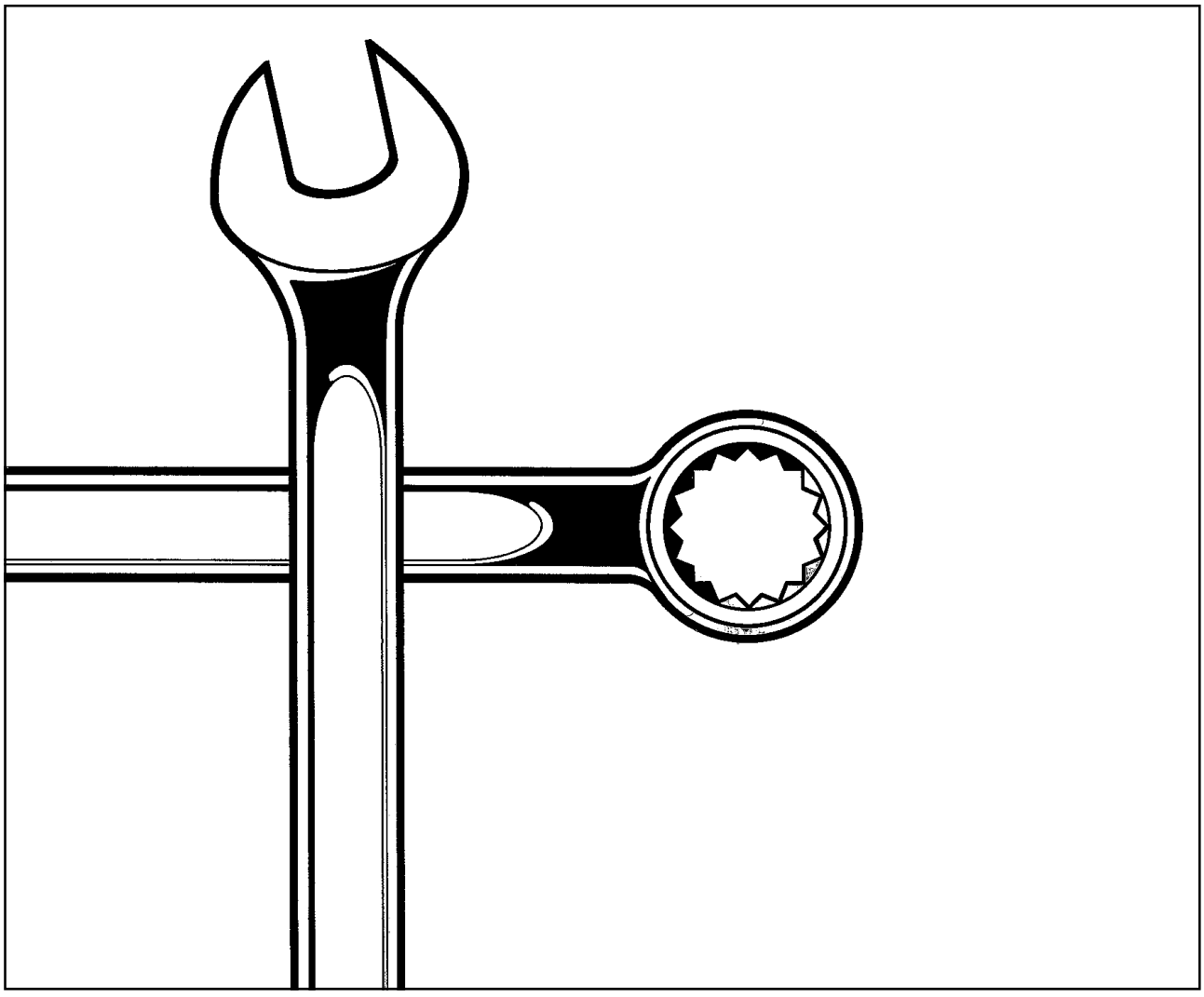
SVEDALA COMPACTION AND PAVING

DYNAPAC
CC 222/222C
CC 232/232C • CC 322
WORKSHOP MANUAL
HYDRAULIC SYSTEM

W1056EN1



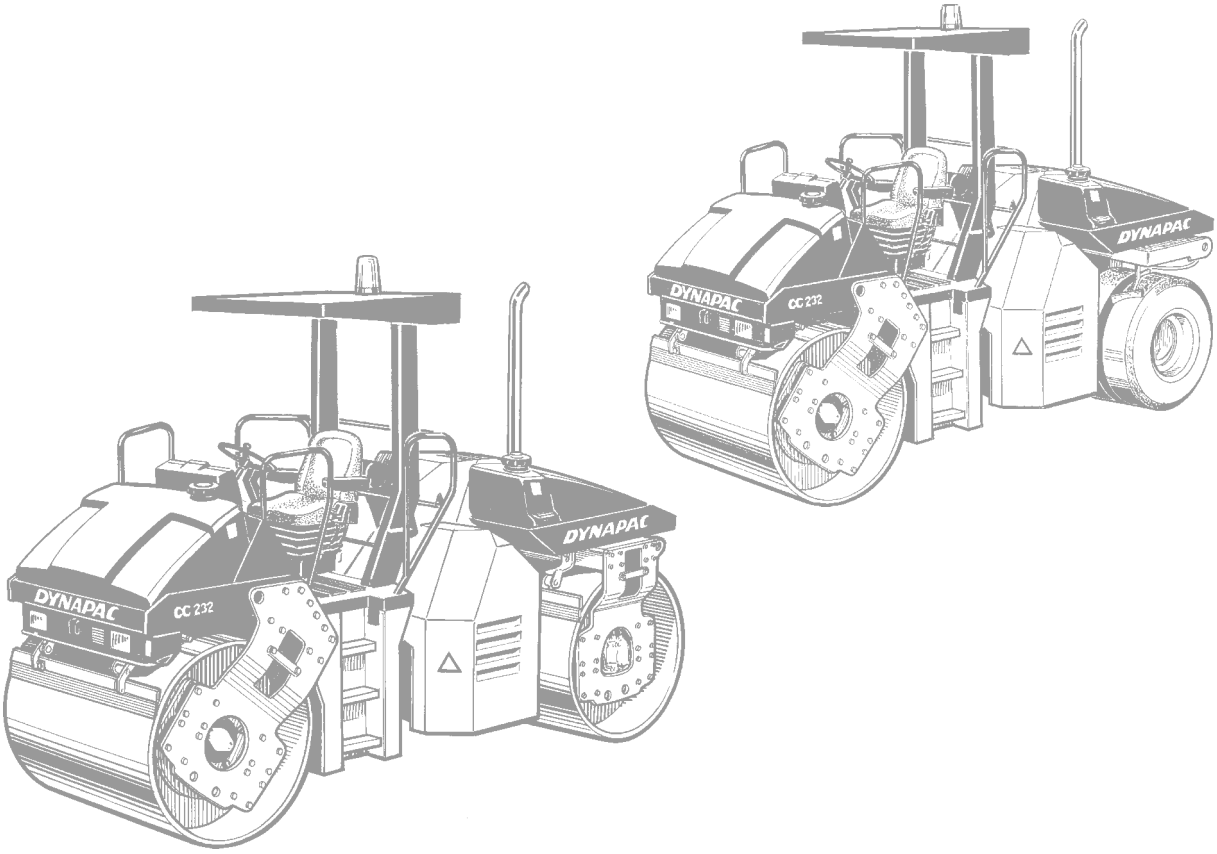
SVEDALA DYNAPAC
Svedala Compaction Equipment AB
Box 504, SE-371 23 Karlskrona, Sweden
Phone: +46 455 30 60 00, Fax: +46 455 30 60 30

SVEDALA DYNAPAC

Vibratory Roller
CC 222/222C
CC 232/232C
CC 322

Workshop Manual, Hydraulic System
W1056EN1, November 1998

These instructions apply from:		Kit P/N:
CC 222	PIN (S/N) *61710223*	37 63 70
CC 222C	PIN (S/N) *61810222*	37 64 51
CC 232	PIN (S/N) *61910233*	37 63 70
CC 232C	PIN (S/N) *62010232*	37 64 51
CC 322	PIN (S/N) *62110322*	37 63 70



Reservation for alterations.
Printed in Sweden.

CONTENTS

WARNING SYMBOLS

Safety instructions – Personal safety

Special caution – Machine or component damage

GENERAL

Ensure that ventilation (extraction) is adequate if the engine is run indoors

Correct maintenance and care are essential for safe and satisfactory use of this roller. It should be kept clean so that any leakage, loose bolts or poor connections can be detected in time.

PROTECT THE ENVIRONMENT! Do not allow oil, fuel, or other items that are detrimental to the environment to be left behind.

PREPARATIONS

Wash the machine thoroughly. It must be clean in the engine compartment and round the vibrator motors before dismantling of hydraulic components may begin.

Ensure that strict cleanliness is maintained during the entire retrofitting procedure. Make certain that receptacles are close by so as to avoid spilling fluids on the ground. Plug all disconnected hoses immediately. Lubricate O-rings and oil hoses and bolts before fitting.

Cut any cable ties to facilitate dismantling/fitting.

Figures in bold text noted in brackets refer to components included in the retrofit kit. Figures not in bold text noted in brackets refer to existing components in the machine.

The estimated time for retrofitting is about 5 hours.

