

PART ONE

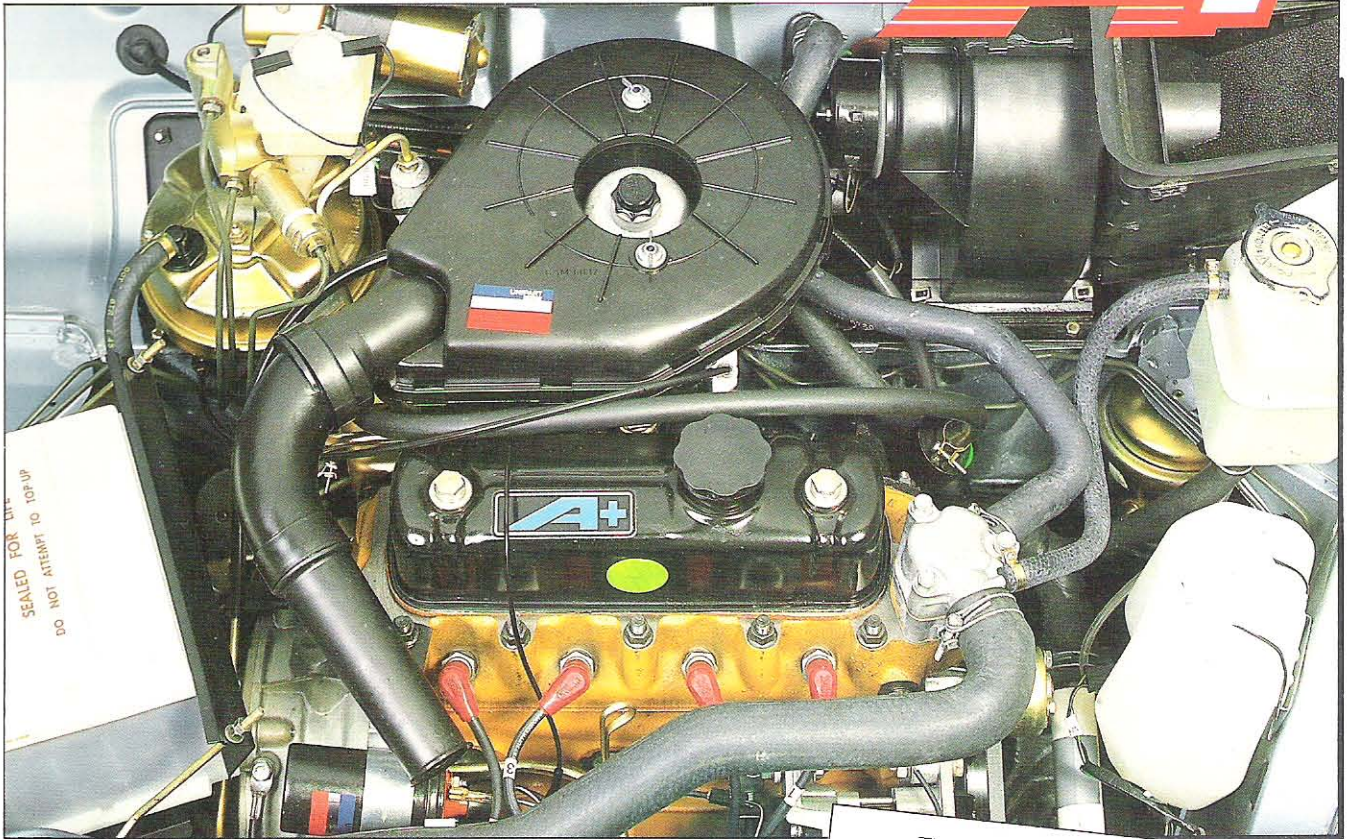
HOW FAR? HOW FAST?

No manufacturer can afford to stand still for a moment in the small car economy battle. Among Metro's major competitors, the Peugeot 205 recently represented the greatest threat, and Fiesta too was in the process of an economy comeback. But Metro has responded with a vengeance. Improved aerodynamics from the new front and styling, plus important underbonnet changes have reclaimed its supremacy as a fuel saver, without any compromises to performance.

For 1.3 models, efficiency has benefited from the fitment of breakerless ignition. And the Vanden Plas has taken on a racy new character, powered by the lively 1.3 performance engine.

Because there have been so many exciting underbonnet developments, and such a dramatic change in economy figures across the range, you will be tested after you have had the opportunity to learn about Metro's class-leading new benefits.

SEMI-TRUCKS



Are there no limits to A-Plus?

High and low compression, with economy transmission or automatic box, from 67.6 mpg to a turbo-charged 112 mph – there seem to be no limits to the incredible A-Plus engine. Yet it's basically the same unit, in 1.0 and 1.3 capacities, that continues to power Metro to the top of its class – lean machine on economy, mean machine on road and race track.

Three significant changes have helped to bring about the latest stunning improvements to economy across the range:

- The smoother front end has improved the aerodynamics of every Metro model; the improvements are reflected in class-topping mpg figures, with the 1.0HLE now achieving 67.6 mpg at steady 56 mph.
 - The 1.3 economy engine is now fitted to 1.3L and Automatic models as well as to the 1.3HLE, making marked differences to fuel-saving, with very little change in their lively performance.
 - Changes to the gearing of Metro's 1.3 economy king have shot it past the 60 mpg mark. The 1.3 HLE now returns an outstanding 63.4 mpg at steady 56 mph.
- On 1.3 models, two major developments have benefited performance and overall efficiency:
- Powered by the 1.3 performance engine, Metro Vanden Plas now zips to 60 mph over a second faster than before.
 - Breakerless ignition – a new fitment to all 1.3 models but the Turbo, which already has it – brings all-round improvements to economy, consistency and reliability.

	Cubic Capacity	Bhp @ RPM	Torque @ RPM	Compression Ratio	Final Drive
City	998	44/5250	52/3000	9.6:1	3.647
City X, 1.0L	998	46/5500	54/3250	10.3:1	3.647
1.0 HLE	998	46/5500	54/3250	10.3:1	3.105
1.3L, Automatic	1275	62/5300	72/3200	9.75:1	3.44/2.76
1.3HLE	1275	62/5300	72/3200	9.75:1	2.95
Vanden Plas	1275	71/6000	73/4000	10.5:1	3.44
MG Metro	1275	72/6000	73/4000	10.5:1	3.44
MG Metro Turbo	1275	93/6130	85/2650	9.4:1	3.210

THE HIGH ENERGY FAMILY

A healthy torque output, generated at relatively low rpm, is the hallmark of the A-Plus engine, giving high economy and high performance in a tremendous range of different combinations.

