

Spare Parts Catalogue

GAUMONT-KALEE "21"
"PRESIDENT" ARC LAMP

Operating Data



A

GAUMONT-KALEE

PRODUCT

THE GAUMONT-KALEE "PRESIDENT" ARC LAMP

The lamp is designed for modern High Intensity carbons and has flexibility to cover the full range of manufacturers' recommended carbon-current combinations, with capacity to take an 18" positive carbon and a full 10" positive feed.

Its specified 14" diameter elliptical mirror, of optimum collection angle, assures outstanding optical efficiency. Critical, backlash-free levelling adjustments, together with micrometer mirror focusing, make it easy to adjust the light spot for maximum screen illumination with even light distribution and absence of colour, while carbon guides situated near the arc, and free locating carbon grips, assure maintenance of good crater formation, and hence sustained performance.

A notable feature of the lamp, and largely contributory to the simplicity and reliability of its operation, is the employment of twin feed motors. The positive and negative carbon feeds are quite independent and each powered by its own separately controlled motor, each drive being direct and continuous through a positive reduction gear box. This simple and logical arrangement avoids the complication and weakness of variable ratio mechanisms. Operation of one does not disturb the other. Further, the continuous feed results in maintained uniformity of screen illumination in contrast with the periodic pulsation characteristic of an intermittently fed carbon.

Hand controls on the operating side provide for fine adjustment of carbon position and also for rapid re-setting for a new trim, making it unnecessary for the operator to reach inside the lamp to disengage quick release levers and to handle hot carbon carriages. An external scale shows at a glance the length of run remaining.

The lamphouse doors on each side are full width and open high for easy access, and are held in the open position by safety catches which lock automatically in the open position, and which are readily released for closing. Each door is fitted with a large inspection window and this, together with the window fitted in the rear panel, allow for complete visual inspection of the arc.

The lamphouse chimney is tilted at 15° , allowing for easy connection of vents at all operating rakes. A periscope throws a very clear and enlarged image of the arc on to a screen at the base of the chimney, on the operating side.

CARBON DRIVE

Each carbon is directly and continuously driven from its own variable speed D.C. Motor through a totally enclosed reduction gear box. Each motor speed is independently controlled by means of rheostats mounted on the rear panel and the motor circuit includes fuses and an "on-off" switch controlling both motors. The speed variation covers the full range of carbon manufacturers' recommended high intensity burning combinations.

Each positively driven constantly rotating feed screw meshes with a worm wheel keyed to a shaft carried in its corresponding carbon carriage and extended to a hand knob outside the lamp. Each shaft is held against rotation by a dual friction clutch. Whilst so held, the worm wheel is engaged as a nut by the rotating feed screw which thus traverses the carbon. Turning the knob by hand overcomes the grip of the clutch and rotates the worm wheel, which, working into the lead screw like a rack, provides a simple sensitive hand feed and also rapid traverse for re-setting.

STRIKER

A sensitive scissors-type striker is fitted towards the front end on the operating side.

MIRROR ADJUSTMENT

The mirror is carried in the precision 3-point suspension in which it is retained by a single spring-loaded catch. Sensitive, backlash-free, micrometer levelling adjustments are provided, operated by knobs on the rear panel, together with a micrometer focus adjustment, also operated from the back of the lamp.

MIRROR SCREEN AND DOWSER

These are linked and can be operated from either side of the lamp. The mechanism is simple and robust without springs or complicated linkages and provides a two-piece mirror screen which completely encircles the negative carbon, thus fully protecting the mirror during the striking operation.

CARBON GUIDES

Both carbons are guided near the crater by renewable heat-

resistant crutches. The positive guide is set at the factory to accommodate 8 mm. carbon and incorporates a chute leading to a removable ash tray. The negative guide is adjustable both vertically and horizontally for accurate carbon alignment by micrometer control knobs on the rear panel. An inspection window is also incorporated in the rear panel for visual checking of the alignment.

CARBON GRIPS

These are of heat-resistant material, and are of simple effective screw clamp type, to accept any carbon size. Their insulated clamping knobs are placed out of the glare of the lamp and remain cool to handle. Both grips are self-aligning to the carbon guides.

ARC IMAGE

A periscope throws an enlarged image of the arc on to a screen on the operating side of the lamp at the base of the chimney. The correct crater position is with the end of the positive carbon set at 5" from back of the centre of the mirror and the periscope is set at the factory accordingly, when the mirror is in the mean focusing position. Further adjustment should not be necessary, but the position of the image on the screen can be controlled by turning and, if necessary, tilting the reflector which is carried by the periscope.

INTERIOR ILLUMINATION

A lampholder for standard mains voltage lamp is mounted in the lamphouse roof. An operating switch is incorporated in the rear panel.

ELECTRICAL

All wiring is brought to a terminal panel at the rear of the lamp, accessible by removing a readily detachable cover plate. A detachable entry panel caters for variation in conduit fitting.

The rear panel, which carries the motor control rheostats, motor fuses, switch and associated wiring, also switch and wiring for the internal inspection lamp, is readily detachable as a unit to give easy access to this wiring and to the lamp mechanism. The fuses are of standard " Cartridge " type.

OPERATING AND MAINTENANCE

INSTALLATION

Remove the detachable cover beneath the rear panel, thus exposing the terminal panel. Connect the arc leads to the specified terminals and A.C. leads for inspection lamp to the terminal block.

