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WORKSHOP MANUAL

FOR

LOYD CARRIERS

CHILWELL CAT. No. 63/73

THIS PUBLICATION HAS BEEN PRODUCED TO THE INSTRUCTIONS OF

THE CHIEF INSPECTOR OF FIGHTING VEHICLES

TO WHOM ALL COMMUNICATIONS SHOULD BE ADDRESSED

FIRST EDITION

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WORKSHOP MANUAL

FOR

LOYD CARRIERS

T.P.C. No. 1, Mark I
T.P.C. No. 1, Mark II
T.P.C. No. 2, Mark I
T.P.C. No. 2, Mark II
T.S. and C. No. 1, Mark I
T.S. and C. No. 2, Mark I
T. Towing No. 1
T. Towing No. 2
Tracked Towing No. 1, Mark II
Tracked Towing No. 2, Mark II

This Publication has been produced to the instructions of the Chief Inspector of Fighting Vehicles, to whom all communications should be addressed

I.F.V.

FIRST EDITION
APRIL, 1944

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CONTENTS—*continued*

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Sections X and Y

LIST OF FIGURES—*continued*

FOREWORD

This Manual covers the following vehicles:—

Carrier, T.P.C. No. 1 Mk. I.

Carrier, T.P.C. No. 1 Mk. II.

Carrier, T.P.C. No. 2 Mk. I.

Carrier, T.P.C. No. 2 Mk. II.

Carrier, T.S. & C. No. 1 Mk. I.

Carrier, T.S. & C. No. 2 Mk. I.

Carrier, T. Towing, No. 1.

Carrier, T. Towing, No. 2.

Carrier, Tracked Towing, No. 1 Mk. II.

Carrier, Tracked Towing, No. 2 Mk. II.

The differences in the various numbers and marks are as follows:—

Carrier, T.P.C. No. 1 Mk. I, has Bendix Brakes and a British built engine. Engine type V.8 (85 h.p.).

Carrier, T.P.C. No. 1 Mk. II, has Girling Brakes and a British built engine. Engine type V.8 (85 h.p.).

Carrier, T.P.C. No. 2 Mk. I, has Bendix Brakes and an American built engine. Engine type V.8 (90 h.p.).

Carrier, T.P.C. No. 2 Mk. II, has Girling Brakes and an American engine. Engine type V.8 (90 h.p.).

Carrier, T.S. & C. No. 1 Mk. I, has Girling Brakes and a British built engine. This vehicle acts as a Slave Unit to start vehicles unable to start under their own power and also as a Mobile Battery Charging Unit. Engine type V.8. (85 h.p.).

Carrier, T.S. & C. No. 2 Mk. I, has the American built engine and is for identical use as Carrier T.S. & C. No. 1 Mk. I. Engine type V.8 (90 h.p.).

Carrier, T. Towing No. 1, has Girling Brakes and a British built engine, and is used for towing a 2-pdr. gun. Engine type V.8 (85 h.p.).

Carrier, T. Towing No. 2, has the American built engine and used for the identical purpose as Carrier, T. Towing, No. 1. Engine type V.8. (90 h.p.).

Carrier, Tracked, Towing, No. 1 Mk. II, has a British built engine and is used for towing a 6-pdr. gun and 4.2" mortar. Engine type V.8 (85 h.p.).

Carrier, Tracked, Towing, No. 2 Mk. II, is identical with Carrier, Tracked, Towing No. 1 Mk. II except that it has the American built engine. Engine type V.8 (90 h.p.).

It will be seen that the Vehicle has been adapted for various roles, but dismantling and assembly is similar for each vehicle mentioned.

These vehicles are tracked carriers in their simplest form designed for ease of maintenance.

The Carriers are of open type construction and provision is made for the fitting of armoured plates to suit the various roles of the vehicle.

The Power Unit is a "V.8" Petrol engine fitted at the rear of the vehicle and the drive is taken forward to a front final driving axle. This front axle is fitted with driving sprockets to engage the tracks.

Suspension is of the slow motion type, the bogie wheels rotating in forked arm assemblies.

Steering is effected by two steering levers, fitted in front of the driver's seat, operating on the brakes.

No foot brake is fitted, but a hand parking brake is readily accessible to the driver.

This Workshop Manual describes in detail the dismantling and assembly procedure of all units fitted to the Carrier.

For clarity it has been divided into two groups.

The first explains how to remove and replace complete units from the vehicle, and also how to dismantle such units. In this group no attempt is made to deal with the actual dismantling of sub-assemblies beyond giving the necessary information for the removal of these assemblies from the larger unit.

In the second group the dismantling and assembly of sub-assemblies is described in full.

Before commencing any of the operations mentioned, prepare the workshop: see that it is scrupulously clean and reasonably dust-proof. Benches must be cleaned down, and all the special tools necessary to complete the job must be available.

It is advisable to procure a container (a wooden box is most suitable) so that all parts of a dismantled unit can be kept together. This will ensure that items such as nuts and bolts or small fittings will not be mislaid: furthermore, the parts will be less liable to accidental damage. The box can be labelled for recognition.

Finally, **remember, cleanliness is the keynote of the expert mechanic.**

Maintenance and repair operations must be carried out in accordance with the provisions set out in R.E.M.E. Echelon Repair Schedules for Fighting Vehicles.

It is pointed out, however, that these Schedules are written as a guide to maintenance and repairs under active service conditions, and success depends on intelligent interpretation of the permissible limits which the schedules allow.

The two ruling factors of time and the tactical situation must be constantly kept in mind and the permissible limits of the work curtailed or extended in keeping with each situation as it presents itself.

No modifications are described in this Manual and only the latest information is included unless two or more types of any part are to remain in the Service, in which case particulars of each are included.

Information regarding lubricants and periods of maintenance will be found in the Crew Maintenance Inserts of the appropriate Army Book 413 and the information included therein will be taken as the ruling guide, should it differ from that included on the lubrication chart secured to the back cover of this Manual.

CHAPTER I

DETAILS

Part I

Weight of Vehicle	3½ 4 tons.
Overall Dimensions	Length 13′ 7″. Width 6′ 9½″. Height, minus hood, 4′ 8¼″. Height, with hood in position, 7′ 0″. Height, with hood front hoop raised, 7′ 6″.
Track	Centre 5′ 5¾″. Length on ground 6′ 3″. Width 9½″. No. of links 187. Weight 5-cwt., 2-qrs., 23 lbs.
Ground Clearance	10″.
Vertical Obstacle Crossed ...	2′ 1¼″.
Gap Crossed	4′ 6″.
Centre to Ground Line	1′ 8¼″.
Fording Depth ...	2′ 4″.
Engine Specification	Type V.8 petrol. Number of cylinders—8. Bore of cylinders—3.0625″ (77.79 m/m). Stroke—3.75′ (95.25 m m). Cubic capacity—221 cub. ins. (3621.5 c.c.). B.H.P.—85 at 2840 r.p.m.
Oil Capacity	Engine 8 pints. Gearbox 4 pints.
Fuel Tank Capacity ...	(2 tanks) each holding 10 gallons. Total 20 gallons.
Fuel Consumption (m.p.g.) road	6.
MAXIMUM Speed (road) ...	30 m.p.h. (governed at 3050 r.p.m.).
Clutch ...	Single plate, dry disc.
Gear Box	4-speed and reverse (crash type).
Steering	by brakes on the four sprockets carrying the tracks.
Suspension ...	by two pairs of sprung bogies each side.