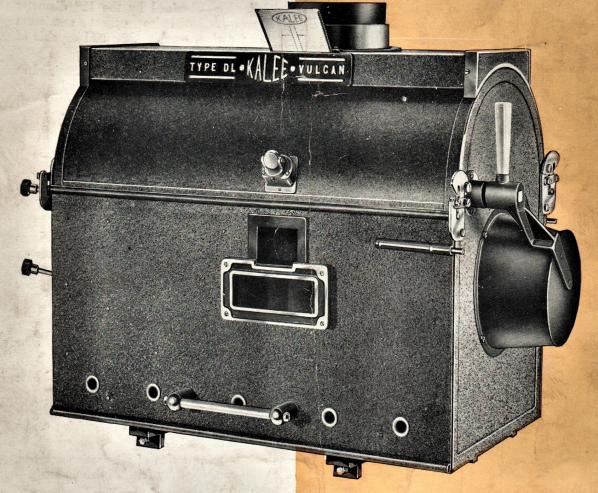


# VULCAN TYPE D.L



HIGH INTENSITY

12" DIAM. REFLECTOR

ARC LAMP



# ANY D.C. 12" REFLECTOR

## Kalee "Vulcan" D.L. Arclamp

The Kalee "Vulcan" Type D.L. 12" Reflector Arc Lamp represents the latest development in projection arc lamp technique, and a distinct advance on its popular forerunner, the "Vulcan" with 10" reflector. It is designed for flexibility—High Intensity, Suprex or Low Intensity projection are all possible with this lamp, and it will accept any kind of carbon combination from 5 to 10 mm. positive with a current range of 30 to 65 amperes.

In the three fields of projection technique it incorporates distinctive features which ensure maximum light output for current consumption.

#### 1. OPTICAL:

Extra Wide-Angle Light Collection—obtained by the 12" diameter short-focus Aspherical Mirror—designed to collect maximum illumination from the specified carbon combinations and capable of transmission by modern projection lenses.

The positive carbon crater is definitely guided and is maintained at the reflector focus, ensuring a "light flooded" mirror and evenly illuminated screen under all conditions of carbon combination and burning rates.

#### 2. ELECTRICAL:

The Kalee Potentiometer-Controlled Automatic Carbon Feed—well known and of proved reliability—is incorporated. A technical advance has been made by embodying a rotary potentiometer which is "shaded" to provide complete control from zero to maximum r.p.m. over the full range of motor speeds.

The popular and successful Kalee Energised Magnet Arc Flame Control automatically adjusts the magnetic field strength to match arc current loadings, ensuring correct arc formation, stability, and by directing the flame in a vertical direction reduces the risks of mirror breakage.

#### 3. MECHANICAL:

The lamp is of the typical rugged construction associated with Kalee projection equipment, built to withstand hard, continuous usage.

All working mechanism is located behind the mirror in the cool part of the Lamphouse, and is readily accessible for lubrication.

Positive and Negative Carbon Feeds may be hand-operated simultaneously or separately. Carbon holders are fitted with quick releases to facilitate recarboning.

Alternative Gear Train to suit burning ratios of alternative carbons, may be quickly inserted and is controlled by friction drive clutch.

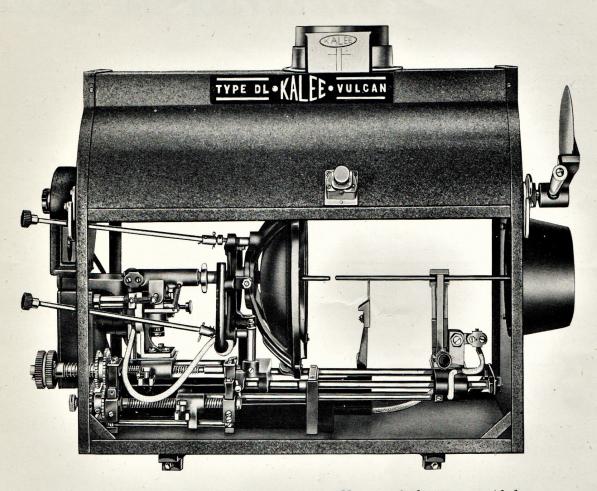
Positive Carbon Feed is provided by means of coupling bar.