N.B.—All internal wiring runs from this panel and the motor leads are connected across the main arc feed points.

Set each motor potentiometer to correspond to the carbon feed, i.e., maintaining position of the image of the carbon tips on the screen and adjust negative crutch to maintain correct positive crater formation.

Level the mirror to obtain an even screen and finally focus the mirror by means of the knob on the rear of the lamp to obtain optimum screen illumination.

Note.—Do not “ crash ” the carbons together when striking, or the positive crater will be damaged and the carbons possibly jump out of their crutches.

LUBRICATION

Oil sparingly and daily all bearings and guides. Note that the gear box is fitted with oilite bearings and consequently a drop or two of oil daily is quite sufficient.

The carbon carriage clutches should be kept free from oil, and periodical cleaning of the friction disc and the metal blades is recommended.

CARBON CARRIAGE DRIVE CLUTCHES

Undue tightening of the drive clutches merely makes the hand feed movement unnecessarily heavy. The clutches should be sufficiently tight to ensure that the carbon carriages are driven at whatever rake the lamp is burning and once these are set they should require very little further attention as the clutch only “ slips ” whilst the carriages are fed by hand.

REMOVING MOTOR AND GEAR BOX

When disconnected at the respective terminal block, either motor may be removed, complete with the top half of its gear box, by releasing the securing screws at the corners of the unit.

REMOVING THE MIRROR

With the mirror dowsers fully open, release the spring loaded catch at the top of the mirror support casting, lift the mirror from the bottom support posts and withdraw between the positive and negative crutches, taking care not to scratch the mirror on the positive crutch or foul the periscope barrel. To facilitate removal, the negative crutch should be at the top of its vertical movement, as controlled by the knob on the rear panel.

