



**TROUBLESHOOTING
AND
TECHNICAL
BASE SERVICE
FOR
4300/4400
SERIES
TOILETS**

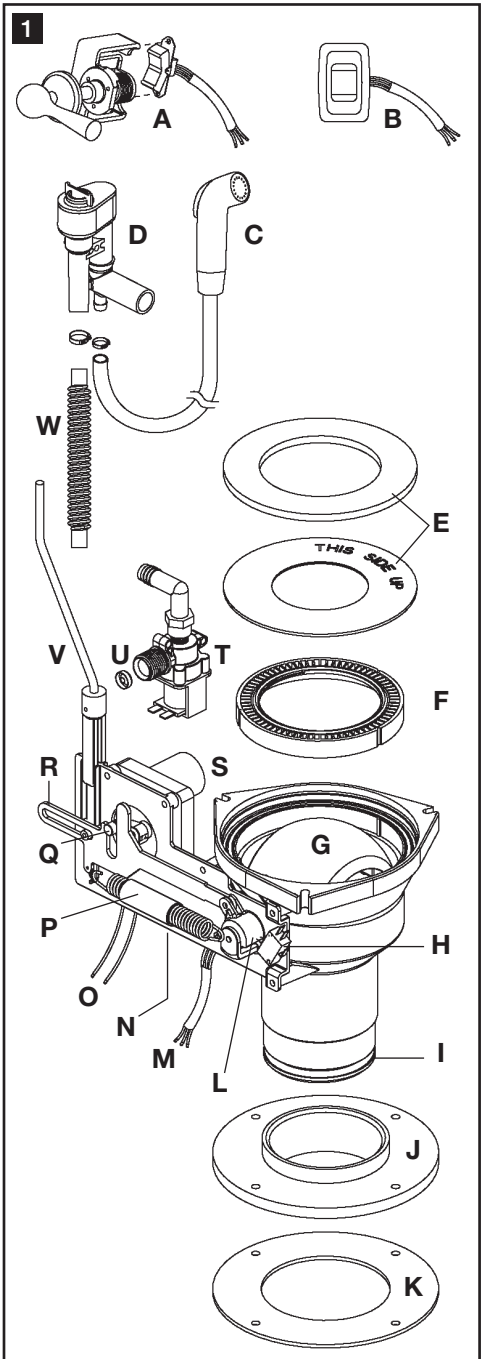


Troubleshooting guide

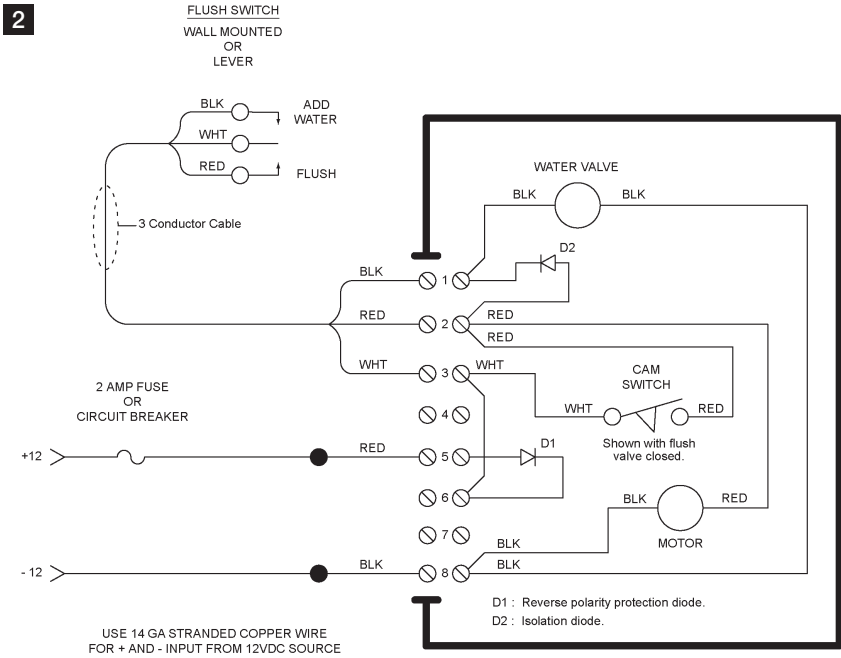
Toilet base components (fig. 1)

