From the fuel storage tank at the rear end of the car, the fuel is drawn through filters to the Bosch electric fuel pump, which pumps it through a further very fine filter and water trap to the injector pump.

The injector pump, which also includes additional straining for the fuel, is responsible for the delivery of a timed and metered quantity of fuel to each of the four cylinders in the engine in the correct order. There are a number of control devices to ensure the correct timing and metering of this fuel injection charge, according to the ambient or engine temperature and the engine operating conditions at any moment. These components should on no account be adjusted by other than fully qualified personnel, using special equipment and in almost surgically clean surroundings.

Filter renewal:

The fuel filter located on the engine bulkhead should be discarded and renewed every 40,000 miles (60,000 km). This is simply a matter of disconnecting the fuel hoses and undoing the retaining bolts. Make sure that the direction of fuel flow is observed when refitting.

At the same intervals the strainers in the ring piece on the injection pump, at the suction side of the electric fuel feed pump and in the immersed tube level sensor must be taken out and cleaned. Be very careful not to use a cloth for drying these strainers, as the smallest amount of fluff may clog the mesh or interfere with the operation of the injector pump.

Slow-running adjustment:

The engine must be first brought up to normal operating temperature and then the following settings should be checked.

Refer to **FIG 2:28**. Check dimension A. This is the projection of the air regulating cone of the warm-up runner and it should be between .35 and .39 inch (9-10 mm).

Dimension B from the enrichment lever to the collar nut should be .157 inch (4 mm).

The threaded pin 1 must be in full contact with the stop screw 2.

If these specifications are not satisfied, it is likely that the thermo-element is defective or the warm-up sensor

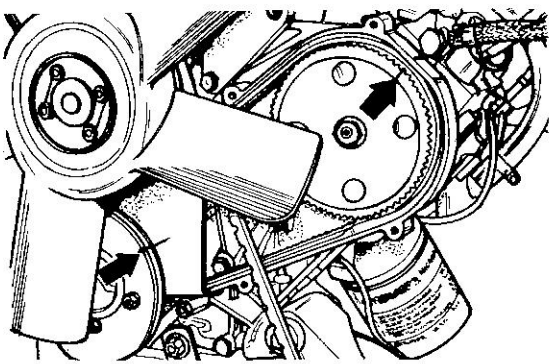

FIG 2:30 Showing the correct alignment of the belt pulleys when No. 1 is at TDC

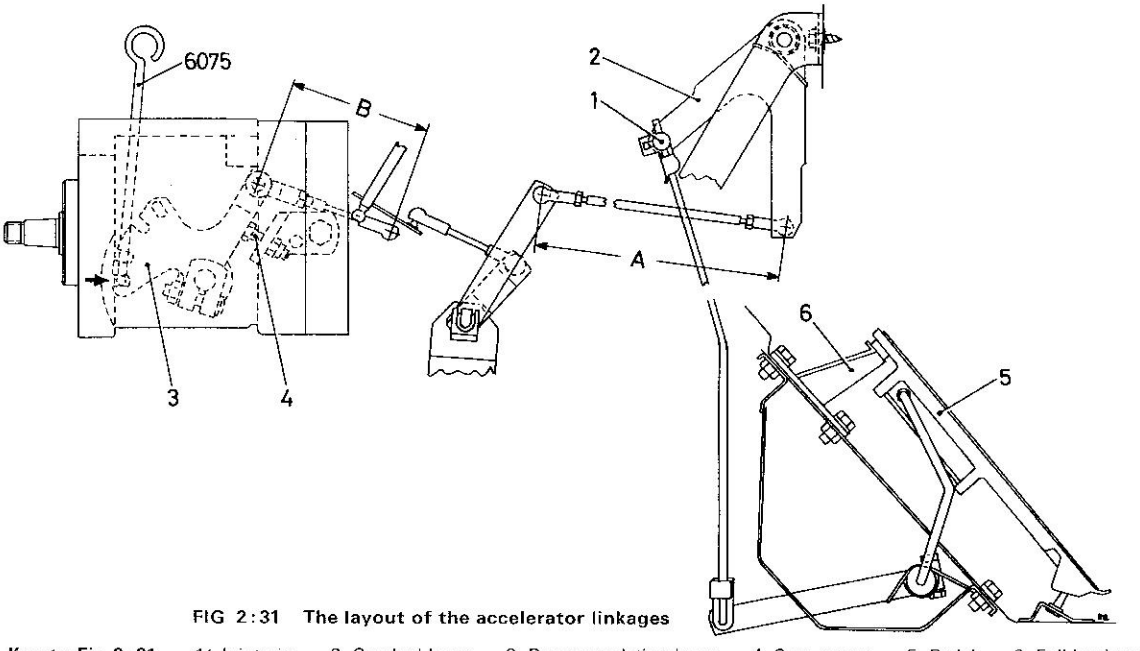

FIG 2:31 The layout of the accelerator linkages

Key to Fig 2:31 1 Joint pin 2 Cranked lever 3 Pump regulating lever 4 Stop screw 5 Pedal 6 Full load stop
A = 289 mm (11.378 inch) B = 85 mm (3.346 inch)

requires adjustment or renewal and the car should be taken to the BMW agent.