Potentiometer, Motor and Drive are integral in one unit—a simple matter to adapt to an existing Hand Feed Lamp.

Positive gravity type Carbon Holder will accommodate Carbons up to 10mm. diameter. Negative Chuck type Carbon Holder is furnished with spring collets.

Rapid-action clip retaining 12 in. diameter Aspherical Mirror.

## ARC LAMP TYPE D.L.



Vertical and horizontal movements to Negative Carbon are provided.

Thirty years of experience in projection developments and constant contact with projection problems made possible the inclusion of every desirable feature in the Kalee "Vulcan" 12 in. Reflector Arc Lamp that makes for simple, speedy adjustment, easy operation, economy, and maximum light efficiency.

#### **SPECIFICATION**

KALEE "VULCAN" HIGH INTENSITY 12 in. REFLECTOR ARC LAMP—TYPE D.L., WITH POTENTIOMETER-CONTROLLED AUTOMATIC CARBON FEED. Complete in Lamphouse with Observation Windows, Periscope and Card Screen, Mirror Shield and Dowser, 12 in. diameter Aspherical Reflector, Magnetic Arc Flame Control, Flexible Copper Leads, Three Negative Carbon Collets, Feed Gear for "SUPREX" and "SUPREXA" type Carbons, Feed Gear for "HILO" and "HILUX" type Carbons, and Spanner.

### Price £135

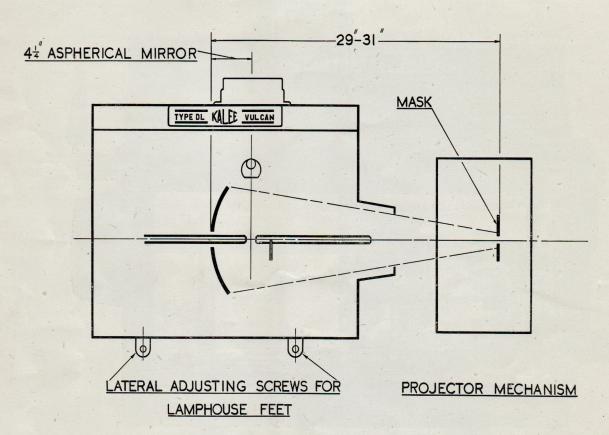
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Illustrations are not binding; improvements are made without notice, as occasion arises.



# VULCAN' ARC LAMP

## INSTRUCTIONS for INSTAL



#### ALIGNMENT.

- (1) Mount Lamphouse on Stand Rails.
- Centre Lamphouse in line with optical axis of projector by means of Lateral Adjusting Screws in Lamphouse Feet and Packing Collars.
- (3)Adjust horizontal distance from projector mask to arc position (centre of arc image card) to  $25\frac{3}{4}$  inches.
- Clamp down Lamphouse with Bolts and Nuts provided.

#### ALTERNATIVE FEED GEAR.

- N.B.—The Lamp, as dispatched from the works, is fitted with Gear Ratio for "SUPREX" or "SUPREXA" type Carbons. To insert alternative gear for "HILO" and "HILUX" type carbons:
- Remove Gear Guard
- Slacken Clamp Screw adjusting Chain Drive Tension, and slide Motor Unit down the Pillar as far as it will go.
- Remove Chain.
- Unscrew Clutch Tension Nut and slide spring, clutch, and (4) sprocket off the spindle.

## D.L.

## LATION and MAINTENANCE

(5) Slacken "SUPREX" Gear and remove from spindle.

(6) Fit "HILO" Gear on spindle with boss end at rear, to mesh with large Top Gear, see that fixing screw holes are in

coincidental position, and clamp securely.

(7) Slide Clutch, Sprocket, and Spring on to Spindle. Fit Chain. Slide Motor Unit up Spindle, allowing suitable chain tension and clamp chain tension screw.

Re-affix Guard.

#### CARBON ALIGNMENT.

(1) Slacken mirror focussing clamp screw and slide mirror bracket as far forward as possible.

(2) Insert carbon in Positive Carbon Holder and allow it to rest

in Positive V-Guide.

(3) Slide Positive Carbon along V-Guide until it projects about  $4\frac{1}{2}$  ins., and centre relative to Reflector by adjusting the V-Guide.

(4) Slide the Carbon back to normal Arc position.