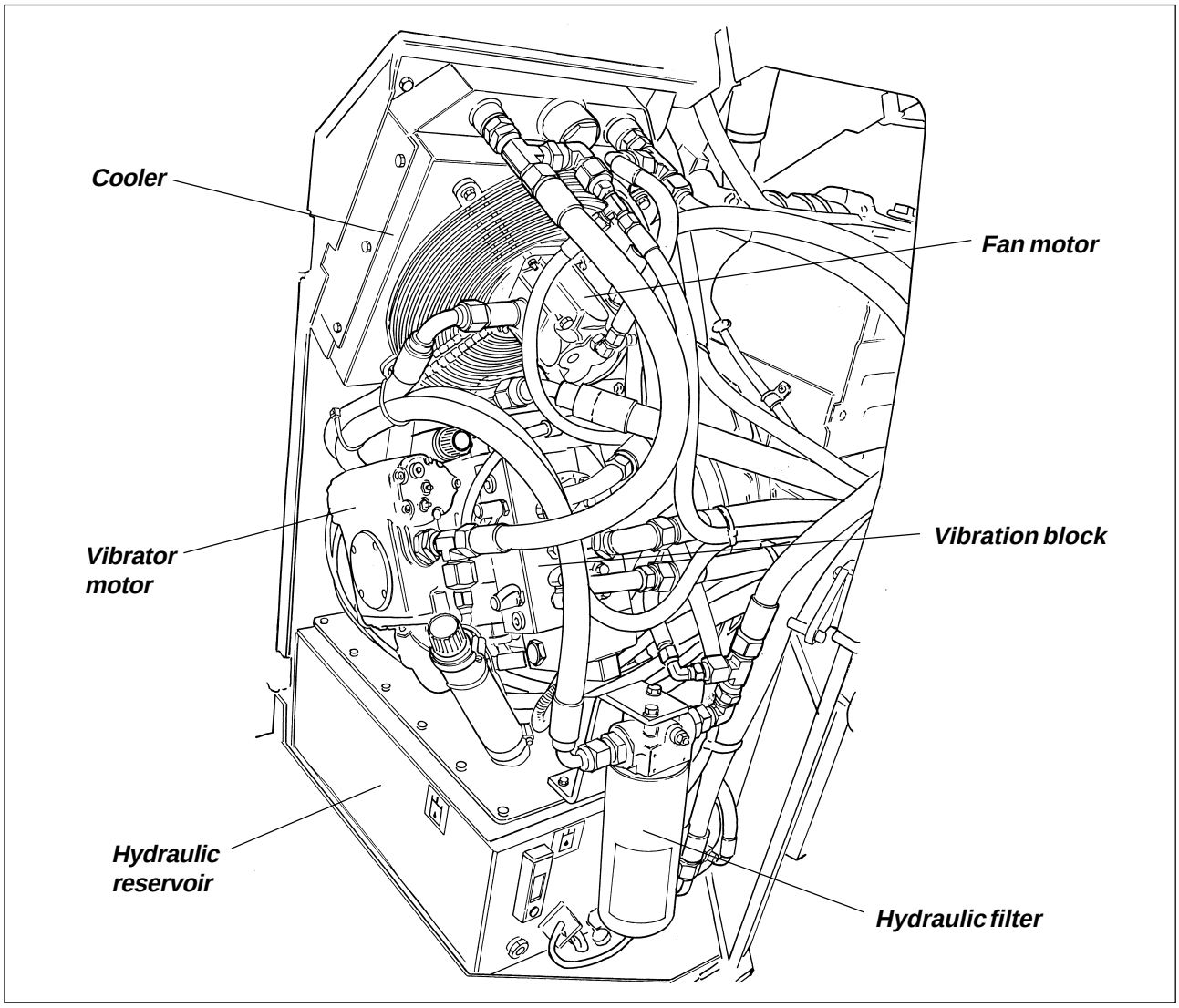


Fig. 1 Vibrator system prior to retrofitting

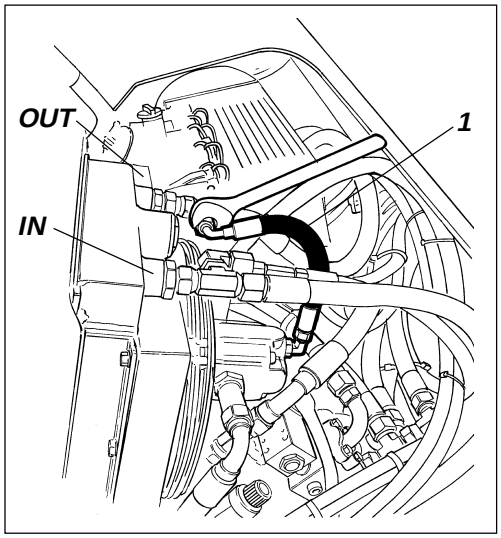


Fig. 2 Cooler
1. Hydraulic hose 381011706

– Loosen the hydraulic hose (381011706), wrench 18. This hose will not be used any more. The hydraulic hose is on the cooler outlet.

– Continue by loosening the other end of the hose, wrench 18, connected to the fan motor.

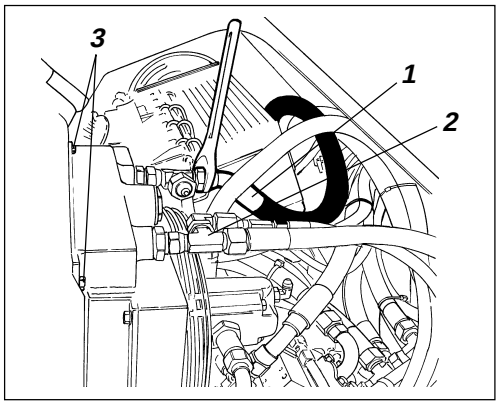


Fig. 3 Cooler
1. Hydraulic hose 482045
2. Adapter assembly with mounted hydraulic hoses
3. Screws

– Loosen the hydraulic hose (482045) on the cooler outlet, wrench 32, goes to the hydraulic reservoir.

– Loosen the adapter assembly on the cooler inlet, wrench 32.

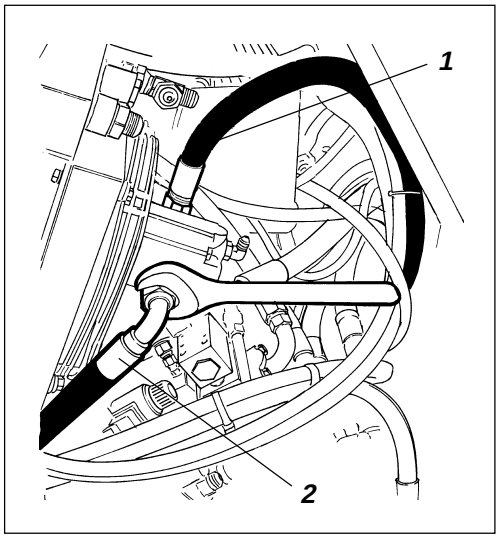


Fig. 4 Cooler and fan motor
1. Hydraulic hose 482955
2. Hydraulic hose 483124

– Loosen the hydraulic hose (482955) on the outlet side of the fan motor, wrench 32, goes to the filter.

– Loosen the hydraulic hose (483124) on the inlet side of the fan motor, wrench 32.

