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Signal

WIRELESS SETS No. 22
ANIMAL PACK

Fitting and Loading Instructions

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WIRELESS SETS No. 22 (COMPLETE STATIONS) AS ANIMAL PACKS

CHAPTER I. GENERAL DESCRIPTION

I. General Description

The complete station, including spare batteries and charging set, is carried by three animals as top and side loads.

The first animal carries sufficient minimum equipment to permit the station to be worked (Plates II, III, IV and V). The second carries spare batteries (Plate VI), and the third the charging sets, 300 watt Mk. I complete with its tools and spares, also spare petrol and oil (Plates VII, VIII and IX).

It is essential that Saddle P.A. Ammunition Mk. II be used for the first and third animals where part or all of the equipment is carried as a top load. The design of this saddle allows a carrier to be securely fastened for top loads and provides carrying hooks for side loads.

The Saddle P.A. Ammunition Mk. II or Saddle Pack P.G.S. Mk. II may be used on the second animal with carriers housing the spare batteries as side loads.

2. Disposition of Equipment and Weight

The equipment comprises the items provided on the Wireless Set No. 22 station together with special carriers for stowing and securing the apparatus to the saddlery, and special connectors and cover.

See Schedule of Equipment on page 9 (Appendix I).

Disposition and total weight of the equipment is as follows:—

FIRST ANIMAL	Weight	Total
Top Load (Plates I and II).		
The Wireless Set No. 22 Carriers No. 2 weighs	24 lb.	
and holds the following:		
The Wireless Set No. 22	38 lb.	
Aerial Base No. 10	1 lb.	
Antennae Rod F Cases Carrying (Stowed)	6 lb.	
	69 lb.	
No. 1 Side Load (Plate II).		
The Wireless Set No. 22 Carriers No. 3 weighs	11 lb.	
and holds the following:		
Power Supply Unit No. 4	21 lb.	
Two Satchels Signals No. 1 (packed)	12 lb.	
	44 lb.	

No. 2 Side Load (Plate III).	Weight	Total
The Wireless Set No. 22 Carriers No. 4 weighs and holds the following :	10 lb.	
One Battery Secondary Portable 12 V. 22 Ah Mk. I	35 lb.	
Cases spare Valve No. 4C (filled)	5 lb.	
	<hr/>	
Total weight of No. 2 Side Load		50 lb.
Top and Sides Loads, Covers Signal Equipment No. 2		7 lb.
		<hr/>
Total weight of Equipment on First Animal		170 lb.
Weight of Saddlery, Saddle P.A. Ammunition Mk. II (V.A.O.S. Section D1 Catalogue No. DA1638)		48 lb.
		<hr/>
Total weight on First Animal		218 lb.

SECOND ANIMAL

No. 1 Side Load (Plate VI).	Weight	Total
Carriers Battery Sec. Portable No. 9 weighs and holds :	10 lb.	
Two Batteries Secondary Portable 12 V. 22 Ah	70 lb.	
	<hr/>	
Total weight of No. 1 Side Load		80 lb.
No. 2 Side Load (Plate VI).		
Exactly as No. 1 Side Load weighing		80 lb.
		<hr/>
Total weight of Equipment on Second Animal		160 lb.
Weight of Saddle P.A. Ammunition Mk. II		48 lb.
		<hr/>
Total weight on Second Animal		208 lb.

NOTE.—If the Saddle Pack P.G.S. Mk. II is used on this animal, the weight is reduced to 184 lb.

THIRD ANIMAL

Top Load (Plates VII and VIII).	Weight	Total
Charging Sets 300 watt Mk. II Carrier No. 1 weighs and holds the following :	13 lb.	
Charging Sets 300 watt Mk. I with cover, protective frame and base	80 lb.	
Charging Sets 300 watt Mk. I Tool and Spares Box (filled)	13 lb.	
Charging Sets 300 watt Mk. I Exhaust Hose	4½ lb.	
Connector Twin No. 90	3 lb.	
One two-gallon Tin of Petrol or Two one-gallon Petrol Tins and one 1 quart Tin of Oil	25 lb.	
		<hr/>
Total weight on Animal, including Saddlery P.A. Ammunition Mk. II		138½ lb.
		<hr/>
Total weight on Animal, including Saddlery P.A. Ammunition Mk. II		188½ lb.

3. Stowage Arrangements

The Antennae Rod F Cases Carrying No. 1 contains the Antennae Rod F, Section 1, 2 and 3.