(5) Insert Carbon in Negative Holder and centre it relative to Positive Carbon.

#### REFLECTOR ALIGNMENT.

Reflector should be set at position indicated in diagram. After striking the Arc, optimum results can be obtained by means of Reflector adjustments provided.

#### ELECTRICAL.

(1) Connect Positive, Negative, and Motor Leads to appropriate locations in Switch Box.

(2) Before striking Arc, see that Reflector Shield and Dowser are

down.

(3) Strike Arc at 15-20 amperes, and build up to normal current rating.

4) Adjust Arc gap to coincide with limits on Arc image card.

(5) It is recommended that 1-amp fuses be used (as fitted) in the Motor Circuit: such fuses serve to indicate "stiffness" or maladjustment in the Arc Feed Mechanism by melting.

#### AUTOMATIC CARBON FEED.

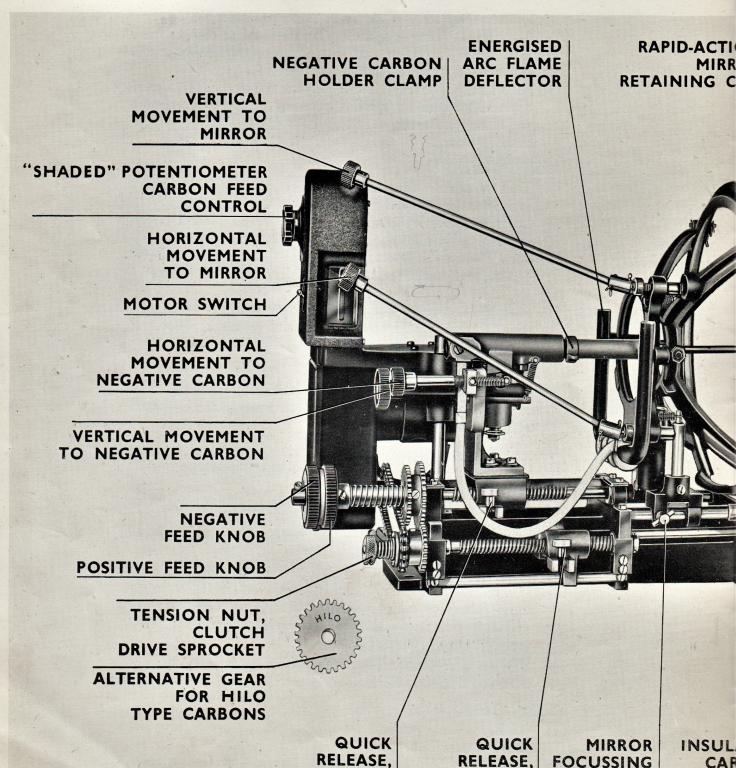
The speed of Carbon Feed is controlled by rotating knob of the Potentiometer (clockwise to increase speed).

#### LUBRICATION.

(1) Oil Feed Screw Bearings on alternate days. Use nothing but KALEE Gear Lubricant.

(2) Gear Box should be packed with Lubricating Grease about every six months.





**NEGATIVE** 

CARBON FEED | CARBON FEED

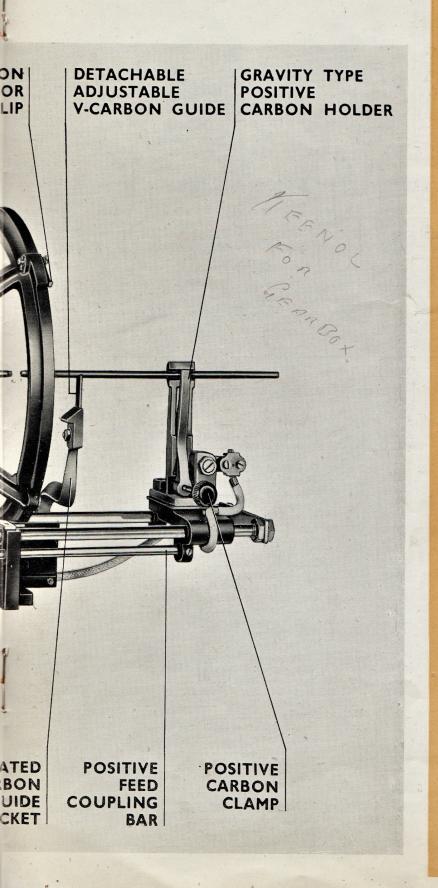
POSITIVE

CLAMP

SCREW

BRA

## INTENSITY REFLECTOR ARC LAMP TYPE D.L.



## CARBONS

The following Carbon Combinations, Voltages, and Amperages are recommended.

