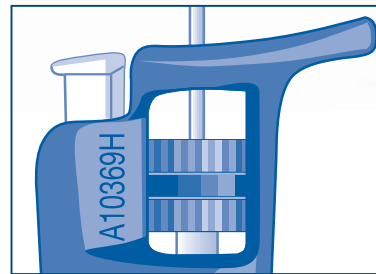


## Step 1 Check the Records

- ▶ Use the serial number to identify the pipette and to determine its age.
- ▶ Check laboratory records for the date of last servicing.



Letter	Year	Letter	Month
A	1984	A	January
B	1985	B	February
C	1986	C	March
D	1987	D	April
E	1988	E	May
G	1989	G	June
H	1990	H	July
J	1991	J	August
K	1992	K	September
L	1993	L	October
M	1994	M	November
N	1995	N	December
P	1996		
Q	1997		
R	1998		
S	1999		
T	2000		
U	2001		
W	2002		
X	2003		
Y	2004		
Z	2005		

Before 1984		
<u>G</u>	<u>80</u>	<u>12345</u>
Month	Year	Production number

Example of a serial number  
A 10369 H

From January 1984		
<u>A</u>	<u>10369</u>	<u>H</u>
Year	Production number	Month

## Step 2 General Appearance

Checked point	Possible causes
▶ Operating-rod - bent ? - corroded ?	<ul style="list-style-type: none"> <li>• Dropped</li> <li>• Lengthy immersion in corrosive liquid for decontamination</li> <li>• Lengthy exposure to corrosive vapors</li> </ul>
▶ Volumeter - dial alignment ? - clarity of numbers ?	<ul style="list-style-type: none"> <li>• Autoclaving changed the appearance and function (the body must not be autoclaved)</li> </ul>
▶ Tip-ejector - corroded ? - broken ?	<ul style="list-style-type: none"> <li>• Lengthy immersion in corrosive liquid for decontamination</li> <li>• Lengthy exposure to corrosive vapors</li> </ul>
▶ Tip-holder - physical or chemical damage ?	<ul style="list-style-type: none"> <li>• Repeated blows</li> <li>• Lengthy immersion in corrosive liquid for decontamination</li> <li>• Lengthy exposure to corrosive vapors</li> </ul>

## Step 3 Check Functions

Procedure	Possible causes
<p>▶ Large volume adjustment</p> <ul style="list-style-type: none"> <li>- Set volume at maximum (i.e. nominal volume) assessing the movement of the friction ring</li> <li>- Activate the push-button to test movement during aspirate and dispense strokes</li> </ul>	<ul style="list-style-type: none"> <li>• Irregular movement hitching, due to damage to the friction ring</li> <li>• No displacement bent operating rod</li> <li>• Jerky movement corroded, dirty or scratched piston</li> </ul>
<p>▶ Volumeter adjustment</p> <ul style="list-style-type: none"> <li>- Go through the entire range. The settings should correspond to the pipette's useful volume range (minimum to nominal volume)</li> </ul>	<ul style="list-style-type: none"> <li>• No adjustment autoclaving</li> <li>• Incorrect volume setting Misindexing; pipette adjustment screw has been incorrectly reassembled</li> </ul>
<p>▶ Tip ejection system</p> <ul style="list-style-type: none"> <li>- Fit tip and depress tip-ejector button</li> <li>- Observe function of tip-ejector</li> <li>- Dismount tip-ejector</li> </ul>	<ul style="list-style-type: none"> <li>• No movement broken return spring</li> <li>• Improper fit not tight enough</li> <li>• Can't dismount corrosion</li> </ul>

## Step 4 Leak Test

Procedure	Possible causes
<ol style="list-style-type: none"> <li>1 Fit Gilson Diamond® tip</li> <li>2 Set volume at maximum (i.e. nominal volume)</li> <li>3 Pre-rinse by aspirating and dispensing water, several times</li> <li>4 Aspirate water</li> <li>5 Hold the pipette in the vertical position for 20 seconds</li> <li>6 For P2 to P200, re-immers in the test liquid; fluid level in tip should remain constant</li> <li>7 Observe if a drop or a leak appears at the orifice of the tip</li> </ol>	<ul style="list-style-type: none"> <li>• End of tip holder may be scratched/damaged (mechanical or chemical)</li> <li>• Improper fit</li> <li>• Use of non-Gilson tips</li> <li>• Organic solvent, vapor pressure</li> </ul>
<p>▶ Check these</p> <p>▶ Tip-holder - leak ?</p> <p>▶ Tip - leak ?</p>	

## Step 5 Disassembly - Reassembly

Disassembly	Reassembly
<ol style="list-style-type: none"> <li>1 Eject the tip</li> <li>2 Pull the tip ejector down</li> <li>3 Unscrew the connecting nut</li> <li>4 Separate the handle from the bottom part</li> <li>5 Remove the piston from the tip-holder</li> </ol>	<p>To avoid losing or damaging fragile parts, reassemble the pipette immediately.</p> <p>Be sure to respect the correct order of parts: the piston seal should always be positioned before the O-ring.</p> <p><b>Note:</b> You should never disassemble the body (handle) of the pipette.</p>
<p>▶ Piston surface corroded, scratched or damaged</p> <p>▶ Piston Seal and O-ring damaged (mechanical or chemical)</p>	