

NOVA



PACK

Installation Instructions



Issued by G.M. Dealer Sport
V6176



Installation

Please read these instructions carefully before commencing installation

VERY IMPORTANT

The fitment of the GM Dealer Sport Pack *must* take place after the vehicle has been registered.

WARNING NOTE

The carburettors are pre-assembled on the new inlet manifold and in **NO** circumstances should the carburettor flange retaining Nyloc nut be tightened as this is pre-set.

See Supplementary Service Instructions should the carburettors and inlet manifold necessitate separating.

Contents of Nova Sport Pack

Listed below is a full list of contents of the Nova Sport Pack, please check if any parts are missing, notify Imscher UK, address below, within 24 hours of receipt quoting the Sono number of your Nova Sport.

Imscher UK, 2-4 Walhouse Road, Walsall, W51 2BN
Telephone 0922-640100.

Silencer Tail Box
Carburettor and Manifold Unit with Inlet Gasket
Airbox Unit with Breather Connector and Filter
Air Pipe
Throttle Cable
Heater Hose (long) Manifold to Heater
Heater Hose (short) Block to Heater
Fan Belt
Bracket Assembly (Air Filter Mounting)
Dashboard Sticker
Wheel House Panel Sticker

1 BAG CONTAINING
8 Bolts M6
8 Washers
1 Tension Lever
1 Alternator Bracket
1 Circlip (Air Hose)
1 Tie Wrap (Air Hose)
1 Tie Wrap (Small)
4 Replacement Black Plastic Blanking Plugs
(these are required for the 2000 mile carburettor service)

1. Preparation

Disconnect the battery earth terminal.

Disconnect the engine breather pipe from the air filter, the emission pipe and small vacuum pipe connections to the air filter from the carburettor and inlet manifold. Remove the complete air filter assembly. Remove the hot air pickup cover from the exhaust manifold.

Disconnect the fuel supply line to the carburettor from the fuel pump outlet pipe, and the carburettor fuel return line from the nylon pipe situated on the O/S inner wing suspension turret.

Remove the vacuum advance pipe connection between the carburettor and the vacuum sensor switch.

Drain the coolant from the radiator to facilitate the removal of both heater hoses from the heater matrix connections on the engine compartment bulkhead. Remove the tie wrap holding the electrical wiring to one of the hoses.

Disconnect the brake servo vacuum pipe from the inlet manifold union. Remove the alternator top bracket adjuster bolt and retain. Remove the alternator drive belt.

Disconnect the accelerator inner cable from the accelerator pedal and pull the complete cable assembly from the engine compartment bulkhead mounting grommet.

Disconnect the choke cable from the actuating lever and anchor point on the carburettor.

Disconnect the electrical connection from the temperature sender unit on the inlet manifold.

Remove the inlet manifold to cylinder head flange nuts and the engine lifting bracket (to be refitted). Remove the bolt securing the water pump supply pipe to the inlet manifold.

Remove the complete carburettor and inlet manifold assembly. Remove and clean any of the remaining flange gasket from the cylinder head.

Transfer from the original inlet manifold to the new manifold assembly the brake servo union and the temperature sender unit and fit the new heater hose union supplied, using a suitable sealant.

2. Alternator Mounting

Fit the new alternator adjusting bracket supplied, to the new manifold using the original mounting bolt and bushes, with the existing earth lead it may be necessary to shorten the bolt by 5mm to tighten correctly.

Disconnect the electrical connections to the alternator. Remove the alternator and mounting bracket from the engine block.

Fit the original alternator mounting bracket bushes to the new mounting bracket supplied. Fit the new mounting bracket to the engine block and refit the alternator. Ensure correct alignment of the drive belt by the adjustment of the alternator mounting bracket fixing to the engine block. Reconnect electrical connections to the alternator.

Remove the remaining heater hose from the water pump supply pipe, then reposition the supply pipe by loosening the fixing bracket on the clutch bellhousing, and the water pump hose connections. Lower and secure the supply pipe and hose connections in position allowing 10mm clearance between the supply pipe and the starter motor solenoid; ensure that the starter solenoid electrical connections cannot contact.

