

Although the Mini has been in production since 1959 its basic design and mechanical details have remained substantially unchanged over the years. So, though the details given here are for the Mk2 and 3 models, the same general service procedure applies to all versions.

Given the age of the Mini range, it is not surprising that service intervals are short – checks on the main operating systems should be made every 3000 miles (5000km) and a major service every 6000 miles (10,000km). In all cases, including the Mini Clubman and 1275GT, it helps access a lot to completely remove the front grille. On some models you also have to remove the plastic weather plate that protects the distributor from water spray.

### 3000 mile work

For this intermediate service make full checks on the operation of the lights, horn, indicators and windscreen wipers and washers. Make sure the steering system is in good

condition, with accurate wheel tracking, and that there are no leaks from the Hydrolastic suspension units (where fitted).

Adjust the drive belt tension if necessary, check the battery connections in the boot and make sure the exhaust system is free of leaks and securely mounted.

### 6000 mile work

The major – 6000 mile – service is described in detail overleaf, but you should also carry out the following general work.

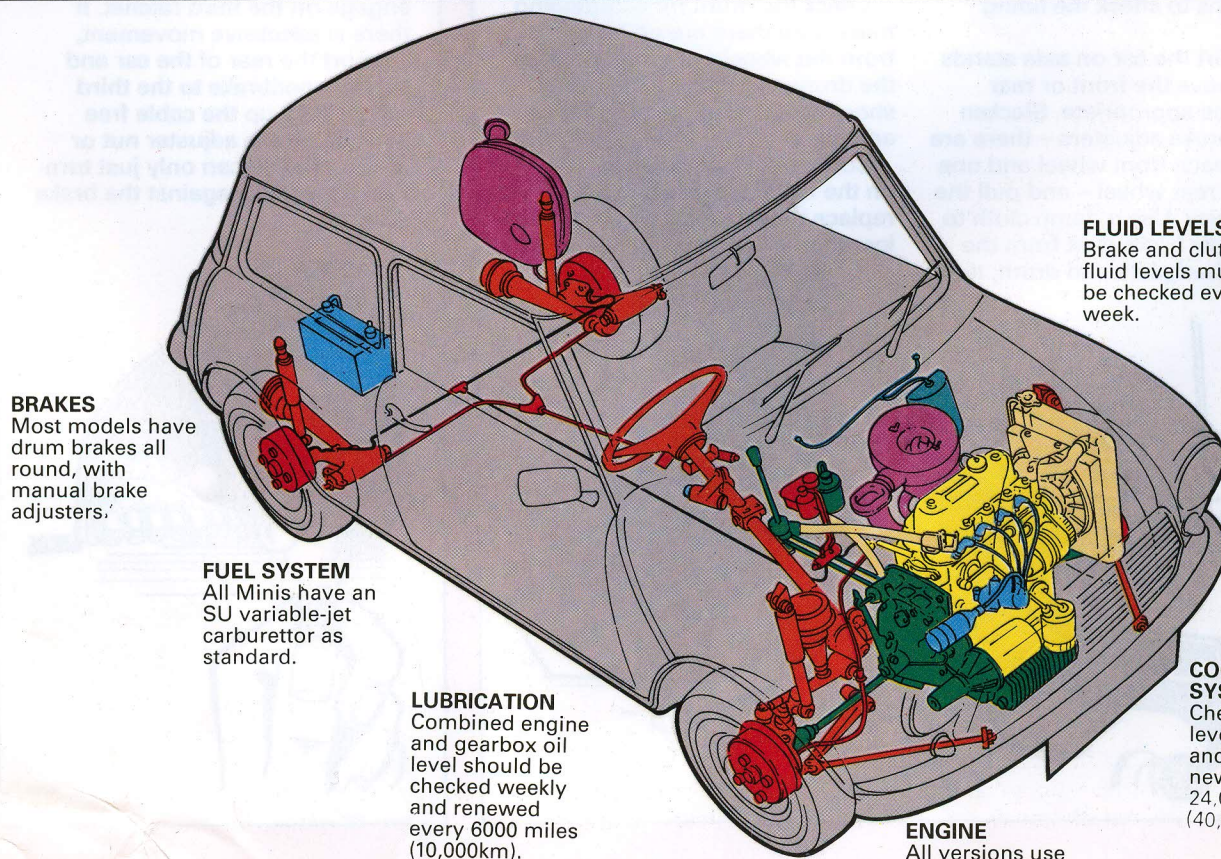
Make sure the coolant hoses are sound and secure. Every 24,000 miles (40,000km) drain the cooling system and refill with fresh anti-freeze mix. Top up the carburettor dashpot and check the idle speed. Where an emission control system is fitted, thoroughly clean or replace the valve and breather.

