

- i) Rear seat up, parcel shelf in position.
- ii) Rear seat up, parcel shelf folded down.
- iii) Complete rear seat folded down.

Metro's five loadspace configurations

Versatility is one of Metro's most important features, and you will obviously want to demonstrate its benefits to your customers. The photographs on these two pages show the location of catches etc. and suggest an order of presentation. (When going to the back of the car don't forget to take the key).

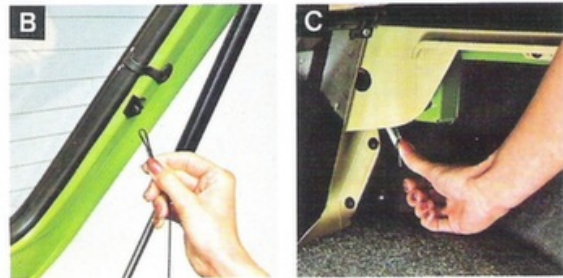
1. Rear seat up, parcel shelf in position (A)

The parcel shelf is attached to the tailgate and lifts up to give easy access to the concealed boot area when the tailgate is opened. With the seats in this position there is room for five people and 7.5 cu.ft of usable bootspace.



2. Rear seat up, parcel shelf folded down (D)

To fold down the parcel shelf, unclip the retaining cords (B) and release the rear seat catches (C). Then push the seat squab forward slightly, allow the parcel shelf to drop down and secure it to the back of the seat by means of the central retaining clip. With the seat squab returned to the upright position there is an available height of 34 inches - ideal for carrying tall loads or the family dog.



3. Complete rear seat folded down (G)

To produce a loadspace of 45.7 cu.ft release the rear seat catches and fold the seat squab down onto the cushion (E). Then simply tip the whole seat forwards (F). The unique jack-knife mechanism gives a completely flat loadspace floor with very little wheelarch intrusion.

4. Two-thirds of rear seat folded down (L)

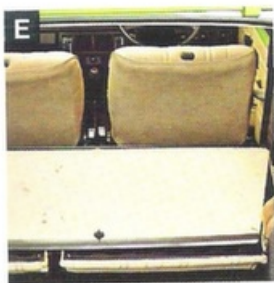
To demonstrate the asymmetric seat the seat and shelf should first be returned to their original positions. To do this easily, pull the seat back to the horizontal position, unclip the shelf and pull up the shelf and seat squab together until the seat clicks into place (H). Remove the parcel shelf from the back of the seat by lifting it up, pushing it to the right and then unhooking it from its retaining clips (I). The shelf can be stowed either flat on the floor or vertically against the rear sill. Then release the right hand seat catch, fold the two-thirds section flat onto the cushion (J) and tip the whole section forwards (K). You should show that there is ample room for an adult on the remaining third.



5. One-third of rear seat folded down (M)

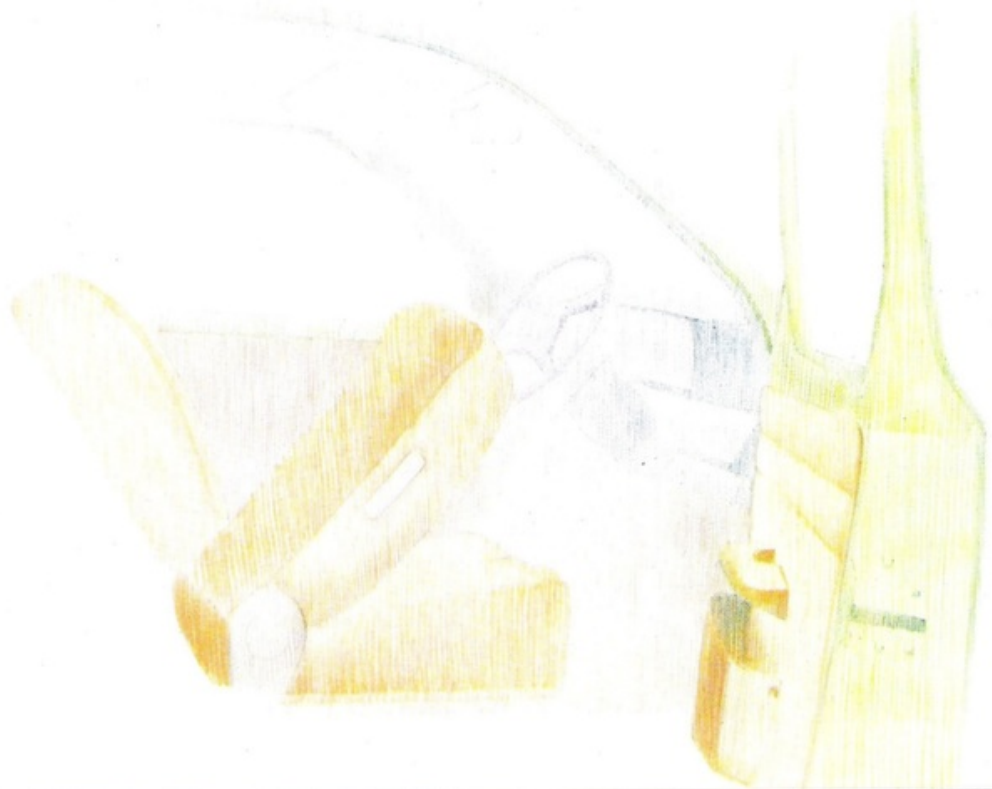
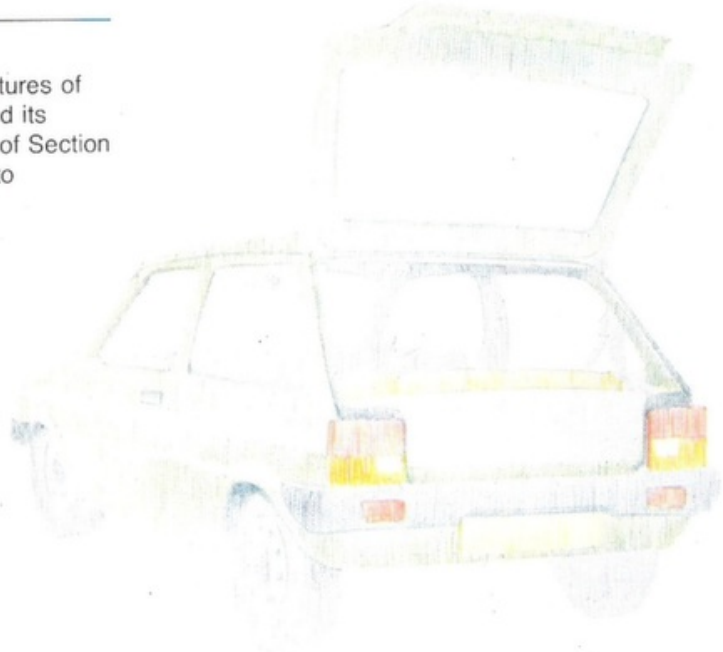
Releasing the left hand catch allows one-third of the seat to be folded down, leaving ample room for two children. Incidentally, with the rear squab folded down and the front passenger seat reclined, extra long loads can be accommodated.