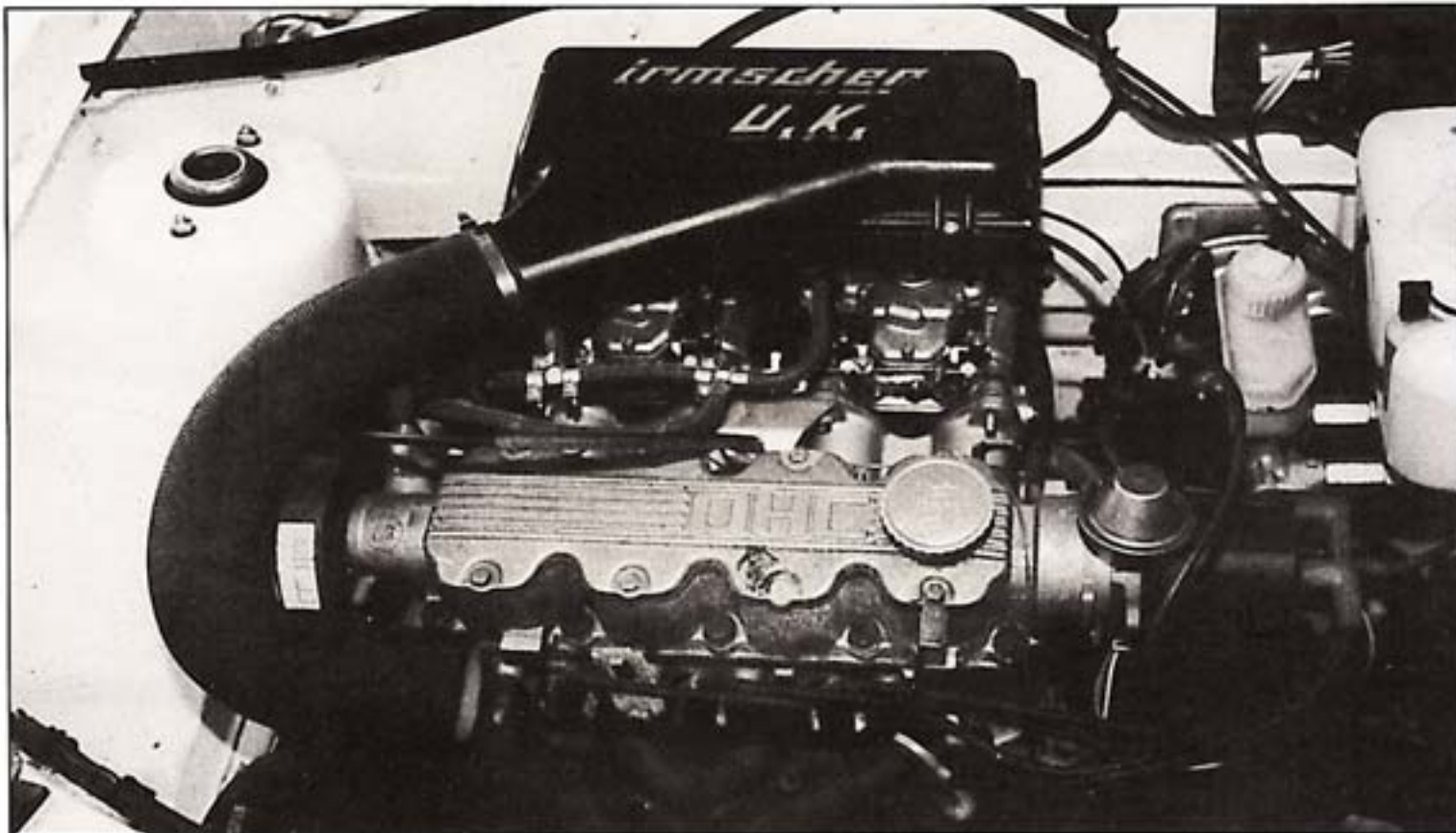
The original inlet manifold mounting bracket on the water pump supply pipe may now be bent forward to avoid any obstruction.

3. Carburettors and Manifold Assembly

Fit the shorter of the two new heater hoses supplied, from the water pump supply pipe to the heater matrix connection nearest the brake servo unit, using the original hose clips.

Shorten the cylinder head inlet manifold mounting stud nearest the fuel pump by 10mm to avoid the temperature sender unit terminal shorting.

Instructions



Modify the engine lifting bracket previously removed with the original inlet manifold assembly to fit the new inlet manifold, in the original position.