Metro City

The standard 1.0 A-Plus engine develops its maximum torque of 52 lbs ft at only 3000 rpm, lower than any of the other 1.0 or 1.3 engines.

City X, 1.0L and 1.0HLE

The 1.0 A-Plus gained a higher compression ratio (up from 9.6 to 10.3:1) and special carburettor to turn it into the highly efficient unit powering City X, 1.0L and 1.0HLE models. As you can see from the figures, torque output also went up, from 52 to 54 lb ft.

1.0HLE: economy transmission

Some additional tweaking helped to produce the 1.0HLE's remarkable fuel economy. Economy transmission, with wider-spaced gear ratios and a higher final drive, reduced engine revolutions in all gears.

1.3L and Automatic

1.3L and Automatic models benefit from the fitment of the 1.3 (9.75:1 compression ratio) economy engine. The result is a gain of nearly 5 mpg in town driving for Metro

1.3L, yet performance is remarkably unaffected. Breaker-less ignition is now a feature of all 1.3 Metro models.

1.3HLE

Changes to the gearing on the 1.3 HLE have produced an incredibly long-striding top gear, with 21.6 mph per 1000 rpm in fourth. The improvements, from what was already a very economical car, are dramatic, with the composite average up from 48.2 to 52.1 mpg.

Vanden Plas and MG Metro

A big jump from 62 to 71 bhp signals the 1.3 performance engine now under the Vanden Plas bonnet as well. Compression ratios go up too, from 9.75 to 10.5:1. The MG Metro develops 72 bhp with its larger bore exhaust system.

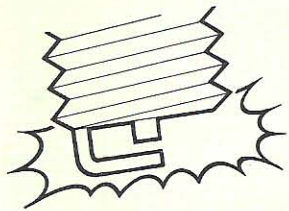
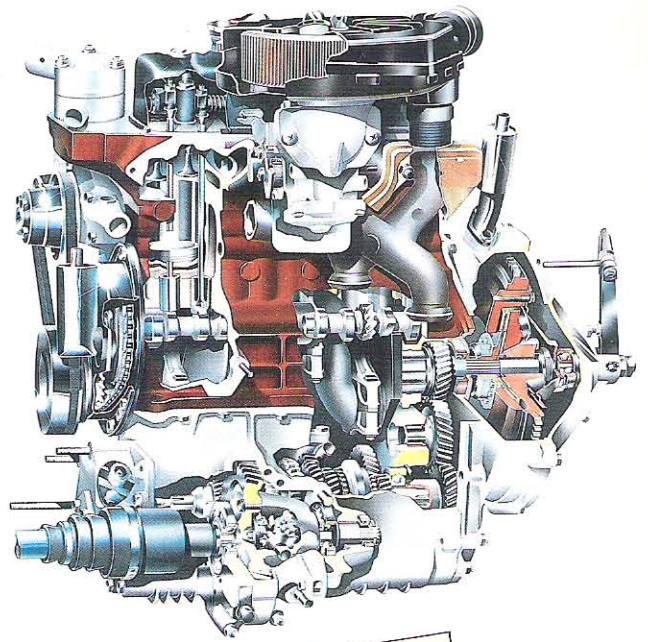
Revving to 6130 rpm to produce 93 bhp, the Turbo nevertheless shows totally different torque characteristics to the MG, with the 85 lb ft maximum achieved with silken smoothness at 2650 rpm. A higher final drive, and 18.2 mph/1000 rpm in top, allow the Turbo to go bounding up to its 112 mph top speed.

Apart from the economy engine, what is the additional economy feature of the 1.0HLE?

METRO CITY

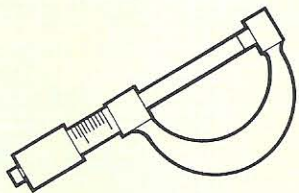
Efficiency is the key to Metro's economy plus spirited performance

Many of the special underbonnet features which help all the Austin Metro models to eke out the fuel also produce their surprising performance, by contributing to overall engine efficiency.



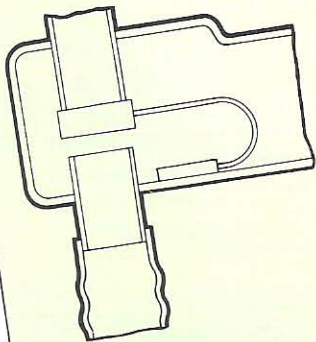
Energy boosting

Wider spark plug gaps give a bigger spark. The result – better combustion efficiency and a boost to both performance and economy.



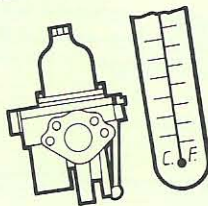
Energy saving

Improved manufacturing techniques mean that A-Plus is built to much finer tolerances than before. So a low viscosity (10W/40W) oil can be used, reducing energy loss through friction, and improving economy.



Raising the temperature

Three fuel misers reduce costly fuel wastage during the critical cold start period. An ATC (Air Temperature Control) forms part of the air filter, and selects air pre-heated by the exhaust to improve warm up time. The integral inlet/exhaust manifold means that exhaust heat can also be used to help vapourize the mixture at low engine temperatures. And an electric fan, thermostatically controlled, cuts in only when required. In addition to speeding engine warm up, the fan also reduces engine power loss, saving up to 5 bhp over a mechanical fan.



Taking the temperature

Like all Austin Rover cars, Metro gets the benefit of a temperature compensating carburettor. As engine temperature rises, the fuel/air mixture is finely adjusted to reduce fuel wastage during warm-up

Which Metro models take the 1.0 (10.3:1 compression ratio) economy engine?

City—torque of the town

The lively torque output of the 1.0 A-Plus engine gives City the edge on performance. Nippier than four out of five competitors from 0–60, City beats them all from 30–50, getting there in a businesslike 13.4 seconds. Only the Polo has a half second advantage through the gears – but its economy is the worst among these competitors. City wins out again with a top speed of 86 mph that outreaches every rival.

	0-60	30-50	Top	Source
Metro City 1.0	18.4	13.4	86	AR
Fiesta Popular Plus	19.6	18.5	78	Aut.
Uno 45 Comfort 1.0	18.7	N/A	84	What Car.
Nova Base/L 1.0	18.5	17.5	84	Mot.
Peugeot 205 Base 1.0	18.8	N/A	83	Man.
Polo Base/C 1.0	17.9	14.3	85	Aut.

Icing the cake

The City's lively performance is now combined with fuel consumption so meagre that the most frugal rival looks greedy by comparison. With an impressive gain of nearly 5 mpg, City's steady 56 economy has soared to 59.3 mpg, giving a 5 mpg advantage over Fiesta, and 6 mpg more over Polo. And with an urban figure of 43.5 mpg City is by far and away the meanest town car. Combined with 41.9 mpg at steady 75, the result is a composite figure up from 47.3 to a class-topping 50.0 mpg. Even City's most economical competitors (Peugeot and Uno) are nearly three miles per gallon worse off overall; Fiesta is beaten by nearly four miles per gallon, and the Polo by 6.5 miles per gallon.

