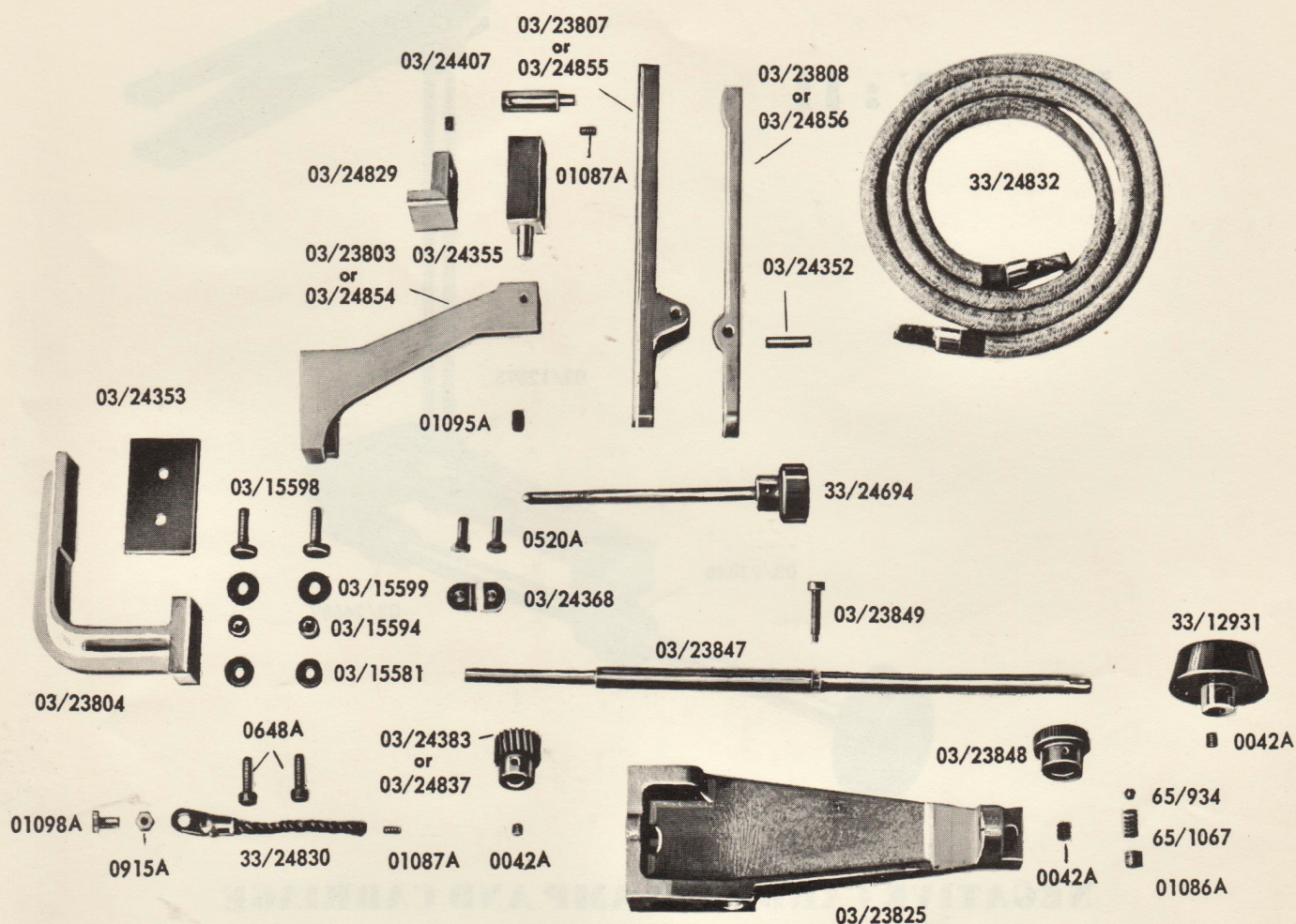


PLATE V : 10a POSITIVE CARBON CLAMP AND CARRIAGE

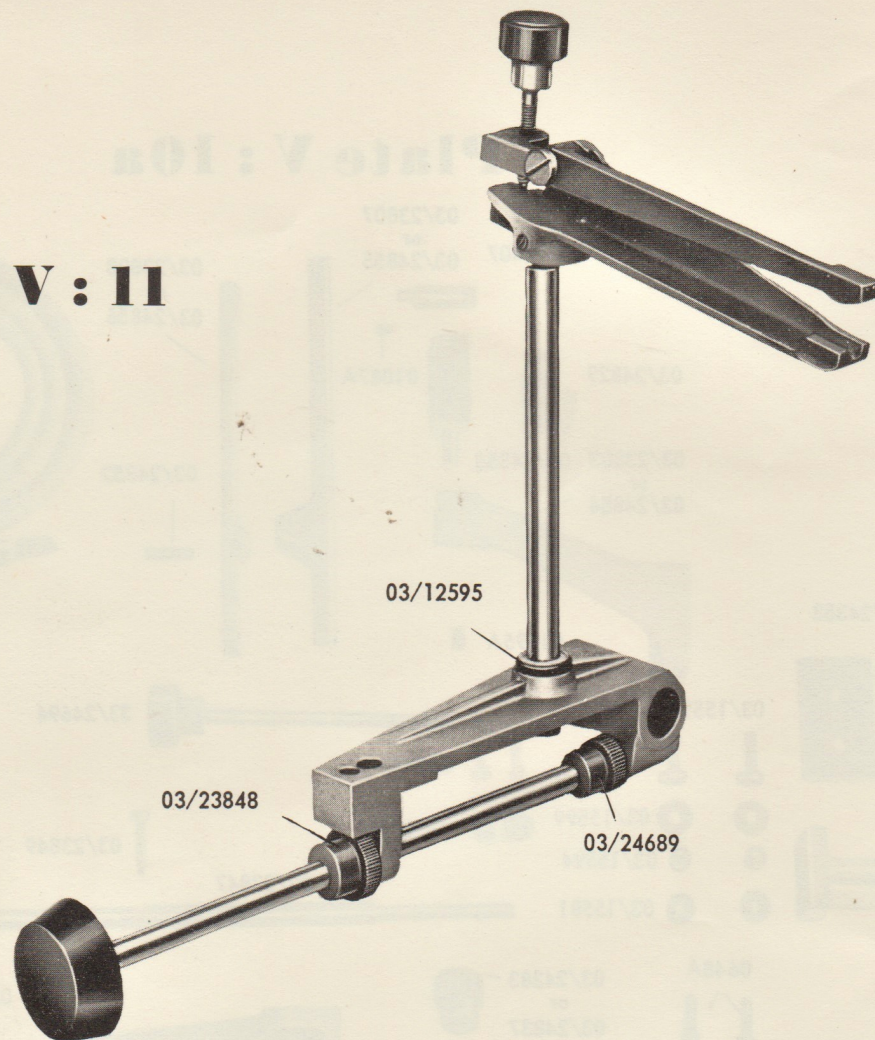
Part No	Description	No. Off	Screws Etc	Part No	No. Off
03/24352	Positive carbon clamp pivot	1			
33/24694	Positive clamp screw	1			
03/24407	Positive carbon holder pivot	1	4BA.5/16in Allen set screw	01087A	1
03/24355	Carbon holder bracket pivot	1	2BA.7/16in Allen set screw	01095A	1
03/24353	Insulating plate	1			
33/24830	Positive supply cable	1	4BA.5/16in Allen set screw	01087A	1
			2BA.7/16in Hexagon screw	01098A	1
			2BA Nut	0915A	1
03/24368	Cable clamp	1	2BA.5/8in Hexagon screw	0520A	2
03/23804	Positive carbon support bracket	1	2BA.5/8in Allen cap screw	0648A	2
03/23825	Positive feed carriage	1			
03/23847	Positive hand-feed shaft	1			
33/12931	1 3/4in Moulded knob	1	2BA. 1/4in Allen set screw	0042A	1
03/23849	Feed shaft retaining screw	1			
03/23848	Friction drive collar	1	2BA. 1/4in Allen set screw	0042A	1
65/934	1/4in Steel ball	1			
65/1067	Spring	1	5/16in BSF. 1/4in Allen set screw	01086A	1
33/24832	Positive lead	1			
03/25894	Stop plate	1	2BA.3/16in Cheesehead screw	01113A	1

Plate V : 10a



Part No	Description	No.Off	Screws Etc	Part No	No.Off
03/23808	H.I. and A.C.				
or	Positive carbon clamp	1			
03/24856	L.I. 13mm				
03/23807	H.I. and A.C.				
or	Positive carbon holder	1			
03/24855	L.I. 13mm				
03/23803	H.I. and A.C.				
or	Positive carbon holder bracket	1	Clamp screw	03/15598	2
03/24854	L.I.		Clamp washer	03/15581	2
			Insulating washer	03/15594	2
			Washer	03/15599	2
03/24383	H.I.				
or	Positive feed gear	1	2BA. 1/4in Allen set screw	0042A	1
03/24837	L.I. and A.C.				
03/24829	H.I. and A.C. Balance weight	1	4BA. 1/4in Allen set screw	0271A	1

Plate V : 11



NEGATIVE CARBON CLAMP AND CARRIAGE (Part No 32/24690 Complete)

PLATE V : 11a NEGATIVE CARBON CLAMP AND CARRIAGE

Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/12931	1¾in Moulded knob	1	2BA.¼in Allen set screw	0042A	1
03/23850	Negative hand feed shaft	1			
03/23848	Friction drive collar	1	2BA.¼in Allen set screw	0042A	1
65/934	¼in Dia. Steel ball	1			
65/1067	Spring for ball	1	5/16in BSF.¼in Allen set screw	01086A	1
03/23849	Feed shaft retaining screw	1			
02/23824	Negative feed carriage	1			
03/24689	Negative feed gear	1	2BA.¼in Allen set screw	0042A	1
03/12595	Insulating bush	2			
03/24357	Negative crutch support post	1	5/16in Nut 5/16in Washer	0632A 0633A	1 1
03/24358	Adjusting screw pivot	1			
03/24367	Negative carbon holder	1			
03/24366	Negative carbon clamp	1			
03/24359	Negative clamp pivot screw	1			
33/24692	Negative clamp screw	1			
03/24368	Cable clamp	1	2BA. ½in Hexagon head screw	0765A	2
03/24356	Negative post adjusting screw	1			

Plate V : 11a

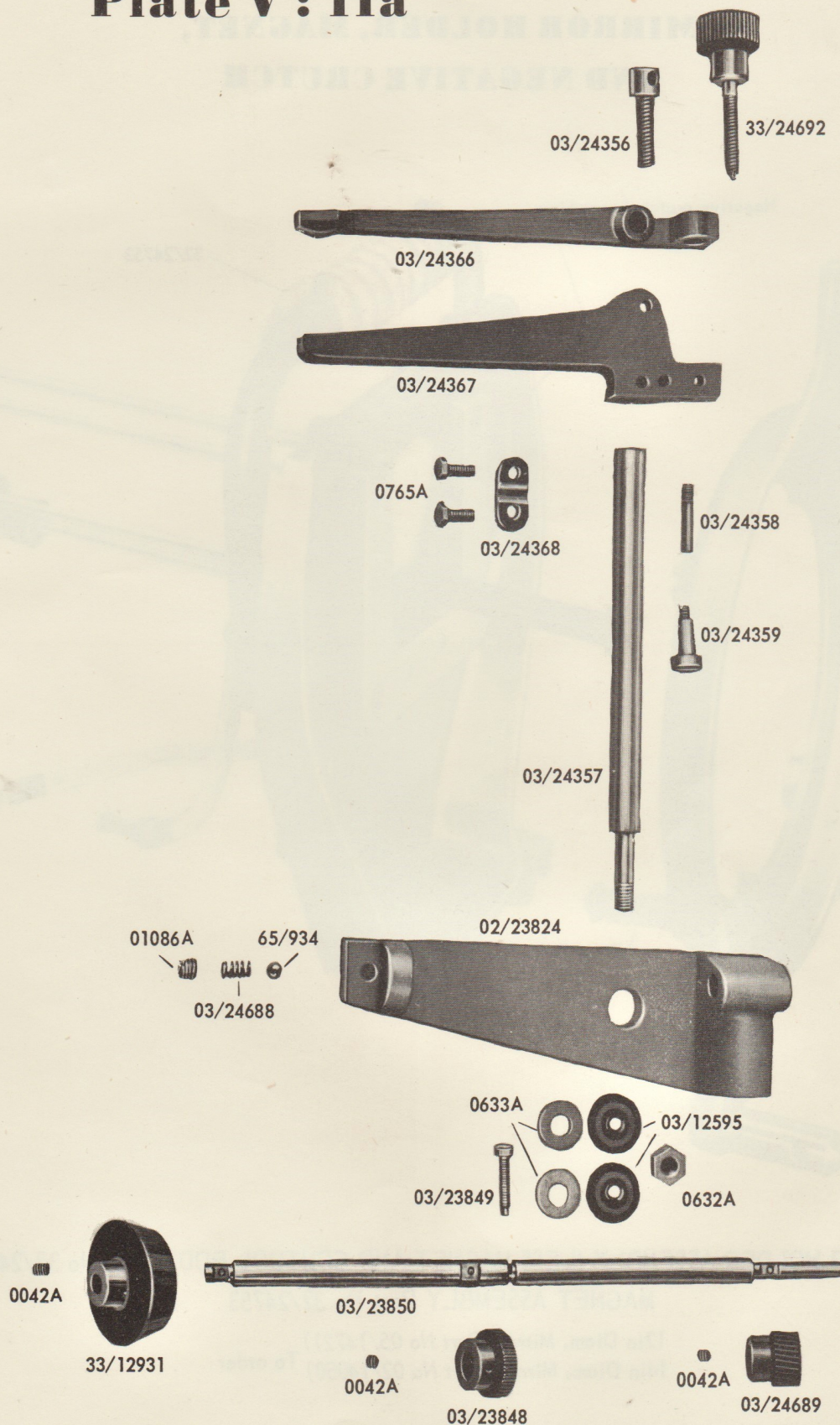
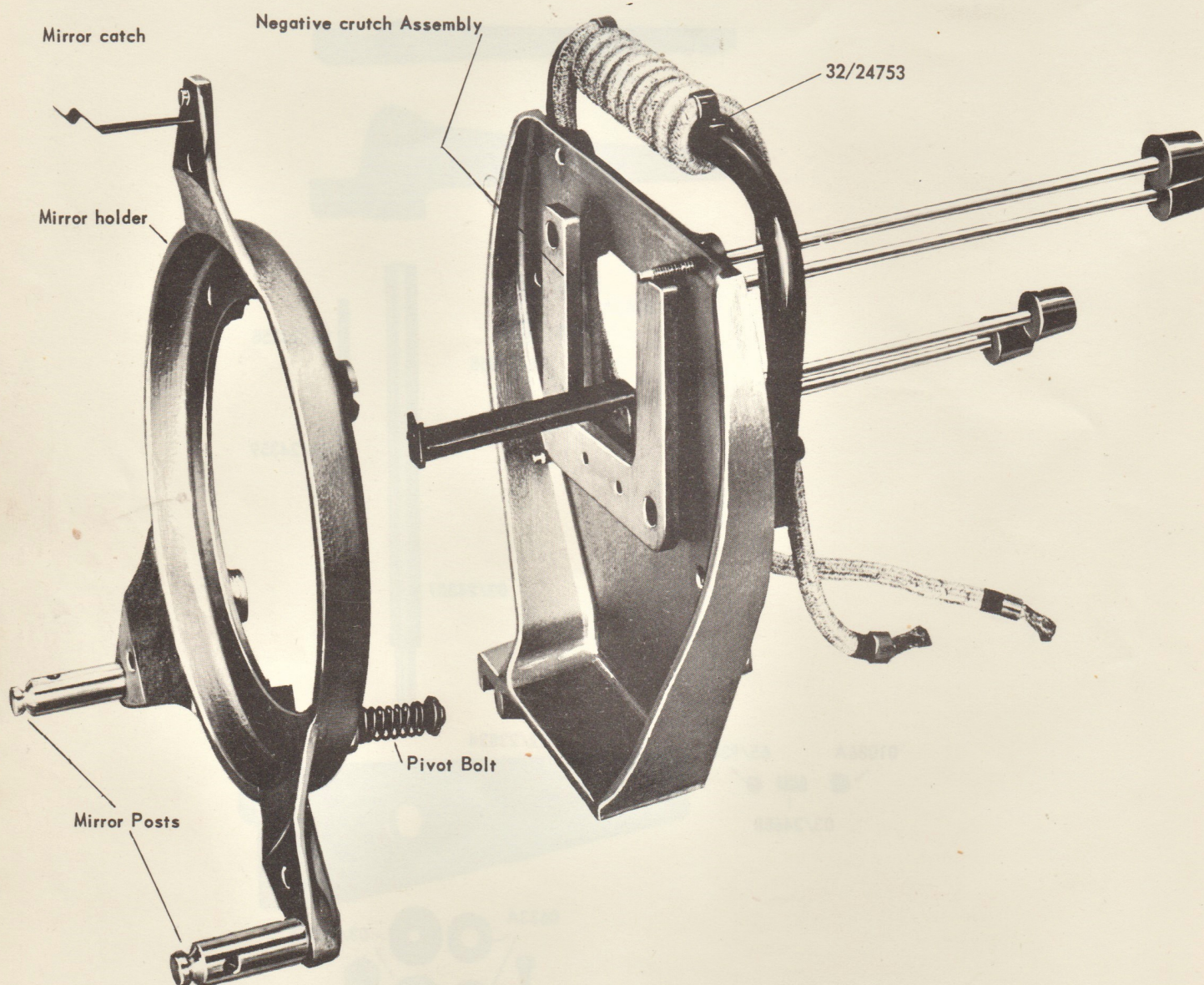