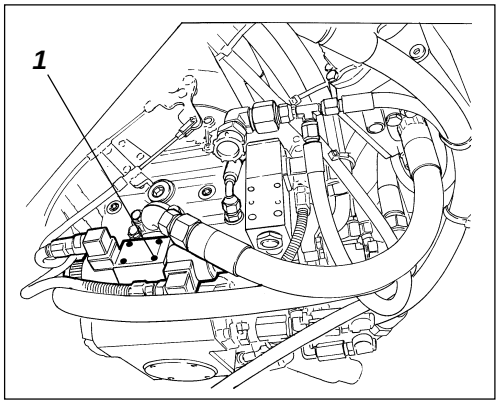


Fig. 5 Vibrator pump
1. Hexagonal screws, 4x

– Loosen the two screws holding the cooler, wrench 13, and lift it out, see fig. 3.

– Loosen the four screws holding the servo valve, hexagonal key 4 mm, on the vibrator pump. Allow the electrical connections to remain in place.

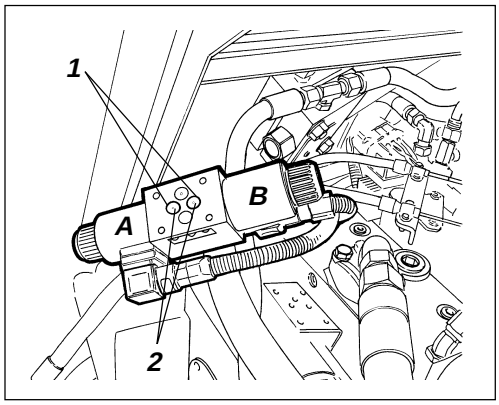


Fig. 6 Servo valve
1. O-rings
2. Throttles 936916

– Lift the servo valve away and turn it over.

– Take off the O-rings from the A and B ports (see marking on the side of the valves).

– Fit throttles (**936916**) under the O-ring. Lubricate the O-rings with oil.

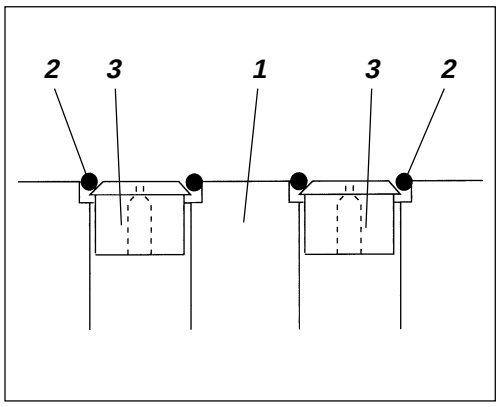


Fig. 7 Servo valve
1. Valve housing
2. O-ring
3. Throttle

! Note the bevelled edges of the throttles, fig. 7.

– Refit the valve and tighten it in place with its four screws hexagonal screws.

! Take care to ensure that the O-rings/throttles do not fall off when refitting.

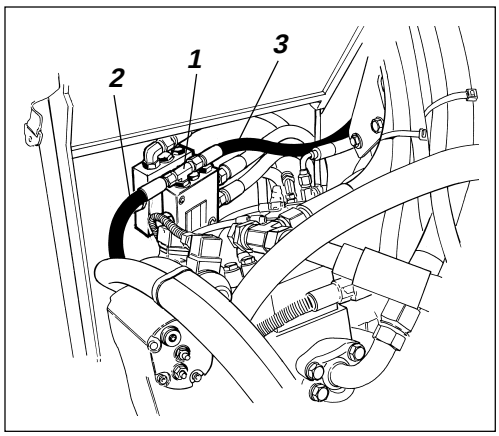


Fig. 8 Flushing block
1. T-adapter
2. Flushing hose 483145
3. Flushing hose 483153 (CC 222), 373932 (CC 232)

Applies to CC 222/232 only

1. Disconnect the flushing hoses (483145 and CC 222: 483153, CC 232: 373932), wrench 18, from the T-adapter that is fitted on the top of the flushing valve.

2. Remove the adapter (will not be used any more) and fit 90° elbow adapter (**334445**) instead.

3. It may be necessary to loosen the outer flushing valve, wrench 16, to remove the T-adapter and fit the 90° elbow adapter.

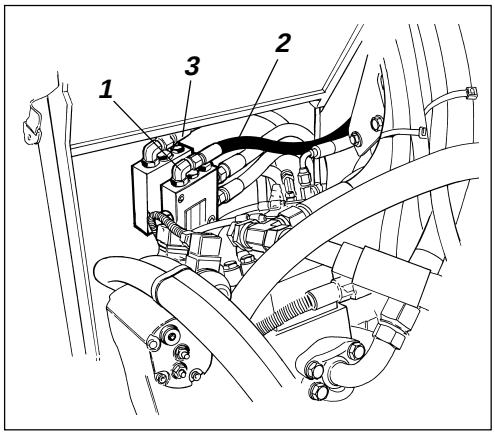


Fig. 9 Flushing block
1. 90° elbow adapter
2. Flushing hose 483145
3. Flushing hose

Applies to Combi only (CC 222C/232C):

1. Disconnect the flushing hose (483145), wrench 18, from the 90° elbow adapter that is fitted on the top of the outer flushing valve.

2. Remove the existing 90° elbow adapter (will not be used any more) and fit the new 90° elbow adapter (**334445**) instead.

3. It may be necessary to loosen the outer flushing valve, wrench 16, to remove the existing 90° adapter and fit the 90° elbow adapter.

– Connect hydraulic hose (482982) to the 90° elbow adapter on the flushing block, wrench 23, and lay it underneath the vibrator pumps, see fig. 10.