	Urban	Steady 56	Steady 75	Comp. Av.
Metro City 1.0	43.5	59.3	41.9	50.0
Fiesta Pop/Pop Plus	40.4	54.3	39.8	46.2
Uno 45 Comfort 1.0	39.8	56.5	42.8	47.1
Nova 1.0	37.7	57.6	42.8	46.2
Peugeot 205 1.0	41.6	55.4	38.8	47.1
Polo 1.0	36.2	53.3	39.2	43.5

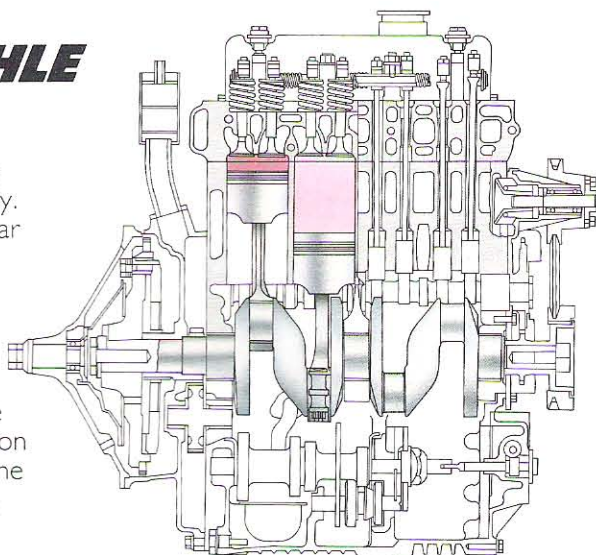
Which Metro models take the 1.3 (10.5:1 compression ratio) performance engine?

METRO CITY X, 1.0L AND 1.0HLE Economisers

A clever carburettor and highly efficient combustion give the economy engine its name, and Metro City X and 1.0L their frugality. The HLE goes further still per gallon, with its more widely-spaced gear ratios.

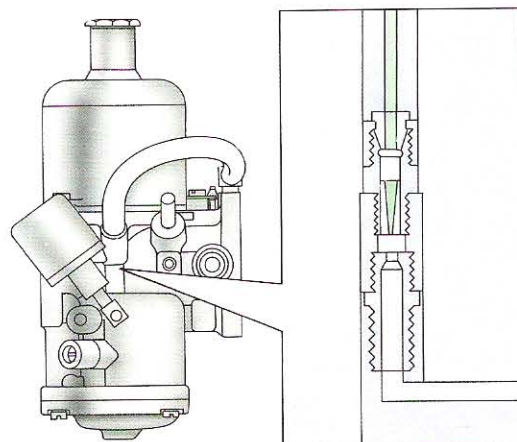
More Fireworks, less Four-Star

A compression ratio raised from 9.6:1 to 10.3:1 is part of the economy engine's fuel-stretching formula. Modifications to the piston head reduced the size of the combustion chamber, causing the same amount of fuel to produce more driving force. Three-ring pistons, instead of the four rings used on the standard A-Plus, help to reduce friction.



Mean Mixer

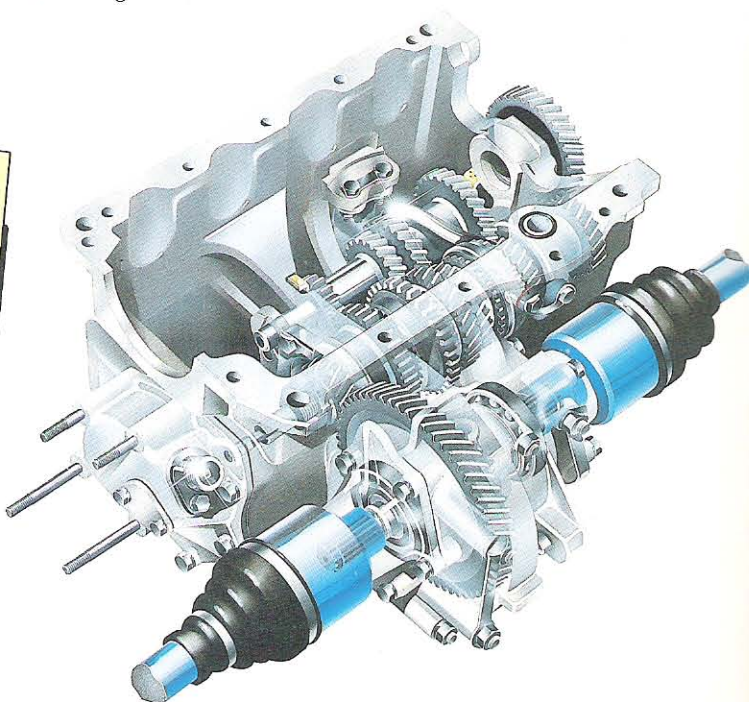
The special carburettor fitted to the 1.0 economy engine works at saving fuel when it's needed less. A part load weakener gives a much finer control of the mixture than normal carburettors at intermediate throttle positions. This reduces the amount of fuel used when the throttle is only partly open, improving the mpg at cruising speeds.



Metro 1.0HLE—a longer stride

With wider gearbox ratios and a higher final drive ratio, the HLE engine saunters along at a leisurely 3645 rpm at 70 mph, boosting the economy at cruising speeds. Mph per 1000 rpm are a high-geared 19.2, compared with Fiesta 950's 16.1. As a result, the Ford is buzzing away at 4347 rpm at 70 mph – over 700 rpm busier.

Mph per 1000 rpm table			
	Final drive	Mph/1000 rpm in top	Rpm at 70 mph
Metro 1.0HLE	3.105	19.2	3645
Fiesta 1.0	4.056	16.1	4347
Uno 45 1.0	4.071	15.8	4430
Uno 45 ES 1.0	3.866	20.6*	3398
Nova 1.0	3.940	17.7	3954
Polo 1.0 Formel E	4.060	19.2	3645
205 1.0	3.180	18.1	3846
* 5th			



Which Metro models take the standard 1.3 A-Plus engine?

Bumper to bumper

Metro City X and 1.0L produce competitive performance next to comparably-powered rivals. City X is dead level with the Polo 1.0 from 0-60, and both City X and 1.0L have the edge over the Vauxhall 1.0 model. Fourth gear acceleration carries City X and 1.0L ahead of the 1.0 Nova again, and they have an advantage over both the VW models. On top speed, all three Metro models are bumper to bumper with the majority of the competition.