In addition to Metro's low sill, what other feature makes loading easy?



Large tailgate, opening to bumper level.

You have now covered all the major features of Metro's remarkable internal package, and its exterior dimensions. Complete the End of Section Test on the next page before going on to Section 4.



End of Section Test

1. How long is Metro?
2. How wide is Metro?
3. Which two features give good access for passengers?
4. Which two features allow easy loading?
5. On which Metro models is the asymmetrically split rear seat fitted as standard?
6. What are the five configurations of load and passenger space available on models fitted with the asymmetrically split rear seat?
7. What is the usable bootspace (rear seat up, parcel shelf in position)?
8. What is the loadspace volume (rear seat folded down)?

Answers

- | | |
|---|---|
| 1. How long is Metro? | 11 ft 2 ins |
| 2. How wide is Metro? | 5 ft 1 in |
| 3. Which two features give good access for passengers? | i) Wide doors.
ii) Controlled forward movement front seats. |
| 4. Which two features allow easy loading? | i) Low sill.
ii) Large tailgate opening. |
| 5. On which Metro models is the asymmetrically split rear seat fitted as standard? | All except the Base. |
| 6. What are the five configurations of load and passenger space available on models fitted with the asymmetrically split rear seat? | i) Rear seat up, parcel shelf in position.
ii) Parcel shelf folded down.
iii) Complete rear seat folded down.
iv) One-third rear seat folded down, (parcel shelf removed).
v) Two-thirds rear seat folded down, (parcel shelf removed). |
| 7. What is the usable bootspace (rear seat up, parcel shelf in position)? | 7.5 cu.ft. |
| 8. What is the loadspace volume (rear seat folded down)? | 45.7 cu.ft. |

4 ENGINES, TRANSMISSION AND SERVICING

Metro has the transverse engined front-wheel drive installation which is used on the majority of Austin Morris cars - and which has been imitated by numerous manufacturers since its revolutionary inception in the Mini. Metro is powered by the specially developed A-plus engine, which incorporates developments to boost power, refinement and economy. Already proving itself in Ital 1.3 models, the A-plus is available in Metro in two capacities, and includes a special economy version, and an optional low compression engine. On all models, performance and mpg figures prove that the work that has gone into improving fuel consumption to its current levels has not penalised quickness.

The enormous amount of work that has gone ahead at Austin Morris, aimed at bringing down the total cost of owning and running a car, has had Metro as its focal point. One of the most significant achievements has been the utilisation of modern filter and lubricant technology to extend the service interval to 12 months or 12,000 miles - an engineering first and a cash benefit to the Metro owner which no competitor can match.

Further modifications have been directed at improving reliability and durability; and a strong emphasis on better manufacturing techniques provides high levels of refinement for every Metro engine.

Reduced servicing is already a feature of the A-plus engine on Morris Ital. One major modification contributing to this is the use of a sliding point distributor. What are the other two features contributing to Ital's reduced servicing requirements?

- i) Long-life spark plugs.
- ii) 12 months/12,000 miles oil change.

Extended service intervals

These features, combined with a number of others on Metro, have allowed the 6 months/6,000 miles service to be dropped completely. With a service interval of 12 months/12,000 miles, Metro is unique in the BL range and - most important of all - unparalleled by any of its competitors.

Among the many developments which have allowed the introduction of Metro's 12 months/12,000 mile service interval, there are four which are of key importance; two are underbonnet features.

Long life battery

Conventional battery plates, which are made of a lead/antimony alloy gradually corrode which makes them less effective, and sets up a chemical reaction which reduces the electrolyte level. By reducing the proportion of antimony in the alloy, corrosion resistance has been improved so Metro's battery lasts longer and requires checking and topping up less often. Fiesta's battery can only last for 6 months/6,000 miles before having to be checked and topped up.

Improved drive belt pulley

A frequent servicing task is to adjust or replace the alternator drive belt. For Metro's engine, the drive belt pulley has been enlarged and manufacturing techniques improved so that wear is greatly reduced. This means that the belt may be set from the start at the optimum tension and will require checking only every 12 months/12,000 miles.