Check the clutch pedal free play and adjust it if necessary. Replace the clutch fluid every 24,000 miles (40,000km).

### Service history

All Minis covered in this service use one version or another of the A-series engine. Pre-1980 versions have 848cc, 998cc, 1098cc or 1275cc engines, but after that date only 998cc versions continue. Most models made after 1982 are fitted with the 998cc A-plus engine from the Austin Metro. However in 1990 a 1275cc engine was reintroduced with the new Mini Cooper.

Most Minis have drum brakes all round, though the 1275GT versions have discs at the front. The distributor may be one of three Lucas types (25D4, 45D4 or 45D4 with sliding contact breaker points) or Ducellier. All versions have an SU variable-jet carburettor.



**BRAKES**  
Most models have drum brakes all round, with manual brake adjusters.

**FUEL SYSTEM**  
All Minis have an SU variable-jet carburettor as standard.

**LUBRICATION**  
Combined engine and gearbox oil level should be checked weekly and renewed every 6000 miles (10,000km).

**ENGINE**  
All versions use the A-series or A-plus OHV engine.

**FLUID LEVELS**  
Brake and clutch fluid levels must be checked every week.

**COOLING SYSTEM**  
Check the coolant level every week, and drain and renew it every 24,000 miles (40,000km).

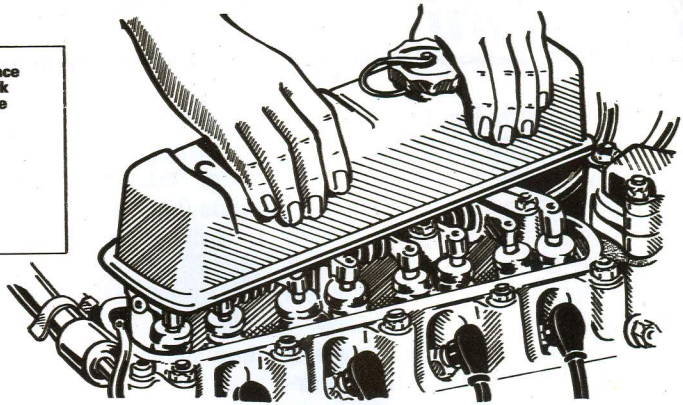
## Valve clearances

On all Mini engines the valve clearances are set cold, with adjustments being made every 12,000 miles (20,000km) and the air filter being replaced at the same interval.

Undo the wing nut or nuts holding the air filter casing in position and lift the casing off the carburettor – you may need to release the air intake duct or rocker cover hose to do this. Disconnect the vacuum advance tube from the distributor and then undo the two rocker cover retaining nuts and lift the cover away, complete with its gasket.

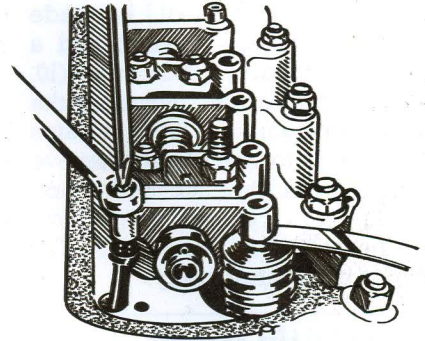
The valves are numbered 1 to 8, starting at the radiator end, and are all set to the same clearance. Turn the engine over to fully open valve 8 and measure the clearance for valve 1. Adjust the clearance if necessary by releasing the locknut on the rocker arm screw and turning this screw until you get the right clearance. Retighten the locknut

Checking sequence	
open valve	check valve
8	1
6	3
4	5
7	2
1	8
3	6
5	4
2	7



afterwards. Check the other valves following the sequence given right – the 'rule of nine'.