#### SHIP "Suprex"

POS. No. 91	NEG. No. 96	Amps.	ArcVolts
6 m.m.	5 m.m.	30-35	30-33
7 m.m.	6 m.m.	40-45	35-38
8 m.m.	7 m.m.	50-60	37-41

#### SHIP "Suprexa"

POS.	NEG.	Amps.	ArcVolts
6 m.m.	5 m.m.	35-40	33-37
7 m.m.	6 m.m.	45-55	37-40
8 m.m.	7 m.m.	55-65	39-41

#### SHIP "Hilux"

POS.	NEG.	Amps.	ArcVolts
8 m.m.	6 m.m.	35-45	33-34
9 m.m.	6 m.m.	45-55	34-35
10 m.m.	7 m.m.	55-65	35-36

#### SHIP "Hilo"

(	POS.	NEG.	Amps.	ArcVolts
1	7 m.m.	6 m.m.	40-45	35
	8 m.m.	7 m.m.	50-55	38



# SPARE PARTS

KALEE "VULCAN" ARC LAMP TYPE D.L.

SPARE PARTS

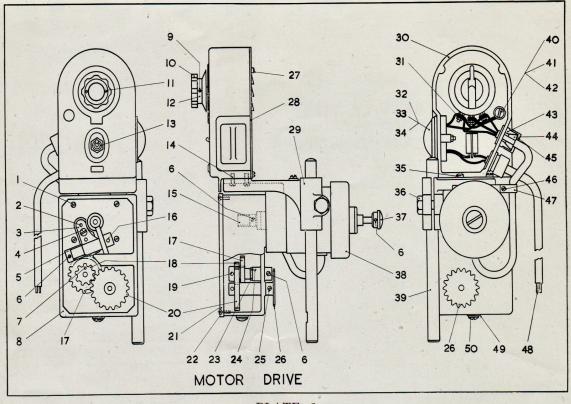


PLATE 1
IMPORTANT: Quote Serial Number When Ordering Spare Parts.

No.	EACH	£	s.	d. 1	No.	EACH	£	s.	d.
D.C. 1	Screw Sec. Motor			6	D.C. 39	Motor Pillar		2	_3
D.C. 2	Pin for Worm Bearing			6	D.C. 40	Resistance Peg		1	3
D.C. 3	Bearing		7	6		Resistance Screw		1	0
D.C. 4	Screw Sec. Worm and Wheel			6	D.C. 42	5 Watt. Resistance		4	6
D.C. 5	Worm		5	6	D.C. 43	Flex Socket		2	9
D.C. 6	Screw Sec. Worm and Button			6		Flex Bush (Supplied in Prs.)		1	0
D.C. 7	Pin for Gear			6	D.C. 45	Flex Cap		2	3
D.C. 8	Gear Box	2	5	0	D.C. 46	Screw Sec. Clip			6
D.C. 9	Screw Sec. Knob for Potentiometer			6	D.C. 47	Cable Clip			8.
D.C. 10	Knob for Potentiometer		4	0		Line Cable		9	6
D.C. 11	Screw Sec. Potentiometer			6	D.C. 49				6
D.C. 12	Potentiometer (140 ohms)	1	10	0		Oil Plug		1	0
D.C. 13	Single Pole Toggle Switch		2	6		Screw Sec. Clamp			6
D.C. 14	Screw Sec. Resistance			6		Pin for Tension Spring			6
D.C. 14	Motor Worm		5	6	D.C. 53			6	0
	Worm Wheel Spindle and Pin		14	6		Neg. Tilt Control Knob with			
D.C. 17	Worm Wheel		10	0	2.0.01	Collar and Pin		8	0
D.C. 18	Driving Gear (High Ratio)		5	0	D.C. 55	Neg. Control Spring		1	0
D.C. 19	Collar, Pin and Spindle		2	6	D.C. 56	Neg Carbon Lead		15	0
D.C. 20	Driven Gear Pin and Spindle		11	6	D.C. 57	Spring Washer			6
D.C. 21	Gear Box Cover		15	0	D.C. 58	Main Bracket Neg. Carbon Holder		15	0
D.C. 22	Screw Sec. Gear Box Cover			6		Neg. Carbon Holder Insulation		2	0
D.C. 23	Worm Wheel Thrust Ring		1.	2		Insulating Bush		1	0
D.C. 24	Pin for Thrust Ring			6	D.C. 61			1	6
D.C. 25	Screw Sec. Sprocket			6		Insulating Washer			6
D.C. 26	Driving Sprocket		6	0	D.C. 63	Washer	*		6
D.C. 27	Screw Sec. Cover			6		Neg. Feed Lever (with knob & pin)		3	3
D.C. 28	Resistance Box Cover		1	6		Pillar Bracket Neg. Carbon Holder		9	0
D.C. 29	Motor Bracket		10	9	D.C. 66			1	6
D.C. 30	Resistance Box	2	3	6		Pin Sec. Cam			6
D.C. 31	4 BA Tag			6	D.C. 68			4	6
D.C. 32	Fuse Holder Base Complete Fuse Holder Cap Fuse Spare fuse		5	0	D.C. 69	Complete Neg. Carriage incl.	1.	1	0
D.C. 33	Fuse Holder Cap		The Paris	0		64, 70, 71, 72 and 73			
D.C. 34	Fuse Spare fuse		1	0	D.C. 70			15	0
D.C. 35	Screw Sec. Gear Box			6		Spring for Feed Lever		1	0
D.C. 36	Screw Sec. Pillar			6		Pivot Pin for Feed Lever	4		9
D.C. 37	Motor Button		2	9	D.C. 73				. 6
D.C. 38	Motor and Cable				D.C. 74				6