Apart from the underbonnet area can you name two other major areas of a car that require regular servicing?

Self-cleaning points

The sliding action of Metro's distributor points prevents the build-up of deposits, giving a longer effective life. Longer than Fiesta and Fiat 127 for example, where the distributor has to be checked and cleaned at 6,000 miles.



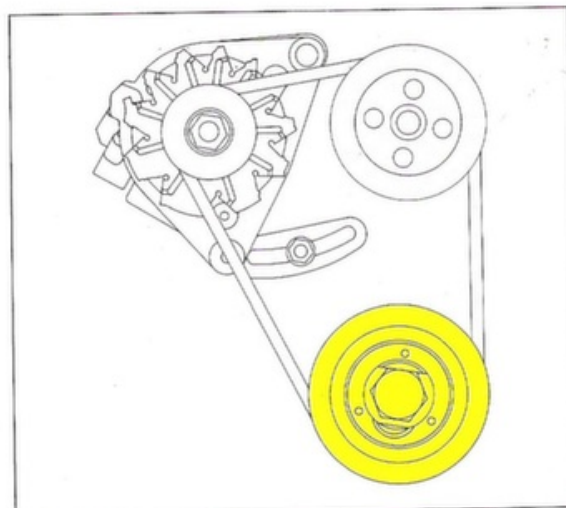
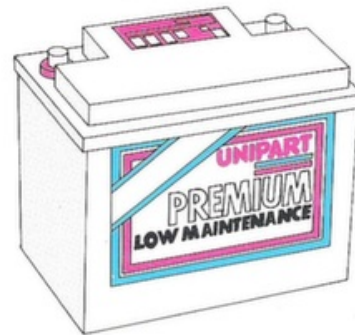
Long-life spark plugs

Metro's spark plugs have a larger centre electrode which gives them 12 months' or 12,000 miles' life before they need checking or cleaning. Spark plugs on Fiat 127 have to be checked and Fiesta's cleaned at 6,000 miles.



12 months/12,000 miles oil change

The improved oil filter with its enlarged paper element means that engine oil and filter need changing only at 12 months or 12,000 miles. Fiesta and Fiat 127 can only go for 6 months/6,000 miles and the Polo and Renault 5 6 months/5,000 miles without an oil change.



Brakes and grease points.

Apart from the underbonnet area, the two other areas of a car requiring regular servicing are the brake pads and the suspension and steering joints. In Metro these components now only require attention every 12 months/12,000 miles.

Brake pad wear indicator

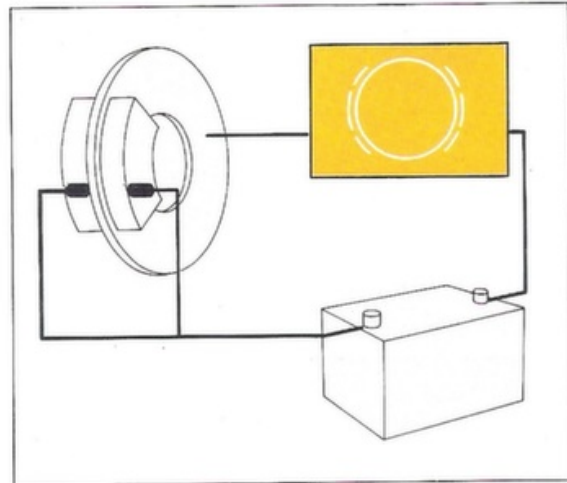
Safety considerations make it essential that the brake pads should be checked fairly frequently despite their potential long life (18-24,000 miles). To avoid the need for a visual inspection, Metro has electrical contacts built into the brake pads, which light a warning lamp on the dash when they have worn to a certain point and should be changed. However, Fiat 127, Fiesta and VW Polo all require a brake pad wear check every 5,000 or 6,000 miles (or 6 months) as part of their interim service.

Reduced greasing requirement

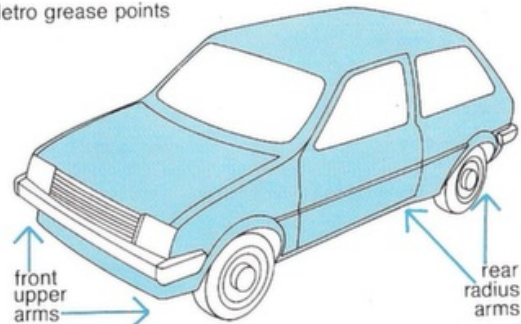
Metro has only four grease points - the upper arms of the front suspension and the rear radius arms. All other steering and suspension joints and bearings are lubricated and sealed for life, making a significant reduction in servicing time.

As well as extending Metro's service interval, a considerable amount of effort has been directed towards making servicing simpler and thereby reducing servicing times and costs for Metro owners. The whole engine compartment has been designed to give good access to service components. The front panel is detachable, in a quick and easy operation by removing four bolts. In addition, the fitment of an LED engine timing input gives greater speed and accuracy, and printed circuits of all light panels allow bulbs to be changed quickly.

What two underbonnet features, in addition to the self-cleaning points, long-life spark plugs and 12,000 miles oil change contribute to the 12 months/12,000 miles service interval?



Metro grease points



- i) Long life battery.
- ii) Improved drive belt pulley.

Reduced servicing costs

The extended service interval brings the benefit of convenience as well as reduced costs. On average, the Metro owner will only lose his car for servicing once every twelve months. All competitive vehicles require servicing at least twice as often - the schedules and servicing times can be seen in the charts.

