Model 225, 232, 235

Basic adjustment of carburetor for E-TECH engines.

To attain the lowest possible amount of harmful emissions from the engine you have to adjust the carburettor according to the following instructions.
This instruction is basically designed for the U.S market to meet the CARB and EPA regulations. Therefore the engine must be set under load when adjusting the H and L adjusting screws.
Furthermore the H and L screws are furnished with locking caps to prevent the end user from modifying the adjustment. The locking caps can be lifted off from the screws to access a wider setting range.
A plastic sleeve is fitted over the locking caps to lock them in the richest setting (counter-clockwise against the stop) while the needles are adjusted. When the adjustment has been made and the locking caps have been knocked onto the needles the plastic sleeve no longer serves a purpose. It is only an aid during adjustment.

After replacement of complete carburettor

1. Check that H needle's locking cap is adjusted to its richest setting. (Turned counter-clockwise to stop.) The locking cap is not fixed to the needle, but can be rotated independently. Do not adjust the L needle as this is set at the factory and the locking cap is already fitted.

2. Fit 4 trimmer cords, diameter 3.3 mm (0.13 inch) on a Trimmy Fix. (Trimmy Fix M10, 531 00 38-69, for 225 and 232. Trimmy Fix M12, 502 13 87-02, for 235.) It may be necessary to drill out the holes in the Trimmy Fix to make it easier to fit the trimmer cords.

3. Cut the trimmer cords to correct length (measured from the outer edge of the Trimmy Fix):
   225: 145 mm (5.7 inches)
   232: 155 mm (6.1 inches)
   235: 170 mm (6.7 inches)
   Fit the Trimmy Fix on the machine. Note! For 235 the splash guard must be removed. Bear in mind the trimmer cords.

4. Start the engine. If necessary, adjust the idle speed with the T-screw.

5. Apply full throttle. Use a narrow blade screwdriver, inserted through the hole in the locking cap until it reaches the slot in the needle, (max. blade width 2 mm, 0,08 inch) to turn the H-needle counterclockwise until the engine clearly 4-cycles. Turn the H-needle back clockwise until the 4-cycling stops and a top speed of 8400 + -200 rpm is achieved.
   Note that the revolution 8400 +- 200 shall be achieved as close to the 4-cycle limit as possible.

6. Let the engine run for 2-3 minutes until warm.

7. Check that the top speed is still 8400 +- 200 rpm. Adjust if necessary.

8. Check that the H needle's locking cap is still adjusted to its richest setting. (Turned counterclockwise to stop.)

9. Gently knock the H needle's locking cap into position. Use a 5 mm (0.2 inch) mandrel or the locking pin for the gear, 502 02 61-03.

This is a basic carburettor adjustment. Further fine adjustments, within the limits the locking cap allows, may be necessary to achieve optimum performance. See the Operator's manual.

After replacement of only H-needle

1. Adjust the L-needle to its richest setting. (Turn counterclockwise to stop.)

2. Take off the locking cap from the H-needle using e.g. a pair of cutting pliers and unscrew the needle.

3. Screw the new H-needle to the bottom and the turn it counterclockwise 1/2 turn.

4. Press a new locking cap on the H-needle to the first stop, which means that the locking cap is not fixed to the needle, but can be rotated separately.

5. Adjust the locking cap to the richest position without turning the needle. (Turned counterclockwise to stop.)

6. Fit 4 trimmer cords, diameter 3.3 mm (0.13 inch) on a Trimmy Fix.
   (Trimmy Fix M10, 531 00 38-69, for 225 and 232. Trimmy Fix M12, 502 13 87-02, for 235.)
   It may be necessary to drill out the holes in the Trimmy Fix to make it easier to fit the trimmer cords.

7. Cut the trimmer cords to correct length (measured from the outer edge of the Trimmy Fix):
   225: 145 mm (5.7 inches)
   232: 155 mm (6.1 inches)
   235: 170 mm (6.7 inches)
   Fit the Trimmy fix on the machine. Note! For 235, splash guard must be removed. Bear in mind the trimmer cords.

8. Start the engine. If necessary, adjust the idle speed with the T-screw.

9. Apply full throttle. Use a narrow blade screwdriver, inserted through the hole in the cap until it reaches the slot in the needle (max. blade width 2 mm, 0.08 inch) to turn the H-needle counterclockwise until the engine clearly 4-cycles. Turn the H-needle back clock wise until 4-cycling stops and a top speed of 8400 +- 200 rpm is achieved. Note that the revolution 8400 +- 200 shall be achieved as close to the 4-cycle limit as possible.