Grease the new rocker cover gasket and refit the rocker cover. Take the air filter out of its housing, clean the inside of the housing and fit a new filter. Then refit the filter housing to the top of the carburettor, making sure the sealing ring is properly positioned on the carburettor inlet.



## Foot brake

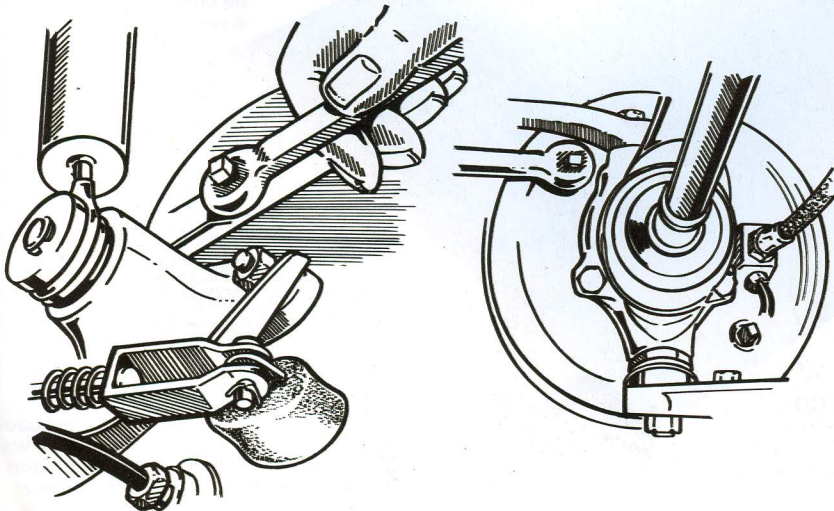
Most Minis have drum brakes all round, and you have to remove the drums to check the lining wear.

Support the car on axle stands and remove the front or rear wheels as appropriate. Slacken off the brake adjusters – there are two on each front wheel and one on each rear wheel – and pull the drum away. Use a damp cloth to wipe away brake dust from the linings, backplate and drum, then

check the linings. If there is less than  $\frac{1}{8}$ in (3mm) fit new shoes.

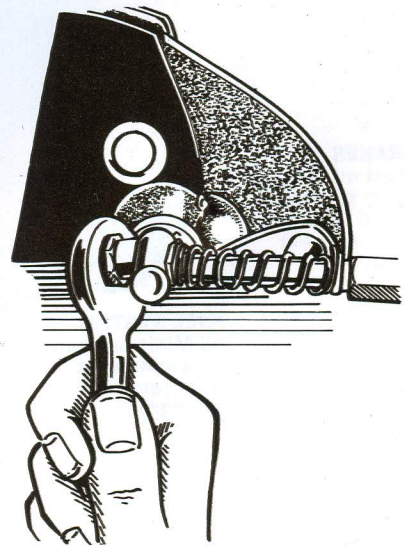
Check the drum for scoring and make sure there are no leaks from the wheel cylinders. Replace the drum and take up the free shoe movement using the brake adjusters.

Some Minis have disc brakes on the front and you should replace the pads if their lining is less than  $\frac{1}{8}$ in (3mm) thick.



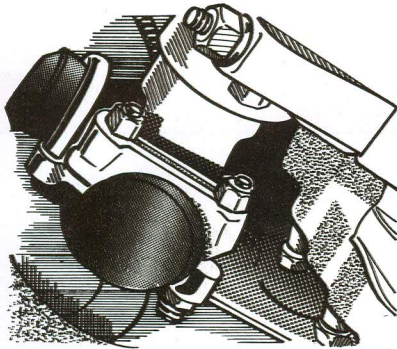
## Handbrake

When the shoes are properly adjusted the handbrake should engage on the third ratchet. If there is excessive movement, support the rear of the car and set the handbrake to the third notch. Take up the cable free play, using the adjuster nut or nuts, until you can only just turn the rear wheels against the brake action.