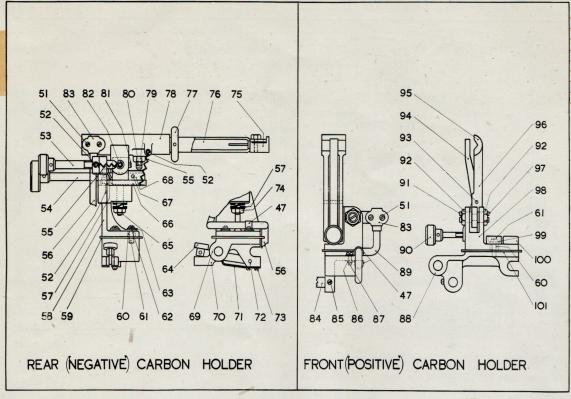


PLATE 2
IMPORTANT: Quote Serial Number When Ordering Spare Parts.

	FACIL								
No.		£	S.	d.	No.	EACH	£	S.	d.
D.C. 75	Carbon Saver, 5, 6, 7 m/m as Reqd		6	0	D.C.120	Pos. Feed Knob		2	0
D.C. 76	Collet 5, 6, 7, 8, 9, 10 m/m as Reqd.		5	0	D.C.121	Screw Sec. Guard			6
D.C. 77	Complete Neg. Carbon Holder		10	0	D.C.122	Washer for Guard			6
D.C. 78	Swivel Bracket Neg. Holder		16	0	D.C.123			2	0
D.C. 79	Nut for Tilt Stud		10		D.C.124	Screw Sec. Clutch Nut		-	6
D.C. 80				6				,	0
	Tilt Stud		1	0	D.C.125			1	8
D.C. 81	Screw Sec. Spindle			6	D.C.126			1	0
D.C. 82	Spindle for Swivel Bracket		2	0	D.C.127	Collar for Spring			9
D.C. 83	Clamp for Carbon Lead		2	0	D.C.128	Keywasher for Clutch		1	-0
D.C. 84	Pos. Carbon Driving Tube		4	0	D.C.129				6
D.C. 85	Screw Sec. Pos. Driving Tube		-	6	D.C.130			1	0
D.C. 86	Nut for 87				D.C.131			4	0
D.C. 87				6	D.C.131	Cl.			0
	Screw Sec. Cable Clip		1	6	D.C.132			10	0
D.C. 88	Pos. Carbon Holder Base		9	9	D.C.133			1	0
	Pos. Carbon Lead		15	0	D.C.134				6
D.C. 90	Pos. Carbon Clamp Screw		5	0	D.C.135	Screw Sec. Pos. Guide Rod			6
D.C. 91	Pos. Carbon Pivot Screw (Short)		1	3	D.C.136	26 Teeth Gear Suprex		6	6
D.C. 92	Locknut Pivot Screw			9	D.C.137			1	0
D.C. 93	Pivot Pin, Pos. Carbon Clamp			6	D.C.138				9
D.C. 94	Moveable Clamp		-		D.C.139				9
D.C. 94	E: J Cl		5	0	D.C.159			10	•
D.C. 95	Fixed Clamp		15	0	D 0140	71, 72, 73, 174, 177		18	0
D.C. 96	Complete Pos. Clamp incl.				D.C.140			12	0
	93, 94 and 95	1	0	6	D.C.141	Guide Rod Pos. Feed		3	0
D.C. 97	Pos. Carbon Pivot Screw (Long)		1	6	D.C.142	Stop Collar		1	0
D.C. 98	Pos. Carbon Pivot Block	1	0	0	D.C.143	Focussing Bracket	. 1	9	0
D.C. 99	Washer			6	D.C.144				6