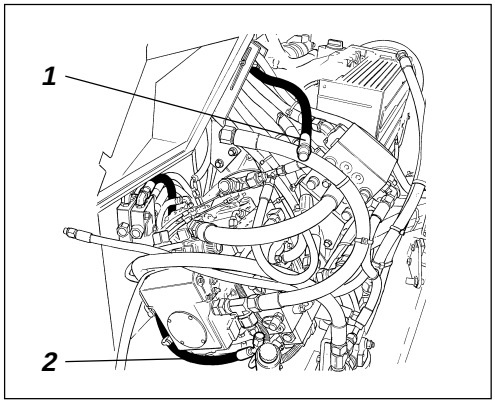


Fig. 10 Vibrator system hydraulics
1. Flushing hose 483153 (CC 222), 373932 (CC 232)
2. Hydraulic hose 482982

Applies to CC 222/232 only

1. Pull up the flushing hose (CC 222: 483153, CC 232: 373932) sufficiently to connect to the outlet on the cooler. Loosen screw on the hose holder for the rear drum so that the flushing hose can be secured.

– Disconnect existing hose from vibrator pump, wrench 18.

– Fit T-adapter (**334234**), wrench 19, on connection to vibrator pump. Connect and tighten both hoses (pos. 2 and 3 in fig. 9, also pos. 4 and 5 in fig. 13), wrench 18, coming from the outer flushing block.

To continue fitting for CC 222 and CC 232 move past fig 11-13 and begin at fig 14 sidan 9.

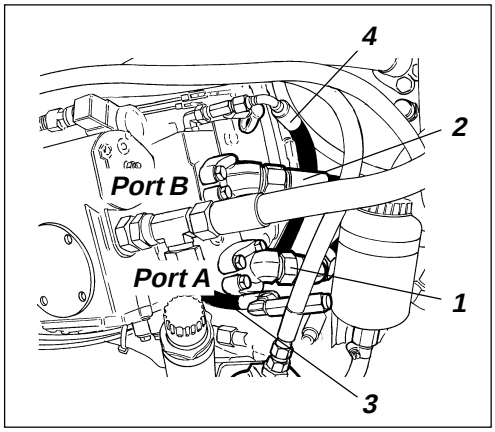


Fig. 11 Vibrator pump
1. Hydraulic hose 483054
2. Hydraulic hose 483057
3. Flushing hose 483140
4. Flushing hose 482968

Applies to Combi only (CC 222C/232C):

1. Disconnect the hoses from port A (483054) and port B (483057), wrench 14, from the block between the pumps. The short screws will not be needed any more. Retain the washers however.

2. Disconnect the flushing hoses (482968 and 483140), T-adapters and test nipple. Allow the connection to remain in place. The test nipples and T-adapter will not be needed any more. Fit the plug (**230400**) in both the upper and lower connection.

3. Lay the two hoses down under the pump.

Applies to Combi only (CC 222C/232C):

1. Pre-fit T-adapter (**234746**) on the side connection of connection block (**375285**).

2. Lubricate O-ring (**904004**), fit in connection block (**375285**). Mount the connection block on port A with O-ring in against the port connection and the side connection downward. Use screw (**502042**), wrench 14, and the original washers for fitting the connection block. Fit the hose (483054) back on. Tighten the four screws successively and evenly.

3. Mount the 90° elbow adapter (**334389**) on the side connection of the other connection block (**375285**).

4. Lubricate the next O-ring (**904004**) and fit it in the other connection block (**375285**). Mount this connection block on port B with the O-ring in against the port connection and the 90° elbow adapter connection upwards. Use screw (**502042**), wrench 14, and the original washers for fitting the connection block. Fit the hose (483057) back on. Tighten the four screws successively and evenly.

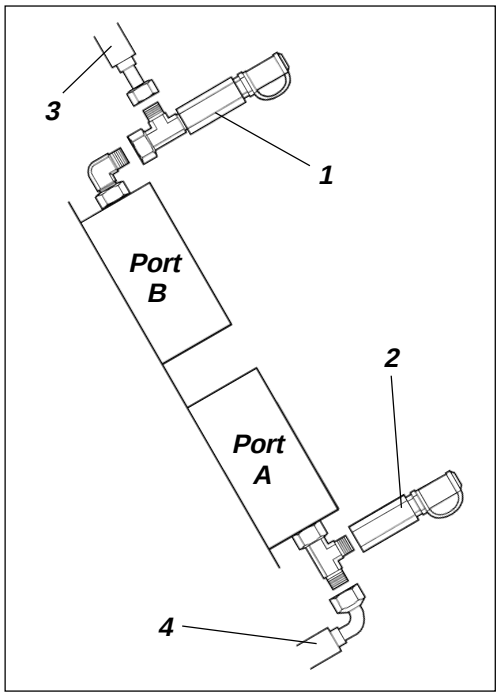


Fig. 12 A and B port adapters
1. Assembled T-adapter 334234, straight adapter 433830401 and test nipple 910161
2. Assembled straight adapter 433830401 and test nipple 910161
3. Flushing hose 482968
4. Flushing hose 483140

Applies to Combi only (CC 222C/232C):

1. Assemble T-adapter (**334234**) with straight adapter (**433830401**) and test nipple (**910161**), pos 1.

2. Mount the assembled T-adapter, straight adapter, and test nipple onto 90° elbow adapter on the connection block attached to port B.

3. Loosen the outer flushing block, wrench 16, to facilitate fitting of the flushing hoses.

4. Fit flushing hose (482968), wrench 18, on the vacant connection of the T-adapter.

5. Assemble straight adapter (**433830401**) with test nipple (**910161**), pos 2, and mount these on the middle connection of the T-adapter on the connection block attached to port A.