KEY PLATE FOR THE COMPLETE ASSEMBLY THE GAUMONT-KALEE "PRESIDENT" ARC LAMP

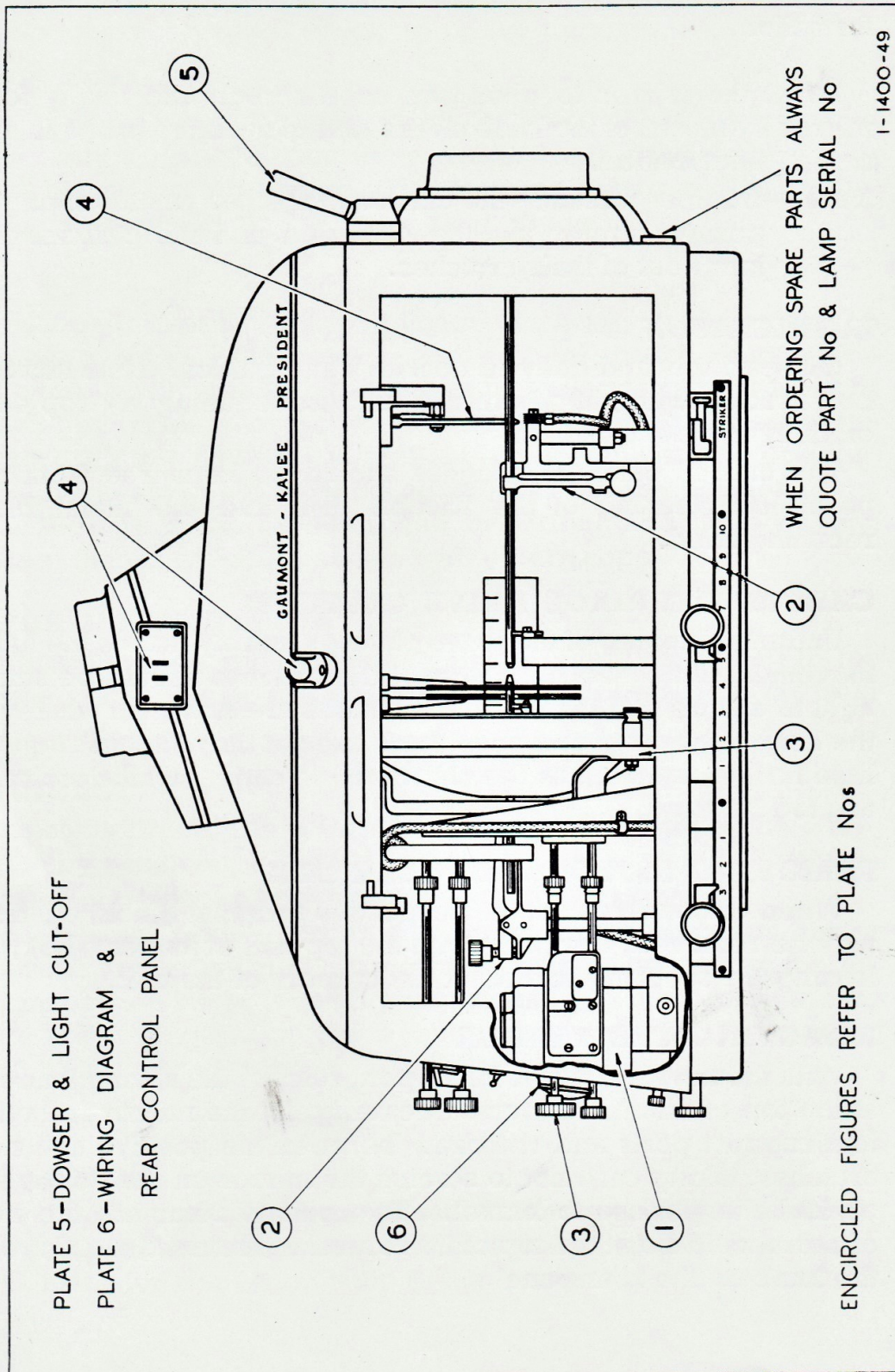
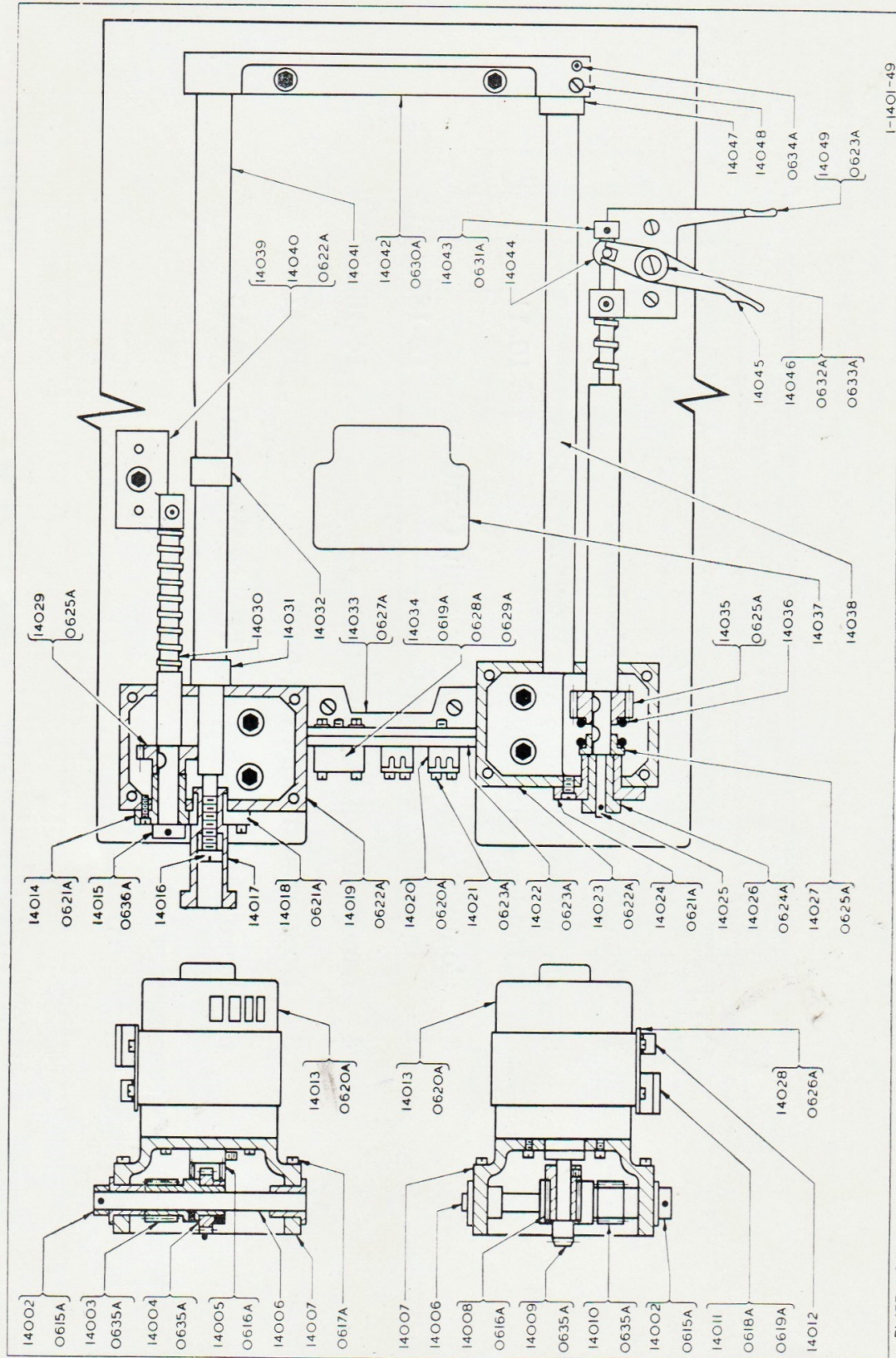


PLATE No 0

KEY PLATE No.	DESCRIPTION	PAGE No.
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Plate No. 1. COMPLETE BURNER FEED MECHANISM



PART No.	DESCRIPTION
14002	Collar, Gear Box Intermediate Shaft
14003	Worm, Negative Intermediate, Steel
14004	Worm Wheel, Negative Intermediate—48 teeth—Steel
14005	Worm, Negative Motor—Steel
14006	Shaft, Gear Box Intermediate
14007	Top Casting for Gear Box
14008	Worm, Positive Motor—Steel
14009	Worm Wheel, Positive Intermediate—28 teeth—Steel
14010	Worm, Positive Intermediate—Steel
14011	Connector, 3-way, Shrouded
14012	Clip, Cable
14013	Motor
14014	Bush for Leadscrew—Negative Gear Box
14015	Collar, Negative Leadscrew
14016	Stop Screw, Mirror Focus
14017	Knob, Focussing
14018	Bush, Split
14019	Base, Negative Gear Box
14020	Block, Terminal
14021	Clip, Cable
14022	Panel, Terminal
14023	Base, Positive Gear Box
14024	Bush, Positive Leadscrew
14025	Leadscrew, Positive