Plate V : 12

MIRROR HOLDER, MAGNET, AND NEGATIVE CRUTCH



MIRROR HOLDER ASSEMBLY (LESS MAGNET AND CONTROL RODS) Part No 32/24403

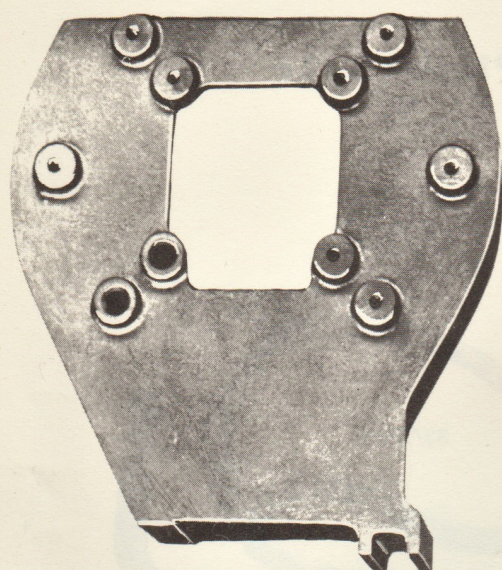
MAGNET ASSEMBLY Part No 32/24753

12in Diam. Mirror (Part No 05/14721)

14in Diam. Mirror (Part No 02/14050) To order

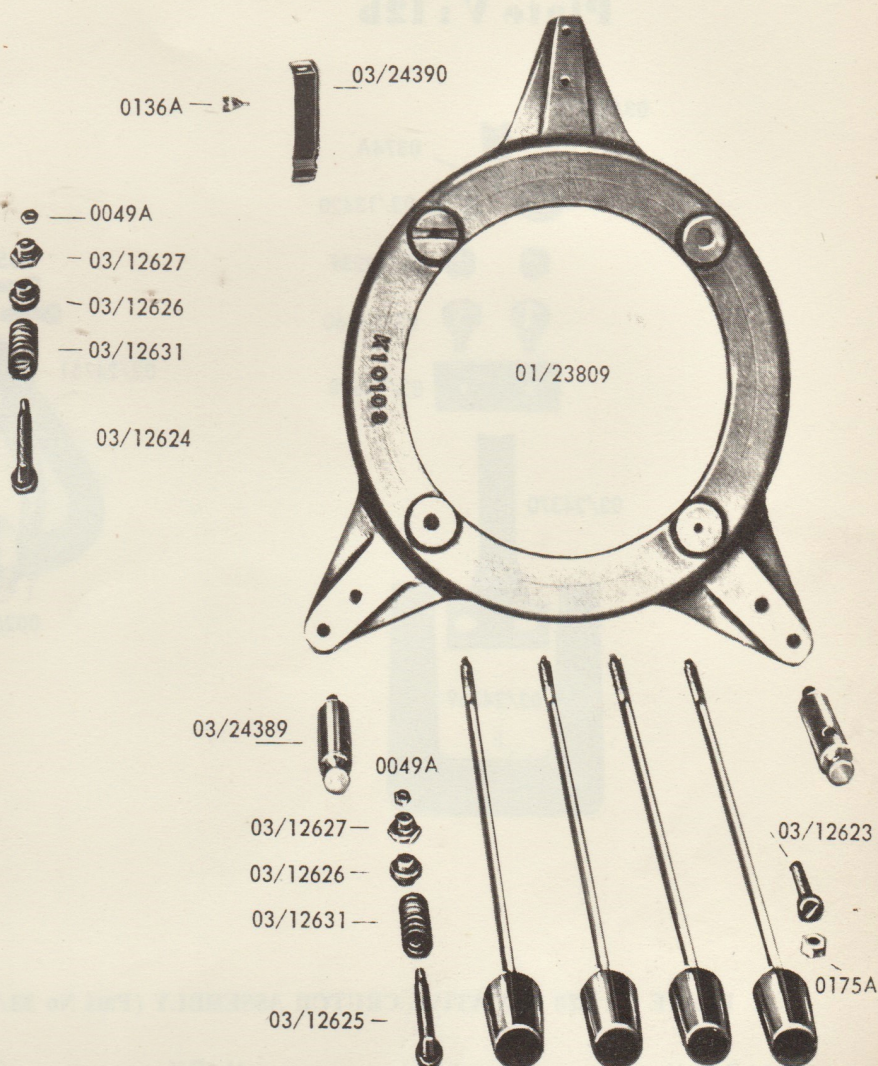
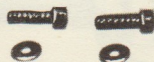
01/23822

Plate V : 12a



0025A

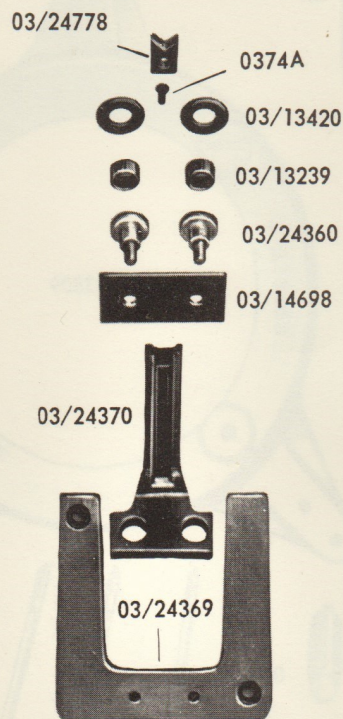
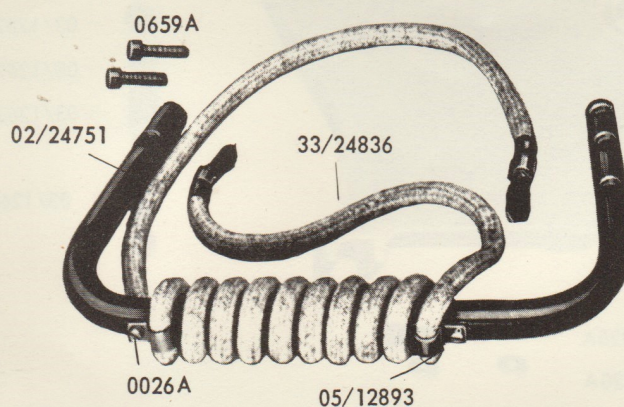
0020A



33/24402

PLATE V : 12a MIRROR HOLDER AND CONTROL RODS

Part No	Description	No.Off	Screws Etc	Part No	No.Off
01/23809	Mirror holder	1			
01/23822	Mirror support	1	1/4in BSF, 1/4in Allen cap screw	0025A	2
			1/4in Washer	0020A	2
03/24390	Mirror catch	1	2BA.3/8in Cheesehead screw	0136A	1
03/24389	Mirror post	2			
03/12623	Mirror adjusting bolt	2	1/4in BSF Nut	0175A	2
03/12625	Mirror pivot bolt	1			
03/12624	Negative crutch pivot bolt	1			
03/12626	Pivot collar	2			
03/12631	Pivot spring	2	Retaining nut	03/12627	2
			2BA Locknut	0049A	2
33/24402	Control rod with knob	4	(Mirror and crutch adjustment)		

Plate V : 12b**Plate V : 12c****PLATE V : 12b NEGATIVE CRUTCH ASSEMBLY (Part No 33/24405 Complete)**

Part No	Description	No. Off	Screws Etc	Part No	No. Off
03/24370	Negative crutch arm	1			
03/24369	Negative crutch plate	1			
03/24778	Negative crutch	1	2BA.5/16in Countersunk screw	0374A	1
03/14698	Insulation plate	1			
03/13239	Insulation bush	2			
03/13420	Insulation washer	2			
03/24360	Insulation clamp screw	2			

PLATE V : 12c MAGNET ASSEMBLY (Part No 32/24753 Complete)

02/24751	Magnet	1	1/4in BSF.7/8in Allen cap screw	0659A	2
33/24836	Negative lead	1	Cable clips	05/12893	2
			4BA.1/4in Cheesehead screw	0026A	2

NOTE:- For A.C. Lamps – Magnet assembly Part No 32/24753 is omitted,
and negative lead Part No 33/14800 replaces Pt.No 33/24836