D.C.100	Insulating Screw Cup		1	0		Tommy Screw		1	6
D.C.101	Pos. Carbon Holder Insulation		2	0	D.C.146	Ston Tube Misses Decelet		1	
D.C.101	Sanary San Carbon Adi Knah		4		D.C.140	Stop Tube, Mirror Bracket			6
	Screw Sec. Carbon Adj. Knob			6.	D.C.147	Washer for Swivel Spindle			6
D.C.103	Complete Carbon Adj. Knob				D.C.148				6
	incl. 104, 116, 117, 118, 119, 120	1	2	0	D.C.149	Guide Rod Pos. Carbon		4	6
D.C.104	Screw Sec. Pos. Knob		1	0	D.C.150	Locknut		3	0
D.C.105	Stop Screw		1	0		Tie Bar, Pos. Guide Rod		2	0
D.C.106	Pos. Drive Tube		4	0	D.C.152	Mirror Clip		-	9
D.C.107	Spring Pos. Handle		1	- 0	D.C.153				9
D.C.108	Screw Sec. Pos. Driving Tube		1	6		Nut for Pivot Screw			9
D.C.109	38 Teeth Gear	7	0		D.C.154	Nut for Fivot Screw			6
	Cl. Di. N. E. I.C.		2	0	D.C.155	Stop Pin, Mirror Clip			6
D.C.110	Clamp Plate Neg. Feed Screw		1	0	D.C.156	L.H. Mirror Hinged Ĉlip		1	0
D.C.111	Rear Bearing Neg. Feed Screw		3	6	D.C.157	Split Pin for Mirror Clip			6
D.C.112	Neg. Feed Screw	1	2	0	D.C.158	Screw Sec. Clamp Plate			6
D.C.113	Front Bearing Feed Screw		3	6	D.C.159	Clamp Plate Pos. Guide Rod		1	9
D.C.114	Mirror Tilt Stop Tube		1	0	D.C.160	Screw Sec. Stop Pillar	1	-	6
D.C.115	Spindle Mirror Swivel Bkt.		3	0	D.C.161	Stop Pillar Mirror Bracket		0	0
D.C.116	Neg. Feed Boss		6			Pos. Carbon Guide Bracket		2	0
D.C.117	Sangry San Non V-al		6	6		No. Carbon Guide Bracket		15	0
	Screw Sec. Neg. Knob			6	D.C.163	Nut for Carbon Guide			6
D.C.118	Neg. Feed Knob		2	0	D.C.164	Pos. Carbon Guide			
D.C.119	Pos. Feed Boss		8	0	1	6, 7, 8, 9, and 10 m/m.		8	0
							4		DESCRIPTION OF THE PARTY OF THE

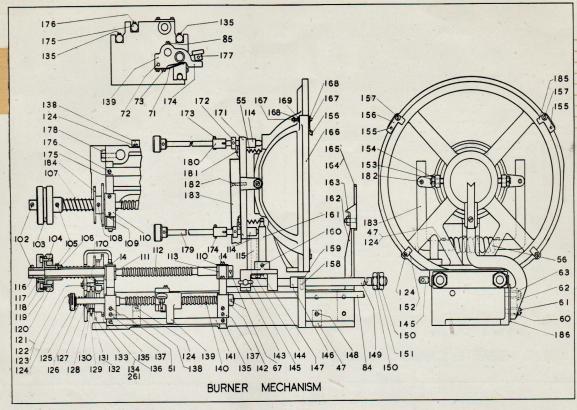


PLATE 3
IMPORTANT: Quote Serial Number When Ordering Spare Parts.