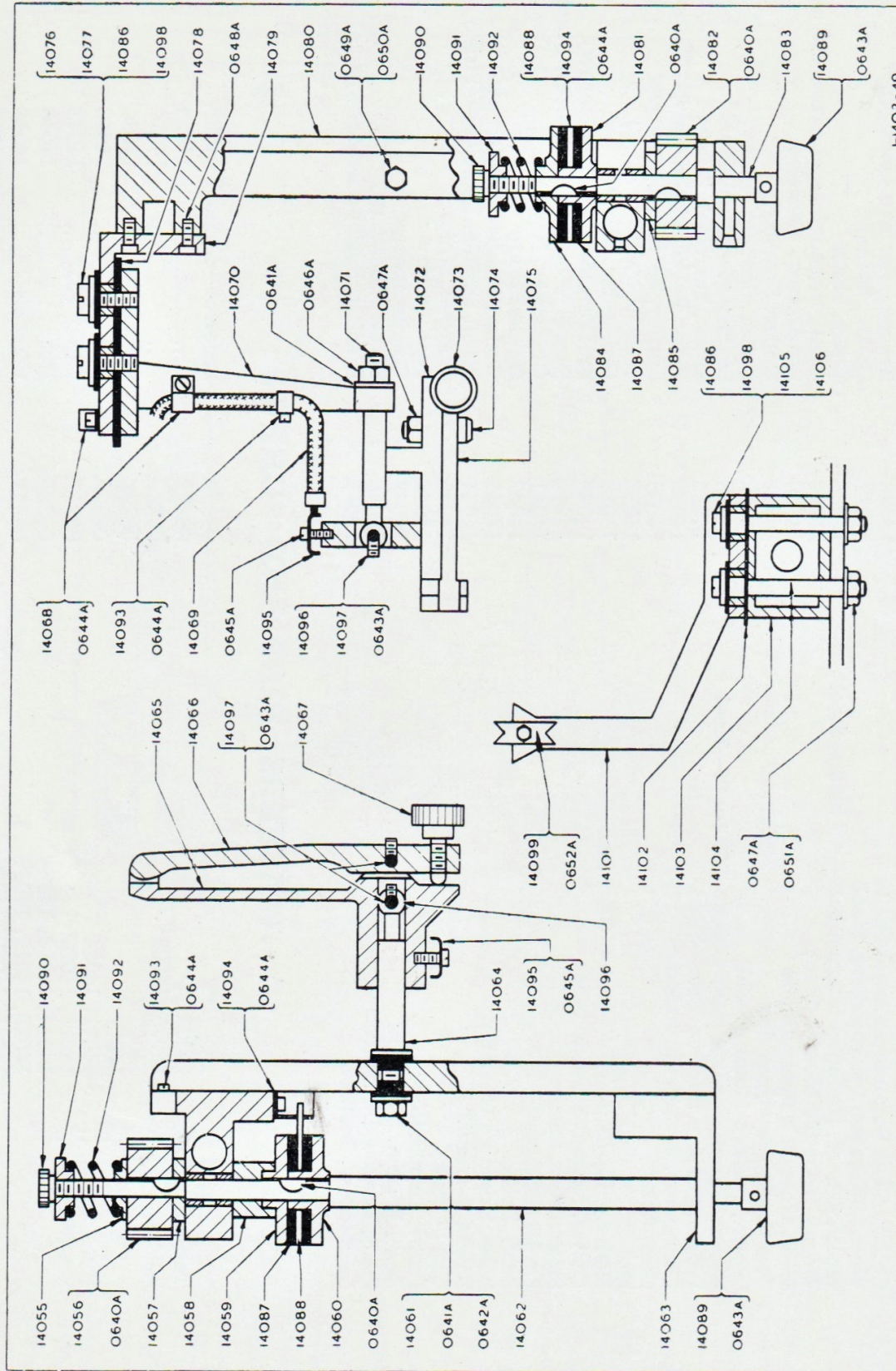
PART No.	DESCRIPTION
14026	Bearing, Positive Leadscrew
14027	Collar, Spring
14028	Wing, Motor
14029	Gear, Negative Leadscrew—48 teeth—Steel
14030	Leadscrew, Negative
14031	Collar, Spacing
14032	Collar, Spacing
14033	Bracket, Terminal Panel
14034	Block, Terminal, 2-way
14035	Gear, Positive Leadscrew—28 teeth—Steel
14036	Spring, Positive Leadscrew
14037	Tray
14038	Guide Bar, Positive
14039	Bracket, Negative Leadscrew
14040	Dowel, Negative Leadscrew Bracket
14041	Guide Bar, Negative
14042	Guide Bridge
14043	Collar, Positive Leadscrew
14044	Pivot, Positive Leadscrew Strike
14045	Trigger, Strike
14046	Post, Striker
14047	Collar, Spacing
14048	Screw, Locating
14049	Bracket, Positive Leadscrew

WASHERS, PINS AND SCREWS

0615A	Taper Pin fixing	14002
0616A	Screw	14005, 14008
0617A	"	14007
0618A	"	14011
0619A	"	14011, 14034
0620A	"	14013, 14020
0621A	"	14014, 14018, 14024
0622A	"	14023, 14019, 14039
0623A	"	14021, 14022, 14049
0624A	Taper Pin	14026
0625A	No. 1 Woodruff Key for	14027, 14027, 14035