The spare valves are carried in the Cases Spare Valve No. 4C.

The two Satchels Signals No. 1 are packed as follows :—

First Satchel Signals No. 1.

Microphone and Receiver Headgear Assembly No. 1	1
Jumper Leads No. 1	2
Key and Plug Assembly No. 2B	1
Connector Twin No. 78	1
Lamp Operator No. 6a	1
Connector Single No. 33	1
Lead Counterpoise No. 2 Mk. II	1

Second Satchels Signals No. 1.

Microphone and Receiver Headgear Assembly	1
Aerial Base No. 11	1
Aerial Base No. 11 Spike	1
Hammer Engineer Ball-pane 8 oz.	1
Connector Single No. 10A	1

4. FIRST ANIMAL

(1) **Wireless Sets No. 22 Carrier No. 2.**

(Top Load Carrier—Plates I and II.)

NOTE.—Sub-paras. (a) to (d) below deal with assembling the equipment on the Carrier No. 2 before the latter is loaded on the saddlery.

- (a) The 22 Set and associated Power Supply Unit No. 4 are received complete with a Wireless Set No. 22 Carrier No. 1 and secured by Straps No. 1.

Release the Carrier No. 1 together with Straps No. 1 as neither are required for use. They should be held in unit store to be available if the set is required for use in a vehicle.

Before the set is fitted to the Wireless Sets No. 22 Carrier No. 2, fold and fasten the “man-carrying” harness.

Carefully arrange the set under the aerial base mounting bracket with the front of set at the near side and the aerial bracket forward (Plate II).

Adjust the set until the two wooden battens on the top face of the set carrier (Plate II) fall into the corresponding recesses in the set case. This is essential, as it prevents movement of the set in the carrier.

Secure the set to the carrier by the two webbing straps, one at each end of the carrier.

The strap at the forward or aerial bracket end is fitted with a small metal hooked claw at one end and adjusted by a buckle at the other. Release the strap and engage the claw round the metal loop of the man-pack harness. Finally, secure the trap to the carrier as tightly as possible.

At the rear end the set is secured by a similar strap with a larger metal claw which engages round the junction of the metal “man-carrying” hoop. Secure the set case by adjusting this webbing strap and buckle.

- (b) Before securing the Aerial Base No. 10 to the bracket in the carrier, fit the aerial lead of the Connector Single No. 10D to the underside of the aerial base. A securing screw will be found in position at this point of the aerial base. Secure the aerial base with the set screws and nuts on the bracket.
- (c) Connect the lug on the end of the Connectors Single No. 10D to the aerial terminal of set. Use the second Connector Single No. 10D to earth the set to the Carrier No. 2 by means of the earth terminal on the set and 2BA terminal on the Carrier No. 2 (see Plate II).

- (d) Secure the Key and Plug Assembly No. 2B to the bracket on the base of carrier. The securing screws will be found screwed in the bracket.

The assembly is now complete.

Before loading on to the saddlery, see that the four keeper pins are clear of the base of the carrier and the four locking bolts are released. To keep the keeper pins clear during loading they should be passed over the top of the carrying handles and left hanging until the assembly is loaded and fitted to the saddlery. Lifting handles are provided on each side of the carrier.

- (e) Load the Carrier No. 2 and its assembly of equipment on to the top of the saddlery. See that the carrier fits into the correct position on the saddlery; then push the locking bolts forward, turn, and engage the keeper pins.

(2) **Wireless Sets No. 22 Carriers No. 3.**

(No. 1 Side Load—Plate II.)

Place the Power Supply Unit No. 4 in the forward end of the carrier and secure with the webbing strap and buckle. Connect the earth lead from the Power Supply Unit to the spring loaded terminal on the Carrier No. 3 (Plate II).

The rear compartment of this carrier houses two Satchels Signals No. 1.

(3) **Wireless Sets No. 22 Carriers No. 4.**

(No. 2 Side Load—Plate III.)

Place the Battery Secondary Portable 12 V. 22 Ah in the forward end of the carrier and secure with webbing strap and buckle. Connect this battery using Connector Twin No. 78 to the Power Supply Unit No. 4. The rear compartment of this carrier accommodates the Case Spare Valve No. 4C.

NOTE.—Where the equipment is required to be protected from the weather, a Cover, Signal Equipment No. 2, should be used as in Plate V. The 22 Set can be operated with the cover on as in Plate IV.

