

Service Manual for

SIX-20 'BROWNIE'

NON-METAL BOX-FORM

Kodak

**EQUIPMENT
SERVICES**

NOVEMBER 1954

Service Manual for

SIX-20 'BROWNIE'

NON-METAL BOX-FORM

MODELS COVERED BY THIS MANUAL ARE

Six-20 Popular 'Brownie'

Six-20 'Brownie' Junior

Six-20 'Brownie' Junior (Portrait)

MADE BY KODAK LIMITED IN GREAT BRITAIN

THE CONTENTS OF THIS FOLDER CAN BE REMOVED AND FILED IF DESIRED IN A 3-RING 'NATIONAL' BINDER OBTAINABLE FROM MOST STATIONERS

SECTION I - TOOLS

The following general tools and supplies, obtainable locally are recommended for the service operations described in this manual:-

- Light Hammer (about 4 oz.)
- 4½" Pliers, Snipe Nose
- 4½" Pliers, Flat Nose
- Tweezers, Watchmaker's "AA"
- 3/16" Screwdriver
- Flat-Headed Punch
- 'Selvyt' Cloth
- Camel-Hair Brush
- 'Kodak' Lens Cleaner
- 'Seccotine' or similar glue
- Dry Powdered Graphite
- Matt-Black Quick-Drying Cellulose Lacquer
- Small Vice

Special tools required for operations described in this manual:-

Nail Remover	...	...	...	...	...	T11
Winding-Key Jig	...	...	...	...	...	T12

These special tools are available from Kodak Limited, Equipment Service, Wealdstone, Harrow, Middlesex. Please quote code numbers when ordering: prices will be quoted on application.