10. Let the engine run for 2-3 minutes until warm.

11. Check that the top speed is still 8400 +- 200 rpm. Adjust if necessary.

12. Check that the locking cap is still adjusted to its **richest** setting. (Turned counterclockwise to stop.)

13. Gently knock the locking cap into position. Use a 5 mm (0.2 inch) mandrel or the locking pin for the gear, 502 02 61-03.

This is a basic carburettor adjustment. Further fine adjustments, within the limits the locking cap allows, may be necessary to achieve optimum performance. See the Operator's manual.

After replacement of only L-needle

1. Adjust the H-needle to the leanest position. (Turned clockwise to stop.)

2. Take off the locking cap from the L-needle using e.g. a pair of cutting pliers and unscrew the needle.

3. Screw the new L-needle to the bottom and then turn it counterclockwise 2 turns.

4. Press a new locking cap on the L-needle to the first stop, which means that the cap is not
fixed to the needle, but can be rotated separately.

5. Adjust the locking cap to the leanest position without turning the needle. (Turned clockwise to stop.)

6. Start the engine and let it run on idle.

7. Use a narrow blade screwdriver, inserted through the hole in the cap until it reaches the slot in the needle (max. blade width 2 mm, 0.08 inch) to adjust the L-needle until highest possible idle speed is achieved.

8. Check that the locking cap is still adjusted to its leanest position. (Turned clockwise to stop.)
9. Gently knock the locking cap into position. Use a 5 mm (0.2 inch) mandrel or the locking pin for the gear, 502 02 61-03.

10. Turn back the H-needle to the richest position (Turned counterclockwise to stop.)

This is a basic carburettor adjustment. Further fine adjustments, within the limits the locking cap allows, may be necessary to achieve optimum performance. See the Operator's manual.

After replacement of both H-needle and L-needle

1. Take off the locking caps from both needles using e.g. a pair of cutting pliers and unscrew the needles.

2. Screw the new L-needle to the bottom and then turn it counterclockwise 2 turns. Screw the new H-needle to the bottom and then turn it counterclockwise 1/2 turns.

3. Press new locking caps on the needles to the first stop, which means that the caps are not fixed to the needles, but can be rotated separately.

4. Adjust the L-needle's locking cap to the leanest position without turning the needle. (Turned clockwise to stop.)

5. Start the engine and let it run on idle.

6. Use a narrow blade screwdriver, inserted through the hole in the cap until it reaches the slot in the needle (max. blade width 2 mm, 0.08 inch) to adjust the L-needle until highest possible idle speed is achieved.

7. Check that the locking cap is still adjusted to its leanest position. (Turned clockwise to stop.)

8. Gently knock the locking cap into position. Use a 5 mm (0.2 inch) mandrel or the locking pin for the gear, 502 02 61-03. Turn the L-needle to the richest position. (Turned counterclockwise to stop.)

9. Adjust the H-needle's locking cap to the richest position without turning the needle. (Turned counterclockwise to stop.)

10. Fit 4 trimmer cords, diameter 3.3 mm (0.13 inch) on a Trimmy Fix.
(Trimmy Fix M10, 531 00 38-69, for 225 and 232. Trimmy Fix M12, 502 13 87-02, for 235.

It may be necessary to drill out the holes in the Trimmy Fix to make it easier to fit the trimmer cords.

11. Cut the trimmer cords to correct length (measured from the outer edge of the Trimmy Fix):
    225: 145 mm (5.7 inches)
    232: 155 mm (6.1 inches)
    235: 170 mm (6.7 inches)
    Fit the Trimmy Fix on the machine. Note! For 235 the splash guard must be removed. Bear in mind the trimmer cords.

12. Start the engine.

13. Apply full throttle. Use a narrow blade screwdriver, inserted through the hole in the cap until it reaches the slot in the needle (max. blade width 2 mm, 0.08 inch) to turn the H-needle counterclockwise until the engine clearly 4-cycles. Turn the H-needle back clockwise until the 4-cycling stops and a top speed of 8400 +- 200 rpm is achieved. Note that the revolution 8400 +- 200 shall be achieved as close to the 4-cycle limit as possible.

14. Let the engine run for 2-3 minutes until warm.

15. Check that the top speed is still 8400 +- 200 rpm. Adjust if necessary.

16. Check that the locking cap is still adjusted to its richest setting. (Turned counterclockwise to stop.)

17. Gently knock the locking cap into position. Use a 5 mm (0.2 inch) mandrel or the locking pin for the gear, 502 02 61-03.

This is a basic carburettor adjustment. Further fine adjustments, within the limits the locking cap allows, may be necessary to achieve optimum performance. See the Operator’s manual.