Fit the new accelerator linkage bracket supplied, to the two top centre studs protruding through the new inlet manifold carburettor mounting flanges using the two Nyloc nuts and plain washers provided.

Fit the new throttle return spring supplied, to the anchor point on the accelerator linkage bracket and the throttle lever, (the longer end to the throttle lever).

Place the new inlet manifold gasket onto the cylinder head mounting studs. Fit the inlet manifold and carburettor assembly with the modified engine lifting bracket to the cylinder head and fit the top flange nuts evenly to avoid fouling on the new manifold. Tighten all the flange nuts radially from the centre.

Fit the remaining new heater hose from the inlet manifold union to the heater matrix connection using the original hose clips. Secure the hose to the foot of the accelerator anchor bracket, and re-tie the electrical wiring previously removed from the heater hose with the tie wraps provided.

Replace the coolant previously drained from the radiator.

Remove the brake servo vacuum pipe from the servo unit and cut 20mm from the end connecting to the inlet manifold. Refit the pipe union to the pipe by gently warming the union, then allow to cool. Refit the pipe to the servo unit and connect to the union on the inlet manifold.

Fit the new alternator drive belt supplied, and refit the original adjusting bolt with earth lead, then tension the drive belt.

Fit the new accelerator cable into the bulkhead grommet and connect the inner cable to the accelerator pedal. Unscrew one of the accelerator outer cable adjuster nuts from the adjuster and position the other approximately in the centre of the adjustment. Connect the inner cable to the throttle lever and secure with the original fixing clip. Place the outer cable adjuster through the hole in the anchor bracket and refit the loose adjuster nut. With the outer cable adjuster approximately in the central position, reset the accelerator pedal upper limit stop to allow the throttle to fully close, (check that the throttle stop screw is not holding the throttle open). Make final adjustment to the accelerator outer cable adjuster to allow 5mm free play on the inner cable.

Check for full and closed throttle position.

4. Modify Existing Choke Cable

Remove the rubber protecting sleeve from the choke cable and cut to 41 centimetres overall length.

Measure 46 centimetres from the end of the outer choke cable, check the measurement by aligning the cable to the choke anchor point on the carburettor nearest the fuel pump. Carefully cut the outer choke cable and the nylon liner, without damaging the inner choke cable wire, to do this it may be preferable to completely remove the choke cable. Remove approximately 8mm of the outer choke cable plastic covering to allow the choke outer cable to fit into choke anchor point on the carburettor.

Refit the rubber protective sleeve to the choke cable. Pass the uncut inner choke cable through the anchor point and the choke actuating lever and through the second carburettor anchor point and actuating lever.

