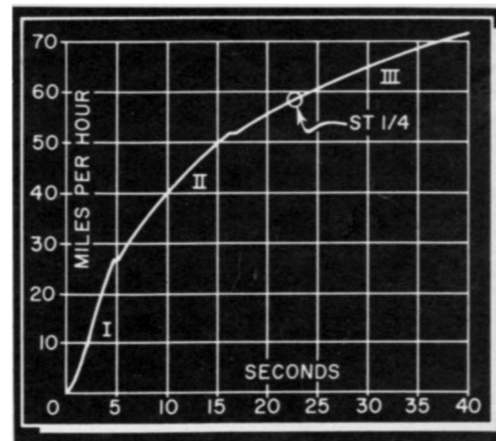


SCI

ROAD TEST: METROPOLITAN 1500



Metro leans heavily in a tight turn at a slow moderate speed. Decisive understeer was experienced in these bends which could be changed to sudden breakaway by a quicker movement of the wheel and throttle.



THE Nash Metropolitan is a relative newcomer to the American scene, having entered the small car market unobtrusively in '54. Yet despite this recent appearance, and the already indoctrinated big-car buying public, this little import has grown in popularity throughout the country. And rightly so, for its designers have recognized the need for a small auto in car-crowded urban areas, and approached the problem with real and practical insight. The car is built and assembled in Britain, using British components, by the British Motor Corporation (BMC) and shipped to the U.S. for distribution. The big money behind the Metropolitan, of course, is the American

Motors Corporation, and the biggest slice of the production is aimed at the American market.

Yet any notion that this is one of "them foreign jobs" or "sports cars" should be quickly dispelled because its overseas manufacture and assemblage does not include its right to be called a sports car. But while the Metropolitan is no sports car, and while we have no intention of assessing it as such, it's a car which does merit attention and close scrutiny. Its function is unmistakably utilitarian, but utilitarian to suit these shores.

Its behavior in the crowded city is nothing short of phenomenal when compared with the lumbering hulks powered

and geared for speed on the highway. It darts nimbly in and out of traffic with no strain or pain, and squeezes through the most unlikely openings while the giants sit immobilized by their own bulkiness.

Gearbox and final drive are ideally suited to around-town driving. Most city driving can be done in top cog at speeds as low as eight mph without excessive lugging. For the extra go when a cabbie tries to play crinkle-fender for first slot at the traffic light, it's necessary only to push the stick into second, and crush the gas pedal. Ten chances out of ten you'll get there first.

The low rear end ratio somewhat limits

the cruising speed to 55 and 60 mph, but unless you're angling for a speeding ticket, this should be more than sufficient on most inter-urban expressways. Hazards of entering and leaving parkways are kept minimal because of the flexible range of speed in gears. From dead stop to fifty mph in second gear, the car will accelerate into the flowing traffic in 15 seconds, which is quick enough to stay well ahead of the oncoming vehicles. Thanks are also due to the spunky little mill which seems to produce a few more revs every time you prod it.

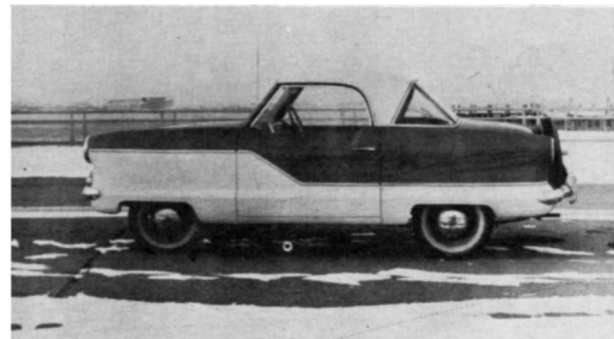
Basically, the engine is the same as that in the MGA and the Magnette, and service should be excellent throughout the country. Incidentally, for those that might

tight ones. (For precaution we had the car checked out by Frank de Langton of Competition Tuning in Long Island City.) The carburetor is simple Zenith and should be familiar to U.S. service departments. Response to the throttle is immediate and when floorboarded in any gear, at any speed, the engine pulls with a minimum of vibration. Flat spots in carburetion were not discernible—very commendable for so new an engine.

