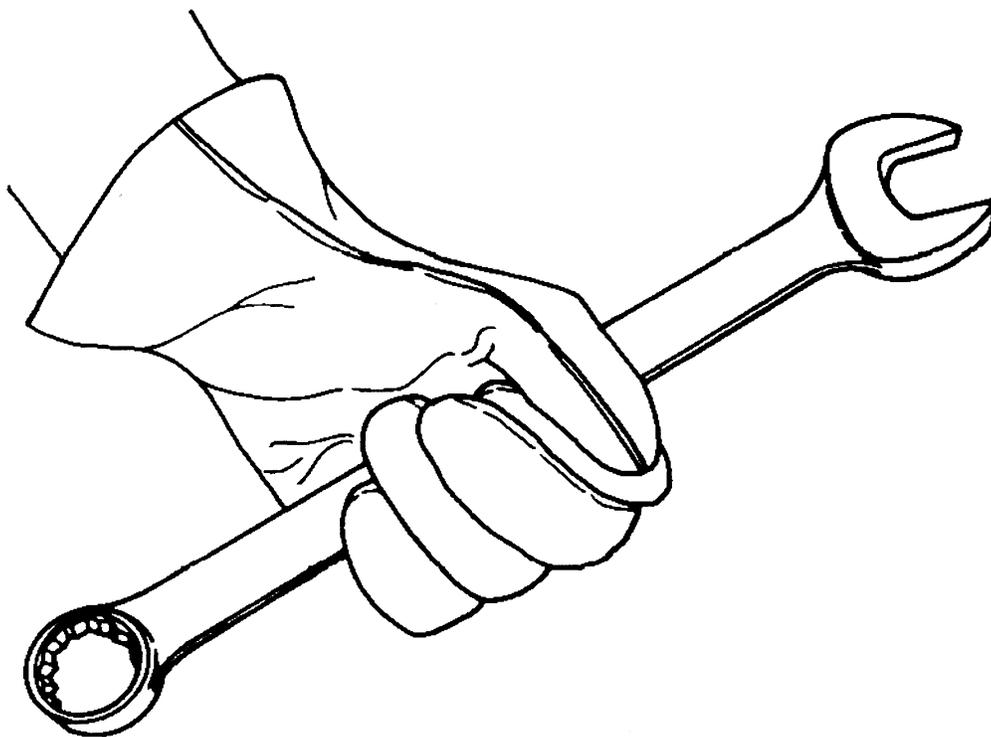


Product: Bobcat Hydraulic Pump Service Repair Workshop Manual
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HYDRAULIC PUMP

COMPONENT REPAIR MANUAL



MELROE

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6570268 (3-86)



Melroe Company 1986
Printed in U.S.A.

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INTRODUCTION

Melroe recommends that all service technicians attend either field or factory Bobcat Service Workshops for necessary information and education.

Workshops are held many times a year at various locations throughout the U.S. and Canada. Contact your District Service Manager or Melroe Service Office Gwinner, N.D. (701) 678-6165 for schedule.

This Component Repair Manual provides the Service Technician with information for servicing Hydraulic Pumps.

Make reference to the SERVICE MANUAL for your MODEL Loader to troubleshoot, test, remove and install the hydraulic pump.

See the INDEX Page to find your MODEL Loader, S/N listing, Tab #.

SAFETY INSTRUCTIONS

We Care About Your Safety.



! WARNING

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

W-2019-1285

BEFORE YOU WORK ON THE HYDRAULIC PUMP

Read the complete sequence so you know the complete disassembly or assembly procedure before the work is actually started.



! WARNING

Warnings on the machine and in the manuals are for your safety. Failure to obey warnings can cause injury or death.

W-2044-1285



IMPORTANT

This notice identifies procedures which must be followed to avoid damage to the machine.

I-2019-0284



bobcat[®]

INDEX

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741, 742, 743	All	2	A	Vickers
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Glossary of Terms	TAB #5			



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CESSNA PUMP

PARTS IDENTIFICATION

MODEL: farmboy, 440, 443

540, 543 (S/N 12001 & Above)A-1

HYDRAULIC PUMP

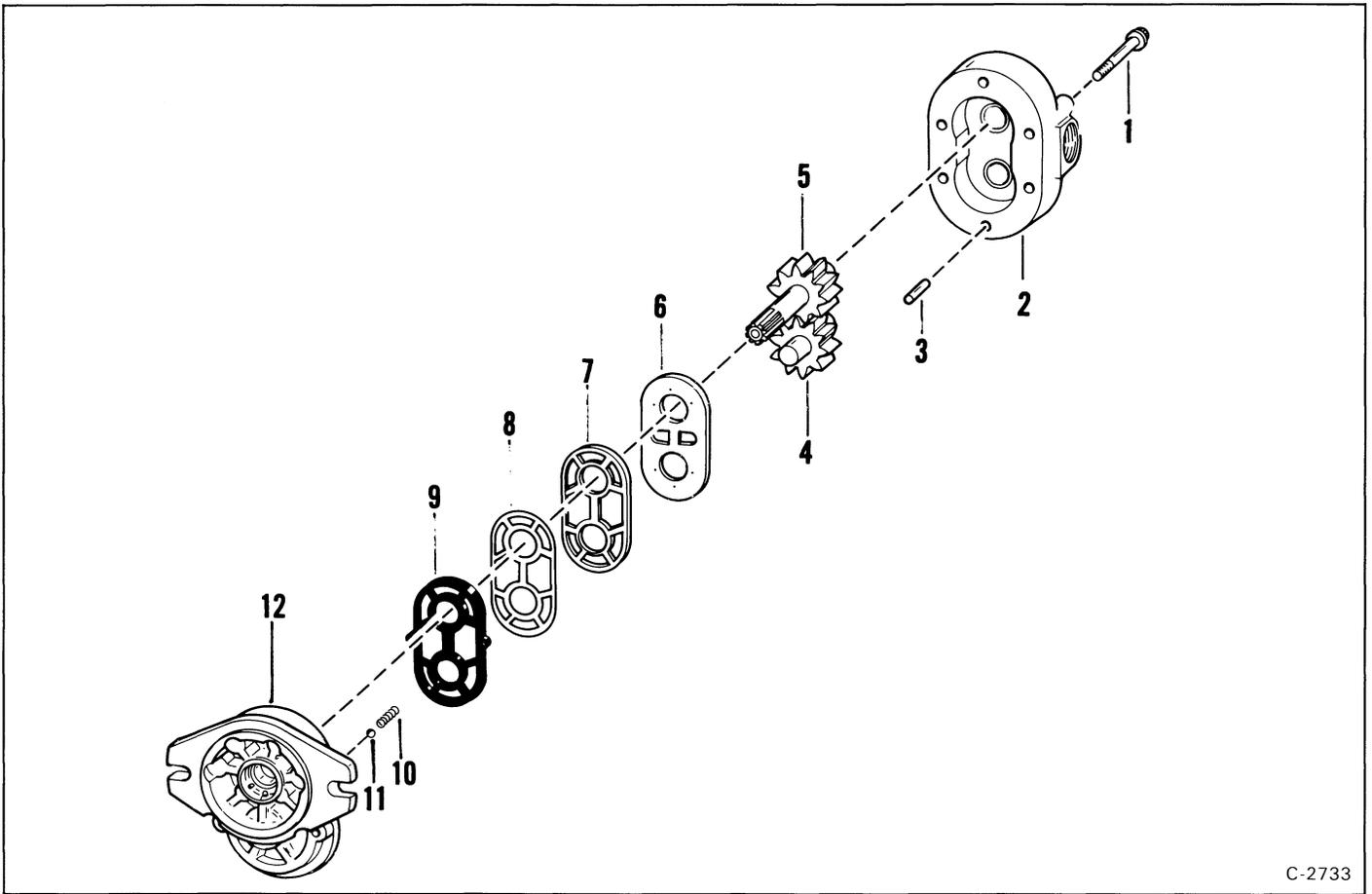
Disassembly and AssemblyA-2

InspectionA-3



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PARTS IDENTIFICATION



C-2733

**MODEL: farmboy, 440, 443
540, 543 (S/N 12001 & Above)**

Ref.	Description
1.	BOLT
2.	HOUSING
3.	PIN, dowel
4.	GEAR, idler
5.	GEAR, drive
6.	PLATE, wear
7.	DIAPHRAGM
8.	GASKET
9.	SEAL
10.	SPRING
11.	BALL
12.	PLATE, front

	farmboy, 440, 443	540, 543
Rotation	L.H.	R.H.
Cu. In.	0.72	0.61

HYDRAULIC PUMP

Disassembly and Assembly

IMPORTANT

When making repairs on hydrostatic and hydraulic systems, clean the work area before disassembly and keep all parts clean. Always use caps and plugs on hoses, tubelines and ports to keep dirt out. Dirt can quickly damage the system.

