

# *Instructions*

## RV Motor Starting Relay and Capacitor

Description	Item Number
RV Motor Starting Relay	A071-99-041
RV Motor Capacitor	E219-17-006



## Important safety Information

- Vacuum pumps are potentially dangerous if incorrectly used, repaired or maintained, so please approach the repair or maintenance with caution.
- Any incorrectly fitted spare parts could damage your pump and could be potentially dangerous.
- Never allow unqualified personnel to attempt to remove or replace any part of the pump.
- If you have any doubts about the servicing procedures or the products capabilities please contact Edwards.
- Before returning any equipment to Edwards for repair please follow the Edwards HS1 procedure and complete an HS2 declaration form to warn of any substances used or produced in the equipment that can be dangerous. The procedure and forms are included with the pump instruction manuals and can be downloaded together with Edwards local contact details from [www.edwardsvacuum.com](http://www.edwardsvacuum.com)
- Always conform to service schedules unless adverse conditions necessitate more frequent servicing.
- Report any defect before an accident or consequential damage can occur.
- Observe local and country specific regulations, norms and guidelines.
- Never allow anyone to remove large or heavy components without adequate lifting equipment.
- Before maintenance work is begun, ensure the pump is switched off and isolated from the mains.
- The pump may have been exposed to processes which use hazardous substances or produces by-products which are dangerous to human health and safety, for example, chemically active, biologically active or radioactive substances.
- Before working on a pump, ensure that the correct personal protective equipment is available and being used. Always wear safety goggles. Wear a breather mask with positive air pressure and take other precautions if you believe the pump may be contaminated with hazardous substances and dusts.
- When applying sealants and lubricants, prevent contact with the skin by wearing suitable gloves.
- Seals may contain fluoroelastomer, which when properly handled is not dangerous but which may produce a toxic and corrosive residue (hydrogen fluoride or hydrofluoric acid) in the event of excessive heat or fire depending on the circumstances of degradation and other materials involved.
- On completion of maintenance, check the pump functions correctly and that all guards and protection devices are fitted and working correctly and that the pump is electrically safe.
- If the pump is used for handling hazardous substances check the pump for leak-tightness before use.
- Dispose of waste oil and any process by-products in accordance with local and national safety and environmental requirements. It is usually illegal to dispose of waste oil into drains or water courses, or to bury it.

# 1 Introduction

These Instructions apply to the RV Motor Starting Relay and RV Motor Capacitor, which can be used in any of the RV3, RV5, RV8 and RV12 rotary pumps.

## 2 Replace the Motor Starting Relay and Capacitor

1. Switch off the pump, isolate it from the electrical supply and allow it to cool to a safe temperature.
2. Refer to [Figure 1](#). Undo the four screws (1) which secure the cover (2) to the top of the pump-motor and remove the cover.
3. Partly lift the old Motor Starting Relay (5) from its retaining slot, so that you can access the relay terminal connections.
4. Use a suitable screwdriver to lever the terminal connections off of the relay.
5. Dispose of the old relay safely, in accordance with all local and national safety and environmental requirements.
6. Look at the code on the Motor Starting Relay to ensure that you have the new relay (the code should be '4771xxxxUBx', where x is any character), then hold the new Motor Starting Relay with terminals 1 and 4 at the top (that is, nearest the motor cover), then fit the terminal connections to the terminals on the relay as shown in [Table 1](#):

Table 1 - Motor Starting Relay terminal connections

Terminal connection wire colour	Relay terminal
Blue	1
Black	2
Purple	3
Yellow	4

7. Slide the Motor Starting Relay into the retaining slot; ensure that you do not trap any of the relay wires when you fit the relay. Note that you may have to cut the cable ties which secure the relay terminal wires to allow you to easily fit the relay. Note also that on some older pump-motors you may have to orientate the relay with pins 2 and 3 at the top to allow you to fit the cover properly.
8. Partly lift the old Motor Capacitor (3) so that you can access the terminal connections, then use a suitable tool to lever the terminal connections from the capacitor. Remove the old capacitor and safely dispose of it, in accordance with all local and national safety and environmental requirements.
9. Take the new capacitor, then look at the markings on the capacitor to ensure that you have the new capacitor (the capacitor should be 160  $\mu$ f, code 'KP8174'), then hold the new capacitor as shown in detail C and fit the terminal connections to the terminals on the capacitor as shown in [Table 2](#).