Ref.	Description
A	Flush handle (4300 series)
B	Flush switch (4400 series)
C	Hand sprayer (optional – not on all models)
D	Vacuum breaker
E	Bowl and flush ball seals
F	Seal plate
G	Flush ball
H	Cam switch (adjustable)
I	O-ring
J	Floor flange adapter
K	Flange adapter seal
L	Rotor shaft cam
M	Flush switch cable (4400 series)
N	Terminal block (opposite side)
O	Power wires
P	Flush spring
Q	Drive arm
R	Drive linkage
S	Flush ball drive motor
T	Water valve
U	Screen
V	Manual flush lever
W	Bowl water supply hose

Refer to complete parts list (packed separately) for additional information.



Wiring diagram



Troubleshooting information

Symptom	Possible Cause	Service Instruction
1. Toilet will not flush and water will not enter toilet bowl.	Fuse blown or circuit breaker is tripped.	• Check toilet fuse or circuit breaker at DC distribution panel. • Check for loose/defective wiring between power source and toilet terminal block pins 2 and 3. • Check for reverse polarity of incoming power. • Check for defective diode D1 at pin 5 of terminal block.
2. Water enters toilet bowl, but toilet will not flush.	Electrical or mechanical failure related to flush valve.	• Check for loose/defective wiring between flush switch and toilet terminal block pins 2 and 3. • Flush switch may be defective. Replace if necessary. • Check for loose flush ball motor wires at terminal block pins 2 and 8. • Flush ball motor may be defective. Replace if necessary. • Flush motor drive arm failure. See p. 12 for replacement instructions. • Drive linkage failure. See p. 7 for replacement instructions.

Symptom	Possible Cause	Service Instruction
3. Water will not enter toilet bowl, but toilet flushes. 	Blocked water supply or electrical failure.	• Blockage in water line to toilet. Remove line and clear. • Filter screen at water valve inlet is clogged with debris. Remove water line and clear debris. • Loose or defective wiring between water valve and terminal block pins 1 and 8. • Defective water valve. Replace with new water valve.
4. Water will not enter toilet bowl when flush handle or wall switch is in "Add Water" position. 	Electrical connection failure.	• Loose or defective wiring between flush switch and terminal block pins 1 and 3. • Defective flush switch. Replace with new flush switch.
5. Water will not shut off and overflows toilet bowl. 	Water valve-related failure.	• Debris in water valve. • Defective water valve. Replace with new water valve.
6. Flush ball constantly cycles between open and closed position.	Component adjustment required or defective component.	• Cam switch needs adjustment. See adjustment procedure for flush ball over-travel on p. 6. • Cam switch is defective. Replace. • Drive linkage defective. See replacement instructions, p. 7. • Shorted wiring between flush switch and terminal block pins 2 and 3. • Defective flush switch. Replace.
7. Flush ball opens slowly and will not open when manual flush lever is pressed.	Component adjustment required or defective component.	• Flush spring is defective. Replace. • Excessive drag between flush ball and flush ball seal. Lubricate flush ball and seal with silicone spray.
8. Flush switch must be held in "Flush" position to close flush ball. 	Defective electrical component.	• Loose or defective wiring between cam switch and terminal block pins 2, 3 and 6. • Cam switch is defective. Replace.
9. Flush ball will not close completely. 	Component adjustment required or defective component.	• Cam switch needs adjustment. See adjustment procedure for flush ball over-travel or under-travel, p. 11. • Cam switch is defective. Replace. • Rotor shaft cam is loose or defective. If defective, see replacement instructions, p. 7. • Drive linkage is worn. See replacement instructions, p. 7.