. 4										
No.	EACH £		s.	d.		No.	EACH	£	s.	d.
D.C.165	Pos. Carbon Guide						Screw Sec. Base for Periscope			6
D.G.100	11. 12. 13 and 14 m/m		8	0		D.C.208	Cover Strip for Card		1	3
D.C.166	Mirror Holder	2	12	0		D.C.209	Card Holder		1	9
D.C.167	Pin for Hinged Clip			9		D.C.210	Spring for Chimney Spindle		1	0
D.C.168	Washer for Hinged Clip			6		D.C.211	Screw Sec. Chimney			6
D.C.169	Hinged Clip Spring			6		D.C.212	Chimney Damper		8	0
D.C.170	Screw Sec. 33 Teeth Gear			6			Screw Sec. Damper			6
D.C.171	Swivel Bracket1		1	0		D.C.214	Complete Chimney	3	10	0
D.C.172	Mirror Tilt Screw and Collar		2	6		D.C.215	Damper Spindle		4	6
D.C.173	Split Pin for Connecting Tube			6			Screw Sec. Handle			6
D.C.174	Pos. Carbon Feed Bracket		12	0			Pin for Handle		3	0
D.C.174 D.C.175	Guide Rod Neg. Bracket		3	9		D.C.218	Damper Handle		1	6
D.C.176	Screw Sec. Neg. Guide Rod			6	"		Washer			6
D.C.177	Pos. Feed Lever		3	3			Pivot Screw for Latch		1	0
D.C.178	Screw Sec. Motor Pillar			6			Door Latch		î	0
D.C.178 D.C.179	Mirror Control Knob & Spindle		6	3		D.C.222	Screw Sec. Door Hinge Plate		•	6
	Connecting Tube		1	3			Door Hinge Cross Plate			6
D.C.180			1	9			Door Hinge Plate		3	6
D.C.181	Pin for Mirror Spring			6			Window Frame for L.H. Door		10	6
D.C.182	Screw Sec. Magnet		11	0			Complete L.H. Door	7	5	0
D.C.183	Core for Energised Magnet		11 6	0			Adjusting Screw		3	6
D.C.184	33 Teeth Gear		1	0		D.C.228	Clip		1	0
D.C.185	R.H. Hinged Clip		-			D.C.229	Carriage Bolt		1	6
D.C.186	Carbon Guide Insulation		1	6		D.C.230	Screw Sec. Under Fitting			9
D.C.187	Pillar for Handle (Tapped)		5	6		D.C.230	Lamphouse Foot \(\frac{3}{4}''\)		10	0
D.C.188	Screw Sec. Handle			6			Lamphouse Foot \(\frac{4}{8}''\)		12	· ·
D.C.189	Nut for Pillar			6		D.C.232	Dowser		15	0
D.C.190	Door Handle		4	6		D.C.233 D.C.234			4	6
D.C.191	Complete Door Handle incl.						Washer			6
	187, 188, 189, 190 and 193		17	6		D.C.235	Light Cut-Off		4	0
D.C.192	Complete Window incl.					D.C.236	Screw Sec. Light Cut-Off			6
	Glasses, Gauze and Slide		15	0		D.C.237	Screw Sec. Dowser Bearing Bracket			6
D.C.193	Pillar for Handle (Plain)		5	0		D.C.238	Arm for Light Cut-Off Assy.	1	1	3
D.C.194	Screw Sec. Window Frame			6	1	D.C.239	Comp. Light Cut-Off incl.			•
D.C.195	Screw Sec. Cone			6		D 0 0 10	235, 238, 236, 240, 241, 242 & 260	1	15	0
D.C.196	Nut Sec. Cone			6		D.C.240	Cut-Off Handle		2	0
D.C.197			2	0		D.C.241	Stud for Cut-Off Handle		1	6
D.C.198	R.H. Door		10	0		D.C.242	Screw Sec. Cut-Off Handle			9
D.C.199	Cone	1	2	0		D.C.243	Bush Dowser Spindle		2	6
D.C.200	Screw Sec. Latch Bar			6		D.C.244	Spring for Dowser Spindle		2	0
D.C.201	Latch Bar		4	.6		D.C.245	Dowser Bracket		4	6
D.C.202	Window Frame for R.H. Door	1	3	6		D.C.246	Bracket for Dowser Spindle	1	0	0
D.C.203	Front Bearing for Dowser Spindle		5	6		D.C.247	Screw Sec. Dowser			6
D.C.204	Complete Periscope incl. 250, 251,					D.C.248				6
	252, 253, 254, 255, 256, 257, 258,						Dowser Arm		2	9
	259, 124	1	8	6	1	D.C.250	Mirror Holder, periscope		3	0
D.C.205		1		6	3 13	D.C.251	Mirror, periscope		2	6
	Base for Periscope		4	6			Spring Ring (Mirror Holder)			6
2.0.200	Base for Periscope									