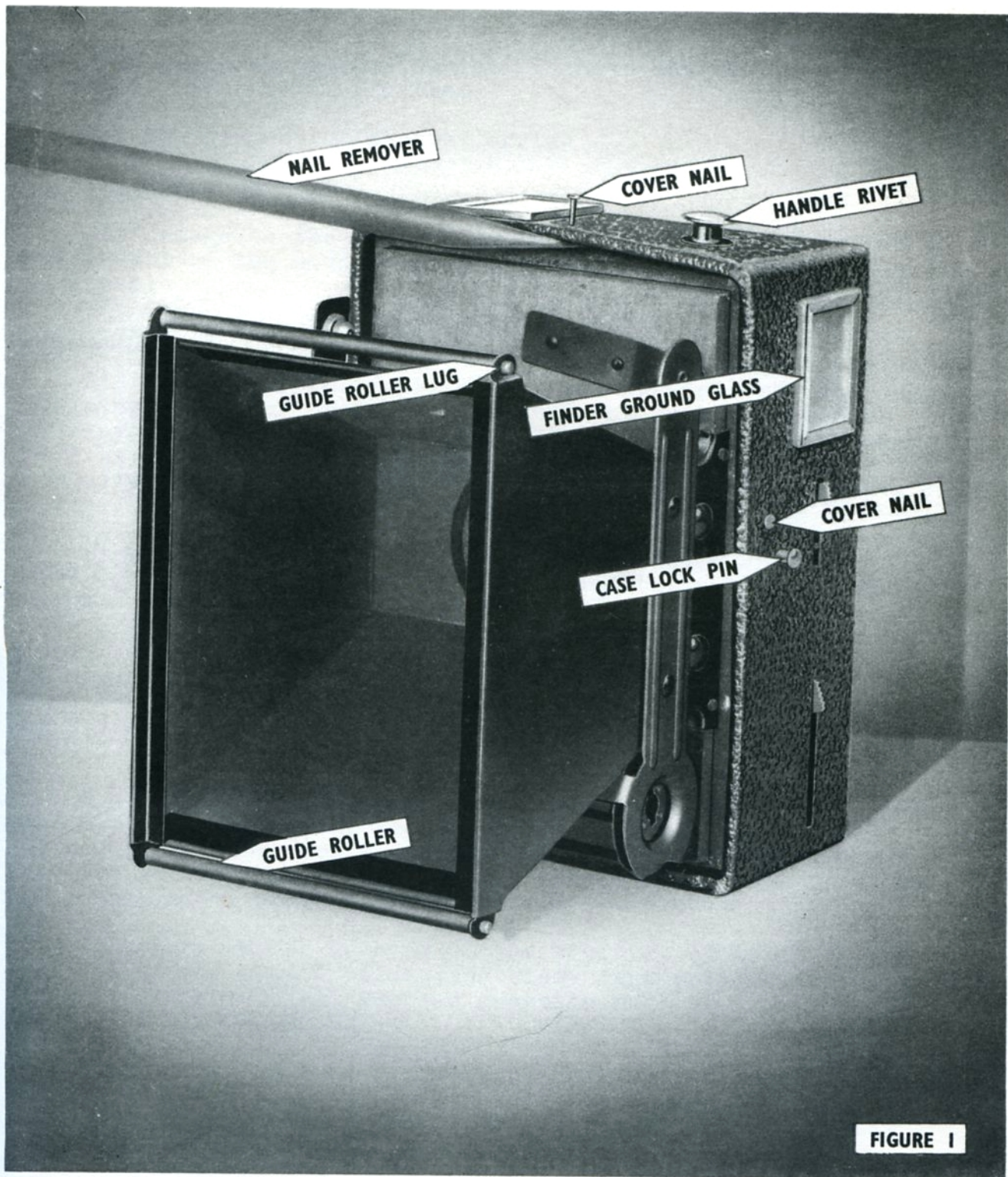


FIGURE 1

SECTION II - SHUTTER

The simple shutter mechanism of these cameras is unlikely to require other servicing than:-

- (a) Replacement of shutter spring
- (b) Cleaning

Any damage to the shutter mechanism should be rectified by replacement of the shutter assembly complete. Repair is not practicable.

Operation 1: Access to Shutter

See Figure 1. Pull-out, using flat nose pliers, the case-lock pins on either side of the case-front section. Insert nail remover between the strawboard cover and the wooden shutter board as shown, and prise up the case-cover nails situated one on each side of the case-front cover. Finally extract the nails with pliers. DO NOT REMOVE THE HANDLE RIVET.

Remove the case-front cover from the wooden shutter board by easing-off, first the side opposite to the shutter trigger, then by sliding the cover sideways over the time lever and the shutter trigger. To replace the case-front cover, reverse this procedure, insert the case-cover nails in their previous holes, and tap home with a light hammer.

Operation 2: Removal and Cleaning of Shutter, and Replacement of Shutter Spring

See Figure 2. Remove the shutter spring from its anchorages with a pair of watchmaker's tweezers. Insert nail remover between the shutter board and shutter plate. Taking care not to bend the shutter, prise up the two shutter nails. Extract the nails and remove shutter assembly from the shutter board.

To ensure smooth working of the shutter, clean the INNER surfaces of the shutter plate and blade, and polish with dry powdered graphite. All surplus graphite must be removed. DO NOT USE OIL OR GREASE.

Replace the shutter assembly on the shutter board, fitting the two nails in their previous holes. Tap home, using a light hammer and punch. Refit the shutter spring on to its anchorages.