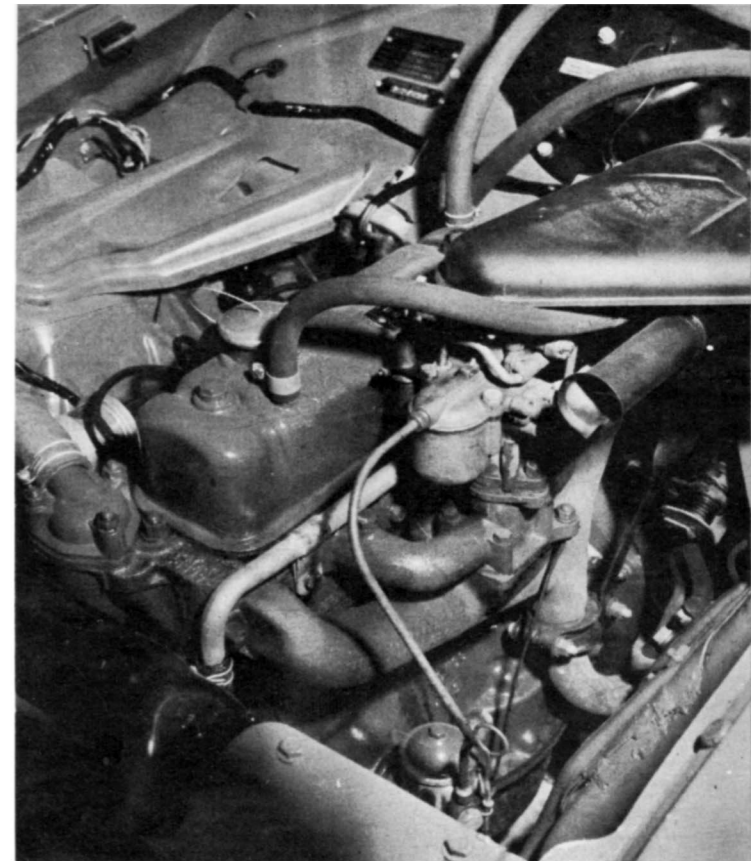
Clutch pressure was neither stiff nor sloppy, but firm enough against the foot to telegraph its position at any given point. After three and a half hours of stop-and-go driving through traffic stalled by snow, we were more fatigued from monotony and mental anxiety than the

gears quiet. First is the getaway cog, and while the shock of acceleration won't crack the pelvis, the engine will rev out to 30 mph with the very slightest strain. There are darn few cars that can leave the Metro wishing for a few extra turns. Top is a good all-around gear that takes the drudge out of city maneuvering. Once in motion, third gear can be engaged, and from then on it'll pull the car for hours at ten mph on up to top speed. Of course, the rear-end ratio limits cruising speed. Just remember, this car isn't called the Metropolitan for nothing.

The suspension is flexible and of long wheel travel which makes the ride a comparatively comfortable one. Proper relating of spring rates makes up for the short



UPPER: Dash panel is part of unit construction forming a sturdy cross brace. Clock is large, easy to read. Classic handbrake is very effective. Low floor tunnel makes life easy for the third passenger. LOWER: As shown, overall length is short (149½ inches from bumper to bumper). The convenience of small car for city use cannot be overemphasized.



This is essentially the same power plant that sits in the MGA and Magnette. Difference is in the head, and manifolding. As is, mill has guts of its own.

want a little more push in the power department, the manifold arrangement along with the dual carbs of the MGA can be adapted to the head easily. The head can be shaved to boost the compression to the equivalent of the MGA's 8.3. Everything in the engine compartment is accessible and there's plenty of room in which to work.

When we took possession of the car the odometer read 381 miles—practically off the assembly line—yet the engine fired up easily with very little choke even in near zero weather. Idling is smooth although the tappets on our test car were noisy. With that little mileage on the clock, loose tappets are considered better than

physical exertion of exercising the left leg on the clutch pedal.

The gearshift lever is ball-joint mounted in the dash which flexes slightly under the strain but we attributed this to the newness of the parts. The shift pattern is standard American "H". Synchromesh on the top two gears is good. According to specifications synchromesh is also indicated on low gear but seemed somewhat absent on our test car. However, there was little difficulty in finding first at rolling speeds. The latitude of second gear is nothing short of amazing. It can wind out to 57 mph and then some without engine falter or excessive second gear noise. As a matter of fact we found all

wheelbase and keeps the car from oscillating in rocking horse spirit. Road shocks are distributed throughout the monocoque frame and body, thereby reducing vibrations within the car and through the steering wheel.

Front suspension is typically Nash, employing coil and wishbones with the coil spring sitting atop the kingpin and upper arm and reaching into a specially constructed well under the fender. Girling telescopic shocks are mounted in the lower control arm recess and inclined slightly toward the center of the cam. At the rear, semi-elliptic leaf springs are provided with rubber bushings to reduce noise. Each of the five wide leaves



Everything in engine compartment is accessible. Note, that while car is unit-frame constructed, skin is not stressed. Pressed panels offer support.



Took the turn too fast, and got all out of shape. Car is shown leaning heavily, and plowing nose into pavement. Reason: had to brake on curve.



Leaving long, fast turn at somewhere between 55 and 60 mph. Despite slick condition of road, Metro stuck tightly, without sliding.