Reduced servicing requirements, reduced service time and an extended service interval all add up to considerably reduced service costs when compared with other manufacturers. Metro is the only car to cost less than £50 a year to service, averaged over four years at current costs.

	Service interval	Number of services over 50,000 miles
Metro	12,000 miles or 12 mths	4
Ford Fiesta	6,000 miles or 6 mths	8
Fiat 127	6,000 miles or 6 mths	8
Renault 5	5,000 miles or 6 mths	10
VW Polo	5,000 miles or 6 mths	10

	Total Hours	Labour Cost	Mandatory Materials	Total over 50,000 miles	Metro saving per year
Metro	11.5	£115.00	£75.00	£190.00	
Fiat 127	20.2	£202.00	£114.49	£316.49	£31.62
Ford Fiesta	14.2	£142.00	£98.07	£240.07	£12.52
Renault 5	15.0	£150.00	£133.83	£283.83	£23.46
VW Polo	11.7	£117.00	£103.37	£220.37	£ 7.59

All companies have different servicing schedules, so we have considered the costs over a four year period (50,000 miles). The chart shows the cost of service labour - reckoned at £10 an hour - and the cost of mandatory materials - oil, filters, spark plugs etc., at current prices. All figures are taken from the manufacturers own published prices.

The reduced greasing requirement for Metro's steering and suspension has made significant reductions in service times. What feature of Metro's braking system eliminates the need for frequent checks?

The brake pad wear warning light.

Reliability and durability

A valuable feature of Metro's engine is the improved reliability and durability resulting from the use of uprated materials, better design and more accurate manufacturing techniques.

Ribbed crankcase and rolled bearing journals

Like other A-plus engines, the Metro crankcase is strengthened by extra ribbing, and the durability of the crankshaft increased by use of rolled bearing journals.

More resistant exhaust valves

On the 1.0 litre engine the exhaust valves are now made from nimonic steel for its resistance and strength, while on the 1.3 stellited steel is used for additional durability.

Improved HT leads and alternator

Metro's HT leads have upgraded insulation which prevents tracking (leaks of current) thereby improving long term efficiency and reliability. The alternator too has been upgraded - a 45 amp unit replaces the 34 amp unit on earlier A series engines.

Improved manufacturing techniques

These include carefully monitored equipment for engine assembly. One example is the SPS rig used to tighten the cylinder head bolts precisely. Another is the yield control sensing device which ensures that components such as the con rods are bolted together with exactly the right torque measurements.

Interim Test

1. How long is Metro's service interval?
2. Three important modifications to the A-series engine which reduce servicing on Metro have already been introduced on Ital. What are they?
3. What two other important underbonnet changes have been made to Metro to allow the extended service interval?
4. How has Metro's braking system been adapted to allow for the extended service interval?
5. What aspect of Metro's suspension and steering systems reduces servicing requirements?

Answers

1. How long is Metro's service interval?

12 months or 12,000 miles.
2. Three important modifications to the A-series engine which reduce servicing on Metro have already been introduced on Ital. What are they?
 - i) Long-life spark plugs.
 - ii) 12 month/12,000 mile oil change.
 - iii) Sliding point distributor.
3. What two other important underbonnet changes have been made to Metro to allow the extended service interval?
 - i) Long life battery.
 - ii) Revised drive belt pulley.
4. How has Metro's braking system been adapted to allow for the extended service interval?

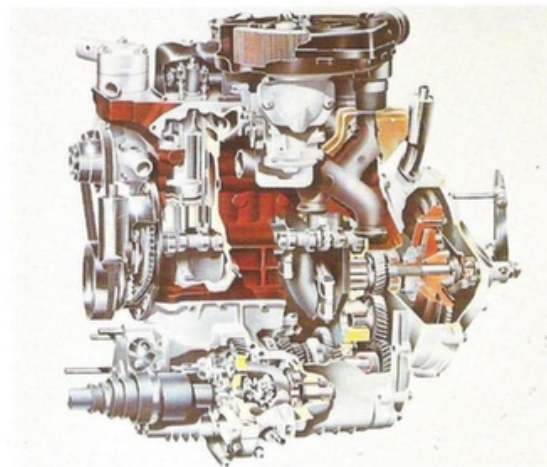
A brake pad wear warning indicator has been fitted.
5. What aspect of Metro's suspension and steering systems reduces servicing requirements?

The reduced greasing requirement - only four joints require greasing and only every 12 months/12,000 miles.

Metro engines

These substantial servicing advantages are available with every Metro, regardless of engine size or type. And in addition to the cash savings provided by low servicing requirements, the Metro offers a range of engines where performance and economy have each been carefully developed to suit the different needs of family motorists.

The 1.0 A-plus is a high compression engine providing the right balance of willing performance and excellent fuel economy to suit buyers of the Metro Base and the potential volume seller, Metro L. An optional 2-star low compression version is available on the Metro Base; this engine still shares all the benefits of the A-plus engine with the exception of the twin downpipe exhaust. The 1.0 economy engine fitted to the HLE is one of the most efficient in its class, specially developed to retain competitive performance with its outstandingly low fuel consumption. With the 1.3 engines, the emphasis is on performance in the lively 1.3 S and 1.3 HLS - but the same high levels of efficiency and a good power to weight ratio maintain good fuel economy.