Back on top

With more than a 3 mpg increase in its steady 56 figure, and economy gains all round, Metro 1.0HLE reclaims its position as the economy leader of the small car sector.

The urban figure of 48.1 mpg is over ten miles per gallon better than Uno, Nova and Polo. At steady 56, the HLE returns a staggering 67.6 mpg, leading Fiesta by ten miles per gallon, and dismissing the formidable Peugeot 205 by nearly two miles per gallon. The composite average of 56 mpg is a lesson in economy to the meanest competitor.

The winning streak

Metro City X and 1.0L models show their own winning streak, with an urban figure of 45.7 mpg which beats eight out of the nine competitors. Their steady 56 figure of 59.7 mpg takes the honours over seven out of nine rivals, and the average figure of 51 mpg does the same again.

	0-60	30-50	Top Speed	Source
Metro City X (3 dr)	17.9	13.0	87	AR
Metro 1.0L (3 dr)	18.3	13.3	87	AR
Metro 1.0 HLE	18.7	10.6*	87	AR
Fiesta Pop Plus/L 1.1	16.8	N/A	86	Aut.
Uno 55 Comfort 1.1	14.2	12.7	93	Mot.
Nova Base/L	18.5	17.5	84	Mot.
Nova 1.2	14.2	12.5	94	Aut.
Peugeot 205 1.1	17.0	N/A	88	Man.
Polo Base/C 1.0	17.9	14.3	85	Aut.
Polo C Formel E	16.7	13.8	86	Aut.

(*in 3rd gear)

	Urban	Steady 56	Steady 75	Comp. Av.
Metro City X/1.0L	45.7	59.7	40.0	51.0
Metro 1.0 HLE	48.1	67.6	46.4	56.0
Fiesta Pop Plus/L	45.6	57.6	41.5	50.3
Uno 45 Super ES 5 sp	44.1	65.7	48.7	53.4
Uno 55 Comfort 1.1	36.2	55.4	41.5	44.5
Uno 55 Super 1.1 5 sp	36.2	58.9	44.1	45.8
Nova 1.0	37.7	57.7	42.8	42.8
Nova 1.2	34.0	57.6	43.6	43.6
Peugeot 205 1.1 GL	48.7	65.7	48.7	55.9
Polo Base/C	36.2	53.3	39.2	43.5
Polo C Formel E	38.7	58.9	42.2	47.2

Based on the HLE's composite average mpg figure, and Metro's new tank size, what is the HLE's touring range on a full tank?

THE 1.3 A-PLUS ENGINE

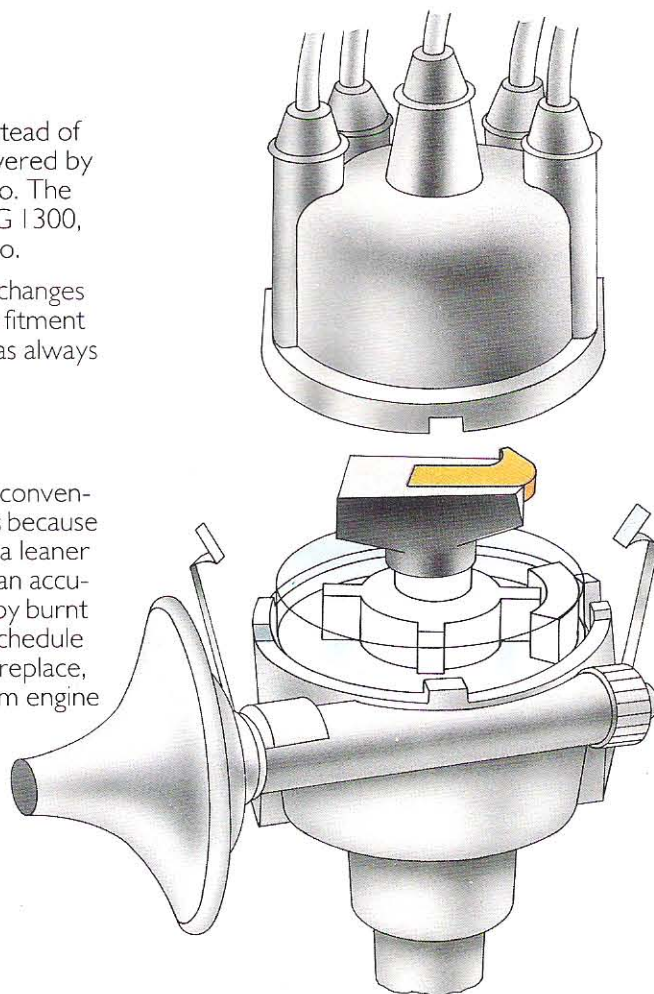
Three for the road

The 1.3 A-Plus engine now exists in three versions (instead of the previous four). Metro 1.3L, Automatic and HLE are powered by the economy engine, with its higher 9.75:1 compression ratio. The performance engine is fitted to Metro Vanden Plas and the MG 1300, and the 93bhp high performance engine to MG Metro Turbo.

In addition, Metro 1.3 HLE has undergone transmission changes which have had a resounding effect on fuel economy. And the fitment of breakerless ignition to Austin and MG Metro models (it has always been fitted to the Turbo) has brought three major benefits.

Bright spark

Metro's 1.3's breakerless ignition gives advantages over conventional contact breakers in three main areas. Economy benefits because of the greater precision of the ignition control, which allows a leaner mixture. Reliability improves because the engine remains in an accurate state of tune for longer, with no timing variations caused by burnt or worn out points. And Metro's low maintenance service schedule becomes still more trouble-free; with no contact breakers to replace, the ignition system is completely maintenance free apart from engine timing checks.



Metro 1.3HLE—geared up for economy

Two modifications to the transmission have produced the 1.3HLE's remarkable economy. Firstly, the final drive ratio has been raised from 3.105 to 2.95. Secondly, the primary gear (which transmits the power to the gearbox) has also been stepped up, giving the HLE an even higher effective final drive ratio of 2.74.

As a result, the 1.3HLE now has virtually a '3 plus E' economy gearbox. In top gear, mph per 1000 rpm have gone up from 19.2 to 21.6, making it one of the most long-legged cars in its class even compared with five-speed competitors. At 70mph, the HLE now hums quietly along at only 3236 rpm, more relaxed than five out of six of these rivals. Even the third gear speed of 15.7 mph per 1000 rpm is not far away from the Polo's top gear.