METROPOLITAN—1500

TEST CONDITIONS:

Number aboard 2
 Temperature 33°F.
 Etc. Wind about 5 mph, damp concrete surface

PERFORMANCE

TOP SPEED:

Two-way average 74.7 mph
 Fastest one-way run 75.6 mph

ACCELERATION:

From zero to	Drive range
30 mph	6.0
40 mph	9.6
50 mph	15.4
60 mph	24.1
70 mph	37.3
Standing ¼ mile	22.4
Speed at end of quarter	59 mph

SPEED RANGES IN GEARS:

(1) I 0-29
 II 2-52
 III 15-Top

SPEEDOMETER CORRECTION:

Indicated	Actual
30	28.7
40	38.2
50	47.1
60	56.0
70	66.3
79	73.9
80	75.6

FUEL CONSUMPTION:

Hard driving
 Average driving (under 60 mph)

BRAKING EFFICIENCY (10 successive emergency stops from 60 mph, just short of locking wheels):

1st stop	63
2nd	63
3rd	59
4th	50
5th	52
6th	50
7th	54
8th	49
9th	54
10th	49

SPECIFICATIONS

POWER UNIT:

Type 4 cyl. in line
 Valve Arrangement Overhead, in line, pushrods
 Bore & Stroke (Engl. & Met.) 2.87 x 3.50 ins. 73.025 x 89 mm.
 Stroke/Bore Ratio 1.22/1
 Displacement (Engl. & Met.) 90.9 cu. ins. 1489 cc
 Compression Ratio 7.2/1
 Carburetion by Zenith Downdraft
 Max. bhp @ rpm 52 @ 4500
 Max. Torque @ rpm 69 @ 2100
 Idle Speed 800 rpm

DRIVE TRAIN:

Transmission ratios
 I 2.84
 II 1.49
 III 1.00
 Rev. 3.37
 Final drive ratio (test car) 4.3
 Other available final drive ratio. None
 Axle torque taken by Rear leaf springs

CHASSIS:

Wheelbase 85 ins.
 Front Tread 45¼ ins.
 Rear Tread 44¾ ins.
 Suspension, front I.F.S. coil spring & wishbone
 Suspension, rear Semi-elliptic leaf
 Shock absorbers Girling telescopic
 Steering type Cam & lever
 Steering wheel turns L to L 2¾
 Turning diameter 34 ft.
 Brake type Girling hydraulic
 Brake lining area 76.8 sq. ins.
 Tire size 5.20-13

GENERAL:

Length 149½ ins.
 Width 61½ ins.
 Height 54½ ins.
 Weight, test car 1885 lbs.
 Weight distribution, F/R 55.2/44.8
 Weight distribution, F/R, with driver 56.3/43.7
 Fuel capacity—U. S. gallons 10.5

RATING FACTORS:

Bhp per cu. in. 0.573
 Bhp per sq. in. piston area 2.01
 Torque (lb-ft) per cu. in. 0.759
 Pounds per bhp—test car 36.3
 Piston speed @ 60 mph 2320 fpm
 Piston speed @ max bhp 2630 fpm
 Brake lining area per ton (test car) 81.2 sq. ins.

has a polythene plastic button at its tip to reduce frictional squeaks. The rear shocks are also Girling telescopic and are mounted between the axle and special housing in the trunk compartment.

With the windows wound up tight there is only a faint hint of wind noise when buzzing along at full bore. But open the window ever so slightly and a high pitched whine is produced that gives the impression that the car is hurtling at record breaking speed. Motto of the story is: keep the windows shut, unless you roll them all the way down to take advantage of the elbow room given by the door cutaways.

Response to the steering wheel is far better than on the average American car. Lock to lock, the wheel takes $2\frac{3}{4}$ turns, is smooth, and returns to straight position after slow turns. It does have a tendency to lag however, in faster work. Understeer does cause a slight delay in response



Trunk is reached through rear seat backrest only. Space is at premium, but small parcels can be accommodated in the back seat or trunk.

through sharp bends, but can easily be anticipated upon better acquaintance with the machine. By playing the wheel and pedal though, the rear end can be broken loose in one helluva hurry, and in that instant everything that was parallel is perpendicular. The Metro does lean more than most in turns as is attested to by the accompanying pictures. This is not disturbing, however, because the compactness of the car gives the driver a sense of control and confidence.

