ZENGO ELECTRICS

4 Hoodcote Gardens, London N21 2NE, United Kingdom
Freefone: 0800-464-7901 Mob: +44-7872-602-911
Email: sean.murphy@zengoelectrics.com

Miele W1 TwinDos repair, assuming that liquid detergent has dried out

Problems indicating that the machine may need repairing:

1. Machine cannot detect the detergent, or fails to release detergent
2. Machine regularly (or continually) requests that you refill the TwinDos detergent container

One line solution description:

1. The TwinDos liquid detergent may have solidified within the machine, requiring physical removal of the solidified detergent before the machine returns to normal functioning.
    a. I assume that you have tried but failed to remedy your problem by following Miele's instructions on "Cleaning the TwinDos system". If you have not tried this step, you should do so before attempting this repair.
2. There is a mechanical lever at the rear of the detergent container. This lever may become loose and may need to be mechanically reset into the correct position. It is also possible that solidified detergent causes this problem since the platinum flow sensor within the machine may not contain any liquid.

Warning: This suggested repair should only be attempted with electrical power removed from the machine. You should only attempt this repair if you are reasonably competent with repair of electrical and mechanical appliances. Should you attempt this repair using these instructions, it is at your own risk and with no liability assumed by the author.

General comment on Miele's transparency on appliance repairs – Miele appears to carefully control disclosure of information via appliance repair manuals or even spare part numbers. Note that the connection hoses referred to in this leaflet include Miele part number 7826981. Good luck in sourcing spare parts for your machine at reasonable prices.

General comment on Miele's communication with its customers regarding maintenance of the TwinDos system – After encountering this problem, the only reference I found in Miele's operating instructions was buried on page 71. Apparently it recommends that the TwinDos system is cleaned regularly (e.g. ne every three months) otherwise the liquid detergent may dry up within the machine necessitating a service call.

Tools required:

- Torx screwdrivers – T20 and T30 – for disassembling the washing machine
- Bicycle pump and short length of 8mm microbore copper tube – for testing whether a hose is blocked
- Long (50cm+) metal (or similar) implement (e.g. wire coat hanger) used to remove solidified detergent from short lengths of hose
- Torch or similar light source, if needed
- Small flat screwdriver – to prise protective cover off rotary positive displacement pump (assuming that the internal tube has been blocked by solidified detergent)
- Replacement hoses(s) from Miele – if needed (e.g. if you damage the existing hoses while trying to free them of solidified detergent)

Step by step instructions:

Step number	Elapsed time on video	Description
1		Remove electrical power from the washing machine – there is no need to disconnect the water and drain hoses
2		Re-position washing machine as necessary to gain access to the rear of the machine
3		Using a Torx T20 screwdriver, remove the lower rear panel from the washing machine – this gives you access to the TwinDos system at the lower left, beneath the drum
4		Familiarize yourself with the mechanical layout of the TwinDos system, including: • Plastic pipe running from the back of the TwinDos container number 1 (to your right from the rear) • Connection hose 1 running from the rear of TwinDos container 1 (to your right from the rear) to a pair of platinum sensors tilted into the correct position within a plastic holder, with sensor cables running to a small circuit board • A pair of platinum sensors • Connection hose 2 running from the platinum sensors to the inlet of the rotary pump • The rotary pump itself – attached (but hard to see) via three screws to a large plastic part • Connection hose 3 runs from the rotary pump to the front of the washing machine
5		Accept the fundamental nature of this repair. Each of the six items above may be (in my case, was) blocked by solidified detergent. Your task is to gain access to each of these parts and remove the solidified detergent, without damaging the machine or its components. When you are dealing with liquids, you should expect some minor spillage. You may therefore choose to have cloths ready to mop up any mess that may be caused. It may also be useful to have a companion available. Your access to some or all of these parts is rather awkward. However, with patience and some skill this repair job is, in fact, rather straightforward at heart. It helps to have light available so that you can see what you are doing. Before you start disassembling the machine, you may wish to take photos of the various hoses and components. This can then serve as a good reference for replacing these parts in the right place and orientation once removed and cleaned. Disassembly will involve removing flexible hoses from plastic or metal pillars. This can require a moderate amount of force within a constrained space.
6		General warning – the Miele connection hoses appear made of an EPDM or similar soft and flexible material. However, in trying to remove the solidified detergent from these irregularly formed hoses, it is remarkably easy to create holes in the hoses. You should be careful to extend the hoses to as straight a shape as possible before ramming an object through each hose, so that you minimize the risk of damaging the hose.
7		Remove TwinDos container 1 via the front of the machine. This is because liquid would (normally) otherwise flow and create a mess as you disassemble hoses and