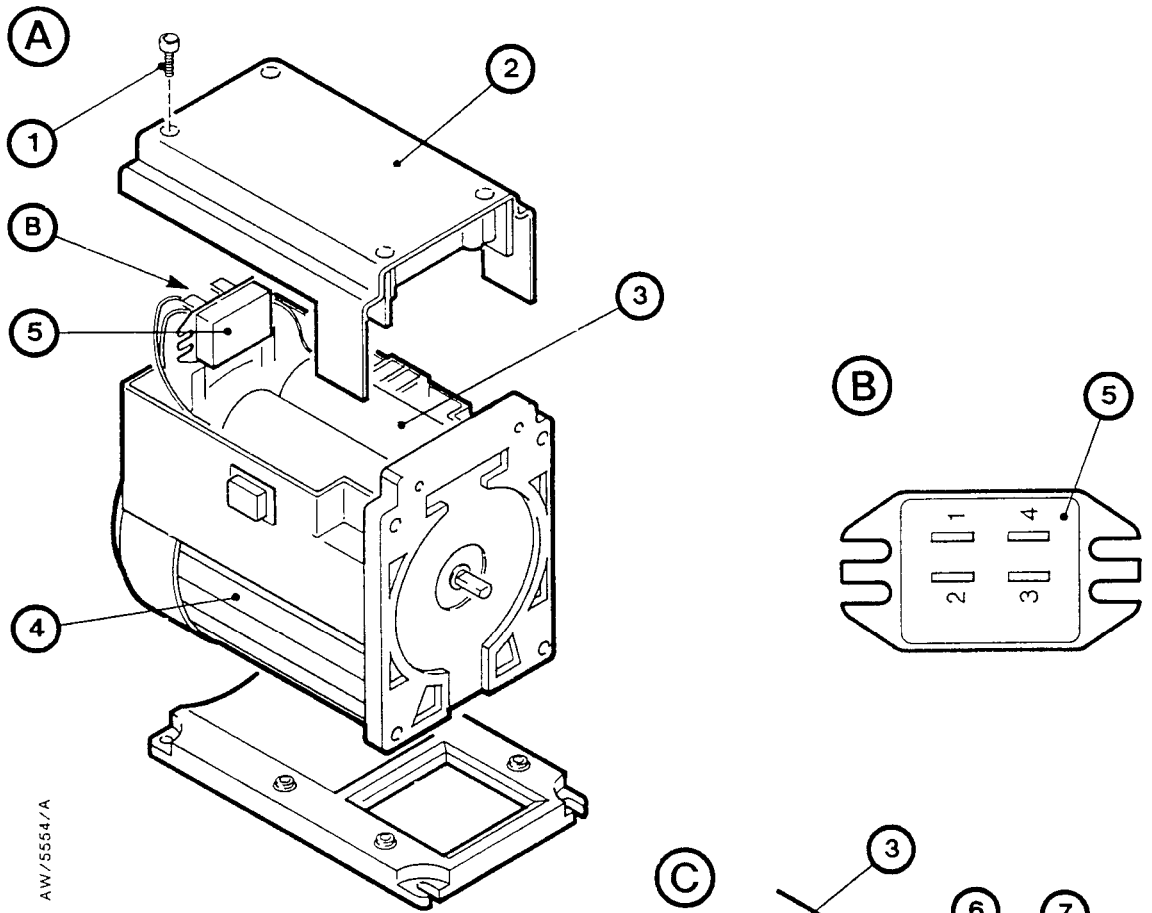
Table 2 - Capacitor terminal connections

Terminal connection wire colour	Capacitor terminal
Purple (8)	Left terminal (9)
Yellow (7)	Right terminal (6)
Yellow (7)	Right terminal (6)

10. Slide the new capacitor into the pump-motor enclosure; ensure that you do not trap any of the wires.

11. Ensure that the voltage shown on the voltage indicator corresponds with your electrical supply voltage; if it does not, reconfigure the pump-motor: refer to the RV pump instruction manual.
12. Use the four screws (1) removed in **Step 1** to secure the cover (2) to the top of the pump-motor (4). Ensure that you do not trap any of the wires when you fit the cover.
13. Reconnect the pump to the electrical supply.

Figure 1 - Remove/fit the Motor Starting Relay



AW/5554/A

1. Screw
2. Top cover
3. Capacitor
4. Pump-motor
5. Motor Starting Relay
6. Terminal
7. Yellow wire
8. Blue wire
9. Terminal