5. SECOND ANIMAL

(1) **Carrier Battery Secondary Portable No. 9.**

(No. 1 Side Load—Plate VI.)

Place the handles of carrier over the carrying hooks on saddlery. Insert two Batteries Secondary Portable 12 V. 22 Ah into carrier end on end. Fasten securely with webbing strap and buckle.

(2) **Carrier Battery Secondary Portable No. 9.**

(No. 2 Side Load—Plate VI.)

As No. 1 Side Load.

6. THIRD ANIMAL

Charging Sets 300 Watt Mk. I. Carriers No. 1.

(Top Load Carrier—Plates VII, VIII and IX.)

- (a) The carrier is fitted with four lifting handles, two at each side, which enables the complete unit to be lifted on and off the animal by two men.

The outfit is secured to the pack saddlery by four securing bolts fitted underneath the carrier which engage with two horizontal rods on the saddlery. The bolts are locked in position by pins which are attached to the carrier by chains to prevent their being lost when withdrawn from the bolts.

Two swivel loops, fitted to the underside of the carrier, allow the surcingle to pass through and secure the pack to the animal.

The canvas cover, when in position on the charging set, can be secured by a rope which is pulled tight and knotted round the base.

The charging set is bolted to the carrier by three bolts and nuts, two on one side and one on the other, while the flexible exhaust hose is curled round the other equipment and secured by strapping to the carrier handles.

A strap is provided to hold the tool and spare parts box, the petrol and oil tins. This strap has a loop for holding the oil tin which occupies a position at top of the petrol tin or tins. A second strap across the carrier also holds the tins. One two-gallon tin or two one-gallon tins of petrol may be carried. The caps of the oil and petrol tins must be well screwed home and the tins should be packed with the outlet holes uppermost (Plate VIII).

When loaded, the charging set should be at the rear of the animal in order to ensure correct distribution of weight.

- (b) The Connector Twin No. 90 is provided with two lugs (red—positive, black—negative) for connection to the 12 V. D.C. output terminals on the charging set. At the other end the connector has a Niphan plug for connection to the Niphan socket on a 12 V. Battery. Care should be taken when connecting to the charging set to see that the correct polarity is observed.

When setting up for charging, the Connector Twin No. 90 should be connected to the charging set first and the battery afterwards.

When closing down, disconnect the battery first.

The connector is coiled and tucked under one of the carrier straps when the equipment is packed for transport (Plate IX).

Plate VII shows the components of the equipment, while Plates VIII and IX show details of stowage.

APPENDIX I

SCHEDULE OF EQUIPMENT FOR WIRELESS SETS
NO. 22 (COMPLETE STATIONS) AS ANIMAL PACKS

Wireless Sets No. 22 Carriers No. 2

containing the following :

Wireless Set No. 22

Aerial Base No. 10

Antennae Rod F Case Carrying No. 1 (Stowed)

Wireless Sets No. 22 Carrier No. 3

holds the following :

Power Supply Unit No. 4

Two Satchels Signals No. 1 (packed—for details of packing see page 5)

Wireless Sets No. 22 Carrier No. 4

contains the following :

One Battery Secondary Portable 12 V. 22 Ah Mk. I

Case Spare Valve No. 4C (filled)

Cover Signal Equipment No. 2

Two Carriers Battery Secondary Portable No. 9

each containing :

Two Batteries Secondary Portable 12 V. 22 Ah

Charging Sets 300 Watt Mk. I Carrier No. 1

contains the following :

Charging Set 300 Watt Mk. I with cover, protective frame and base.

Charging Sets 300 Watt Mk. I Tool and Spares Box (filled)

Charging Sets 300 Watt Mk. I Exhaust Pipe

Connectors Twin No. 90

One two-gallon Tin of Petrol or Two one-gallon Petrol Tins and 1 quart Tin of Oil.

PLATE I.

WIRELESS SET No. 22 AS ANIMAL PACK STATION.

FIRST ANIMAL—CARRIER AND COVER FOR 22 SET STATION.