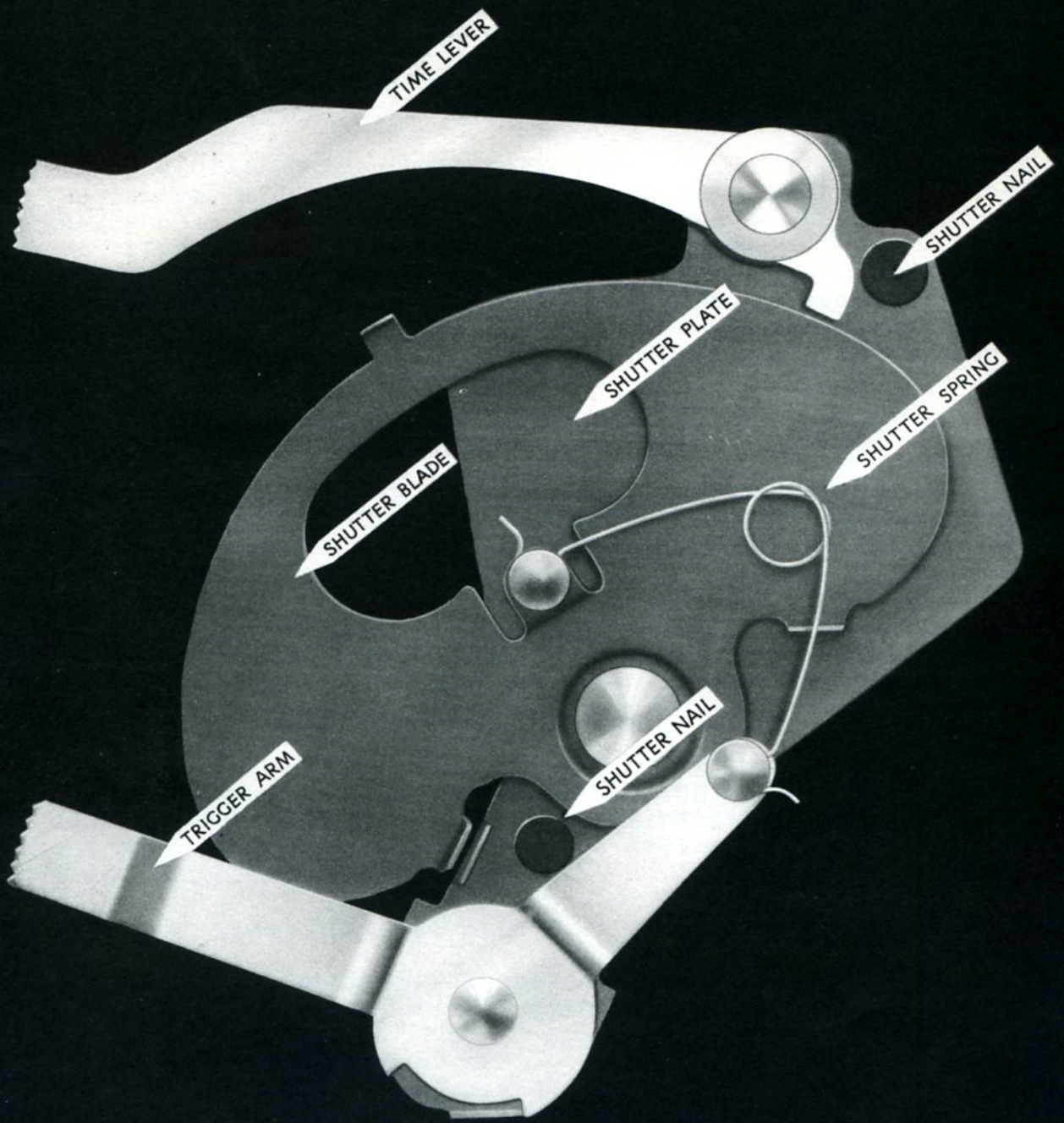


FIGURE 2

SECTION III - BODYWORK

Structural damage to the front or rear case sections will necessitate replacement of these assemblies complete. Repair is not practicable. Care should therefore be taken in the following operations not to damage the strawboard structure.

If the black paint chips away from any interior metal part of the camera, a coating of quick-drying matt-black cellulose lacquer should be applied with a brush or spray gun. This will prevent light reflection from the bright metal.

Care should be taken whilst applying the lacquer, to ensure that it does not splash on to parts of the camera not being treated. Only the minimum amount of lacquer required to cover the affected part should be applied.