I-2003-0284

Put the hydraulic pump in the vise.

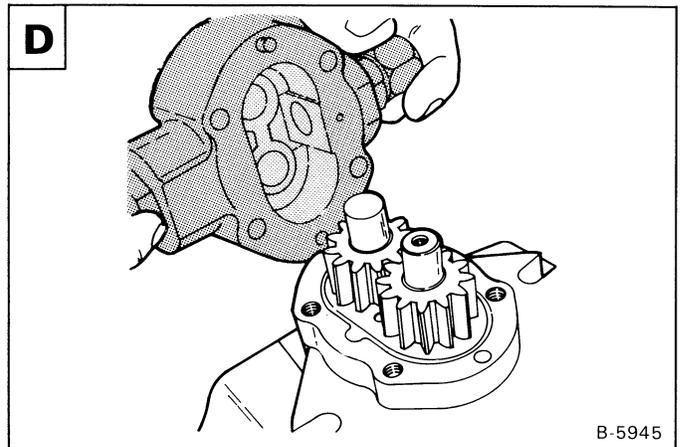
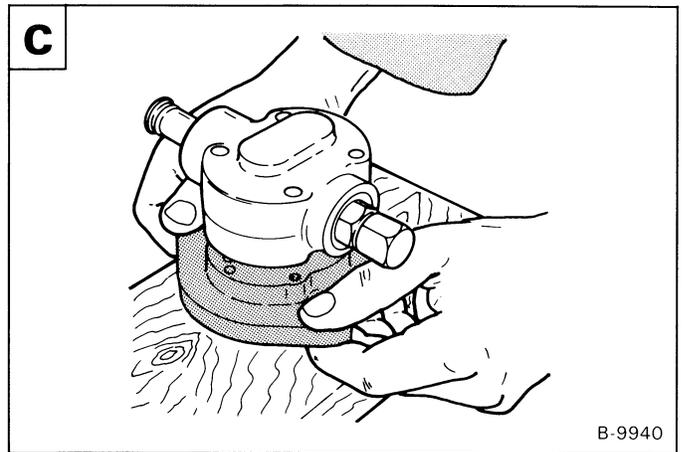
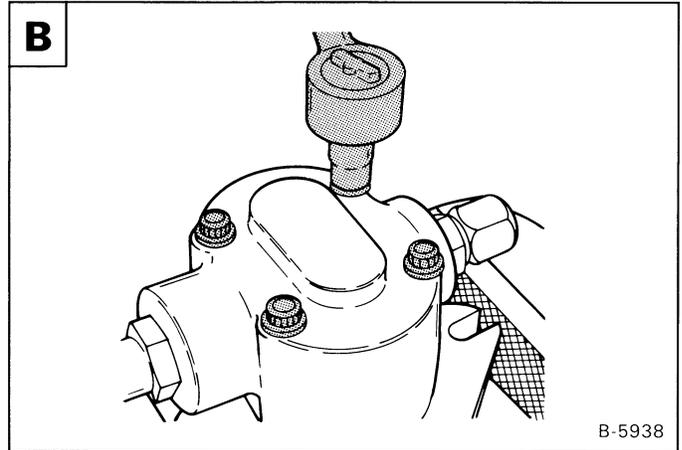
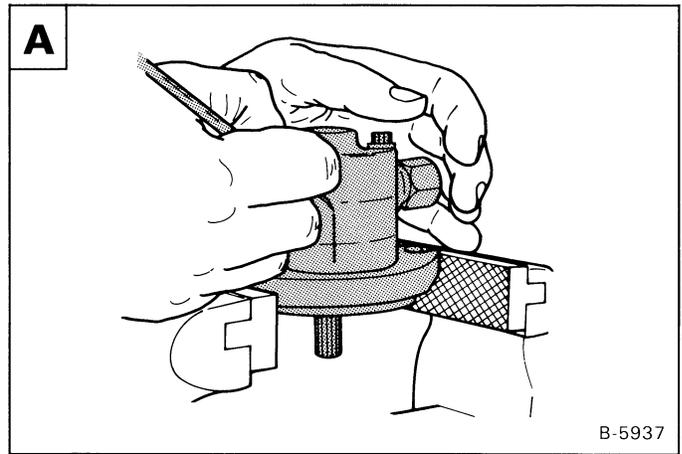
Put a mark across the housing of the pump for correct assembly **A**.

Remove the four bolts from the pump **B**.

Assemble: Tighten the bolts to 25-28 ft.lbs. (33-38 Nm) torque.

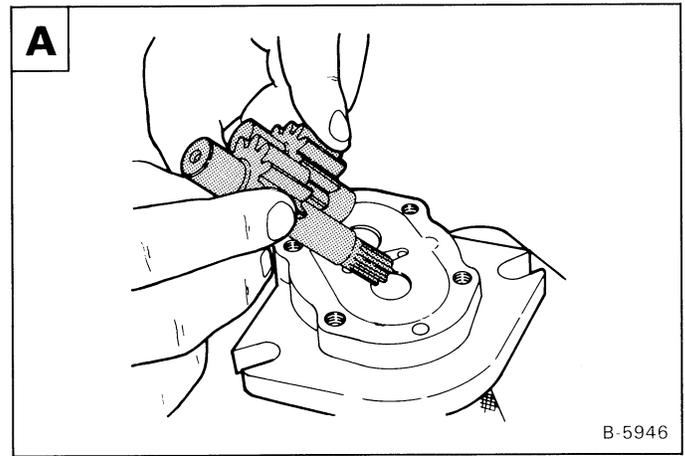
Remove the pump from the vise. Hold the pump in both hands and hit the shaft against a block of wood to separate the pump housing **C**.

Remove the housing from the end of the pump **D**.



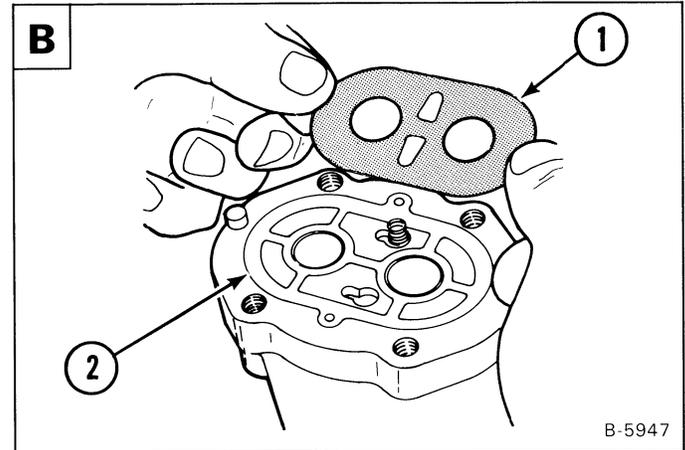
HYDRAULIC PUMP (Cont'd)

Remove the pump gears **A**.



Remove the diaphragm (Item 1) **B**.

Remove the gaskets and seal from the pump housing (Item 2) **B**.



Remove the spring and steel ball from the pump housing **C**.

NOTE: Make sure to mark the port where the spring and ball are removed from for correct installation when assembling the pump. There can not be a direct pressure port connected to the seal area on the pressure side of the pump.