Metro Engines

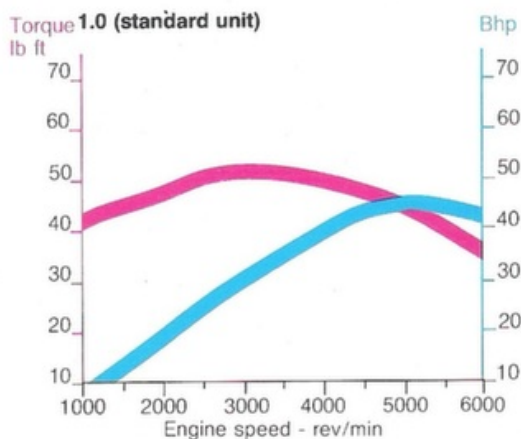
1.0 A-plus	Metro Base Metro L
1.0 A-plus low compression	opt. Metro Base
1.0 A-plus economy	Metro HLE
1.3 A-plus	Metro 1.3 S Metro 1.3 HLS

Metro engines

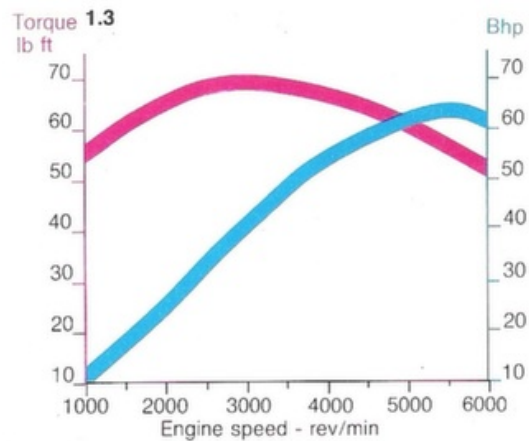
Power

Metro's standard A-plus engines share two extremely useful characteristics which can be seen on the power and torque graphs below. Firstly they develop a lot of their torque low down in the rev range, aiding fuel economy, and

reducing the frequency of gear changing. Secondly, their new levels of efficiency provide a good power output at the top end of the rev range for nippy acceleration and sustained high speed cruising.



The 998 cc Metro engine develops very high torque levels at extremely low engine revs, and so pulls willingly in a high gear. Even maximum torque of 53 lb ft is reached only half way up the rev range. Full power is 45 bhp at 5400 rpm.



The 1300 provides 68 of its impressive 72 lb ft torque at only 2000 rpm, with maximum torque at 3000 rpm. Power output reaches 62 bhp at 5600 rpm giving high performance for the 1.3 S and 1.3 HLS.

Efficiency

1. High compression ratio

All of the standard A-plus engines have a raised compression ratio, which has improved their top end performance without jeopardising economy. The 1.0 is now 9.6:1 and the 1.3 9.4:1. The very high compression ratio of the HLE engine gives very good performance coupled with outstanding economy.

A-plus		
998 cc	9.6:1	(Base, L)
	10.3:1	(HLE)
1275 cc	9.4:1	(1.3S, HLS)

2. Larger choke carburettor on 1.3

The 1.3 carburettor has a larger choke size and directs a greater volume of mixture to the combustion chamber, improving performance particularly at the top end of the rev range.



3. Twin outlet exhaust

To balance the improved intake, exhaust efficiency has also been improved by fitting twin outlets from the manifold. This ensures rapid clearance of gases and avoids contamination of the combustion chamber - again helping to extend performance at higher revs. The twin outlet exhaust is fitted on all Metro engines except the optional 1.0 LC.



a) On which Metro model is the economy engine fitted?

b) What is the optional engine and on which model is it available?

a) HLE b) 1.0 LC optional on Base.

Economy

The right torque characteristics, and high levels of efficiency, make the Metro engines inherently very economical; but in addition, every Metro engine incorporates four features which help to use less petrol over more miles.

1. Temperature compensating carburettor

Like all BL cars, Metro uses temperature compensating carburettors, which regulate the mixture to avoid fuel wastage during warm-up. The A-plus engine brought a changeover to HIF carburettors which provide greater precision and control - and hence still better economy.



2. Electric fan

Metro's electric fan helps to save petrol in two ways. Being controlled thermostatically it only cuts in when the engine is hot, thus speeding warm-up. Also, because it is electrically driven, it uses no engine power - an average mechanical fan easily consumes 5 bhp.



3. Air temperature control

We have already described changes to Metro's air filter to reduce noise. An ATC (air temperature control) device, which selects air preheated by the exhaust to speed engine warm-up, is now incorporated as an integral part of the air filter. The intake manifold shroud has also been modified to improve efficiency.



4. Integral inlet/exhaust manifold

On all Metro engines, the inlet manifold forms one casting with the exhaust, so exhaust heat can be used to vaporise the mixture, and avoid fuel wastage at low engine temperatures.



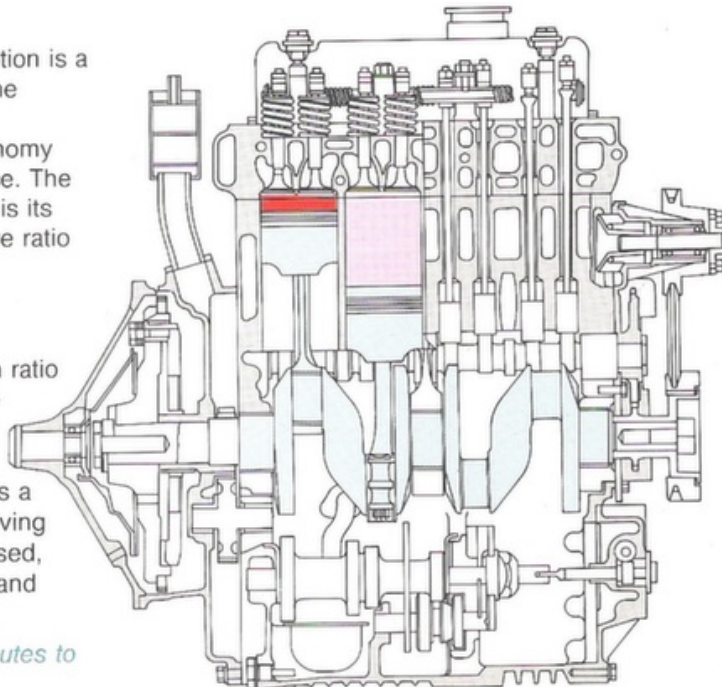
The economy engine

For motorists for whom low fuel consumption is a top priority, the HLE's 1.0 economy engine provides a compelling solution, with its remarkable achievement of high fuel economy coupled with fully competitive performance. The key to the economy engine's capabilities is its higher compression ratio, higher final drive ratio and special carburettor.