Plate V : 13

LIGHT CUT-OFF AND MIRROR SHIELD

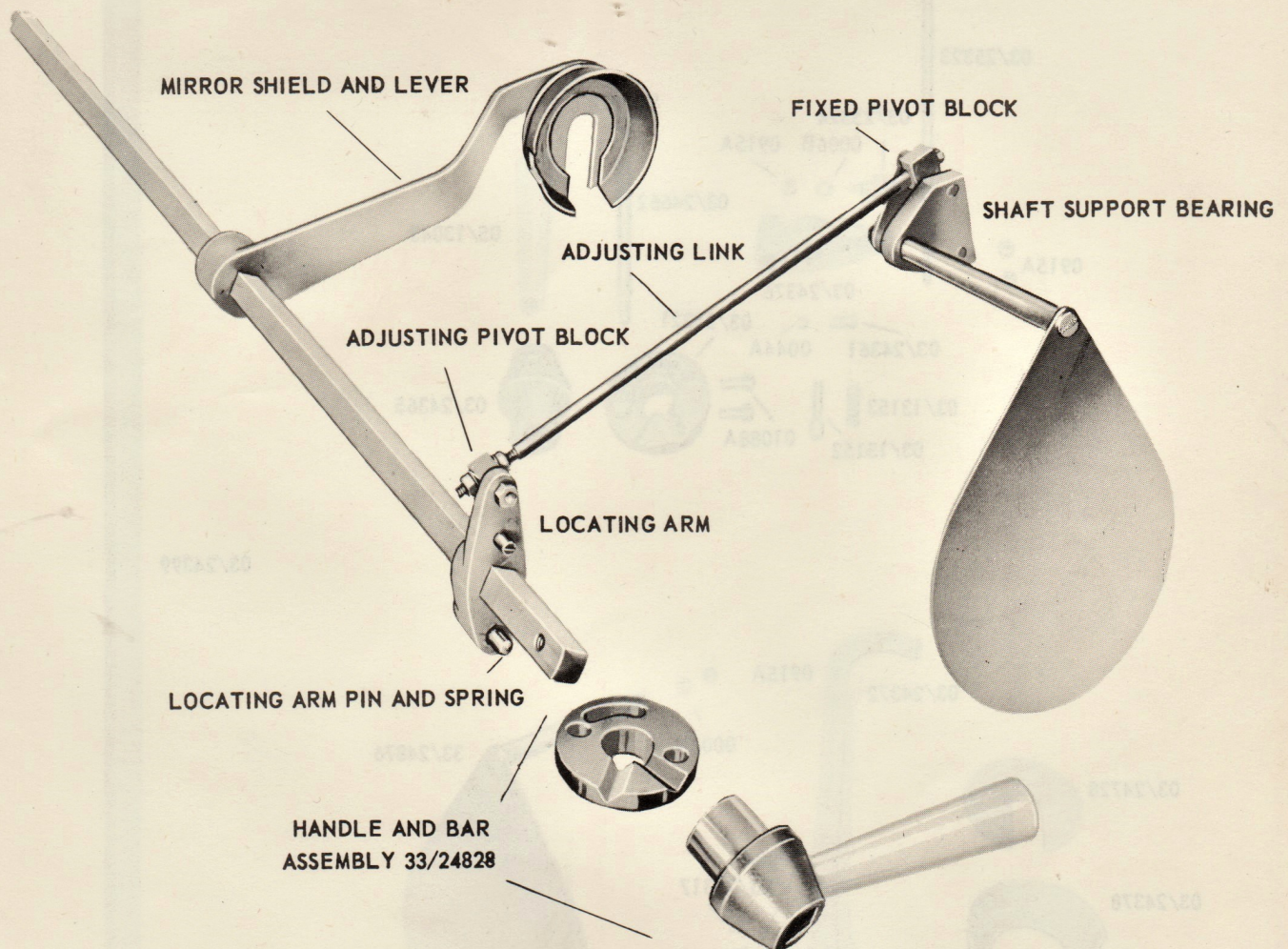


Plate V : 13a

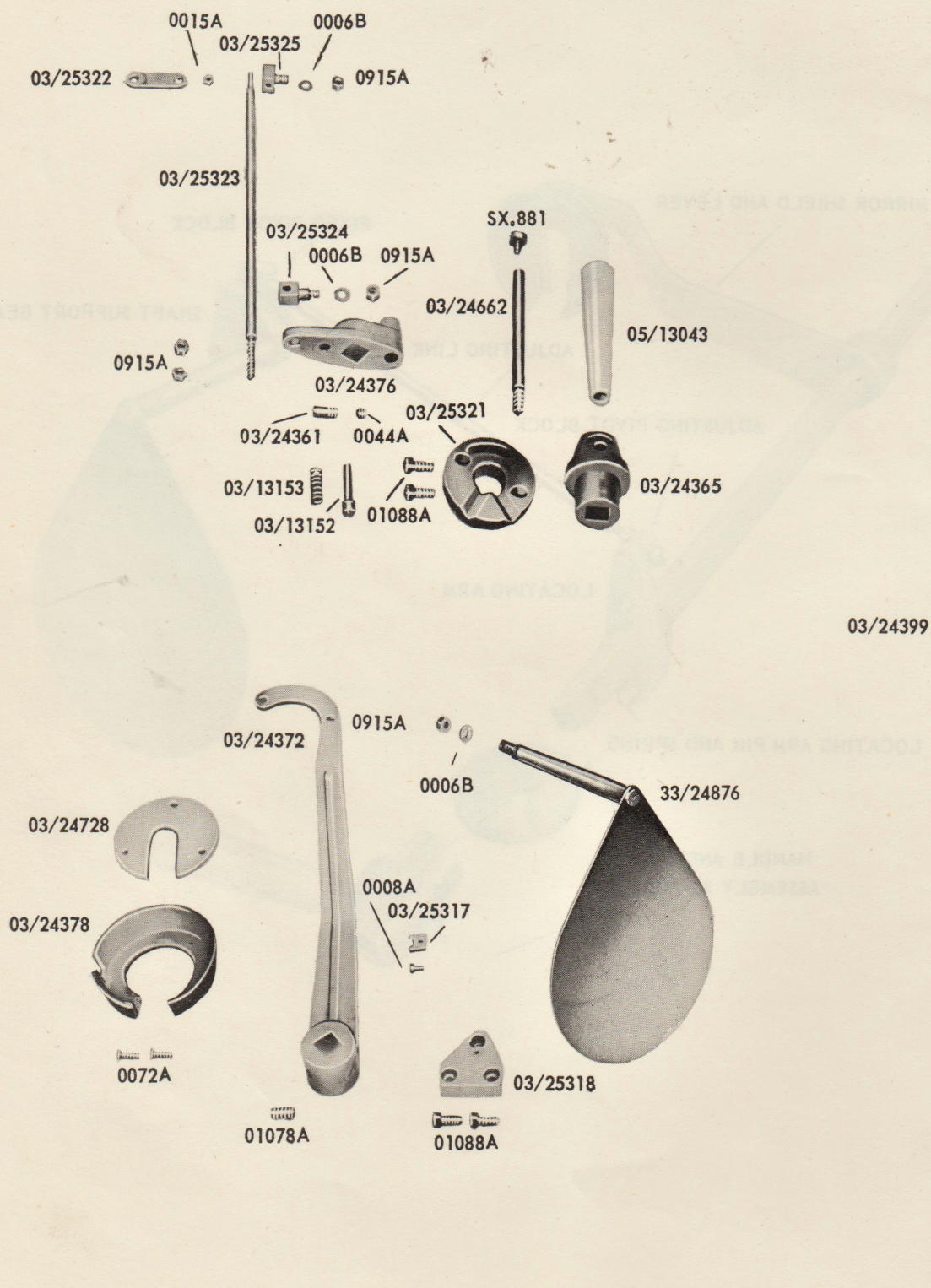


PLATE V : 13a LIGHT CUT-OFF AND MIRROR SHIELD PARTS

<i>Part No</i>	<i>Description</i>	<i>No.Off</i>	<i>Screws Etc</i>	<i>Part No</i>	<i>No.Off</i>
03/25321	Fixed pivot stop	1	2BA.5/16in Allen cap screw	01088A	2
03/24376	Locating arm	1	1/4in BSF.1/4in Allen cap screw	0044A	1
03/24361	Stop pin	1			
03/13152	Locating arm pin	1			
03/13153	Spring for locating arm	1			
03/25324	Adjusting pivot block	1	2BA Nut	0915A	1
			2BA Washer	0006B	1
03/25323	Adjusting link	1	2BA Nut	0915A	2
			4BA Nut	0015A	1
03/25325	Fixed pivot block	1	2BA Nut	0915A	1
			2BA Washer	0006B	1
03/25322	Short link	1			
33/24876	Light cut-off disc and spindle assembly	1	2BA Nut	0915A	1
			2BA Washer	0006B	1
03/25318	Shaft support bearing	1	2BA.5/16in Allen cap screw	01088A	2
03/25317	Keeper plate	1	6BA.1/4in Cheesehead screw	0008A	1
03/24372	Mirror shield lever	1	1/4in BSF.1/2in Allen set screw	01078A	1
03/24728	Mirror shield insulator	1	4BA.1/2in Countersunk screw	0072A	2
03/24378	Mirror shield	1			
33/24828 HANDLE AND BAR ASSEMBLY Comprising:-					
05/13043	Handle	1	Retaining screw	SX881	1
03/24662	Handle post	1			
03/24365	Handle bearing	1	Fixed to 03/24399 by 03/24662		
03/24399	Operating bar	1			

KEYPLATE VI

Optional Extras

Description	Plates
Lens adaptor rings	VI : 1
Anamorphic attachment	VI : 2
Aperture plates	VI : 3
Electrical changeover	VI : 4
Ammeter and shunt for arclamp	VI : 5
Arc switch	VI : 6
Water cooled gate	VI : 7
Air cooled gate	VI : 8
Air and water cooled gate	VI : 9
Continental gate	VI : 10
3000ft Spool-boxes	VI : 11
5000ft Spool-boxes	VI : 12
Top loop trip switch	VI : 13

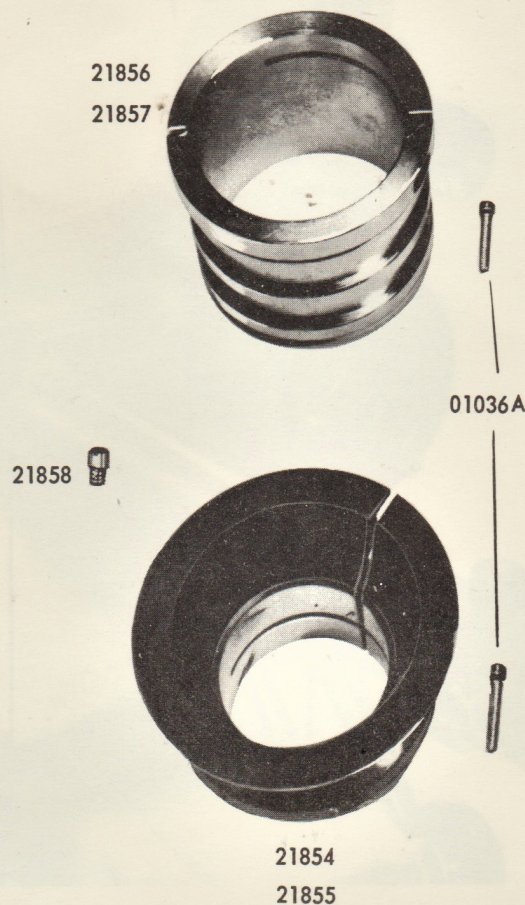
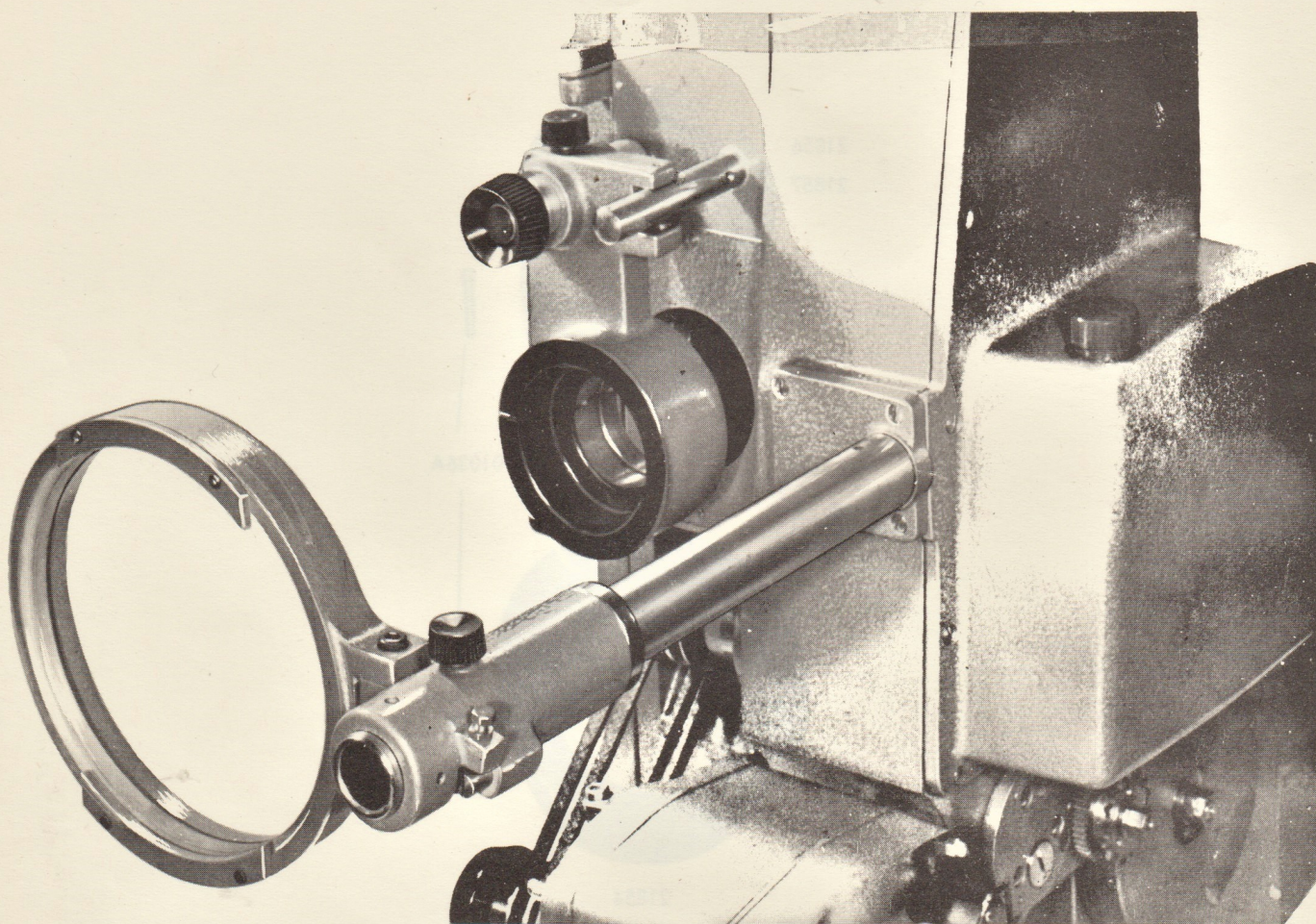


Plate VI : 1

LENS ADAPTOR RINGS

Cat.No.	Part No	Description	Screws Etc	Part No	No.Off
21,854	03/20383	52.5mm (2.064in) Bore	4BA.7/8in Allen cap screw	01036A	1
21,855	03/20478	52.5mm (2.064in) Bore Eccentric	4BA.7/8in Allen cap screw	01036A	1
21,856	03/20477	70.5mm (2.787in) Bore	4BA.7/8in Allen cap screw	01036A	1
21,857	03/20384	70.5mm (2.787in) Bore Eccentric	4BA.7/8in Allen cap screw	01036A	1
21,858	03/20393	Locating pin for eccentric adaptor rings			

Plate VI : 2



ANAMORPHIC ADAPTATION (Part No 31/24600 Complete)

PLATE VI : 2a ANAMORPHIC ATTACHMENT

Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/24596	Complete shaft and flange 13 $\frac{1}{4}$ in (336mm)	1	2BA. $\frac{1}{2}$ in Allen cap screw	0558A	4
or 33/24597	Complete shaft and flange 17 $\frac{5}{8}$ in (446mm)	1			
03/24605	Lock ring only	1	2BA. $\frac{1}{4}$ in Allen set screw	0042A	2
02/24593	Mounting bracket	1			
02/24595	Mounting arm only	1	5/16in BSF. $\frac{3}{4}$ in Allen cap screw	0010A	2
03/20518	Clamp plate only	2	4BA. $\frac{7}{16}$ in Allen cap screw	01108A	4
02/24594	Stop bracket	1	2BA. $\frac{1}{4}$ in Allen set screw	0042A	1
			2BA. $\frac{7}{8}$ in Allen set screw	01107A	1
			2BA Locknut	0049A	1
			Tension Pin	65/901	1
03/24602	Stop pin	1			
33/23429	Complete clamp screw	1			

Plate VI : 2a

33/24596 or 33/24597

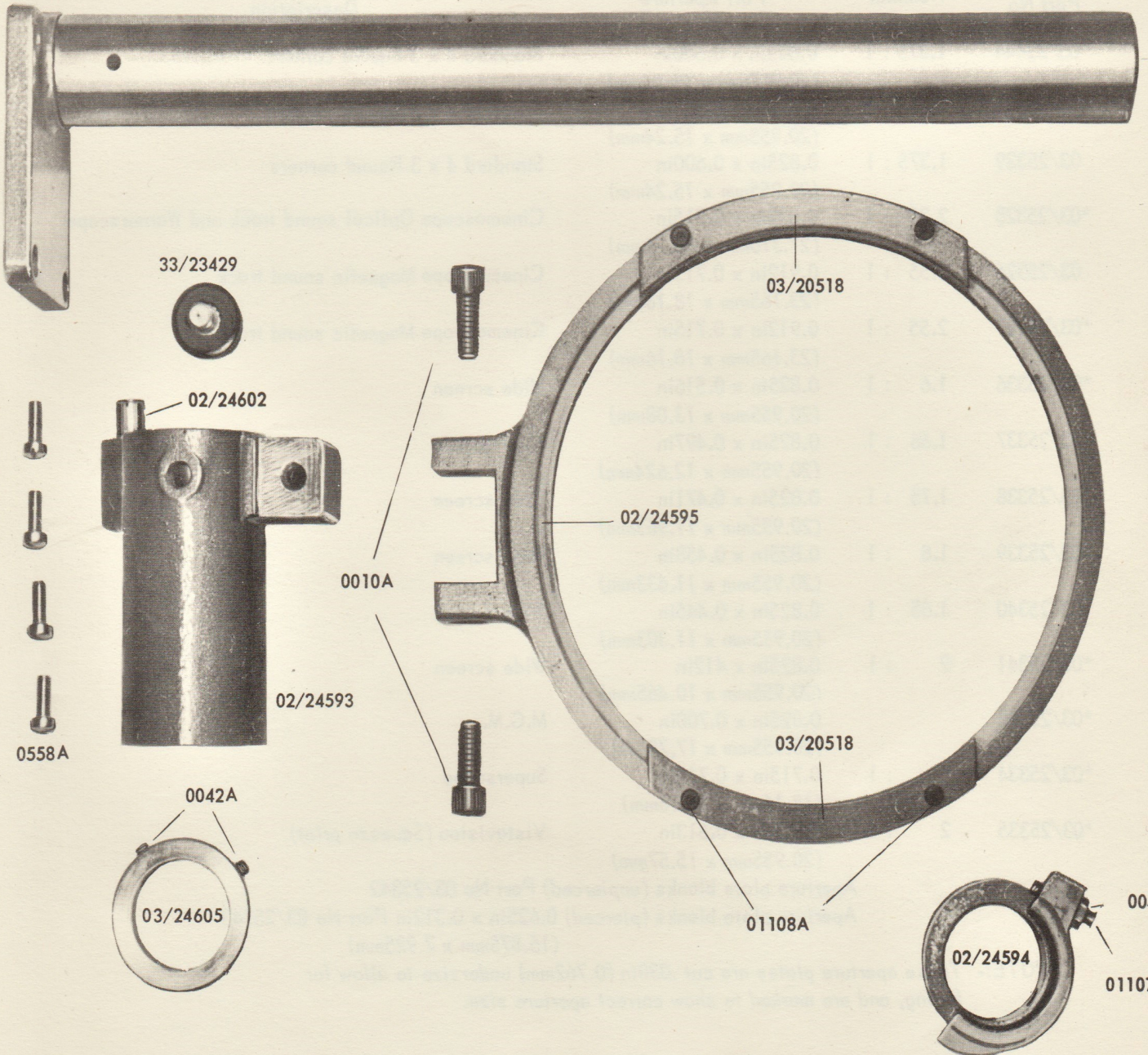


Plate VI : 3

ALTERNATIVE APERTURE PLATES

Part No	Nominal Ratio	Full Aperture Size	Description
03/23444	1.375 : 1	0.825in x 0.600in (20.955mm x 15.24mm)	Standard 4 x 3 Square corners
*03/25331	1.375 : 1	0.825in x 0.600in (20.955mm x 15.24mm)	Standard 4 x 3 Square corners
03/25329	1.375 : 1	0.825in x 0.600in (20.955mm x 15.24mm)	Standard 4 x 3 Round corners
*03/25328	2.35 : 1	0.839in x 0.715in (21.310mm x 18.16mm)	Cinemascope Optical sound track and Warnerscope
03/25326	2.55 : 1	0.912in x 0.715in (23.165mm x 18.16mm)	Cinemascope Magnetic sound track
*03/25327	2.55 : 1	0.912in x 0.715in (23.165mm x 18.16mm)	Cinemascope Magnetic sound track
*03/25336	1.6 : 1	0.825in x 0.516in (20.955mm x 13.08mm)	Wide screen
*03/25337	1.66 : 1	0.825in x 0.497in (20.955mm x 12.624mm)	Wide screen
*03/25338	1.75 : 1	0.825in x 0.471in (20.955mm x 11.963mm)	Wide screen
*03/25339	1.8 : 1	0.825in x 0.458in (20.955mm x 11.633mm)	Wide screen
*03/25340	1.85 : 1	0.825in x 0.445in (20.955mm x 11.303mm)	Wide screen
*03/25341	2 : 1	0.825in x 0.412in (20.955mm x 10.465mm)	Wide screen
*03/25333		0.825in x 0.700in (20.955mm x 17.78mm)	M.G.M.
*03/25334	2 : 1	0.715in x 0.715in (18.16mm x 18.16mm)	Superscope
*03/25335	2 : 1	0.825in x 0.613in (20.955mm x 15.57mm)	Vistavision (Squeeze print)

Aperture plate blanks (unpierced) Part No 03/25342

Aperture plate blanks (pierced) 0.625in x 0.312in Part No 03/25343
(15.875mm x 7.925mm)

*NOTE:- These aperture plates are cut .030in (0.762mm) undersize to allow for fitting, and are marked to show correct aperture size.