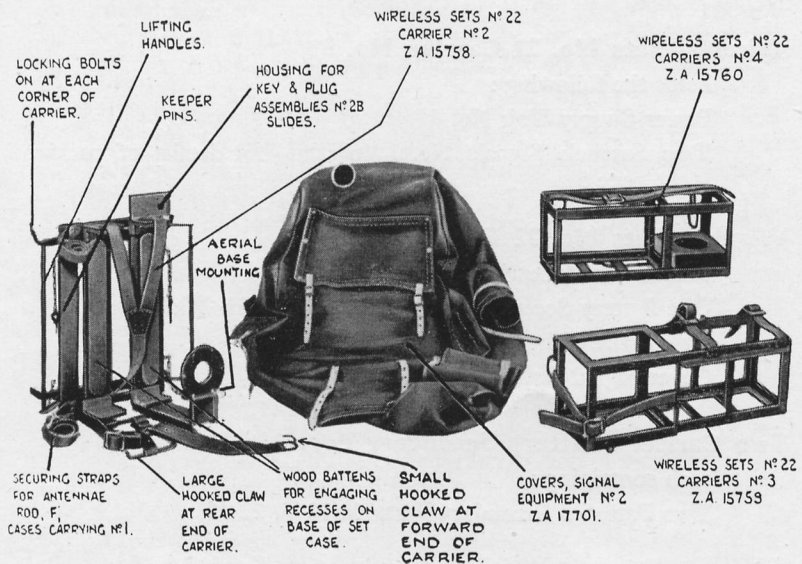


PLATE II.

WIRELESS SET No. 22 AS ANIMAL PACK STATION.

FIRST ANIMAL—NEAR SIDE VIEW OF EQUIPMENT STOWED.

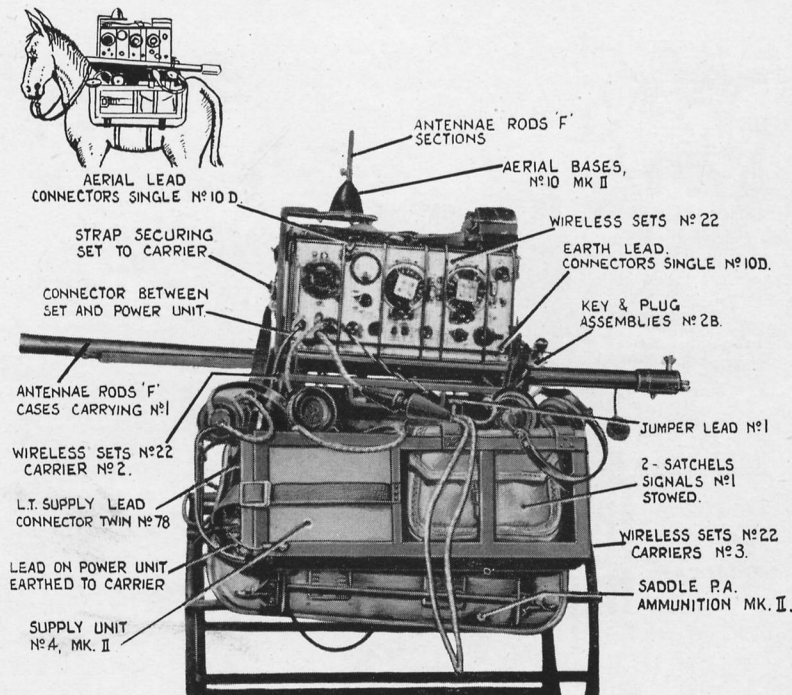


PLATE III.

WIRELESS SET No. 22 AS ANIMAL PACK STATION.

FIRST ANIMAL—OFFSIDE VIEW OF EQUIPMENT STOWED.

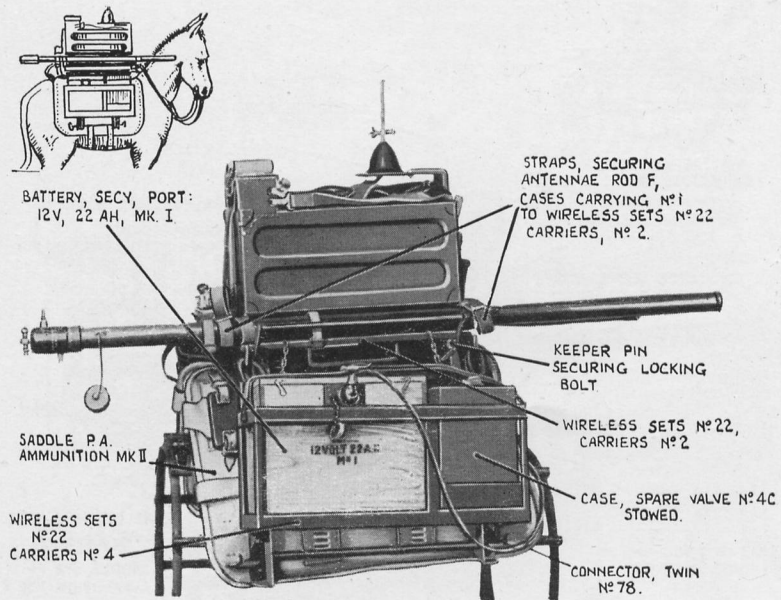


PLATE IV.