Operation 3: Winding Key

Pull-out Winding Key to full extent. Open camera and withdraw inner body. With screwdriver, prise up the lugs behind winding key on inside of case. Straighten the lugs with pliers, and withdraw the winding key complete.

On cameras with disc-type winding keys, pull-open new key and place in position with lugs locating into the existing holes in the camera body. Slide key disc into slot of winding key jig, and place jig spigot into a vice. Bend over lugs with a screwdriver.

On cameras with other types of winding keys, place new key in position with lugs locating into the existing holes in the camera body, turn camera on its side, rest key on a bench and bend over lugs with screwdriver.

Operation 4: Case locks and Rivets

Straighten the prongs of the case-lock split-rivet with the aid of screwdriver and pliers. Withdraw case-lock and case-lock rivet.

Press home new case lock and open out split rivet.

Operation 5: Guide Rollers

See Figure 1. If either guide roller shows any sign of corrosion, replace it. Bend back the guide-roller bush at each end of the guide roller as little as required to release the roller. Refit a new roller and ensure that, after bending back each bush, it revolves easily but without excessive end-play.

Note:- Make sure that there is an empty spool placed ready for use in the camera before returning it to the customer.

SECTION IV - OPTICAL SYSTEMS

Damage to camera lens or finder lenses, or displacement of these lenses in their mountings, can only be remedied by the replacement of the case-front-section assembly complete. Repair is not practicable. In the unlikely event of one of these cameras not taking sharp pictures and there being no sign of displacement of lens or damage to case-front-section assembly, the whole camera should be sent to Kodak Limited, Equipment Service for optical test. It is not practicable to attempt any such test without special equipment, which cannot be made generally available. Service to the optical systems of this series of cameras should be limited to the following operations:-

Operation 6 : Cleaning Lenses

The outer surfaces of lenses and finder glasses should be carefully cleaned, care being taken not to scratch the surfaces. Dust and grit should first be removed by gently brushing with a fine camel-hair brush. If this is insufficient to clean the lens properly, gently wipe with a 'Selvyt' Cloth. Wipe lightly and with a circular movement. If surfaces are finger-marked or filmy, use a very little good quality lens cleaner on the cloth. 'Kodak' Lens Cleaner is a specially prepared liquid for this purpose. Do not use acids, alcohol, or a harsh linty cloth. Avoid excessive pressure and unnecessary cleaning.

Operation 7: Finder Mirror

Remove the case-front cover as in Operation 1. Insert a screwdriver behind the old finder mirror and lever-off. Scrape away old adhesive from the mirror support. Fit a new mirror, using as adhesive any good quality glue ('Seccotine' is recommended).

Operation 8: Finder Ground-glass

Bend up, using a screwdriver, the lugs inside the front-case section which hold in position the metal frame around the finder ground-glass. Ease out ground glass and finder frame together. Refit a new glass, matte-side down, and replace frame as required, bending down the lugs on the frame with a screwdriver to secure them in position.

SECTION V—SERVICE PART LIST

When ordering Service Parts, the part numbers must be quoted.

	<u>Popular 'Brownie'</u>	<u>'Brownie' Junior Junior Portrait</u>
Case-front-Section Assembly	Discontinued	Discontinued
Case-rear-Section Assembly	Discontinued	Discontinued
Name Plate... ..	93096	93314
Shutter Assembly	95890	93364

	<u>All Models</u>
Case-Cover Nails	94564
Case Lock	94939
Case-Lock Pins	30761
Case-Lock Rivets	99492
Finder Frame	95235
Finder Ground-Glass	96394
Finder Mirror Horizontal	95479
Finder Mirror Vertical...	95478
Guide Rollers	95480
Handle	91907
Red Disc (Celluloid)	1618
Shutter Nails	29002
Shutter Spring	99802
Test Spools	no code
Winding Key	99092

Prices, which are subject to Purchase Tax and normal discount, are listed in a separate Price List.

Address orders to Kodak Limited, Equipment Service, Wealdstone, Harrow, Middlesex.