6. Fit flushing hose (483140), wrench 18, on the lowest connection on T-adapter.

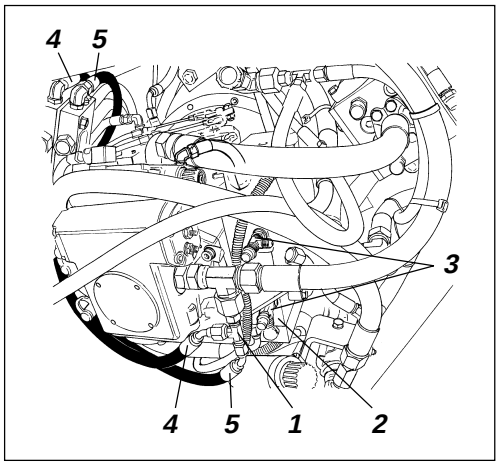


Fig. 13 Vibrator pump
1. T-adapter 334234
2. Directional valve, vibrator
3. T-adapter 234746. 2x
4. Hydraulic hose 482982
5. Hydraulic hose

Applies to Combi only (CC 222C/232C):

1. Fit T-adapter (**334234**), wrench 19, on connection to vibrator pump. Connect and tighten both hoses, wrench 18, coming from the flushing blocks.

2. Disconnect test nipples (will not be used any more) on the directional valve to vibrator, wrench 19.

3. Fit T-adapters, 2 off, (**234746**) on the directional valve (vibration block), wrench 17, to the connections MM1 and MM2 and plug preliminarily.

To continue fitting for Combi machines move past fig. 14-16.

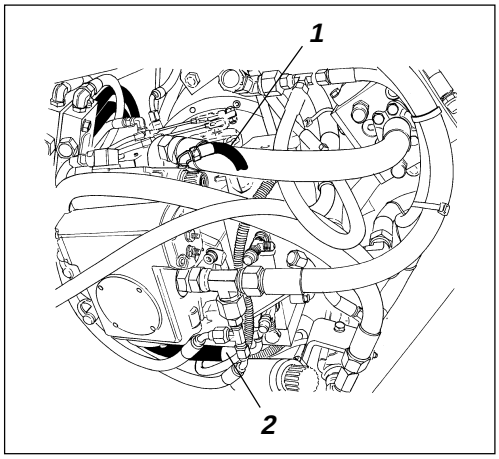


Fig. 14 Flushing hose connections
1. Flushing hose 482968
2. Flushing hose 483140

Applies to CC 222/232 only:

1. Disconnect flushing hoses (482968 and 483140) from respective connection on the pump, wrench 17, and fit permanent plug (**230400**) in the connection.

2. Lay the flushing hose (482968) down under the vibrator pump.

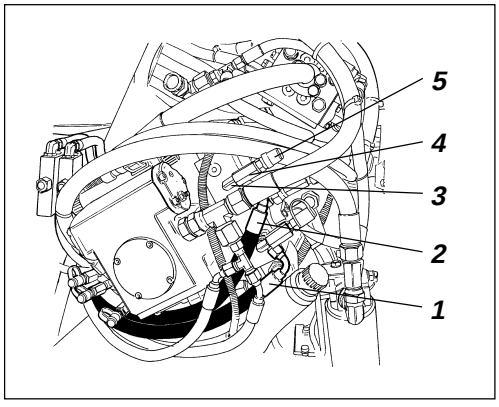


Fig. 15 Connections for flushing hoses
1. Flushing hose 482968
2. Flushing hose 483140
3. 90° elbow adapter 334445
4. Straight adapter 433830401
5. Test nipple 91061

Applies to CC 222/232 only:

1. Connect flushing hoses (482968 and 483140) to T-adapter, wrench 18, on vibration block valve.
   It may be necessary to loosen flushing valves to facilitate fitting of the flushing hoses.

2. Fit 90° elbow adapters (**334445**) 2 off, on T-adapter and fit straight adapters (**433830401**) 2 off, on 90° elbow adapter, both wrench 19.
   Fit also test nipples (**910161**) 2 off, on straight adapter, wrench 17.

3. Tighten flushing valve now if it was loosened to facilitate fitting of flushing hose.

4. Tighten both flushing blocks.

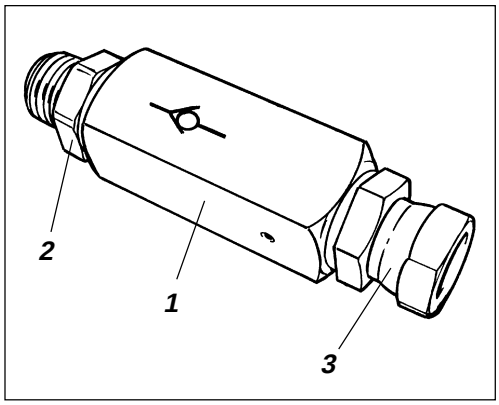


Fig. 16 Nonreturn valve
1. Nonreturn valve 903774
2. Straight adapter 334156
3. Straight adapter with back-up ring 330438

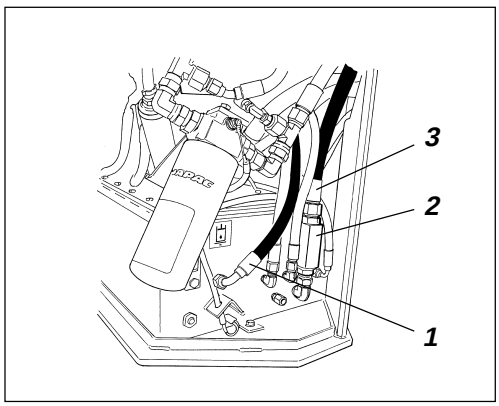


Fig. 17 Hydraulic reservoir
1. Hydraulic hose 482937 (side displacement drum only)
2. Nonreturn valve 903774
3 Hydraulic hose 482045