Assembly: Always use new O-rings, gaskets and seals when assembling the hydraulic pump.

Inspection

Clean and dry all the parts.

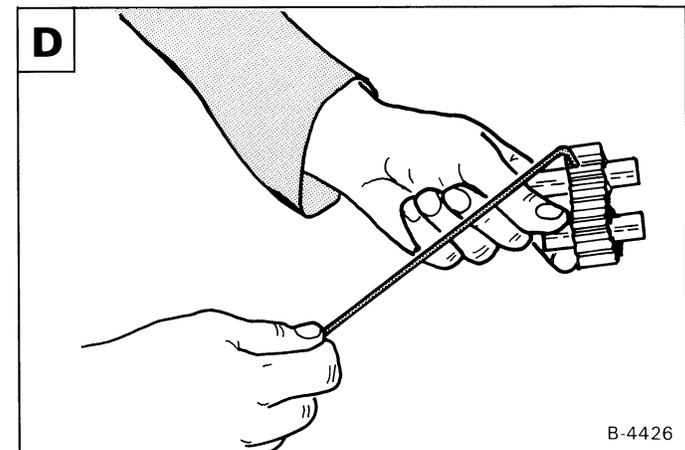
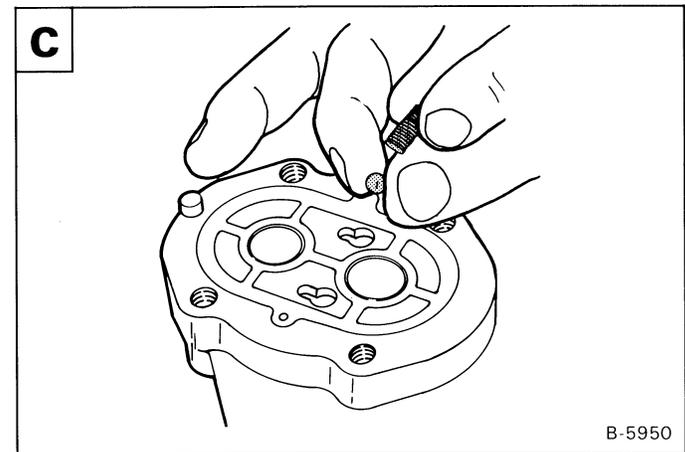
Inspect the gears as follows:

1. Inspect both the drive and idler gear shafts at the bearing points and seal area for rough surfaces and wear.
2. Check the face of the gears for wear.

Check for wear on the face of the wear plate. If the wear is more than 0.0015" (0,038 mm) from one side to the other, the plate must be replaced.

Check the housing in the gear area for wear.

Replace the parts as needed.





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CESSNA PUMP

PARTS IDENTIFICATION

MODEL: 825	B-1
MODEL: 843 (S/N 12999 & Below)	
PUMP MODEL: #24307 RCA	
#25306 RAC	B-2

HYDRAULIC PUMP

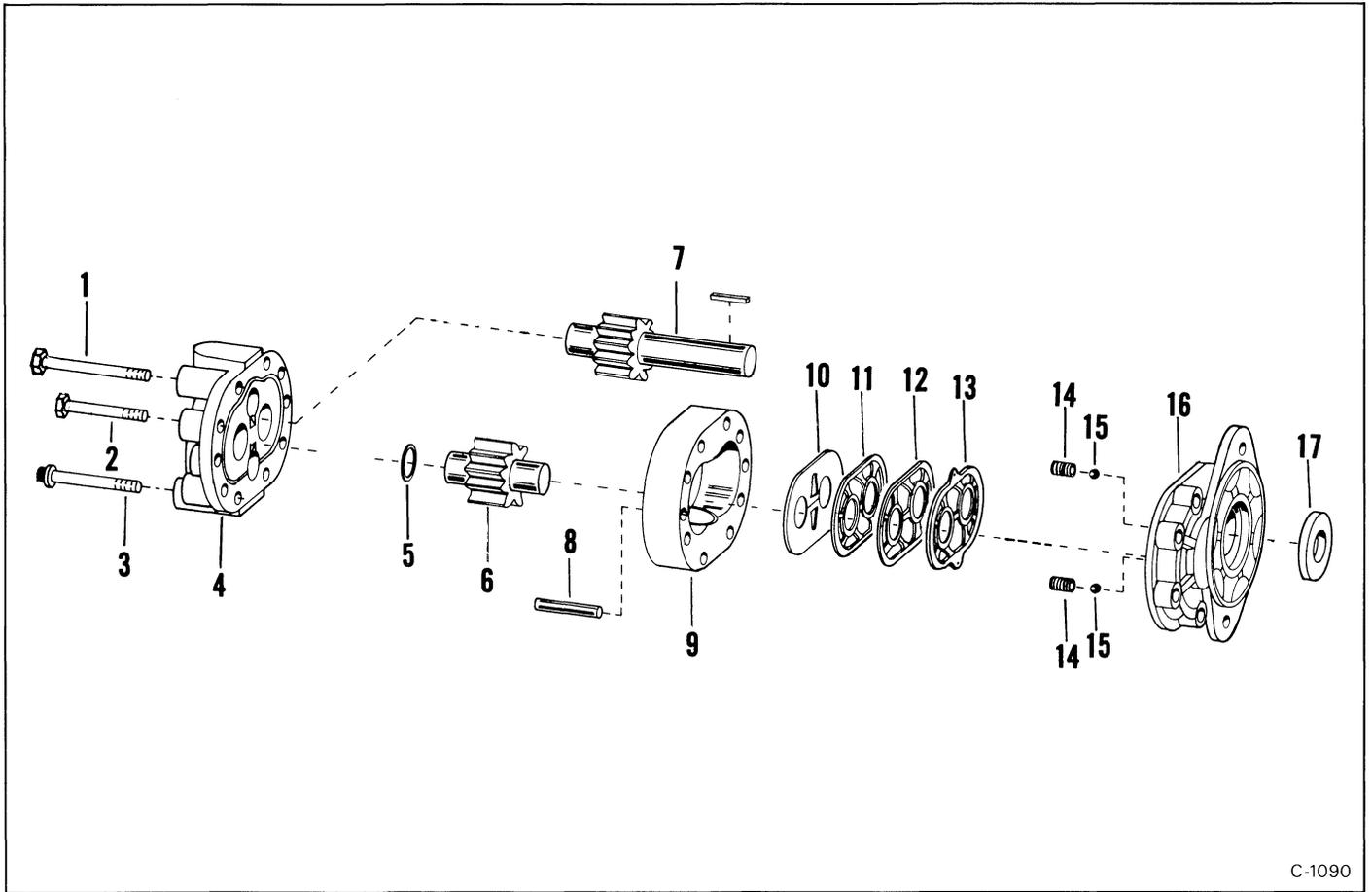
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Section B