0626A	Screw	fixing	14028
0627A	"	"	14033
0628A	"	"	14034
0629A	Washer	"	14034
0630A	Screw	"	14042
0631A	Taper Pin	"	14043
0632A	Nut	"	14046
0633A	Washer	"	14046
0634A	Screw	"	14038
0635A	"	"	14003, 14004, 14009, 14010
0636A	Taper Pin	"	14015

Plate No. 2. COMPLETE NEGATIVE AND POSITIVE CARBON HOLDERS AND CRUTCH



I-1402-49

PLATE No 2

NEGATIVE

PART No.	DESCRIPTION	PART No.	DESCRIPTION	PART No.	DESCRIPTION
14055	Washer, Spring	14064	Post, Carbon	14090	Locknut, Clutch Drive
14056	Gear, Feed, 30 teeth—Steel	14065	Holder, Carbon	14091	Nut, Clutch Drive
14057	Washer, Feed	14066	Clamp, Carbon	14092	Spring, Clutch Drive
14058	Spacer, Feed	14067	Screw, Clamping, for Carbon	14093	Clip for Cable
14059	Collar, Friction, Feed	14068	Bush, Insulating	14094	Key for Friction Plate
14060	Disc, Friction, Feed	14087	Pad, Friction (Ferodo)	14095	Clamp, Terminal, for Carbon Holder
14061	Bush, Insulating, Carbon Holder	14088	Plate, Friction	14096	Screw for adjustment of Carbon Holder
14062	Shaft, Feed	14089	Knob, Moulded, for Drive	14097	Pin, Fulcrum, for Carbon Holder
14063	Carriage, Fabricated			14098	Washer, Insulating

POSITIVE

14068	Clip for Cable	14078	Insulation, Carriage	14088	Plate, Friction
14069	Lead, Arc	14079	Bracket, Angle for Carriage	14089	Knob, Moulded, for Drive
14070	Arm, Carbon	14080	Carriage and Bushes	14090	Locknut, Clutch Drive
14071	Post, Carbon	14081	Disc, Friction	14091	Nut, Clutch Drive
14072	Holder, Carbon	14082	Gear, Feed, 30 teeth—Steel	14092	Spring, Clutch Drive
14073	Screw, Clamping, for Carbon	14083	Shaft, Feed	14093	Clip, for Cable
14074	Fulcrum, Carbon Clamp	14084	Collar, Friction	14094	Key, for Friction Plate
14075	Clamp, Carbon	14085	Washer	14095	Clamp, Terminal, for Carbon Holder
14076	Clamp Screw, Insulation	14086	Bush, Insulating	14096	Screw, for adjustment of Carbon Holder
14077	Washer, Special, Steel	14087	Pad, Friction (Ferodo)	14097	Pin, Fulcrum, for Carbon Holder
				14098	Washer, Insulating

POSITIVE CRUTCH

14099	Crutch, Positive Crutch Arm	14102	Insulation, Positive Crutch	14105	Screw, securing Positive Crutch Arm
14101	Arm, Positive Crutch	14103	Packing, Positive Crutch	14106	Washer, Special, Positive Crutch Arm
		14104	Bolt, Positive Crutch		

WASHERS, PINS AND SCREWS

0640A	Key for	14056, 14060, 14081, 14082	0644A	Screw fixing	14068, 14094, 14093	0649A	Stopscrew for	14080
0641A	Washer for	14064, 14071	0645A	Nut for	14095	0650A	Nut for	0649A
0642A	Nut fixing	14064	0646A	Nut for	14071	0651A	Washer for	14104
0643A	Screw	14097, 14089	0647A	Screw fixing	14074, 14104	0652A	Screw securing	14099
			0648A		14079			