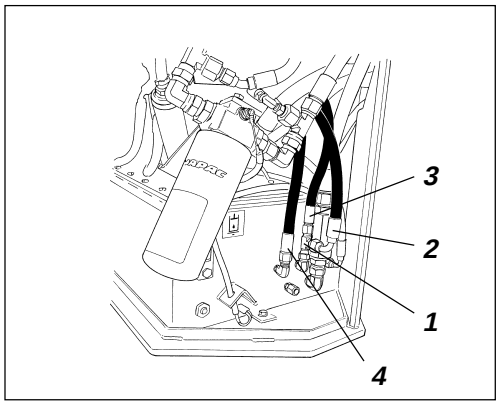


Fig. 18 Hydraulic reservoir
1.T-adapter 334135
2. Hydraulic hose 482937
3 Hydraulic hose 483237
4. Hydraulic hose 483239

Applies to Combi only (CC 222C/232C):
1. Remove the brake release pump, wrench 13, and disconnect all four hoses, wrench 18.

Before disconnecting hoses from the brake release pump make a note of where each respective hose is fitted.

– Loosen the nuts of the hydraulic filter, wrench 13, and fold it out of the way.

– The following is done easiest in a vice. Fit straight adapter with back-up ring (**330438**) at the bottom of nonreturn valve (**903774**). Then fit straight adapter (**334156**) on the other end of the nonreturn valve.

Drain or connect vacuum to the hydraulic reservoir before fitting nonreturn valve and adapters.

– To fit nonreturn valve to hydraulic reservoir, loosen return hose (482045), wrench 32, coming from cooler outlet.

Applies in addition for side displacement drum:
1. Disconnect hose (482937), wrench 23, from adapter on hydraulic reservoir, plug preliminarily.

– Mount nonreturn valve (**903774**) with the assembled adapters (**330438** and **334156**) on and connect return hose (482045). To facilitate mounting to cooler outlet do not tighten the return hose.

– Remove existing straight adapter on the hydraulic reservoir with plug, wrench 19, and fit straight adapter (**234349**), wrench 19, then fit plug.

Applies in addition for side displacement drum:
1. To enable fitting of T-adapter (**334135**) it may be necessary to loosen both hoses (483239 and 483237), wrench 23, to the hydraulic reservoir. Fit T-adapter (**334135**), wrench 22, on the inner connection. Connect hose (483237), that was previously on the hydraulic reservoir, to the uppermost connection on the T-adapter. Connect hose (482937) to the middle connection on the T-adapter.

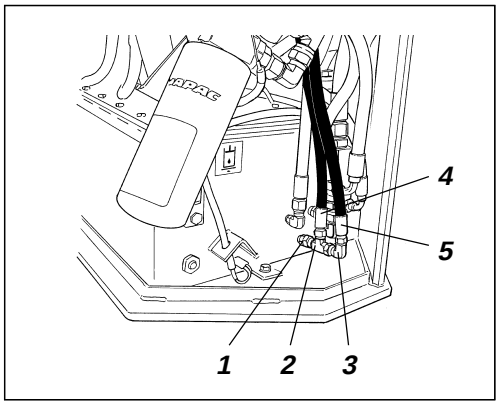


Fig. 19 Hydraulic reservoir
1. Straight adapter 234349
2. T-adapter 334234
3. 90° elbow adapter 334524
4. Hydraulic hose 483144
5. Hydraulic hose 483409

– Remove plug in straight adapter (**234349**), fitted earlier at the bottom down on the hydraulic reservoir.

– Fit T-adapter (**334234**) on straight adapter (**234349**).

– Fit hose (483144), from front drum (leak hose from vibrator), wrench 18.

– Fit 90° elbow adapter (**334524**) on T-adapter (**334234**), wrench 19.

– Fit hose (**483409**) on 90° elbow adapter (**334524**), wrench 19.

– Insert and mount fast the hydraulic filter, wrench 13.

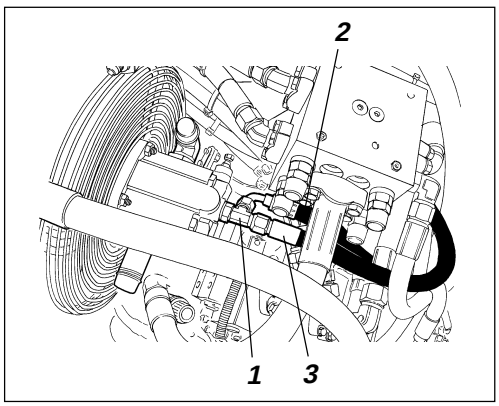


Fig. 20 Fan motor
1. T-adapter 334564
2. Hydraulic hose 483409
3. Hydraulic hose 483203

– Remove existing 90° elbow adapter on fan motor, wrench 19.

– Fit T-adapter (**334564**) on fan motor, wrench 19.

– Fit other end of hydraulic hose (**483409**) with 90° elbow adapter to T-adapter (**334564**), wrench 18.

– Fit hydraulic hose (483203), connection D1 on block for hydraulic drive (goes on to vibrator motor).