SPECIAL SIZES AND KEYSTONE:- SUPPLIED TO ORDER

Section VI : 4

Electrical Change-over

Conversion Kit

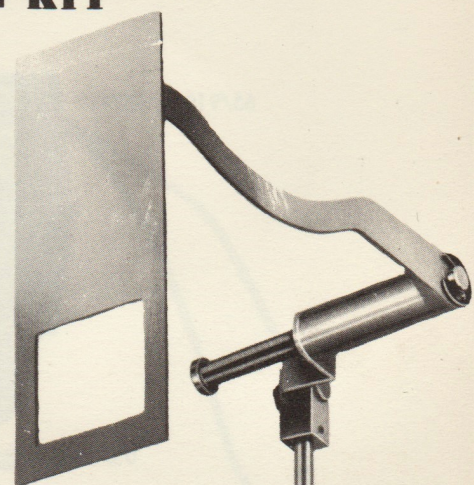
(Including Fitting Instructions)

INSTRUCTIONS FOR FITTING ELECTRICAL CHANGE-OVER TO GK37 EQUIPMENT

BEFORE COMMENCING THESE OPERATIONS ENSURE THAT THE PROJECTOR IS ISOLATED FROM THE MAINS SUPPLY.

1. Release the two Allen screws securing the Masking Knob to the sleeve, remove the large headed screw retaining the masking knob, and detach the complete Masking Knob Assembly, taking care not to dislodge the roller and springs inside. (See Plate I:8b)
2. Remove the Shutter Cover, secured by the two screws. (See Plate I:3)
3. Remove the Gate Frame from the gate bracket. (See Plate I:5)
4. Remove the Gate Bracket, secured by two screws. (See Plates I:5 and 5a)
5. Remove the Flywheel Cover, secured by three screws.
6. Dismantle the Gate Bracket by removing 10 screws securing the film runners, this will also release the gate plate and reflector plate. (See Plate I:5a)
7. In the channel machined in the gate bracket, insert the Change-over Shutter plate with the cup towards the top and protruding through the upper hole in the body of the casting. Re-assemble the gate-plate, reflector plate, and film runners and replace the ten screws.
8. From the NON-OPERATING side of the projector, insert the Shutter Arm Pivot in the $\frac{1}{4}$ in (6.35mm) diameter hole at the top corner of the shutter case, and from the OPERATING side, assemble the Shutter Arm to the pivot, securing by circlip. (See Plate I:3)
9. Re-assemble the Gate Bracket to the projector, taking care to engage the end of the Shutter Arm with the cup on the shutter plate, then replace the Gate Frame in the gate bracket.
10. Remove the Solenoid Support Bracket from the Solenoid, fix the bracket to the front beam just behind the projector, and refix the Solenoid to the bracket.
11. Re-assemble the Shutter Cover and Masking Knob to the projector.
12. Remove the Arc-Lamp from the stand to obtain easy access to the wiring system.
13. Thread the Solenoid Flying Leads through the hole in the top face of the front beam, and also through the hole in the rear beam, leading to the 4 way barrier strip, connect leads to first and second vacant terminals on this barrier strip. (See Plates IV:3 and 3a)
14. Remove the plug from the spare hole in the Rear Panel on No 2 Stand and insert the Tubular Fuse Holder, tightening the locking nut carefully to avoid breaking the fuse holder flange. (See Plates IV:3 and 3a)
15. Remove six screws securing the Switch Panel Assembly and carefully withdraw this from the stand. Remove two screws securing the Motor Switch, also the locking rings securing the other switches, this releases the Switch Panel from the assembly. (See Plates IV:3 and 3a)
16. Assemble the Fuse Holder, Terry Clip and condenser to the base of the switch panel bracket, assemble the new Switch Panel to the bracket in place of the original Panel, fit the Picture Change Switch. Secure the panel to the bracket by replacing the two screws securing the Motor Switch and locking rings securing the remaining switches. (See Plates IV:3 and 3a)
17. Connect up in accordance with the diagram provided, and when completed replace the Rear Panel and Switch Panel Assembly into the stand.
18. WITH SOLENOID ENERGISED:- adjust the turnbuckle connecting the two shutter links until the aperture in the shutter plate is centrally disposed behind the aperture in the gate plate. After making this adjustment, secure the turnbuckle by the two lock nuts. NOTE THAT THE NUT ON THE LONG LINK HAS A LEFT HAND THREAD.
19. WITH SOLENOID DE-ENERGISED:- Set the lower face of the Spring Collar (Part No 03/23619) at a distance of 1.3/16in (30.2mm) from face of the Solenoid Bracket, this slightly compresses the spring and ensures the correct tension for the operation of the change-over.
20. Finally replace the Flywheel Cover and Arc Lamp on the stand.

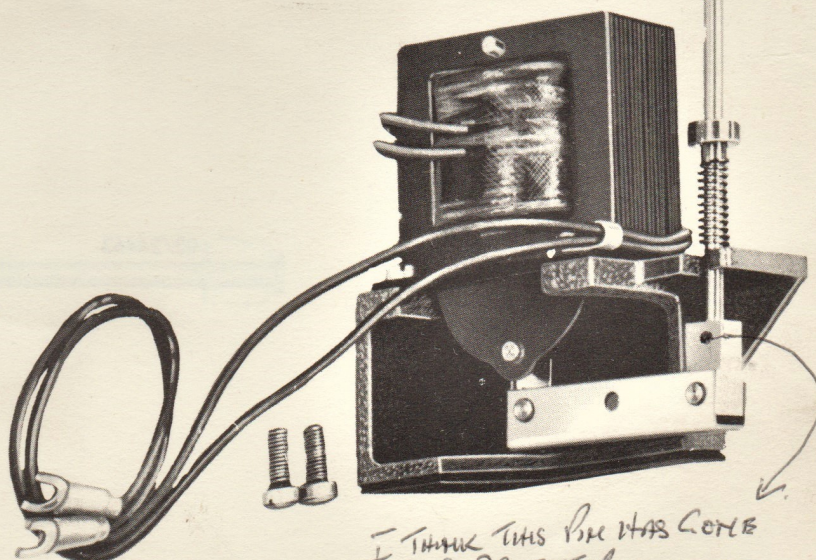
Plate VI : 4 **ELECTRICAL CHANGE-OVER CONVERSION KIT** **(Part No 33/25531 Complete)**



Part No
32/24868
32/24991
32/24995

Description
Shutter, linkage, and solenoid assembly
Switch panel and wiring conversion (No.1.Machine)
Switch panel and wiring conversion (No.2.Machine)

No.Off
2
1
1



I THINK THIS ONE HAS COME
NO 2 PROTOTYPAL Issue 2/858

Plate VI : 4a

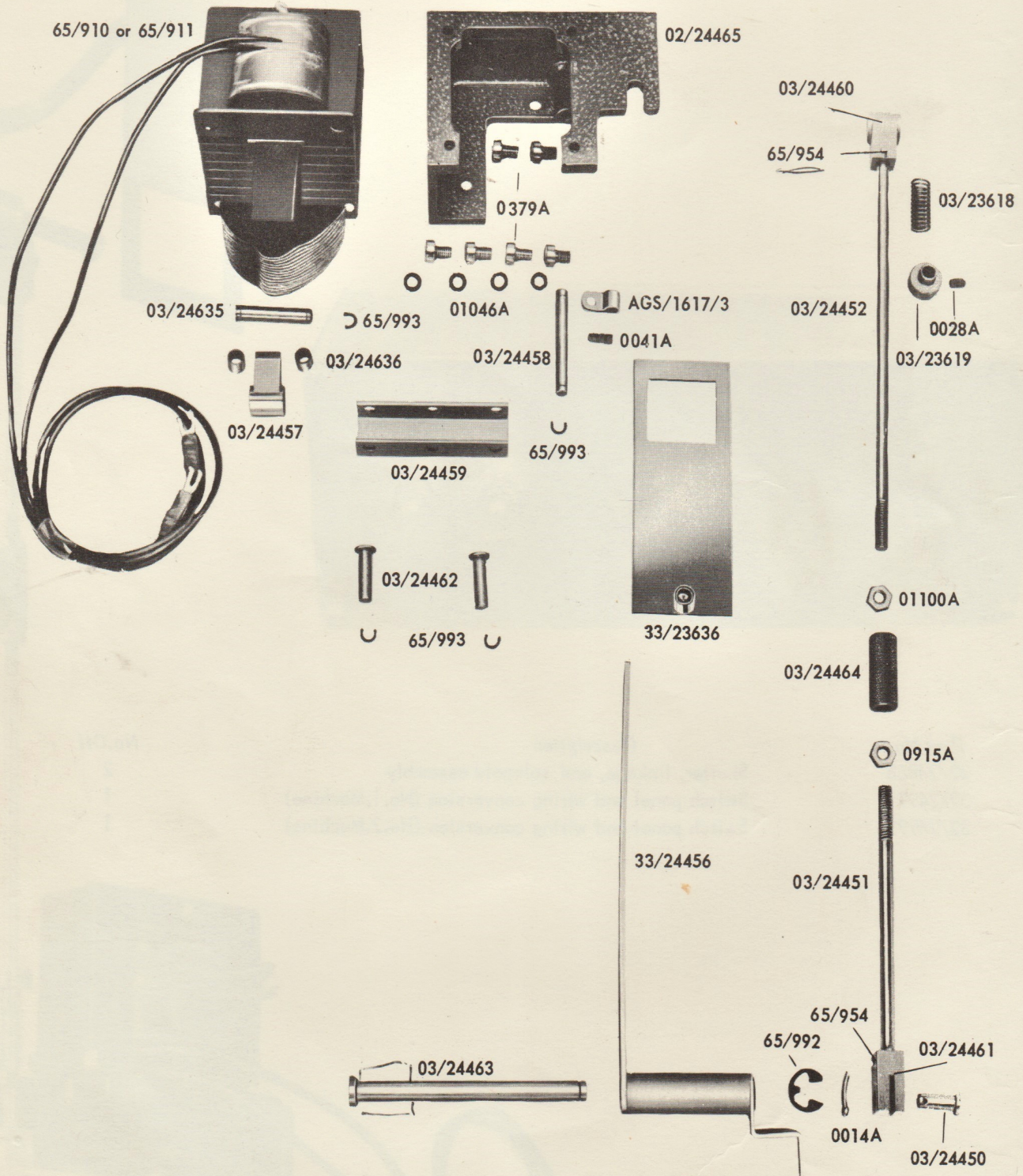


PLATE VI : 4a SHUTTER, LINKAGE AND SOLENOID

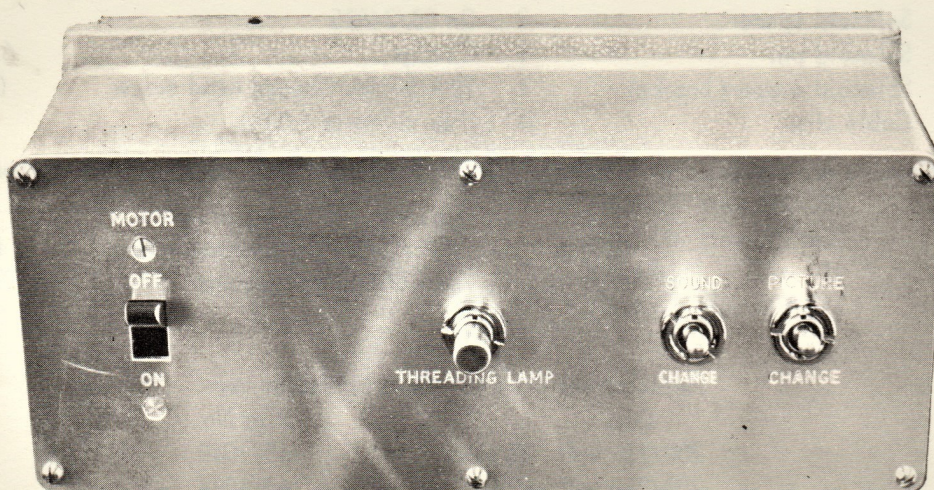
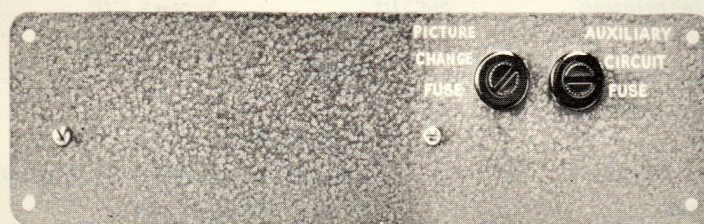
Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/23636	Shutter plate	1			
33/24456	Shutter arm complete	1	Circlip	65/992	1
03/24463	Shutter arm pivot	1			
03/24451	Short link	1	2BA Locknut	0915A	1
03/24461	Short link shackle	1	Secured to 03/24451 by tension pin	65/954	1
03/24450	Shackle pin	1	1/16in. 1/2in Split pin	0014A	1
03/24464	Turnbuckle	1			
03/24452	Long link	1	2BA Left hand locknut	01100A	1
03/23618	Spring	1	On 03/24452		
03/23619	Spring collar	1	4BA. 1/8 in Allen set screw	0028A	1
03/24460	Long link coupling block	1	Secured to 03/24452 by tension pin	65/954	1
03/24462	Pivot for 03/24460	1	Circlip	65/993	1
03/24459	Rocker arm	1	Circlip	65/993	1
03/24458	Rocker arm pivot	1	4BA. 3/16in Allen set screw	0041A	1
03/24457	Solenoid link	1			
03/24462	Pivot for 03/24457	1	Circlip	65/993	1
03/24636	Solenoid spacer	2	On 03/24635		
03/24635	Solenoid pin	1	Circlip	65/993	1
02/24465	Solenoid support bracket	1	2BA. 5/16in Cheese head screw	0379A	2
AGS/1617/3	Cable clip	1	(For solenoid cable)		

Solenoids are available as follows, (Voltage and periodicity should be stated when ordering)

65/910	200/250 volt	50 c.p.s.	Solenoids are secured by:-		
65/911	200/250 volt	60 c.p.s.	2BA. 5/16in Cheesehead screw	0379A	4
65/1043	110 volt	50 c.p.s.	2BA Shakeproof washer	01046A	4
65/1042	110/120 volt	60 c.p.s.			