### Suspension and steering

With the front of the car supported off the ground check for free play in the suspension and steering systems. Make sure that the steering column clamp (at the base of the column) is tight and that the steering rack gaiters are in good condition – replace the gaiters if not. Check the drive shaft couplings and the wheel bearings for play.



On cars with Hydrolastic suspension systems, make a thorough inspection of the displacers and hydraulic pipes for damage and signs of leaks. Check the suspension ride height and have it adjusted if need be.

### Ignition system

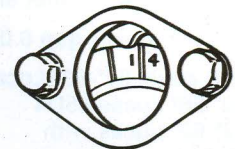
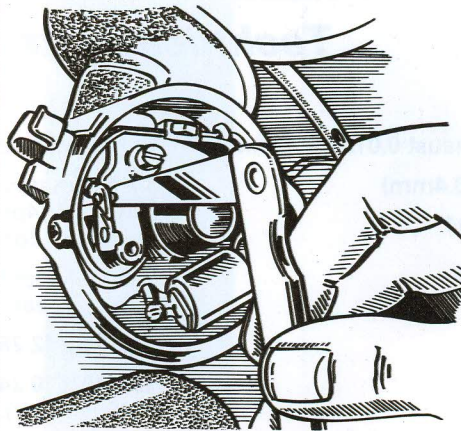
Check the condition of the spark plugs, distributor cap, points and HT leads, replacing any of these items if necessary. Check the spark plug gap and points gap in the usual way.

On earlier Minis the timing marks are on the flywheel and can be seen after you have removed the cover plate on the bell housing (on automatic transmission models you first have to prise out a grommet sealing the inspection hole).

These marks are not easy to

see and it helps if you use a mirror to see into the bell housing. The TDC position is marked  $\frac{1}{4}$  and there are graduated marks alongside for the ignition advance. The settings for static and stroboscopic timing vary according to engine details and distributor type, so check with your car handbook to make sure you get the right one.

Later Minis have their timing marks in a more conventional position on the crankshaft pulley and timing cover.



### Lubrication

Change the engine oil and filter in the usual way. The sump drain plug is on the side of the transmission housing just below the starter motor.

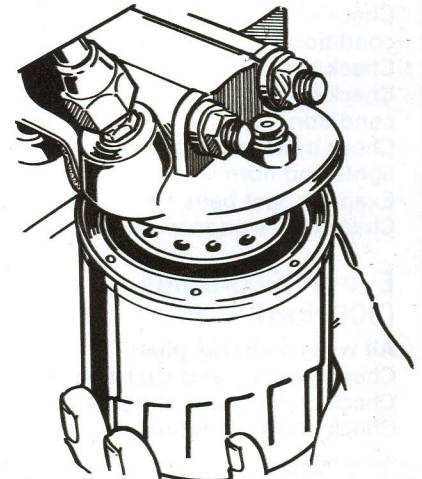
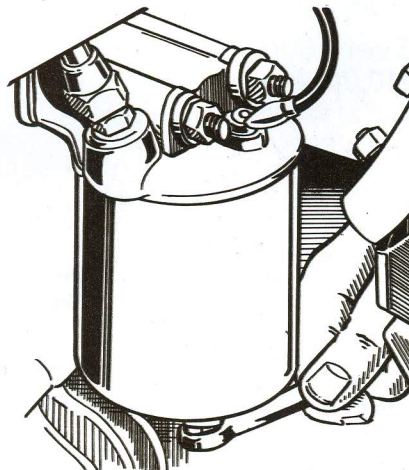
When refitting the plug check the condition of its washer and replace it if necessary. Also, many versions have a magnet built into the plug to collect swarf. Clean this off before refitting.

