AP 105D-1314-1

RELEASE UNIT
FAIREY HYDRAULICS LTD.
PART No. CH23645

GENERAL AND TECHNICAL INFORMATION

BY COMMAND OF THE DEFENCE COUNCIL

Frank Cooper.

Ministry of Defence

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AP 100B–01, Order 0504 (RAF)

AMENDMENT RECORD SHEET

Record the incorporation of an amendment list by inserting the date of making the amendments and by signing in the appropriate column.

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CAUTIONARY NOTICE

Acid damage

The cleaning fluid for many hydraulic components is trichloroethane or some other form of chlorinated solvent. If traces of solvent are left in components they can combine with minute amounts of water, present in operational hydraulic systems, to form hydrochloric acid. It is essential that when hydraulic components are cleaned with a chlorinated solvent all traces of the solvent must be removed from internal surfaces and passages, before assembly, using the air blast method or other effective means.

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RELEASE UNIT PART NO. CH 23645

Leading Particulars

Locked release unit CH 23645	Ref. No. 27KF/32
Overall dimensions (approx)–	
Length	5.0 in
Width	2.4 in
Height	3.0 in
Weight (approx)	1.4 lb

INTRODUCTION

1. A release unit normally provides automatic release of the jack ram of a control unit when the fluid pressure supply fails or is turned off i.e., on reversion to manual. The locked release unit, fitted to control units embodying an alternative means of reversion but still retaining the earlier notched ram, has no other function than that of providing a permanent anchorage for the ram.

DESCRIPTION

2. The chamber forming the upper part of the release unit body houses a spring loaded piston. The inner bore of an adapter, which is screwed into one end of the chamber, forms the cylinder, housing the head of the piston. A bearing fitted into the other end of the chamber and located by a circlip, supports the end of the piston and retains the piston spring.

3. A hinge pin, each end of which is supported by a bush pressed into the body wall from within the body, provides the pivot for a pawl. The pin is located at each end by a washer, the washer being retained by a circlip fitted into an internal groove in the bush. The spherical head of the pawl engages in a hole in the piston and the hooked lower part is shaped to fit the notch of a jack ram; the jack ram locating in the bores of the lower part of the body when the unit is mounted in relation to a jack.

4. Two trunnions, one on each side of the body, form the unit attachment points. A locking bolt, screwed into the body end adapter and bearing on a plug fitted into the piston head, depresses the piston and, when the unit is mounted on a jack, retains the pawl in engagement with the ram notch.

SERVICING

SPECIAL TOOLS

5. The following special tools are required when servicing the unit:–

Description	Part No.	Ref. No.
Spring compressing tool	FHQ 153	27KF/684
Vice blocks	FHQ 225	27KF/689
Reference ram	FHQ 228	27KF/690

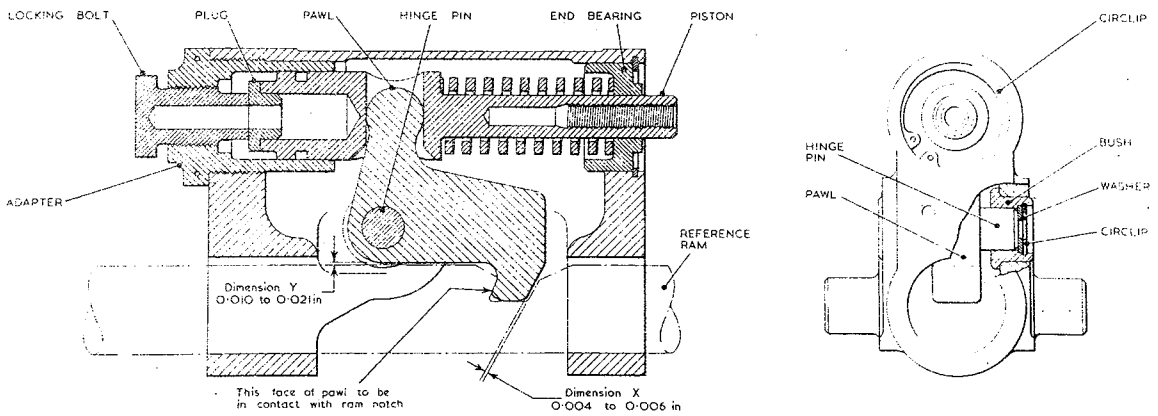

Fig. 1. Locked release unit CH23645

DISMANTLING

6. Support the unit between vice blocks FHQ 225 as necessary and dismantle as follows:-

(1) Unscrew and remove the unit locking bolt.

(2) Using the spring compressing tool FHQ 153, press the end bearing into the body and remove the circlip. Slacken the tool and remove the bearing, piston and spring.

(3) Unscrew and remove the body end adapter.

(4) Remove the circlips and washers, press the hinge pin out of the body and withdraw the pawl.

Note ...

It should not be necessary to remove the plug from the piston head or the hinge pin bushes from the body, unless the parts are defective.

EXAMINING

7. Wash all parts in an approved cleaning fluid and examine them in accordance with the instructions given in A.P. 105D–1314–6.

Note ...

The pawl profile cannot be checked dimensionally. If the pawl is generally serviceable it should be accepted for assembly; the accuracy of the profile will be revealed during testing (para. 9).

ASSEMBLING

8. During assembly, pack the pawl hinge pin housing and liberally coat all internal parts with grease XG–275. Support the unit body between vice blocks FHQ 225 as necessary and, assemble as follows:–

(1) Screw in and tighten the body adapter.

(2) Insert the piston complete with piston head plug, temporarily position the end bearing and ensure that the piston will stroke and rotate freely; remove the piston and end bearing.

(3) Position the pawl and insert the hinge pin; fit the two washers and retaining circlips.

(4) Insert the piston complete with plug, locating the pawl hole, bevel downwards; with the head of the pawl.

(5) Insert the piston spring and, using tool FHQ 153, fit the end bearing and circlip.

(6) Screw the locking bolt into the adapter, sufficient only to ensure that it is retained.

TESTING

9. The unit is to be tested and the pawl profile checked as follows:–

(1) Slacken the locking bolt, to lift the pawl and allow insertion of reference ram FHQ 228.

(2) Lock the pawl in the ram notch by tightening the locking bolt to a torque loading of approximately 60 lb/in. Check that dimensions 'X' and 'Y' are within the limits given (Fig. 1).

(3) Slacken the locking bolt and remove the reference ram, re-insert the bolt sufficient to retain.

AFTER TESTING

10. (1) Wire-lock the adapter to the unit body.

(2) Grease the exposed portion of the pawl and the unit lower bores with grease XG–275.

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