Plate No. 3. COMPLETE MIRROR HOLDER WITH CONTROLS, INCLUDING NEGATIVE CRUTCH

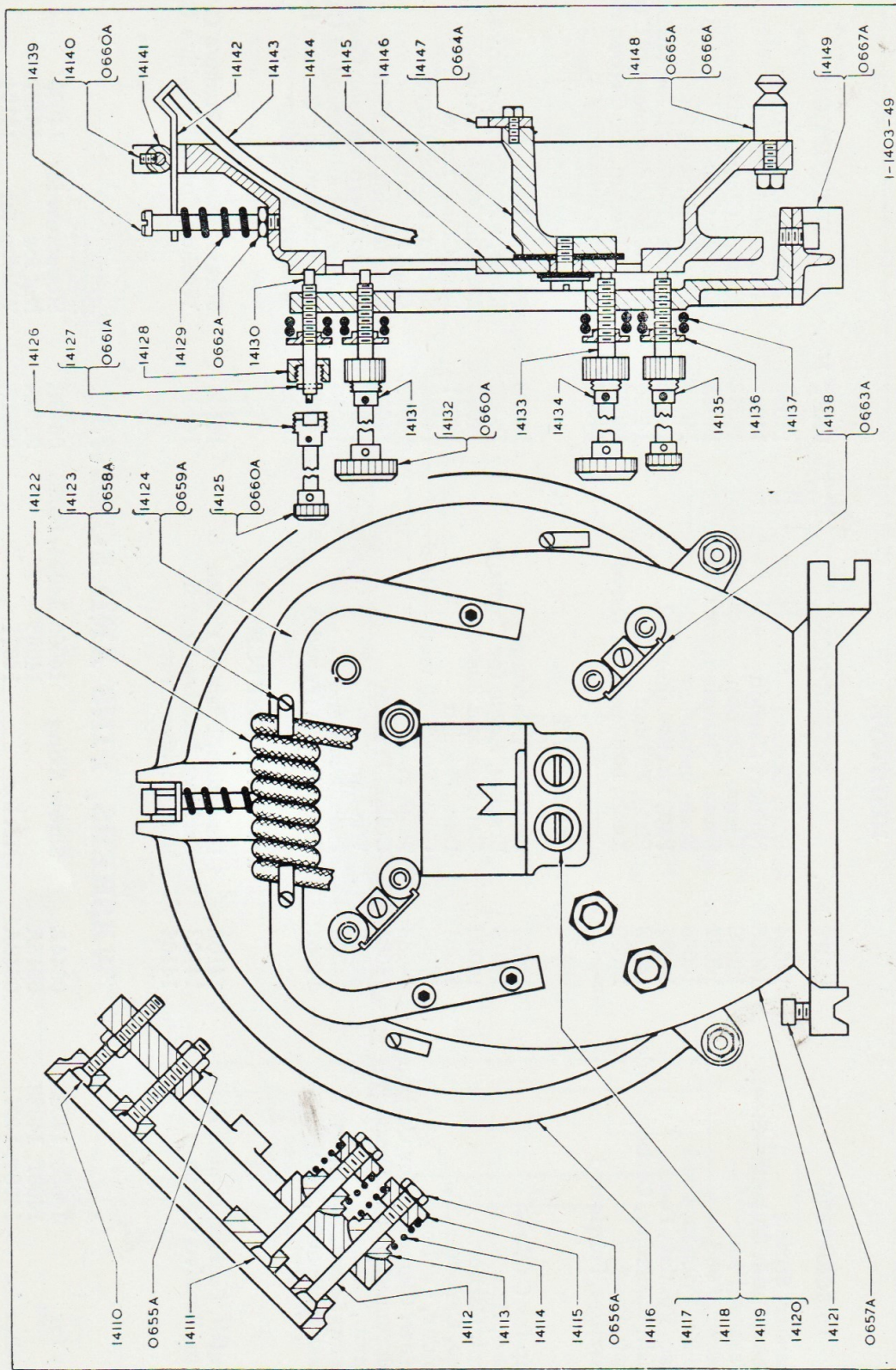


PLATE No 3

PART No.	DESCRIPTION	PART No.	DESCRIPTION
14110	Bolt, Adjusting	14130	Screw for Adjustment (Long,)
14111	Bolt, Negative Pivot	14131	Rod, Negative Crutch Control (Horizontal)
14112	Bolt, Mirror Pivot	14132	Knob, Negative Crutch Control
14113	Collar, Pivot	14133	Screw, for Adjustment (Short)
14114	Spring, Pivot	14134	Rod, Negative Crutch Control (Vertical)
14115	Nut, Retaining Spring	14135	Rod, Mirror Tilt Control (Vertical)
14116	Holder for Mirror	14136	Nut for Adjustment
14117	Screw, Clamp, Insulation, Negative Crutch Arm	14137	Spring for Tilt Control
14118	Bush, Insulating	14138	Key for Nut
14119	Washer, Insulating	14139	Pillar for Mirror Spring
14120	Washer, Special, Negative Crutch Arm	14140	Pin, Fulcrum
14121	Support for Mirror	14141	Spacer for Mirror Catch
14122	Lead, Complete, Negative	14142	Catch for Mirror
14123	Clip for Cable	14143	Mirror, 14" diameter
14124	Magnet	14144	Holder, Negative Crutch
14125	Knob, Mirror Control	14145	Insulator, Negative Crutch Arm
14126	Rod, Mirror Tilt Control (Horizontal,)	14146	Arm for Negative Crutch
14127	Pin, Universal Joint	14147	Crutch, Negative
14128	Nut for Universal Joint	14148	Post for Mirror
14129	Spring, Catch, Mirror	14149	Bridge for Mirror Support

WASHERS, PINS AND SCREWS

0655A	Nut securing	14110	Nut securing	14139
0656A	Locknut for	14114	Screw	14138
0657A	Screw securing	14149	"	14147
0658A	"	14123	"	14148
0659A	"	14124	Nut	14148
0660A	"	14140, 14125, 14132	Washer for	14148
0661A	"	14127	Screw securing	14121