Higher compression ratio

On the economy engine the compression ratio has been raised to 10.3:1, by altering the shape of the piston head. A higher ratio means that the fuel/air mixture is compressed into less space. This enables a given amount of fuel to produce more driving force, so combustion efficiency is increased, leading to improvements in performance and economy.

What aspect of the HLE's gearing contributes to its low fuel consumption?



The higher final drive ratio

Higher final drive ratio

The final drive ratio plays a major part in determining the relationship between engine speed and wheel speed. In general, a higher ratio (i.e. a low number - 3:1 is a higher ratio than 4:1) means that the engine need not turn over so quickly to produce a given road speed. A higher ratio therefore contributes to good fuel economy.

The final drive ratio is reflected in the mph/1000rpm figures - both Metro engines produce more mph/1000 revs than any competitor except the Renault 5TL. This means that at 70mph the Metro HLE's engine is turning over at 4070 rpm which is 360 revs less than the Fiesta and Fiat 127, and 720 revs less than the VW Polo.

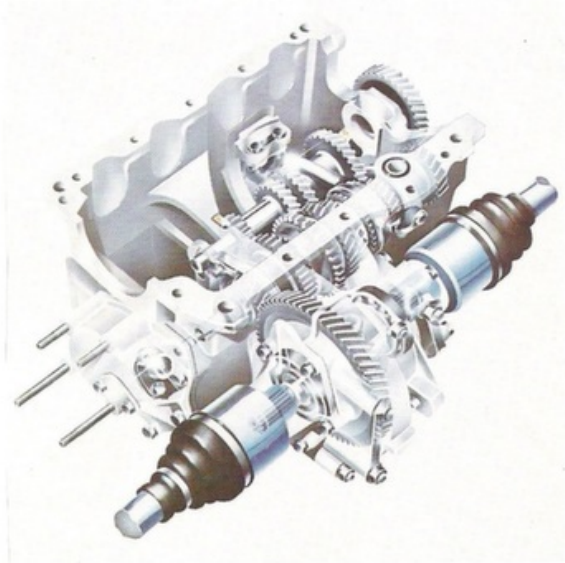
Part load weakener

Variable jet carburettors (the most common type), are normally tuned to provide the most efficient fuel/air mixture for full throttle operation. This may mean that they produce too rich a mixture for truly economical cruising.

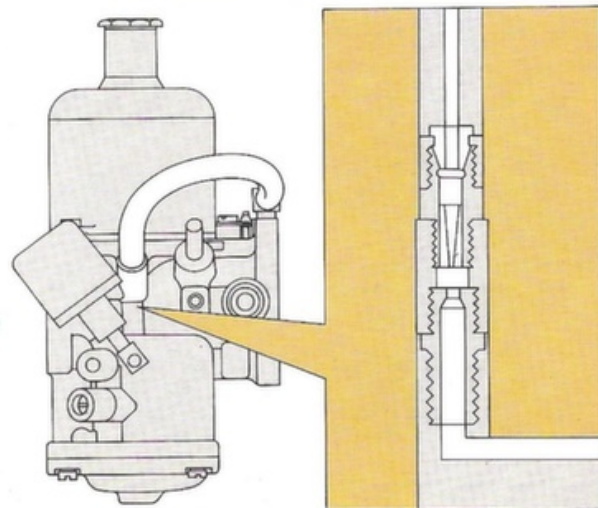
The part load weakener fitted to the HLE's carburettor gives a finer control over the mixture at intermediate throttle positions, reducing the proportion of fuel used when the throttle is only partly open. This gives greatly improved economy at cruising speeds.

a) What are the three standard Metro engines and on which models are they fitted?

b) In addition to the higher final drive ratio, and the part load weakener fitted to the carburettor, what is the third feature contributing to the HLE's excellent fuel economy?



	Final drive ratio	mph/1000 revs
Metro HLE	3.44:1	17.2
Metro 1.0 (Base/L)	3.65:1	16.3
Fiat 127 1050 CL	4.07:1	15.8
Ford Fiesta 950	4.06:1	15.8
VW Polo	4.57:1	14.6
Renault 5 1100 TL	3.10:1	19.6



- a) 1.0 - Base and L
 1.0 economy - HLE
 1.3 - 1.3 S and 1.3 HLS
 b) Very high compression ratio.

Metro economy figures

In the sector where the miles per gallon battle is at its fiercest, Metro has to be one of the leaders. But its actual lead is far greater than anyone could reasonably have expected.

Metro 1.0

Metro Base and the potentially volume-selling L are going out into the market with figures to rock their competitors. Looking at the line-up, you can see just how big Metro's lead is; at steady 56 mph, nearly 10 mpg more than Renault 5 850; more than 5 mpg more than Polo 895 and Fiesta 950; and 7 mpg more than Fiat 127 1050 L. But Metro 1.0 is also virtually unbeatable on the urban cycle and at steady 75 mph, with its superb achievement of 38.4 and 38.5 mpg. Only the renowned Renault 5 1100 TL can do better. But now there's a car to beat the Renault 5.