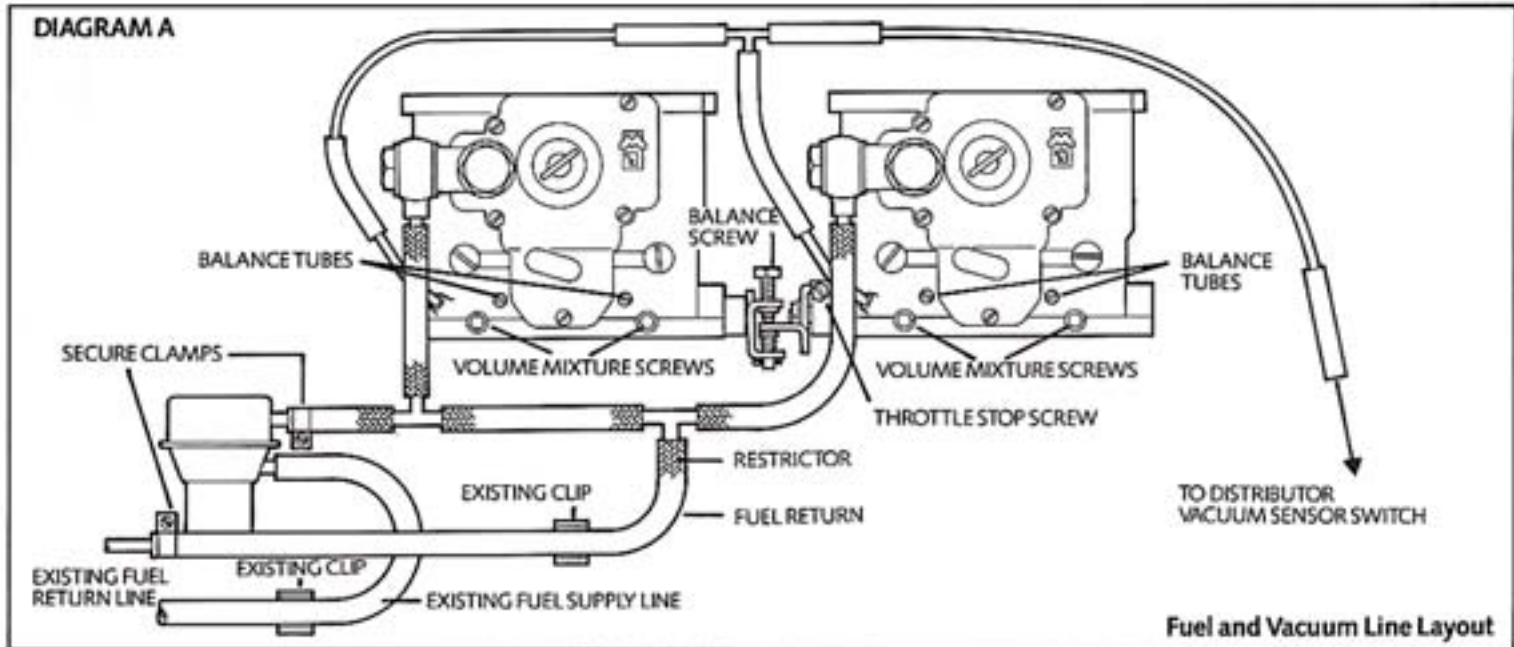
Ensure the outer cable is fully inserted into the anchor point, then secure both anchor point screws. Check the choke cable knob is fully in, and that the inner choke cable wire is straight between the two carburettors. Then with both actuating levers against the off stops tighten the lever clamps and cut off the excess inner cable wire. Check for complete and free choke cable operation.

5. Final Assembly Details

Check all fuel line clamping screws are secure and are positioned as shown in DIAGRAM A.

Route the return line to the existing nylon pipe on the O/S inner wing suspension turret, utilising the existing clip on the cam cover. Secure the return line and the new accelerator cable to the existing fuel line supplying the fuel pump, with the original black tie wrap. Ensure all fuel line clips are secure.

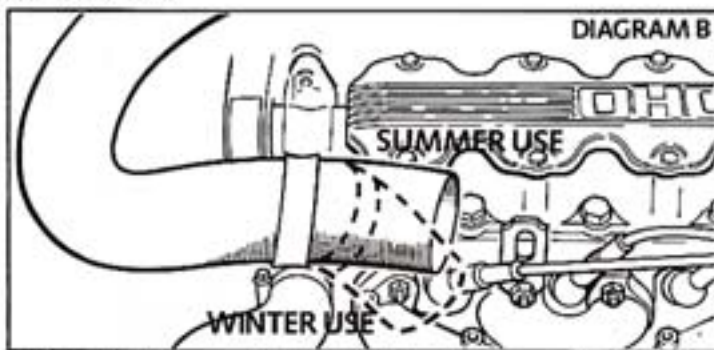
Connect the vacuum advance system as detailed in DIAGRAM A to the existing vacuum sensor switch.



Fit the new engine breather union supplied, to the air box assembly in the central position and blank the alternative location with the plug supplied. Fit the black plastic inserts supplied, to the air box, it is recommended that they are fitted from the outside unless access to the carburettor inspection covers is required.

Fit the air box assembly to the carburetors using the screws and lock washers provided, tighten evenly.

Remove the four allen screws retaining the air box cover, fit the new air filter element supplied, and refit the cover. Connect the air ducting hose to the air box intake using the fixing clip provided, route the ducting around the engine timing belt cover and position the intake towards the exhaust manifold for winter running using the fixing provided, for summer use the intake should be positioned horizontally see DIAGRAM B.



Note: locate sticker supplied on to RH wheelhouse panel forward of strut mounting.

Route the engine breather pipe around the rear of the air box and connect to the union on the underside of the air box with the original clip

6. Fit New Silencer

Remove original silencer back box and refit new examples supplied, use existing clamps and fittings.

7. Final Settings

IMPORTANT. THE CARBURETTORS CANNOT BE BALANCED AND ADJUSTED UNTIL THE AIR BOX ASSEMBLY IS FITTED.