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PARTS IDENTIFICATION

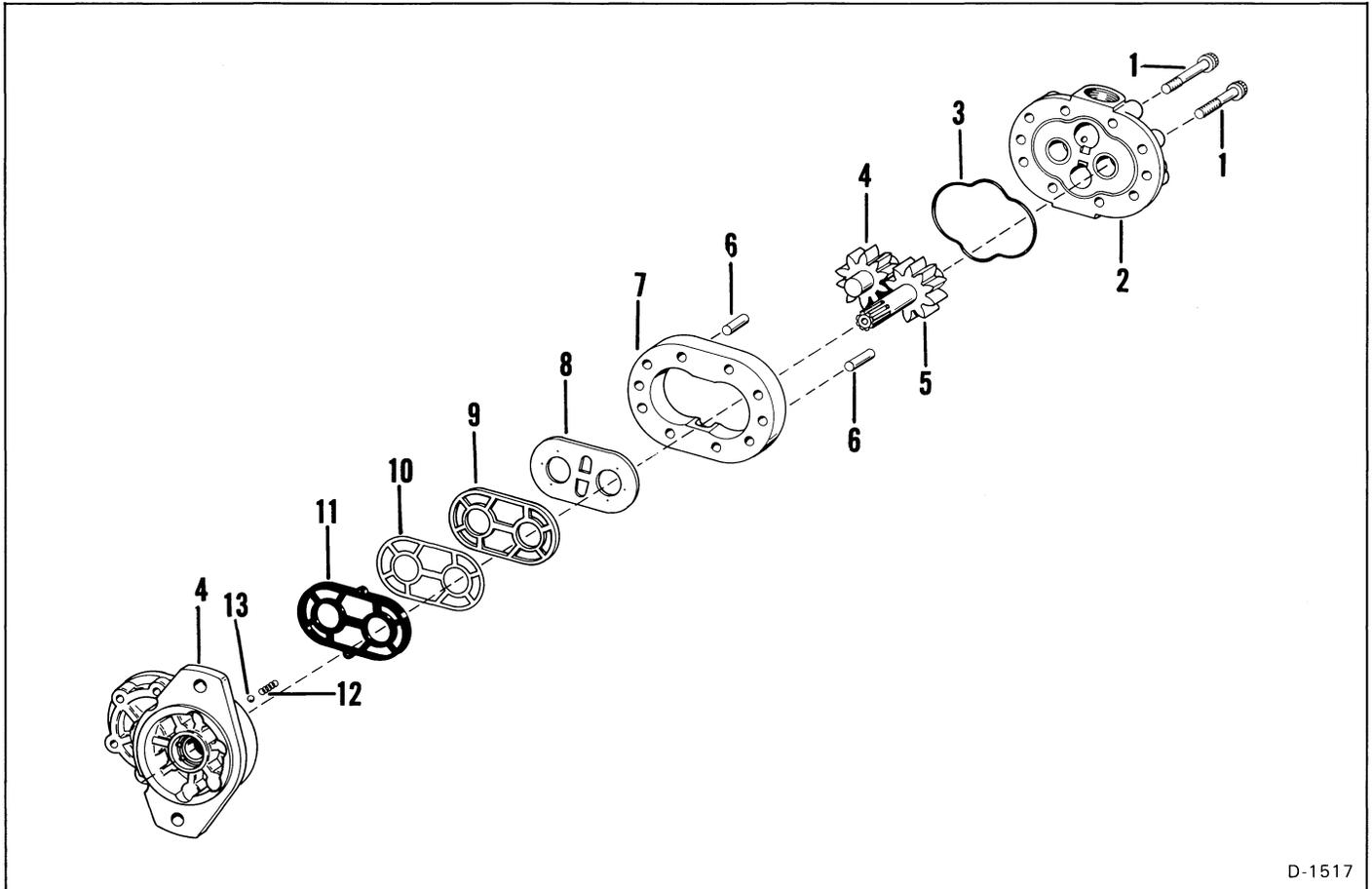


C-1090

MODEL: 825

Ref.	Description
1.	BOLT
2.	BOLT
3.	BOLT
4.	HOUSING
5.	O-RING
6.	GEAR, idler
7.	GEAR, drive
8.	PIN, dowel
9.	BODY
10.	PLATE, wear
11.	GASKET
12.	SEAL
13.	SEAL
14.	SPRING
15.	BALL
16.	PLATE, front
17.	SEAL, shaft

PARTS IDENTIFICATION



D-1517

MODEL: 843 (S/N 12999 & Below)
PUMP MODEL: #24307 RCA & #25306 RAC

Ref.	Description
1.	BOLT
2.	HOUSING
3.	O-RING
4.	GEAR, idler
5.	GEAR, drive
6.	PIN, dowel
7.	BODY
8.	PLATE, wear
9.	GASKET
10.	SEAL
11.	SEAL
12.	*SPRING
13.	*BALL
14.	PLATE, front

* Pump Model #25306 RAC is not equipped with balls and springs.

HYDRAULIC PUMP

Disassembly and Assembly

IMPORTANT

When making repairs on hydrostatic and hydraulic systems, clean the work area before disassembly and keep all parts clean. Always use caps and plugs on hoses, tubelines and ports to keep dirt out. Dirt can quickly damage the system.

I-2003-0284

Put the pump in a vise.

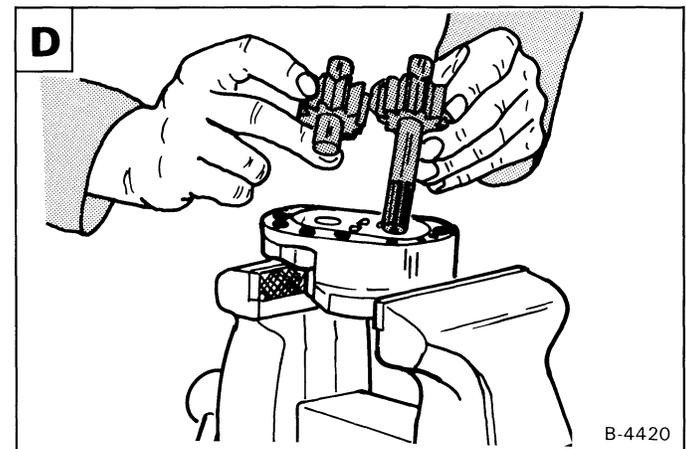
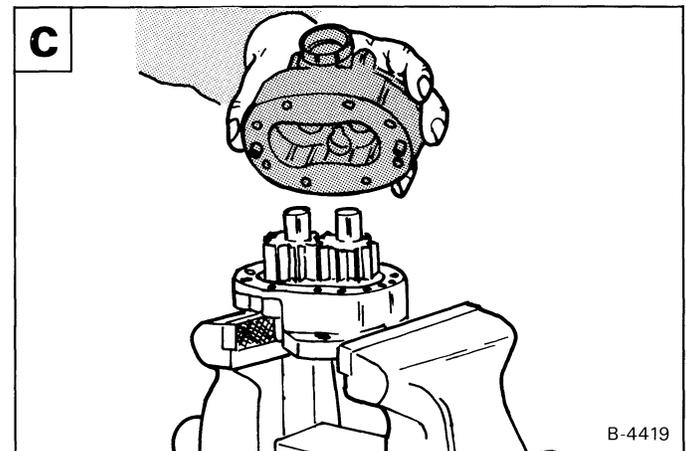
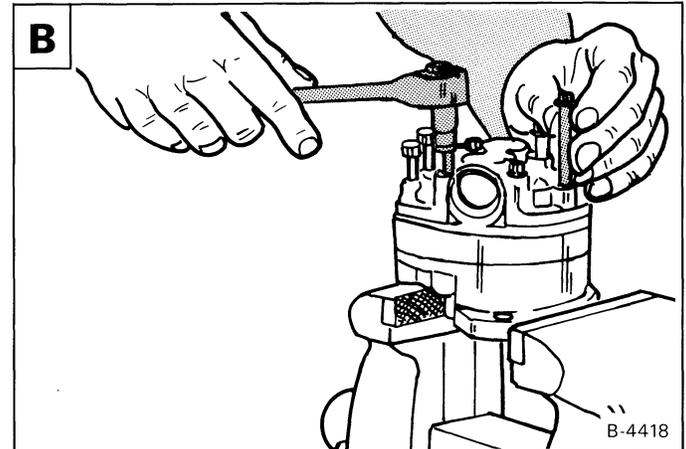
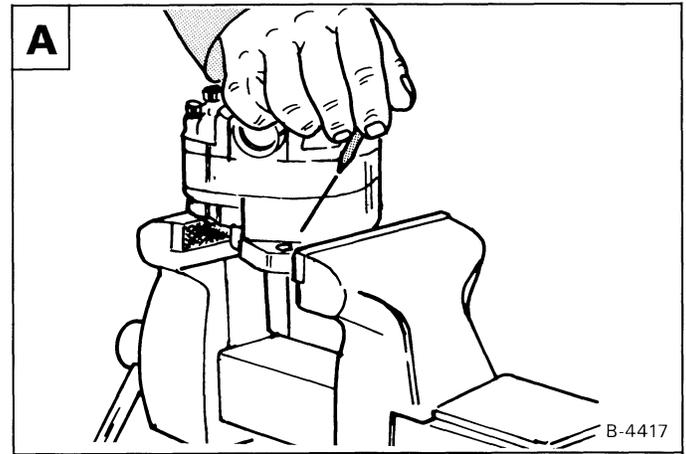
Put a mark across the body for correct assemble **A**.