WIRELESS SET No. 22 AS ANIMAL PACK STATION.

FIRST ANIMAL—COVER SIGNAL EQUIPMENT No. 2 OPENED FOR SET OPERATION ON THE ANIMAL.

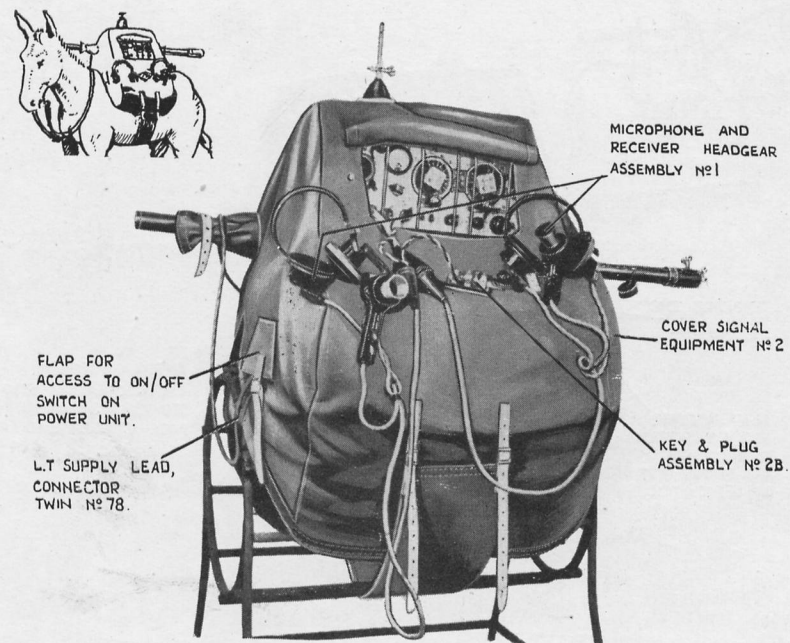


PLATE V.

WIRELESS SET No. 22 AS ANIMAL PACK STATION.

FIRST ANIMAL—COVER SIGNAL EQUIPMENT No. 2 IN POSITION OVER THE EQUIPMENT.



PLATE VI.

WIRELESS SET No. 22 AS ANIMAL PACK STATION.

SECOND ANIMAL—EQUIPMENT (SPARE BATTERIES) IN POSITION ON THE ANIMAL.

The Four Batteries Housed and Secured to Saddlery for Transport purposes only.