Metro HLE: urban 41.5: steady 56 mph 58.3

The Renault 5 TL's steady 56 mph fuel consumption figure set unprecedented standards of fuel economy. Metro HLE sets new ones, beating the Renault twice with a better 56 mph figure of 58.3 mpg and a better 75 mph figure. But by surpassing the Renault 5 TL, Metro HLE has gained a simply enormous lead over all its other competitors. Its urban fuel consumption of 41.5 mpg is the only other figure to break the 40 mpg barrier in town driving, and the nearest competitor, Sunbeam 930, is 4 mpg behind. And Metro's lead at steady 56 mph is simply stunning - 10 mpg more than the Starlet 1000, over 11 mpg more than Fiesta 1100, and nearly 12 mpg more than the Datsun Cherry. Most important, the HLE completes its devastating formula by retaining the liveliest performance among its economy-gear competitors.

Metro 1.3

In many ways, Metro 1.3 is the most remarkable achievement of all. It can outperform a BMW 316 from 0-60 and 30-50, but it is more economical at steady 56 mph than a Citroen 2 CV, Fiat 126 or Renault 4. The 1.3's margin on virtually every count over its competitors is huge - and it even beats the economy Renault 5 1300 GTL at steady 56 and 75 mph.

	Urban	Steady 56 mph	Steady 75 mph	Urban/56 Average
Metro 1.0	38.4	53.1	38.5	46
Metro HLE	41.5	58.3	41.7	50
Cherry	32.8	44.8	30.7	39
Fiat 127 900	33.6	48.7	35.8	41
Fiat 127 1050 L	34.7	46.1	31.3	40
Fiesta 950	34.4	47.9	34.0	41
Fiesta 1100	32.1	47.1	33.6	40
R5 850	35.3	43.5		39
R5 1100 TL	44.8	57.6	41.5	51
Sunbeam 930	37.5	44.7	31.2	41
Starlet 1000	36.3	48.3	34.6	42
Polo 895	32.8	47.9	35.3	40
Polo 1093	31.0	44.1	32.5	38

	Urban	Steady 56 mph	Steady 75 mph	Urban/56 average
Metro 1.3	32.8	51.2	37.9	42
Fiat 127 1050 S	27.9	39.2	29.4	34
Fiesta 1300	31.4	44.1	33.6	38
R5 1300 GTL	35.8	49.6	35.3	43
R5 1300 TS	30.7	48.7	36.2	40
Sunbeam 1300	37.7	40.3	30.5	34

Metro HLE has an urban mpg figure of 41.5 mpg. How much more does it give at steady 56 mph?

16.8 mpg more.

Metro performance

The fact that Metro can combine its astounding fuel economy with performance which puts every model, including the HLE, right up at the forefront of its competitors, is part of its amazing ability to surpass expectations time after time.

Metro 1.0

Up against the Fiesta 1100 which is one of the liveliest performers in its class, Metro 1.0 is less than a second behind on 0-60, and beats Fiesta by over 2 seconds from 30-50 in 4th gear. The Polo 1093 is the only other model that can slightly better Metro 1.0's 0-60 time, and equal it from 30-50. Metro has a clear margin over all the rest of its competitors and the highest top speed as well.

Metro HLE

Contending with the Renault 5 TL and Ford Fiesta 950, the HLE is over a second faster than the Fiesta from 0-60 and nearly two seconds faster from 30-50. And the HLE scores against Renault 5 as pointedly on performance as it does on fuel economy; it even beats the larger engined Renault 5 1300 GTL from 0-60, and is over a second ahead of the 1100 TL from 30-50. The HLE's performance advantages are consolidated by a top speed which is considerably higher than all its competitors.

Metro 1.3

Previously, one of the fastest cars in its class, the Fiesta 1300 S is now beaten by over a second and a half from 0-60 by Metro 1.3. Metro also scores over the Fiat 127 Sport and the Renault 5 1300 GTL from 30-50, and has the highest top speed of all its competitors at 97 mph.



	0-60	30-50	Top speed	Source
Metro 1.0	16.6	11.9	87	AM
Metro HLE	18.2	14.5	88	AM
Fiat 127 1050 CL	17.6	13.8	84	Aut
Ford Fiesta 950	19.6	16.4	86	Aut
Ford Fiesta 1100	15.7	14.0	86	Aut
Renault 5 1100 TL	18.4	15.6	83	Motor
VW Polo 895	18.0	13.2	80	Aut
VW Polo 1093	16.0	11.9	85	Aut

	0-60	30-50	Top speed	Source
Metro 1.3	12.3	10.3	97	AM
Fiat 127 1050 S	13.8	11.2	95	Aut
Ford Fiesta 1300 S	13.7	9.3	94	Aut
Renault 5 1300 GTL	18.9	14.5	83	Motor
Renault 5 1300 TS	13.7	10.1	95	Motor