To adjust and balance the carburetors an accurate Rev. counter is required, and either two vacuum gauges, a manometer, or a

syncrometer and adaptor (Weber Part Nos. 98001000, 98001006). These items can be purchased from WEBER CONCESSIONAIRES LTD.

If using vacuum gauges or a manometer:-

Remove the small screw plugs from the inner balance tube of both carburetors as shown in DIAGRAM A and connect the vacuum gauges or manometer. If only one vacuum gauge is available, temporarily block one balance tube, whilst the reading of the other is being noted.

Turn the throttle stop screw to the point where the throttle begins to open, then initially set the throttle stop screw half a turn clockwise to open the throttle.

Temporarily disconnect the electrical connection to the idle speed control vacuum sensor.

Reconnect the battery and start the engine. Reset the throttle stop screw as necessary to achieve an idle speed of approximately 1200 RPM.

Balance the carburettor throttles by adjusting the balance screw located between the two carburetors as shown in DIAGRAM A. Observe the vacuum gauges or manometer and equalise readings, keep the engine speed constant by adjusting the throttle stop screw, then gradually reduce to 900 RPM with both vacuum readings the same.

The same procedure also applies for those using a syncrometer, except the air box cover will have to be removed to facilitate the connection of the syncrometer and adaptor to the air box induction tracts.

Reconnect the electrical connection to the idle speed control vacuum sensor.

The vehicle should be road tested and then re-checked and, final adjustments made to the balance and idle speed (900 RPM), with the electrical connection to the idle speed vacuum sensor again disconnected.

It should be noted that no adjustment is made to the idle mixture volume screws which have tamper proof plugs fitted.

IMPORTANT

Advise customer to return car after the first 2000 miles for free Carburettor Service so that idle mixture and carburettor balance can be reset.

Advise customer of starting procedure.

Note: locate sticker supplied on to square plastic panel on dashboard between instrument panel and light switch.

NOVA SPORT PACK

Carburettor Idle Mixture and Balance Reset Procedure

Nova Sport 2000 Mile Carburettor Service

Equipment required:- An accurate rev. counter. Two vacuum gauges or a manometer, or a synchronometer. C.O. exhaust gas analyser.

Remove the air box cover and inspect the filter element, blow out with air line if necessary. Do not refit the cover immediately if using a synchronometer to check the balance of the carburettors.

Temporarily disconnect the electrical connection from the idle speed control vacuum sensor.

If using vacuum gauges or a manometer:-

Remove the small screw plug from the inner balance tube of both carburettors and connect the vacuum gauges or manometer. If only one vacuum gauge is available, temporarily block one balance tube, whilst the reading of the other is being noted.

Remove the four white tamper proof plugs from the carburettors.

Start the engine with the exhaust gas analyser connected. Adjust the throttle balance screw to equalise vacuum readings or air flow readings if using a synchronometer. Reset engine idle speed to 900 RPM.

Adjust the idle mixture volume screws carefully in turn to achieve the highest RPM reading, then turn clockwise until the idle speed drops slightly. Reset the balance readings and the idle speed to 900 RPM if necessary. (Refit the air box cover if balancing with a synchronometer). Observe the exhaust gas analyser C.O. values and then make identical adjustments to the idle volume mixture screws, to attain a value of C.O. 2.5 – 3.0% vol. Reset the idle speed and recheck the gas analyser 900 RPM C.O. 2.5 – 3.0% Vol.

Road test the vehicle and recheck the above values.

Reconnect the electrical connection to the idle speed control vacuum sensor.

IMPORTANT

IN ORDER NOT TO INVALIDATE THE WARRANTY, THE FOUR BLACK TAMPER PROOF PLUGS SUPPLIED MUST BE FITTED TO THE VOLUME MIXTURE SCREWS IN PLACE OF THE WHITE ONE'S PREVIOUSLY REMOVED.

Supplementary Service Instructions Carburettor and Inlet Manifold Assembly

The carburettors must not be separated from the inlet manifold during the original installation of the Dealer Sport Pack, however, should this be necessitated during subsequent vehicle servicing, it is essential that the following procedure is followed. Place the carburettor 'O' ring mounting plates onto the flange studs, then fit the two carburettors carefully to the manifold with the carburettor throttle actuating lever connected between the balance lever adjusting screw and spring plunger.