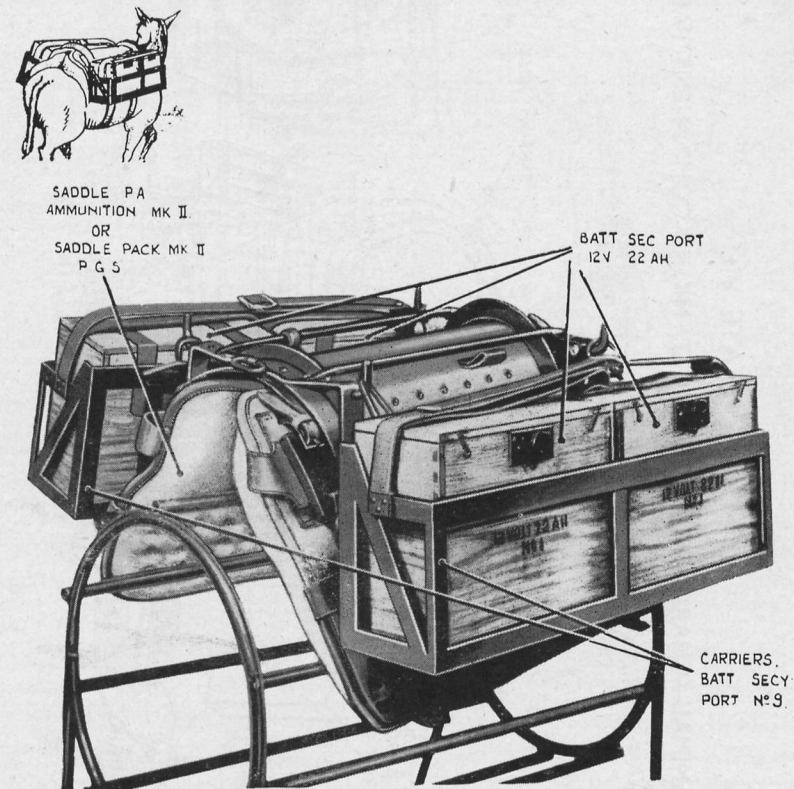


PLATE VII.

THIRD ANIMAL—CHARGING SET 300 WATT, MK. I—COMPONENT PARTS OF EQUIPMENT.

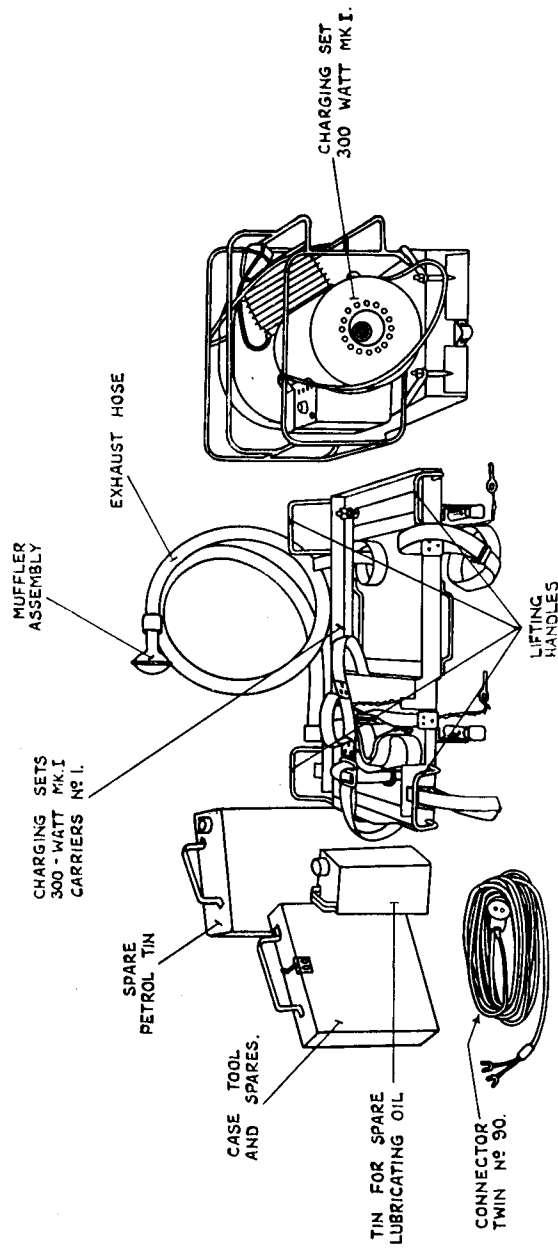


PLATE VIII.

THIRD ANIMAL—CHARGING SET 300 WATT, MK. I—EQUIPMENT STOWED ON CARRIER.