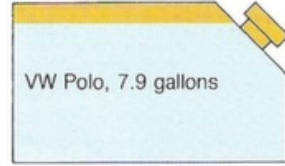
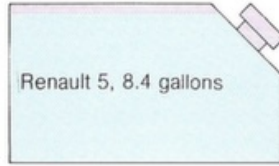
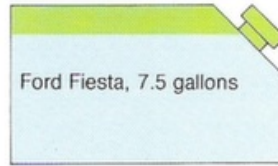
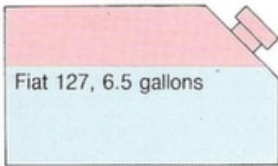
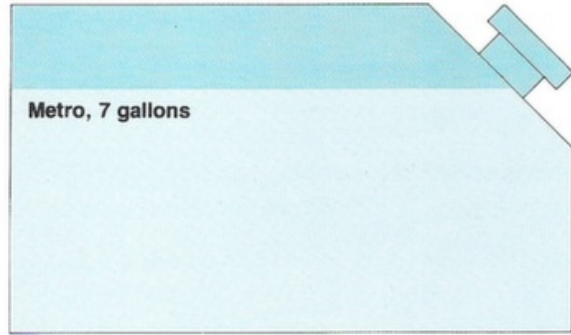
Metro HLE combines its strong performance with the most outstanding fuel economy; what mpg does it give

- in the urban cycle?*
- at steady 56 mph?*

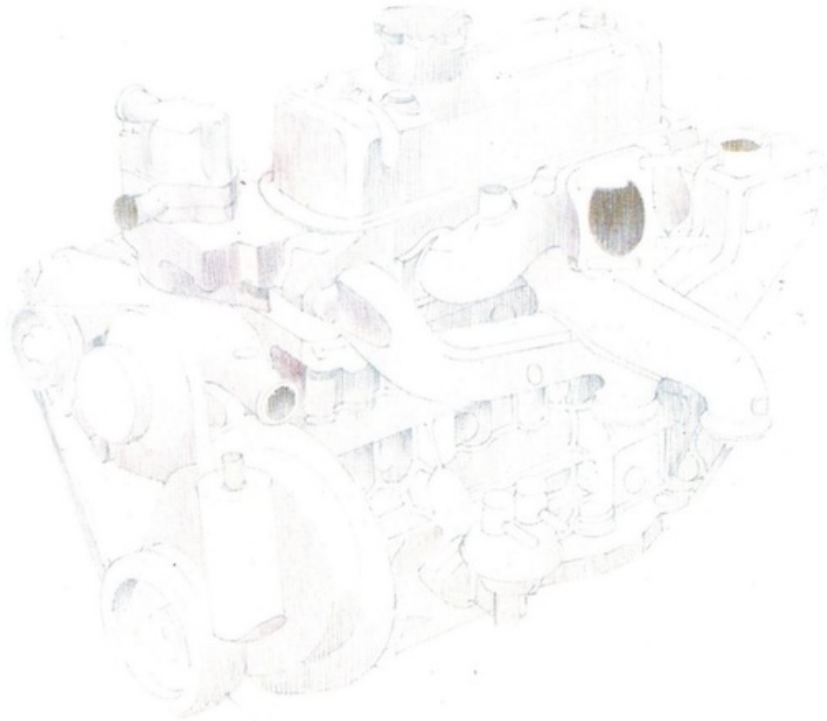
a) 41.5 mpg. b) 58.3 mpg.

Fuel tank 7 gallons

Metro's fuel tank has a capacity of 7 gallons. This, together with economical fuel consumption gives a useful 300 miles touring range, using the average fuel consumption figure.



As this has been a long and quite complex section you will probably find it worthwhile to spend a few minutes reviewing the major points before attempting the End of Section Test. You should ensure that you get all the answers right before continuing.



End of Section Test

1. How long is Metro's service interval?
2. What are the five underbonnet modifications which enable Metro to offer its extended service interval?
3. What two further features have contributed to the extended service interval?
 - 4a) What are the three standard Metro engines and on what models are they fitted?
 - b) What is the optional engine, and on which model is it available?
5. What three major features give the HLE its outstanding economy?
6. What are the official fuel consumption figures for the Metro HLE:
 - a) on the urban cycle?
 - b) at a steady 56 mph?
7. What is Metro's fuel tank capacity?

Answers

1. How long is Metro's service interval?
12 months or 12,000 miles.
2. What are the five underbonnet modifications which enable Metro to offer its extended service interval?
 - i) Self-cleaning points.
 - ii) Long-life spark plugs.
 - iii) 12 months/12,000 miles oil change.
 - iv) Long-life battery.
 - v) Improved drive belt pulley.
3. What two further features have contributed to the extended service interval?
 - i) Brake pad wear indicator.
 - ii) Reduced greasing requirement.
- 4a) What are the three standard Metro engines and on what models are they fitted?
 - a) 1.0 on Base and L.
 - 1.0 Economy on HLE.
 - 1.3 on 1.3 S and 1.3 HLS.
- b) What is the optional engine, and on which model is it available?
 - b) 1.0 low compression on Base.
5. What three major features give the HLE its outstanding economy?
 - i) Higher compression ratio.
 - ii) Part load weakener.
 - iii) Higher final drive ratio.
6. What are the official fuel consumption figures for the Metro HLE:
 - a) on the urban cycle?
 - a) 41.5 mpg.
 - b) at a steady 56 mph?
 - b) 58.3 mpg.
7. What is Metro's fuel tank capacity?
7 gallons.

5 SUSPENSION, STEERING, BRAKES, WHEELS AND TYRES

Metro is the first small car to be fitted with Hydragas suspension, and uses a system which has been specially adapted to suit its shorter wheelbase. It gives Metro all the ride comfort of larger cars, while providing excellent location and stability to give superb handling characteristics.

The brakes are among the best to be fitted in a small family car with dual feed calipers on the front brakes and a dual circuit system which ensures that they always remain operative even if part of the system is damaged or fails.

Another valuable feature is the option of Denovo safety tyres.