Remove the bolts from the pump **B**.

Assemble: Tighten the bolts to 23 ft.lbs. (31 Nm) torque.

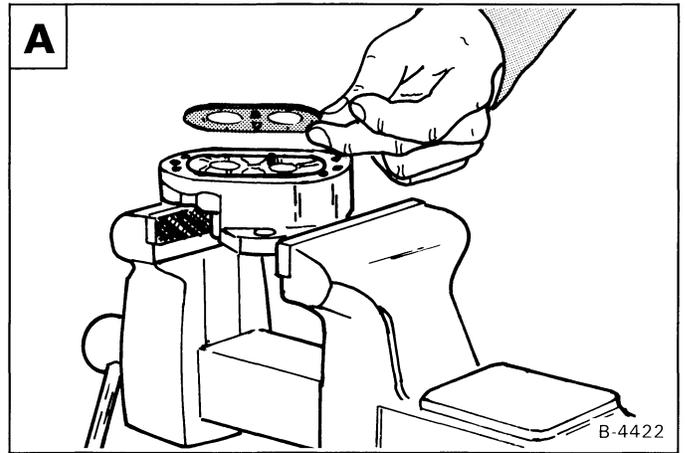
Remove the pump housing **C**.

Remove the idler and drive gears **D**.



HYDRAULIC PUMP (Cont'd)

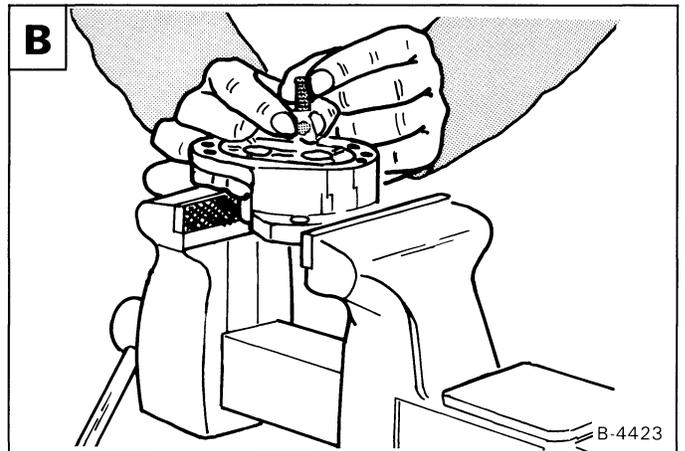
Remove the diaphragm **A**.



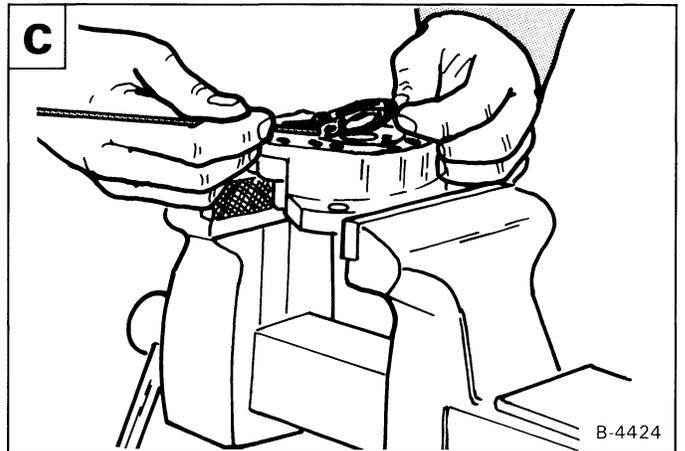
Remove the spring(s) and steel ball(s) from the pump housing **B**.

IMPORTANT

If the pump has the spring and steel ball, make sure to mark the port where they are removed from. If the ball and spring are installed in the wrong port, damage will result to the complete hydrostatic pumps. There can not be a direct pressure port connected to the seal area on the pressure side of the pump.

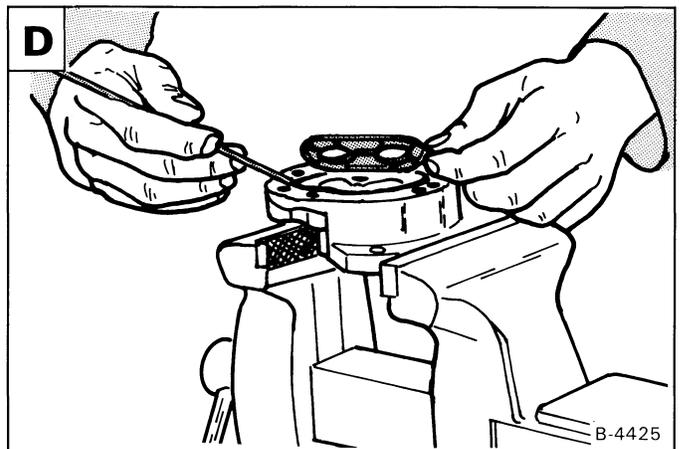


Remove the gasket **C**.



Remove the seals **D**.

Assemble: Always use new O-rings, gaskets and seals when assembling the hydraulic pump.



HYDRAULIC PUMP (Cont'd)

Inspection

Clean and dry all the parts.

Inspect the drive and idler gears **A**.

Check the bearing points and seal area for rough surfaces and wear.

If the shaft measures less than 0.685" (17,4 mm) at the bearing points or the gear width is less than 0.924" (23,5 mm), the gears must be replaced.

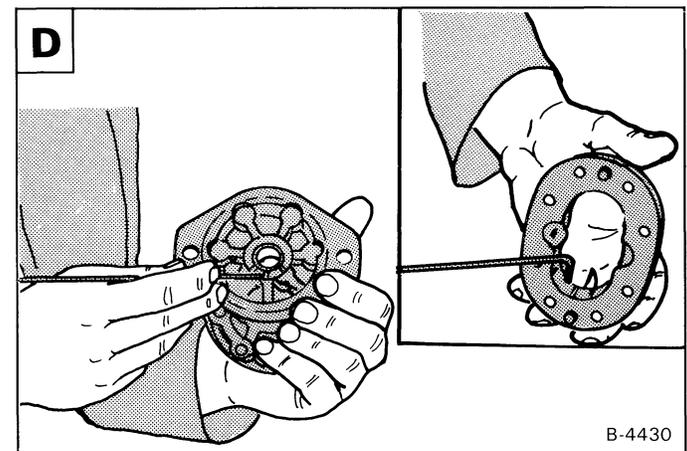
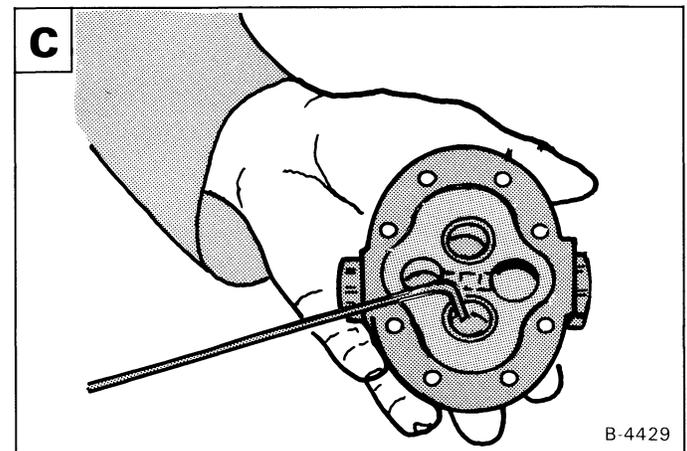
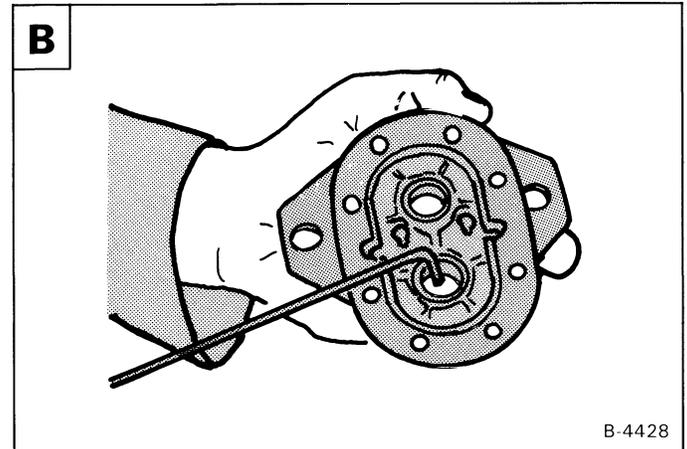
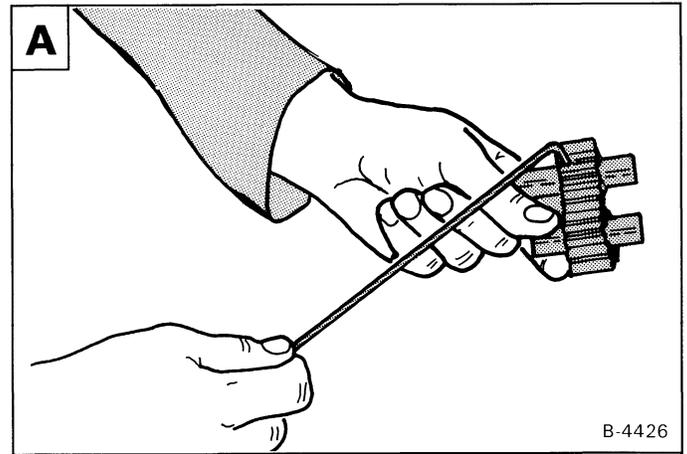
Check the I.D. of the bearings in the front and rear housing **B**
C.