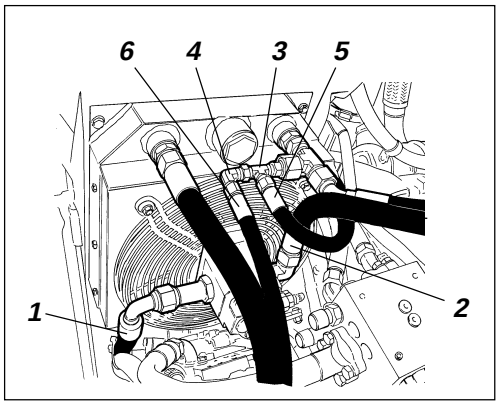


Fig. 21 Cooler and fan motor
*1. Hydraulic hose 483124 (**IN** fan motor)*
*2. Hydraulic hose 482955 (**OUT** fan motor)*
3. T-adapter 334234
4. 90° elbow adapter 334524
5. Hydraulic hose 373932
6. Flushing hose 483145 (CC 222), 482905 (CC 232)

– Fit hose (483124), wrench 32, to **IN** on fan motor.

– Fit hose (482955), wrench 32, to **OUT** on fan motor (goes on to hydraulic filter).

– Fit T-adapter (**334234**) and 90° elbow adapter (**334524**) on the connection to the cooler outlet.

– Fit flushing hose (CC 222: 483145, CC 232: 482905), from front drum, to 90° elbow adapter on outlet from the cooler.

– Fit flushing hose (373932), from rear drum, to T-adapter on outlet from the cooler.

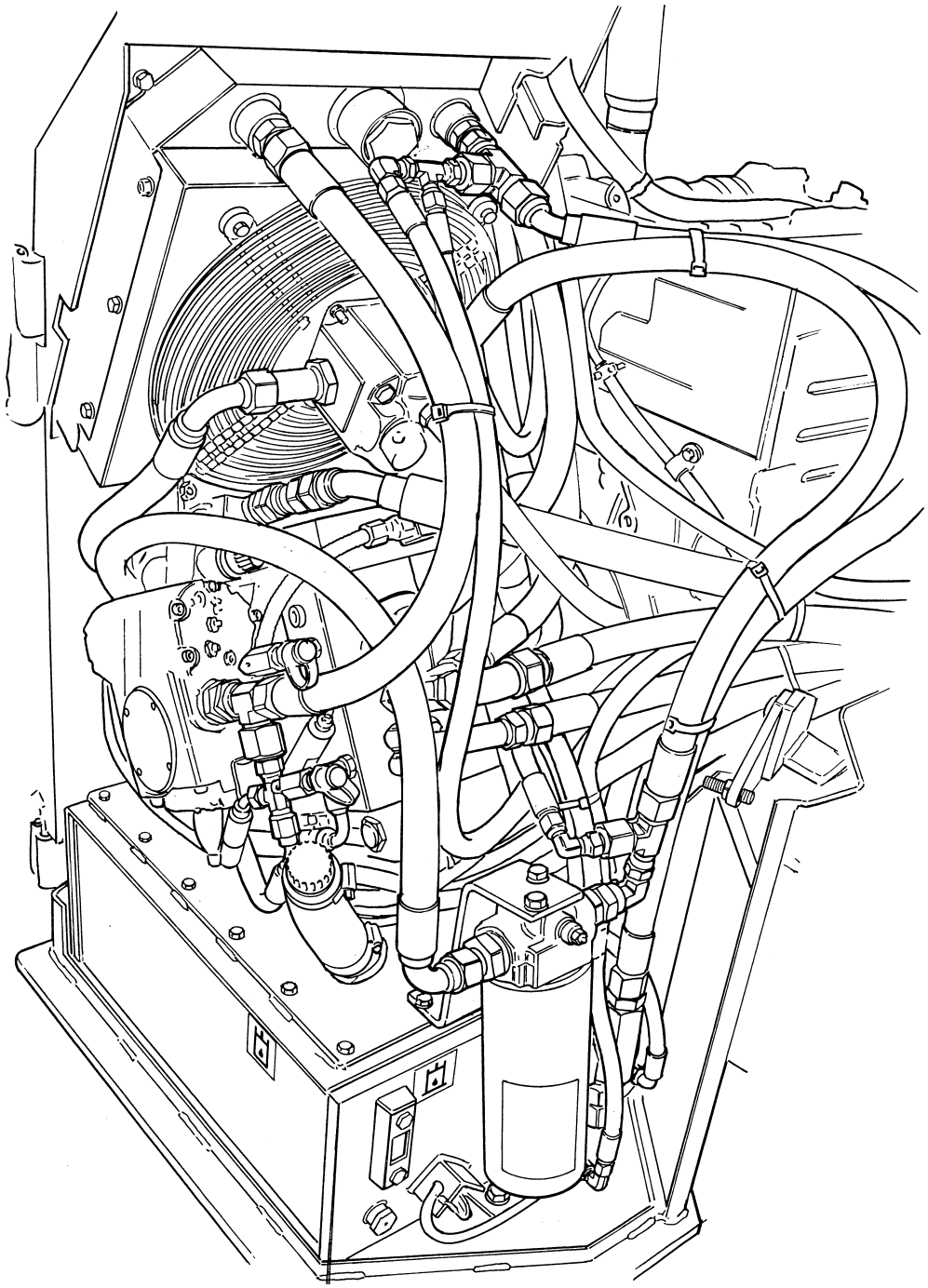


Fig. 22 Vibrator system after retrofitting

The retrofitting should now be complete, see fig, 22. Ensure before starting up that the following items are attended to:

– Top up with hydraulic fluid, see manual “MAINTENANCE, CC 222/222C, CC 232/232C, CC 322“.

– Ensure that all connections/hydraulic hoses are securely tightened.

Also make certain that the following items are carried out:

– Rinse and clean to detect any leakage.

– Warm up the machine according to the starting instructions.

– Test run at least 20 minutes to ensure that fluid is circulated throughout the entire system. Check for any sign of leakage.

– Test all vibration combinations. Be thorough.

To facilitate future service make sure that hydraulic hoses are secured and bundled together with cable ties.