If these checks are satisfactory, refer to **FIG 2:29** and set an idle speed of 900 ± 50 rev/min by means of the adjusting screw 3.

Now use the slotted screw 4 to adjust the CO emissions to 2-3%. Turning this screw inwards decreases the CO percentage and vice versa.

If this last adjustment alters the idling speed, the correct speed can be regained by using screw 3 as necessary.

Fuel pump:

This component cannot be repaired or adjusted and in the event of failure must be renewed. The pump is removed as follows:

Disconnect the battery and pull off the cable connector from the pump. There is a groove into which the plug must fit when reconnecting, this avoids incorrect polarity.

Remove the fuel hoses, noting that fuel loss can be prevented by plugging the hose from the tank which is the larger of the two.

Undo the attachment nuts and lift off the pump together with the expansion header container.

Fitting is carried out in the reverse order. Do not omit to check the filter element in the suction hose union.

Injection pump:

In the event of a breakdown in this very delicate component it is suggested that professional assistance should be obtained.

Drive belt renewal:

The injection pump is driven by a cogged belt which requires no attention in normal service. When it becomes necessary to fit a new belt it is essential to ensure that the correct timing of the pump is maintained.

Remove the front air filter hood, remove the four retaining screws and detach the upper dust cap.

Turn the engine until No. 1 cylinder is at TDC. In this position the notch in the V-belt pulley on the crankshaft must be in line with the marker on the dustcap, see **FIG 2:30**, and the notch in the cogged belt pulley on the injection pump must point to the marking rib on the timing case cover.

Slacken off the alternator mounting bolts to enable the V-belt to be removed and then take out the four securing screws and withdraw the V-belt pulley from its hub. Do not now permit the engine to be turned, otherwise the timing will be lost.

Unscrew the bolts attaching the lower dust cap over the cogged belt, slip the belt off the pulleys and then while holding the dust cap forwards, pull the belt out between the hub and the dust cap.

Reverse the above to fit the new belt.

Accelerator pedal linkage:

This is not likely to require adjustment in normal service, but if it has been dismantled for any reason, it must be correctly connected as follows. Refer to **FIG 2:31**.

Detach the pin joint 1 from the cranked lever 2 and then check the length of the two connecting rods A and B and adjust them if necessary to the correct dimensions. These are: A = 289 mm (11.378 inch), B = 85 mm (3.346 inch).

Now use the hooked tool 6075 to secure the pump regulating lever 3 in the bottom slotted hole as shown and adjust the stop screw 4 so that it just contacts the regulating lever.

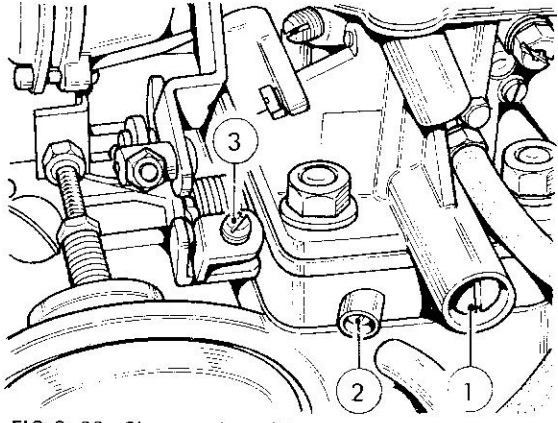

FIG 2 : 32 Slow-running adjustment screws on the Solex 32/32 DIDTA carburetter

Key to Fig 2 : 32 1 Bypass screw 2 Mixture control screw 3 Throttle stop screw

Press down on the accelerator pedal 5 onto the full load stop 6 and adjust the joint pin 1 so that it may be easily inserted in the hole in the cranked lever 2 without any straining.

Secure the pin joint and remove the hooked tool.

Lubrication:

The necessary lubrication for the injector pump is provided by the engine's lubrication system and so no additional attention is required. The pump carries a small amount of oil and if, for any reason, this may have been drained or a new pump fitted, 100 cc of engine oil should be added to the pump before the engine is started.

Fuel tank:

The fuel tank on the BMW 2002 tii is larger than that on carburetter models and holds a little over 12 gallons (55 litres).