Mph per 1000 rpm table

	Final drive ratio:1	Mph/1000 rpm in top	Rpm at 70 mph
Metro 1.3 HLE	2.95	21.6	3236
Fiesta 1.3L 5 sp.	3.84	21.4	3271
Uno 70 Super 1.3 sp.	3.73	21.2	3301
Nova 1.2 GL	3.74	19.3	3626
Nova 1.3 SR 5 sp.	4.18	21.3	3286
Peugeot 205 GR 1.3	3.18	22.6	3097
Polo GL 1.3	4.27	16.9	4142

The 1.0HLE does 67.6 mpg at steady 56 mph. What is the 1.0HLE's urban mpg?

Performance – top class

The 12.8 second 0-60 time of the 1.3L shows that the 1.3 economy engine drives with plenty of spirit, keeping up with the Peugeot 205GR, and leaving behind the Polo and Nova. From 30-50, Metro 1.3L beats Vauxhall and VW again, and the top speed of 97 mph is faster than all but the Uno.

With only a second or so separating it from the Metro 1.3L, the HLE produces excellent performance for its miserly nature. Reaching 60 mph in 13.7 seconds, the HLE has a comfortable lead over the Nova 1.2. With its fourth gear effectively an overdrive, the HLE's muscular third gear gives a rapid 9.0 second 30-50 time.

	0-60	30-50	Top Speed	Source
Metro 1.3L	12.8	10.0	97	AR
Metro 1.3HLE	13.7	9.0*	95	AR
Metro 1.3 Automatic	15.5	N/A	92	AR
Fiesta 1.3 5 sp	N/A	N/A	N/A	N/A
Uno 70 Super 5 sp	12.1	N/A	102	Aut
Nova 1.2	14.2	12.5	94	Aut
Peugeot 205 GR	12.5	8.8	96	Aut
Polo 1.3 (*3rd gear)	12.9	11.6	97	Aut

Economy – top of the class

The proof of Metro's styling and under-bonnet developments shows again in the figures for 1.3 models. Overcoming the stiffest opposition from the Peugeot 205, Metro 1.3 HLE delivers a lethal fistful of firsts.

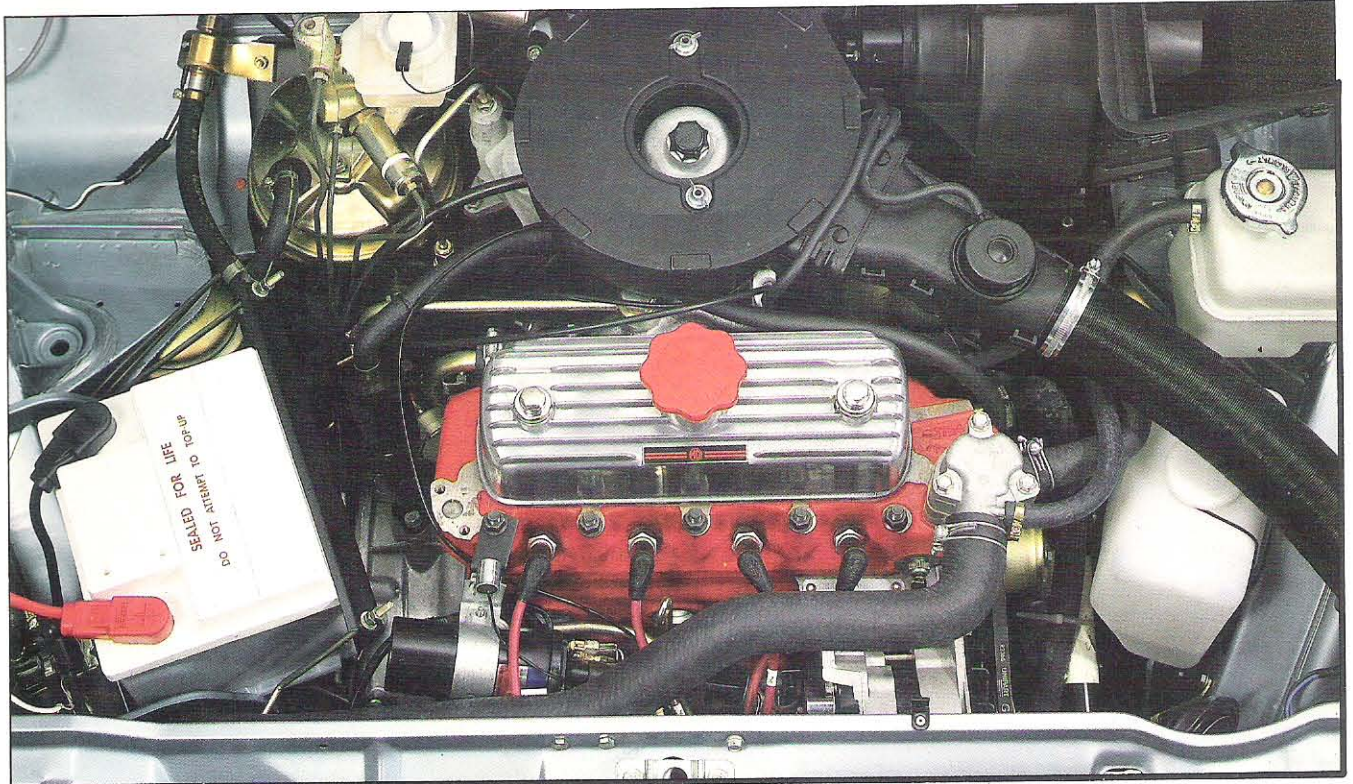
The HLE's urban figure of 43.8 mpg is over 10 miles per gallon better than Fiesta. At steady 56, the HLE's staggering 63.4 mpg saves 12 mpg over the Polo. And at the steady 75 consumption beats the Ford again by over 10 mpg. Top of the class on every count, the 1.3HLE rounds off the victory by producing a composite figure of 52.1 mpg, giving another clear margin over the vanquished Peugeot, and a huge lead over every other competitor.

What should not be ignored is that the car snapping closely at the Peugeot's heels is Metro 1.3L – beating four out of five competitors in town with 40.3 mpg, and leading them again with the composite figure of 46.4 mpg.

	Urban	Steady 56	Steady 75	Average
Metro 1.3L	40.3	55.1	39.5	46.4
Metro 1.3HLE	43.8	63.4	46.2	52.1
Metro Automatic	35.3	47.1	35.0	40.3
Fiesta 1.3 5 sp	33.2	48.7	35.8	39.8
Uno 70 Super 5 sp	34.4	56.5	43.5	43.9
Nova 1.2	34.0	57.6	43.6	43.9
Peugeot 205 1.3 5 sp	42.2	61.4	44.1	50.3
Polo 1.3	34.9	51.4	38.7	42.0

What is Metro 1.0HLE's steady 56 mpg figure?