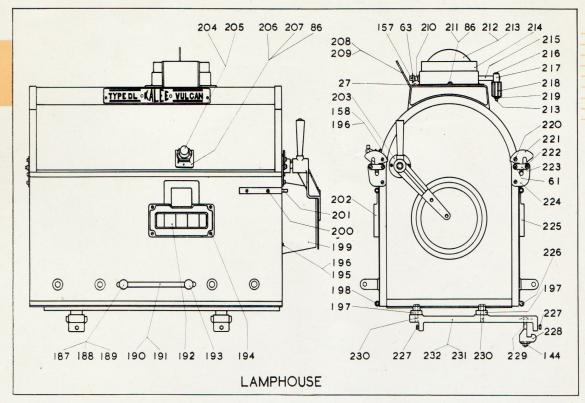


PLATE 4
IMPORTANT: Quote Serial Number When Ordering Spare Parts.

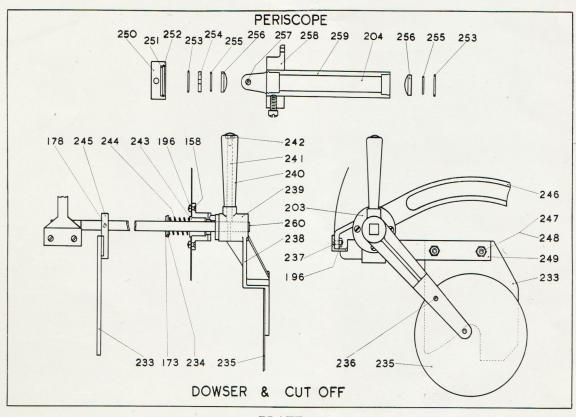


PLATE 5
IMPORTANT: Quote Serial Number When Ordering Spare Parts.

No.	EACH	£	s.	d.	No. EACH £ s. d.	
D.C.253	Spring Ring for Barrel			6	D.C.258 Periscope Bracket 4 3	
D.C.254	Washer for Lens			6	D.C.259 Periscope Barrel 3 0	1
D.C.255	Packing Washer			6	D.C.260 Dowser Spindle 2	
D.C.256	Periscope Lens		2	6	D.C.261 31 Teeth Gears (Hilo)	
	Bolt Sec. Mirror Holder			6		



Manufactured by

## A. KERSHAW & SONS LTD

Harehills Lane, Leeds, Eng.

for

G.B-KALEE LIMITED
NATIONAL HOUSE
60-66 WARDOUR STREET
LONDON, W.I

Telephone: GERrard 5137-8-9, 5130, 3145

Telegrams: Ellangrica Rath London.

## BRANCHES

BELFAST: 49 Donegal Street

BIRMINGHAM: 57, John Bright Street

CARDIFF: 9 Park Lane

**DUBLIN: 34 Lower Abbey Street** 

GLASGOW: 211 Hope Street

LEEDS: 17 Wellington Street

MANCHESTER: 5 The Parsonage

NEWCASTLE-ON-TYNE: 2-10 Cross Street

Telephone 27065

Telephone Midland 2351

Telephone 7676

Telephone 45059

Telephone Douglas 1305

Telephone 28259

Telephone: Blackfriars 1428-9

Telephone 23038