Replacement coils for these solenoids are:-

Coil	Part No
200/250 volt 50 c.p.s.	65/1040
200/250 volt 60 c.p.s.	65/1044
110 volt 50 c.p.s.	65/1041
110/120 volt 60 c.p.s.	65/1039



Switch and Fuse Panels
after conversion

PLATE VI : 4b SWITCH PANELS AND WIRING CONVERSIONS

NO 1 MACHINE CONVERSION KIT (Part No 32/24991 Complete)

Part No	Description	No. Off	Screws Etc	Part No	No. Off
* 03/24666	Switch panel only	1			
65/914	Picture change switch	1			
65/493	0.5 Mfd Capacitor	1	Terry clip	65/481	1
			6BA. 1/4 in Cheesehead screw	0008A	1
			6BA Nut	0056A	1
65/751	Fuse holder	1	6BA. 3/8 in Countersunk screw	0061A	1
			6BA Nut	0056A	1
65/565	5 Ampere cartridge fuse	1			
33/24992	Change-over wiring assembly	1			

NO 2 MACHINE CONVERSION KIT (Part No 32/24995 Complete)

* 03/24666	Switch panel only	1			
65/914	Picture change switch	1			
65/493	0.5 Mfd Capacitor	1	Terry clip	65/481	1
			6BA. 1/4 in Cheesehead screw	0008A	1
			6BA Nut	0056A	1
65/751	Fuse holder	1	6BA. 3/8 in Countersunk screw	0061A	1
			6BA Nut	0056A	1
65/565	5 Ampere cartridge fuse	1			
33/24996	Change-over wiring assembly	1			
65/384	Fuseholder (Tubular)	1			
65/386	2 ampere cartridge fuse	1			

* These items (03/24666) replace the switch panel (03/24942) normally supplied on the basic equipment. The remaining items are all additional.

PLATE VI : 5 AMMETER AND SHUNT FOR ARC LAMP

Part No	Description	No.Off	Screws Etc	Part No	No.Off
32/25346	COMPLETE REAR CONTROL				
	PANEL INCLUDING AMMETER		4BA. 1/4in Roundhead screw	0027A	4
02/25345	Panel only	1			
*65/781	Potentiometer	1	4BA. 1/4in Roundhead screw	0027A	2
*65/573	Potentiometer knob	1			
*03/24392	Potentiometer	1	4BA. 1/4in Roundhead screw	0027A	2
*65/782	Resistor	1			
*03/24686	Bracket for resistor	1	6BA. 1/4in Cheesehead screw	0008A	2
*03/21382	Locating plug for resistor	1			
*03/21383	Stud for resistor	1	2BA Nut	0915A	2
*65/384	Fuse holder	1			
*65/386	2 Ampere fuse	1			
*65/343	Motor switch	1			
65/530	Ammeter	1			
33/25347	Wiring assembly	1			
*03/13280	Window	1			
*03/13267	Window frame	1	4BA. 5/16in Roundhead screw	0704A	2
			4BA. Shakeproof washer	0890A	2
			4BA. Nut	0015A	2
33/25434	Ammeter leads	2	(Connecting ammeter to shunt)		
* NOTE:- THESE ITEMS ARE IDENTICAL TO THOSE FITTED ON THE STANDARD CONTROL PANEL (Part No 32/24701) SEE PLATE V:7					
33/25376	SHUNT AND BRACKET ASSEMBLY (Secured by 03/25265)				
03/25625	Special bolt	1			
03/25264	Shunt bracket	1			
03/25266	Shunt insulator	2	2BA. 1/2in Cheesehead screw	0023A	4
03/25267	Shunt	1	2BA. 1/2in Cheesehead screw	0023A	4
03/25378	Positive lead	1	(Secured to 03/25267 by		
	(Terminal panel to shunt)		1 1/2in. 5/16in Whit Hexagon head brass bolt	01048A	2
03/25379	Positive extension lead	1	5/16in Brass washer	01049A	6
	(Shunt to positive carriage)		5/16in Whit Brass locknut	01050A	4

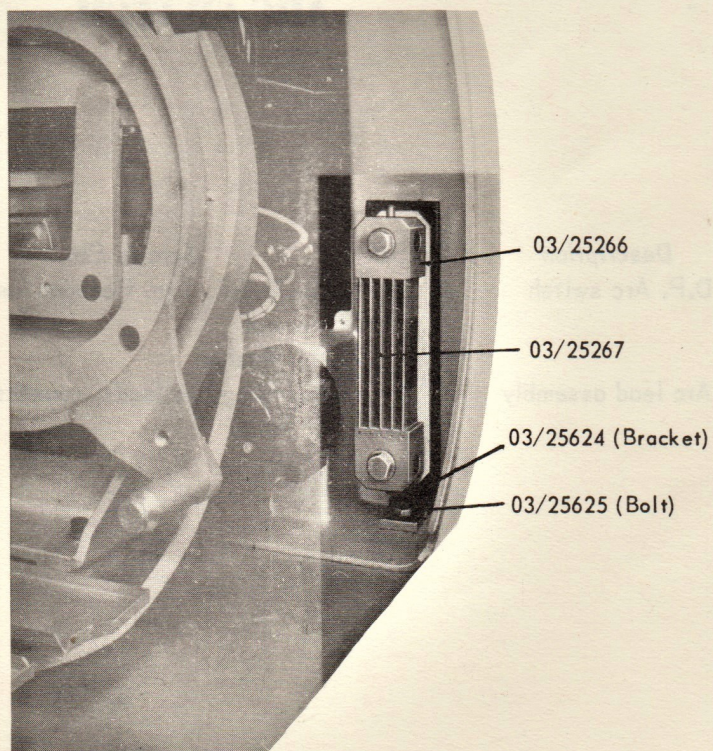
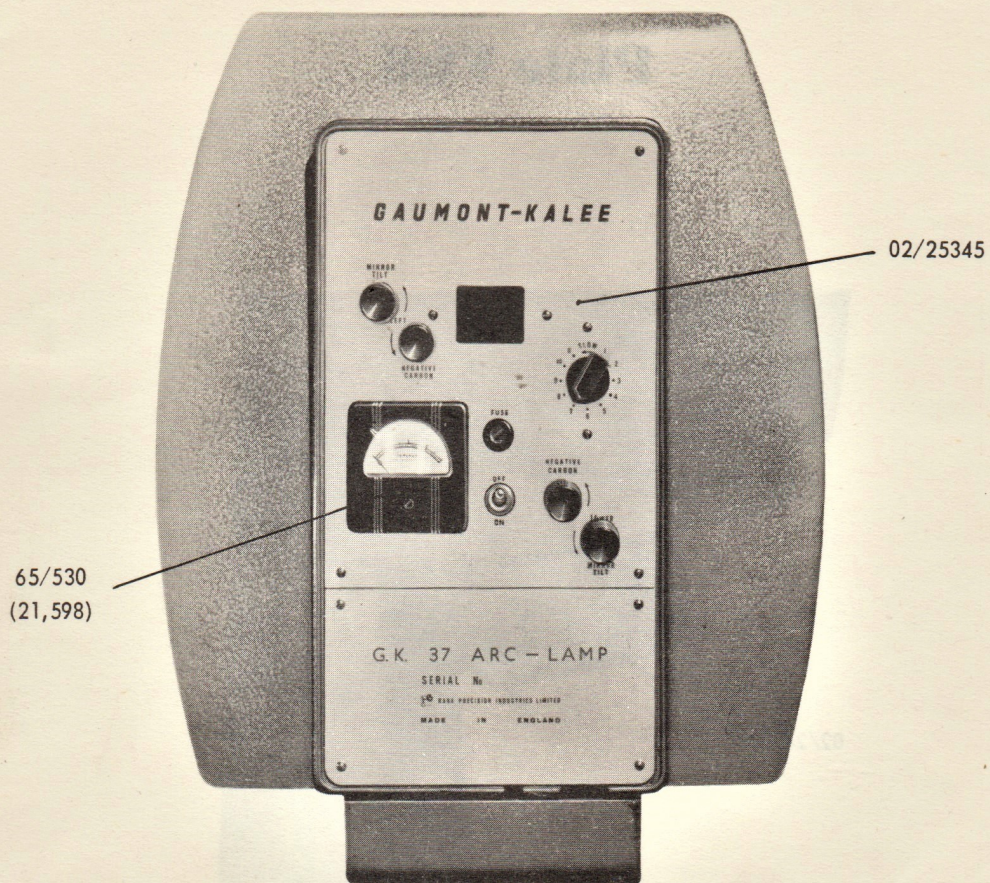
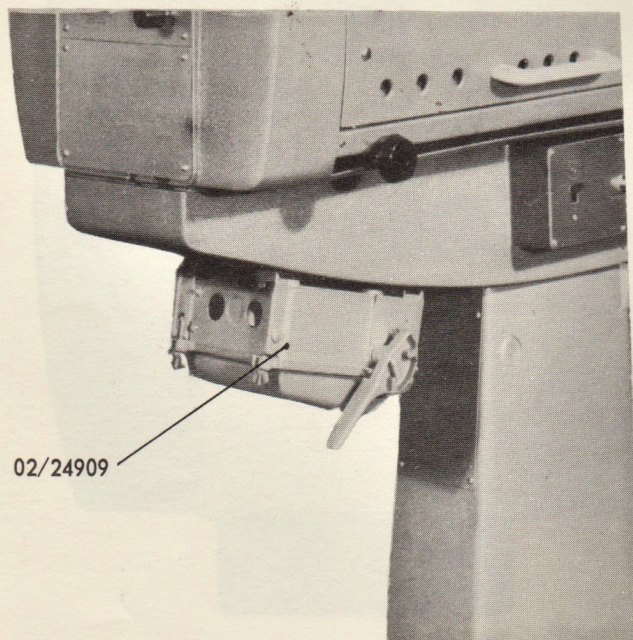


Plate VI:6



02/24909

ARC-SWITCH

Part No.	Description	No. Off	Screws Etc.	Part No.	No. Off
02/24909	D.P. Arc switch	1	$\frac{5}{16}$ in. B.S.F. 1 in. Hexagon head screw	0029A	4
			$\frac{5}{16}$ in. nut	0632A	4
			$\frac{5}{16}$ in. Washer	0633A	8
33/25893	Arc lead assembly	1	(Comprising two leads, connecting Arc switch to arc lamp)		

GENERAL INSTRUCTIONS FOR THE FITTING OF COOLING ATTACHMENTS TO PROJECTOR GATES

1. Drain oil from the projector (See '*PERIODIC MAINTENANCE*' on Sheet GK37P/4b.
2. Remove the motor cover, projector door, and fly-wheel cover.
3. Remove the lower right hand frame extension (Part No 01/23792) See Plate I : 1.
4. Release the two Allen screws securing the Masking Knob to the sleeve, remove the large headed screw retaining the masking knob, and detach the complete Masking Knob Assembly, taking care not to dislodge the roller springs inside (See Plate I : 8b).
5. Remove the Shutter Cover, secured by two screws (See Plate I : 3).
6. Remove the Gate Frame from the gate bracket. (See Plate I : 5).
7. Remove the Gate Bracket, secured by two screws (See Plates I : 5 and 5a).

Continue the fitting procedure as detailed for the type of cooling attachment to be fitted.

Plate VI : 7

CONVERTING TO WATER COOLED GATE

1. Carry out general instructions on Sheet GK37P/56a.
2. Remove the reflector plate (Part No 03/23445) from the gate bracket.
3. Attach the water cooling pipe (Part No 32/25630) to the gate bracket in the position previously occupied by the reflector plate.
4. Fix the adaptor plate (Part No 03/24874) to the 'NON-OPERATING' side of the front beam by drilling two 3/16in (5mm) clearance holes through the casting as shown on the drawing supplied, and securing by the two cheesehead screws and nuts provided.
5. Re-assemble the gate bracket to the projector, and insert the couplings on the water cooling pipe assembly into the two holes marked 'WATER' in the adaptor plate, and secure with the locknuts provided.
6. Re-assemble the projector in the order of paragraphs 7,6,5,4,3,2 of the general instructions on Sheet GK37P/56a. *NOTE:- When re-placing the lower right hand frame extension (Part No 23792) the fixing screws should be lightly smeared with 'HERMETICOL' sealing compound.*
7. Re-fill the projector with Gaumont - Kalee Superoil (See 'PERIODIC MAINTENANCE' on Sheet GK37P/4b).

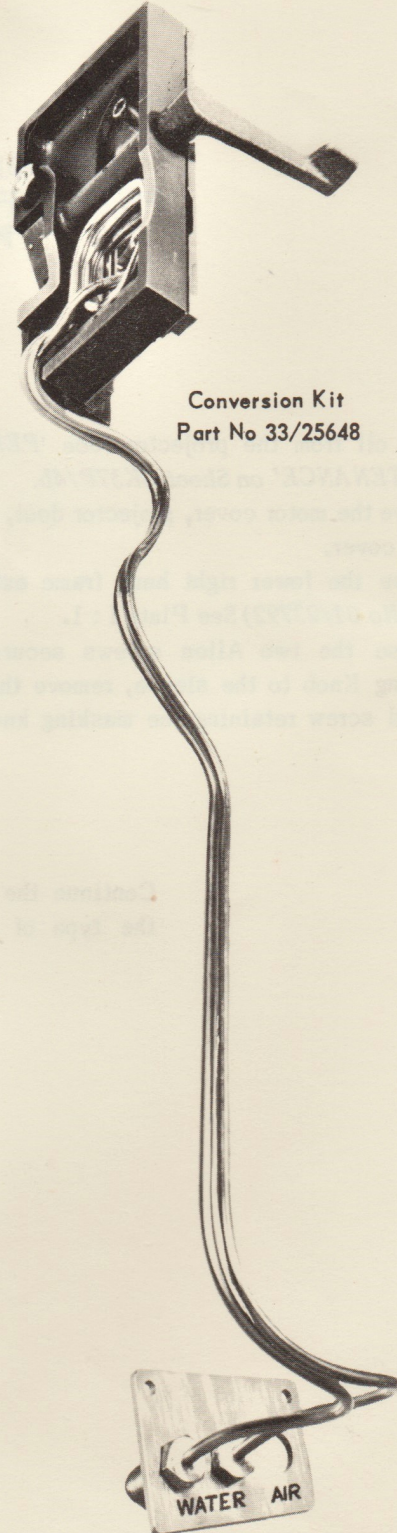
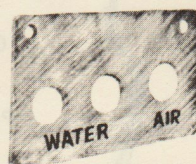


Plate VI : 7a

COMPLETE WATER COOLING CONVERSION KIT Part No 33/25648



03/24874

32/25630

65/1020

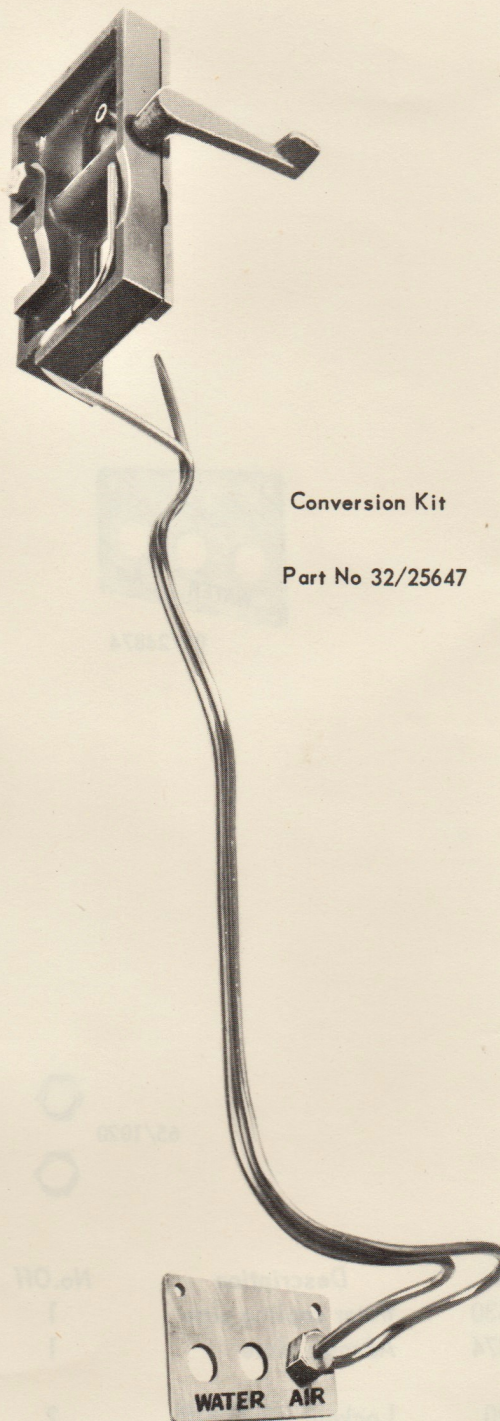


Part No	Description	No. Off	Screws Etc	Part No	No. Off
32/25630	Water cooling pipe	1			
03/24874	Adaptor plate	1	2BA.5/8in Cheesehead screw	0212A	2
			2BA Self locking nut	0689A	2
65/1020	Locknut 1/4in B.S.P.	2			
65/784	Union nipple	2			
65/785	Union nut	2			

Plate VI : 8

CONVERTING TO AIR COOLED GATE

1. Carry out general instructions as on Sheet GK37P/56a.
2. Attach the air cooling pipe (Part No 32/25633) to the gate bracket using Clip (Part No 03/25637).
3. Fix the adaptor plate (Part No 03/24874) to the 'NON-OPERATING' side of the front beam by drilling two 3/16in (5mm) clearance holes through the casting as shown on the drawing supplied, and securing by the two cheesehead screws and nuts provided.
4. Re-assemble the gate bracket to the projector, and insert the coupling on the air cooling pipe into the hole marked 'AIR' in the adaptor plate, and secure with the locknut provided.
5. Re-assemble the projector in the order of paragraphs 7,6,5,4,3,2 of the general instructions on Sheet GK37P/56a. *NOTE:- When re-placing the lower right hand frame extension (Part No 23792) the fixing screws should be lightly smeared with 'HERMETICOL' sealing compound.*
6. Re-fill the projector with Gaumont-Kalee Superoil (See 'PERIODIC MAINTENANCE' on Sheet GK37P/4b).