MG METRO AND METRO VANDEN PLAS



The brilliant success of the MG simply goes to show how many drivers – single, family man, business man or career girl – were yearning for a whiff of excitement from a practical and spacious little hatchback. The MG quickly endears itself to anyone who enjoys a real driver's car, and won a memorable accolade from Philip Turner of Motor magazine: "The MG Metro is the most enjoyable long term test car I have run since my Rover 2600... They both convey to the driver a great sense of eagerness, of lively performance just begging to be used, which makes them both such a pleasure to drive."

Unmistakeably MG

The MG colours and badging splashed boldly across the body work are continued under the bonnet, with the bright red HT leads, oil filler cap and cylinder head, and the famous motif adorning the alloy rocker cover.

Wolf in aristocrat's clothing

The same performance engine can now also be seen under the bonnet of the Vanden Plas, turning it into a very mean wolf in aristocratic clothing. A different exhaust system keeps the engine's eager note to a discreet level in keeping with the Vanden Plas image.

**"LIVELY
PERFORMANCE JUST
BEGGING TO BE USED"**

Motor

What is the steady 56 mph fuel consumption of Metro 1.3 HLE?

1.3 PERFORMANCE ENGINE

Revised cylinder head

The revised cylinder head features larger inlet valves and increased diameter inlet tracts allowing a greater volume of mixture into the combustion chamber. To help provide more mixture for the increased volume the camshaft has been re-profiled to keep the inlet valve open just a little bit longer.

Raised compression ratio

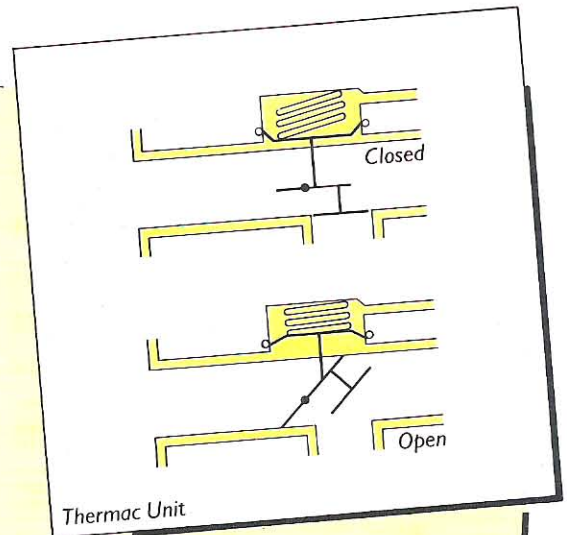
To maximise the effectiveness of the increase in mixture volume the compression ratio has been raised from 9.4:1 to 10.5:1, improving the thermal efficiency to the benefit of both performance and economy.

Aluminium alloy inlet manifold

The inlet manifold, unlike other Metro engines, is not integral with the exhaust manifold. It is important with a high performance engine that the mixture temperature in the manifold is stable without hot spots; so the manifold is water heated to give temperature stability over a wide range of operating conditions.

Revised exhaust system

After getting the extra mixture into the combustion chamber it is essential that it is exhausted just as effectively. On the MG the twin outlet exhaust manifold is connected to a straight through silencer – giving the minimum of back pressure. This is finished off with a large diameter tailpipe.



Thermac unit

For a performance engine to achieve maximum power at any given point, cooler air must be introduced to the fuel/air mixture to avoid premature vaporisation of the mixture. This is achieved by using a thermostatic vacuum air control device called a thermac unit. This unit is connected to the inlet manifold and senses when there is a high manifold depression (i.e. throttle opening) and allows colder air into the inlet system. At a low manifold depression the device allows warmer air into the system to aid vaporisation, contributing to maximum economy.

Oil Cooler

To cope with the extra loads and temperatures generated by a performance engine, an engine oil cooler is fitted as standard. Unlike the conventional air cooled radiator type, the unit uses water from the cooling system as its heat exchange medium. An added advantage of this system is that not only does it cool the oil to pre-set limits, but it also warms the oil up when starting from cold. This reduces any drag caused by thick, cold oil, thus benefiting economy.