If the bearings measure more than 0.691" (17,5 mm), the housings must be replaced (bearings are not available as a separate items).

Oil grooves in the bearings at both housings must be in alignment with the dowel pin hole and 180° apart. This puts the oil grooves closest to the correct dowel pin **D**.

Check the body gear area for wear **D**.

Replace the parts as needed.





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CESSNA PUMP

PARTS IDENTIFICATION

MODEL: 843 (S/N 15001 & Above)

1213, 2400C 1

HYDRAULIC PUMP

Disassembly and AssemblyC - 2

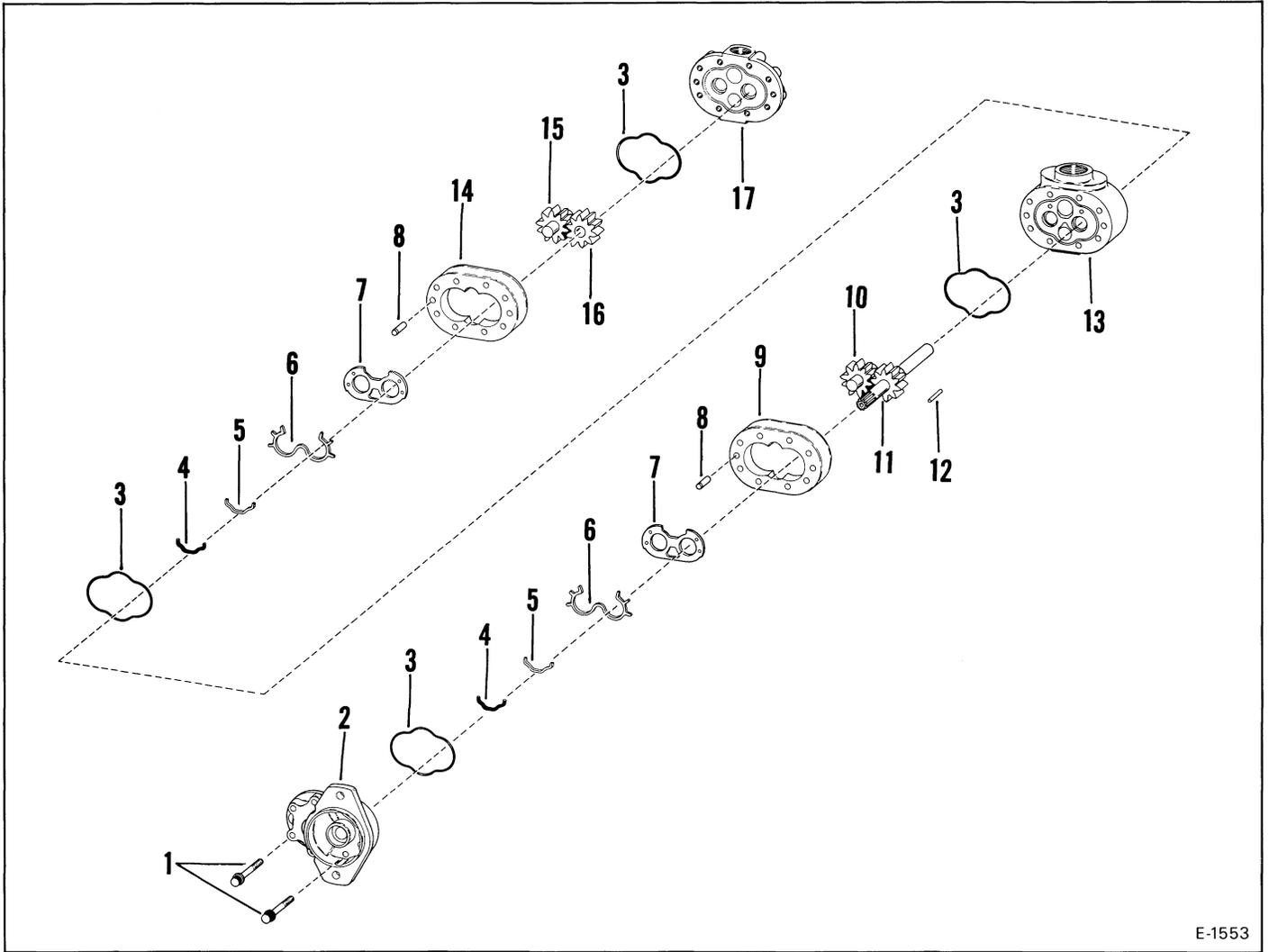
InspectionC - 4

Section C



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PARTS IDENTIFICATION



E-1553

**MODEL: 843 (S/N 15001 & Above)
1213, 2400**

Ref.	Description
1.	BOLT
2.	PLATE, front
3.	O-RING
4.	GASKET
5.	O-RING, molded
6.	SEAL
7.	PLATE, wear
8.	PIN, dowel
9.	BODY
10.	GEAR, idler
11.	GEAR, drive
12.	KEY
13.	PLATE, adapter
14.	BODY
15.	GEAR, idler
16.	GEAR, drive
17.	PLATE, back

HYDRAULIC PUMP

Disassembly and Assembly

IMPORTANT

When making repairs on hydrostatic and hydraulic systems, clean the work area before disassembly and keep all parts clean. Always use caps and plugs on hoses, tubelines and ports to keep dirt out. Dirt can quickly damage the system.

I-2003-0284

Put the pump in a vise.

Put a mark across the body of the pump for correct assembly.

Loosen the pump through bolts **A**.