		components further through the TwinDos system. Since the detergent has probably solidified, this safety step may not always be necessary, but it still appears advisable.
8		Remove connection hose 1 from the rear of the TwinDos container 1 (to the right from the rear). Assuming that detergent has solidified, you may need to clear the blockage in the plastic pillar at the rear of container 1. According to Miele, solidification of liquid detergent is a risk only for container 1 and not for container 2. This is why I have assumed that container is where the problem is located. I used a small screwdriver to clear the blockage (see also next step)
9		Remove the other end of connection hose 1 from the tilted platinum sensor. For each of these parts, I used two different implements: 1. A length of metal coat hanger which was stiff and had a twisted shape at the end which was perfectly dimensioned to fit within a rubber hose and to pull (or to push) solidified detergent out. 2. A bicycle pump with short length of 8mm copper fitting – when fitted to a length of hose, this allowed me to generate air pressure and to verify whether or not the hose was blocked by detergent. Use one or both of these tools to clear any blockage from connection hose 1. You can also apply the same air pressure approach to the rest of the TwinDos circuit – when free of blockages, the air pressure from the pump quickly runs through the pipes and pump into the washing machine drum base Note: Be careful with the pair of tilted platinum sensors. There are flimsy cables running to a circuit board and these sensors and expensive to replace if damaged. The sensor cables and connector can be removed gently from the circuit board if necessary.
10		Remove both ends of connection hose 2 – one end is connected to the platinum sensors, the other end to the rotary pump. Using the same method as in the previous step, clear any blockage from connection hose 2.
11		Clear any blockage from within the short tube of the platinum sensor.
12		At this stage, you can check whether this subsystem has been cleared of blockages. For example, you can re-assemble the two hoses and platinum sensor and attach it to the pillar at the rear of TwinDos container 1. On replacing the TwinDos container (assumed filled with cleaning fluid or water, not detergent), fluid should be able to flow freely through this sub-assembly. Unless you take protective measures (e.g. having a companion to hard to remove TwinDos container 1 from the front of the machine, you risk creating a small mess.
13		Even though it may feel like a small victory to see this liquid flow freely, you are not yet finished. The two further items to clear are the rotary pump itself and a long (60cm or so) and difficult to reach connection hose 3.
14		Before removing the rotary pump, you need to gain access to it. You need to lift a large plastic part to which two pumps are attached. This is done by reaching past the two pumps and feeling for a plastic clip to the left (Presumably the same is true on the right, but I could not find it). On moving this clip, the entire assembly comes apart from the TwinDos container storage compartment. You can then rotate the assembly and gain access to the rotary pumps.

15		Removal of the rotary pump on the left requires undoing three screws with a Torx T20 tool. You also need to remove the cables and connector attached to the pump, so that it is freed from the circuit board. You should also remove the connection hose 3 from the rotary pump, which can now be removed entirely from the machine.
16		You can view the inner working of the rotary pump through a clear plastic cover. Since all other hoses have likely been blocked by solidified detergent, the same is likely to be true for this pump. This means that we have to remove the outer plastic case (held on my several clips – carefully prise these apart with a small screwdriver) and lift the plastic case away. Take careful note of how the ends of the inner pump hose are located within the plastic housing of the pump. Once cleaned of blockage, you will need to replace these exactly as you found them You can now gently lift the yellow central rotating impeller, which will carry the inner pump hose with it. Both items will come free from the body of the pump. Note how the yellow central impeller mates with a cross-shaped central axle in the body of the pump. This impeller is designed to fit in only one orientation of the four available. When it is re-assembled, this means that its fits correctly only in this single orientation.
17		Now that you have gained access to the inner pump hose, you can gently clean it of any solidified detergent inside it. You can also pass warm water through it to remove any small particles of detergent.
18		Re-assembly of the pump is the reverse of the preceding steps: 1. Clean the inner pump hose 2. Manoeuvre the inner pump hose and central rotating impeller into the correct orientation as per the axle on the pump body (look closely to verify this), then gently press these parts together. 3. Position the ends of the inner pump hose onto the correct indentation on the pump body. This may take some practice to get right. 4. When correctly in position, the inner pump hose, its end plastic hose pillars and the central rotating impeller should fit snugly into the pump body, allowing the clear plastic cover to clip into place. 5. Clip the clear plastic cover back into place.
19		Before re-assembling the rotary pump, let's move on to clearing blockages from connection hose 3. Before doing so, you may wish to take the opportunity to use the bicycle pump to verify whether or not this hose is in fact blocked. Another way of verifying this is by re-assembling the hoses and pump, re-inserting the TwinDos container 1 and running through the "Cleaning the TwinDos system" maintenance routine one more time. If the last connection hose is, in fact, blocked then the rotary pump will probably fail to clear the blockage and begin leaking liquid under pressure. It is simpler to assume that this long hose is blocked. Before re-assembling the rotary pump via its three screws, ensure that you have correctly re-connected the cables from the circuit board to the pump. If you forget this step, the pump cannot run.
20		Since this long hose runs from the back of the machine to the front of the machine, you now need to gain access to the front of the machine (which is surprisingly easy for once). This involves both: • Removing the top of the machine, and