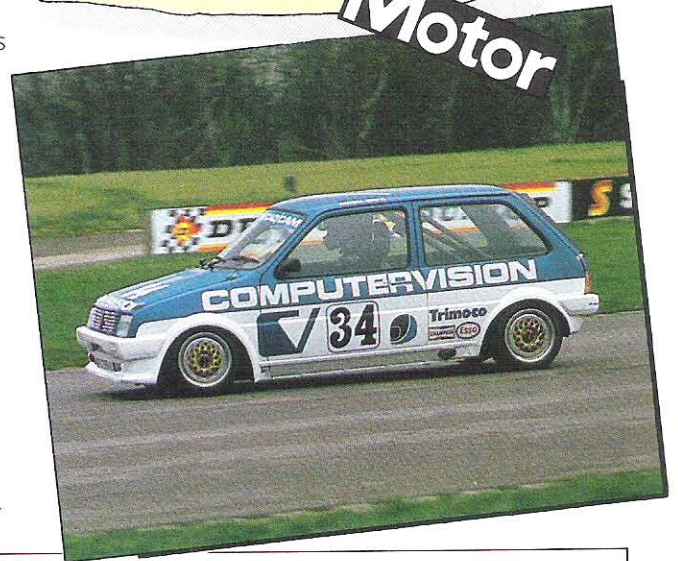
Turbo

MG METRO TURBO

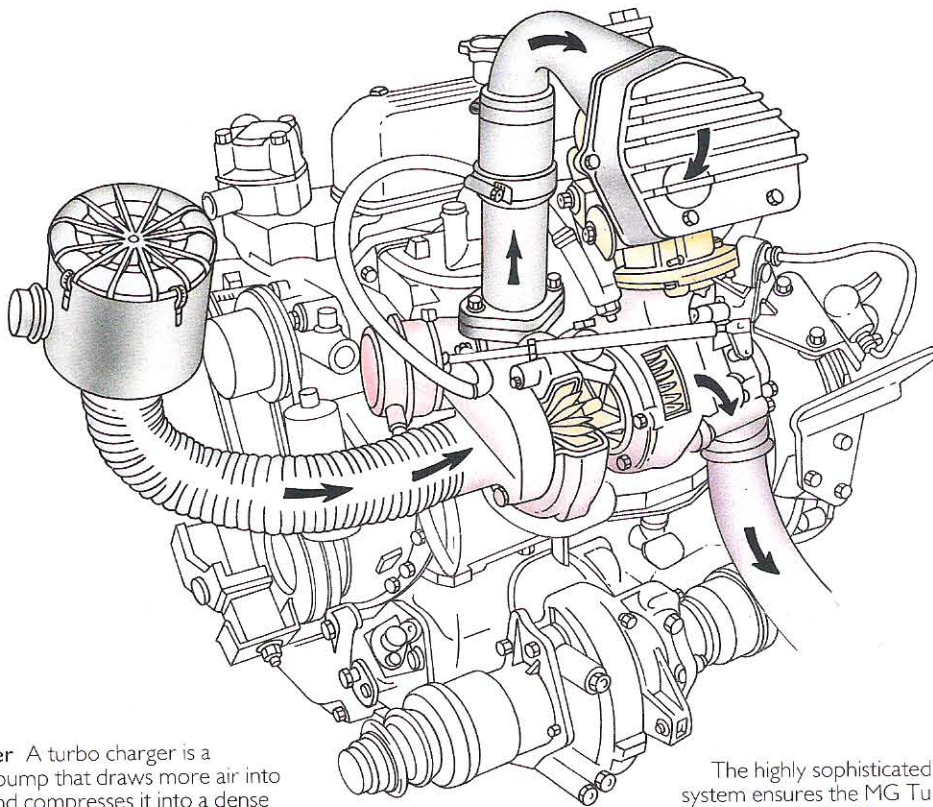
It's the same outrageous turn of speed in town, on A-road or motorway that brings a smile to the face of the Metro Turbo driver. Turbo charging has unleashed hitherto undreamed of power and performance from the endless vitality of the A-Plus engine. Unusual refinement is the key quality of Metro's highly engineered turbo charger... *"The progression of power is much smoother, and less stepped than usual for a turbo... The ideal boost characteristic is felt in the way in which the engine keeps on delivering more power just when one expects the delivery to slow down when one nears the rev limit"*. Autocar

"ON THE RACETRACK IT IS ALMOST INDECENTLY QUICK, AND CAPABLE OF EMBARRASSING MUCH LARGER CARS"

Motor



Take a deep breath—and blow



Turbocharger A turbo charger is a very simple pump that draws more air into the engine and compresses it into a dense charge for each of the cylinders. It makes use of the force created by the exhaust gases using them to drive a turbine-wheel. This in turn drives an impeller which compresses the engine air intake.

The Garret T3 turbo charger is fitted neatly under the HIF carburettor at the back of the engine. The air flows from the air filter to the compressor then blows upwards via the trunking into a finned cast alloy inlet tract situated over the mouth of the carburettor.

The highly sophisticated electronic wastegate system ensures the MG Turbo delivers its boost pressure gradually. (The wastegate is a "blow-off" valve which regulates the maximum boost pressure; without it the pressure would rise uncontrollably until engine components failed.) This is achieved by maintaining the boost pressure to no more than 4 psi up to 4,000 rpm. Above this engine speed, the control unit's memory increases the leak effect of the solenoid valve in the hose in proportion to the increase in engine speed. The maximum permitted boost rises to 4.8 psi at 5,000 rpm, 7.3 at 6,000 to a design maximum of 7.7 psi at 6,300 rpm.

HANDLING 93 HORSES

Coping with the enormous power increase (from the 62 bhp of the standard 1.3 engine to the 50% gain of 93 bhp) required far-reaching modifications to the 1.3 A-Plus engine.

Breakerless ignition

To cope efficiently with the higher engine speeds and temperatures, a breakerless ignition system is fitted.

Cooling

A new copper and brass radiator, with increased fins per square inch combines with an additional oil cooler (and increased capacity oil pump) to deal with the extra heat generated by the turbo-charging process.

Fuel system

A recirculating fuel system is incorporated, fed by a high pressure Lucas electric pump, mounted in the rear sub-frame area (other Metros use mechanical fuel pumps). This has required a revised fuel tank. A fuel pressure regulator and filter are housed alongside the heater unit, under the bonnet. Other essential changes include an increased efficiency radiator and an oil cooler mounted behind the grille.

Cylinder head

The cylinder head, derived from the standard 1.3 unit rather than the MG, has modified water jackets round the

valve seats for improved cooling. Stronger double valve springs allow the engine to run to higher revolutions. Valves are standard 1.3 size, but with sodium cooled exhaust valves to avoid valve seat sinkage. The camshaft has the same valve timing as the standard 1.3 Metro.

Crankshaft

Reminiscent of the old Mini Cooper S engine, the forged steel crankshaft is nitrided for extra strength. This is an addition to the standard A-Plus high fatigue strengthening process of fillet-rolling. To withstand the increased load on the bearings, the bearing caps have been modified to accept plain bottom half shells to increase bearing surface area. Stronger, solid skirt pistons are carried on standard connecting rods. Piston crowns are machined to give the same 9.4:1 compression ratio as the standard 1.3, with which it shares the same size of combustion chambers in the head (MG Metro has a 10.5:1 compression ratio).

An increased capacity oil pump, which also feeds lubricant to the turbocharger bearings, has a wider rotor and is capable of pumping 7.9 instead of 6 gallons per minute at 3,000 rpm.

Before you go on to look at the MG, Vanden Plas and Turbo performance and economy figures, check your knowledge so far by making sure that you can answer the following questions correctly.

INTERIM TEST

1. Which Metro models take the 1.0 high compression engine?
2. What is the special economy feature of both the Metro HLE models?
3. Which Metro models now take the 1.3 economy engine?
4. Which Metro models now take the 1.3 (10.5:1 compression ratio) performance engine?
5. What is the 1.0HLE's touring range on a full tank?
6. What is the 1.0HLE's fuel consumption?
 - a) on the urban cycle?
 - b) at steady 56 mph?
7. What is the steady 56 mph fuel consumption of Metro 1.3HLE?

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City X, 1.0L and 1.0HLE

Economy transmission, with a higher final drive ratio

Metro 1.3L, Automatic and 1.3HLE

Metro Vanden Plas and MG Metro

436 miles

- a) 48.1 mpg
- b) 67.6 mpg

63.4 mpg

FIRE EATERS

The fitment of the 1.3 performance engine has made the Vanden Plas over a second quicker from 0-60, and extended top speed from 96 mph to just over the ton.

The MG Metro gets off the mark with a very rapid 10.9 seconds from 0-60, snapping at the heels of the 1597cc Fiesta XR2. Fourth gear acceleration is better even than the Turbo's, because of the different power curves of the two performance engines, and top speed is level with the Nova SR at 103 mph.

With turbine smoothness, the MG performance flagship sweeps from 0-60 in a thrilling 9.9 seconds, comfortably ahead of the larger-engined Fiesta and the Vauxhall Nova. Top speed of 112 mph outruns both Ford and Vauxhall.

LEAN MACHINES

Greedy for speed the high performance Metros certainly are, but they exist on an extraordinary meagre diet which now tops their economy league.