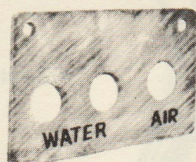


Conversion Kit

Part No 32/25647

Plate VI : 8a

COMPLETE AIR COOLING CONVERSION KIT Part No 32/25647



03/24874

03/25637

0061A

65/1020

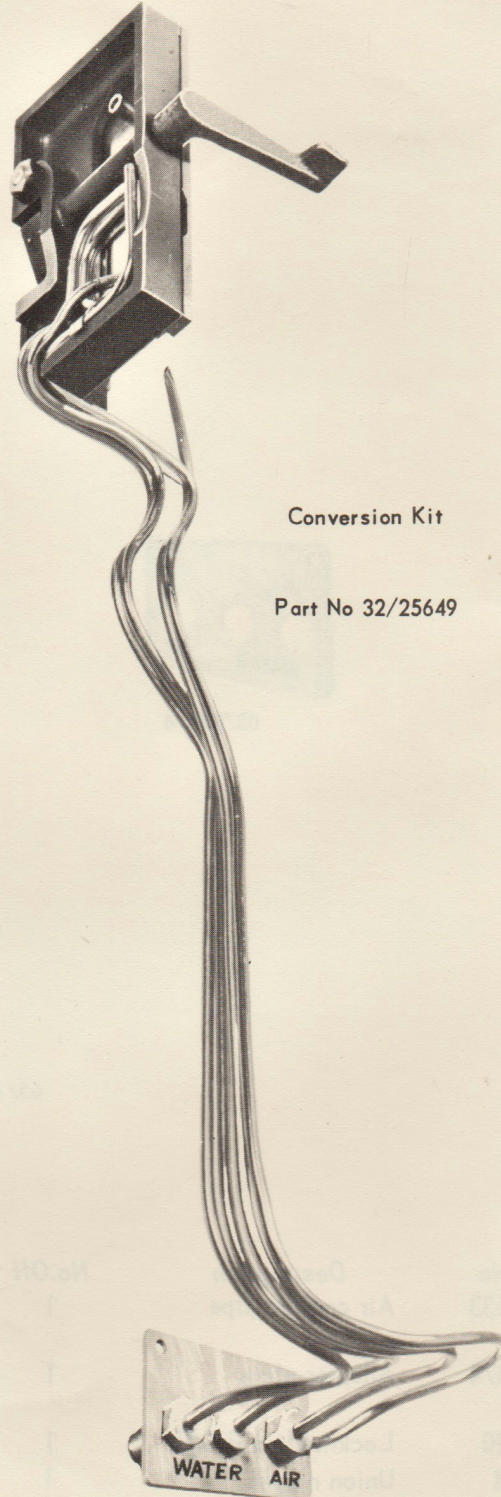
32/25633

Part No	Description	No.Off	Screws Etc	Part No	No.Off
32/25633	Air cooling pipe	1	Clip	03/25637	1
			6BA. $\frac{3}{8}$ in Countersunk screw	0061A	1
03/24874	Adaptor plate	1	2BA. $\frac{5}{8}$ in Cheesehead screw	0212A	2
			2BA Self locking nut	0689A	2
65/1020	Locknut $\frac{1}{4}$ in B.S.P.	1			
65/784	Union nipple	1			
65/785	Union nut	1			

Plate VI : 9

CONVERTING TO AIR AND WATER COOLED GATE

1. Carry out general instructions as on Sheet GK37P/56a.
2. Attach the water cooling unit as in Paragraphs 2 and 3 of Water cooled gate conversion (Sheet GK37P/56b).
3. Attach the air cooling pipe as in Paragraph 2 of Air cooled gate conversion (Sheet GK37P/57b).
4. Fix the adaptor plate (Part No 03/24874) to the NON-OPERATING side of the front beam by drilling two 3/16in (5mm) clearance holes through the casting as shown on the drawing supplied, and securing by two cheesehead screws and nuts provided.
5. Re-assemble the gate bracket to the projector, and insert the couplings on the pipes into the appropriately marked holes 'AIR and WATER', in the adaptor plate, and secure with the lock-nuts provided.
6. Re-assemble the projector in the order of Paragraphs 7,6,5,4,3,2, of the general instructions on Sheet GK37P/56a. *NOTE:- When re-placing the lower right hand frame extension (Part No 23792) the fixing screws should be lightly smeared with 'HERMETICOL' sealing compound.*
7. Re-fill the projector with Gaumont-Kalee Superoil (See 'PERIODIC MAINTENANCE' on Sheet GK37P/4b).

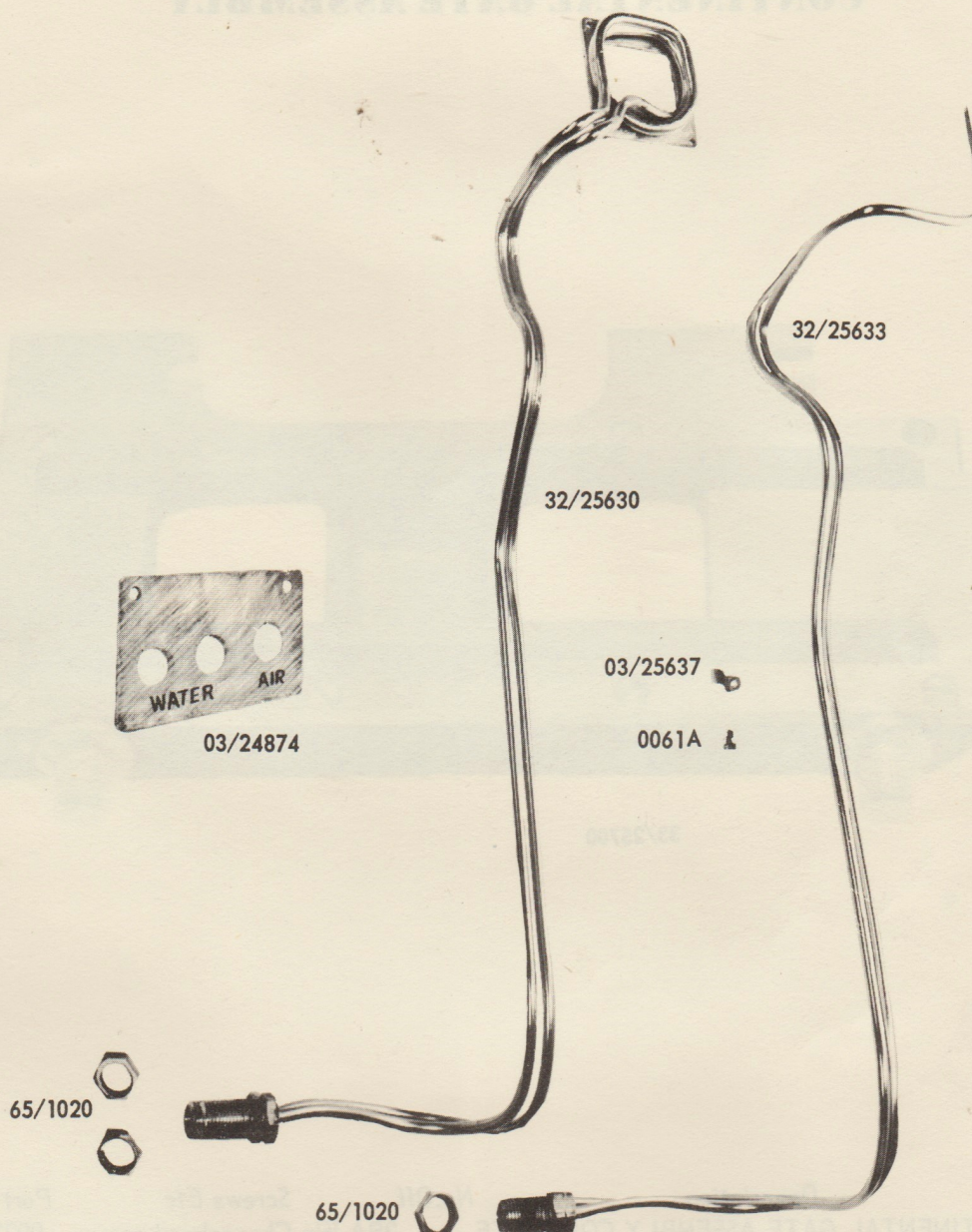


Conversion Kit

Part No 32/25649

Plate VI : 9a

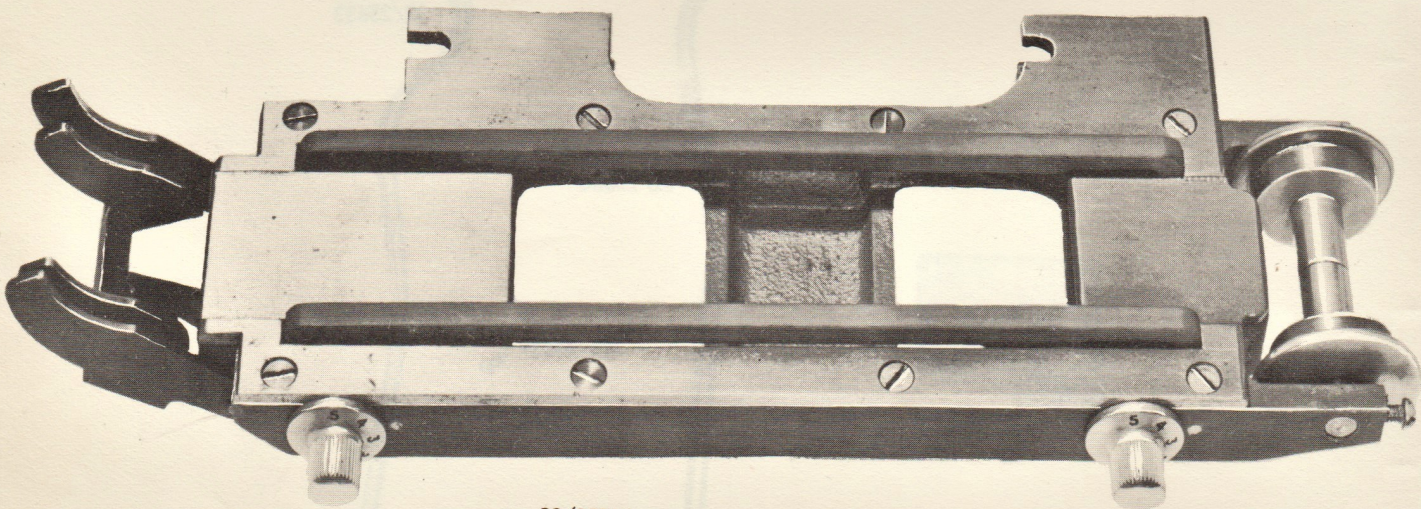
COMPLETE WATER AND AIR COOLING CONVERSION KIT Part No 32/25649



Part No	Description	No. Off	Screws Etc	Part No	No. Off
32/25630	Water cooling pipe	1			
32/25633	Air cooling pipe	1	Clip	03/25637	1
			6BA $\frac{3}{8}$ in Countersunk screw	0061A	1
03/24874	Adaptor plate	1	2BA, 5/8 in Cheesehead screw	0212A	2
			2BA Self locking nut	0689A	2
65/1020	Locknut $\frac{1}{4}$ in B.S.P.	3			
65/784	Union nipple	3			
65/785	Union nut	3			

Plate VI : 10

CONTINENTAL GATE ASSEMBLY



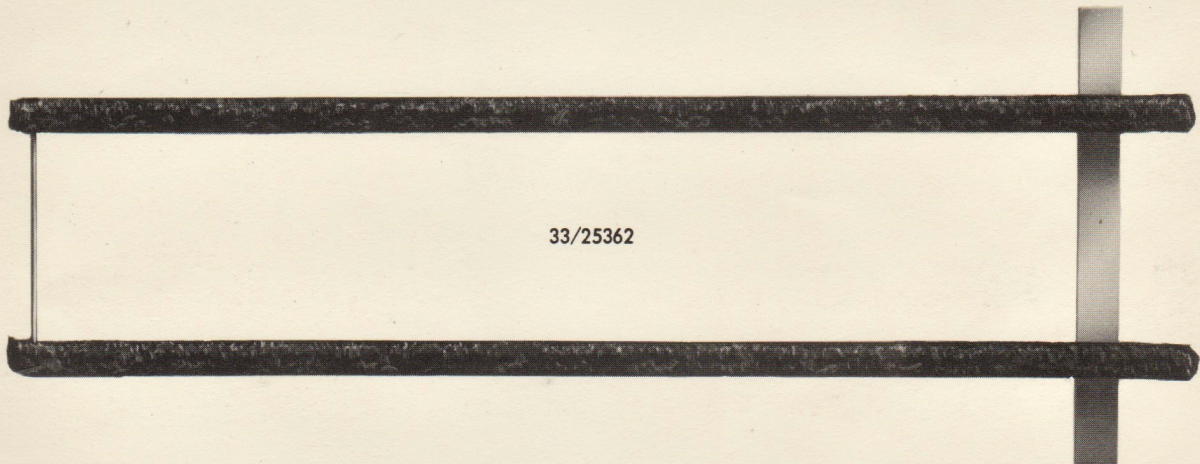
33/25700

Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/25699	CONTINENTAL GATE ASSEMBLY COMPLETE		2BA.½in Cheesehead screw	0023A	2
32/25700	Continental Gate frame assembly	1	(See Plate VI:10 and VI:10a)		
32/23433	Gate bracket assembly	1	(See Plate I:5 and I:5a)		

VELVET CARRIER RUNNERS



03/25373



33/25362

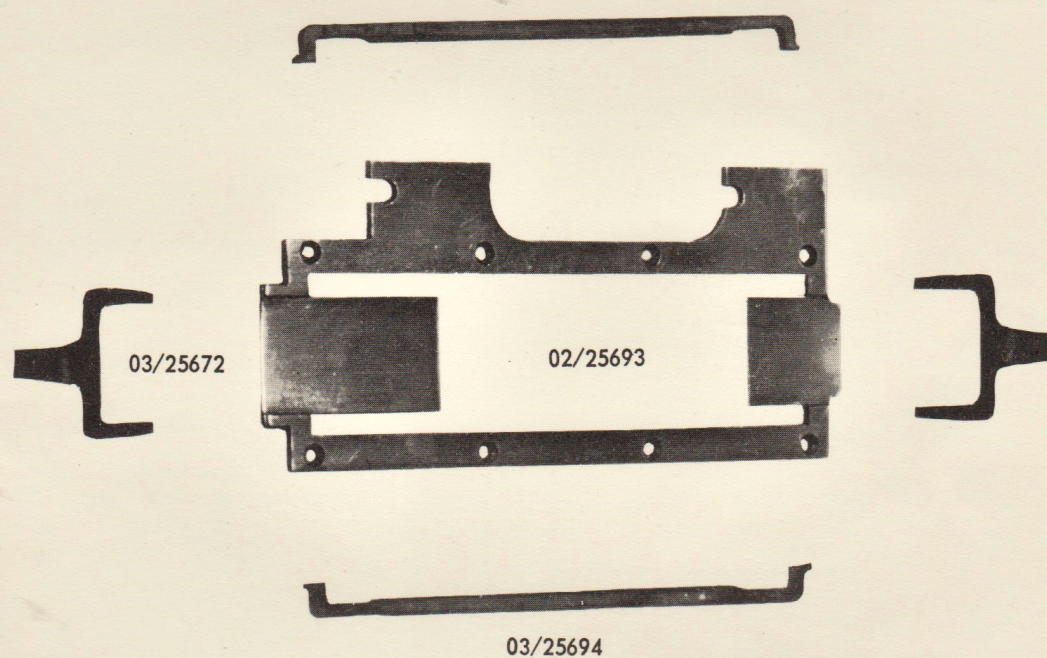


03/25372

<i>Part No</i>	<i>Description</i>	<i>No. Off</i>
33/25903	COMPLETE CONVERSION KIT	
03/25372	Film Runner – Non-Operating Side	1
03/25373	Film Runner – Operating Side	1
33/25362	Velvet Carrier	1
	Black Ribbon Velvet	2 Yards

PLATE VI : 10a

CONTINENTAL GATE FRAME PARTS



Part No	Description	No.Off	Screws Etc	Part No	No.Off
02/25693	Pressure plate	1	6BA.1/4in Countersunk screw	0035B	8
03/25694	Skates	2			
03/25672	Skate pressure springs	2			

NOTE:- THE ABOVE ITEMS ARE THE ONLY CHANGES TO THE STANDARD GATE FRAME ASSEMBLY (Part No 32/23451) ILLUSTRATED ON PLATES 1:5 AND 1:5b.

