

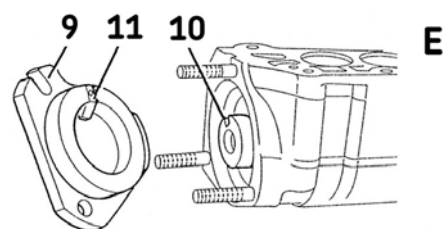
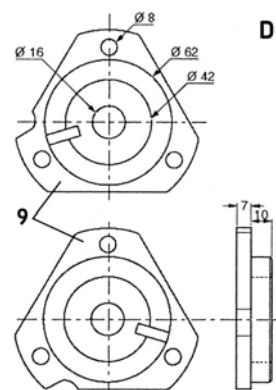
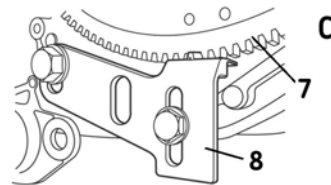
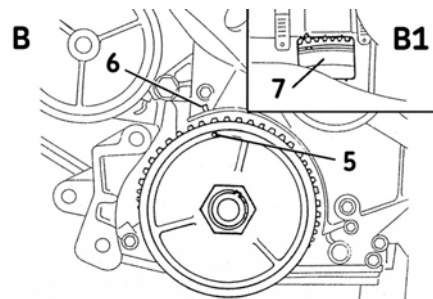
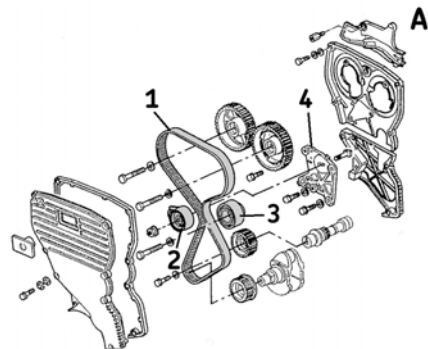
## Installation Instruction for PowerGrip® Kit K015432XS

### REMOVAL

- 1) Disconnect the battery.
- 2) Lift the vehicle to let the wheels hanging.
- 3) Remove the front right wheel and the wheel housing splash guard.
- 4) Remove the inlet air heating pipe.
- 5) Remove the accessory belt.
- 6) Remove the spark plug from cylinder Nr 1.
- 7) Disconnect the coil supply connector, the high voltage wires, and remove the ignition coil and calculator.
- 8) Position the comparator using its bracket in the plug hole in cylinder Nr 1.
- 9) Turn the crankshaft in the normal rotation direction up to Top Dead Center (TDC) on cylinder Nr 1.
- 10) Check whether the mark (5) on the crankshaft sprocket is aligned with the fixed mark (6) on the lower timing belt casing (Fig. B) and set the comparator to zero.
- 11) Check the mark on the flywheel (7) is next to the "o" mark on the clutch casing (Fig. B1).
- 12) Remove the lower clutch casing.
- 13) Lock the flywheel (7) using the locking tool (8) (Fig. C).
- 14) Remove the crankshaft sprocket.
- Note:** the nut securing the crankshaft sprocket has a left-hand threading.
- 15) Remove the protection casing on the timing belt.
- 16) Loosen the screws from the camshaft sprockets using the wrench (ref. Fiat 1860831001) and the camshaft locking tool (ref. Fiat 1860885000).
- 17) Remove the rear camshaft casings.
- 18) Fit the timing tools (9) (Fig. D), by aligning the grooves (10) on the camshafts with the keys (11) on the tools (9) (Fig. E), then fasten them.
- 19) Loosen the nut on the tensioner roller (2) and remove the timing belt (1) (Fig. A).
- 20) Remove the tensioner roller (2) and idle roller (3) (Fig. A).

### REFITTING

- 21) Refit the new tensioner roller (2) and idle roller (3). Position the open oblong hole in the base-plate (12) (Fig. F) of the tensioner roller on the pin (13) (Fig. F) in the plate (4) (Fig. A) the roller is fitted on.
- 22) Refit the new timing belt (1) as follows: crankshaft sprocket, oil pump sprocket, idler roller (3), intake camshaft sprockets, then exhaust camshaft sprockets and tensioner roller (2).
- 23) Remove the screw (14) from the plate (4) (Fig. G1) and fit the tension tool (15) (Fig. G).
- 24) Loosen the nut on the tensioner roller (2). Fit the tensioner roller (2) in the maximum tension position using the tension tool (15): turn it counter-clockwise (Fig. H).
- Note:** The maximum tension position is reached when the moving index (16) reaches the end stop, and protrudes from the notch (17) in the base plate (12) of the tensioner roller (Fig. H1).
- 25) Tighten the nut on the tensioner roller (2).
- 26) Remove the comparator and its bracket.
- 27) Tighten the camshaft sprockets at 115 Nm using the wrench (ref. Fiat 1860831001) and the camshaft locking tool (ref. Fiat 1860885000).
- 28) Remove the tools (9) locking the camshafts (Fig. D and Fig. E).
- 29) Remove the locking tool (8) from the flywheel (7) (Fig. C).
- 30) Turn the crankshaft slowly in the engine rotation direction by two turns, until you return to the



TDC timing position (use the timing marks on the flywheel) (Fig. B1).

31) Loosen the nut on the tensioner roller (2). Fit the tensioner roller (2) in the nominal tension position using the tension tool (15) (Fig. G).

**Note:** The nominal tension position is reached when the moving index (16) is aligned with the notch (17) in the base plate (12) of the tensioner roller (Fig. I).

32) Tighten the tensioner roller (2) at 25 Nm.

33) Remove the tension tool (15) (Fig. G) and refit the screw (14) (Fig. G1).

34) Refit the comparator and its bracket in the plug hole in cylinder Nr 1.

35) Turn the crankshaft slowly in the engine rotation direction by two turns up to the TDC timing position (use the comparator), and check the adjustment of the tensioner roller (the moving index (16) and the notch (17) in the base plate (12) must be aligned (Fig. I)). Also check that the camshaft timing gauges (9) are engaged perfectly (Fig. E).

36) If the timing marks are not aligned and/or if the adjustment of the tensioner roller is incorrect, then remove the new timing belt, and restart the setting operation from step (22).

37) Remove all timing tools.

38) For refitting the elements removed, apply the reverse removal sequence.

**VERY IMPORTANT NOTICE:**

- Install the tensioner roller and the idlers at ambient temperature (20°C). Do not proceed when the engine is hot.

- Never rotate the engine in reverse direction when timing the distribution.

- If an error is made during the timing operation, especially when setting the belt tension, the entire procedure must be started again.