MG Metro, together with the Vanden Plas, leads the pack in town driving with over 35 mpg. All three Metro models beat Fiesta and Peugeot at steady 56. And MG and Vanden Plas score again over all three competitors with their overall fuel consumption.

	0-60	30-50 in 4th	Top Speed	Source
MG Metro	10.9	10.3	103	AR
Metro Vanden Plas	11.8	11.3	101	AR
MG Metro Turbo	9.9	10.8	112	AR
Fiesta XR2 1.6 5 sp	10.2	9.3	107	Aut.
Nova 1.3 SR 5 sp	10.6	9.6	103	Mot.
Peugeot 205 GTi 1.6 5 sp	8.7	6.2	117	Mot.

	Urban	Steady 56	Steady 75	Comp. Av.
MG Metro	35.1	55.5	41.9	43.9
Metro Vanden Plas	35.1	53.0	40.5	42.9
MG Metro Turbo	34.3	53.5	37.9	42.3
Fiesta XR2	31.0	49.6	37.7	39.0
Nova 1.3SR	32.1	57.6	42.8	42.6
Peugeot 205 GTi	32.5	50.4	38.7	40.3

A CLEAN PAIR OF HANDS

Metro's services are not only few and far between – they're also remarkably trouble-free to carry out, thanks to a number of useful underbonnet features.

Little greaser

Metro has only four grease points, on the upper arms of the front suspension and the rear radius arms. With all other steering and suspension joints and bearings sealed for life, service times are reduced.

Well-connected

The fitment of an LED engine timing input gives greater speed and accuracy for servicing. And printed circuits on all light panels allow bulbs to be changed quickly. Underbonnet access is excellent thanks to Metro's detachable front panel.

Belting up

An enlarged drive belt pulley and improved manufacturing techniques have greatly reduced drive belt wear. This allows Metro's drive belt to be set at the optimum tension right from the start, and checked only every 12 months/12000 miles.

Lighting up

To avoid the need for a visual inspection of the brake pads between main services, Metro has electrical contacts built into the pads which light a warning lamp on the dash when the brakes need attention.

The right chemistry

Conventional battery plates, which are made of a lead/antimony alloy, gradually corrode, becoming less effective, and setting up a chemical reaction which reduces the electrolyte level. In Metro's long-life battery, the amount of antimony has been reduced, improving corrosion resistance, so that the battery needs no topping up at all.

Filtering out the changes

Unlike the majority of its competitors, Metro's special oil filter with its enlarged paper element means that oil and filter need changing only at 12 months/12000 miles.

Sparkling plugs

A larger centre electrode lets Metro's long life spark plugs work for 12 months or 12000 miles before they need to be cleaned

Well-polished points

The sliding action of Metro's distributor points on the 1.0 engine prevents deposits building up, giving them a longer effective life.

THE BOTTOM LINE

With three-figure savings over many competitors, and particularly strong advantages over Polo, Uno and Fiesta models, Metro is the clear overall winner when fuel consumption is translated into 40,000 miles of travel. And that's without even counting the savings of the long distances between 12 month/12,000 mile services.

Petrol cost over 40,000 miles at £2.00 per gallon

	Petrol cost £	Metro Saving		
		City £	City X & L £	HLE £
Metro City	1600			
Metro City X/1.0L	1568			
Metro 1.0HLE	1428			
Fiesta Pop/Plus/L 1.0	1728	128	160	300
Fiesta Pop Plus/I 1.1	1590	-	22	162
Uno 903cc	1699	99	131	271
Uno 55 Comfort 1.1	1798	198	230	370
Uno 55 Super 1.1	1747	147	179	319
Nova 1.0 base/L	1732	132	164	304
Nova 1.2 base/L/GL	1822	222	254	394
Peugeot 205 954cc	1699	99	131	271
Polo base/C 1.0	1839	239	271	411
Polo C Formel E	1695	95	127	267

	Petrol cost £	Metro Saving		
		1.3L £	1.3HLE £	VDP £
Metro 1.3L	1724			
Metro 1.3HLE	1536			
Metro VDP	1865			
Fiesta L/Ghia 5 sp	2010	286	474	145
Uno 70 Super 1.3	1822	98	286	-
Nova 1.3SR	1878	154	342	13
Peugeot 205 1.3GR 5sp	1590	-	54	-
		MG Metro MG Turbo		
MG Metro	1822			
MG Metro Turbo	1891			
Fiesta XR2	2051	229	160	
Peugeot GTi 5 sp	1985	163	94	

- a) What new feature further improves the low maintenance benefits of Metro 1.3 models?
b) What is the 0-60 time of the MG Turbo?

- a) Breakerless ignition
- b) 9.9 seconds

HIGH ON SPIRIT; LOW ON GAS

Where else could you find so many delicious blends of performance and economy to suit everyone's pocket?

Even the most economical Metro has a driving character and spirit all its own. Even the fastest shows remarkable consideration for the driver's purse at the petrol station. In no other range could you find such a wide and satisfying choice of performance and economy – all from a little car that in any form is a uniquely pleasurable drive.

Check that you are up to date with all Metro's performance and economy benefits by answering every question correctly in the following End of Section Test.

END OF SECTION 2 TEST

1. Which Metro models take the 1.0 high compression engine?
2. What is the special economy feature of both the Metro HLE models?
3. Which Metro models now take the 1.3 economy engine?
4. Which Metro models now take the 1.3 (10.5:1 compression ratio) performance engine?
5. What is the 1.0HLE's touring range on a full tank?
6. What is the HLE's fuel consumption:
 - a) on the urban cycle?
 - b) at steady 56 mph?
7. What new feature has improved economy, reliability and low maintenance on 1.3 models?
8. What is the steady 56 mph fuel consumption of Metro 1.3HLE?
9. What is the 0-60 acceleration time of MG Metro Turbo?

ANSWERS

1. Which Metro models take the 1.0 high compression engine? *Metro City X, 1.0L and 1.0HLE*
2. What is the special economy feature of both the Metro HLE models? *Economy transmission with a higher final drive ratio.*
3. Which Metro models now take the 1.3 economy engine? *Metro 1.3L, Automatic and 1.3HLE*
4. Which Metro models now take the 1.3 (10.5:1 compression ratio) performance engine? *Metro Vanden Plas and MG Metro*
5. What is the 1.0HLE's touring range on a full tank? *436 miles*
6. What is the HLE's fuel consumption:
a) on the urban cycle? *a) 48.1 mpg*
b) at steady 56 mph? *b) 67.6 mpg*
7. What new feature has improved economy, reliability and low maintenance on 1.3 models? *Breakerless ignition*
8. What is the steady 56 mph fuel consumption of Metro 1.3HLE? *63.4 mpg*
9. What is the 0-60 acceleration time of MG Metro Turbo? *9.9 seconds*