		• Removing the front of the machine
21		Remove the top of the machine – via two Torx T20 screws hidden underneath plastic caps at the sides of the machine. The entire top of the machine lifts upwards via hinges at the rear. Place to one side.
22		Free the front instrument panel from the front of the machine – this simply lifts off, though it helps to free up the cables running across the top of the drum which are twisted around some safety clips
23		Remove the front of the machine – Using two Torx T20 screws at the top, previously hidden by the instrument panel which you have previously edged out of the way. Once the screws have been removed, you also need to: • Remove two T20 screws holding the door latch in place • Remove a single large T30 screw underneath the rubber drum seal • Remove the drum seal – using a flat screwdriver to lever away the spring-loaded door clamp band (easiest to the right of the seal) • Manually lever the drum seal away from the front of the machine Lift away the front of the machine (which may be heavy) and place to one side
24		At the front of the washing machines, you have now revealed the TwinDos container receptacle, to the bottom right hand side of the machine. The front section clips away from the rear section. You need to remove two T20 screws holding the rear sector to the front frame.
25		You can see two connection hoses running around the side of the TwinDos container receptacle, held in place by two plastic cut-outs. These hoses join hose pillars at the front of the receptacle. You should loosen and remove the hose from Container 1 (the lower of the two hoses), then free it from the two plastic cut-outs and remove the entire hose (which should be free from the rear). You may need to joggle the plastic feet of this container assembly free of the metal base of the washing machine frame in order to gain access. You may now use the metal cost hanger to remove any solidified detergent (of which there may be quite a lot). Once free, you can re-assemble to the rotary pump at the rear and test with the bicycle pump. If everything has gone well, the entire assembly from the rear of Container 1 to the front of the washing machine should now be clear and free of solidified detergent.
26		There is one remaining short connection hose attached to the drum base, but this will probably be free of blockage. You can, in any case, check this with the bicycle pump.
27		Your final step is to re-assemble all the hoses, pump and connectors in the assembly. Replace the container receptacle (with plastic feet pushed back into place), using two screws, then clip the front of this container assembly back into place. Re-fit the front of the washing machine, including latch screws, drum seal and Torx T30 screw and spring-loaded door clamp. Re-fit the top of the washing machine.
28		Re-connect all rear hoses with the rotary pump, platinum sensor and container 1 hose pillar. Verify that all hoses are in position. If necessary, verify that the circuit board behind the TwinDos container assembly is in the correct position. It fits into a pair of small slots. If out of place, it can interfere

		with the operation of the TwinDos sensors, generating error messages such as “Out of liquid”. Note part of the video illustrating how there are plastic levers which trigger microswitches that verify whether a TwinDos container is present or not.
29		You can now replace the TwinDos detergent/cleaner container, re-connect the electrical power and run the “Cleaning the TwinDos system” maintenance cycle. If the repair went well, liquid should flow through the cleaned hoses, sensor and pump and reach the washing machine drum..
30		You can now observe the system in operation, checking for leaking pipes and free operation of the rotary pump. The whole system should run smoothly and quietly. Please then replace the rear of the washing machine and push everything back into place. Congratulations – you have by now hopefully completed the repair of your Miele TwinDos washing machine. Note that the hoses may be filled with cleaning fluid. It may take a few more wash cycles (using a detergent filled Container 1) before the detergent quickly reaches the washing drum once required.