Caution - Electrical system
Turn off electrical power before servicing.



Caution - Motor starts automatically
Turn off electrical power before servicing.

Symptom	Possible Cause	Service Instruction
10. Flush ball will not close completely.	Component adjustment required or defective component.	• Rotor shaft cam is loose or defective. If defective, see replacement instructions, p. 7.
11. Squeaky noise occurs when flush ball is opening.	Lubrication of component(s) is required.	• Drive arm/drive linkage joint needs lubricated with silicone grease. • Flush ball and seal needs lubricated with silicone spray.
12. Water will not stay in bowl (leaks down through flush ball seal). 	Incomplete seal between flush ball and rubber seal.	• Cam switch needs adjustment (see adjustment procedure for flush ball over-travel, p. 6). • Mounting bolts that hold base assembly to ceramic toilet need tightened. Caution: Excessive tightening of bolts can damage toilet. • Flush ball seal is worn and needs replaced. See instructions, p. 6. • Flush ball is worn and needs replaced. See instructions, p. 7.
13. Toilet flushes in both "Add Water" and "Flush" switch positions. 	Defective electrical component.	• Diode D2 on terminal block pins 1 and 2 is defective. Replace with new diode.
14. Water will not enter toilet bowl during "Flush" cycle. 	Defective electrical component.	• Diode D2 on terminal block pins 1 and 2 is defective. Replace with new diode.
15. Water is leaking from toilet onto floor. 	Loose connection or defective component.	• Loose water line connection. Tighten connection. • Loose or defective vacuum breaker. Replace if defective. • Defective water valve. Replace with new water valve. • Ball seal is defective and needs replaced. See instructions, p. 7. • Mounting bolts that hold base assembly to ceramic toilet need tightened to 20-25 in.-lbs. of torque. Caution: Excessive tightening of bolts can damage toilet.



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Servicing toilet base components

ALIGNING CAM SWITCH/FLUSH BALL

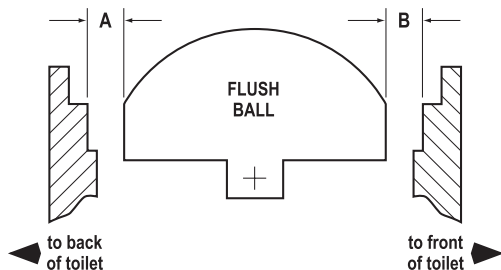
The flush ball should be properly positioned so that the "A" and "B" distances are equal (see illustration at right). If the flush ball becomes misaligned (resulting in water leaking from bowl or other flushing problems), follow instructions below to resolve problem.

REMOVING TOILET FROM FLOOR

1. Turn off water and electrical power to toilet.
2. Disconnect water inlet hose from toilet.
3. Remove toilet from floor and turn it upside down. **MAKE SURE POWER WIRES REMAIN SECURE.**

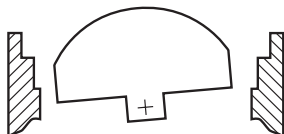
TO CORRECT PROBLEMS 6a, 9a and 12a:

4. Loosen cam switch mounting screws with 3/32-inch hex tool and 1/4-inch box-end wrench. Slide cam switch up or down (see illustrations below) depending on flush ball position.

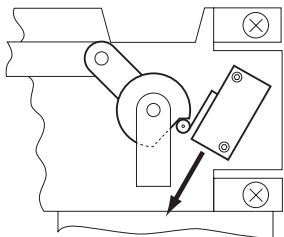


5. Tighten cam switch mounting screws, apply electrical power and check adjustment. Repeat as necessary.
6. After cam switch and flush ball are properly positioned, connect water line and reinstall toilet.