Fit the 8 carburettor flange rubber mounting grommets, cup washers and Nyloc nuts to the flange studs. Tighten the Nyloc nuts diagonally until contact is just made between the locknut, cup washers and mounting grommet. Tighten a further full turn to ensure correct sealing pressure on the carburettor 'O' rings. If the mountings are over tightened the 'O' rings and mounting bobbins will eventually break up.

Fit the carburettor support bracket. To assemble temporarily attach the angled support bracket to the back of the two central (lower) inlet manifolds to cylinder head flanges, using two suitable M8 set screws, nuts, and plain washers. Place the two plain M6 nuts and then two of the 6mm plain washers onto the central mounting stud on the underside of both carburettors. Place the angled end of the two support bracket struts onto the mounting studs on the carburettors and align to the lower face of the bracket on the inlet manifold. Secure the support struts to the support bracket using the two M6 set screws with two of the Nyloc nuts and plain washers. Finally fit the remaining two Nyloc nuts and plain washers to carburettor support studs, adjust the plain nut as necessary then lock both nuts together to secure the support bracket. Remove the two M8 set screws temporarily fitted to hold the support bracket to the inlet manifold.

Adjust the carburettor balance screw to fully close both throttles. To do this ensure the throttle stop screw does not protrude below its mounting boss, then hold the throttle actuating lever to fully close all the throttle plates. This will partially compress the carburettor balance lever plunger, the balance screw should now be set to hold both levers in this position. This operation will make the final balancing of the carburettors on the vehicle far easier.



Nova Sport Special Parts Information

PART NUMBER	QTY	DESCRIPTION
ST0854010	1	EXHAUST SYSTEM TAIL BOX
8508175	1	AIR CLEANER
90019462	1	AIR BOX
ST100	1	AIR PIPE
93152974	1	CIRCLIP
2710852	1	AIR FILTER
	1	CONNECTOR (AIR BOX BREATHER PIPE)
8508156	1	MANIFOLD
ST101	8	MANIFOLD STUDS
6668814	1	CONNECTOR (HEATER HOSE)
90091657	1	MANIFOLD TO HEATER GASKET INLET MANIFOLD
ST800	1	CARBURETTORS
ST801	1	40 DCOE NOVA SPORT WEBER LEFT 40 DCOE NOVA SPORT WEBER RIGHT
ST810	8	CARBURETTORS TO MANIFOLD RUBBER GROMMETS
ST811	8	WASHERS
ST105	8	LOCKNUTS
ST812	4	'O' RING PLATES
ST802	1	FUEL AND VACUUM CONNECTIONS
ST803	1	875 mm FUEL PIPE
ST804	1	T PIECE WITH FUEL RESTRICTOR
ST805	1	T PIECE
ST806	1	280 mm PLASTIC VACUUM PIPE
ST807	4	230 mm PLASTIC VACUUM PIPE
ST808	1	50 mm RUBBER CONNECTOR
ST809	1	100 mm RUBBER CONNECTOR
ST104	9	T PIECE (VACUUM PIPE) HOSE CLIPS

PART NUMBER	QTY	DESCRIPTION
ST102	8	AIR CLEANER TO CARBURETTOR
ST103	8	BOLT 6 mm x 25 SPRING WASHERS 6 mm
8508157	1	ALTERNATOR MOUNTING
8508164	1	ALTERNATOR MOUNTING BRACKET
ST300	1	ALTERNATOR TENSION LEVER FAN BELT
ST813	1	THROTTLE LINKAGE
ST105	2	THROTTLE MOUNTING BRACKET
ST814	1	LOCK NUTS
8508096	1	RETURN SPRING THROTTLE CABLE
ST200	1	HEATER HOSE
ST201	1	MANIFOLD TO HEATER BLOCK TO HEATER
ST815	1	CARBURETTOR SUPPORT SUPPORT BRACKET ASSEMBLY
ST816	4	CARBURETTOR RE SETTING ACCESSORIES PLASTIC BLANKING PLUGS

All parts listed with the prefix 'ST' are available from Irmischer UK,
2-4 Walhouse Road, Walsall, WS1 2BN Telephone 0922-640100.

All other parts are identified with Vauxhall-Opel part numbers
and are available from GMSPO.