The oil filter is fitted to the front of the engine, early Minis having a replaceable element type and later models a disposable canister type. On the element type, make sure you remove the thin sealing O-ring from its groove in the filter housing – you will find a pin is useful for this.

Using a grease gun filled with general purpose grease, lubricate the suspension pivots – there are

grease nipples on the upper and lower steering swivels and on the inner pivot of the upper suspension arm, along with one on each of the rear radius arm pivots.

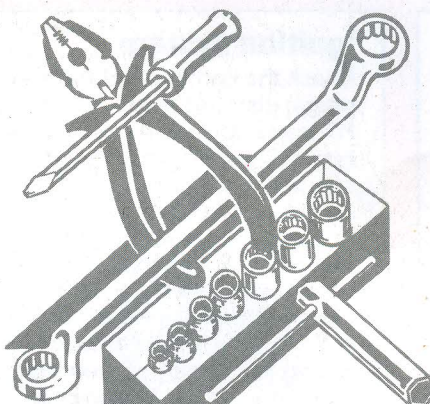
Apply grease to the handbrake cable guide on the rear sub-frame and radius arms, and to the cable linkages. Then oil the door, boot and bonnet hinges, locks and catches.



## Tools and materials

### Tools you need

- Screwdrivers
- Spanners
- Plug spanner or socket
- Feeler gauges
- Grease gun
- Filter wrench
- Oil drain container
- Wheelbrace
- Jack
- Axle stands
- Timing light
- Tracking gauge
- Oil can



### Parts to buy

- Spark plugs
- Contact breaker points (if necessary)
- Engine oil (5 litres/9 pints for oil change)
- Oil and air filters
- Rocker cover gasket
- General purpose grease
- Antifreeze (1.5 litres/2 pints for a 33 per cent mix)
- Brake fluid
- Distilled water
- Brake pads/shoes

## Technical data

**Firing order** 1-3-4-2

**Valve clearances** inlet and exhaust 0.012in (0.3mm)

**Contact breaker gap** 0.016in (0.4mm)

**Dwell angle** 57°-63° Lucas 25D4

46°-56° Lucas 45D4

52°-62° Lucas with sliding points

55°-59° Ducellier

**Spark plug gap** 0.025in (0.6mm)

0.035in (0.9mm) 1982 on

**Ignition timing** Varies with model; check car

handbook for details

**Engine idle speed** 750rpm

**Tyre pressures**

**5.20 x 10** 24psi (front)

**crossply** 22psi (rear)

**145 x 10** 28psi (front)

26psi (rear)

**145/70 x 12** 28psi (front/rear)

**165/70 x 10** 24psi (front)

26psi (rear)

## Service schedule

### Weekly

- Check oil and coolant levels
- Check tyre pressures and condition
- Check brake and clutch fluid level
- Check hoses and fan belt condition
- Check battery electrolyte level, lights and horn
- Examine seat belts
- Check windscreen washer fluid

### Every 3000 miles (5000km)

- All weekly checks plus:**
- Check steering and suspension
  - Check brake hoses and pipes
  - Check brake operation

- Check battery connections
- Check drive belt tension
- Inspect exhaust system

### Every 6000 miles (10,000km)

- Full 3000 mile service plus:**
- Change engine oil and filter
  - Clean and reset spark plugs
  - Check and adjust distributor
  - Check ignition timing
  - Check carburettor
  - Check instruments and controls
  - Lubricate door hinges and locks
  - Check brake pads and linings
  - Adjust rear brakes
  - Adjust and lubricate handbrake
  - Check drive shaft couplings
  - Grease suspension

Lubricate pedal linkages

### Every 12,000 miles (20,000km)

- Full 6000 mile service plus:**
- Check valve clearance
  - Replace spark plugs, replace contact breaker points
  - Replace air filter
  - Check antifreeze concentration
  - Check underbody

### Every 24,000 miles (40,000km)

- Full 12,000 mile service plus:**
- Replace brake fluid
  - Check wheel bearings
  - Replace antifreeze