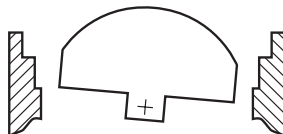
Over-travel condition



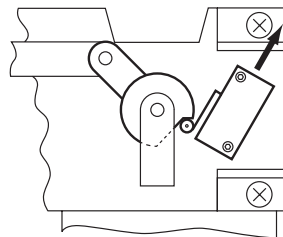
Slide cam switch DOWN



Under-travel condition



Slide cam switch UP



REPLACING THE FLUSH BALL SEAL

1. Turn off water and electrical power to toilet.
2. Remove toilet from floor and turn it upside down. **MAKE SURE POWER WIRES AND WATER LINE REMAIN SECURE.**
3. Remove three nuts and flat washers securing base assembly to toilet bowl using a 1/4-inch drive ratchet wrench, 7/16-inch deep-well socket and extension.
4. Pull vacuum breaker out of the sealing grommet located in rear of toilet bowl.
5. Lift base assembly from toilet.
6. Replace old seals with a complete seal kit.
7. Reconnect base assembly to toilet with new mounting bolts (L-shaped) included with seal kit. Tighten nuts to 20-25 in.-lbs. torque.
8. Reassemble and reinstall toilet.

REPLACING THE FLUSH BALL

1. Turn off water and electrical power to toilet.
2. Open the flush ball with the manual flush lever.
3. Remove toilet from floor and turn it upside down. **MAKE SURE POWER WIRES AND WATER LINE REMAIN SECURE.**
4. Disconnect the water line, input power wires (pins 5 and 8), and flush switch wires (pins 1, 2, 3).
5. Pull the vacuum breaker out of the sealing grommet that's located in rear of toilet bowl.
6. Remove the three nuts and flat washers securing the base assembly to the ceramic toilet bowl using a 1/4-inch drive ratchet wrench, 7/16-inch deep-well socket and extension.
7. Lift the base assembly from the toilet.
8. Remove the bowl seal, flush ball seal, and retainer plate to expose the flush ball.
9. Disconnect the drive linkage from the manual flush lever using a phillips-head screwdriver. Remove one end of the flush spring.
10. Rotate the flush ball to expose the flush ball screw head. Remove the screw, rotate the ball to the closed position, and remove the flush ball from the rotor shaft. Lift the flush ball out of the base.
11. Remember to keep the rotor shaft in the closed position when installing the new flush valve.
12. The cam switch will require readjustment after flush ball installation. See "Adjusting Cam Switch" on page 11.
13. Remember to tighten new mounting bolts to 20-25 in.-lbs. of torque.

REPLACING THE ROTOR SHAFT OR ROTOR SHAFT CAM

1. Follow disassembly steps under "Replacing the Flush Ball."
2. Loosen the set screw in the rotor shaft cam using a 1/8-inch hex tool.
3. Pull or pry the rotor shaft out from the inside of the base.
4. Align the flat section on the rotor shaft with the flat section in the cam during reassembly.
5. Reverse the disassembly procedure.

REPLACING THE DRIVE LINKAGE

1. Follow disassembly steps under "Replacing the Rotor Shaft or Rotor Shaft Cam."
2. Remove the linkage pin clip and pin.
3. Insert the new linkage.
4. Reverse the disassembly procedure.

REPLACING THE MOTOR DRIVE ARM

1. Follow disassembly steps 1-3 under "Replacing the Flush Ball."
2. Remove one end of flush spring.
3. Remove one end of manual flush lever spring and push manual lever until drive arm is exposed.
4. Replace drive arm using a 3/32-inch hex tool.
5. Reverse the disassembly procedure.

Customer service

There is a strong, worldwide network to assist in servicing and maintaining your sanitation system. For the Authorized Service Center near you, please call from 8:00 a.m. to 5:00 p.m. (ET) Monday through Friday.

You may also contact or have your local dealer contact the Parts Distributor nearest you for quick response to your replacement parts needs. They carry a complete inventory for the Dometic product line.

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