Plate No. 4. LAMPHOUSE ACCESSORIES

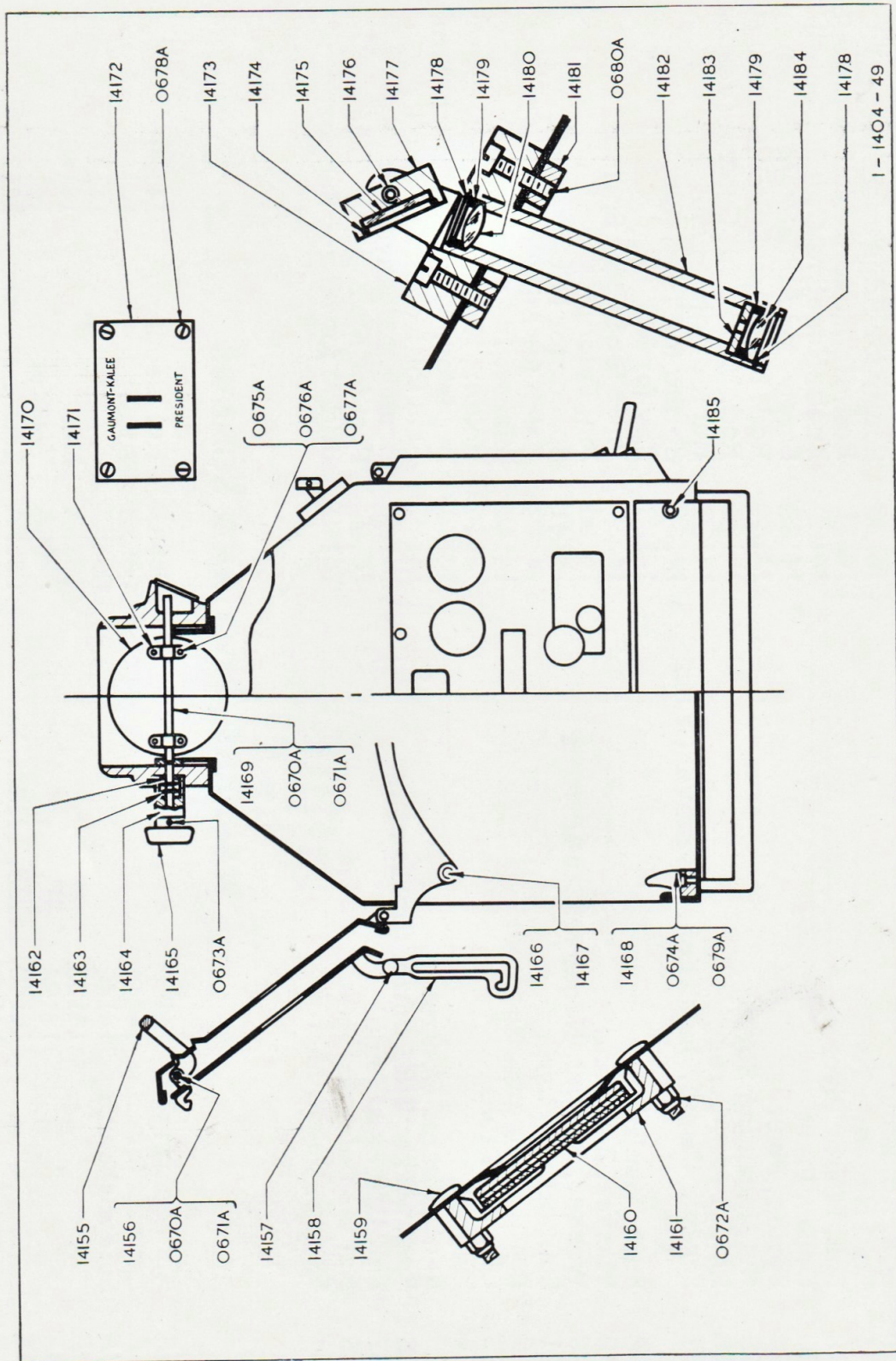


PLATE No 4

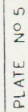
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PART No.	DESCRIPTION	PART No.	DESCRIPTION
14155	Handle for Door	14170	Disc, Butterfly
14156	Hinge Pin for Door Handle	14171	Clip for Chimney Damper
14157	Bolt for Hinge	14172	Screen for Arc Image
14158	Link, Support	14173	Mounting for Periscope
14159	Screw securing 14161	14174	Spring Ring for Mirror
14160	Pack, Window	14175	Mirror, Periscope
14161	Frame, Window	14176	Bolt securing Mirror, Holder
14162	Washer for Chimney Damper Spindle	14177	Holder, Mirror
14163	Spring for Chimney Damper Spindle	14178	Spring Ring for Barrel
14164	Housing, Spring, for Chimney Damper Spindle	14179	Washer for Periscope
14165	Knob for Chimney Damper Spindle	14180	Lens, Outer
14166	Stud for 14158	14181	Ring for Nut
14167	Screw securing 14158	14182	Barrel, Periscope
14168	Catch for Door	14183	Washer, Stop
14169	Spindle for 14170	14184	Lens, Inner
		14185	Thumb Screw, securing Loose Panel

WASHERS, PINS AND SCREWS

0670A	Washer for	14155, 14169	Nut securing	14170
0671A	Split Pin securing	14155, 14169	Washer "	14170
0672A	Nut	14161	Screw "	14172
0673A	Screw	14165	" "	14168 (Op. Side)
0674A	"	14168 (Non-Op. Side)	" "	14173
0675A	Bolt	14170	" "	