Plate VI:12

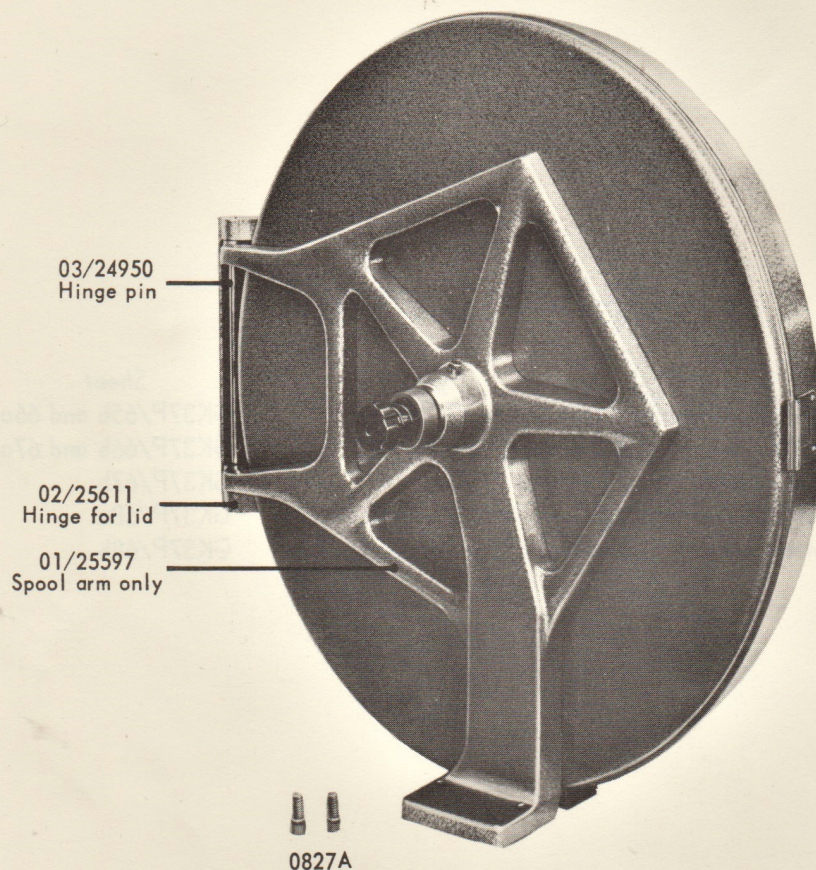
5000ft (1500M) SPOOLBOXES

Top Spoolbox assembly and parts (*Plate VI:12a*)
Bottom Spoolbox assembly and parts (*Plate VI:12b*)
Top spool spindle and bearing (*Plate VI:12c*)
Bottom spool spindles and bearing (*Plate VI:12d*)
Top and Bottom firetrap assemblies (*Plate VI:12e*)

Sheet

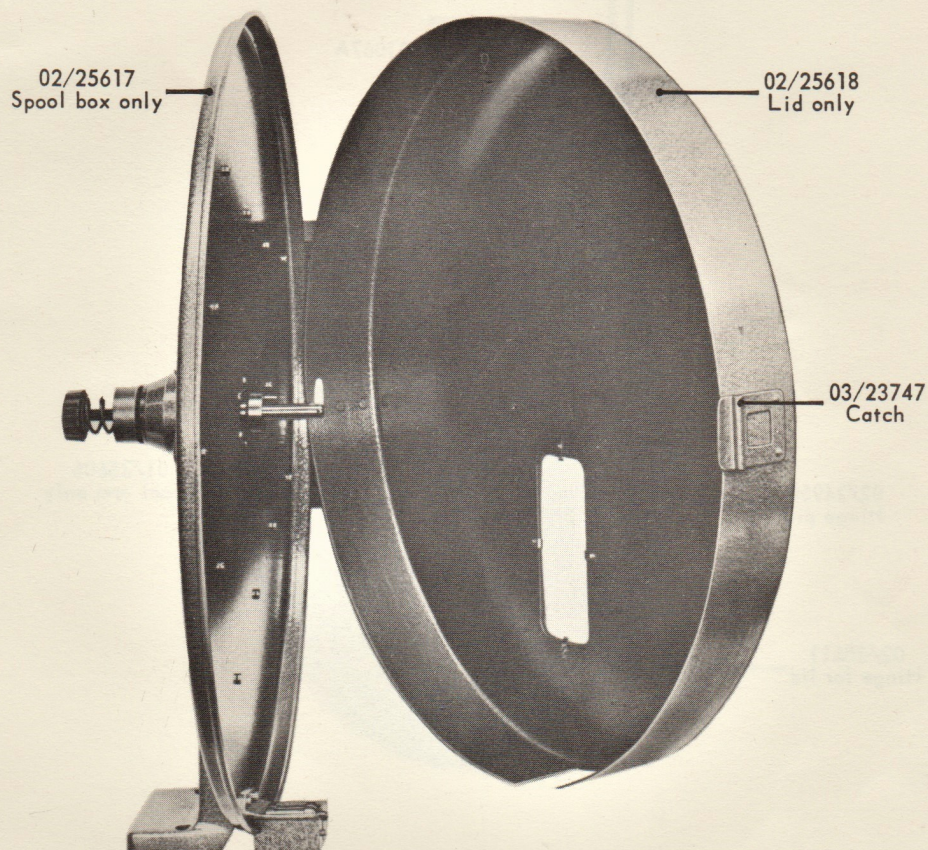
GK37P/65b and 66a
GK37P/66b and 67a
GK37P/67b
GK37P/68a
GK37P/68b

Plate VI:12a



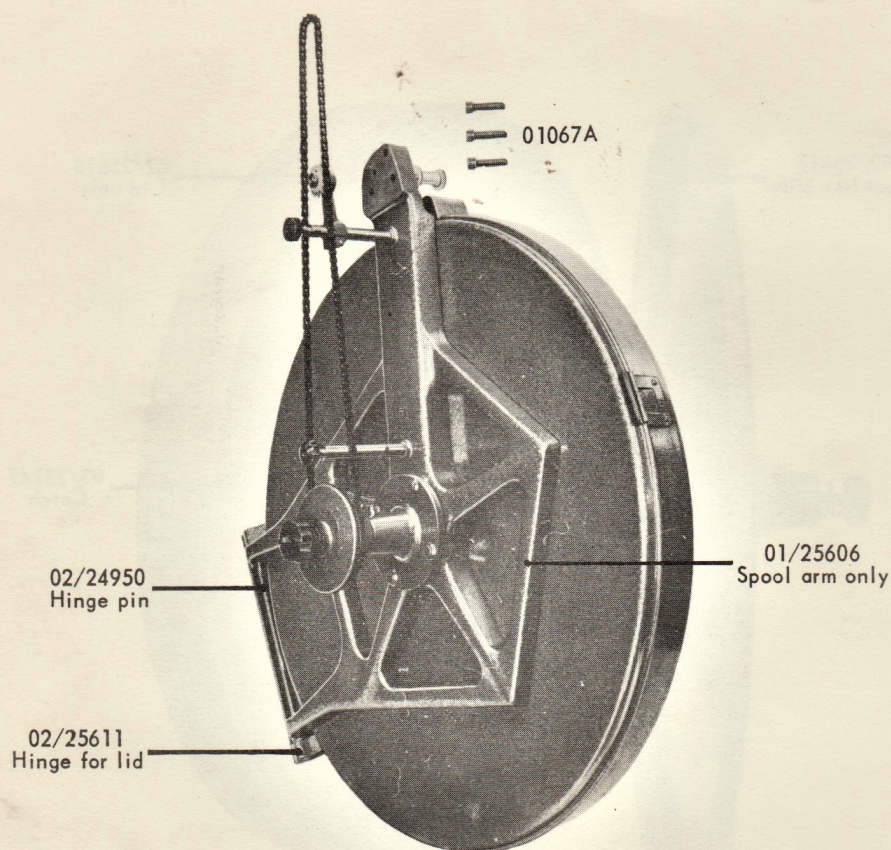
TOP SPOOL-BOX ASSEMBLY AND PARTS

Part No	Description	No. Off	Screws Etc	Part No	No. Off
31/25665	COMPLETE 24 in TOP SPOOL-BOX AND ARM WITH $\frac{5}{16}$ in SPINDLE	1	$\frac{5}{16}$ in BSF. $\frac{5}{8}$ in Allen cap screw	0827A	2
31/25668	COMPLETE 24 in TOP SPOOL-BOX AND ARM WITH 9m/m SPINDLE				
31/25667	COMPLETE 24 in TOP SPOOL-BOX AND ARM WITH $\frac{3}{8}$ in SPINDLE				
31/25666	COMPLETE 24 in TOP SPOOL-BOX AND ARM WITH $\frac{1}{2}$ in SPINDLE				
01/25597	Top spool arm only	1			
02/25611	Hinge for spool-box lid	1	$\frac{3}{16}$ in. $\frac{5}{8}$ in Countersunk rivet	01110A	8
03/24950	Hinge pin	1	$\frac{5}{16}$ in Washer	0633A	1
			Circlip	65/994	1



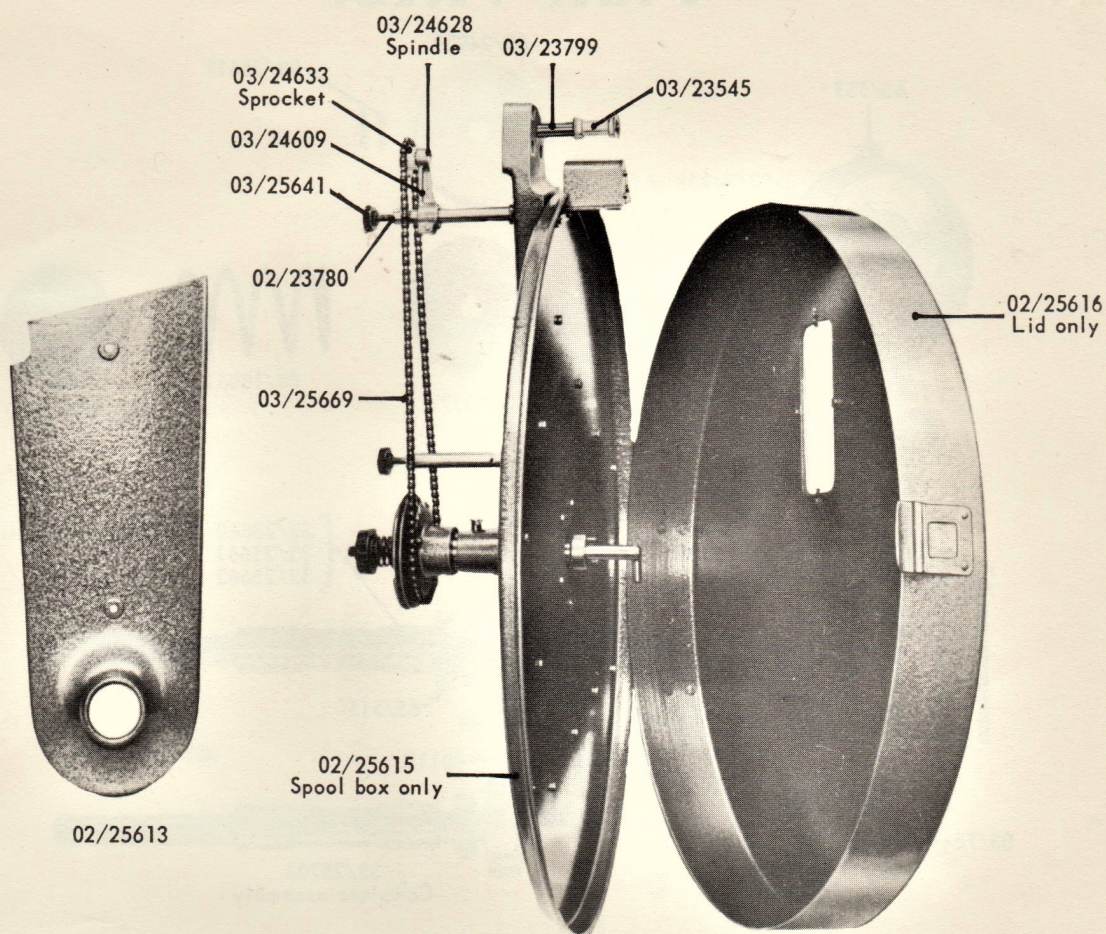
Part No	Description	No. Off	Screws Etc	Part No	No. Off
32/25654	TOP SPOOL-BOX ONLY, ASSEMBLY	1	2BA. $\frac{3}{8}$ in Cheesehead screw	0136A	12
02/25617	24 in Top spool-box only	1			
02/25618	Lid for 24 in Top spool-box	1			
03/25670	Window for spool-box lid	1			
03/9881	Clip for window	4	4BA. $\frac{1}{4}$ in Cheesehead screw	0026A	4
03/25671	Window frame	1			
03/23747	Spool-box catch	1	4BA. $\frac{1}{4}$ in Roundhead screw	0027A	2
			4BA Washer	0018A	2
			4BA Nut	0015A	2