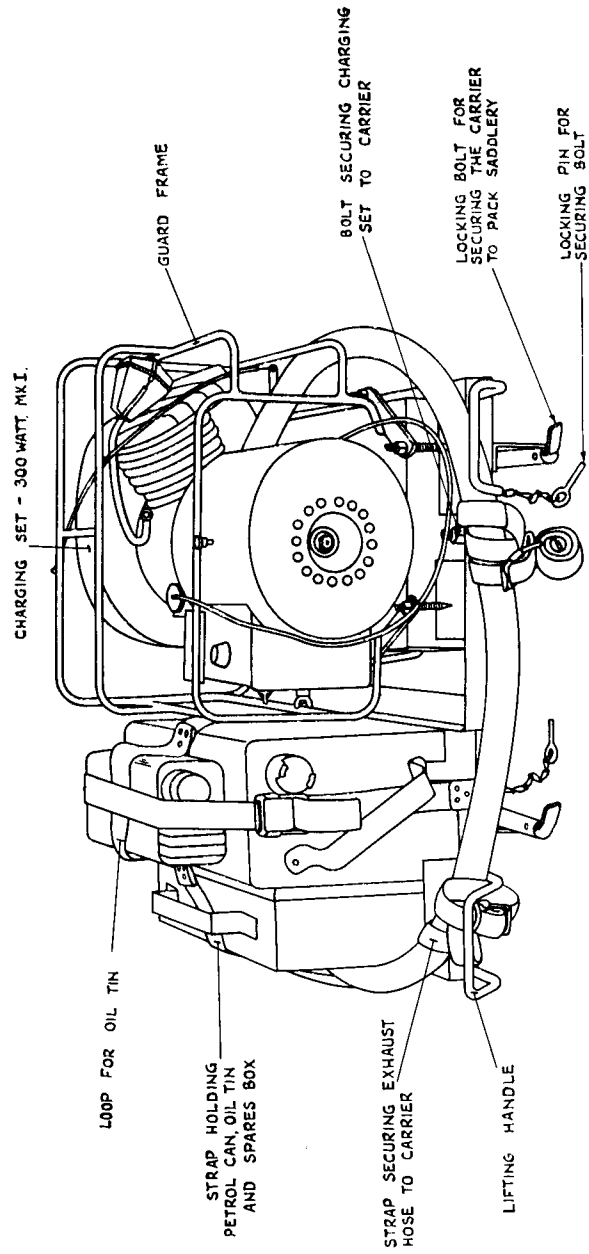
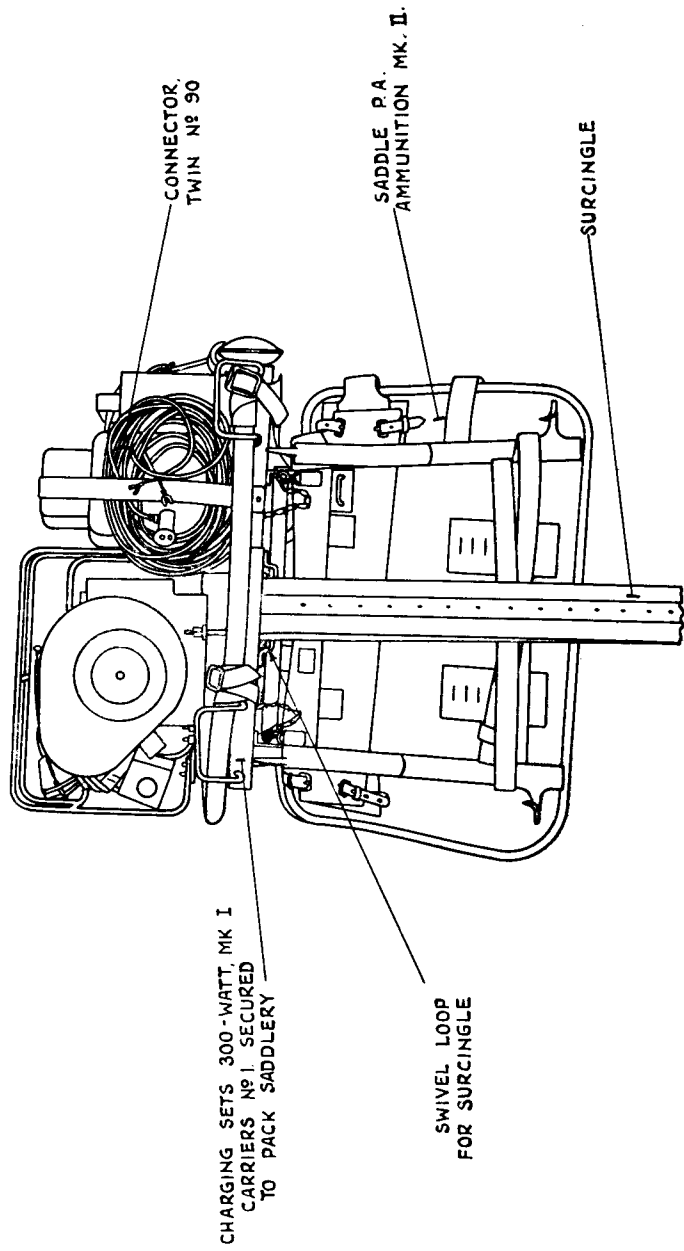


PLATE IX.

THIRD ANIMAL—CHARGING SET 300 WATT, MK. I—EQUIPMENT MOUNTED ON SADDLE
P.A. AMMUNITION, MK. II.



NOTES