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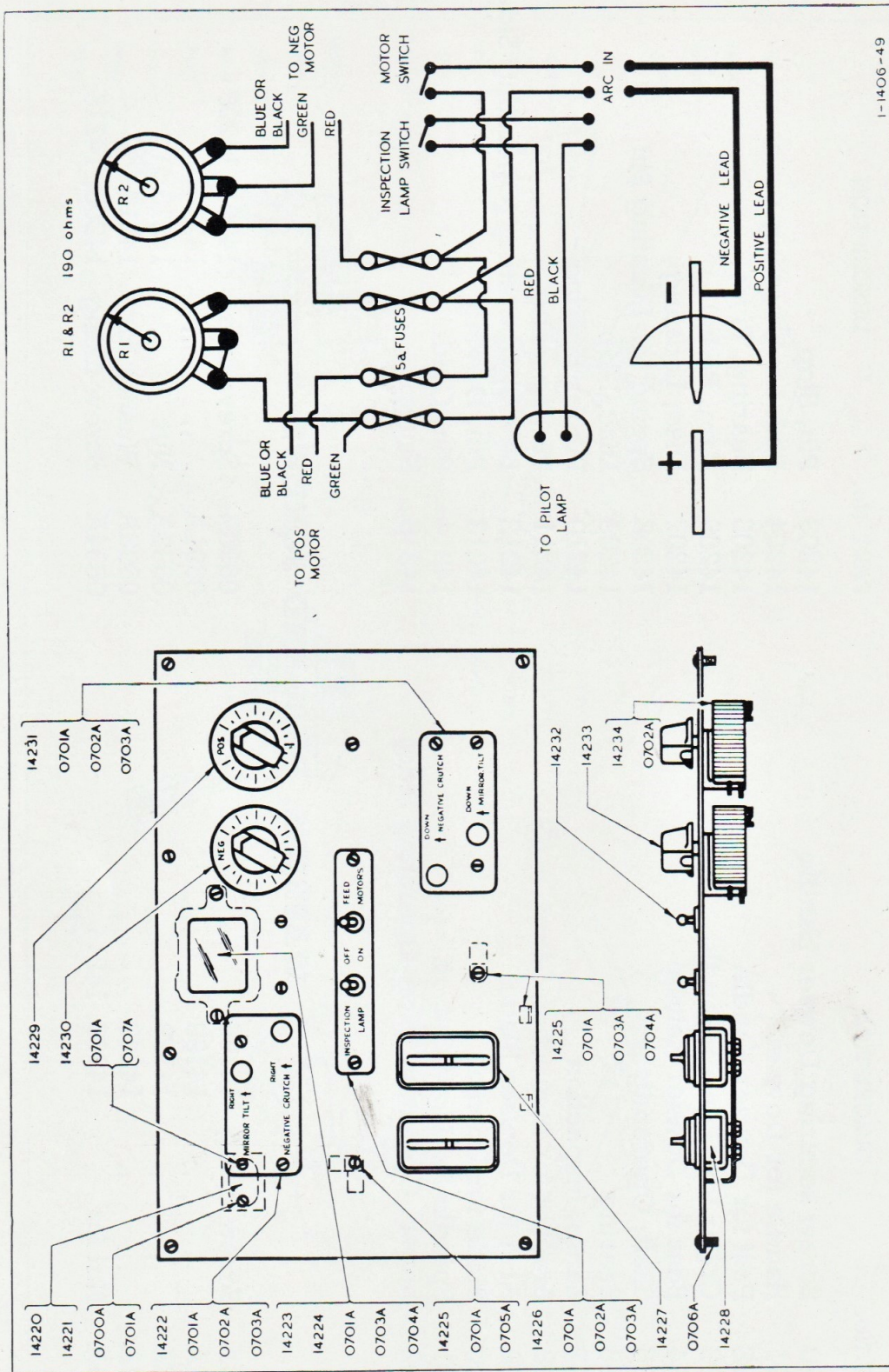


PART No.	DESCRIPTION	PART No.	DESCRIPTION
14190	Screw securing Dowser Handle	14203	Pin, Stop
14191	Handle for Dowser	14204	Link for Coupling
14192	Post for Dowser Handle	14205	Bearing, Pivot
14193	Collar for Dowser Handle	14206	Arm, Radial
14194	Boss for Dowser Handle	14207	Disc, Locating
14195	Shaft, Operating	14208	Spring for Locating Pin
14196	Bearing	14209	Disc, Stop
14197	Lamp, Inspection	14210	Pin for Bearing
14198	Bracket for Inspection Lamp	14211	Pin, Locating
14199	Arm for Dowser Blade	14212	Lever, Operating (Operating Side)
14200	Blade for Dowser	14213	Pin, Driving
14201	Spindle for Light Cut-off	14214	Pin, Guide
14202	Lever, Operating (Non-Operating Side)	14215	Saucer

WASHERS, PINS AND SCREWS

0685A	Screw fixing	14196	0690A	Screw fixing	14201, 14206
0686A	"	14198	0691A	"	14210
0687A	"	14199	0692A	Nut	14213
0688A	"	14200	0693A	Washer for	14213
0689A	Nut for	14203, 14214	0694A	Screw fixing	14205, 14215

Plate. No. 6. REAR CONTROL PANEL AND WIRING DIAGRAM



1-1406-49

PLATE NO 6

PART No.	DESCRIPTION
14220	Block, Terminal
14221	Insulation for Terminal Block
14222	Label, Top
14223	Frame for Window
14224	Glass, Window
14225	Clip, for Cable
14226	Panel for Switch
14227	Fuseholder

Part No.	DESCRIPTION
14228	Fuse, 5 amp.
14229	Dial, Positive Rheostat
14230	Dial, Negative Rheostat
14231	Panel, Bottom
14232	Switch, Toggle
14233	Knob for Potentiometer
14234	Potentiometer, 190 ohms

WASHERS, PINS AND SCREWS

0700A	Screw fixing	14220
0701A	Nut	14220-22-23-25-26-31
0702A	Screw	14222-26-31-34
0703A	Washer for	14222-23-25-26-31

0704A	Screw fixing	14223-25
0705A	"	14225
0706A	"	Rear Control Panel
0707A	"	14220



A GAUMONT-KALEE PRODUCT

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