Plate VI:12b



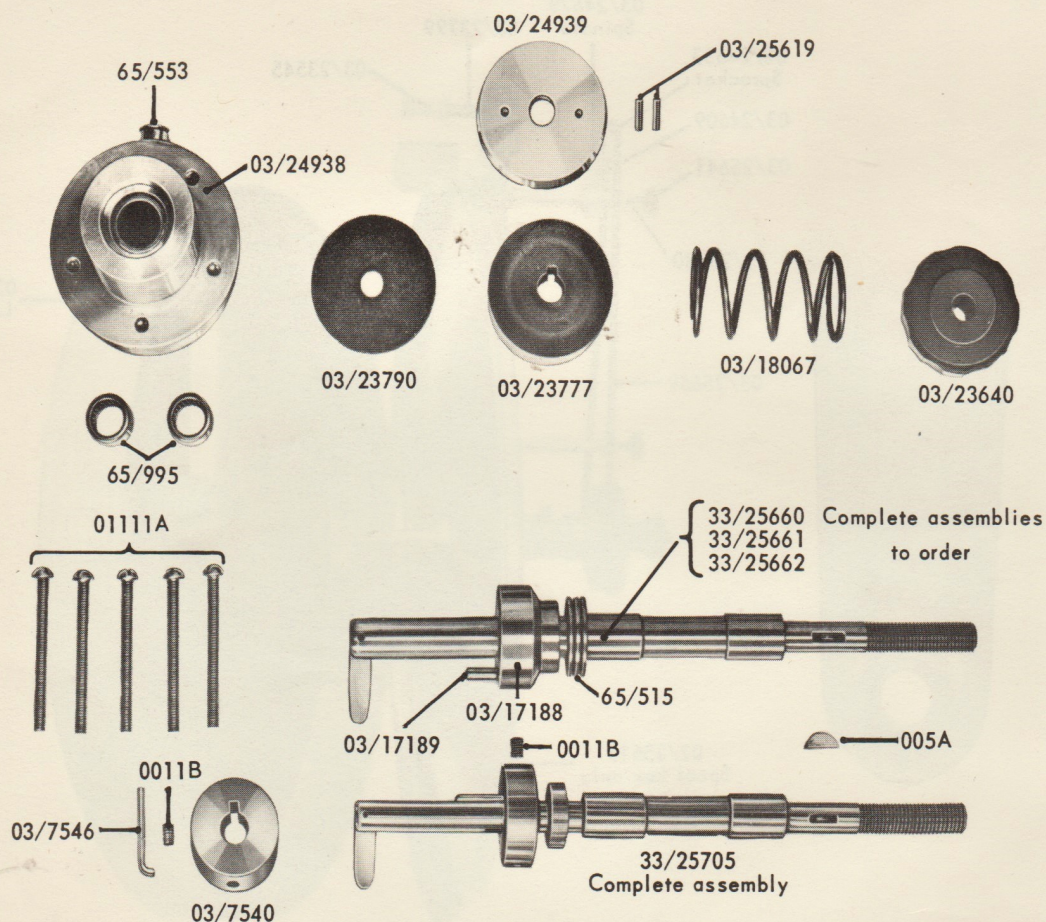
BOTTOM SPOOL-BOX ASSEMBLY AND PARTS

Part No	Description	No. Off	Screws Etc	Part No	No. Off
31/25714	COMPLETE 24 in BOTTOM SPOOL-BOX, ARM AND TAKE UP WITH $\frac{5}{16}$ in SPINDLE	1	$\frac{5}{16}$ in BSF. $1\frac{1}{4}$ in Allen cap screw	01067A	3
31/25713	COMPLETE 24 in BOTTOM SPOOL-BOX, ARM AND TAKE UP WITH 9m/m SPINDLE				
31/25712	COMPLETE 24 in BOTTOM SPOOL-BOX, ARM AND TAKE UP WITH $\frac{3}{8}$ in SPINDLE				
31/25711	COMPLETE 24 in BOTTOM SPOOL-BOX, ARM AND TAKE UP WITH $\frac{1}{2}$ in SPINDLE				
01/25606	24 in Bottom spool arm only	1			
02/25611	Hinge for spool-box lid	1	$\frac{3}{16}$ in $\frac{5}{8}$ in Countersunk rivet	01110A	8
03/24950	Hinge pin	1	$\frac{5}{16}$ in Washer	0633A	1
			Circlip	65/994	1



Part No	Description	No. Off	Screws Etc	Part No	No. Off
32/25653	24 in BOTTOM SPOOL-BOX ONLY ASSEMBLY	1	2BA. $\frac{3}{8}$ in Cheesehead screw	0136A	17
02/25615	24 in Bottom spool-box only	1			
02/25616	Lid for Bottom spool-box	1			
03/25670	Window for spool-box lid	1			
03/9881	Clip for window	4	4BA. $\frac{1}{4}$ in Cheesehead screw	0026A	4
03/25671	Window frame	1			
03/23747	Spool-box catch	1	4BA. $\frac{1}{4}$ in Round head screw	0027A	2
			4BA Washer	0018A	2
			4BA Nut	0015A	2
03/23779	Guide roller post	1			
03/23545	Guide roller	1	Circlip	65/886	1
02/25613	Chain Guard	1			
02/23780	Chain guard post	2			
03/23641	Chain guard nut	2			
03/24609	Jockey arm	1	2BA. $\frac{3}{4}$ in Cheesehead screw	0137A	1
03/24628	Jockey sprocket spindle	1	2BA. $\frac{1}{4}$ in Allen Socket screw	0042A	1
03/24633	Jockey sprocket	1	$\frac{5}{16}$ in Spacing washer	0633A	1
03/25669	Take-up chain 8m/m	1			
65/499	Connecting link for 8m/m chain	1	(Included in 03/25669)		

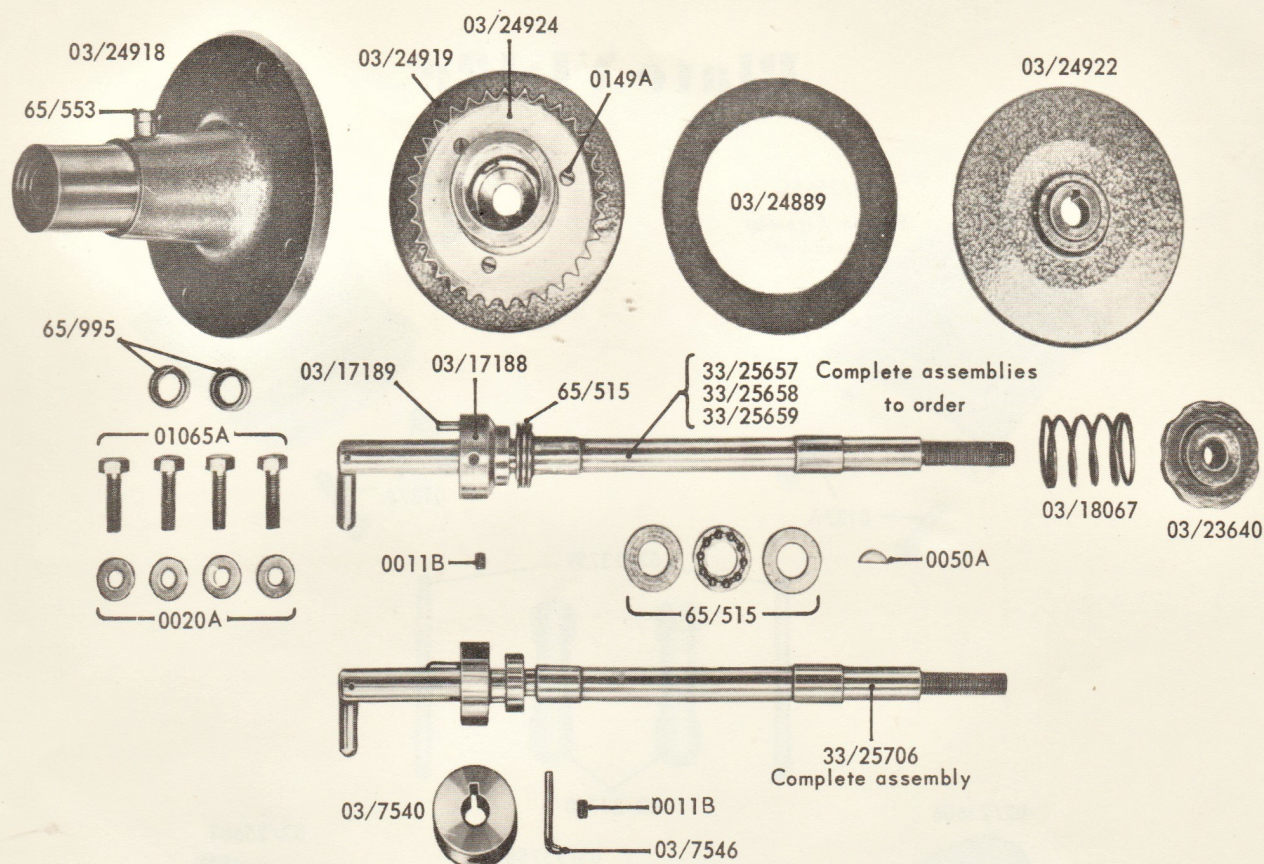
Plate VI:12c



TOP SPOOL SPINDLES AND BEARING FOR 5000ft (1500M) SPOOL-BOXES

Part No	Description	No.Off	Screws Etc	Part No	No.Off
33/25705	$\frac{5}{16}$ in TOP SPOOL SPINDLE ASSEMBLY				
33/25662	9mm TOP SPOOL SPINDLE ASSEMBLY				
33/25661	$\frac{3}{8}$ in TOP SPOOL SPINDLE ASSEMBLY				
33/25660	$\frac{1}{2}$ in TOP SPOOL SPINDLE ASSEMBLY				
03/24938	Top spool spindle housing	1	2BA. $1\frac{7}{8}$ in Cheesehead screw	01111A	5
65/995	Needle bearing "Torrington B912"	2			
65/515	Thrust bearing "Hoffman EW. $\frac{1}{2}$ in"	1			
65/553	Oilcup $\frac{3}{8}$ in Kingfisher $\frac{1}{4}$ in plain shank	1			
03/24939	Clutch plate for top spool spindle	1			
03/25619	Dowel for clutch plate	2			
03/23790	Clutch disc for top spool spindle	1			
03/23777	Spring collar for top spool spindle	1	No.3. Woodruff key	0050A	1
03/18067	Pressure spring for top spool spindle	1			
03/23640	Tension nut for top spool spindle	1			
03/17188	Spool Driving Collar $\frac{1}{2}$ in. $\frac{3}{8}$ in and 9mm Spindles	1	2BA. $\frac{3}{8}$ in Allen set screw	0011B	1
03/17189	Spool Driving Pin for $\frac{1}{2}$ in. $\frac{3}{8}$ in and 9mm Spindles	1			
03/7540	Spool Driving Collar for $\frac{5}{16}$ in Spindle	1	2BA. $\frac{3}{8}$ in Allen set screw	0011B	1
03/7546	Spool Driving Key for $\frac{5}{16}$ in Spindle	1			

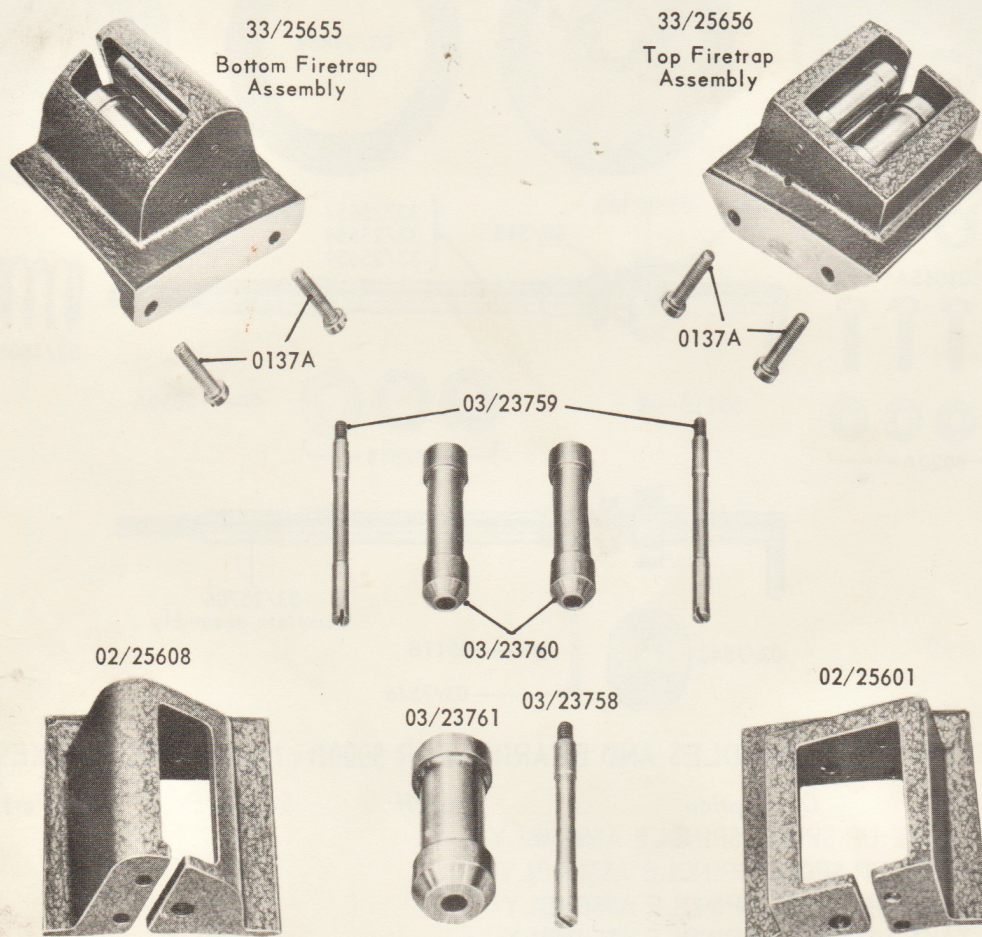
Plate VI:12d



BOTTOM SPOOL SPINDLES AND BEARING FOR 5000ft (1500M) SPOOL-BOXES

Part No	Description	No. Off	Screws Etc	Part No	No. Off
33/25706	$\frac{5}{16}$ in TAKE UP SPOOL SPINDLE ASSEMBLY	1			
33/25659	9mm TAKE UP SPOOL SPINDLE ASSEMBLY	1			
33/25658	$\frac{3}{8}$ in TAKE UP SPOOL SPINDLE ASSEMBLY	1			
33/25657	$\frac{1}{2}$ in TAKE UP SPOOL SPINDLE ASSEMBLY	1			
03/24919	Take up sprocket adaptor	1			
03/24924	Take up sprocket	1	4BA. $\frac{1}{2}$ in Cheesehead screw	0149A	3
03/24889	Clutch disc for take up	1			
03/24922	Clutch plate for take up	1	No.3. Woodruff key	0050A	1
03/18067	Pressure spring for take up	1			
03/23640	Tension nut for take up	1			
03/24918	Take up spindle housing	1	$\frac{1}{4}$ in. BSF. $\frac{7}{8}$ in. Hexagon head screw	01065A	4
			$\frac{1}{4}$ in. Washer	0020A	4
65/995	Needle bearing "Torrington B912"	2			
65/515	Thrust Bearing "Hoffman EW $\frac{1}{2}$ in"	2			
65/553	Oilcup $\frac{3}{8}$ in Kingfisher $\frac{1}{4}$ in. plain shank	1			
03/17188	Spool Driving Collar for $\frac{1}{2}$ in. $\frac{3}{8}$ in and 9mm Spindles	1	2BA $\frac{3}{8}$ in Allen set screw	0011B	1
03/17189	Spool Driving Pin for $\frac{1}{2}$ in. $\frac{3}{8}$ in and 9mm Spindles	1			
03/7540	Spool Driving Collar for $\frac{5}{16}$ in. Spindle	1	2BA $\frac{3}{8}$ in Allen set screw	0011B	1
03/7546	Spool Driving Key for $\frac{5}{16}$ in Spindle	1			

Plate VI:12e



FIRE TRAP ASSEMBLIES FOR 5000ft (1500M) SPOOL-BOXES

Part No	Description	No. Off	Screws Etc	Part No	No. Off
33/25656	TOP FIRE TRAP COMPLETE	1	2BA. $\frac{3}{4}$ in Cheesehead screws	0137A	2
02/25601	Top fire trap body	1	(As assembly)		
33/25655	BOTTOM FIRE TRAP ASSEMBLY	1	2BA. $\frac{3}{4}$ in Cheesehead screws	0137A	2
02/25608	Bottom fire trap body	1	(As assembly)		
The following items are common to both Firetrap assemblies, quantities stated are for a single assembly.					
03/23761	Fire trap large roller	1			
03/23758	Spindle for large roller	1	(Left hand thread)		
03/23760	Fire trap small roller	2			
03/23759	Spindle for small roller	2			