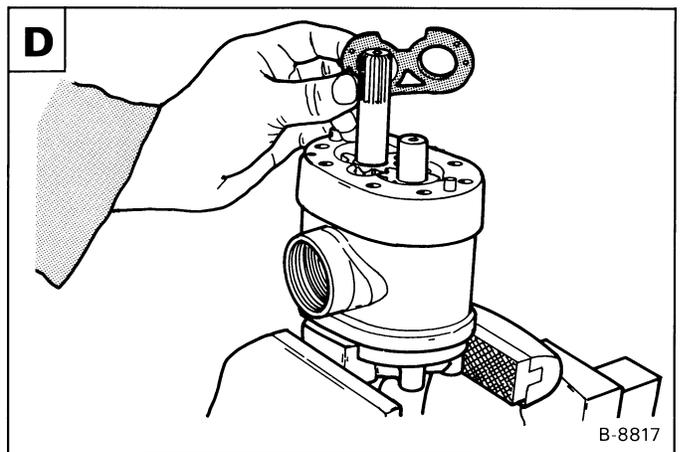
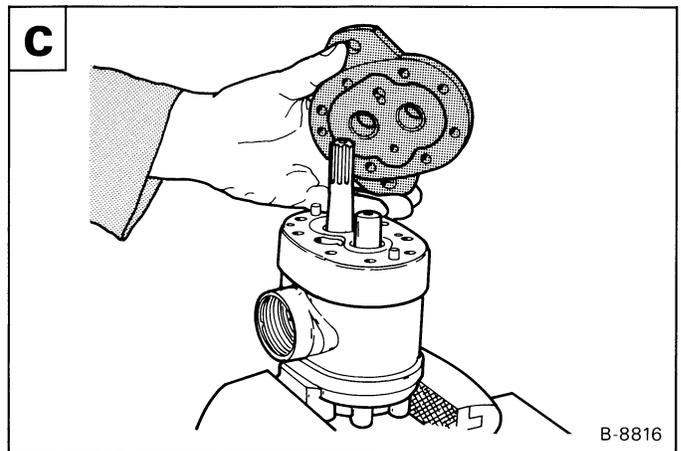
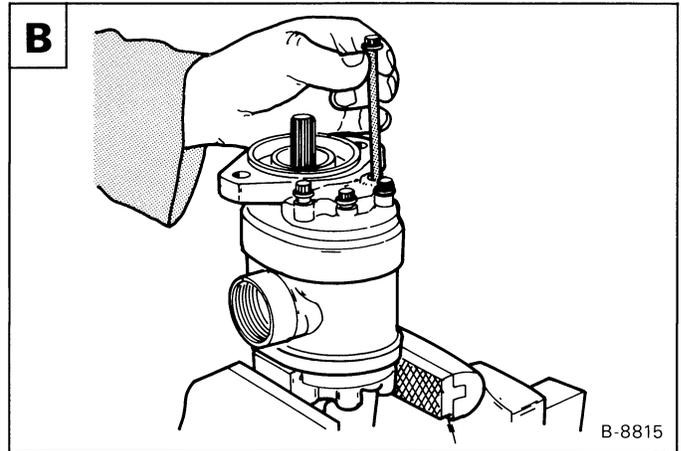
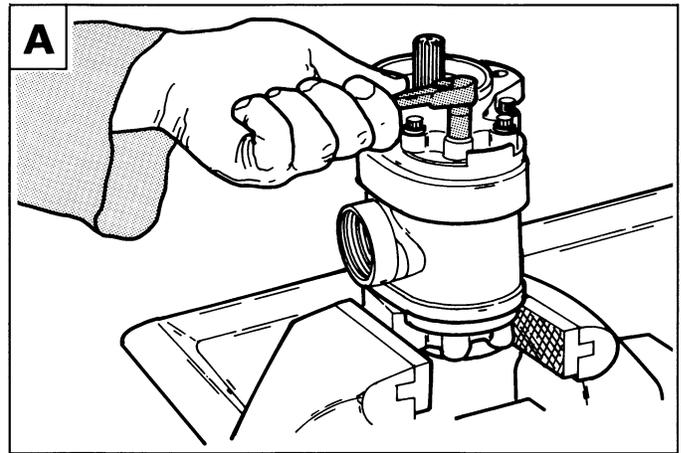
Assemble: Tighten the bolts to 25 - 28 ft.lbs. (34 - 38 Nm) torque.

Remove the bolts from the pump **B**.

Separate the pump body from the end plate **C**.

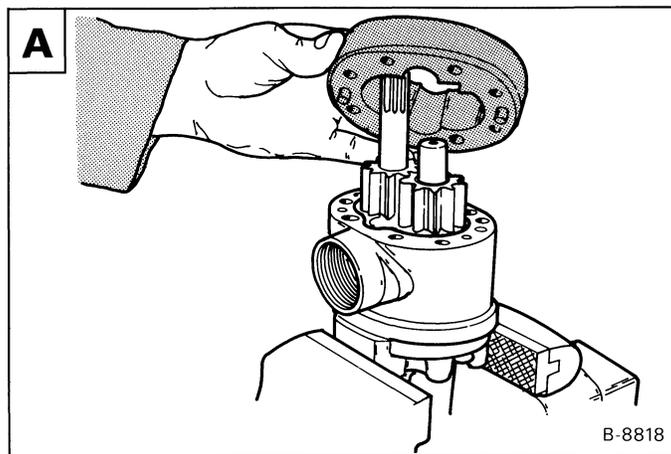
Remove the O-ring.

Remove the pressure plate at the gears **D**.

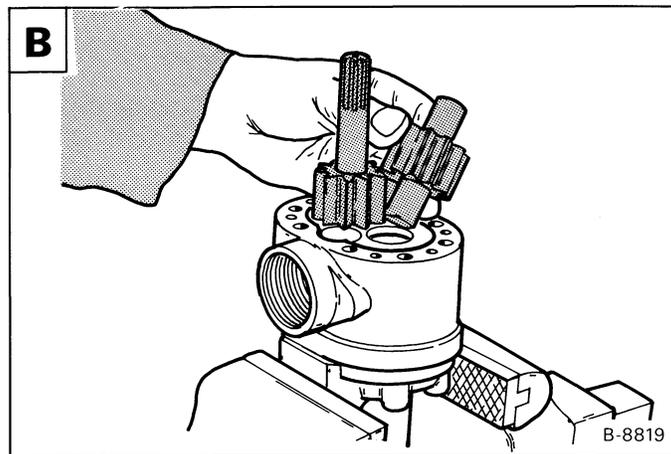


HYDRAULIC PUMP (Cont'd)

Remove the large section from the pump **A**.

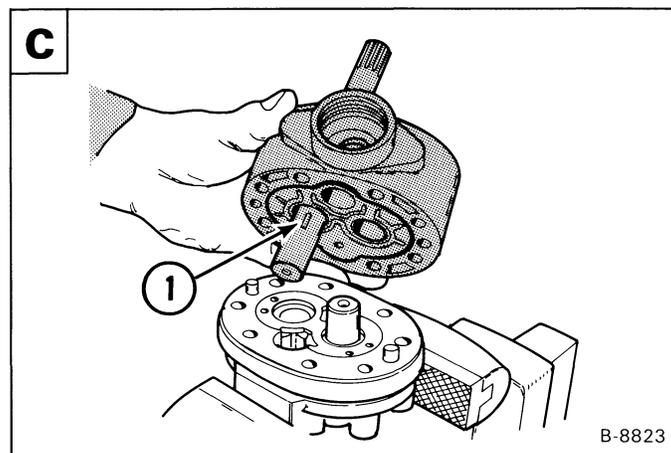


Remove the large idler gear **B**.

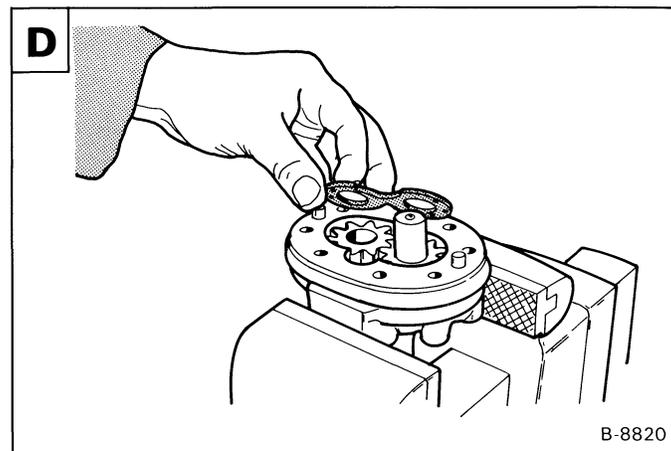


Remove the pump body with the drive gear and shaft **C**.

