

# Guidelines for fitting Lockwood dials into a Miata Mk1

## (Part No. 8020)

***Do not open this packet until you are absolutely sure that these dials match those in your car.***  
***Pay particular attention to the starting and finishing numerals / calibrations on each dial.***

**Equipment reqd:** Phillips screwdrivers, 10mm & 12 mm socket & ratchet, small & medium flathead screwdrivers, lead pencil, sharp knife, scissors, a small shallow dish, in which to keep small pieces to prevent them from getting lost, a hairdryer, soft, clean cloths, and a clear worktop in a clean, well illuminated work environment.

- 1 **Fill up your fuel tank and bring your oil level to the 'full' mark.**
- 2 **Marking the position of the needles on your new dials.** Start the engine, allow it to run for twenty minutes and, with the engine still running, carefully note the positions of the needles. Now take your new dials and put a pencil mark on all five of them to correspond exactly to these positions. These marks will show you where to place the needles when you come to refit them. Make the marks at the extreme outside edges of the dials so that they will be hidden by the black mask when reassembled.
- 3 **Disconnect the negative terminal on your battery.**
- 4 **Unclip the metal, centre lower panel assembly from below the dash, directly underneath the steering wheel.**
- 5 **Lower the steering wheel assembly.** Remove the two 12mm steering column bolts, one from either side of the steering column, underneath the dash (you will have to move the wiring harness slightly to access these two bolts).
- 6 **Remove the instrument cluster 'cowl.'** Remove the two Phillips screws from its underside, one on each side of the steering column. Grasp the cowl, very firmly, and draw it towards you. This requires a lot of effort, because the clips holding it in are very strong.
- 7 **Remove the four Phillips screws on the face of the instrument cluster.** Lower the wiper and headlight controls if necessary.
- 8 **Remove the instrument cluster.** Ease it towards you until it is restrained by the connections behind it. Go outside the car and look through the windscreen to locate the speedo. cable and the two wiring harness clips (three if your car has a 'Defroster' light). Unclip the 2 harness connectors and remove the speedo. cable. Do this by squeezing in the white plastic clip at the end of the cable. If your car has a defrost light, you'll have a third harness to unclip at the lower left. You may now take your instrument cluster to the bench to work on it.
- 9 **Remove the lens and black mask from the front of the instrument cluster.** This is held in place by seven, black, spring-clips. So, with your thumbs on the two top clips, place your fingers over the two screw-holes in the white housing and use your thumbs to press these black clips downwards and inwards, until the black section separates from the white. Insert pieces of card to stop them clipping together again, and then, free the remaining clips. (If your thumbs are not strong enough, you will have to use a flat-headed screwdriver).
- 10 **This step applies only where the car has a 'defrost' light.** It sounds complicated but it is very simple. Before the black mask will come away from the white housing, the red and white wires with the white connector on the end, have to be fed through the hole in the back of the white housing. Do not pass the connector through the hole, only the wires. Make a mark on the terminal to which the red wire connects (to aid you when reconnecting), and then remove the two screws and disconnect both wires.
- 11 **Remove the needles.** Cut a slit in a sheet of paper and slide the paper under the hub of a needle, leaving the needle exposed but the dial faces covered (this is to protect the dial mechanism from the heat of the hairdryer). Now, take two teaspoons and carefully place the scoop ends of these spoons directly under opposite sides of the hub of this needle, exactly in line with the screws on either side of the hub (see diagram). Using these screw heads as pivots, exert steady, even, downward pressure on the handles, as illustrated, whilst an assistant applies heat from the hairdryer directly to the hub. As you do so, the needle will ease slowly from its spindle. Do not exert excessive pressure because the spindles are very delicate. Remove all of the needles in this manner. The needles are not all the same, so make careful note which spindle each needle comes from. **Caution:** Avoid drawing the needle off at an angle, because this could bend the spindle.

THIS IS A STANDARD ILLUSTRATION AND DOES NOT NECESSARILY MATCH THE DIALS IN THIS PACKET.
- 12 **If you decide to change the colour of the needles.** Leave the white paint on the underside of the needle and colour the upper surface only. Many people use a broad tipped permanent marker because this still allows the needle to illuminate at night. Choose a light colour, such as red, orange or blue.
- 13 **Fitting your new dials.** Remove the two Phillips screws holding the original dial in place. Note carefully which screws come from which dial as they are of different lengths. Now fit your new dials into position and replace the screws. Do this with each dial in turn.
- 14 **Replacing the needles.** Return the instrument cluster to its position in your car. Reconnect the battery, the electrics and the speedo. cable and secure the instrument cluster with the four Phillips screws. Start the engine and allow it to run for twenty minutes. Now, taking the correct needle for each gauge, ease each one gently into position, exactly in line with the pencil mark. Do not press it all the way home, in case it has to be taken off again and repositioned. Switch off the engine and then turn it on again to check that the needles are behaving as they should. Take the car on a short test-run. When you are certain that everything is working correctly, turn the engine off and press the needles fully home. Take one of the new rest-pegs, provided, gently move the tachometer needle clockwise beyond the rest-peg hole and press it into place. Repeat this procedure with the oil gauge.
- 15 **Re-assemble the instrument panel.** Start at step 10 and proceed in reverse order to step 2.

2 Rest pegs

These dials will be a perfect fit in the majority of vehicles referred to on the label, but sometimes, minor variations occur between models during manufacture at the car plant. If this has been the case with your car, it may be necessary for you to make very slight adjustments to the new dials, using a pair of scissors or a craft knife. If more than minor adjustments are necessary, please contact us immediately. Lockwood International make replacement dials for hundreds of different models and it would be impossible to give detailed instructions for every one. The above suggestions from Lockwood customers who have fitted our dials, coupled with a little common sense should be sufficient. But no responsibility will be accepted by the vendor for any damage caused whilst fitting these dials.