Brakes are Girling hydraulics all around with two leading shoes at the front. Their response to the pedal is instant, and under hard use will show some fade. In our braking test we found their stopping power smooth and even. At the beginning there was no lateral pitching but as we approached the last few stops the evenness seemed to fade with the stopping power. (Continued on page 62)

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(Continued from page 61)

ished and relieved slightly around the valves. The valve diameters are extremely modest, the intake valve measuring 1.750 inches and the exhaust valve, 1.250 inches. If the valves are small, the cam is big. An Iskenderian grind, it's called the LDB special. The intake opens 33 degrees before top dead center and closes 77 degrees after bottom dead center. The exhaust opens 77 degrees before bottom dead center and closes 43 degrees after top dead center. This gives duration and overlap seldom seen in anything other than an aircooled racing motorcycle. Intake duration is 290 degrees; exhaust 300 degrees, and overlap, 76 degrees. In these days of fuel injection and dual quad carburetor installations, the six Stromberg 97's on log manifolds might seem an anachronism, but they work. Max admits that they are not fancy, but gives them the credit for a lot of the flexibility of the engine. The headers are simple four-branch units fabricated by Hough on the direct approach principle.

The flywheel is Buick chopped to 25 pounds. The clutch is an Auburn 10 inch unit that seems small but hasn't given any trouble. Friction material is Johns-Mansville, and the clutch is operated by a hydraulic master and slave cylinder.

The Jaguar gearbox joints to the engine with a Cook adapter and is a type JH with the normal wide ratios.

The power plant has never made the acquaintance of a dynamometer, but on the basis of the car's performance, its bhp could hardly be less than 300. What the torque must be defies guessing, but it would certainly be interesting to know.

A '54 Chevrolet sedan supplied the radiator, which has proved adequate. It is located well forward and the filler opening is in the upper return hose.

Gas capacity is 22 gallons with the tank located over the rear axle.

Ford 15 inch steel wheels are used front and rear with Firestone tires. The tire diameter in the rear is 8.00 x 15; in the front, 6.50 x 15.

Body paneling is extremely simple and is for the most part fixed semi-permanently to the frame. The front fenders are no more than simple wheel shrouds designed to meet the specifications. Sheet aluminum is used for front fenders, engine panels, cowl and for the hood which hinges forward. The rear fenders are direct grafts from a '49 Chevy pickup and the turtle deck is sheet steel.

The hardwood instrument panel carries a complete layout of Stewart-Warner gauges.

To close this without putting down something of the personality of the Morgensen would be a mistake. Anything this powerful and fast is usually reported as being a tiger, growling and ominous. The Morgensen, instead, seems as patient and friendly as a St. Bernard in spite of the arbitrary way it deals with time and distance.

Only one conclusion is possible. The Morgensen is a big step toward domestic products dominating our road courses.

Russ Kelly

Metropolitan

(Continued from page 41)

Seats are high and firm and vision all around is excellent. Entry to and from the car is easy even for the six and over footers. The front seat is one piece from door to door and offers no lateral support. There is good support under the thighs, and the back rest is inclined at a very comfortable position. With adequate arm and shoulder room, a third passenger can ride up front without too much discomfort. The rear seat is only a suggestion—with no headroom, but will accommodate one adult sitting sideways for a very short trip. For children it's ideal. They can be thrown back there with the laundry bag and practically forgotten until home again. Driving position is erect, chair-style, and all the instruments are within fingertip control. Six and over footers, however, will find driving quarters cramped with knees wedged against the dash panel. The lever-type handbrake is on the left, placed well forward and upright. Very easy to use.

Interior appointments are nicely finished, being neither the ultimate in luxury or shoddy or cheap. A map light is placed conveniently under the dash and can be used for a courtesy light as well. The heater is thermostatically controlled and anything from very hot to moderate cool can be selected by pulling the knob out to various positions. The heater fan is controlled by twisting this temperature knob. Windshield wipers are electrical and noisy. The defroster can be relied on to de-fog or de-ice with efficiency—with all windows closed and three adults blowing smoke or hot air on the windshield. The cowl air-intake is ducted directly into the heater so that when driving it is unnecessary to have the heater fan whirling in order to get heat. In this way a fresh stream of air into the car is insured even with the windows buttoned up.

The dash panel is neatly laid out and the instruments, what there are of them, are easy to read. The speedometer sits directly in front of the driver unobstructed by the steering wheel. Ammeter and water temperature gauges are conspicuous by absence and replaced by two tiny red warning lights at the bottom of the speedometer. Included in the price is a radio: clear, loud and sensitive. The dash pocket is only a vestige of what was traditionally a glove compartment. The trunk is accessible only through the rear seat back rest which is hinged to form a door and can be locked. Space in the trunk is minimal, full of sharp edges and corners. It's not meant for much use, the "back seat" being a good spot for short-distance package carrying.

Wherever we parked, the car always gathered a cluster of interested spectators whose remarks were invariably complimentary especially when they were told the price — \$1529 complete. That's the general feeling from here and from the public — an excellent city car that is also good for short trips.

— Albert Prokop