Assemble: Make sure the round key (Item 1) is in position and engages with the small drive gear slot **C**.



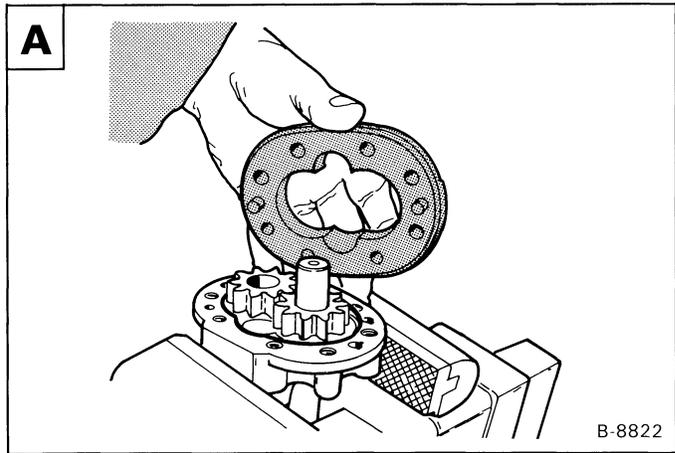
Remove the pressure plate from the small gears **D**.



HYDRAULIC PUMP (Cont'd)

Remove the small section of the pump **A**.

Remove the O-ring.



Remove the small drive and idler gears **B**.

Assemble: Always use new O-rings, gaskets and seals when assembling the hydraulic pump.

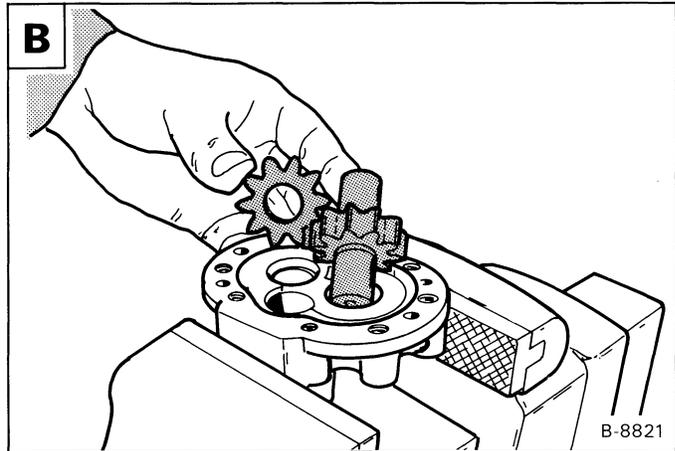
Inspection

Clean and dry all the parts.

Inspect both drive gears and idler gears at the bearing points and seal area for rough surfaces and wear.

Check the bushings in the end housings.

Check the pressure plates for wear.



CESSNA PUMP

PARTS IDENTIFICATION

MODEL: 943, 3022 & 3023 (Charge Pump)D-1

CHARGE PUMP

Disassembly and AssemblyD-2

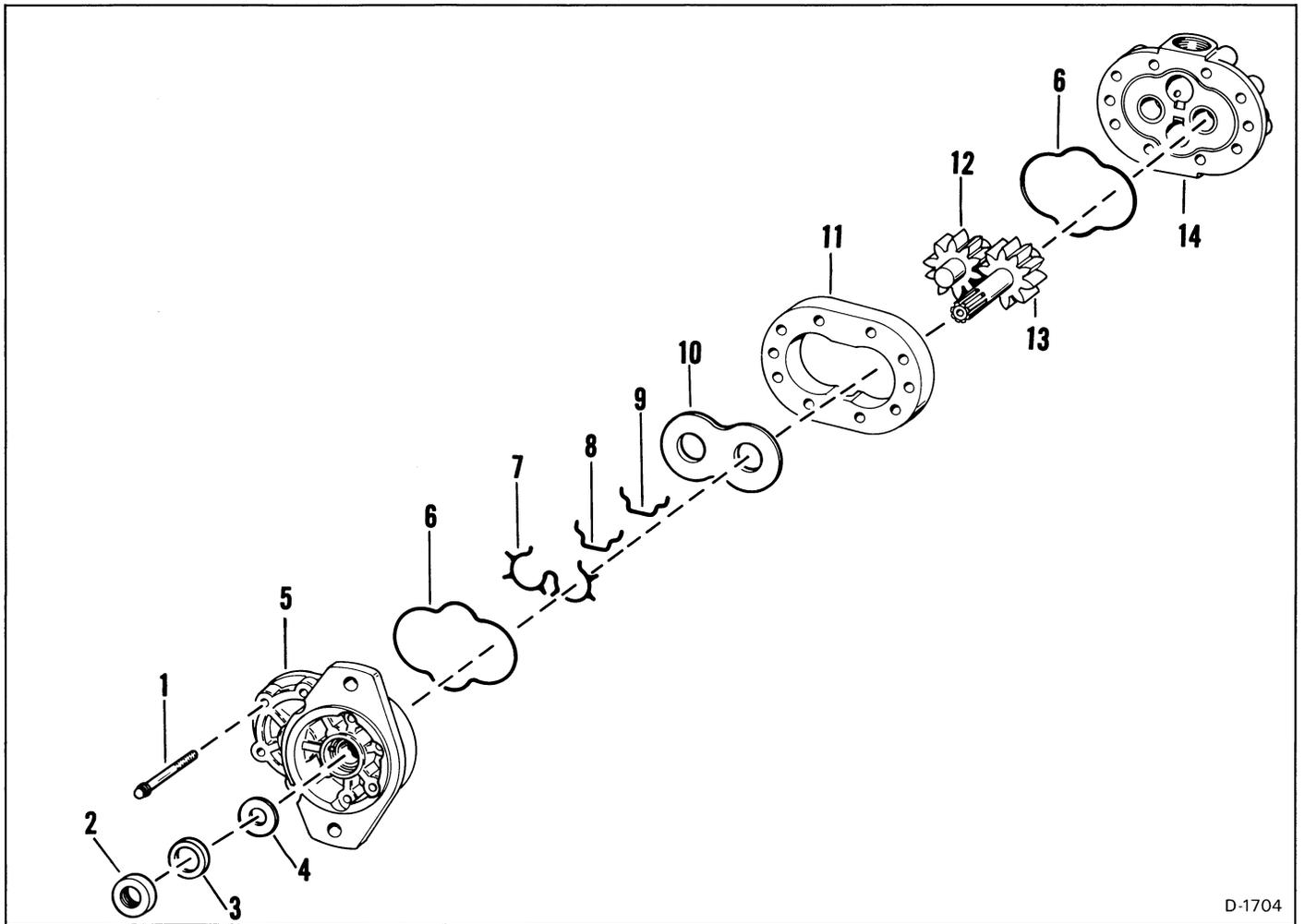
InspectionD-4

Section D



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PARTS IDENTIFICATION



D-1704

MODEL: 943, 3022 & 3023 (Charge Pump)

Ref.	Description
1.	BOLT
2.	SEAL
3.	O-RING
4.	WASHER
5.	PLATE
6.	O-RING
7.	GASKET
8.	SEAL
9.	O-RING, molded
10.	PLATE, wear
12.	BODY
13.	GEAR, idler
14.	GEAR, drive

IMPORTANT

When making repairs on hydrostatic and hydraulic systems, clean the work area before disassembly and keep all parts clean. Always use caps and plugs on hoses, tubelines and ports to keep dirt out. Dirt can quickly damage the system.

I-2003-0284

Mark the charge pump housing for correct assemble **A**.

Loosen the bolts at the pump housing **B**.

Assemble: Tighten the bolts to 22 - 25 ft.lbs. (30 - 34 Nm) torque.

Remove the bolts from the pump **C**.

Remove the pump end housing **D**.

